

# Special Electric Reliability Forum

October 12, 2011

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UGI Utilities, Inc. Electric Division



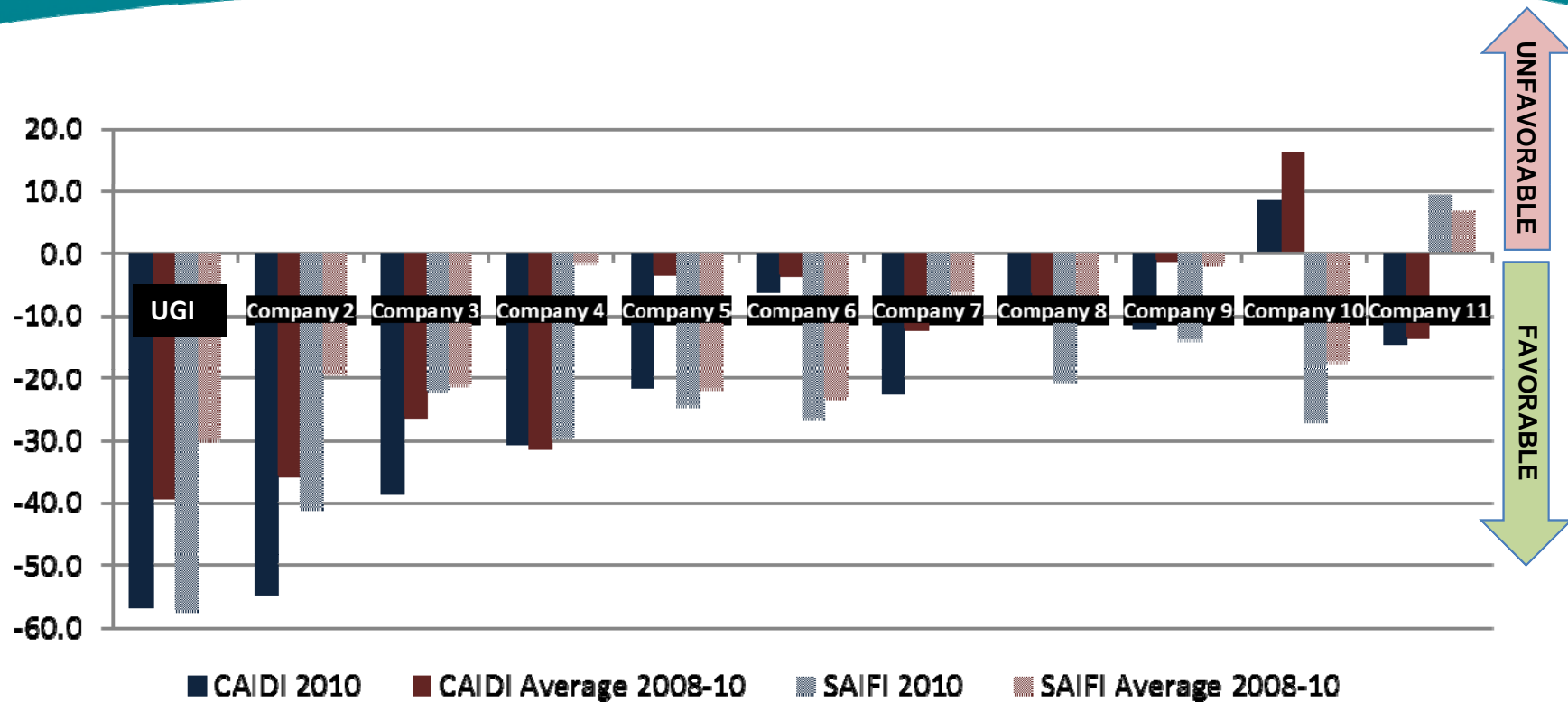
# About UGI Electric Division

**UGI Electric serves predominantly rural  
Luzerne and Wyoming Counties.**

<b>Customers:</b>	<b>62,096</b>
<b>Miles of Distribution Line:</b>	<b>1,991</b>
<b>Miles of Transmission Line:</b>	<b>132</b>



# History of Reliability – PUC Electric Reliability Report



- ❑ The 2010 CAIDI score for UGI (99) is favorable to the Standard (228) and Benchmark (169).
- ❑ The 2010 SAIFI score for UGI (0.48) is favorable to the Standard (1.12) and Benchmark (0.83).
- ❑ The 2008-10 average CAIDI score for UGI (113) is favorable to the 3 year Standard (186).
- ❑ The 2008-10 average SAIFI score for UGI (0.64) is favorable to the 3 year Standard (0.91).

