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Chairman Brooks, Ranking Member Payne and members of the subcommittee, thank you for the opportunity to appear before you here today.

My name is Jorge Cardenas. I am Vice President of Asset Management and Centralized Services for Public Service Electric and Gas Company, which is New Jersey's largest utility company, best known as PSE&G.

PSE&G's service territory includes all of New Jersey's major urban areas, along a 2,600 square mile north-south corridor that hugs much of the New Jersey Turnpike. We serve some 2.2 million electric customers, and 1.8 million gas customers.

PSE&G is a subsidiary of Public Service Enterprise Group, an integrated generation and energy company headquartered in Newark, New Jersey.

I appreciate your invitation to appear at today's hearing to discuss the use of social media and technology during disaster.

Superstorm Sandy hit New Jersey hard. In our service territory, it took down 48,000 trees affecting our distribution system, destroyed 2,400 utility poles, drove walls of water into 29 of our switching and substations, and damaged gas lines and meters.

The damage, and the impact to our system, was unprecedented.

All in all, over 40,000 of our gas customers were impacted; many needing their heating systems repaired and their gas meters and regulators replaced, and 90 percent of our electric customers – almost 2 million – lost power. Restoration efforts were impeded by a forceful nor'easter that hit a week later.

The impact of the destruction and the complexity of the work that needed to be done in order to restore service made communication – of all kinds-- a key component of the Sandy recovery effort.

I'm here primarily to talk about our use of social media, but let me also note the importance of smart grid technology which makes it possible for utilities like ours to obtain critical information that can help pinpoint problems and automate restoration. Smart grid technology can

dramatically shorten the time it takes to restore service in the aftermath of a storm, and can prevent outages from becoming widespread.

That's why, in New Jersey, we have proposed a \$450 million investment in smart grid technology as part of our \$3.9 billion "Energy Strong" proposal, which will harden our system against the types of extraordinary weather events that have hit our area over the last few years.

Now I'd like to talk in more detail about our experience with social media and its value as a communications tool for a storm event like Sandy.

We already had email addresses for about 800,000 customers and almost 15,000 people in our Twitter community, and the ability to communicate directly was helpful.

We used email and Twitter in the days before Sandy to communicate about safety and to help people prepare. And, after the storm passed, we used them to explain the historic amount of damage and the Herculean effort it would take to clean up and rebuild.

We explained the importance of reporting outages and damaged equipment, and the correct method for doing so.

We supplemented the messages we typically send in a storm through traditional media outlets with a greater number of proactive outbound phone calls to customers, daily conference calls with local leaders, more frequent emails to stakeholders and a much stronger social media presence than we had ever before attempted.

We educated customers and community leaders about our inspection and restoration process for getting power to refineries, as well as heat and light to hospitals, schools, businesses and homes.

And throughout it all, we were frank about the challenges and setbacks we faced- as well as our victories.

That consistent and transparent dialogue helped our customers and the communities we serve set expectations and plan appropriately.

We not only listened and pushed out valuable information- we talked with people. And that was a differentiator.

For our part, we're proud of the speed and flexibility with which we ramped up, our ability to adapt to the magnitude of the situation, the volume of interactions we handled via social media and the intense and sustained nature of our efforts.

While we had historically used social media only during business hours and with a small group of people at the helm, we quickly staffed up and, for seventeen days, staffed our Twitter feeds fifteen hours a day, seven days a week.

We used Twitter to send word about the daily locations of our giant tents and generators- which allowed customers in hard-hit areas to charge their electronic equipment and get free ice, water and food.

We sent more than 9,000 messages (more than 500 a day) and saw some 90,000 directed at us.

When the volume of inbound tweets became too great to us to reply to each individually, we responded to messages about safety and offered comment when we felt it could benefit a broad audience.

At one point during the storm, we sent so many tweets to alert customers, we exceeded the amount of tweets allowed per day. Through our utility contacts, we reached the leadership of Twitter to expand our capacity. A lesson learned for the next storm.

We gained almost 47,000 followers during this time, and exited the Superstorm with the largest Twitter community of any utility in the United States.

