# Preparing PSE&G's infrastructure for the future

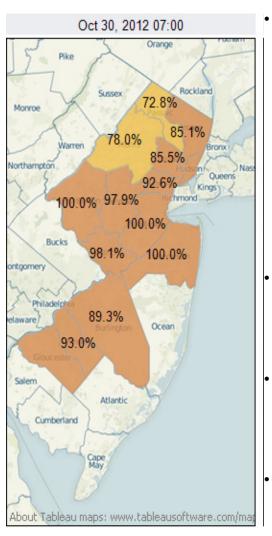
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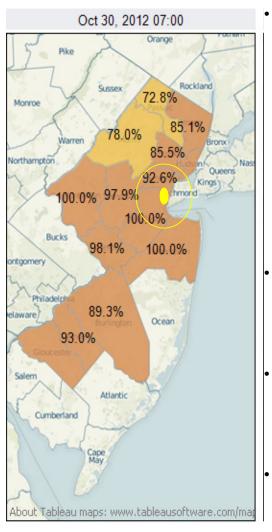


## **Superstorm Sandy Impacts and Response**



- Superstorm Sandy Impacts
  - 1.98 million Customers impacted
  - 90% lost power during the event
  - 14 Switching Stations affected 33%
  - 51 transmission lines affected 33%
  - 96 PSE&G Substations impacted 39%
- Immediately focused on prioritizing transmission lines to be reenergized to restore switching and substations with the largest customer counts
- Work began immediately after flood waters receded at the stations and once wind gusts dropped below 40 mph in the divisions
- Estimated cost of restoration: \$250 \$300M

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#### **Sewaren Switching Station**



- Located adjacent to the Arthur Kill
- Contains four switch yards; a 26kV, a 138kV, a 230kV and a fourth associated with the generating station
- Serves Woodbridge, Perth Amboy, and surrounding towns
- Powers the neighboring Hess oil refinery and similar industrial customers.
- Superstorm Sandy pushed six feet of the Arthur Kill into the Sewaren complex
- Receding water left behind weeks of clean-up work

## **Sewaren After Superstorm Sandy**









## The Rest of New Jersey After Sandy





## Reliability Isn't Enough Anymore

- We're proud of being named the most reliable utility in the country in 5 of the past 8 years, including 2012.
- And the region's most reliable for the past 11 consecutive years.
- But, the extremes of weather we're now seeing on an increasingly frequent basis require a new level of resiliency to natural disaster that wasn't needed in the past.

We need to " Strong.



them Energy

## **Energy Strong – Long Term Benefits**



- Proposed investments will maximize our ability to respond to and recover from future severe weather events through system hardening and resiliency measures.
- System hardening will make electric and gas infrastructure less susceptible to storm damage, from high winds, flying debris, storm surge and flooding.

# **Energy Strong: Strengthening our System for the Future**

- Filed on February 20, 2013 with NJ BPU.
- \$3.9 billion investment over 10 years to make distribution systems more resilient to natural disasters.
  - \$2.6 billion in critical upgrades during the next five years — including protecting Sewaren and 30 other switching and substations
  - Potential to invest an additional \$1.3 billion dollars in the subsequent five years.

#### Energy Strong also would provide funding ...

- To replace and modernize 750 miles of low-pressure cast iron gas mains in or near flood areas.
- To deploy smart grid technologies to better monitor system operations to increase our ability to swiftly make repairs.
- To improve pole distribution systems.
- To create additional redundancy in the system, reducing outages when damage occurs.
- To protect 9 natural gas metering stations and a liquefied natural gas station affected by Sandy or located in flood zones.
- To move select miles of overhead electric distribution lines underground.

# The Time is Right

#### Ten Year Window

- Deregulation charges expiring in 2014 and 2016 will cover the cost of electric infrastructure investment.
- Low natural gas prices and available labor make this the right time.
- The costs of these investments will be spread out over the 40- to 60-year life of the assets.

#### Economic benefits

- Hardened infrastructure is a differentiator for New Jersey
- If approved, Energy Strong will create 5,800 jobs.
- Energy Strong helps support New Jersey's economy.