PSE&G Examples of Supplemental Projects

Thermo-mechanical Movement–Thermo-mechanical Bending

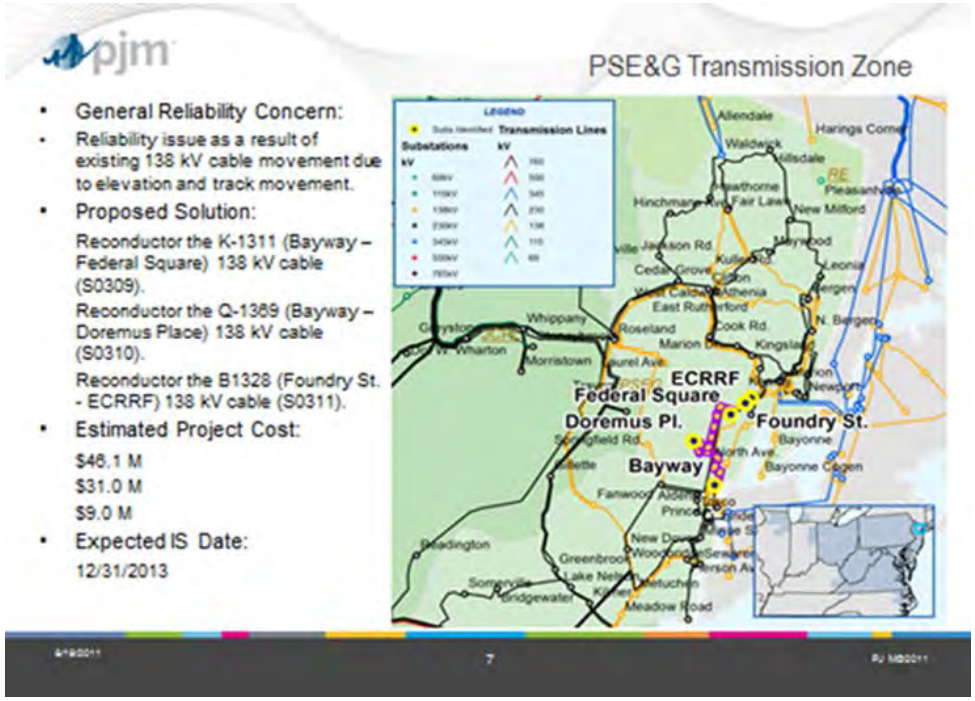
A sampling of recent projects…

s0309	K-1311: Bayway – Federal Sq 138kV	In-Service
s0310	Q-1369: Bayway – Doremus Place 138kV	In-Service
s0294	L-1364: Kuller Road to Fairlawn 138kV	12/31/2016
s0687	N-1366: Doremus Place - Newark Sw. 138 kV	5/31/2016
s0688	B-1328/C-1355: Foundry St. - ECRRF - Essex 138 kV	12/31/2018

- To address TMM/TMB, circuits were reconductored and secured.
- Paper-propylene-paper (PPP) insulation allows large conductors to be installed in existing pipes.
- Old circuits were 2000kcmil, new are 3000 or 3500kcmil. The larger size increases the rating.
- The increased rating may allow for the delay of reliability projects and or reduce congestion by providing additional capacity.

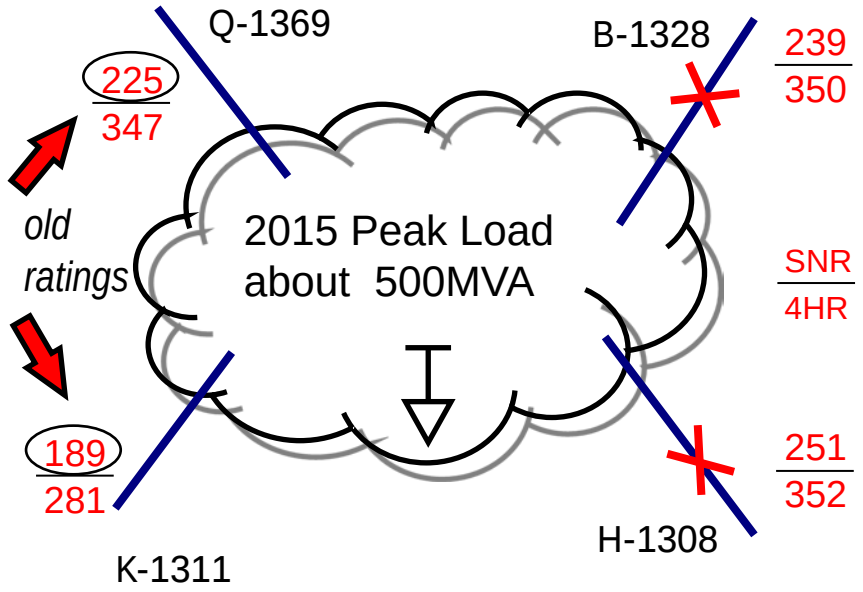
Example of cable replacement delaying a project

s0309/s0310 projects facilitated the delay of the Newark load project by 2-3 years



Newark – Federal Sq – Foundry St – Doremus Pl Load Pocket

Reliability criteria requires the pocket to withstand the outage of two circuits...



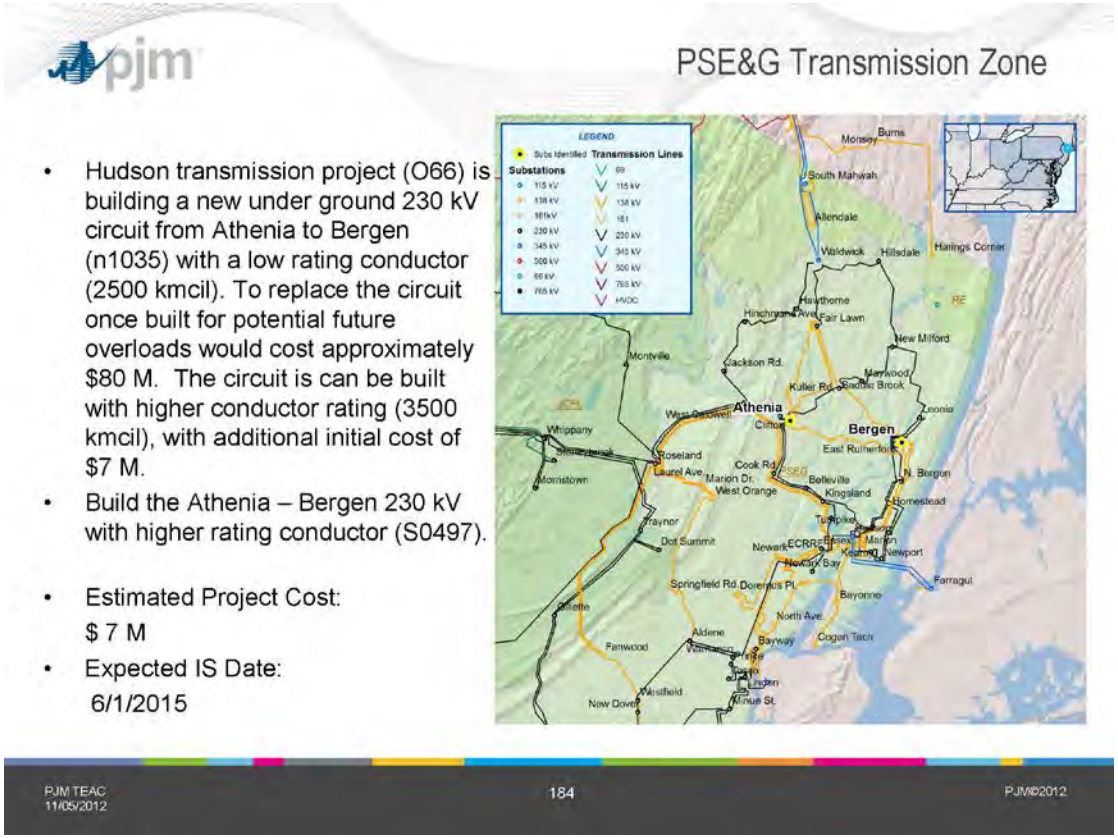
- ❑ New K-1311 has a rating of 280/466MVA
- ❑ New Q-1369 has a rating of 283/412MVA

...leaving a transmission supply capacity of *414MVA*.

Additional Cable Capacity

s0497 Build the Athenia-Bergen 230 kV with higher rating conductor 5/15/2016

- ❑ The existing Q-2217 and the F-2337 cables parallel the new Athenia-Bergen circuit.
- ❑ The O66 Project required a rating of 305MVA; however, the existing parallel cables are 468 and 502MVA respectively.
- ❑ The new cable would become a limit in the future with a replacement cost of $80M. The higher rating will also eliminate potential congestion.



This higher circuit rating allows for greater west to east transfers in Northern PSE&G.