

ORDER NO. 75823

IN THE MATTER OF THE INVESTIGATION *
INTO THE PREPAREDNESS OF MARY-LAND *
UTILITIES FOR RESPONDING TO MAJOR *
OUTAGES. *

BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND

CASE NO. 8826

Before: Glenn F. Ivey, Chairman
Claude M. Ligon, Commissioner
Susanne Brogan, Commissioner
Catherine I. Riley, Commissioner
J. Joseph Curran, III, Commissioner

Filed: May 15, 2001

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I. OVERVIEW

The Public Service Commission (“Commission”) formally instituted this proceeding on October 1, 1999 to determine whether Maryland utilities are adequately prepared to respond to major outages resulting from natural disasters or emergencies. This proceeding is also a continuation of the Commission’s inquiry into Baltimore Gas and Electric Company’s (“BGE”) and Potomac Electric Power Company’s (“Pepco”) response to major ice storm-related outages that occurred in January 1999 and Conectiv's response to the heat-related outages of July 1999.¹

Additionally, on September 24, 1999, the Governor, having expressed his concern over the length of several recent outages, requested an investigation to determine whether Maryland utilities: have maintained adequate staffing and response plans to deal with major natural disasters and emergencies; are making sufficient efforts to inspect service lines, connections and rights-of-way for potential dangers; are making appropriate efforts to mitigate for potential storm damage; are responding to customer inquiries with timely and complete information, ensuring that public information efforts address the very real concerns and frustrations of consumers during outages; and

¹ In January, the Commission began an investigation of BGE and Pepco’s response to the Ice Storm. In letters, dated January 26, 1999, to both BGE and Pepco, the Commission required the companies to provide: a description of their storm preparedness procedures; procedures for release of information to customers and the media; procedures for determining restoration estimates; priorities for service restoration; procedures for activating restoration crews; policies and procedures for distributing dry ice and other assistance to customers; and, policies and practices with regard to tree trimming. BGE and Pepco provided responses as requested and have provided updates on a periodic basis since that time.

Additionally, in August 1999, the Commission began an investigation of Conectiv’s response to the heat wave affecting the Eastern Shore. Conectiv submitted a preliminary report on August 6, and Conectiv and representatives from the Pennsylvania-New Jersey-Maryland Interconnection (“PJM”) gave presentations to the Commission on August 9 and 10. The Commission issued data requests to Conectiv on August 20, 1999. Based on the responses provided by Conectiv and interviews with Conectiv personnel, the Commission’s Staff rendered a Preliminary Report on November 15, 1999.

are providing citizens with necessary emergency items including dry ice and information regarding alternative lodging where practicable.²

This investigation relates to the extensive electricity outages and rolling blackouts, and some telephone service interruptions, caused by several major weather events in Maryland in 1999, and the response of Maryland investor-owned electric utilities (“IOUs”), electric cooperatives and Maryland facilities-based local exchange telephone companies, to those events. It is also part of the Commission’s continuing review of the maintenance and operation of electric transmission and distribution systems as Maryland’s electric industry is restructured under the policies set forth in Commission Order No. 73834³ and the Electric Customer Choice and Competition Act of 1999 (“the Act”).⁴ The Commission is fully committed to carrying out its obligation set forth in Order 73834 and the Act as well as the Commission’s historic mandate set forth in the Public Utility Companies Article to ensure the maintenance of safe and reliable utility service throughout the State.

A. Nature of Investigation

On January 14, 1999, a portion of the State was heavily affected by an ice storm (“Ice Storm”). In July 1999, portions of the Eastern Shore were affected by what Conectiv has described as a major heat wave (“Heat Wave”), and in September 1999, multiple regions of the State were struck by Hurricane/Tropical Storm Floyd (or “Floyd”). Additionally, from August 31 to September 4, 1999, Conectiv’s electric distribution lines on the Eastern Shore were affected by substantial salt

² Governor’s letter to the Commission dated September 24, 1999.

³ *In the Matter of the Commission’s Inquiry into the Provision and Regulation of Electric Service*, Case No. 8738, 88 MD PSC 249.

⁴ Section 7-506(c) of the Act provides that “[e]ach electric company shall maintain the reliability of its distribution system in accordance with applicable orders, tariffs, and regulations of the Commission.”

accumulations as a result of Hurricane Dennis (or “Dennis”). These events caused extensive damage to electric utility infrastructures, as well as to businesses and residences and threatened the safety and comfort of Maryland citizens. In the Commission’s October 1, 1999 Notice of Investigation, the Commission directed designated utilities to respond to extensive information and data requests which addressed staffing, inspection of utility service lines and connections, maintenance of rights-of-way, communications and responsiveness, and hardship assistance to customers.

In response to this investigation, on October 15, 1999, Baltimore Gas and Electric Company (“BGE”), Potomac Electric Power Company (“Pepco”), Delmarva Power and Light Company d/b/a Conectiv (“DP&L” or “Conectiv”), Potomac Edison Company d/b/a Allegheny Power (“AP”), Southern Maryland Electric Cooperative (“SMECO”), Choptank Electric Cooperative (“Choptank”), Bell Atlantic-Maryland (“BA-MD”), and Armstrong Telephone Company-Maryland (“Armstrong”) submitted reports to the Commission addressing the Commission’s October 1, 1999 inquiry. Subsequently, the Commission’s Staff (“Staff”)⁵, the Office of People’s Counsel (“OPC”)⁶ and the International Brotherhood of Electrical Workers, Local Union No. 1900 (“IBEW”)⁷ filed comments.

Reply comments were filed by the companies, OPC, Staff, IBEW and the Maryland Energy Administration/Power Plant Research Program (“MEA/PPRP”).⁸ A citizens group, the Hurricane Floyd Power Outage Petition Group,⁹ also filed comments on October 25, 1999.

⁵ Sarah R. Lazarus, Assistant Staff Counsel, represented Staff during the Hearings.

⁶ Sandra M. Guthorn, Deputy People’s Counsel, represented the Office of People’s Counsel during the Hearings.

⁷ James L. Hunter, President, represented IBEW Local No. 1900 during the Hearings.

⁸ M. Brent Hare, Assistant Attorney General, represented MEA/PPRP during the Hearings.

⁹ John Mullen represented the Hurricane Floyd Power Outage Petition Group during the Hearings.

The Commission held hearings on November 4-5, 1999 (“Hearings”) during which representatives of utilities, state agencies, organized labor and citizens addressed the Commission with regard to the severity of each event and the issues related thereto.¹⁰

Staff recommended that the Commission require each utility to conduct a self-assessment of its restoration efforts and report their findings to the Commission.¹¹ Additionally, Staff recommended that the Commission establish separate generic proceedings to develop distribution plant maintenance and restoration standards for electric utilities and telephone companies. Staff recommended that such proceedings occur after July 2000.¹²

In its comments, OPC noted that “the reports filed by the utilities helped highlight different areas where further analysis is necessary.”¹³ OPC recommended that the Commission docket a second phase, evidentiary proceeding, to allow prefiled testimony, discovery and evidentiary hearings.¹⁴ On October 29, 1999, the utilities, Staff and OPC filed reciprocal reply comments.

OPC stated that this proceeding offers the Commission “a unique opportunity to focus on distribution and transmission reliability and customer service quality and to do so in a proactive manner that mitigates against future storm damage.”¹⁵ In part, OPC suggested that further proceedings address issues relating to:

¹⁰ Additionally, Bethlehem Steel Corporation/Eastalco Aluminum Company, AT&T Communications of Maryland, Inc., Washington Gas Light Company, the Mayor and City Council of Havre de Grace, the Air Conditioning Contractors of America-National Chapter, Maryland Alliance of Fair Competition and Mid-Atlantic Petroleum Distributors Association requested leave to intervene or to be added to the service list. However, they did not participate in the proceedings.

¹¹ Staff Initial Comments at 2.

¹² *Id.*

¹³ OPC Initial Comments at 2.

¹⁴ *Id.* at 2 and 7.

¹⁵ *Id.* at 3.

- developing the technical infrastructure to handle excessive call volumes;
- training and cross-training of personnel to handle excessive call volumes;
- providing information to the public if rotating outages are a possibility;
- providing estimates for restoration to utility customers;
- advising customers to make alternative arrangements;
- assisting customers with documented medical needs;
- maintaining sufficient supplies, equipment and vehicles to respond to major outages; and
- examining the need for service quality and reliability standards.

In its reply comments, MEA/PPRP concurred with Staff and OPC that further investigation of electric utility emergency preparedness is needed.¹⁶ According to MEA/PPRP, such a proceeding should not be deferred to July 2000, but it should be initiated as soon as possible.¹⁷

In response to Staff and OPC, BGE stated that that it “finds merit in, but recommends modifications to, [Staff’s] suggestion to consider a generic proceeding to develop electric distribution plant and service restoration standards”¹⁸ BGE also objected to OPC’s recommendation for evidentiary proceedings saying that “a focused legislative style proceeding at the Commission will accomplish the same objectives more quickly [and] at less cost.”¹⁹

Pepco opposed Staff and OPC’s recommendation that the Commission institute another proceeding or institute a second phase of this proceeding to consider the development of service reliability and restoration standards.²⁰ According to Pepco, “[n]o additional generic standards are

¹⁶ MEA/PPRP Reply Comments at 2.

¹⁷ *Id.* at 3.

¹⁸ BGE Reply Comments at 1.

¹⁹ *Id.*

²⁰ Pepco Reply Comments at 10.

necessary since the Commission already has a process that allows for timely review and, if necessary, modifications to utility responses to storms and outages.”²¹

Conectiv also opposed further proceedings as recommended by Staff and OPC.²² Conectiv stated that it is also opposed to further self-assessments.²³ According to Conectiv, “[b]ecause of different weather, environmental conditions, electric system configurations and general operating conditions, Maryland’s electric utilities should not be lumped together when their major outage preparedness is evaluated, at least insofar as determining what to do about any utility-specific deficiencies.”²⁴ AP also stated that “[c]reating service and reliability standards through an adjudicative, legislative or roundtable process is of questionable value.”²⁵

In its reply comments, BA-MD stated that “the ‘Utility Self-Assessment’ procedures recommend by Staff” may be appropriate.²⁶ However, BA-MD declined to comment on other procedural steps.

B. Summary of Determinations

The Commission recognizes that the major incidents under review were -- to some extent -- extraordinary events. In particular, Floyd was described by BGE as the worst storm in 40 years. Many of the electric utilities acknowledged in their filings that the results of their own self-assessment process indicated the need for improvements in system designs and in

²¹ *Id.* at 3.

²² Conectiv Reply Comments at 8.

²³ *Id.*

²⁴ *Id.* at 1.

²⁵ AP Statement of Position at 2.

²⁶ BA-MD Reply Comments at 9.

communicating with customers. The Commission accepts their conclusions and directs their ongoing efforts to include making appropriate improvements in utility system designs, restoration planning and customer communications.

Our analysis of the extensive information and data collected regarding the major outage incidents during 1999 raises several concerns. Growth in electric demand, the need for expansion of delivery systems, and extensive preparations by electric companies for restructuring present a scenario in which reassessment of operation and maintenance expenditures, and transmission and distribution ("T&D") oversight are required at the same time.

Whether this confluence of events has resulted in a reduction in system maintenance and reliability is not established by the present evidence on the record. Yet, this Commission is charged by law to ensure that a safe, reliable system continues to exist. Although BGE and Pepco have acknowledged some shortcomings, and have expressed their intention to make certain improvements, the Commission believes that in order to fulfill its mandate, further action is necessary.

Based on a careful analysis of the companies' reports and testimony given during the Hearings, and based upon the written comments of all parties, the Commission determines that investor-owned electric utilities, cooperatives, telephone companies and Staff, with the participation of other interested parties, as appropriate shall take the following actions:

Determinations for All Utilities

1. **Reporting Standards:** All electric utilities and telephone companies, Staff, OPC and other interested parties, shall develop uniform standards for reporting service outages (including trees across lines, downed wires and pole failures), restoration crews and their composition, and equipment and supplies.
2. **Customer Communication and Assistance:** All electric utilities and telephone companies along with Staff and OPC, and other interested parties, shall evaluate their customer call handling mechanisms and shall implement techniques and procedures to enhance their ability to provide customers in a polite and timely manner with outage information, restoration timeframes and available customer assistance.
3. **Tree Trimming:** All electric utilities and telephone companies, along with Staff, OPC and other interested parties shall work with the Maryland Department of Natural Resources (“DNR”) to develop recommended modifications to the State’s policies and regulations to improve utility tree trimming and maintenance programs within utility rights-of-way, and to evaluate the need for appropriate legislation or regulations with regard to tree trimming on private property.
4. **Coordination with Emergency Management Organizations:** All electric utilities and telephone companies, along with Staff, OPC and other interested parties, shall coordinate with State and local emergency management organizations to develop procedures for the use of available resources to facilitate utility restoration efforts.
5. **Utility Self-Assessment:** All electric utilities and telephone companies shall continue their self-assessment processes as proposed in this proceeding and shall report their

findings to the Commission at three-month intervals beginning January 31, 2000. Where appropriate, utilities should immediately implement modifications and improvements that reduce or mitigate the effects of storm-related outages and that enhance customer communication and assistance efforts.

Additional Determinations for Electric Utilities

1. **Operation and Performance Standards:** All electric utilities, Staff, OPC and other interested parties, shall evaluate whether the development of operation and performance standards for electric utilities would enhance reliability and/or mitigate the effects of storm and disaster-related outages.
2. **Coordination Among Companies:** The investor-owned electric utilities, cooperatives, and municipal electric companies shall cooperate with each other to improve existing restoration plans and procedures for the exchange of crews and other resources in a timely fashion in order to maximize restoration of systems impacted by major weather events.
3. **Consultation with Utilities in Other States:** The investor-owned electric utilities shall consult with out-of-state electric utilities and cooperatives to improve existing plans and procedures for the exchange of crews and other resources in a timely manner with utilities and cooperatives in other states.
4. **Undergrounding Electric Transmission and Distribution Plant:** Electric utilities shall thoroughly evaluate the benefits and detriments of undergrounding selective segments of utility transmission and distribution systems. Considerations should include, but are not limited to costs, durability of underground systems, risks of damage and aesthetics.

