

**BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND**

In the Matter Of An Investigation Into *
The Performance of Utilities During *
The Snow Storms Between The Period *
February 5 Through February 12, 2010 *
*

Case No. 9220

COMMENTS OF THE OFFICE OF PEOPLE’S COUNSEL

I. INTRODUCTION

On February 26, 2010, the Public Service Commission (PSC or Commission) issued Order No. 83173 instituting the above-captioned proceeding to investigate the preparedness and performance of utilities in responding to the snow storms that occurred from February 5, 2010 through February 12, 2010 (collectively, the Storms). Each of the Storms resulted in substantial electric power outages in either selected regions of the State or throughout the State as a whole.

On March 5, 2010, the five largest Maryland utilities, Baltimore Gas and Electric Company (BGE), Potomac Electric Power Company (PEPCO), Delmarva Power & Light Company (DPL), Choptank Electric Cooperative (Choptank), Southern Maryland Electric Cooperative (SMECO), and Potomac Edison Company d/b/a Allegheny Power (Allegheny Power) (individually, Utility, or collectively, Utilities), filed major storm reports (Reports). Also in the Order, the Commission established a procedural schedule for reviewing the Reports, providing for public comment and legislative-type hearings.

Pursuant to the Commission’s procedural schedule, the Office of People’s Counsel (OPC) submits the following Comments. In reviewing the Reports and preparing its Comments, OPC

received technical assistance from Mr. Peter Lanzalotta.¹ Due to the short procedural schedule and limited information provided by the Reports, OPC was unable to conduct an in-depth review of the Storms' impact on the respective systems and the Utilities' responses. In addition, the activity of the Storms did not impact the State uniformly; hitting various parts of the State over differing periods of time with varying intensities. For example, Allegheny Power experienced less than 15,000 customer interruptions, whereas PEPCO experienced more than a quarter-million such interruptions, all in the approximately seven-day period of February 5 – 12, 2010. Thus, OPC's Comments are limited to general observations.

II. BACKGROUND

One of the cornerstones of public utility regulation is that a public service company must provide safe, adequate, and reliable service. This principle is recognized in Maryland Law. Section 5-303 of the Public Utility Companies Article states 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.” This principle was also reiterated by the General Assembly when it approved electric industry restructuring in 1999. For example, one of the goals of the restructuring legislation was to ensure that electric system reliability be maintained. See PUC Art., Section 7-505(a). Electric companies retain responsibility for distribution services in their territories and each electric company “shall maintain the reliability of its distribution system in accordance with applicable orders, tariffs, and regulations of the Commission.” See PUC Art., Section 7-506(a);

¹ Mr. Lanzalotta is a Principal of Lanzalotta & Associates LLC, which was formed in 2001. Prior to that, he was a partner of Whitfield Russell Associates, with which he had been associated since March 1982. He is a registered professional engineer in the states of Maryland and Connecticut. He has been involved with the planning, operation, and analysis of electric utility systems and with utility regulatory matters, including reliability-related matters, as an employee of and as a consultant to a number of privately- and publicly-owned electric utilities, regulatory agencies, developers, and electricity users for over thirty years.

7-506(c). Finally, the Commission’s general supervisory and regulatory powers include insuring that public service companies “promote adequate, economical, and efficient delivery of utility services in the state.” See PUC Art., Section 2-113(a). Taken together, the statutory provisions indicate that the Commission is charged with insuring that the public utility companies in Maryland subject to its jurisdiction are adequately prepared to respond to major outages from natural disasters or emergencies.

III. SUMMARY OF THE STORM EVENTS OF FEBRUARY 2010

On February 5, 2010, citizens across Maryland braced themselves for a major snow storm predicted to bring double digit snow accumulation. The storm did not disappoint. Blizzard warnings extending from Washington, DC north, including Anne Arundel, Calvert, St. Mary's, Baltimore, Harford, Charles, Prince George's counties, and Baltimore City, were issued that same day by the National Weather Service predicting winds in excess of 35 miles per hour, visibilities of less than a quarter mile, and snow totals of 20 to 30 inches. Then, five days later, just as most Marylanders had dug themselves out of the first storm, a second major storm passed through dumping another 20 plus inches of snow on parts of the Baltimore region. Not surprisingly, thousands of Marylanders experienced interruptions in their electric service, and, given the historic snow totals, many of these interruptions lasted several hours.