# Catastrophic Nature of Hurricane Irene

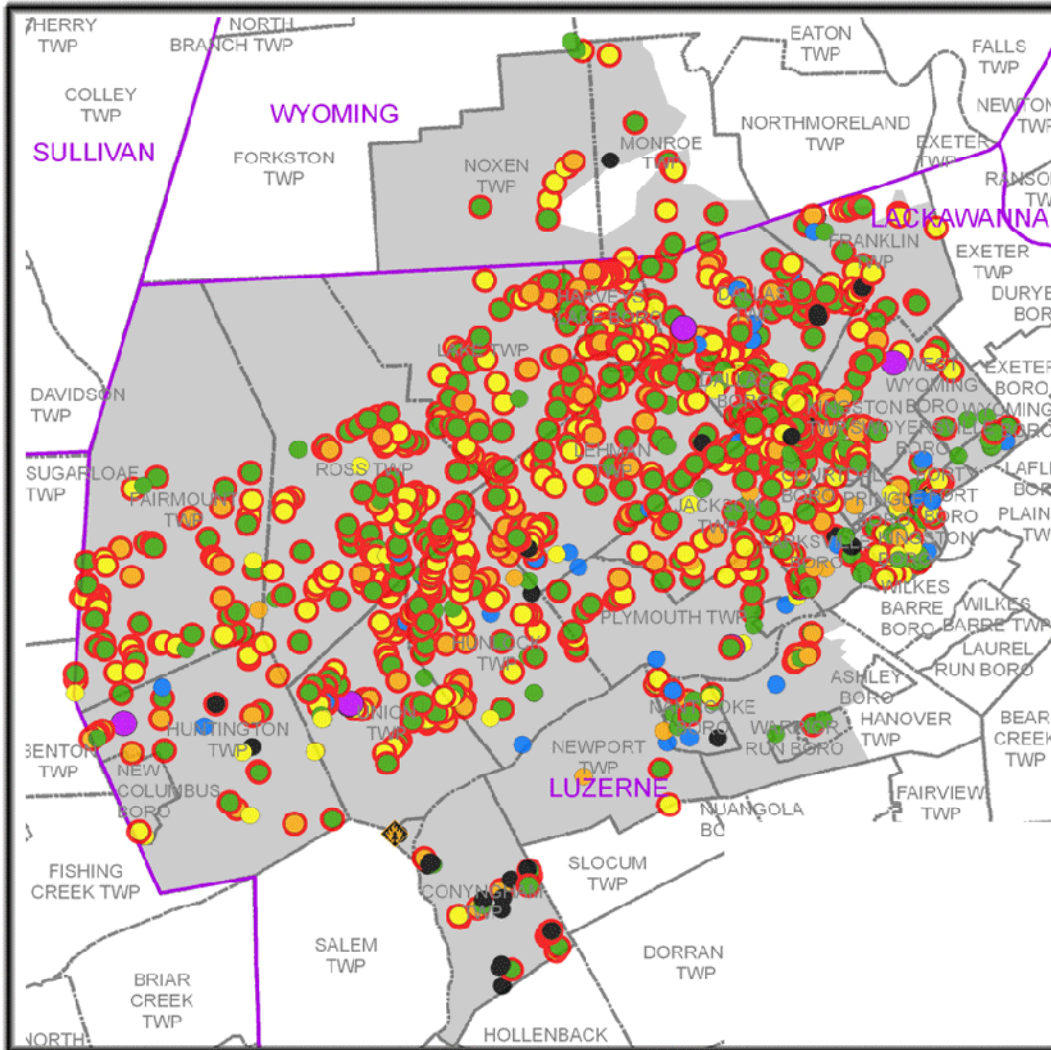
	Hurricane Irene (8/11)	Storms (6/08)	Hurricane Floyd (1999)
<b>Customers:</b>			
<b>Number Affected</b>	35,975	21,723	11,000
<b>% Affected</b>	58%	35%	18%
<b>Repair Incidents</b>	617	135	**
<b>Outage Cases</b>	318	37	**
<b>Outage duration</b>	10 days	6 days	6 days
<b>Line Clearance Assignments</b>	1,152	265	201*
<b>Spans of Line Repaired / Replaced</b>	1,043	221	**
<b>Poles Replaced</b>	39	5	6
<b>Workers Assigned Total</b>	106	98	70
<b>Workers – UGI</b>	40	29	33

\*Estimate.

\*\*Information not available.

















# Storm Impact on UGI Electric System



### Legend

Outages Call Type

-  .FLPWR - Fluctuating Power
-  .IMDNG - Imminent Danger
-  .OTHER - Other
-  .POLDN - Pole Down, No Power
-  .PWDLI - Pole and Wire Down, In Power
-  .PWDLN - Pole and Wire Down, No Power
-  .STFIR - Structure Fire
-  .TWDLI - Tree on Wire, In Power
-  .TWDLN - Tree on Wire, No Power
-  .WDOLI - Wire Down, In Power
-  .WDOLN - Wire Down, No Power
-  .WDORN - Wire Down on Road, No Power
-  County Boundary
-  UGI Service Territory

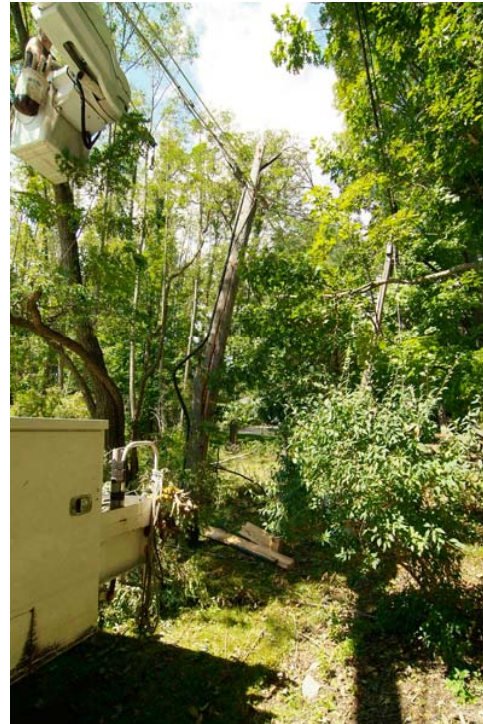


# Examples of Damage to UGI Service Territory





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# Examples of Damage to UGI Service Territory





# Storm Response Planning Timeline

## Date Initiated

- |   |           |
|---|-----------|
| ❑ Weather Forecast Assessment                               | August 23 |
| ❑ Resource Additions Explored                               |           |
| –UGI Line Contractor  | August 23 |
| –MAMA Participation   | August 23 |
| ❑ Preliminary Assessment / Planning                         | August 25 |
| ❑ Local Emergency Management Outreach                       | August 26 |
| ❑ Major Planning Meeting /<br>Emergency Plan Implementation | August 26 |
| ❑ Inventory Review and Staging                              | August 26 |

# System Impact and Prioritization

## UGI Service Territory

Hurricane Irene  
August 28<sup>th</sup>, 2011

Affected Customers  
35,975

Transmission Outages  
5-66kV (38%)