Additional Determination for Staff

Utility Staffing: Staff shall examine whether management incentives to reduce costs erode the ability of companies to adequately maintain their distribution systems and perform storm restoration in a timely manner. Staff should closely examine any possible relationships, whether direct or indirect, between staffing reductions and maintenance and reliability of utility transmission and distribution systems. Staff shall report its findings to the Commission by February 29, 2000.

Reporting Schedule

With respect to the above matters, the Commission directs the parties to consult and, where appropriate, form working groups to address these issues. The parties are encouraged to attempt to reach consensus on these matters. With the exception of Staff's report relating to utility staffing, the parties shall file preliminary reports to the Commission by January 31, 2000.

If consensus cannot be reached on a specific matter, the report(s) shall note the basis of the disagreement(s) and recommend additional procedures or actions that might resolve the dispute(s). Unless otherwise provided in this Order, the parties shall report to the Commission on their efforts by January 31, 2000.

Additional Proceedings

The Commission shall docket a separate proceeding to investigate the issues raised by Staff concerning possible deficiencies in Conectiv's transmission and distribution system. In connection with that proceeding, Conectiv shall file its response to "Staff's Preliminary Report - Relating to the July 1999 Outages" (dated November 15, 1999) no later than January 31, 2000. Staff and OPC shall also be designated parties to that proceeding.

II. DESCRIPTION OF MAJOR WEATHER EVENTS

Between January and September 1999, several major weather events significantly interrupted or impaired the delivery of electricity in Maryland. On January 14, 1999, an ice storm struck Maryland and affected many customers for up to six days. Ice accumulation on power lines and tree limbs caused widespread damage to trees and power lines, disrupting the delivery of electricity to 363,000 BGE customers and 228,863 Pepco customers.²⁷ These problems were exacerbated on January 17, when Pepco's Norbeck Substation caught fire and had to be shutdown for several hours.²⁸

The Heat Wave extended from July 3 through July 6, 1999. During that period, the daily temperature averaged 100 degrees with heat indices in the 105 to 115 degree range. At the same time, several of Conectiv's generating units were out of service. Also, according to Conectiv, reduced levels of reactive power caused a decrease in the voltage on its system, thus preventing Conectiv from importing additional electricity to the Delmarva Peninsula.²⁹

Conectiv's Eastern Shore customers were affected by rolling black outs initiated by the Company in response to high customer load demands due to the extraordinary heat and humidity.³⁰ Additionally, from August 31 through September 4, 1999, many of Conectiv's Ocean City area customers lost service as a result of high salt accumulation on power lines. According to Conectiv, a

²⁷ BGE Report at 2; Pepco Report at 13.

²⁸ See Pepco Response dated March 5, 1999.

²⁹ See Conectiv Response, Appendix 6 at 7.

³⁰ Conectiv Report at 3.

northeast wind spawned by Dennis carried salt spray off the ocean onto Conectiv's electric lines and substations in Maryland.³¹

The most severe and widespread weather event was Floyd, which struck Maryland on September 16. According to news sources, Floyd affected 19 counties throughout the State and caused an estimated \$7.9 million in damage.³² Weather reports forecasting a major hurricane/tropical storm event began as early as September 11. As predicted, during the night of September 14, Floyd began approaching Maryland's shoreline. BGE described the event as follows:

As the hurricane moved northward toward the Carolinas on September 15, its moisture was drafted into the stalled frontal zone and rain began to fall in central and western Maryland early that morning. The rain was light and sporadic at first but became steadier and more intense in the afternoon and evening as Floyd moved closer.

After making landfall in North Carolina at 3:00 a.m. on September 16, the storm accelerated in a NNE direction throughout the rest of September 16. The counterclockwise flow around Floyd vigorously pushed tropical air into and over the stalled frontal zone. The result of this interaction was a zone of exceptionally heavy rain on the inland side of the front, from western Delaware westward to the western shore of the Chesapeake Bay. The heaviest rain fell from the pre-dawn hours through the late afternoon on the 16th. The total rainfall from the storm exceeded 10 inches in many areas. Over 11 inches were recorded in Annapolis and Cape St. Claire in Anne Arundel County. To the west and north of Baltimore, rainfall totals were in the range of 3-5 inches, with higher amounts along the Interstate 95 corridor to the northeast of Baltimore. Rainfall totals near the coast, to the east of the stalled front, were significantly lower than those farther inland despite the fact that the center of the storm passed directly across the coastal locations.

In the Maryland area, the strongest winds over land were also located well inland and well removed from the actual center of the storm. Floyd was purely tropical in nature when it made landfall with the strongest winds near the center. As it moved over land on September 16, the storm weakened and gradually lost some of its purely tropical characteristics. While the strength of Floyd's winds dropped considerably near the center of the storm, the pressure difference between the stalled cold front over the Eastern Shore and

³¹ Conectiv at 5.

³² See *Baltimore Sun*, September 19, 1999.

a high-pressure system to the west tightened. As a result, by the afternoon of September 16, the strongest winds were occurring in central Maryland, well to the west of the center of Floyd. Peak storm gusts in the area generally were in the range of 45-65 mph from the north and northwest. (The expected peak gusts were in the 50-mph range. Additionally, . . . the strongest wind gust associated with Floyd occurred around the time the heavy rain was coming to an end. Thus the soil was saturated with two days of rainfall when the strongest winds blew.)

Relative to adjacent areas, the rainfall in the Washington, DC and northern Virginia area was not as heavy, although strong wind gusts of 55 mph did impact these areas on the afternoon of September 16. Across southern Maryland, in the proximity of the Chesapeake Bay, the combination of the strong winds and heavy rains was similar to what BGE had experienced.³³

III. UTILITY PREPAREDNESS AND RESPONSE TO EVENTS

These weather events had varying effects on Maryland utilities. BGE and Pepco were impacted the most by Floyd. Both were also affected by the Ice Storm. While some Conectiv customers experienced outages related to Floyd, its customers were more severely affected by the Heat Wave and the September outages that resulted from the effects of Hurricane Dennis. AP, SMECO and Choptank reported outages related solely to Floyd. The Commission will discuss the impact of these weather events and the utilities' responses below.

A. Electric Utilities and Cooperatives

1. Baltimore Gas and Electric Company (BGE) Response³⁴

³³ BGE Report at 11-12.

³⁴ Frank Heintz, Executive Vice President, Utility Operations, and Stephen Wood, Vice President, Electric Transmission and Distribution, spoke on behalf of BGE during the Commission's Hearings.

Of the major weather events of 1999, BGE was affected the most by Floyd and the Ice Storm. During Floyd, over 500,000 BGE customers were out of power for some period of time, some for as many as eight days.³⁵ During the Ice Storm, 363,000 BGE customers experienced interruptions, largely in Montgomery, Howard and Baltimore Counties, over a period of four days.³⁶

In its response to the current inquiry, BGE described the Company's restoration policies, plans and procedures contained in its General Storm Procedures Manual and its Phase IV Storm Restoration Manual. According to BGE, the Company's restoration priorities were designed to protect the public from safety hazards, to restore service to critical customers – such as hospitals – and to restore service to all customers as safely and quickly as possible.³⁷ BGE stated that it “restor[es] the largest numbers of customers first, . . . then . . . smaller customer outages on an equal basis.”³⁸ According to BGE, main lines are restored first, then crews proceed to smaller outages, such as taps off main lines and customer transformers.³⁹ The Company emphasized that “[p]referential treatment is not given to any county, municipality, jurisdiction or community.”⁴⁰

In a report to the Commission, BGE provided a general description of its weather monitoring and storm procedures.⁴¹ The Company noted that it retains Weather Service, Inc. (“WSI”) to

³⁵ See BGE Report at 3.

³⁶ *Id.* at 2. The Heat Wave was not a significant event for BGE customers.

³⁷ *Id.* at 3.

³⁸ *Id.* at 4.

³⁹ BGE list its service restoration priorities as follows:

- Public safety and hazards
- Critical facilities (i.e., hospitals, sewage pumping stations, etc.)
- Outages affecting the largest number of customers
- Residential customers with special needs
- Commercial and industrial customers
- Duration of outages

See BGE Report at 55.

⁴⁰ *Id.*

⁴¹ BGE Report dated February 5, 1999.

provide real time weather information, and that it also maintains a contract with Accu-Weather, Inc. to receive storm advisories and meteorological consultation.⁴²

BGE also described its procedures for handling “Phase IV” storms. According to BGE, a Phase IV storm involves “system damage beyond the ability of BGE forces to restore service within a 2-3 day period.”⁴³ BGE also stated that “[e]ach area [of the Company] is responsible for developing, and maintaining their own Phase IV storm plans and [for] ensuring that their personnel are prepared to respond.”⁴⁴ BGE states that “when there are high numbers of outages and system damage reports, [BGE’s] ‘Storm Analysis Center’ is mobilized”⁴⁵ According to BGE, the Storm Analysis Center: (1) coordinates and prioritizes the assignment of outage jobs and damage reports; (2) calls customers to determine whether their service has been restored; (3) ensures that there are sufficient resources to perform and to support the field functions; (4) ensures that resources are allocated properly; (5) responds to appeals from residential as well as commercial and industrial customers; (6) follows up on expediting restoration to critical facilities; (7) determines estimated restoration time frames and communicates that information to the public; (8) determines the need for dry ice distribution; and (9) communicates with the media and outside agencies concerning restoration efforts.⁴⁶

As part of its General Storm Procedures and Phase IV Storm Restoration Plan, BGE maintains a storm mobilization and crew activation plan. The plan has two phases, pre-mobilization

⁴² *Id.* at 3. Additionally, the Company noted that it receives “National Weather” forecast reports and that it uses the “Weather Channel.”

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.* at 4.

⁴⁶ *Id.* at 4.

and mobilization.⁴⁷ According to BGE, the pre-storm mobilization plan is intended to supplement regularly scheduled operations and construction manpower with a minimum of additional personnel to handle problems effectively from the outset of a storm. The objective of the pre-mobilization effort is to determine whether the Company's electric system will be affected by storm conditions severe enough to cause customer interruptions. This is done by gathering and evaluating advance weather information. The storm mobilization phase is initiated when a storm is actually declared. BGE reported that the level of mobilization is determined based upon the Company's computerized outage reports, the number of customer calls and other reports of system damage.⁴⁸

In its report, BGE identified 16 separate personnel positions (from Storm Director to Tree Crew Coordinator) that coordinate mobilization and the Company's storm restoration response.⁴⁹ Under certain circumstances, BGE will request assistance from other utilities, initially from members of PJM and then from other electric utilities within close proximity to BGE's service territory.

Additionally, BGE stated that its current storm and disaster response policies and procedures are based upon an overall storm reengineering process implemented in 1996. Prior to 1996, the storm response and dispatch functions were performed at three regional storm center locations.⁵⁰ Since then, BGE'S storm response operations have been centralized. BGE noted that the benefits of centralization have been significant, including improved efficiencies and cost savings.⁵¹

⁴⁷ *Id.* at 15.

⁴⁸ *Id.* at 16.

⁴⁹ *Id.* at 18-19.

⁵⁰ *Id.* at 33.

⁵¹ *Id.*

In its report, BGE described a number of proactive programs designed to protect the distribution system from failure or to reduce the level of damage that might result from a major storm.⁵² The distribution overhead inspection and maintenance program is designed to identify and repair components of the overhead electrical distribution system prior to failure. According to the Company, the program targets the worst performing overhead circuits on BGE's system for visual inspection to identify any items in need of repair or replacement.⁵³ BGE further explained that its distribution vegetation management program applies standards designed to provide enhanced reliability and public safety with tree trimming on a three-year cycle.⁵⁴ The standards are designed to minimize tree contacts with overhead electric lines by removing overhanging branches and natural tree growth adjacent to the lines.⁵⁵ BGE stated that it invests approximately \$65 million annually on reliability-related projects, including approximately \$15.4 million per year on tree trimming.⁵⁶

According to BGE, during the course of a major storm the Company utilizes a Customer Care Call Center to respond to customer calls regarding downed wires, service restoration questions

⁵² BGE's proactive programs include:

- Distribution Overhead Inspection and Maintenance Program;
- Cable Replacement Program;
- Pad-Mounted and Underground Equipment Inspection and Maintenance Program;
- Distribution Vegetation Management Program;
- Wood Pole Inspection, Treatment, Reinforcement and Replacement Program;
- Distribution Automation Program;
- Thermovision Inspection Program;
- Reliability Driven Infrastructure Projects;
- 34 kV Lightning Protection and Pole Fire Deterrent Program;
- Substation Reliability Centered Maintenance Program;
- Substation Squirrel Proofing Program;
- Circuit Switcher Installation Program;
- Transmission Lighting Protection Program; and
- Transmission Circuit Rights-of-Way Maintenance Program.

⁵³ *Id.* at 43. If repair or replacement needs are identified, work orders are issued and field repairs and installations are made, typically within 3-6 months. *Id.*

⁵⁴ *Id.* at 45. BGE's T&D system includes over 350,000 wooden poles.

Id.

