Baltimore Gas and Electric Company
COMAR 20.50.07.06 Reporting of Reliability Indices – CY 2004

In June 2003, BGE implemented a new Outage Management System. With this implementation, BGE began experiencing an increase in the number of outage events recorded, which has led to an increase in customer interruptions and customer hours lost in our reliability statistics. BGE believes that this increase is attributable to the new system's enhanced data collection capabilities. This is similar to what other utilities have experienced when implementing a new outage management system. In fact, this phenomena was previously recognized by Staff as described in page 4 of the Final Report of the Operation and Performance Standards Working Group in Case No. 8826 (dated 4/25/2000) which states:

> *"Also, changes in the methods used to capture outage data would be a major contributor to the irrelevance of a year-to-year comparison.....In 1999, Allegheny Power implemented an automated Outage Management System (OMS) to more accurately capture outage data. The reliability indices calculated in 1998 and 1999 may be significantly different due solely to significant change in the OMS. This same situation is likely to occur with several other electric utilities that are considering a new or upgraded OMS."*

(1) System-Wide Indices. A utility shall report SAIDI, SAIFI, and CAIDI for its system consisting of all feeders originating in Maryland. The indices shall be calculated and reported with two sets of input data.

(a) All interruption data;

SAIFI – 1.67
SAIDI – 4.32
CAIDI – 2.59

Note: System-Wide Indices are calculated using IEEE Std. 1366-1998.

(b) All interruption data minus major event interruption data.

SAIFI – 1.67
SAIDI – 4.32
CAIDI – 2.59

BGE experienced no Major events in CY 2004.

(2) District Indices. A cooperatively-owned utility shall provide SAIDI, SAIFI, and CAIDI for each operating district and identify the operating district with the poorest reliability. The indices shall be calculated and reported with two sets of input data.

(a) All interruption data;

(b) Major event interruption data excluded.

Requirements (a) & (b) are not applicable to BGE since BGE is an Investor Owned Utility.

(3) Feeder Indices. An investor-owned utility shall provide SAIDI, SAIFI, and CAIDI for 2% of feeders or 10 feeders, whichever is more, serving at least one Maryland customer that are identified by the utility as having the poorest reliability. The indices shall be calculated and reported with 2 sets of input data.

(a) All interruption data;

13.8 kV Feeder	***Substation***	***CRI***	***SAIFI***	***SAIDI***	***CAIDI***
7130	*HEREFORD*	*9.503*	*9.67*	*27.95*	*2.89*
7141	*JACKSONVILLE*	*6.727*	*8.53*	*37.19*	*4.36*
7419	*LEVITT*	*6.469*	*5.24*	*4.10*	*0.78*
8103	*MOUNT WASHINGTON*	*5.993*	*6.95*	*16.52*	*2.38*
8734	*ASHTON*	*5.932*	*7.43*	*12.31*	*1.66*
7105	*MOUNT WASHINGTON*	*5.928*	*7.83*	*19.75*	*2.52*
7132	*HEREFORD*	*5.393*	*6.28*	*11.23*	*1.79*
7730	*DORSEY RUN*	*5.304*	*7.26*	*31.87*	*4.39*
7129	*HEREFORD*	*5.084*	*5.48*	*17.45*	*3.18*
8421	*WAYSONS CORNER*	*5.081*	*5.89*	*17.38*	*2.95*
8010	*COLDSPRING*	*5.009*	*5.07*	*6.12*	*1.21*
7072	*JOPPATOWNE*	*4.853*	*5.75*	*12.96*	*2.25*
8783	*SUMMERS RUN*	*4.648*	*5.61*	*12.86*	*2.29*
7123	*EAST TOWSON*	*4.442*	*5.91*	*21.79*	*3.69*
7692	*COOKSVILLE*	*4.336*	*3.32*	*8.14*	*2.45*
7257	*FREDERICK ROAD*	*4.266*	*1.76*	*5.53*	*3.15*
8158	*TEXAS*	*4.196*	*4.46*	*5.64*	*1.26*
7189	*SUDBROOK PARK*	*4.156*	*4.73*	*4.86*	*1.03*
7075	*JOPPATOWNE*	*4.118*	*4.62*	*24.20*	*5.24*

4.4 kV Feeder	***Substation***	***CRI***	***SAIFI***	***SAIDI***	***CAIDI***
4931	CHERRY HILL	*4.889*	*5.79*	*8.35*	*1.44*
4834	CLIFTON PARK	*4.384*	*5.97*	*5.51*	*0.92*
4801	CALVERTON	*3.249*	*3.45*	*12.00*	*3.48*

(b) All interruption data minus major event interruption data:

BGE experienced no Major events in 2004

BGE's "Worst Feeder Program" consists of plans to improve reliability performance for the top 2% of the 13.8 kV distribution feeders (19 out of 948 total 13.8 kV distribution feeders) and 2% of the 4.4 kV distribution feeders (3 out of 131 total 4.4 kV distribution feeders) based on all interruption data minus major event interruption data.