IV. COMMENTS

1. Impacts of Storms

The impacts of the Storms on the Utilities' respective electric systems are shown in Table 1² below. A customer interruption reflects one customer whose electric service has been interrupted. A customer interruption hour is one hour of electric service interruption to one customer. The hours per customer interruption, i.e., the average customer interruption duration, is obtained by dividing the total customer interruption hours by the total customer interruptions.

Table 1

	Allegheny Power	BGE	Choptank	DPL	PEPCO	SMECO
Customer Interruptions	14,192	142,228	38,240	86,024	264,434	38,724
Customer Interruption Hours	110,002	1,145,347	223,146	581,785	3,591,156	286,540
Hours per Customer Interruption	7.8	8.1	5.8	6.8	13.6	7.4

Customer interruptions varied by Utility from a low of 14,192 for Allegheny Power to a high of 264,434 for PEPCO. BGE had the second highest number of customer interruptions with 142,228. Customer interruption hours varied by Utility from a low of 110,002 for Allegheny Power to a high of 3,591,156 for PEPCO. BGE had the second highest number of customer interruption hours with 1,145,347.

Most of the Utilities show average outage duration to be in the range of approximately six hours to eight hours per customer interruption. PEPCO, however, reports a substantially longer average outage duration of 13.6 hours per customer. OPC recommends that the

² All Tables contained in these Comments were prepared by Mr. Lanzaotta based upon information stated in the Reports and/or provided by the Utilities to OPC.

Commission request PEPCO to conduct a more in-depth examination to identify the underlying reasons for this discrepancy.

2. System Characteristics

The service area sizes and customer densities of the Maryland Utilities cover a wide range of values. Table 2 below shows (i) the size, in square miles, of each Utility’s Maryland service, (ii) the number of circuit miles of overhead distribution circuits for each Utility, (iii) the number of overhead distribution circuit miles per square mile of service area, and (iv) the number of Customer Interruptions per circuit mile of overhead distribution circuit.

Table 2

	Allegheny Power	BGE	Choptank	DPL	PEPCO	SMECO
MD Service Area (Sq Mi)	2,544	2,300	9,500	3,471	575	1,150
Overhead Distribution (Cir Mi)	5,500	9,384	2,133	3,727	3,482	3,726
Overhead Distribution Cir Mi per Sq Mi	2.2	4.1	0.2	1.1	6.1	3.2
Customer Interruptions per Cir Mi	2.6	15.2	17.9	23.1	75.9	10.4

Two of the three smallest Utility service areas, PEPCO and BGE, experienced the highest numbers of Customer Interruptions from the Storms. These are also the two Utilities with the highest levels of customer density, as measured by overhead circuit miles per square mile of service area.

PEPCO reported more than 75 Customer Interruptions per circuit mile of overhead distribution circuit, more than three times the level of the next highest Utility. While this may, to

some extent, reflect the intensity of the Storms, it also raises for a question as to whether differences in system characteristics or system maintenance may be contributing to PEPCO's performance in this area. This statistic also does not appear to be merely a case of a few customers experiencing outages significantly longer than that of other PEPCO customers. For example, in order to reduce PEPCO's average customer outage duration down to the level of the next highest Utility, PEPCO would have to reduce its customer hours of interruption by 1,449,241 (which is more customer hours of interruption than was reported by any other Utility). Even for a group of 10,000 PEPCO customers (service-restoration-wise), it would take such a group 6 days to accumulate 1,449,241 customer hours of interruption.

3. Extended Individual Customer Outages

Little data was reported by any of the Utilities on individual customer interruption durations. Some customers whose interruptions occurred at the end of the Storms reporting period were reported to have experienced interruption durations of several days or more. For customers that were interrupted and restored within the time period covered by the Storms reporting, however, there is little data in the Reports about the distribution of customer interruption durations.