⁵⁵ *Id.* at 44.

and other issues. In addition to actual operators, BGE uses an Interactive Voice Response ("IVR") System, which allows customers to self-report outages and other problems.⁵⁷ BGE reported that during the Ice Storm, 130 customer representatives or other personnel answered customer calls on the peak day. During Floyd, BGE reported that 145 customer representatives or other personnel answered customer calls on September 16, and 180 employees answered calls on September 17. BGE stated that during the seven days of the Floyd restoration period, approximately 250 of its employees assisted in the Customer Call Center.⁵⁸

During Floyd, BGE reported that between September 16-22, it received approximately 299,000 calls to its Call Center over a seven-day period.⁵⁹ During the Ice Storm, the Company received 160,000 calls.⁶⁰ BGE reported that during the early stages of the outage period, approximately 70 percent of the calls were to report outages.⁶¹ Later, approximately 65 percent of calls were inquires regarding expected restoration times.⁶² BGE reported that it did not give restoration estimates to individual customers. However, restoration progress and estimated restoration times were provided to local emergency management officials.⁶³

During the Hearings, BGE's representative stressed that "we are now looking toward assuring, first of all, that there will not be busy signals or trying to make sure that they are

⁵⁶ See BGE Reply Comments at 6.

⁵⁷ *Id.* at 69.

⁵⁸ BGE Report at 69.

⁵⁹ *Id.* at 70.

⁶⁰ *Id.*

⁶¹ *Id.* at 72.

⁶² *Id.*

⁶³ *Id.* at 77.

minimized.”⁶⁴ According to its representative, BGE will be doubling the number of inbound trunks and doubling the number of ports into its interactive voice response system.⁶⁵

BGE stated that, as a matter of policy, it has been distributing dry ice to residential customers since 1950. The Company stated that it proposes to continue to provide dry ice and other mitigation measures to customers who go without power for long periods due to major storm damage. Following Floyd, BGE reported that it dispensed approximately 439,000 pounds of dry ice to customers during a five-day period.⁶⁶ Additionally, alternative lodging was made available by emergency management officials during the Ice Storm and during Floyd.⁶⁷ Customer Care representatives informed callers of available shelters and the information was also posted on BGE’s website.⁶⁸ Additionally, since the Ice Storm, BGE stated that information regarding dry ice is placed on the telephone system’s out-going message and on its intranet so its employees remain informed about the availability of dry ice.⁶⁹

In its report, BGE stated that in the case of customers with documented medical needs, customer care representatives issue “Electric Trouble Tickets” and type the word “RED” in the confirm area of the ticket.⁷⁰ According to BGE, this alerts its storm center that medical equipment is on the premises or that a medical condition exists.⁷¹ BGE stated that:

A copy is given to a customer care specialist who follows-up to determine when service will be restored. The specialist advises the customer of the situation and

⁶⁴ Tr. at 169.

⁶⁵ *Id.* at 169-170.

⁶⁶ *Id.* at 73.

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ BGE Report at 54.

⁷¹ *Id.*

gives the customer the information they will need to make an informed decision on whether or not alternate living arrangements will be necessary.⁷²

As a follow-up to its report, BGE has proposed to submit ongoing reports on December 15, 1999, March 15, 2000 and June 15, 2000 to identify storm restoration and customer information procedures that can be implemented before future weather events occur.⁷³

2. Potomac Electric Power Company (Pepco) Response⁷⁴

Pepco was affected significantly by the Ice Storm and by Floyd. During the Ice Storm, 228,863 Pepco customers were without power, some for as many as six days. During Floyd, 68,613 Pepco customers lost power.⁷⁵ Based on these widespread outages experienced throughout Pepco's service territory due to the Ice Storm and Floyd, and because of other intermittent outages, the Commission required Pepco to file numerous reports and updates. The following summary is based upon information provided by Pepco in its March 5 and June 3, 1999 Formal Reports regarding the Ice Storm, its October 15, 1999 report in response to the Commission's Notice of Investigation in this proceeding and its November 22, 1999 Final Report regarding the Ice Storm.

In its October 15, 1999 report, the Company explained that it uses WSI to determine any indications of a weather disturbance in its service territory. In order to be prepared for weather disturbances that may affect the system, Pepco conducts several activities annually

⁷² *Id.*

⁷³ *Id.* at 90.

⁷⁴ Robert C. Grantley, Vice President, Customer Service and Power Distribution, and William M. Gausman, General Manager of Power Distribution, represented Pepco during the Hearings.

⁷⁵ The Commission notes that Pepco considers a major outage as one which affects more than 50,000 customers at any given time. *See* Pepco Report, Response to the Question 3.

including, pre-staging of equipment and supplies at each service center for quick deployment of crews, review of critical inventories prior to storm season, prediction of major storms and storm restoration training for non-overhead line crews. Inspection and repair procedures are in place whereby each year the distribution circuits with the highest number of outages are patrolled and corrective action taken.⁷⁶ Transmission tower lines are inspected periodically and transmission rights-of-way are mowed or treated to prevent interference with the transmission and distribution lines.⁷⁷ According to Pepco, it receives information regarding hazardous conditions from a number of sources, including calls from the public, 911 centers and local fire and police agencies.⁷⁸

Pepco used 303 crews during the Ice Storm and 318 crews during Floyd.⁷⁹ According to Pepco, it only requests outside line crews when outages affect more than 50,000 customers. Regular contractors and additional crews, if needed, are requested from the Edison Electric Institute Mutual Assistance Roster. As stated in its report, Pepco's preventative maintenance program includes tree trimming on a two-year cycle.

Pepco's report stated that it utilizes a priority list to ensure restoration which gives first priority to life threatening instances such as wires down or burning, or hospitals without service. Second in priority is the repair of damage to substations, major transmission lines or subtransmission lines in order to restore service to the largest number of customers as early as possible. Smaller groups of customers and individual homes and businesses are listed next in priority for restoration of service.⁸⁰ Pepco has a Life Support Program that provides notification of scheduled outages to

⁷⁶ *Id.* at Response to Question 4

⁷⁷ *Id.*

⁷⁸ *Id.* at Pepco Response to Question 15.

⁷⁹ *Id.* at Pepco Response to Question 2.

⁸⁰ *Id.* at Pepco Response to Question 8.

those customers who have special medical needs. However, the Company stated that it does not guarantee a constant supply of electricity and reserves its right to interrupt electric supply without notice under emergency conditions, as well as at any time for necessary repairs in circumstances which make advance notification impractical. It then becomes the customer's responsibility to provide back-up systems in the event that the supply of electricity is interrupted for any of the foregoing reasons.⁸¹ Additionally, to handle areas associated with major outages, Pepco mobilizes all of its staffing resources, including customer service representation, community relations personnel, substation, transmission and distribution crews and other personnel. According to the Company, its call center objective is to answer 70 percent of all incoming calls within 30 seconds at all times. In its report, Pepco stated that dry ice is provided to customers generally when restoration activities are expected to last more than three days. The Company reported that since Floyd, it has changed its procedure to make dry ice available when 25,000 or more customers are expected to be without service for at least 24 hours.

3. **Delmarva Power and Light Company (Conectiv) Response**⁸²

Conectiv experienced outages during three weather-related events. During the Heat Wave, rolling blackouts were instituted by Conectiv without warning, which caused power interruptions to poultry farmers on Maryland's Eastern Shore, to other businesses, to 1,048 Rock Hall customers and to three groups of Ocean City customers (between 2,671 and 3,972

⁸¹ *Id.* at Pepco Response to Question 2.

⁸² Thomas Langley, Director of Power Systems, Michael Caffrey, Manager of Corporate Restoration, Michael Picucci, Director of Customer Care Operations, Tsion Messick, Director of Transmission and Arrangements, and Somers Price, Esq., Counsel for Conectiv, represented Conectiv during the Hearings.

each). Additionally, 50,500 Conectiv customers lost power from August 31 through September 4, 1999 as a result of Dennis-related salt accumulations on power lines. Finally, approximately 35,000 Conectiv customers experienced service interruptions on September 16 as a result of Floyd.

In its report, Conectiv stated that it maintains a Corporate Restoration Plan which describes key emergency response roles and responsibilities.⁸³ Routinely, weather is monitored by the Company's central dispatch, systems operations, manager of corporate restoration and WSI. Weather reports are reviewed before and during a weather event.⁸⁴ Proactively, the Company uses thermographic scanning, helicopter inspections, general pole inspections, and continuous inspection of facilities by trouble and service crews to identify potential problems.⁸⁵

Since 1979, Conectiv has operated a tree trimming program under the direction of a professional forester. According to Conectiv, the forester, in connection with systems operations and other technical personnel, prioritizes work on the electric system according to voltage, reliability and number of customers served.⁸⁶

In the Corporate Restoration Plan, Conectiv described its trigger point guidelines, mobilization measures, restoration management chain of command, direction and control of restoration operation, activation and release of emergency personnel, declaration of event level emergency and recovery phase activities.⁸⁷ Weather events are classified by levels, from

⁸³ Conectiv Report at 13.

⁸⁴ *Id.*

⁸⁵ *Id.* at 14.

⁸⁶ *Id.*

⁸⁷ *See* Conectiv Report, Appendix 5.

level one to level four. As weather conditions become more severe and the expected outage time increases, the degree of involvement escalates from district to regional to corporate. Conectiv also provided the Commission with a list of planned transmission projects totaling \$32 million in costs. According to the Company, those projects are scheduled for completion by June 2000.⁸⁸

Conectiv also provided information concerning its response to customers with special medical needs. The Company stated that customers within its service territory with special medical needs have green medical crosses placed on their meters and on the service transformers that serve their location.⁸⁹ Conectiv stated that when possible, restoration priority is given to circuits containing medical alert customers. However, the greater priority is given to the corporate restoration plan.⁹⁰

During the Hearings, Conectiv's representatives emphasized that its customers did not experience the severe outages noted in other service territories. Conectiv customers did not experience service interruptions as a result of the Ice Storm. The longest outage period for Conectiv customers during the Heat Wave was four hours in the course of rotating load shedding. All but 2,500 Conectiv customers interrupted during Floyd were restored within 24 hours.⁹¹ According to Conectiv, its restoration practices and procedures worked well during each of the 1999 weather-related events. Consequently, the Company believes it would be inappropriate to include Conectiv with other Maryland utilities in any further proceedings as requested by Staff and OPC.⁹²

⁸⁸ Conectiv Reponse to Commission Data Requests Regarding the July 6, 1999 Outage.

⁸⁹ Conectiv Report at 18.

⁹⁰ *Id.*

⁹¹ Tr. at 92.

⁹² *Id.* The Commission believes that Conectiv is correct in noting the distinctions between the outages on its system and those experienced by other utilities. From a facilities perspective, in large part the instant investigation relates to weather damage to distribution systems resulting in outages. In the case of Conectiv, however, Staff has suggested that Conectiv's

4. Potomac Edison Company/Allegheny Power (AP) Response⁹³

AP reported a similar numbers of outages for each of the 1999 major weather events. During the Ice Storm, AP reported that 17,721 customers lost power. During the Heat Wave, 16,017 AP customers were without power and 16,565 AP customers lost power during Floyd. AP stated that following a storm, the Company's first priority is to restore service. Removing hazardous conditions is its next highest priority. AP provided a manual entitled Service Center Emergency Operations Manual which describes the Company's storm mobilization and response procedures.⁹⁴ According to AP, its operations center is responsible for ensuring that an Emergency Operations Plan for each service center is prepared and updated. Also, each service center is responsible for annually preparing and updating a service restoration plan.⁹⁵

AP reported that during calendar year 1999, 135 employees performed restorations at customer sites.⁹⁶ According to AP, during outage periods its "Person-on-Duty" is responsible for the coordination of overall service center restoration activities.⁹⁷ Additionally, a general

Heat Wave-related outages may have been exacerbated by inadequate planning and facilities. Therefore, the Commission shall designate a separate proceeding to address the unique issues relating to Connecticut. See Section IV-K, *infra*.

⁹³ John Shaner, Director of Restoration Services, represented AP during the Hearings.

⁹⁴ AP Report, Attachment 10.

⁹⁵ *Id.* at 5.

⁹⁶ *Id.* at 10.

⁹⁷ *Id.* at 11.

manager locates and allocates resources for restoration activities and AP's Director of Operations Restore Service has the lead role for the Company's Restore Service Management Team.⁹⁸

In its report, AP provided a copy of its Vegetation Management Polices and Procedures manual.⁹⁹ Section 2.02 of the manual provides that "[AP's] objective is to alleviate vegetative interference by using efficient right-of-way vegetation management methods that provide safe and reliable electric service to customers and safe access for company personnel, at the lowest possible cost."¹⁰⁰ According to its report, AP has become very aggressive with tree removal "[in order] to reduce long term costs, limit liability and [to] enhance communities."¹⁰¹

The Company stated that after its reorganization in 1996, it formulated a centralized forestry program, reducing "hot-spot" work and increasing planned "on-cycle" tree trimming maintenance. Since 1990 its Maryland tree trimming costs have decreased from \$7,000/mile to approximately \$2,430/mile.¹⁰²

AP listed medical needs customers in order of priority as follows: (1) critical customer (i.e., hospitals, life support, etc.), (2) critical services (i.e., EMS, water companies, communications, fire, police, etc.), (3) residential, and (4) commercial and industrial.¹⁰³ The Company emphasized, however, that events themselves dictate the order or priority and that in some cases "communicating estimated time of restoration [in order for] customer to make alternate arrangements becomes almost as important as restoring their service."¹⁰⁴ AP's overall restoration priority is applied to (a) eliminate

⁹⁸ *Id.*

⁹⁹ AP Report, Attachment 15.

¹⁰⁰ *Id.*

¹⁰¹ AP Report at 16.

¹⁰² *Id.*

¹⁰³ *Id.* at 17.

¹⁰⁴ *Id.*

safety hazards, (b) restore substations and main feeder line circuits, (c) restore critical services, (d) restore service to outages affecting the largest number of customers, and (e) restore service to individual transformers and secondaries.¹⁰⁵

AP stated that it uses a toll-free customer call center in Fairmont, West Virginia to which customers can call to report trouble on their lines. There are 285 incoming lines to the customer call center and has the capability of handling 30,000 to 40,000 calls per hour.¹⁰⁶ During Floyd, AP reported receiving 240 customer calls.¹⁰⁷

AP stated that “[t]o date, [the Company] has not provided information on the availability of dry ice.”¹⁰⁸ AP plans to identify dry ice vendors in its Maryland service area and have customer service representatives provide such information to customers in the future.¹⁰⁹ According to AP, whenever it anticipates power outages of 24 hours or more duration, the Company’s “Dispatching Center surveys local Red Cross, volunteer fire departments, emergency management officials, and other local services to determine the location of emergency shelters.”¹¹⁰ The information is given to AP’s customer service representatives who in-turn provide the information to customers. That information is also shared with local emergency management offices and 911 centers.¹¹¹

AP also stated that during major weather events, it provides up-to-date information on restoration efforts, including, the number of customers out of power and their locations, the number of customers restored, estimated restoration times, and provides consumer emergency tips and

¹⁰⁵ *Id.* at 20-21.

¹⁰⁶ AP Report at 23.

¹⁰⁷ *Id.* at Attachment 18.

¹⁰⁸ *Id.* at 25.

¹⁰⁹ *Id.*

¹¹⁰ *Id.* at 26.

¹¹¹ *Id.*

information regarding the availability of emergency shelters.¹¹² Information is provided to customers through the Company's Customer Service Center, through status reports to the media, and through status reports to emergency management offices and 911 centers.¹¹³ Finally, AP stated that during outage periods, a "Proactive Media Notification" is faxed to local media, depending on the size of the outage and/or time of day.¹¹⁴ Such information is also sent to the local 911 or emergency management agency and state public service commissions.¹¹⁵

AP indicated a need to improve its customer communications. In addition, AP said that since it operates in five states, it has experience working with different Commission requirements. In Pennsylvania, audits are performed of staffing and costs. The Company finds that both the information and the process are useful.

5. Southern Maryland Electric Cooperative (SMECO) Response¹¹⁶

In contrast to the experiences of other utilities, SMECO reported that customers lost power in its service territory during Floyd only. During that event, SMECO reported that 24,795 residential and commercial customers experienced service interruptions.

According to its report, SMECO follows its Crisis Management Plan during any major storm. The plan objective following a major storm is to "restore electric service to the maximum number of consumers in the shortest time possible."¹¹⁷ "Safety is the most important factor for

¹¹² *Id.* at 27.

¹¹³ *Id.*

¹¹⁴ *Id.* at 28.

¹¹⁵ *Id.*

¹¹⁶ Mark MacDougall, Vice President, Regulatory Affairs and Counsel, and Ray Becmer, Senior Vice President Engineering represented SMECO during the Hearings.

¹¹⁷ SMECO Report, Response to Question 6.

SMECO personnel, outside personnel, consumers, and the general public.”¹¹⁸ As a major weather threat approaches, SMECO tracks the storm utilizing its own storm radar and local and national weather reports. If the storm approaches SMECO’s service area, SMECO proceeds to “tighten down all construction projects, verify and re-supply material needs at the districts and for all . . . trucks, fill gasoline tanks, sharpen and tune chain saws, and arrange for certain vehicles to be equipped with proper communications.”¹¹⁹ Additionally, contact is made with contractors regarding the availability of additional crews. Dry ice vendors are also contacted regarding the availability of dry ice. According to SMECO, its restoration priority grid is as follows:¹²⁰

- Transmission Lines/Switching Stations
- Substations
- Wires burning on ground
- Main lines
- Tap lines
- Individual Services

Customers with special medical needs file certificates with the Company and are tracked by computers. Once main lines have been repaired and re-energized, SMECO attempts to restore electric service to special medical needs customers as soon as practicable.¹²¹

¹¹⁸ *Id.*

¹¹⁹ SMECO Report, Response to Question 4.

¹²⁰ *Id.* Response to Question 6.

¹²¹ *Id.*

Storm emergencies are categorized in three phases, depending on severity. Phase I is fairly routine and anticipates that restoration efforts can be managed by the assigned district personnel. A Phase II storm will generally require the assistance of additional SMECO district crews and anticipates full restoration within a 12-hour period. With regard to Phase III storms, restoration may be expected to exceed 12 hours, assistance from other SMECO district crews would be utilized, if available, and outside help from other utilities and or contractors might be requested.

According to its report, SMECO maintains a yearly ongoing inspection program with regard to 10,000 distribution poles and 1,000 transmission poles. According to SMECO's report, it utilizes a tree trimming contractor that has 18 crews working every day. Each district also has its own tree trimming crew. SMECO stated that it does not believe that Statewide tree trimming regulations give utility companies sufficient latitude to trim trees to the extent necessary to reduce tree-related outages to an acceptable level and would support some changes to this existing requirements.¹²²

SMECO reported that it received 37,296 customer calls during Floyd. According to SMECO, during Floyd, as many as 12 customer service representatives worked 16 hour shifts to ensure constant phone coverage. SMECO stated also that its Call Center Director or Management Shift Supervisor was present constantly, as well as management personnel to speak to "irate customers."¹²³ It received only one inquiry regarding alternative lodging, which was redirected to the local emergency management agency.¹²⁴ The Company stated that distributed 14,190 pounds of dry ice following Floyd.¹²⁵

¹²² *Id.*

¹²³ SMECO Report, Response to Question 9.

¹²⁴ *Id.*

¹²⁵ *Id.* at Response to Question 11.

During the Hearings, SMECO's representative emphasized SMECO's reaction to giving priority to downed wires. In its initial comments, Staff intimated that perhaps, during restoration efforts, top priority should be given to live wires on the ground. SMECO strongly disagreed. The SMECO policy states that "[n]o part of the service we render shall ever be so important that it will endanger the life of an employee or create a hazard to the general public."¹²⁶ SMECO emphasized that restoration priority is not a black and white issue, but rather one that must be considered in light of other factors.¹²⁷ An example, according to SMECO is that customers often make false "downed live wire" reports hoping that the utility will respond more quickly to their particular outage. As SMECO's representative noted, "[i]f we were to drop everything and . . . respond to . . . burning wires reports that we know are false, we would never get people's lights back on."¹²⁸ In that example, the representative explained:

A dispatcher gets a call from a customer and it is in one part of our service territory and it says the wires are down and burning. At the very same time we lose the transmission line. The transmission line could probably serve five, six substations . . . probably . . . 15,000, 18,000 people. The transmission lines also serve hospitals, major pumping stations, people's water and sewer systems, [*et cetera*] These are the kinds of decisions system operators have to make every day and they do a good job. What I'm asking you to do is to leave it to the utilities and the system operators to determine what the priorities should be . . . [with regard to] restoring services.¹²⁹

With regard to tree trimming, SMECO's representatives noted that SMECO customers allow tree trimming more liberally than is provided under the Maryland Roadside Tree Law and

¹²⁶ Tr. at 283.

¹²⁷ *See id.*

¹²⁸ *Id.*

¹²⁹ *Id.* at 286-287.

regulations. SMECO is opposed to changes in regulations that might reduce the frequency of tree trimming.

SMECO stated that it issued a press release on September 15, 1999 advising customers how to prepare for outages. During the event, SMECO provided information to customers by fax, telephone, website postings and e-mail to local broadcast media about time frames for service restoration and the availability of dry ice.¹³⁰ Additionally, all information sent out during the storm was also faxed to the offices of the district's congressional representative, state senator and delegates.¹³¹

6. Choptank Electric Cooperative (Choptank) Response¹³²

According to its report, Choptank was not affected by the Ice Storm or the Heat Wave. During Floyd, Choptank customers experienced only minimal impact on September 16 and 17. All customers were restored to full service by the end of the day on September 17, and Choptank was able to send employees to assist SMECO with its restoration efforts on September 18.

Choptank provided the Commission a copy of its Emergency and Storm Damage Restoration Procedures in response to this investigation. The procedures addressed damage assessment, tactics, communications, safety, logistics and responsibility.¹³³ Its restoration priority grid¹³⁴ is as follows:

- substations or known critical loads
- circuits (Major feeds)

¹³⁰ *Id.* at Response to Question 13.

¹³¹ *Id.* at Response to Question 14.

¹³² Edward G. Banks Jr., and Michael I. Wheatley, Coordinator of Finance and Administrative Services, represented Choptank during the Hearings.

¹³³ Choptank Report, Attachment 5.

¹³⁴ Choptank Report at 6.

- taps; and
- individual outages

According to Choptank, following these procedures allows it to restore the maximum number of customers in the shortest amount of time.¹³⁵ Choptank stated in its report that it utilizes the Porsche outage reporting system to assist in managing member outage calls.¹³⁶ The number of member calls associated with major 1999 weather events was not provided.

On previous occasions, Choptank has provided dry ice for its customers at the Cooperative's local offices. In other instances, Choptank coordinated dry ice distribution with local emergency preparedness personnel and often distributed dry ice at local firehouses closer to customers' homes. During the 1999 weather events, no dry ice was requested.¹³⁷

B. Telephone Companies

1. Bell Atlantic-Maryland (BA-MD) Response¹³⁸

In its response to the Commission, BA-MD reported 61 customers out of service during the Ice Storm and 2,786 outages at its peak during Floyd. No outages were reported for the Heat Wave.

In its report, BA-MD stated that it has contingency plans to ensure customer service is maintained during severe weather conditions. BA-MD's procedures provide preparation checklists for all work groups, switching, and construction/engineering, along with severe weather

¹³⁵ *Id.*

¹³⁶ Choptank Report at 6.

¹³⁷ *Id.* at 7.

¹³⁸ Sherry Bellamy, President, Ben Landrum, Director of Consumer Services, and Glenn Deuchler, Director of Outside Plant Engineering BA-MD, represented BA-MD during the Hearings.

recommendations for central office maintenance.¹³⁹ With regard to special medical needs customers, BA-MD does not require a special medical needs certificate. However, the Company said that it handles such customers on an expedited basis to meet the needs of each individual customer.¹⁴⁰

BA-MD representatives stated that at the height of Floyd, 43 central offices and 300 remote switch terminals lost commercial electric power. As a result, BA-MD resorted to portable generation and continued to operate.¹⁴¹ On the basis of its performance, BA-MD believes there is no need for new rules or additional proceedings with respect to BA-MD's performance during weather emergencies.¹⁴²

With regard to aerial (overhead) versus buried (underground) plant, BA-MD's representative noted that 60 percent of BA-MD's plant is either underground or buried.¹⁴³ Nonetheless, BA-MD noted the unique vulnerabilities of underground plant, including risks from digging equipment, such as backhoes and flow moles. According to BA-MD, in 1999 the Company reported 58 aerial plant damage cases. However, 509 damages cases were reported with regard to buried plant.¹⁴⁴ According to BA-MD, its tree trimming maintenance program is usually limited to removal of trees or large limbs that obstruct the path of cable

¹³⁹ BA-MD Report, Response to Question 4.

¹⁴⁰ BA-MD Report, Response to Question 6.

¹⁴¹ Tr. at 11.

¹⁴² *Id.* at 12.

¹⁴³ *Id.* at 14-15.

¹⁴⁴ *Id.*

plant that is being constructed or the removal of large limbs or trees that present a hazard to plant.¹⁴⁵

While BA-MD indicated its willingness to participate in an evaluation, it noted that the events in this proceeding caused them only minimal problems.

Additionally, BA-MD's representative explained during the Hearings that telephone lines generally suffer less during storms than do electric lines. In addition to being pulled down, telephone lines have to be corrupted by water damage before any risk of outage is likely to occur.¹⁴⁶

2. Armstrong Telephone Company–Maryland (Armstrong) Response¹⁴⁷

In its response to the Commission, Armstrong indicated that its customers were effected by Floyd only. During that event, Armstrong lost power in its central office for approximately 35 minutes. However, the Company does have a Disaster Contingency Plan.¹⁴⁸ The Company's priorities¹⁴⁹ with respect to outage restorations are:

- Emergency phones
- Key employees
- Local fire and ambulance companies
- Local doctors
- Local police agencies
- Specific customer groups (including customers with medical certificates)

With regard to overhead versus underground lines, however, Armstrong's representative attributed the Company's service reliability to the fact that 98 percent of Armstrong's plant is buried as opposed to overhead.¹⁵⁰ According to Armstrong's representative, "overall the maintenance on

¹⁴⁵ *Id.* at 16.

¹⁴⁶ *See* Tr. at 51.

¹⁴⁷ Jim Matyas, Vice President, Operations and Engineering, represented Armstrong during the Hearings.

¹⁴⁸ Armstrong Report at 2.

¹⁴⁹ *Id.*

¹⁵⁰ *See* Tr. at 22.

aerial plant . . . has been higher and the service provided by it was slightly less reliable than . . . buried plant.”¹⁵¹

IV. COMMISSION ASSESSMENT AND DETERMINATIONS

As a result of the Commission inquiry into the Ice Storm and Heat Wave, numerous reports and filings were received from Pepco, BGE and Conectiv. In addition, many reports and extension dates have been filed as a result of this proceeding. The Commission has carefully analyzed the information provided by the Companies and others. Based upon that analysis, the Commission finds the following:

A. Uniform Reporting Standards

As a result of this investigation, the issue arose as to whether utilities should be required to file uniform reports concerning maintenance and outage restoration.¹⁵² IBEW strongly supported the development of uniform reporting standards for the utilities. It noted that the utilities did not use the same criteria to respond to this inquiry. Accordingly, IBEW stated that it was unable to compare any data from utility to utility and draw any sensible conclusions.¹⁵³ IBEW stated that “[it] believes that [differences] in reporting should be corrected and that all of our utilities should report customer outages uniformly and the cause of the outage should be included, so that a better analysis of the

¹⁵¹ *Id.* at 30.

¹⁵² During the proceedings, discussions regarding uniform reporting standards and operation and performance standards were often intermingled.

¹⁵³ IBEW Initial Comments at 2.

responses to the outages can be performed”.¹⁵⁴ OPC and Staff experienced similar difficulties in making their analyses.

BGE stated that the need for uniform reporting is unclear at this time. According to BGE, the Commission may wish to prioritize the issues and designate important public policy matters for consideration in a future legislative proceeding.¹⁵⁵

In response to IBEW’s proposal, Pepco stated that it opposes the development of uniform reporting standards. Pepco stated that the Commission should recognize that each company in the State has a different organizational structure and different service territory characteristics. Thus, the companies may have emergency response plans that appear quite different.

Regarding uniform reporting requirements, Pepco noted that each storm or major outage has different causes and requires varying responses. According to Pepco, uniform reporting is not necessary, or even appropriate, since one outage may raise questions about call center operations, while another major event raises questions about service restoration. Pepco stated that given the differing nature of each major outage event, it is more appropriate for the Company to report to the Commission after a major outage event, and the Commission may request specific information that relates to that particular outage. Additionally, Pepco stated that there have been no facts presented that should cause the Commission to change its process.¹⁵⁶

During the Hearings, however, Pepco’s representative indicated that developing uniform reporting standards would be a possibility and that it would not pose a burden upon the Company.¹⁵⁷

¹⁵⁴ *Id.* at 3.

¹⁵⁵ BGE Reply Comments at 3.

¹⁵⁶ Pepco Reply Comments at 5-6.

¹⁵⁷ Tr. at 254.

BGE's representative also said that reporting standards "would be a sensible way to go forward."¹⁵⁸

Conectiv stated that differences and nuances among utilities could make it difficult to develop uniform standards.¹⁵⁹

AP stated that utilities should be required to periodically review and update their customer response plans. The information to be contained in such periodic reports could be developed through a streamlined roundtable process involving the utility, Staff, OPC and other interested parties.¹⁶⁰ AP also noted that the State of Pennsylvania audits the Company periodically to assess its compliance with operation and performance standards.¹⁶¹ According to AP's representative, the "Pennsylvania procedure is a good one because it allows the Commission to work with the utility. The Commission gives feedback and inquires of the utility what the Commission can do to help."¹⁶²

SMECO noted during the Hearings that the electric cooperatives file federal reports on certain operating characteristics (including the SAIDI¹⁶³ and CAIDI¹⁶⁴) along with operation and maintenance expense information. SMECO's representative indicated a willingness to participate in a roundtable process to develop standards for reporting additional data to the Commission.¹⁶⁵

Choptank noted that electric cooperatives no longer have a responsibility to report to the Rural Utility Service. However, Choptank also agreed to cooperate with other utilities in developing uniform reporting standards.¹⁶⁶

¹⁵⁸ *Id.*

¹⁵⁹ Tr. at 229.

¹⁶⁰ AP Statement of Position at 1.

¹⁶¹ *See* Tr. at 225.

¹⁶² Tr. at 272.

¹⁶³ System Average Interruption Duration Index.

¹⁶⁴ Customer Average Interruption Duration Index.

¹⁶⁵ Tr. at 289.

¹⁶⁶ Tr. at 290-291.

The Commission finds that the development of uniform outage reporting standards is appropriate at this time. The Commission notes that the majority of the utilities participating in this investigation have expressed a willingness to participate in roundtable discussions on this subject. Others, such as AP, already meet reporting requirements in other states. SMECO and Choptank meet federal reporting requirements.

The Commission believes that the development of uniform outage reporting standards will serve a role that utility self-assessments alone cannot. Uniform reporting will allow the Commission to compare the outage restoration performance of each utility. Uniformity provides the method by which the Commission can assess outage problems on both a utility-specific or Statewide basis.

Therefore, the electric utilities and telephone companies shall cooperate with Staff, OPC and other interested parties to develop uniform outage reporting standards. At a minimum, customer outages should be reported by account or meter and by class. This information also should include the cause of the outage. The standards should also include information stating the number of crews used during restoration efforts (including crews and their composition), and information regarding utility equipment and supplies for restoration efforts.

B. Customer Communication and Assistance

The Commission's inquiry sought information regarding the companies' communications with customers and emergency assistance provided to mitigate losses, and inconvenience to customers, as well as frustrations. Nearly all of the companies provided information regarding their efforts to receive and respond to customer inquiries and to provide customer assistance whenever necessary.

While the Commission appreciates the magnitude of calls and inquiries and the efforts extended, the Commission remains deeply concerned that the utilities have not grasped fully the sense of customer frustration and hardships resulting from customers' inability to reach utility personnel during long-term outages. The complaints the Commission received during these events included busy signals, and inability to get through to the utility's call centers and rude and unsympathetic responses when person-to-person contact was made.

1. Customer Communication

Staff noted that following Floyd, the Commission's Office of External Relations ("OER") received numerous calls and more than 240 written complaints regarding the utilities' response to outages in several areas. Two complaints in particular were noted by Staff, one from the City of Bowie and another from residents of the Font Hill neighborhood in Ellicott City, Maryland.¹⁶⁷ According to Staff, OER received over 1,000 calls from BGE customers who were unable to get through to the Company following Floyd.¹⁶⁸

Additionally, Staff noted that OER received over 1,000 calls from Pepco customers who were unable to contact the Company following the Ice Storm. Staff also noted more than 40 written complaints from Pepco customers concerning frequent storm outages and the Company's restoration efforts in the months following the Ice Storm.¹⁶⁹

¹⁶⁷ Staff Reply Comments at 3.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* at 4.

Also, Staff noted that following the Heat Wave, OER received 15 written complaints regarding Conectiv, but since the Heat Wave outages occurred on a holiday weekend, customers were not able to call the Commission.¹⁷⁰

According to BGE, approximately 55 customer service representatives take calls on a typical non-storm day.¹⁷¹ During major weather events the number of customer representatives increases significantly. For example, during the Ice Storm, BGE reported that 130 customer representatives or other personnel took customer calls on the peak day of the event. During Floyd, BGE reported that 145 customer representatives or other personnel took customer calls on September 16, and 180 took calls on September 17. BGE stated that during the seven days of the storm/recovery period, approximately 250 employees assisted in the Customer Call Center.¹⁷² The Company's system was also deployed during these events. The IVR system allows customers to self-report outages.¹⁷³

During Floyd, BGE reported that it received approximately 299,000 calls to its Call Center over a seven-day period (September 16-22, 1999).¹⁷⁴ During the Ice Storm, the Company received 160,000 calls.¹⁷⁵ BGE reported that during the early stages of the storm/outage period, the majority of calls (approximately 70 percent) were to report outages.¹⁷⁶ Later, approximately 65 percent of calls were inquires regarding expected restoration times.¹⁷⁷ BGE reported that it did not

¹⁷⁰ *Id.*

¹⁷¹ BGE Report at 69.

¹⁷² *Id.* Customer Service Representatives and managers worked 12 to 14 hour shifts during the restoration period. Supervisory and support staff personnel assumed additional responsibilities such as handling customers' hardship situations and coordinating the flow of vital information to and from the Storm Center and field offices. *Id.*

¹⁷³ *Id.*

¹⁷⁴ *Id.* at 70.

¹⁷⁵ *Id.*

¹⁷⁶ *Id.* at 72.

¹⁷⁷ *Id.*

give restoration estimates to individual customers. However, restoration progress and estimated restoration times were provided to local emergency management officials.¹⁷⁸

During the Hearings, BGE's representative stressed that "we are now looking toward assuring, first of all, that there will not be busy signals or trying to make sure that they are minimized."¹⁷⁹ According to its representative, BGE will be doubling the number of inbound trunks and doubling the number of ports into its interactive voice response system.¹⁸⁰

In its report, Pepco stated that during the Ice Storm event it received 125,250 customer calls.¹⁸¹ As many as 95 employees answered calls during the peak calling periods. During Floyd, Pepco stated that it received 75,877 customer calls and that during peak call periods, 154 employees were available to answer calls.

Before Floyd, Pepco had enhanced its customer call handling capabilities. During the Floyd event, the Company operated a total 253 incoming customer service lines, and the Company's Voice Response Unit ("VRU") was expanded to 76 channels.¹⁸² The Company's overall customer call reception capability increased 83 percent.¹⁸³

During the Ice Storm, Pepco's restoration progress information and recommended safety tips were read live on Washington-area radio stations.¹⁸⁴ Additionally, the Company's Call Center out-going recorded message provided a status report of storm restoration progress. Customers

¹⁷⁸ *Id.* at 77.

¹⁷⁹ Tr. at 169.

¹⁸⁰ *Id.* at 169-170.

¹⁸¹ Pepco Report, Response to Question 9.

¹⁸² *Id.*

¹⁸³ *Id.*

¹⁸⁴ *Id.* Response to Question 13.

heard the information when they first connected with the Company Call Center. The Company VRU also provided general estimated restoration times.¹⁸⁵

Conectiv's electricity distribution was not affected by the Ice Storm and therefore reported normal customer calls during that period. During the Heat Wave, Conectiv reported receiving 18,136 customer calls.¹⁸⁶ During peak calling periods, as many as 93 employees answered customer calls.¹⁸⁷ Conectiv stated that during the Heat Wave, a "mother board" in one of the central processing units of the Company's VRU failed. As a result, the Company's ability to handle customer calls dropped 43 percent.¹⁸⁸ According to Conectiv, a new VRU system is being installed and is expected to be operational as of November 1999.¹⁸⁹

During the Dennis-related event, Conectiv reported that it received 27,247 customer calls. Peak period staffing included 61 employees.¹⁹⁰ For Floyd, Conectiv reported receipt of 39,462 customer calls. Its report indicated that 9,778 calls were answered by the Company's IVR (Iterative Voice Response) system.¹⁹¹

AP stated in its report that the Company uses a customer call center in Fairmont, West Virginia to which customers can call toll-free to report trouble on their lines. There are 285 incoming lines to the customer call center, which has the capability of handling 30,000 to 40,000 calls per hour.¹⁹² During Floyd, AP reported receiving 240 customer calls.¹⁹³

¹⁸⁵ *Id.*

¹⁸⁶ Conectiv Report at 23.

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ *Id.*

¹⁹⁰ *Id.*

¹⁹¹ *Id.* at 24.

¹⁹² AP Report at 23.

¹⁹³ *Id.* at Attachment 18.

SMECO reported that it received 37,296 member calls during the Floyd event. Peak staffing during the period was 12 customer service representatives.¹⁹⁴ Choptank stated in its report that it utilizes the Porsche outage reporting system to assist in managing member outage calls.¹⁹⁵ The number of member calls associated with major 1999 weather events was not provided.

BA-MD and Armstrong reported no storm related customer calls during the Ice Storm. Armstrong had only received a few customer calls during Floyd and BA-MD reported none. Given the nominal impact on telephone company plant and systems, the Commission finds it unnecessary, at this time, to address customer communications and assistance as related to telephone companies.

2. Customer Assistance

According to BGE, a significant number of customers called to ask about the availability of dry ice.¹⁹⁶ Following Floyd, BGE reported that it dispensed approximately 439,000 pounds of dry ice to customers during a five-day period.¹⁹⁷ Additionally, alternative lodging (shelters) were opened by emergency management officials during the Ice Storm and during Floyd.¹⁹⁸ Customer Care representatives informed callers of available shelters and the information was also posted on BGE's website.¹⁹⁹ Additionally, since the Ice Storm, BGE stated that information regarding dry ice is placed on the telephone system's out-going message and on the intranet so that Company employees remain informed about the availability of dry ice.²⁰⁰

¹⁹⁴ SMECO Report, Response to Question 9.

¹⁹⁵ Choptank Report at. 6.

¹⁹⁶ *Id.*

¹⁹⁷ *Id.* at 73.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

Following the Ice Storm, Pepco distributed more than 100,000 pounds of dry ice to its customers.²⁰¹ No dry ice was distributed by Pepco after Floyd. Subsequent to Floyd, the Company's policy is to distribute dry ice when 25,000 or more customers are expected to be without service at least 24 hours.²⁰² During the Ice Storm, Pepco cooperated with local emergency management organizations and provided information to customers with regard to warming center locations.²⁰³

According to Pepco's report, the Company maintained nearly uninterrupted communication with State and local emergency management organizations both during the Ice Storm and during Floyd.²⁰⁴ During the Ice Storm, the Company assigned personnel to local emergency operations centers, when requested. According to Pepco, its personnel helped local emergency management personnel identify areas that were out of service and in need of emergency shelters, and assisted in identifying areas where traffic signals were out of service so that local resources could be redirected to those areas.²⁰⁵

Conectiv reported that it distributed 27,885 pounds of dry ice after Floyd.²⁰⁶ The Company has contracts with Dry Ice Corporation of Baltimore and other private vendors to provide dry ice.²⁰⁷ With regard to alternative lodging, Conectiv indicated that as customers requested such information it was passed on to customers by the Company's customer service representatives.²⁰⁸

²⁰¹ *Id.* Response to Question 11.

²⁰² *Id.*

²⁰³ *Id.* Response to Question 12.

²⁰⁴ *Id.* Response to Question 14.

²⁰⁵ *Id.* According to Pepco, these efforts were in cooperation with Montgomery County Government. Pepco stated that "neither the State of Maryland nor the Prince George's County Government requested Pepco's support in their emergency centers during any of the recent emergencies on the Pepco system." *Id.*

²⁰⁶ *Id.* at 26-27

²⁰⁷ *Id.* at 26.

²⁰⁸ *Id.* at 28.