13.8 kV Feeder	***Substation***	***CRI***	***SAIFI***	***SAIDI***	***CAIDI***
7130	*HEREFORD*	*9.503*	*9.67*	*27.95*	*2.89*
7141	*JACKSONVILLE*	*6.727*	*8.53*	*37.19*	*4.36*
7419	*LEVITT*	*6.469*	*5.24*	*4.10*	*0.78*
8103	*MOUNT WASHINGTON*	*5.993*	*6.95*	*16.52*	*2.38*
8734	*ASHTON*	*5.932*	*7.43*	*12.31*	*1.66*
7105	*MOUNT WASHINGTON*	*5.928*	*7.83*	*19.75*	*2.52*
7132	*HEREFORD*	*5.393*	*6.28*	*11.23*	*1.79*
7730	*DORSEY RUN*	*5.304*	*7.26*	*31.87*	*4.39*
7129	*HEREFORD*	*5.084*	*5.48*	*17.45*	*3.18*
8421	*WAYSONS CORNER*	*5.081*	*5.89*	*17.38*	*2.95*
8010	*COLDSPRING*	*5.009*	*5.07*	*6.12*	*1.21*
7072	*JOPPATOWNE*	*4.853*	*5.75*	*12.96*	*2.25*
8783	*SUMMERS RUN*	*4.648*	*5.61*	*12.86*	*2.29*
7123	*EAST TOWSON*	*4.442*	*5.91*	*21.79*	*3.69*
7692	*COOKSVILLE*	*4.336*	*3.32*	*8.14*	*2.45*
7257	*FREDERICK ROAD*	*4.266*	*1.76*	*5.53*	*3.15*
8158	*TEXAS*	*4.196*	*4.46*	*5.64*	*1.26*
7189	*SUDBROOK PARK*	*4.156*	*4.73*	*4.86*	*1.03*
7075	*JOPPATOWNE*	*4.118*	*4.62*	*24.20*	*5.24*

4.4 kV Feeder	***Substation***	***CRI***	***SAIFI***	***SAIDI***	***CAIDI***
4931	CHERRY HILL	*4.889*	*5.79*	*8.35*	*1.44*
4834	CLIFTON PARK	*4.384*	*5.97*	*5.51*	*0.92*
4801	CALVERTON	*3.249*	*3.45*	*12.00*	*3.48*

Identification of Operating District and Feeders with Poorest Reliability

(1) The method used by a utility to identify the district and feeders with poorest reliability shall be approved by the Commission and be included in the report.

In order to determine which distribution feeders and areas have the poorest performance, BGE utilizes a Composite Reliability Index (CRI). In the event that two feeders have identical composite reliability indices, the feeders are then ranked based on the most recent year's feeder SAIFI. The formula for the index is:

$$CRI = 0.75 \times SAIFI_{2004} + 0.25 \times SAIFI_{2003}$$

As we communicated with the Commission's Engineering Division at a September 21, 2004, meeting at BGE, we have changed our CRI methodology based on the following rationale:

- *New methodology will be driven by all customer interruptions on the feeder and not just those on feeders that had lockouts.*
- *Improve the likelihood of poor performing feeders without lockouts making the list.*
- *Improve the likelihood of poor performing feeders with low or medium customer counts making the list.*
- *Achieves customer satisfaction on feeders with a high number of customer interruptions but with no or minimal lockouts.*
- *Utilizing 2 years of SAIFI will normalize the selection process and reduce the effects of one bad year.*

However, to be consistent, the old CRI formula was utilized in this report to assess the ordinal ranking of 2002's "worst feeders" in section G. (2).

(2) Feeders included in the report, which serve customers in Maryland and one or more bordering jurisdiction, shall be identified. The report shall include the percentage of customers located in Maryland and the percentage of customers located in bordering jurisdictions.

Not applicable to BGE. BGE has no feeders outside Maryland.

(3) Feeders shall not be included as having the poorest reliability in two consecutive reports.

No feeders listed in the 2004 report as having poor reliability are included in this report.

E. Major Event Interruption Data. The report shall include the time periods during which major event interruption data was excluded from the indices, along with a brief description of the interruption causes during each time period.

BGE experienced no Major events in 2004

F. Actions for Operating District and Feeders with Poorest Reliability.

(1) A cooperatively-owned utility shall report remedial actions for the operating district with the poorest reliability. An investor-owned utility shall report remedial actions for all feeders reported under C.(3) of this regulation.

