2012 2nd Annual Gas Mutual Aid Summit 10/23/2012

Hosted By:
PSE&G
Edison Training and Development Center
234 Pierson Ave
Edison, NJ 08837

Attendees:
Con Edison Company of New York
Connecticut Natural Gas
Elizabethtown Gas (AGL)
National Grid
Northeast Gas Association
New Jersey Natural Gas
PSE&G
Southern Connecticut Gas/CNG
Unitil Services Corporation (Mass.)
Yankee Gas

Opening Remarks:

Paul Pirro, Manager Technical Services - Appliance Service, opened the meeting by thanking everyone for their attending the 2nd Annual Mutual Aid Gas Summit. Paul also mentioned that volunteers are needed to host future Mutual Aid Summits.

Paul introduced Richard Lewis, Director, Gas Systems Operations & Technical Services.

Rick Lewis also welcomed everyone to the Edison Training and Development Center (ETDC) and thanked Paul for coordinating the Mutual Aid Summit.
Rick reviewed the following points:

- PSE&G Gas Delivery performed 4 major flood restorations in a 12-year period, covering from 9,000 to 36,000 customers.

- In 1999, PSE&G secured 95 Mutual Aid employees from Con Edison, National Grid and NYSEG to help remove flood water from mains, services, and customer piping, and change gas meters and regulators. This experience provided PSE&G with the insight on what it takes to plan for and utilize external resources.

- PSE&G has been actively involved in developing, fostering and using Mutual Aid Agreements to partner with AGA, NGA and NJ utilities. (NGA's Jose Costa and Dan Dessanti indicated that they will be attending future Mutual Aid Summit meetings.)

- In 2003, PSE&G adopted Con Edison's process for using an Incident Command Structure (ICS) to manage incident response. Over the years, PSE&G set up the primary Gas Distribution Emergency Response Center (DERC) in Newark to coordinate response to large scale events that disrupted service to gas and electric customers. The Company continues to handle these situations successfully, and always takes the opportunity to enhance emergency response procedures and training, and improve safety and efficiency.

- PSE&G sees much value in participating in meetings like this to review past incidents that affected service to customers, share lessons learned and develop best practices for improved response in the future. We are very grateful to Con Edison for kicking this session off last year.

- Rick discussed NJ BPU’s plans for Flood Restoration Legislation that is still pending.

Paul Pirro reviewed the meeting agenda.

Presentations:

Kevin Kelly, Con Edison

**Williamsbridge (Bronx) Outage + Electric Pole Auger Damage (Bronx):**

**Overview:**

- Contractor working for Electric Operations called in a mark out for the wrong area. Contractor was working outside of mark out area.

- Contractor had excavated in the same sidewalk area prior to mark out. Hit rock and backfilled the hole. Contractor moved and re-excavated and damage 6” Plastic main.
- Contractor calls in main damage.
- 300 people were evacuated from nearby school.
- Two valves are closed to isolate the damage.
- The Call Center began to receive leak calls. Technicians start to investigate leak calls. They find pilot outages on several streets.
- Co Edison began to isolate areas where no gas is confirmed and access to remaining homes was not possible. Supervisor confirmed No Gas to 2 apartment buildings with a total of 537 apartments. 1207 Residences were affected. Damage area covers 13 square blocks.
- All services were inspected. The majority of meter sets were outside. Service valves and curb valves were shut off.
- 100 to 125 PSI air pressure was used to drill the hole to set the new utility pole. The air packed the main with dirt and pushed air further down in the main. The hole was drilled to a depth of 7 feet.
- 3 valves were closed that were not shown on the Distribution valve map.
- 10 Mutual Aid Groups assisted in this effort:
  - 5 from Orange & Rockland Utilities
  - 5 from National Grid
  - 80 to 90 Con Edison restoration crews

Challenges:
- There was a shooting in the area on the 1st night. Crew safety was a concern.
- Cut and Cap 3 main locations without valves.
- Access to homes and apartments.
- Parked cars blocked access to main and curb valves.
- Found un-mapped valves in closed position.
- Majority of apartments had standing pilots.
- Lack of service shut-off valves in the large buildings.
- Clear access issues were at several homes.
- When re-energizing mains with gas, a blockage was discovered by monitoring gauges installed in the system.

Lessons Learned:
- Communication breakdown:
- Radio/Nextel dead zone.
- Improper location of Incident Command and Customer Operations Command Posts.
- Incident Commands group should wear incident command position vests.
- The main should have been checked for buildup/blockage before energizing.
- Should create preformatted outage and restoration sheet.
- Optimization of restoration can be improved by the use of multiple valves.