Conectiv stated in its report that it uses newspapers, radio, television, local emergency management offices and its Call Center VRU to provide customers with information about the duration of outages and restoration timeframes.²⁰⁹ Included in its announcements was information regarding the availability of dry ice and described the Company's focus on restoring service as quickly as possible to hospitals, 911 call centers and homes where life support systems are used.²¹⁰ According to Conectiv, during Floyd, 39 media outlets ran nearly 300 stories about the hurricane and Conectiv's response to the crisis.²¹¹

Conectiv stated in its report that during the Heat Wave and during Floyd the Company disseminated information to local and State emergency management organizations by telephone and through faxes.²¹² Conectiv also stated in its report that Company personnel "participated in conference calls with State officials when requested."²¹³

AP stated in its report that [t]o date, [AP] has not provided information on the availability of dry ice."²¹⁴ AP plans to identify dry ice vendors in its Maryland service area and have customer service representatives provide such information to customers in the future.²¹⁵ According to AP, however, whenever the Company anticipates power outages of 24 hours or more duration, the Company's "Dispatching Center surveys local Red Cross, volunteer fire departments, emergency management officials, and other local services to determine the location of emergency shelters."²¹⁶ The information is given to AP's customer service representatives who in-turn provide the

²⁰⁹ See *id.* at 29.

²¹⁰ *Id.* at 30.

²¹¹ *Id.*

²¹² *Id.* at 31.

²¹³ *Id.*

²¹⁴ *Id.* at 25.

²¹⁵ *Id.*

information to customers. That information is also shared with local emergency management offices and 911 centers.²¹⁷

AP also stated that during major events, the Company provides up-to-date information on: restoration status, numbers of customers out of power and their locations; number of customers restored; progress of efforts; estimated times of restoration; consumer emergency tips; and the location of emergency shelters.²¹⁸ Information is provided to customers through the Company's Customer Service Center, through status reports to the media, and through status reports to emergency management offices and 911 centers.²¹⁹ In its report, AP stated that during outage periods a "Proactive Media Notification" is faxed to local media, depending on the size of the outage and/or time of day.²²⁰ Such information is also sent to the local 911 or emergency management agency and State public service commissions.²²¹

SMECO distributed 14,190 pounds of dry ice.²²² According to its report, SMECO issued a press release on September 15, 1999 advising customers how to prepare for outages. During the event, SMECO provided information to customers by fax, telephone, website postings and e-mail to local broadcast media about timeframes for service restoration and the availability of dry ice.²²³ Additionally, all information sent out during the storm was also faxed to the offices of the district's congressional representative, State senator and delegate.²²⁴ SMECO received only one inquiry

²¹⁶ *Id.* at 26.

²¹⁷ *Id.*

²¹⁸ *Id.* at 27.

²¹⁹ *Id.*

²²⁰ *Id.* at 28.

²²¹ *Id.*

²²² *Id.* at Response to Question 11.

²²³ *Id.* at Response to Question 13.

²²⁴ *Id.* at Response to Question 14.

regarding alternative lodging. That call was redirected to the local emergency management agency.²²⁵

On previous occasions, Choptank has provided dry ice for its members at the Cooperative's local offices. In other instances, Choptank coordinated dry ice distribution with local emergency preparedness personnel and often distributed dry ice at local firehouses, closer to members' homes. During the 1999 weather events, no dry ice was requested by members and none was provided.²²⁶

The Commission can, in some sense understand the technological difficulties faced by overwhelming call volumes. However, the Commission cannot understand, and will not accept, in any sense, any degree of rudeness to customers.

Several utilities, including BGE, PEPCO and Conectiv, have indicated that they have or are in the process of implementing new interactive voice response (IVR) systems to handle greater call volumes. The Commission appreciates these efforts and directs the utilities to continue with them and to seek out even more responsive technologies. However, in order to garner the input of parties outside the immediate realm of the utilities, the Commission directs the utilities to cooperate with Staff, OPC and other interested parties to address the concerns of customer communications and assistance.

Customers also expressed dissatisfaction with the information provided by the utilities. Customers experiencing an outage should receive sufficient information to determine if they should seek shelter elsewhere or make other contingency plans. At a minimum, utilities should provide this level of information. Moreover, their customers are materially harmed by outages of a significant

²²⁵ *Id.*

²²⁶ *Id.* at 7.

duration. Medical conditions can also be negatively effected. Utilities must do a better job of fulfilling their responsibilities in this important area.

While the Commission recognizes that there may be technological barriers to providing specific detailed information during an outage, we direct the parties to explore alternatives methods of obtaining the necessary information and relaying that information to affected customers.

C. Tree Trimming

The purpose of tree trimming is to prevent tree limbs from contacting the electric wires and causing faults which can lead to a disturbance or an outage of the electric circuit. This type of trimming often results in only the portion of the tree in the vicinity of the electric wires being trimmed.²²⁷ Overhanging trees that cannot be easily trimmed or are on private property, however, might fall onto electric wires and cause outages.

Staff noted that roadside tree trimming is limited by DNR regulations. Those regulations only apply to the trimming of trees that grow within the right-of-way for which the title or easement is vested in a public body or governmental agency.²²⁸ Permits are required for trimming roadside trees, unless the tree is uprooted or its branches are contacting utility wires.²²⁹ Roadside trees trimmed to maintain clearance for utility wires must allow sufficient clearance for two years of normal growth.²³⁰ Removal of overhanging trees is not permitted.²³¹ Responses filed by electric utilities indicate that

²²⁷ Staff Initial Comments at 21.

²²⁸ COMAR 08.07.02 (relating to Roadside Tree Care); Maryland Annotated Code, Natural Resources Article, 33-5-401-5-406. (1997 Rep. Vol.). Originally enacted at Chp. 824, Laws of Maryland, 1914.

²²⁹ *Id.* at 22.

²³⁰ *Id.*

²³¹ *Id.*

DNR enforcement of these regulations is often driven by customer complaints, and therefore may result in one utility being more restricted in roadside tree trimming than another.²³²

Additionally, Staff noted that tree trimming on private property may be limited by resistance from property owners.²³³ According to Staff, this resistance is normally dealt with on an individual basis by the electric utility or contractor representatives. As there are no regulations or laws permitting the trimming of trees on private property, owner approval is required. Similarly, BGE's representative noted that:

During the hurricane, many of the trees that came down over our lines were not anywhere near our right-of-ways. They were 50, 60-foot trees that fell over way past the right-of-ways and fell over onto our lines. That is a real issue for us. We don't know how to address that. That is part of our review process now of what type of policy we should be asking for, recognizing though that we are now going to be on private property where many of our customers are very sensitive to those trees. So if it is endangering our lines we try to get the trees. If we don't know that it is endangering as happened during the hurricane because a lot of healthy trees came down, we would not bother with that tree. We would not aggressively go after it.²³⁴

Staff recommended that the Commission consider promulgating regulations concerning trimming of trees on private property. Staff also suggested that utilities experiencing high levels of interruptions from tree-related causes should consult with DNR for assistance.²³⁵

Also during the Hearings, a representative of DNR addressed the Commission with regard to the State's tree trimming regulations, the permits issued on a day-to-day basis and other aspects of tree maintenance. According to the DNR representative, tree trimming crews are issued monthly,

²³² *Id.*

²³³ *Id.*

²³⁴ Tr. at 160-161.

²³⁵ Staff Initial Comments at 22.

quarterly and annual permits on a county-by-county basis.²³⁶ If the

²³⁶ Tr. at 373.

crew(s) have problems with property owners, they are supposed to contact the State Forestry Office for approval.²³⁷ In some cases, enforcement is required through citations and a hearing process. In the field, DNR foresters are also called upon to interpret the term “two years growth” on a case-by-case (or species by species) basis and give guidance to tree trimming crews from out of state that are unfamiliar with Maryland regulations.²³⁸

BGE and Conectiv have suggested a collaborative process in which the electric utilities, Staff and DNR work together to address tree trimming issues.²³⁹ AP stated that “[t]here is no present need for tree trimming standards.”²⁴⁰ According to AP, “[e]asements for utility facilities involve private property rights and are best resolved through negotiation between the utility and property owners.”²⁴¹

According to BA-MD and Armstrong, tree trimming is not a major issue for telephone companies. Its representative stated that BA-MD usually limits its tree trimming to removal of trees or large limbs that obstruct the path of cable plant that is being constructed or the removal of large limbs or trees that present a hazard to existing plant.²⁴² Additionally, because telephone companies share the poles used by electric utilities, telephone companies often benefit from the tree trimming maintenance performed by the electric utilities.²⁴³

²³⁷ *Id.* at 374.

²³⁸ *Id.* at 377.

²³⁹ See BGE Reply Comments at 7; Conectiv Reply Comments at 5.

²⁴⁰ AP Statement of Position at 2.

²⁴¹ *Id.*

²⁴² *Id.* at 16.

²⁴³ Tr. at 52.

BA-MD also explained that another reason for fewer telephone outages during major weather events is the integrity of the cable they use.²⁴⁴ Until there is a hole, where water can actually get to the conductors, service is uninterrupted.²⁴⁵ Also, in BA-MD's case, because approximately 60 percent of its distribution plant is buried, it is therefore not vulnerable to falling limbs or trees.²⁴⁶

The Commission finds that a reasonable approach to the issues related to tree trimming practices is the approach recommended by several of the parties, i.e., a collaborative working group composed of the utilities, Staff, DNR, and other interested participants. Where appropriate, the working group may take into account topographical and regional differences among the various service areas. Studies of healthy tree failure may also be appropriate.

Therefore, the utilities are directed to cooperate with DNR, Staff, OPC and other interested parties to develop recommended modifications to the State's policies and regulations that improve utility tree trimming and maintenance programs. The utilities, along with Staff, OPC and other interested parties, are also directed to cooperate with DNR in evaluating the need for legislation or regulations with regard to tree trimming on private property.

D. Coordination with Emergency Management Organizations

During the Hearings, the electric utilities noted their coordinated efforts with emergency management officials. For example, BGE noted that during major events such as the Ice Storm and Floyd, a governmental affairs representative is positioned in the company's Storm Center to provide

²⁴⁴ *Id.* at 51.

²⁴⁵ *Id.*

a communication link with the Maryland Emergency Management Agency ("MEMA"), local emergency management organizations, other federal, State and

²⁴⁶ Tr. at 15.

local officials and the PSC. Likewise, during the Ice Storm and Floyd, Pepco was in regular contact with both county and State emergency management personnel in order to update their offices on the status of the Company's restoration efforts.²⁴⁷

However, additional coordination with state and local officials might expedite restoration efforts and facilitate customer assistance. Emergency management personnel may be able to assist, where necessary, the utility's ability to provide dry ice or alternative shelter.

An advocate from the Hurricane Floyd Power Outage Petition Group informed the Commission of the apparent availability and willingness of the Maryland National Guard to assist the utilities with their restoration efforts.²⁴⁸ According to MEA/PPRP's representative, MEMA is exploring the possibility of providing additional assistance to utilities during crisis events.²⁴⁹

Each utility reported that it coordinates with both State and local emergency management organizations and local offices. The Commission believes that to the fullest extent possible coordination and use of emergency management organizations and local governments should occur in order to best maximize restoration efforts.²⁵⁰ The Commission does not expect the utilities to address these issues independently. However, the Commission directs the utilities to work with Staff and State and local agencies and other interested parties to develop a coordinated restoration plan which enhances restoration capabilities.²⁵¹

²⁴⁷ See Pepco Report, Response to Question 14.

²⁴⁸ See Tr. at 278-279.

²⁴⁹ *Id.* at 379.

²⁵⁰ The Commission notes that the deployment of such resources is under the jurisdiction of those agencies and their authorities. They could, however, serve as a useful compliment to the substantial efforts provided by the utilities, and the Commission would encourage their participation.

²⁵¹ The Commission also notes that MEA provided information that in the future, Maryland can expect stronger and more severe weather conditions than experienced during the past year. These prognostications were based on studies related to global warming and the like. If that is the case, more extensive use of emergency management and other State and local resources will be needed.

E. Utility Self-Assessment

Staff recommended that the Commission require each utility that is conducting a self-assessment to continue that process and to provide its findings to the Commission.²⁵² As BGE and Staff noted, the Commission historically has required reports from utilities to ascertain whether any further regulatory action is necessary to correct a problem or implement an improvement. According to BGE, such studies quickly provide useful information at manageable costs and are more productive than evidentiary hearings.²⁵³

Pepco also agreed with Staff's recommendation that the Commission continue its practice of requesting utilities to perform self-assessments after major storms and outages and to provide the results to the Commission. According to Pepco, the self-assessment process allows the Commission to understand and review a utility's response to a particular storm or event on a case-by-case basis, and to recommend improvements that may be implemented for future storm response and restoration.²⁵⁴

According to AP, service reliability is best addressed through a utility self-assessment process.²⁵⁵ BA-MD stated that "there is no evidence to suggest that BA-MD's service restoration procedures are sufficiently "broken" so as to justify a detailed "fix" through a massive set of new mandatory rules, regulations, policies and procedures."²⁵⁶ According to BA-MD, self-assessment is consistent with BA-MD's existing practice of continuous evaluation and process improvement that

²⁵² Staff Initial Comments at 2.

²⁵³ See BGE Reply Comments at 3; Tr. at 90.

²⁵⁴ Pepco Reply Comments at 4; Tr. at 98.

²⁵⁵ AP Statement of Position at 1.

²⁵⁶ BA-MD Reply Comments at 8.

remains an ever-present element of its day-to-day business operations.²⁵⁷ MEA/PPRP and OPC remarked that self-assessments are necessary, but expressed the view that more aggressive Commission involvement is necessary.