Our innovative use of social media was certainly noticed. In a recent report, JD Power and Associates mentioned our use of Twitter during Sandy as a best practice, citing our “industry-leading communications success.”

And CS Week, a nonprofit that focuses on customer service for utilities, recently gave PSE&G an award for “Innovation in Customer Service” for its use of social media during Sandy.

While we are back to a more reasonable pace now, we are now more convinced than ever about the power and importance of social media—especially in times of emergency.

We continue to build and engage our online communities with the understanding that “blue sky days” are different than those marked by crises, and social media and mobile technology are an increasingly important part our communications strategy.

Here are some other things we learned:

- 1. Mobile technology is a game changer.** More than half of Americans have a smart phone, and more and more people – in almost every age demographic- are active on social media.
- 2. People have an increasing and insatiable need to be connected.** Even more so in times of emergency. They want to be heard, to be validated, to help and to influence. Understanding that, and honoring it, is key to creating community and getting through crises.
- 3. The number of people on social media spikes in times of disaster.** People flock to Twitter and Facebook and the like because they are searching for immediate information that they can't get via traditional broadcast channels. And the big social media platforms are all mobile-optimized.
- 4. Engaging influencers is critical.** It's just as important to grow the influence of your online community as it is to grow the size. Connecting with people who have credibility and influence in their local communities is critical to an organization's ability to spread its message outside of its own networks, and increase the effectiveness of the communication.
- 5. The public respects and rewards consistent, transparent interaction and cooperation between the private sector and community leaders.** During Sandy we used Twitter to amplify messages from municipal and state officials, police departments, Offices of

Emergency Management and social service agencies- and that was integral in getting valuable information to those who needed it when it was needed.

6. **Tone matters.** People respect a social media effort that is continuously empathetic, authentic and helpful.
7. **Public notes of appreciation matter too, especially to the fiercely proud people who work in the utility industry.** We regard ourselves as first responders, and supportive messages can go a long way with a weary employee base in need of a morale boost.

So – how do we build on this experience at PSE&G?

Today our customers can access outage maps on our website and get information about safety and our outage reporting and restoration processes.

We are optimizing these pages and other parts of our website so that they can be more easily utilized via smart phones.

While we have some exciting new texting capabilities, we are looking to enrich our offerings even further so that customers can report their outages via text and get updates from us as we make progress on restoring their service.

And we are working on developing separate web pages for each of the municipalities we serve, which will provide localized information including an estimated time of restoration for specific geographic areas.

Sandy reminded us how important it is to continue to improve our ability to communicate in an increasingly 24/7, connected and cyber-savvy world. We continue to work with our peers both within the energy industry and in other industries to learn and develop best practices.

While I work for the utility company, it is worth noting for this committee that the generation side of our business has begun incorporating social media into its emergency planning.

Working with the Nuclear Energy Institute, PSEG Nuclear has begun to transform its existing news center operations into a virtual joint information system (JIS).

The virtual JIS would incorporate social media platforms and a dark website to share information with the public in the event of a nuclear plant emergency.

The plan incorporates NEI's lessons learned through the tragedy in Japan as well as PSEG's learnings from Superstorm Sandy.

This process is being developed with support from the New Jersey Office of Emergency Management as well as the Delaware Emergency Management Agency. It would also meet requirements established by the Federal Emergency Management Agency.

Finally, I want to thank Congressman Payne for his bill which calls for a National Research Council study that could help our industry use digital information to improve reliability and resiliency, and help us understand our vulnerabilities as they relate to cyber attack.

In closing, changing weather patterns and an increased dependence on electricity require us to rethink the use of communications technology throughout our operations. Social media certainly has an increased role to play in the dissemination of emergency and disaster information.

And when we think about how to make our grid more resilient, it is smart-grid technology that allows our equipment to “talk” – giving critical pieces the ability to automatically locate, isolate, diagnose and begin to address problems- which helps us keep the lights on.

Thank you again for the opportunity to testify this morning, and I’d be happy to take any questions.