Ross Disbennett - Connecticut Natural Gas (CNG)

CNG Greenwich Division’s Response to Tropical Strom Irene:

Preparation:
- Review areas forecasted to flood.
- Review Mutual Aid needs – Coordinated with Hartford Division for Customer Service crews.
- Prepare Fleet.
- Check/Obtain material supplies needed.
- Coordinate with the Emergency Operation Center.
- Discuss possible issues:
  o Flooding
  o Trees blocking roads
  o Access into houses
  o When Restoration activities will begin
- Monitor flood prone areas.
- Shut off customer’s gas services as necessary due to flooding (prefer to shut off services and leave mains pressurized).
- Maintain employee safety and system integrity.
- Track shut-off actions taken with services and mains.

Restoration of Service:
- Due to the rate of water rising, CNG shut main valves off to isolate the flooded sections (251 Customers affected).
- After the water receded, CNG shut off all gas services in the affected area.
- Systematically reactivated the main lines.
- All customers that were shut off were tracked on one spreadsheet that was sent between one person at the Town of Greenwich and one person at CNG.
- The spreadsheet was date and time stamped. This was done to maintain the spreadsheet accuracy.
- CNG coordinated with the local Building Department prior to relighting all houses within the flood zone.

**Post Storm Legislation:**

- Connecticut State Commission opened a Docket to investigate “ Restoration of Service”.
- Primarily an Electric Docket, **HOWEVER**, Gas companies were later included to address many areas.
- As a result of the Docket and recently passed law, CNG has had to develop and present information for restoration activities covering 10, 30, 50, & 70% system outages.

<table>
<thead>
<tr>
<th>Mutual Aid Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revised the Emergency Plan for specific sized outages and estimated response rates</strong></td>
</tr>
<tr>
<td><strong>Outage</strong></td>
</tr>
<tr>
<td>10%</td>
</tr>
<tr>
<td>30%</td>
</tr>
<tr>
<td>50%</td>
</tr>
<tr>
<td>70%</td>
</tr>
</tbody>
</table>

- Outage days assume restoration can begin immediately after the outage occurs, no widespread damage to gas system or water infiltration.
- Shut-off and relight crews will come from:
  - NGA Mutual Aid
  - AGA Mutual Aid
Qualified Contractors (Must be OQ qualified)

Local Plumbers (Must be OQ qualified)

Jose Costa & Dan Dessanti – Northeast Gas Association (NGA):

NGA Flood Engineering and Operations Best Practices Workshop:

The NGA Flood Engineering and Operations Best Practices Workshop was originally scheduled to be held on November 13th & 14th, Sheraton Meadowlands Hotel and Conference Center, East Rutherford, NJ. (Following a postponement due to SuperStorm Sandy, this workshop was rescheduled for March 21- & 22, 2013, at the Newark Airport Hilton).

If you plan to attend, please register early using the link provided below (place into browser):

http://www.northeastgas.org/index.php/events/flood-engineering-workshop

This event is co-sponsored by the Northeast Gas Association (NGA), the American Gas Association (AGA) and the Southern Gas Association (SGA). The workshop will focus on the challenges of dealing with the impact of flood conditions on natural gas transmission and distribution operations. The objective of the workshop is to share approaches developed by industry participants and to develop consensus best practices guidelines in the areas of:

- Integrating Flood Contingencies into Gas System Design
- Flood Emergency Preparation and Coordination
- Pre-Flood System Assessment
- Operating Procedures during a Flood Event
- Post-Flood Recovery

NGA Mutual Aid:

Jose reviewed the Mutual Aid assistance provided by NGA. When a Utility contacts NGA for Mutual Aid, NGA will act as a Service Administrator. NGA will act as a contact to AGA to utilize their Mutual Aid resources.

- It was suggested that Utilities that provide Mutual Aid through NGA, list Fees/Charges for services, and OQ Qualifications. This would help to assist in budget estimates for restoration.
- Every Utility should provide two contact lists and two checklists:
  o Contact list covering normal work hours
  o Contact list covering 24-hour emergencies
Checklist: Details describing the type of work needed to be performed
Checklist: To prepare the crews for restoration work before departure.

Paul Pirro – PSE&G

PSE&G Flood Lessons Learned: Tropical Storm Floyd & Hurricane Irene:

Storm Damage:
- 17,834 Customers had gas service restored
- Over 90% were restored within 6 days
- Telephone Communication in Northern N.J. was poor after Hub Station damage
- GSIMS in Northern Zone Down for 4 Days
- Oradell Gas District Severely Damaged
- Electric Outages prevented Sump Pumps from working, causing isolated flooding

Flood Response:
- Set up 7 Command Posts at strategic locations
- Set up emergency response at police stations to handle leak requests when telephones were unavailable
- Received assistance from other District locations
- Utilized Mutual Aid from 3 NY Utilities
- Held daily teleconferences to coordinate restoration
- Set up a paperwork process for documenting restoration work when GSIMS Dispatching System was unavailable
- Solicited Distributors, Manufacturers & Industry Contacts to obtain appliance parts
- Made arrangements for Hotel Rooms & Food for Field Personnel

Lessons Learned:
- Cross-Departmental Team
- 6 Sub-teams Created:
  - Field Assessment
  - External Communications
  - Internal & Technical Communications
  - Logistics
- Technical Capabilities
- Command Center

- Cause & Effect/Fishbone Analysis
- Pareto Analysis
- Force Field Analysis
- Customer Surveys
- Recommendations Prioritized

What Went Extremely Well?