The Commission finds that utility self-assessment has historically served a useful purpose in examining the causes and developing appropriate remedies for utility problems. Therefore, the Commission directs that the utilities continue or, as appropriate, commence their individual self-assessment of their response to the weather-related outages of 1999 and report their findings to the Commission. These reports will then be made available for public review and comment. When appropriate, utilities should not hesitate to implement modifications and improvements that reduce or mitigate the effects of storm-related outages and that enhance customer communications and assistance efforts.

The utilities should be aware that the results of their self-assessments and reports from the working groups discussions directed herein may impact on the Commission's future requirements in this regard.

F. Operation and Performance Standards

Staff recommended that the Commission establish standards for restoring service after storm-related outages.²⁵⁸ BGE suggested that the Commission first receive and review the utilities

²⁵⁷ *Id.* at 9.

²⁵⁸ Staff Initial Comments at 2.

self-assessments and then determine whether legislative proceedings are needed regarding storm or emergency preparedness, service reliability and other matters.²⁵⁹

Pepco observed that generic standards governing service quality and reliability are not the industry norm.²⁶⁰ According to Pepco, “[r]esponding to emergency situations is highly dependent on the type and extent of the emergency, as well as on the particular structure and organization of the individual utility.”²⁶¹ Pepco urged the Commission to continue its practice of requesting that utilities perform self-assessments after major storms and outages, rather than pursue the development of generic standards.²⁶²

Conectiv stated that “[g]eneric regulations could amount to impermissible management of utility operations depending on the particular standard adopted”²⁶³ AP stated that “[i]ndividual utilities are unique and should be allowed to manage their businesses in a manner that assures the highest reasonable level of service continuity.”²⁶⁴ Additionally, AP stated:

The Commission should monitor utility preparedness and response to service outages Utilities should be required to periodically review and update their customer response plans. The information to be contained in such periodic reports could be developed through a streamlined roundtable process involving the utility, Staff, OPC and other interested parties.²⁶⁵

²⁵⁹ BGE Comments at 12.

²⁶⁰ Pepco Reply Comments at 2.

²⁶¹ *Id.* at 2-3.

²⁶² *Id.*

²⁶³ Conectiv Reply Comments at 4.

²⁶⁴ AP Statement of Position at 1.

²⁶⁵ AP Statement of Position at 1.

Finally, AP noted that “[u]tility performance must be judged in the context of the severity of the event causing the outage.”²⁶⁶ It stated that “[r]estoring service following a catastrophic occurrence will understandably take longer than restoring service after routine outages.”²⁶⁷

The Commission finds that it has the authority to adopt operation and performance standards. Section 5-303 of the Public Utility Companies Article provides that “[a] public service company shall furnish equipment, services, and facilities that are safe, adequate, just, reasonable, economical, and efficient, considering the conservation of natural resources and the quality of the environment.” Furthermore, § 5-101 authorizes the Commission to adopt regulations that prescribe standards for safe, adequate, reasonable, and proper service.

Additionally, as noted by Staff, COMAR 20.50.02.01 requires that the electric plant of the utility be installed, maintained, and operated in accordance with accepted good engineering practice in the electric industry. COMAR 20.50.02.04 requires each utility to adopt a program of inspection of its electric plant in order to determine the necessity for replacement or repair. The frequency of the various inspections shall be based on the utility's experience and accepted good practice.

COMAR 20.50.04.10 requires electric utilities to investigate promptly and thoroughly any complaint concerning its charges, practices, facilities, or service. COMAR 20.50.04.11 requires electric utilities to keep such records of customer complaints as will enable it to review and analyze its procedures and actions as an aid in rendering improved service. COMAR 20.50.07.05A requires each electric utility to make reasonable efforts to avoid interruptions of service, and to restore interrupted service within the shortest time practicable, consistent with safety. COMAR

²⁶⁶ *Id.*

²⁶⁷ *Id.*

20.50.07.05D requires each utility to keep records of service interruptions on its primary distribution system and to make an analysis of the records to determine the steps necessary to prevent recurrence of the interruptions.

The Commission finds that the issue of performance standards warrants additional study and examination. Therefore, the Commission directs the utilities, along with Staff, OPC and other interested parties to cooperate to evaluate whether the development of operation and performance standards for electric utilities would enhance reliability or mitigate the effects of storm and disaster-related outages.

G. Coordination Among Electric Utilities

The Commission directed the electric utilities to provide information relating to requests for outside crews and requests of the utilities for mutual assistance. In their reports, each of the utilities referred to their involvement in mutual assistance programs and, where applicable, provided information on the number of outside crews requested during each event and the number of crews provided.

In its report, BGE reported that during the Ice Storm, it received 72 line crews from Pennsylvania, Maryland and Delaware utilities.²⁶⁸ During Floyd, BGE received 233 line crews from Kentucky, Missouri, Ohio, Illinois, Delaware, New York and Maryland. BGE did not report sending any crews to assist any other Maryland utility during the major weather events of 1999. In addition, BGE noted that it has requested assistance only twice in the last 20 years, both in 1999.²⁶⁹

²⁶⁸ BGE Report at 22. The Maryland/Delaware utility noted in BGE's report was Conectiv, which sent 12 crews to assist BGE with restoration efforts after the Ice Storm.

²⁶⁹ Tr. at 200.

Pepco reported receiving 122 line and tree crews during the Ice Storm restoration effort and 76 line and tree crews to assist in the Floyd effort.²⁷⁰ SMECO is the only cooperative used by Pepco during the January Ice Storm.²⁷¹ Pepco does not report sending any crews to assist other utilities with restoration efforts during any of the 1999 major weather events.

In its report, Conectiv stated that it received assistance from five contractors during the Floyd restoration effort.²⁷² With regard to the Ice Storm, Conectiv reported sending 12 crews to BGE and 14 crews to Pepco. During the Floyd restoration effort, Conectiv reported sending nine crews to General Public Utilities (“GPU”) and 15 crews to BGE.²⁷³ According to BGE, AP provided 32 crews to BGE on September 17.²⁷⁴

During the Hearings, the representations of the utilities were less than clear with regard to the amount of mutual aid and assistance exchanged among them in response to major weather outages. It was clear, however, that the level of cooperation was not what the Commission would have expected in the wake of the major events faced. According to Choptank, significant numbers of line and tree crews were released by Choptank and SMECO as early as Friday, September 17 and Saturday, September 18, but the cooperatives were never contacted by either BGE or Pepco to assist with Floyd restoration efforts.²⁷⁵ This is particularly troubling, given the fact that out-of-state crews did not arrive in Maryland to assist BGE until September 17.²⁷⁶

²⁷⁰ Pepco Report, Response to Question 3. Only with regard to the Ice Storm does Pepco note assistance from Maryland utilities. According to its report, during the Ice Storm restoration effort, Conectiv and SMECO both sent five crews to help.

²⁷¹ *Id.* Pepco Report, Response to Question 3.

²⁷² Conectiv Report at 12.

²⁷³ *Id.*

²⁷⁴ BGE Report at 23.

²⁷⁵ *See* Tr. at 291-299.

²⁷⁶ BGE Report at 23.

The Commission finds that minimal cooperation occurred among the utilities, cooperatives and municipal electric companies in response to the major storm events of 1999. Although the Commission recognizes that personnel resources were stretched under these circumstances, it finds the lack of cooperation unacceptable.

Some observers, such as IBEW, suggest that as electric utility deregulation (and competition) develops, cooperation among utilities during crises situations will decline to an even greater extent.²⁷⁷ However, the Commission notes that during the most recent 1999 weather outages, there was significant under-utilization of resources. In some cases, the extent of damage and the duration of restoration activities made release of personnel to other utilities difficult. In other cases, however, one utility's restoration efforts were complete and their crew were still not sent out to assist neighboring companies. Moreover, there was no evidence that the investor-owned utilities made any efforts to obtain assistance from the cooperative and municipal electric utilities. The Commission cannot accept such an outcome.

Therefore, the Commission directs the electric utilities, cooperatives and municipal electric companies, to jointly develop plans and procedures for the timely exchange of restoration crews during and after major weather events in order to maximize restoration efficiencies. Further, the parties shall report to the Commission with regard to their efforts.²⁷⁸

²⁷⁷ See IBEW Initial Comments at 5.

²⁷⁸ The Commission notes that many of the overhead personnel who leave the electric utilities are subsequently employed by BA-MD. These personnel remain familiar with the service territory, and many also retain their expertise in servicing high voltage wires. Moreover, BA-MD's outages were far lower than those of the electric utilities during the major 1999 outages. Therefore, the Commission would encourage BA-MD to share, if appropriate, overhead line personnel with electric utilities to expedite restoration efforts during major outages.

H. Consultation with Utilities in Other States

This proceeding was prompted in large part by the extended outage periods during the Ice Storm and Floyd. Consequently, a notable comparison was made of Maryland’s electric utility restoration performance and that of utilities in other states. In particular, the Staff noted that one North Carolina utility, Carolina Power and Light Company (“CP&L”) restored 537,000 customers in four days, using 4,500 outside personnel and 1,500 company personnel.²⁷⁹ BGE, on the other hand, restored 503,821 customers in eight days using 233 line crews and 78 tree trimming crews.²⁸⁰

The number of customers whose service was restored by both utilities was relatively similar. However, CP&L apparently utilized nearly 20 times the personnel used by BGE and restored service in half the time. In addition to the substantial number of crew, CP&L’s apparently began mobilization “approximately five or six days in advance of a [major storm event].”²⁸¹ It was noted also that North Carolina experiences three times as many hurricanes as does Maryland. According to BGE, CP&L therefore calls in outside crews well in advance of the actual storm events and has them available when the event occurs.²⁸² The Company was concerned that pre-mobilizing too soon may be a needlessly expensive proposition if a substantial event does not occur.²⁸³ However, if the utilities wait too long to pre-mobilize, they risk the likelihood that outside crews already will be committed to other coastal states when the actual event does occur.²⁸⁴ BGE acknowledged that it began pre-mobilization only 36 hours before Floyd actually struck.²⁸⁵ BGE will be “sending staff to

²⁷⁹ Staff Initial Comments at 20.

²⁸⁰ *Id.*

²⁸¹ *Id.* at 114.

²⁸² *Id.*

²⁸³ *See id.* at 115.

²⁸⁴ *Id.*

²⁸⁵ Tr. at 116.

[CP&L] in order to find all that we can find out from that company that we might borrow good ideas from them.”²⁸⁶

The Commission notes BGE's concerns regarding early pre-mobilizing. However, the Commission also notes that failure to pre-mobilize adequately can have serious consequences. Thus, utilities should revisit their planning process. Given the apparent changes in climate and weather conditions, the utilities may find that earlier pre-mobilization is the wiser approach.²⁸⁷

In their reports to the Commission, several utilities noted the assistance of out-of-state utility crews and contractors during their restoration efforts. They also reported instances in which their crews were sent to other states to assist in storm-related restoration work. To a significant extent, interstate utility cooperation is based upon utilities' access to the Edison Electric Institute Mutual Assistance Roster. This information provides evidence of the existing cooperation among the utilities in response to major storm events.

The Commission directs the utilities to continue to consult with utilities in other states with regard to pre-mobilization and mobilization of restoration crews and inventories, and to develop enhanced plans and procedures for the exchange of crews and other resources necessary for the rapid restoration of electric distribution systems.

I. Underground Electric Transmission and Distribution Plant

The Commission's existing regulations regarding construction of underground electric and telephone facilities for residential and non-residential customers, which have been in effect since

²⁸⁶ Tr. at 113-114.

1969, require virtually all new low voltage electric and telephone distribution lines to be buried underground.²⁸⁸ Municipalities and individuals who seek to bury transmission and distribution facilities to a greater extent than required under the Commission's regulations are allocated all or a portion of the cost of such construction.²⁸⁹ Under the regulations, however, electric utilities are still permitted to connect overhead distribution feeders by the use of overhead connections.

Staff suggested that large-scale undergrounding of existing overhead transmission and distribution facilities is cost prohibitive.²⁹⁰ BGE agreed with Staff and suggested that undergrounding its overhead lines would cost approximately \$12 billion,²⁹¹ all of which would be passed through to customers. Pepco estimated the cost for undergrounding in Montgomery and Prince George's Counties alone would be approximately \$10.5 billion.²⁹² AP also stated that "[p]lacing electric facilities underground is neither a practical nor effective answer to electric reliability problems."²⁹³

According to Pepco, overhead facilities are at least as reliable as underground facilities.²⁹⁴ In a study outlined in Pepco's report, a comparison of a group of 40-year old overhead feeders was made with a group of 20-year old underground feeders. According to the study, customers supplied by an overhead trunk circuit over a nearly five-year period will experience fewer outages than similar customers served by an underground trunk. The outage differential shown was 0.68 outages per

²⁸⁷ See Tr. at 322-323. MEA/PPRP's representative mentioned that studies suggest that Maryland may well expect greater and more intensive storm activity in the future.

²⁸⁸ COMAR 20.85.01– 20.85.05.

²⁸⁹ See *Re Baltimore Gas and Electric Company*, 80 MD PSC 112 (1989); *Re Chesapeake and Potomac Telephone Company of Maryland*, 85 MD PSC 112 (1994).

²⁹⁰ Staff Initial Comments at 2.

²⁹¹ BGE Reply Comments at 9.

²⁹² Pepco Report, Response to Question 17.

²⁹³ AP Statement of Position at 2.