BGE will review the design for each feeder reported under this section to identify potential improvements. BGE will also trim the trees on feeders as needed, conduct a thorough equipment inspection on each feeder and correct any deficiencies found during the inspections. These inspections will permit the identification of potential outage causes, and will, as a result, reduce the number of customer interruptions due to unknown causes. Where the feeder interruptions were the result of underground conductor failures, the failed sections were isolated during the service restoration process, and have since been repaired or replaced. In some cases, underground cable replacement will be performed if the underground conductor experiences an excessive number of failures.

Feeder 7130

Feeder 7130 supplies approximately 1,000 customers in the Hereford area of Baltimore County. During 2004, 39% of the customer interruptions were caused by trees, 34% were caused by lightning, 13% were caused by unknown events, 9% were caused by equipment failures, 3% were caused by other miscellaneous events and 2% were caused by wind or rain. Tree trimming on this feeder was most recently completed in October 2001, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted. BGE also conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in March 2005. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7141

Feeder 7141 supplies approximately 1,090 customers in the Jacksonville area of Baltimore County. During 2004, 40% of the customer interruptions were caused by trees, 20% were the result of customer interferences (pole hits and dig-ins), 14% were caused by unknown events, 12% were caused by lightning, 12% were caused by equipment failures and 2% were caused by wind or rain. Tree trimming on this feeder was most recently completed in December 2003, and an inspection performed in 2005 has determined that localized tree trimming and overhang removals are needed and will be performed in 2005. BGE also conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in March 2005. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7419

Feeder 7419 supplies approximately 350 customers in the Bowie area of Prince Georges County. During 2004, 74 % were caused by unknown events (consisted of 3 lockouts during minor storm where no system damage was identified), 25% were caused by lightning and 1% was caused by other miscellaneous events. Tree trimming on this feeder was most recently completed in March 2004, and an inspection performed in 2005 has determined that no additional tree trimming is required at this time. BGE also conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in March 2005. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 8103

Feeder 8103 supplies approximately 700 customers in the Mt Washington and Roland Park areas of Baltimore City. During 2004, 52% of the customer interruptions were caused by trees, 15% were caused by equipment failures, 12% were caused by unknown events, 12% were caused by underground conductor failures, 7% were the result of customer interferences (pole hits and dig-ins) and 2% were caused by other miscellaneous events. Each failed conductor was repaired or replaced during 2004 as part of the service restoration and repair process. Tree trimming on this feeder was most recently completed in December 2004 and BGE performed aggressive tree and overhang removals along the 3 phase main. BGE conducted an overhead equipment and conductor inspection and is in the process of correcting related deficiencies. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 8734

Feeder 8734 supplies approximately 1380 customers in the Ashton area of Montgomery County. During 2004, 46% were caused by unknown events (the majority were caused by 3 lockouts, 2 storm related, where no cause could be identified), 40% were caused by lightning, 9% were the result of customer interferences (pole hits and dig-ins), and 5% were caused by other miscellaneous events. Tree trimming on this feeder was most recently completed in March 2005, and BGE performed aggressive tree and overhang removals along the 3 phase main. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7105

Feeder 7105 supplies approximately 1,650 customers in the Pikesville and Brooklandville areas of Baltimore County. During 2004, 61% of the customer interruptions were caused by trees, 18% were caused by equipment failures, 17% were caused by unknown events and 4% were caused by other miscellaneous events. Tree trimming on this feeder was last performed in April 2004, and an inspection performed in 2005 has determined that localized tree trimming and overhang removals are needed and will be performed in 2005. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7132

Feeder 7132 supplies approximately 1,300 customers in the Hereford area of Baltimore County. During 2004, 27% of the customer interruptions were caused by trees, 27% were the result of customer interferences (pole hits and dig-ins), 25% were caused by unknown events, 10% were caused by lightning, 10% were caused by wind or rain and 1% was caused by other miscellaneous events. Tree trimming on this feeder was most recently completed in December 2002, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted. BGE also conducted an overhead equipment and conductor inspection and corrected the related deficiencies in February, 2005. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7730

Feeder 7730 supplies approximately 90 customers in the Jessup areas of Howard and Anne Arundel Counties. During 2004, 96% of the customer interruptions were caused by equipment failures and 4% were caused wildlife. Tree trimming on this feeder was most recently completed in April 2004, and an inspection performed in 2005 has determined that localized tree trimming, and overhang removals are needed and will be performed in 2005. BGE also conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in March 2005. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7129

Feeder 7129 supplies approximately 1,213 customers in the Hereford area of Baltimore County. During 2004, 52% of the customer interruptions were caused by equipment failures, 25% were caused by unknown events, 10% were caused by trees, 7% were caused by wildlife, 4% were caused by lightning and 2% were caused by wind or rain. Tree trimming on this feeder was most recently completed in December 2003, and an inspection performed in 2005 has determined that localized tree trimming and overhang removals are needed and will be performed in 2005. BGE also conducted an overhead equipment and conductor inspection and is in the process of correcting related deficiencies. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 8421

Feeder 8421 supplies approximately 675 customers in the Wayson's Corner area of Anne Arundel County and the northern part of Calvert County. During 2004, 86% of the customer interruptions were due to equipment failures, 10% were the result of customer interferences (pole hits) and 4% were caused by lightning. Tree trimming on this feeder was most recently completed in May 2002, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted. BGE conducted an overhead equipment and conductor inspection and is in the process of correcting the related deficiencies. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 8010

Feeder 8010 supplies approximately 718 customers in the Roland Park area of Baltimore City. During 2004, 40% of the customer interruptions were caused by unknown events (consisted of 2 lockouts during where no system damage was identified), 24% were caused by underground conductor failures, 23% were caused by equipment failures, 9% were the result of customer interferences (dig-ins) and 4% were caused by other miscellaneous events. Each failed conductor was repaired or replaced during 2004 as part of the service restoration and repair process. In addition, BGE has identified cable replacement opportunities that will be completed in 2005. BGE most recently conducted an overhead equipment and conductor inspection in 2004 and corrected the related deficiencies. Tree trimming on this feeder was most recently completed in September 2001, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7072

Feeder 7072 supplies approximately 1,120 customers in the Joppatowne area of Harford County. During 2004, 61% of the customer interruptions were caused by trees, 37% were caused by equipment failure and 2% were caused by other miscellaneous events. Tree trimming on this feeder was most recently completed in December 2003, and an inspection performed in 2005 has determined that localized tree trimming and overhang removals are needed and will be performed in 2005. BGE also conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in March 2005. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 8783

Feeder 8783 supplies approximately 1,065 customers in the Crofton area of Anne Arundel County. During 2004, 59% of the customer interruptions were the result of customer interferences (pole hits and dig-ins), 24% were caused by unknown events, 16% were caused by equipment failures and 1% was caused by other miscellaneous events. Tree trimming on this feeder was most recently completed in May 2002, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted. BGE also conducted an overhead equipment and conductor inspection and is in the process of correcting the related deficiencies. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7123

Feeder 7123 supplies approximately 1,450 customers in the Towson area of Baltimore County. During 2004, 37% of the customer interruptions were caused by equipment failures, 24% were caused by lightning, 18% were caused by underground conductor failures, 11% were caused by trees, 8% were construction related, and 2% were caused by miscellaneous events. Each failed conductor was repaired or replaced during 2004 as part of the service restoration and repair process. BGE also conducted an overhead equipment and conductor inspection and is in the process of correcting the related deficiencies. Tree trimming on this feeder was most recently completed in December 2004 and BGE performed aggressive tree and overhang removals along the 3 phase main. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7692

Feeder 7692 supplies approximately 1,105 customers in the Woodbine area of Howard County. During 2004, 62% of the customer interruptions were caused by equipment failures, 17% were caused by trees, 13% were the result of customer interferences (dig-ins), 6% were caused by underground conductor failures and 2% were caused by miscellaneous events. Each failed conductor was repaired or replaced during 2004 as part of the service restoration and repair process. In addition, BGE has identified several cable replacement opportunities that will be completed in 2005. BGE also conducted an overhead equipment and conductor inspection and is in the process of correcting the related deficiencies. Tree trimming on this feeder was most recently completed in May 2001, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7257

Feeder 7257 supplies approximately 153 customers in the Ellicott City area of Howard County. During 2004, 90% of the customer interruptions were caused by trees, 6% were caused by unknown events and 4% were caused by miscellaneous events. Tree trimming on this feeder was most recently completed in October 2001, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted. BGE also conducted an overhead equipment and conductor inspection and is in the process of correcting the related deficiencies. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 8158

Feeder 8158 supplies approximately 830 customers in the Timonium area of Baltimore County. During 2004, 51% of the customer interruptions were caused by equipment failures, 25% were the result of customer interferences (dig-ins), 22% were caused by unknown events, and 2% were caused by miscellaneous events. Tree trimming on this feeder was most recently completed in December 2004, and an inspection performed in 2005 has determined that no additional tree trimming is required at this time. BGE most recently conducted an overhead equipment and conductor inspection in 2004 and corrected the related deficiencies in May, 2004. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7189

Feeder 7189 supplies approximately 1,190 customers in the Pikesville area of Baltimore County. During 2004, 58% of the customer interruptions were caused by equipment failures, 41% were caused by unknown events and 1% were wind or rain related. Tree trimming on this feeder was most recently completed in January 2004, and an inspection performed in 2005 has determined that no additional tree trimming is required at this time. BGE also conducted an overhead equipment and conductor inspection in early 2005 and is in the process of correcting the related deficiencies. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 7075

Feeder 7075 supplies approximately 725 customers in the Joppatowne area of Harford County. During 2004, 65% of the customer interruptions were caused by trees, 33% were caused by equipment failure and 2% were caused by wildlife. Tree trimming on this feeder was most recently completed in December 2003, and an inspection performed in 2005 has determined that localized tree trimming and overhang removals are needed and will be performed in 2005. BGE also conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in February 2005. The design of this feeder has been studied and Distribution Automation reclosers, electronic resetable sectionalizing and additional fusing will be installed in 2005.