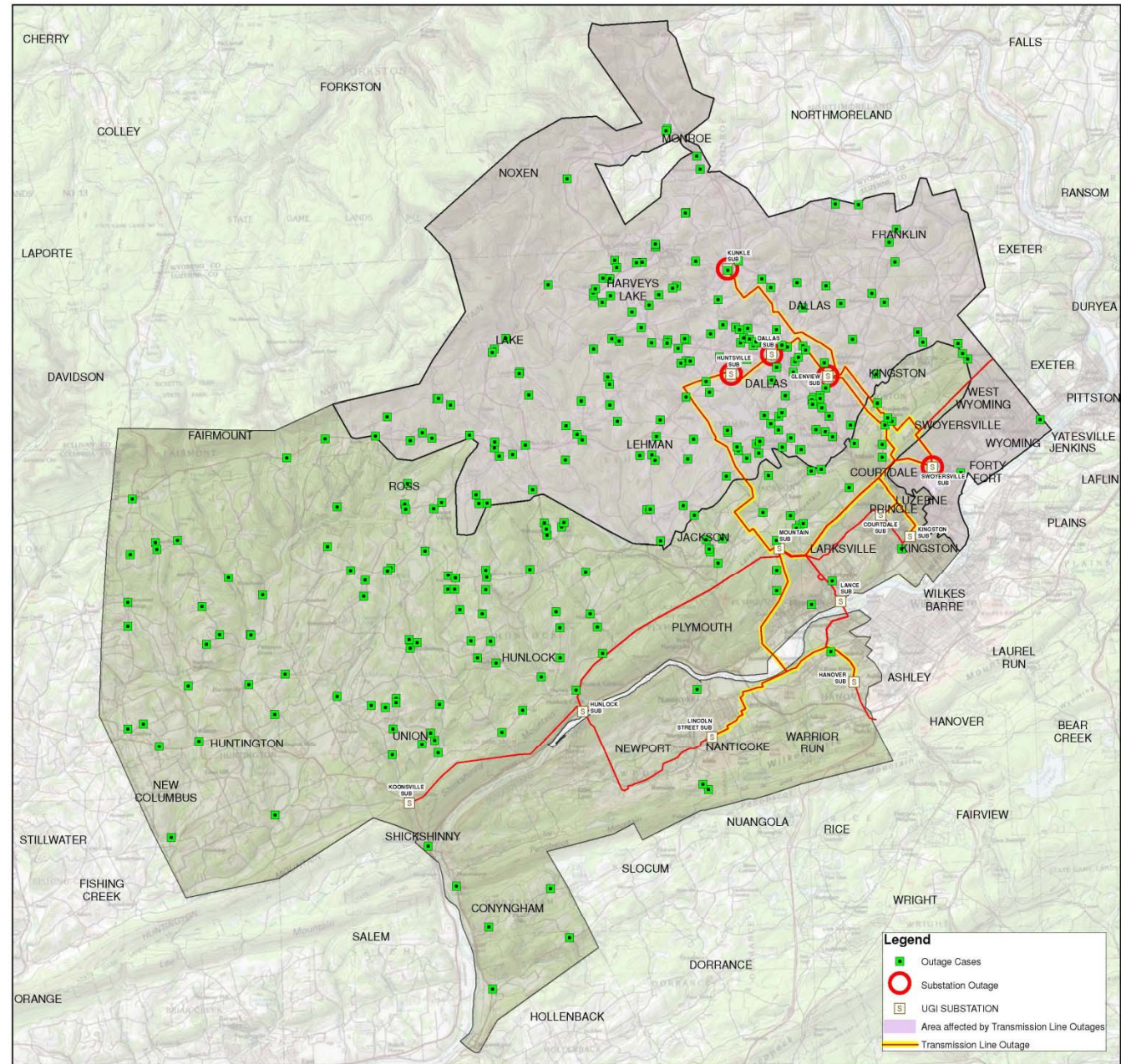
Substation Outages  
5-66kV (42%)

Outage Cases  
318

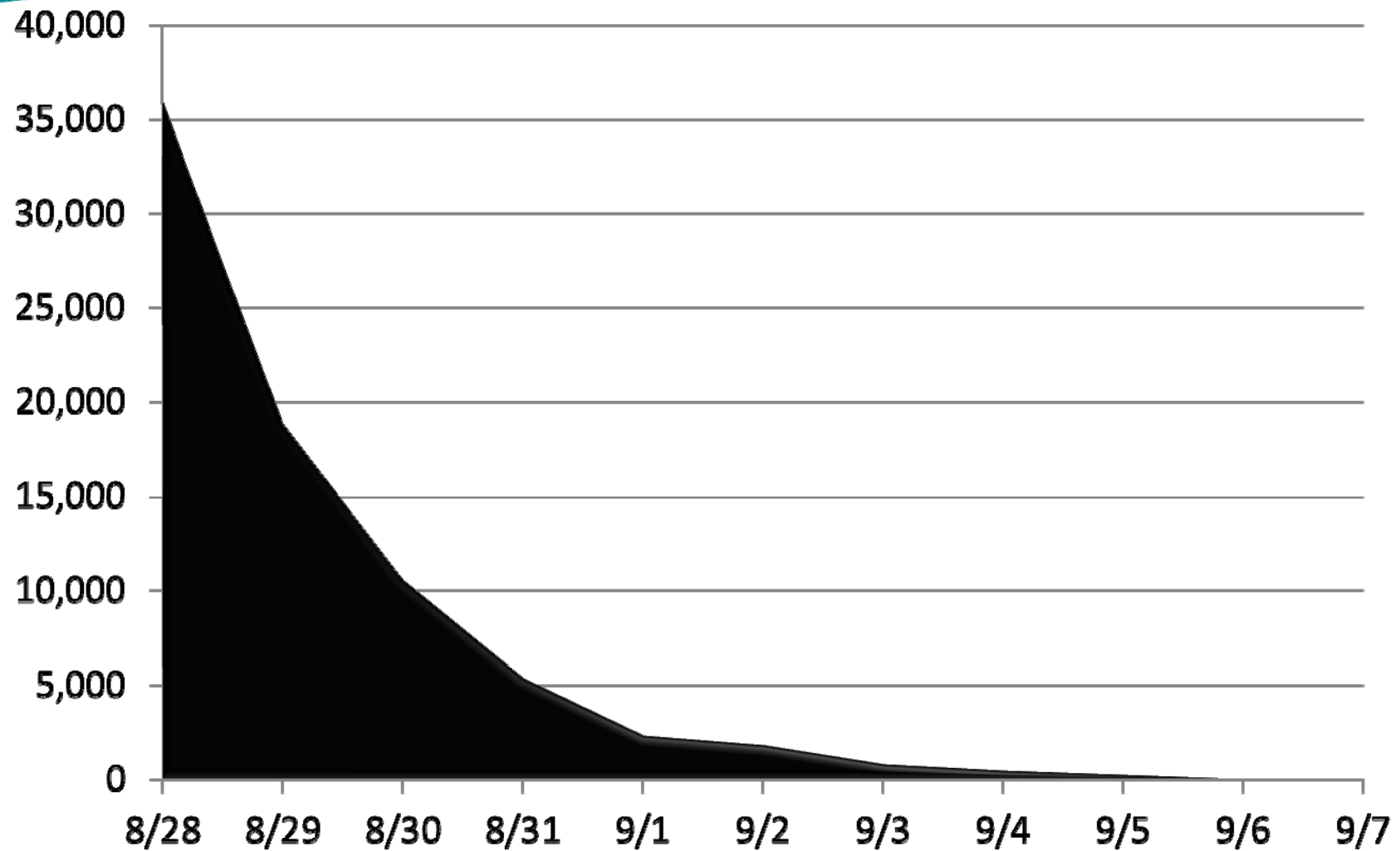
Repair Incidents  
617

Spans of Wire Repaired  
1,043

Line Clearance Assignments  
1,152



# Service Restoration Timeline

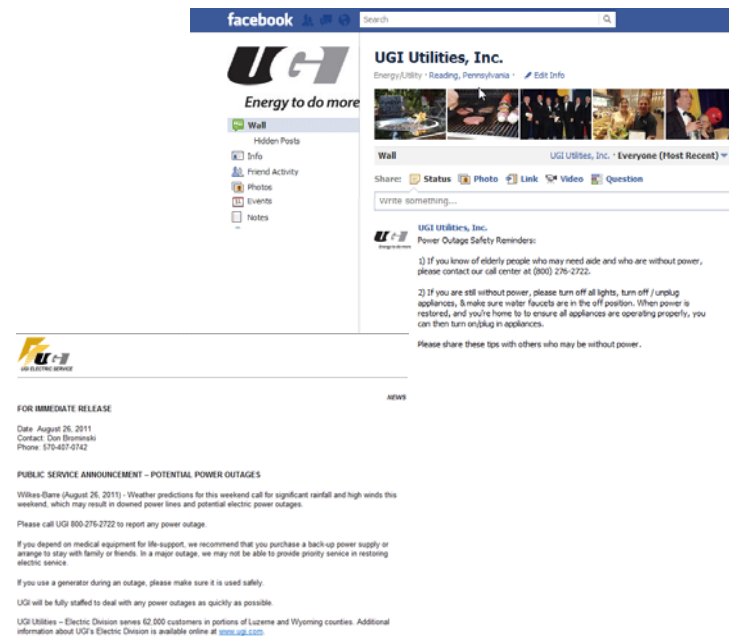


\*95% of affected customers restored within 5 days



# Customer Communications and Outreach

- ❑ Multiple daily Public Service Announcements
- ❑ Daily UGI website updates
- ❑ Daily Facebook updates
- ❑ Public meeting with over 100 customers
- ❑ Outbound customer calls
- ❑ Donations to various non-profit agencies
- ❑ Coordinated effort with Red Cross, Salvation Army and others



## Lessons Learned: What Went Well

- ❑ Tireless efforts from efficient and productive field crews made up of experienced and skilled work force
- ❑ Effective scheduling and staging of pole setting contractor, tree crews and repair crews
- ❑ Successful field trial with laptops containing outage and mapping data
- ❑ Face-to-face customer meeting to personally address customer concerns

# Lessons Learned

- ❑ Tools
  - Install Already-Budgeted Outage Management System
- ❑ Planning
  - Contractor Resources
- ❑ Response and Outreach
  - Communications
  - Outreach Timing