²⁹⁴ Pepco Reply Comments at 9.

year for customers served by overhead facilities and 1.33 outages per year for customers served by underground facilities.²⁹⁵

Additionally, Pepco's representative described Columbia, Maryland as an example of one of the first large scale applications of underground electric transmission and distribution cable in Maryland.²⁹⁶ Since underground electric distribution was installed in Columbia nearly 30 years ago, large-scale replacements have occurred.²⁹⁷

MEA/PPRP agreed with Staff and the utilities that conversion from overhead to underground distribution plant has the potential to reduce storm-related outages "but at substantial costs."²⁹⁸ MEA/PPRP's representative, however, suggested that selective undergrounding of distribution facilities should not be ruled out completely.²⁹⁹ MEA/PPRP suggested that this issue involves not only the costs associated with the electric distribution system, but also the costs to individuals, businesses and government associated with being without electricity for long periods of time.³⁰⁰

The Commission finds that, as a practical matter, undergrounding electric distribution facilities would not eliminate all power outages. Additionally, there are thousands of miles of overhead distribution facilities in existence throughout the State of Maryland, which would be cost prohibitive to underground. However, the implications associated with selective undergrounding, taking into consideration matters such as costs, benefits and aesthetics, should be addressed in a collaborative process with parties including the utilities, Staff, MEA/PPRP and others.

²⁹⁵ Pepco Report, Response to Question 16.

²⁹⁶ Tr. at 146.

²⁹⁷ Tr. at 146-149.

²⁹⁸ MEA/PPRP Reply Comments at 6.

²⁹⁹ See Tr. at 324-328.

³⁰⁰ *Id.* at 322.

Therefore, the Commission directs the electric utilities to thoroughly evaluate and report to the Commission their findings regarding to the benefits and detriments of selectively undergrounding segments of utility transmission and distribution systems. Considerations should include, but are not limited to, costs, durability of underground systems, risk of damage, relative duration of outages (compared to aerial facilities) and aesthetics.

J. Utility Staffing

Staff recommended that the Commission examine whether management incentives to reduce costs erode the ability of companies to adequately maintain the distribution system and perform storm restoration in a timely manner.³⁰¹ A similar concern, with regard to personnel reductions, was raised by IBEW:

All three of the utilities have not only decreased the number of trained, qualified personnel available to restore service, they have not hired new employees. The effects of people leaving, coupled with not having journeymen being trained to replace personnel that leave will be felt for many years to come.³⁰²

BGE stated in its Reply Comments that “[i]t would be premature to examine these interrelated issues until after the utilities have completed their self-assessments”³⁰³ Pepco opposed Staff’s recommendation and asserted “that there have been no facts presented on which to base the conclusion that incentives to reduce costs have a negative impact on service reliability.”³⁰⁴ Conectiv opposed a generic investigation of all utilities with regard to this issue and stated that “there has been no proof that there were deficiencies in Conectiv’s system planning, operations and

³⁰¹ Staff Initial Comments at 2.

³⁰² See IBEW Initial Comments at 4.

³⁰³ BGE Reply Comments at 5.

³⁰⁴ Pepco Reply Comments at 6.

maintenance or restoration procedures.”³⁰⁵ AP stated that “[t]here should be no benchmarking or minimum staffing requirements in an effort to respond to customer outages. Utilities should be able to manage their processes in the most efficient manner possible consistent with maintaining acceptable service levels.”³⁰⁶

In their reports, companies provided varying information regarding changes in staffing levels. In its report, BGE stated that in April 1995 it maintained 367 overhead line personnel, 114 service operators and 147 loop personnel. In April 1999, there were 319 overhead line personnel, 79 service operators and 233 loop personnel.³⁰⁷ According to BGE, the 17 percent decline in the number of overhead line personnel is commensurate with a decrease in the amount of unplanned reactive and corrective work experienced on BGE’s overhead and Underground Residential Distribution (URD) system during the same timeframe.³⁰⁸ The Company also stated:

To insure that the decline in work and associated personnel does not detract from BGE’s ability to provide timely service restoration during weather events, employees in other areas of the Electric Transmission & Distribution Division and outside the division have been cross trained to perform service restoration work associated with a customer’s secondary overhead services. These “loop” crew personnel has increased 58% since 1995.³⁰⁹

As BGE explained during the Hearings, however, loop crews are not qualified to work on the primary system.³¹⁰ They work on lower voltage lines (lines from the pole to a house).³¹¹ Therefore, loop personnel and overhead line personnel are clearly not interchangeable. They do not possess the

³⁰⁵ Conectiv Reply Comments at 3.

³⁰⁶ AP Statement of Position on Issues at 2.

³⁰⁷ BGE Report at 13.

³⁰⁸ *Id.*

³⁰⁹ *Id.* at 14.

³¹⁰ Tr. at 127.

³¹¹ *Id.* at 168; 193.

same qualifications and are not trained to the same degree of skill.³¹² Additionally, IBEW noted that over a ten-year period, the number of overhead line personnel have decreased 30 to 40 percent.³¹³ BGE attributes these decreases largely to attrition and retirement.³¹⁴

Pepco did not specifically report its number of overhead line personnel, service operators or any other personnel associated with service restoration, except the numbers of crews used in restorations from 1996 to 1999. The Company provided a transmission and distribution (“T&D”) line/splicer crew staffing graph that purported to show approximately 1,470 customers per crew.³¹⁵ According to IBEW, however, IBEW counted 129 Pepco overhead personnel and 128 underground splicers, for a total of 257 people.³¹⁶

Conectiv reported four categories of service restoration personnel from 1995 to 1999. In 1995, the Company reported that it maintained 53 trouble-in-service personnel; 244 personnel; 48 substation personnel; and 113 district and field service personnel. In 1999, personnel numbers were down in each category to: 45 trouble-in-service personnel; 163 personnel; 44 substation personnel; and 102 district and field service personnel. IBEW noted that Conectiv’s field personnel have declined 23% in the last five years.³¹⁷

IBEW stated that “Pepco is the only utility that has hired anyone in the Overhead or Underground departments, but the number of people hired does not even match the number of

³¹² See generally IBEW Initial Comments; Tr. at 384.

³¹³ See Tr. at 384.

³¹⁴ Tr. at 118.

³¹⁵ Pepco Report, Response to Question 2, Attachment. Pepco provided the same information in response in its the Ice Storm Response Report.

³¹⁶ IBEW Initial Comments at 3.

³¹⁷ *Id.* at 4. In its' preliminary report with regard to Conectiv’s Heat Wave-related outages, Staff concluded that, at this time, it is unable to rule out the possibility that corporate financial constraints influenced the timing of transmission system enhancements. Preliminary Report of the Maryland Public Service Commission Staff – regarding Conectiv's Power Outages

people that have left in the last 2 years.”³¹⁸ IBEW also noted that another problem associated

on the Delmarva Peninsula and the Northeast Portion of Harford County Between July 3 and 6, 1999 (dated November 15, 1999).

³¹⁸ *Id.*

with retention or loss of experienced lines personnel has developed in the past several years, namely that experienced people are leaving the electric utilities to go to telecommunication companies, such as Bell Atlantic.³¹⁹

In response, BA-MD acknowledged that the skill sets (among electric and telephone line personnel) are similar although not identical. BA-MD's representative stated:

[W]hen we have job openings we often will get some of their employees. When they have job openings . . . they get some of our employees. So I don't think it is a one-way street at all. I think it is a question of people doing what is in their best interest for what they think is a better opportunity and it goes both ways.³²⁰

Additionally, many overhead line personnel have worked for specific utilities for many years. They are highly experienced, not only in terms of the type of work they perform, but also with regard to the service territory, terrain and system configuration.³²¹ According to IBEW's representative, it takes approximately five years to train overhead line personnel to adequately perform the job.³²²

IBEW also noted that with the exception of 18 people hired by Pepco this year, "[u]tilities have not hired people in a long period of time and [none are] . . . being trained to replace [those] that are leaving."³²³ IBEW's representative also disputed that there is a two-way hiring street between the electric utilities and BA-MD. IBEW stated that "we have not hired anyone . . . from Bell Atlantic."³²⁴ Additionally, IBEW also noted that of the 18 new personnel hired by Pepco this year, four have already been terminated due to positive drug test results.³²⁵

³¹⁹ *Id.* According to IBEW, "Pepco has lost 23 highly skilled Linemen in just the past two years." *Id.*

³²⁰ *Id.*

³²¹ *See* Tr. at 192-193.

³²² Tr. at 315.

³²³ *Id.* IBEW also noted that based on 1998 figures for Conectiv, the least senior overhead line personnel drew over 600 hours of overtime for the year.

³²⁴ *Id.* at 316.

³²⁵ *Id.*

In addition, the Commission notes that BGE, in response to the changes brought about in electric restructuring, has announced its intention to reduce its workforce by 250 to 350 persons, primarily in distribution.³²⁶ In response, BGE remarked that those cuts would be “within the entire utility operations group which [includes] the gas division, all . . . logistics and support, computer operations, everything.”³²⁷ BGE emphasized that “[i]t is not just [in] the electric distribution [division].”³²⁸ Again, BGE acknowledged and emphasized that “deregulation must not reduce transmission and distribution reliability.”³²⁹

The Commission finds the information provided by the utilities to date is insufficient to determine any direct relationship between management incentives to reduce costs and reductions in personnel. The record is also insufficient to support a finding at this time that reductions in personnel have adversely affected service reliability. However, the Commission finds that this matter warrants further investigation.

The Commission is concerned about personnel reductions particularly in the sensitive area of overhead line personnel and the significant length of time it takes to train replacement personnel. The Commission already has provided the following guidance to the utilities, as stated in Order No. 75757 (regarding BGE’s restructuring settlement):

³²⁶ Tr. at 142. The Company noted that, “in an October letter, employees were advised that the 2000 business and work force planning process was being extended so that the planning process could take into account and incorporate lessons learned from [sic] post Hurricane-Floyd analysis.”

BGE Reply Comments at 6, n.1.

³²⁷ *Id.* at 143.

³²⁸ *Id.*

³²⁹ *Id.* at 144.

The Commission is concerned that significant personnel reductions, particularly in the transmission and distribution segment of the Company's operations, may have a negative effect on the Company's ability to provide reliable service. Although the Settlement is silent with respect to the operation and maintenance of the existing transmission and distribution system, the Commission expects BGE to maintain the reliability of its delivery system.³³⁰

The Commission also stated in Order No. 75680 (regarding DP&L's restructuring settlement):

The Commission expects Delmarva to continue to invest in appropriate mitigation or expansion measures to ensure the reliability of its delivery system In order to ensure a safe and reliable supply of electricity to the Eastern Shore of Maryland, the Commission expects Delmarva to give due consideration in its asset divestiture process to the current relationship between the reliable operation of any delivery system and the reliable operation of generating units.³³¹

Until the relationship between management incentives for cost reductions, restoration personnel reductions and distribution system reliability can be examined more thoroughly, the Commission expects all other Maryland jurisdictional electric utilities to observe the same standards as those prescribed by the Commission for BGE and Conectiv.

The record in this case demonstrates that several utilities in recent years have reduced staffing levels to some extent. IBEW and Staff have questioned whether these reductions have had an impact upon the utilities' ability to respond to the major weather events (and outages) experienced in 1999. It is not the Commission's intent to micromanage utilities with regard to Staffing or personnel decisions. Such prerogatives are reserved to the utilities themselves and their boards of directors.

³³⁰ *In the Matter of the Baltimore Gas and Electric Company's Proposed: (A) Stranded Cost Quantification Mechanism; (B) Price Protection Mechanism; and (C) Unbundled Rates.* (Case No. 8794). *In the Matter of the Petition of the Office of People's Counsel for a Reduction in the Rates and Charges of the Baltimore Gas and Electric Company.* (Case No. 8804). Order No. 75757, mimeo at 49-50.

³³¹ *In the Matter of the Delmarva Power and Light Company's Proposed: (A) Stranded Cost Quantification Mechanism; (B) Price Protection Mechanism; and (C) Unbundled Rates.* (Case No. 8794). Order No. 75680, mimeo at 27.

The Commission has, however, stated its position that it expects that such decisions will not affect the provision of safe and reliable sources of electricity to customers (See BGE/Delmarva Orders).

The Commission maintains its position on this matter and the utilities should not expect the Commission to waiver from this position in any way. The Commission does find that the record should be augmented in certain respects. Therefore, the Commission directs Staff to examine whether management incentives to reduce costs erode the ability of companies to adequately maintain their distribution systems and perform storm restoration in a timely manner. Staff should closely examine any possible relationships, whether direct or indirect, between staffing and personnel reductions and possible effects on maintenance and reliability of utility transmission and distribution systems.

K. Additional Proceeding

As noted earlier, Conectiv's system was adversely affected by the Heat Wave which extended from July 3 through July 6. During this period, the daily temperature averaged 100 degrees with heat indices in the 105 to 115-degree range. At the same time, several of Conectiv's generating units were out-of-service. Also, according to Conectiv, reduced levels of reactive power caused a decrease in the voltage on its system, thus preventing Conectiv from importing additional electricity to Delmarva Peninsula.³³²

The Commission agrees with Conectiv that there are distinctions between the outages experienced on its system and those experienced by other utilities. This investigation relates to weather damage to distribution systems resulting in outages. However, in the case of Conectiv,

³³² See Conectiv Response, Appendix 6 at 7.

Staff's preliminary report suggests that Conectiv's Heat Wave-related outages may have been exacerbated by inadequate planning and facilities. Therefore, the Commission shall designate a separate proceeding to investigate the issues raised by Staff concerning possible deficiencies in Conectiv's transmission and distribution system. In connection with that proceeding, Conectiv shall file its response to "Staff's Preliminary Report – Relating to the July 1999 Outages" no later than January 31, 2000.

V. ORDERED PARAGRAPHS

IT IS, THEREFORE, this 9th day of December, in the year Nineteen Hundred and Ninety-nine, by the Public Service Commission of Maryland,

ORDERED: (1) That all companies and appropriate parties shall implement the actions directed above.

(2) That all companies and appropriate parties shall report back to the Commission as directed above.

(3) That this matter shall remain open for the receipt of such reports as directed herein and any further action required.

/s/ Glenn F. Ivey

/s/ Claude M. Ligon

/s/ Susanne Brogan

/s/ Catherine I. Riley

/s/ J. Joseph Curran III

Commissioners