OPC recommends that more information concerning the locations and distribution of customer interruption durations and concerning the longest interruption times experienced by customers be provided in future major storm reports as such information would be useful in evaluating future storm restoration efforts.

4. Primary Interruption Causes

By compiling the customer interruption data and customer interruption hours data for all of the Utilities³, it is possible to identify, as shown in Table 3, the various interruption causes that contributed to the overall power outage experience.

Table 3

Outage Cause	All Utilities*	
	Customer Interruptions	Customer Hours Interrupted
Fallen Tree or Tree Limb	43%	55%
Fallen or Broken Pole	1%	1%
Lightning Damage	0% ⁴	0%
Ice accumulation or snow	10%	9%
Other	10%	7%
Power Supplier Outages	8%	5%
Substation Equipment	1%	0%
Wind	26%	22%
Weather—Other	0%	0%
Equipment Failures	1%	1%
Total	100%	100%
* except Allegheny Power		

The single largest interruption cause was due to fallen trees or tree limbs, which caused 43% of the customer interruptions and 55% of the customer hours interrupted. Wind was the next largest interruption cause resulting in 26% of the customer interruptions and 22 % of the

³ Except for Allegheny Power which provided only summary data.

⁴ For purposes of Table 3, items listed as 0% have positive values of less than one-half of one percent.

customer hours interrupted. Finally, ice accumulation caused 10% of the customer interruptions and 9% of the customer hours interrupted.

With tree-related outages alone causing more than 50% of the customer interruption hours, OPC recommends that the Commission consider instituting a review of vegetation management, such as tree trimming, practices of the Utilities. In addition, OPC recommends that the Commission consider requiring that future reports include additional information regarding such practices, such as (i) whether applicable tree trimming requirements have been met, (ii) whether such requirements are sufficient to maintain reliability under the weather conditions experienced, or (iii) whether introducing any additional requirements that distribution circuit tree canopies be clear cut to the sky would be feasible and/or advisable.

OPC understands that community acceptance of aggressive tree trimming may also be a factor. Many communities prefer that distribution circuits not be trimmed so as to clear out all limbs above the circuit. A canopy of tree limbs over the distribution circuit is the result of such preferences. Such a canopy results in a shower of tree limbs and limb fragments onto the circuit's primary wires during heavy snow, ice, and wind conditions.

5. Contractor Assistance – Personnel Deployment

All Utilities requested outside assistance in advance of the beginning of the first storm on February 5 in order to help speed up electric service restoration. All Utilities made requests to multiple organizations and all made requests on multiple days over the seven days or so that it took for the Storms to run their course.

Table 4 below lists (i) the start date for the Storms for each Utility, (ii) the date on which outside assistance was first requested by each Utility, and (iii) the date on which outside assistance first arrived at each Utility.

Table 4

	Allegheny Power	BGE	Choptank	DPL	PEPCO	SMECO
Storm Starts	Feb. 5	Feb. 5	Feb. 5	Feb. 5	Feb. 5	Feb. 5
Outside Assistance Req'd.	Feb. 4	Feb. 4	Feb. 4	Feb. 4	Feb. 4	Feb. 3
Outside Assistance Arrives	Feb. 7	Feb. 7	Feb. 5	Feb. 6	Feb. 7	Feb. 6

The first-arriving outside assistance arrived the earliest at Choptank, on February 5, and at DPL and SMECO, on February 6. For the remaining Utilities, the earliest outside assistance arrived on February 7. It is, perhaps, not a complete coincidence that Choptank, DPL, and SMECO also had the lowest average customer interruption durations, although there are likely many other factors also affecting this metric.

One measure of the need for service restoration personnel is the maximum number of electric customers out of service simultaneously during the Storms. Table 5 below compares (i) this maximum number of customers out of service to (ii) the number of service restoration personnel reported available by each Utility by dividing (a) the maximum customers out of service by (b) the number of available service restoration personnel.

Table 5

	Allegheny Power	BGE	Choptank	DPL	PEPCO	SMECO
Max Customers Out Per Service Restoration Person	50	25	81	55	101	82

A lower number in Table 5 reflects fewer out-of-service customers per available service restoration person. Normally, one would expect that service restoration efforts to be accelerated by having more service restoration personnel, relative to the maximum number of customers out

of service. As noted above, Choptank, DPL, and SMECO have the lowest average service restoration times, but they did not have lowest values in the table above.

PEPCO, however, which had the highest average service restoration time, did the report the highest number of customers simultaneously out of service per service restoration person. OPC recommends that, in addition to examining the number of service restoration personnel engaged by it during the Storms, PEPCO might also examine its pre-mobilization efforts. For example, OPC assumes that many PEPCO employees, like BGE employees, faced extreme difficulties traveling to work from home, thereby causing shortages of staff.⁵ The PEPCO Report provides no information as to whether PEPCO mobilized employees to hotels or other locations so that they might be shuttled to work. By doing so, as appears to be the case pursuant to the BGE Report, PEPCO's restoration personnel may have been able to respond more quickly and effectively.

6. Prior Working Group Recommendations

As a result of PSC Case No. 8826,⁶ in which the Commission examined the preparedness of Maryland utilities for severe weather conditions which caused significant electric power outages, the Commission adopted the recommendations of several working groups which had examined areas of uniform reporting standards, and customer communication and assistance. As to uniform reporting standards, the Utilities were required to modify outage data systems so that they could capture and report outages by

⁵ See BGE Report, pp. 4, 13.

⁶ See *In The Matter Of The Investigation Of The Preparedness Of Maryland Utilities For Responding To Major Outages*, 90 Md. PSC 294 (1999); 92 Md. PSC 395 (2001).

specific cause codes. Despite adoption of this recommendation, Allegheny Power did not include a breakdown of outages by cause code in its Report.

As to customer communication and assistance, reporting requirements were formulated to include information that would allow the Commission to evaluate the adequacy of telephone line capacity and staffing during major events. Information provided by Utilities appeared to be consistent with this recommendation. OPC notes, however that, although SMECO reported an overall response rate of 86% to call received during the period of February 5 through the evening of February 8, 2010, for a number of evening hours of February 5th, 6th and 10th, and on from 4:00 a.m. until noon on Sunday, February 7th, the response percentage at SMECO's call center was often well below 50%.

V. CONCLUSION

OPC appreciates the efforts of all Utility employees and contractors who worked long hours under difficult and harsh conditions on behalf of their customers. Our Comments are intended to work with the Commission and Utilities to understand the experience during the Storms and evaluate the lessons learned in order that the ways in which the procedures might be improved for the next time extreme weather conditions occur can be identified.

For the reasons discussed above, OPC has recommended that the Commission (i) request that PEPCO examine the underlying reasons for its average outage duration of 13.6 hours per customer; (ii) require that future major storm reports include more information concerning the distribution of customer interruption durations and the longest interruption times experienced by customers; (iii) consider instituting a review of vegetation management practices of the Utilities, or, requiring that future major storm reports include additional tree trimming information; (iv) request that PEPCO examine its policies regarding engagement of external service restoration

personnel during major storms and pre-mobilization; and (v) consider revisiting the relative costs and merits of undergrounding distribution facilities.

OPC recognizes that most of the Reports indicate an ongoing level of self-analysis with an eye to making improvements in storm restoration processes. OPC expects that this analysis will continue over some period of time since only about five weeks have passed since the Storms. New information and analysis may become available to them now that the immediate crisis has passed. For that reason, and in addition to the above recommendations, OPC recommends that the Commission order the Utilities to file a “Lessons Learned From Snow Storms of February 5 through February 12, 2010 and Progress Report” six months from the conclusion of the hearings in this case. This report would bring the Commission up-to-date on any new information and allow those Utilities who have identified failures or weak points in their processes to show the Commission what they have done to remedy those problems. Additionally, these reports should address deficiencies or concerns raised by OPC and other parties in this round of comments and hearings.

Continued for signatures:

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY on the 18th day of March 18, 2010 that a copy of the foregoing Comments of the Office of People's Counsel have been either hand-delivered or mailed first-class postage prepaid to all parties of record.

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