Feeder 4931

Feeder 4931 supplies approximately 770 customers in the Cherry Hill area of Baltimore City. During 2004, 53% of the customer interruptions were caused by lightning, 18% were caused by unknown events, 18% were the result of customer interferences (pole hit), 10% were caused by wind or rain and 1% was caused by miscellaneous events. BGE conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in February 2005. Tree trimming on this feeder was most recently completed in August 2003, and an inspection performed in 2005 has determined that no additional tree trimming is required at this time.

Feeder 4834

Feeder 4834 supplies approximately 395 customers in the Clifton Park area of Baltimore City. During 2004, 69% of the customer interruptions were caused by unknown events (consisted of 3 lockouts where no system damage was identified), 28% were caused by wind or rain, 2% were caused by trees, and 1% was caused by equipment failures. BGE conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in February 2005. Tree trimming on this feeder was most recently completed in December 2001, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted.

Feeder 4801

Feeder 4834 supplies approximately 560 customers in the Calverton area of Baltimore City. During 2004, 35% of the customer interruptions were caused by wind or rain, 32% were caused by unknown events, 31% were the result of customer interferences (pole hits), 1% was caused by trees, and 1% was caused by equipment failures. BGE conducted an overhead equipment and conductor inspection and all related deficiencies were corrected in February 2005. Tree trimming on this feeder was most recently completed in December 2001, and is scheduled for cycle trimming in 2005 with aggressive tree and overhang removals being targeted.

(2) Each utility shall briefly describe the actions taken or planned to improve reliability. When the utility determines that remedial actions are unwarranted, the utility shall provide justification for this determination.

BGE plans include remedial actions for all feeders identified as worst performers.

G. Evaluation of Remedial Actions. For the operating district and feeders identified as having the poorest reliability in an annual reliability indices report, the utility shall provide the following information in the next two annual reports.

(1) The annual report for the year following the identification of the operating district and feeders as having the poorest performance shall provide a brief description of the actions taken, if any, to improve reliability and the completion dates of these actions.

BGE reviewed the design for each feeder reported under this section to identify potential improvements. BGE also trimmed the trees on each feeder as needed, conducted a thorough equipment and conductor inspection on each feeder and corrected any deficiencies found during the inspections. Those inspections permitted the identification of potential outage causes, and, as a result, reduced the number of customer interruptions due to unknown causes. Where the feeder interruptions were the result of underground conductor failures, the failed sections were isolated during the service restoration process, and have since been repaired or replaced. In some cases, underground cable replacement was performed if the underground conductor experienced an excessive number of failures.

Feeder 7621

Feeder 7621 supplies approximately 1,550 customers in the Columbia area of Howard County. During 2003, 34% of the customer interruptions were caused by lightning, 28% were caused by underground conductor failures, 27% caused by trees and 11% were caused by miscellaneous events . Each failed underground conductor was repaired or replaced during 2003 as part of the service restoration and repair process. In addition, BGE replaced sections of underground cable on this feeder that had experienced an excessive number of failures (Completed 5/04). Tree trimming on this feeder was most recently completed in June 2002, and an inspection performed in 2004 determined that localized tree trimming was needed and will be performed in 2004 (Completed 5/04). BGE also conducted an overhead equipment and conductor inspection and corrected the related deficiencies in August, 2003.

Feeder 7501

Feeder 7501 supplies approximately 1,600 customers in the White Marsh, Chase and Middle River areas of Baltimore County. During 2003, 79% of the customer interruptions were due to unknown causes and 21% were caused by equipment failures. During 2002, BGE trimmed trees along the entire length of the feeder (Completed 5/02) and an inspection performed in 2004 determined that localized tree trimming was need (Completed 9/04). BGE also conducted an overhead equipment and conductor inspection and corrected the related deficiencies in February, 2003. Opportunities were identified for additional fusing (Completed 3/04). A new feeder, 8523, was placed in service in November 2004 that picked up some of the load on this feeder, thus reducing exposure and offering additional tie points.