- Safety & Awareness Compliance
- Cross-Departmental Cooperation & Support
- Associate Commitment & Response
- Coordination at Command Center
- Effective Teleconferences
- Material Availability
- Mutual Aid Assistance

Recommendations:

- Develop Storm Restoration Safety Procedure
- Develop Procedure for Performing Initial/Daily Field Assessment of Flood Conditions
- Implement Process to Identify Customers Restored
- Develop Paperwork Process for Tracking Restoration Work
- Establish Procedure for Utilizing MUTUAL AID Crews
- Incorporate Storm Response in District Duty Training
- Develop operational guidelines for cross-business roles and responsibilities
- Improve Outbound Communications to Customers & Stakeholders
- Enhance Direct Communications with OEMs
- Proactively Manage the MEDIA
- Establish Criteria for Daily Teleconferences
Chris Agans – PSE&G

Flood Restoration System Reliability and Effective Restoration:

Company Profile:
- PSE&G is the largest provider of gas and electric service, servicing 1.7 million gas customers and 2.1 million electric customers
- 300 urban, suburban and rural communities, including New Jersey’s six largest cities.
- Up to 120 psi distribution operating pressures
- Largest CI system in the country
- Significant bare steel inventory
- Significant inventory of inside meter sets
- Significant inventory of sets in basements

Preparedness:
- The tools and resources to accurately forecast floods and damage
- PSE&G uses various links to track river flood projections:
  - NWS Automated Flood Warning System
  - NWS Significant River Flood Outlook - Mid Atlantic Region
  - USGS National Water Information System - Real-time Data
- Engaged leadership
- A validated flood restoration plan
  - Flexible Workforce/resources – “hold your position”
  - Contingency
  - Qualified field presence/direction
  - Trusted Leadership
  - Two way communication
  - Adequate Reporting
  - Adequate inventory
- A productive relationship with customers, municipalities and governmental agencies
- Continuous improvement
- Knowledge sharing

**Outage Complications:**
- Governmental Expectations - Local, Regional and State
- Code Officials - Qualifications/Accessibility/Availability
- Employee and Customer Health & Safety – Bacteria, Contamination, Structural Distress
- Accessibility – Site, Customer Homes, Basements, Equipment
- Timing and Other Weather Conditions
- Environmental Issues – PCBs

**Proactive Actions:**
Avoiding system shut downs and keeping water out of the main makes getting the customers restored is a lot easier.

- 2012
  - Install EFV’s
  - Validate regulator breather piping is adequately piped
  - Validate vault vents are adequately piped
  - Validate all vent post through points are adequately sealed
  - Initiate Mobile Command Center Project
- 2013
  - Include flood criteria in RM selection process
  - Start program to install approximately 2,000 EFV’s per year in moderate risk flood areas on HP services.
- 2013 and Beyond
  - Monitor new and existing flood areas for change in status
  - Manage RM and EFV installations to accomplish risk mitigation
Michael Mannix – PSE&G

Edison Training and Development Center:

Mike Mannix provided an overview of the Edison Training and Development Center. Mike outlined the following:

- Training Structure:
  - Centralized Training Center split among two locations in Edison, NJ
  - 12 Gas Instructors - share lesson plan development & training responsibilities
  - 88,800 Training Manhours per year
  - $1.1M Training Labor Cost per year
  - Documentation maintained thru SAP and Perception (EZ) Exam software

- Gas Delivery Training Process:
  - Structured Field Experience (OJT) Program – Apprentices practice hands-on skills with guidance from experienced employees
  - Field task documentation required before progressing to next classroom session
  - Front-loaded Classroom Training for major sessions

- Adjunct Instructor Program:
  - Program created to supplement Technical Training staff of instructors
  - Designated subject matter experts from each union develop & implement incumbent training at field locations

- Operator Qualification Methods:
  - Gas Distribution workforce qualified for 1/3 of Covered Tasks each year offered at centralized training center
    - Covered Tasks provided through simulations
    - Multiple simulation stations set up in one classroom
  - Appliance Service workforce qualified every 3 years at 12 District locations

- Mike Mannix provided a tour of the Training Facility with a focus on the Operator Qualification Classroom area.

RR: