

RTEP retool due to withdrawal of projects A17, B48, D25, G02, G35, and I22 and the change of project I11 from 500 MW capacity to 300 MW capacity and 150 MW energy and the change in the direct connection of project G51 W60

Network Impacts

The system, as planned, was evaluated for compliance with reliability criteria due to the withdrawal of six generation projects (A17, B48, D25, G02, G35 and I22), the change of project I11 from 500 MW capacity to 300 MW capacity and 150 MW energy and a change in the direct connection of project G51_W60 . The results of the retool are summarized below. Results for the merchant transmission projects G07, G22 and G32 will be posted separately as addendums to their impact study reports due to the extent of changes required.

Single Contingency (MAAC Criteria II A)

No identified problems.

Second Contingency (MAAC Criteria IIB)

No problems identified

Multiple Facility Contingency (MAAC Criteria IIC)

No problems identified

Generator Deliverability

The Conastone 500/230 kV transformer is overloaded for the outage of the other Conastone 500/230 kV transformer. The cost allocation for impacted projects is provided below.

Stability (MAAC Criteria IV)

No problems identified

CETO/CETL (MAAC Criteria III/VIIB)

No problem identified

Short Circuit

No problems identified

New System Reinforcements

The overload of the Conastone 500/230 kV transformer can be mitigated by installing a third identical Conastone 500/230 kV transformer. The estimated cost for installing the third Conastone 500/230 kV transformer is \$16.2 million (without CIAC tax) and is estimated to take 1 year to complete. This amount includes the addition of a new 500 kV breaker at Conastone 500 kV, two new 230 kV breakers at Conastone 230 kV and the replacement of four breakers at Conastone 230 kV. By installing the third 500/230 kV transformer, a second TMI 500/230 kV transformer previously identified for project #C13 is no longer required.

System Reinforcements No Longer Required*

#	<u>System Upgrades</u>
40	Upgrade Linden - Minue St. "G" 230 kV
41	Reconductor Sewaren - Woodbridge "O" 138 kV with 1033 ACSS
44	Reconductor Sewaren - Woodbridge "V" 138 kV with 1033 ACSS
47	Install a 1.7% reactor at Aldene substation
98	Replace Linden 230 kV circuit breaker #2-6
127	Reconductor B48 - Graceton 230 kV
249	Rebuild the Graceton - Raphael 230kv circuit
252	Add a second 500/230 KV Transformer at TMI
254	Reconductor Linden-Minue St. "R" 230KV with 1590 ACSS
304	Energize the Second 230/69 KV Transformer at Sickler and Upgrade the Sickler-Tansboro 69KV circuit
347	Upgrade the Cardiff-Lewis 69 kV circuit
348	Upgrade New Freedom 230KV Breaker #BS 7-8

349	Upgrade New Freedom 230KV Breaker #BS 1-7
350	Upgrade New Freedom 230KV Breaker #BS 9-10
351	Upgrade New Freedom 230KV Breaker #BS 1-5
352	Upgrade New Freedom 230KV Breaker # 1-9

* The need for upgrade #s 258-284, which involve upgrading 13 breakers at Dickerson Station “H” and replacing 14 breakers at Dickerson Station “D” , is currently under investigation.

Cost allocation changes

#	<u>System Upgrades</u>	<u>Cost Estimate (\$ Millions)</u>								
			<u>A04</u>	<u>A52</u>	<u>C13</u>	<u>E21</u>	<u>G51 W60</u>	<u>G51 W62</u>	<u>I11</u>	
86	Replace Linden 230 kV circuit breaker #5-6	0.475		100%						
99	Upgrade Deans 230 kV breaker #7-8	0.095		100%						
112	Upgrade Deans 230 kV breaker #1-5	0.095	100%							
113	Upgrade Deans 230 kV breaker #1-7	0.095	100%							
114	Upgrade Deans 230 kV breaker #1-9	0.095	100%							
252	Replace a terminal equipment on Conastone- Peach Bottom 500kV	0.05			6%	56%				38%
294	Install 200 MVAR SVC at Juniata 500 KV substation	24.7					28%		72%	
358	Add a third 500/230 KV Transformer at Conastone	16.2			100%					