Feeder 7376

Feeder 7376 supplies approximately 1,890 customers in the Harundale and Glen Burnie areas of Anne Arundel County. During 2003, 51% of the customer interruptions were due to unknown causes, 28% were caused by underground conductor failures, 16% were caused by trees and 5% were caused by miscellaneous events. Each failed underground conductor was repaired or replaced during 2003 as part of the service restoration and repair process. In addition, BGE replaced sections of underground cable on this feeder that had experienced an excessive number of failures (Completed 4/04). BGE also conducted an overhead equipment and conductor inspection in 2003 and all related deficiencies were corrected in December, 2003. During 2003, BGE trimmed trees along the entire length of the feeder as well as performed aggressive tree removals along the 3 phase mains (Completed 12/03).

Feeder 7043

Feeder 7043 supplies approximately 2,560 customers in the Anneslie and Idlewilde areas of Baltimore County. During 2003, 78% of the customer interruptions were caused by lightning, 13% were caused by miscellaneous events and 9% were caused by trees. Tree trimming on this feeder was most recently completed in September 2002, and an inspection performed in 2004 determined that localized tree trimming and overhang removals were needed (Completed 9/04). BGE conducted an overhead equipment and conductor inspection corrected the related deficiencies (Completed 3/04). Opportunities were identified for additional fusing at 3 locations (Completed 4/04).

Feeder 7176

Feeder 7176 supplies approximately 2,990 customers in the Randallstown area of Baltimore County. During 2003, 45% of the customer interruptions were caused by underground conductor failures, 46% of the customer interruptions were caused by unknown events, 5% were caused by miscellaneous events and 4% were caused by wildlife. Each failed conductor was repaired or replaced during 2003 as part of the service restoration and repair process. In addition, BGE replaced sections of underground cable on this feeder that had experienced excessive number of failures (Completed 6/04). During 2003, BGE trimmed trees along the entire length of the feeder as well as performing aggressive removals along the 3 phase mains (Completed 11/03). BGE also conducted an overhead equipment and conductor inspection and corrected the related deficiencies in September, 2003. Two fusing coordination issues were identified (Completed 9/04). To improve outage restoration times and reduce the number of sustained interruptions, remotely operable sectionalizing and tie reclosers were installed as part of BGE's Distribution Automation program (Completed 2/05).

Feeder 7375

Feeder 7375 supplies approximately 1,750 customers in the Stony Creek area of Anne Arundel County. During 2003, 68% of the customer interruptions were due to equipment failures, 20% were caused by trees, 8% were due to unknown causes and 4% caused by wildlife. During 2004, BGE trimmed the entire length of the feeder as well as performing aggressive removals along the 3 phase mains (Completed 4/04). BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 2/04).

Feeder 7806

Feeder 7806 supplies approximately 4,100 customers in the Edmondson Village and Rognel Heights areas of Baltimore City. During 2003, 83% of the customer interruptions were caused by an underground conductor failure, 8% were caused by trees, 5% were caused by miscellaneous events and 4% were due to equipment failures. The failed conductor was repaired during 2003 as part of the service restoration and repair process. Tree trimming on this feeder was most recently completed in February 2002 and an inspection performed in 2004 determined that no additional trimming was necessary at that time. BGE also conducted an overhead equipment and conductor inspection and corrected the related deficiencies in February, 2004. BGE studied the need for additional fusing, but no opportunities were identified.

Feeder 7005

Feeder 7005 supplies approximately 2,690 customers in the Sandtown and Druid Heights areas of Baltimore City. During 2003, 48% of the customer interruptions were caused by underground conductor failures, 45% were due to unknown causes and 7% were caused by miscellaneous events. Each failed conductor was repaired or replaced during 2003 as part of the service restoration and repair process. During 2003, BGE trimmed trees along the entire length of the feeder and performed aggressive removals along the 3 phase mains (Completed 12/03). BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 4/04).

Feeder 7393

Feeder 7393 supplies approximately 2,640 customers in the Baltimore Highlands areas of Baltimore County. During 2003, 92% of the customer interruptions were caused by unknown events, 6% were caused by public interferences (pole hit) and 2% were due to unknown causes. During 2004, BGE trimmed the entire length of the feeder as well as performing aggressive removals along the 3 phase mains (Completed 5/04). BGE also conducted an overhead equipment and conductor inspection and corrected the related deficiencies in July, 2003. Two fusing coordination issues were identified (Completed 5/04). To improve outage restoration times and reduce the number of sustained interruptions, remotely operable sectionalizing and tie reclosers were installed as part of BGE's Distribution Automation program (Completed 3/05).

Feeder 7070

Feeder 7070 supplies approximately 1,510 customers in the Joppatowne area of Harford County. During 2003, 80% of the customer interruptions were due to equipment failures and 20% were caused by underground conductor failures. Each failed underground conductor was repaired or replaced during 2003 as part of the service restoration and repair process. In addition, BGE replaced sections of underground cable on this feeder that had experienced an excessive number of failures (Completed 11/04). Tree trimming on this feeder was most recently completed in October 2003. BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 3/04). To improve outage restoration times and reduce the number of sustained interruptions, remotely operable sectionalizing and tie reclosers were installed as part of BGE's Distribution Automation program (Completed 7/04).

Feeder 7609

Feeder 7609 supplies approximately 1,550 customers in the Columbia area of Howard County. During 2003, 61% of the customer interruptions were caused by damage to underground cables as the result of dig-ins, 38% were caused by underground conductor failures and 1% was caused by miscellaneous events. BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 3/04). Each failed conductor was repaired or replaced during 2003 as part of the service restoration and repair process. Tree trimming on this feeder was completed in March, 2004.

Feeder 7240

Feeder 7240 supplies approximately 1,250 customers in the Reisterstown and Boring areas of Baltimore County. During 2003, 42% of the customer interruptions were caused by trees, 20% were caused by equipment failure, 21% were caused by underground conductor failures, 11% were caused by miscellaneous events and 6% were caused by unknown events. Each failed conductor was repaired or replaced during 2003 as part of the service restoration and repair process. In addition, BGE investigated the need for additional underground cable replacements on this feeder but found no opportunities. During 2004, BGE trimmed the entire length of the feeder as well as performing aggressive removals along the 3 phase mains (Completed 5/04). BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 4/04). To improve outage restoration times and reduce the number of sustained interruptions, remotely operable sectionalizing and tie reclosers were installed as part of BGE's Distribution Automation program (Completed 8/04).

Feeder 7410

Feeder 7410 supplies approximately 1725 customers in the Annapolis area of Anne Arundel County. During 2003, 51% of the customer interruptions were caused by underground conductor failures, 41% were caused by equipment failures and 8% were caused by trees. Each failed conductor was repaired or replaced during 2003 as part of the service restoration and repair process. During 2003, BGE trimmed trees along the entire length of the feeder as well as performing aggressive removals along the 3 phase mains (Completed 12/03). BGE also conducted an overhead equipment and conductor inspection and corrected the related deficiencies in February, 2004

Feeder 8216

Feeder 8216 supplies approximately 1,825 customers in the Frizzelburg area of Carroll County. During 2003, 48% of the customer interruptions were caused by equipment failures, 40% was due to unknown causes, 9% were caused by trees and 3% were caused by miscellaneous events. BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies in February, 2004. Tree trimming on this feeder was most recently completed in May 2002, and localized tree trimming and removals were competed in September, 2004.

Feeder 7556

Feeder 7556 supplies approximately 2,465 customers in the Middle River area of Baltimore County. During 2003, 56% of the customer interruptions were caused by overhead conductor failures, 40% were caused by public interferences (pole hit and dig ins), 2% were caused by miscellaneous events and 2% were caused by trees. BGE conducted an overhead equipment inspection and corrected the related deficiencies in February, 2004. Tree trimming on this feeder was most recently completed in June 2002, and localized tree trimming and removals were competed in September, 2004.

Feeder 7556

Feeder 7556 supplies approximately 2,465 customers in the Middle River area of Baltimore County. During 2003, 56% of the customer interruptions were caused by overhead conductor failures, 40% were caused by public interferences (pole hit and dig ins), 2% were caused by miscellaneous events and 2% were caused by trees. BGE conducted an overhead equipment inspection and corrected the related deficiencies in February, 2004. During 2004, BGE trimmed the entire length of the feeder as well as performing aggressive removals along the 3 phase mains (Completed 9/04).

Feeder 7811

Feeder 7811 supplies approximately 4010 customers in the Uplands Park area of Baltimore City. During 2003, 59% of the customer interruptions were caused by equipment failures, 14% were caused by trees, 12% were caused by miscellaneous events, 8% were due to unknown causes, and 7% were caused by a pole hit. Tree trimming on this feeder was most recently completed in November 2002, and localized tree trimming and removals were competed in September, 2004. BGE conducted an overhead equipment inspection and corrected the related deficiencies in August 2003.

Feeder 8366

Feeder 8366 supplies approximately 2,450 customers in the Owings Mills area of Baltimore County. During 2003, 47% of the customer interruptions were caused by equipment failures, 49% were caused by a pole hit, 2% were caused by miscellaneous events, and 2% were caused by trees. Tree trimming on this feeder was most recently completed in April 2002, and localized tree trimming and removals were competed in August, 2004. BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 4/04).

Feeder 7348

Feeder 7348 supplies approximately 2,220 customers in the Marley Creek area of Anne Arundel Baltimore County. During 2003, 55% of the customer interruptions were caused by underground conductor failures, 14% were caused by equipment failures, 28% were caused by lightning, 2% were caused by trees and 1% was caused by miscellaneous events. Each failed conductor was repaired or replaced during 2003 as part of the service restoration and repair process. In addition, BGE identified one cable replacement opportunity that was completed in November, 2004. Tree trimming on this feeder was most recently completed in October 2002, and localized tree trimming and removals were competed in May, 2004. BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies in January, 2004.

Feeder 7101

Feeder 7101 supplies approximately 1,635 customers in the Ruxton and Rodgers Forge areas of Baltimore County. During 2003, 34% of the customer interruptions were caused by trees, 33% was due to unknown causes, 19% were caused by equipment failures, 7% were caused by miscellaneous events and 7% were due to overhead conductor failures. During 2003, BGE trimmed trees along the entire length of the feeder as well as performing aggressive removals along the 3 phase mains (Completed 12/03). BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 3/04).

Feeder 4414

Feeder 4414 supplies approximately 960 customers in the Reservoir Hill area of Baltimore City. During 2003, 20% of the customer interruptions were caused by underground conductor failures, 11% were caused equipment failures, and 69% were due to unknown causes. BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 2/04). Tree trimming on this feeder was most recently completed in December 2002, and an inspection performed in 2004 determined that no additional trimming was required at that time. Each failed conductor was repaired or replaced during 2003 as part of the service restoration and repair process.

Feeder 4703

Feeder 4703 supplies approximately 1,120 customers in the Curtis Bay area of Baltimore City. During 2003, one tree event locked out the feeder that caused 99% of the customer interruptions and 1% were caused by miscellaneous events. Tree trimming on this feeder was most recently completed in December 2002, and an inspection performed in 2004 determined that no additional trimming was required. BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 2/04).

Feeder 4823

Feeder 4823 supplies approximately 629 customers in the Clifton Park area of Baltimore City. During 2003, 57% of the customer interruptions were caused by underground conductor failures, 14% were due to equipment failures and 29% were due to unknown causes. Each failed conductor was repaired or replaced during 2003 as part of the service restoration and repair process. BGE conducted an overhead equipment and conductor inspection and corrected the related deficiencies (Completed 3/04). Tree trimming on this feeder was most recently completed in December 2001, and localized tree trimming and removals were competed in September, 2004

(2) The annual report two years after the identification of the operating district or feeders as having the poorest performance shall include the ordinal ranking representing the feeder's reliability during the current reporting period.

BGE's poorest performing 2% of the 13.8 kV distribution feeders (19 out of 948 total 13.8 kV distribution feeders) and 2% of the 4.4 kV distribution feeders (3 out of 131 total 4.4 kV distribution feeders) in 2002 had the following ordinal rankings in 2004. Ordinals for 2004 range from 1 (worst) to 131 (best) for 4.4 kV feeders and from 1 (worst) to 948 (best) for 13.8 kV feeders, ranked by Composite Reliability Index. Ranking excludes major event data.

13.8 kV Feeder	***Substation***	***2004 Ordinal Ranking***
8008	*Coldspring*	*805*
7593	*Fullerton*	*244*
8446	*Bestgate*	*366*
7414	*Bestgate*	*668*
7602	*Wilde Lake*	*423*
7161	*Cockeysville*	*190*
8005	*Coldspring*	*127*
8006	*Coldspring*	*146*
7002	*Center*	*549*
7221	*Delight*	*375*
7873	*Highlandtown*	*89*
7347	*Lipins Corner*	*47*
7203	*Liberty*	*497*
7276	*Bethany Modular*	*620*
7014	*Brookhill*	*91*
7541	*Carney*	*168*
8680	*Ten Oaks*	*565*
7509	*Hazelwood*	*700*
7039	*Hillen Road*	*110*

4.4 kV Feeder	***Substation***	***2004 Ordinal Ranking***
4429	*Forest Park*	*101*
4436	*Forest Park*	*103*
4119	*Monument Street Whse*	*68*

BGE listed in the CY 2003 report that one feeder from CY 2000 did not register significant reliability improvements in CY 2002. The ordinal rankings for CY 2002, CY 2003 and CY 2004 are indicated below.

13.8 kV Feeder	*Substation*	*2002 Ordinal Ranking*	*2003 Ordinal Ranking*	*2004 Ordinal Ranking*
8271	*Hollofield*	*32*	*35*	*115*

Following feeder 8271's less than expected reported reliability improvement in CY 2002's report, BGE performed additional inspections and maintenance on the feeder in 2003. BGE re-inspected equipment and conductors on the feeder and completed repairs in July 2003, performed localized tree trimming in June 2003 and installed additional fusing at 7 locations. Since the feeder has shown improvement and has a better SAIFI than the system average, BGE will not be reporting on it in future reports.

H. Momentary Interruptions. A utility shall maintain information which it collects on momentary interruptions for five years.

BGE meets this requirement.