First Addendum To 2005 Baseline RTEP Report

Addendum per the presentation at the May 23, 2006 TEAC:

1. The single contingency involving the loss of the Dooms – Grottoes 230 kV circuit, Grottoes 230/115 kV transformer and Harrisonburg – Dayton – Valley 230 kV circuit results in an overload on the Staunton – Verona 115 kV circuit at 172%. The recommended solution is to build second Harrisonburg – Valley 230 kV by June 2010. The estimated cost is $5 million.
2. The single contingency involving the loss of Whealton – Shell Bank 115 kV circuit and Shell Bank 230/115 kV transformer results in an overload on the Peninsula – Magruder 115 kV circuit at 150% under the 2010 generation deliverability test. The recommended solution is to reconductor one span of the Peninsula – Magruder 115 kV circuit by June 2010. The estimated cost is $0.05 million.
3. The single contingency involving the loss of the Trowbridge – Weyerhaeuser 115 kV and Winfall 230/115 kV transformer results in an overload on the Trowbridge 230/115 kV transformer at 131% under the 2010 generation deliverability test. The recommended solution is to replace the Trowbridge 230/115 kV transformer by June 2010. The estimated cost is $3.0 million.
4. The N-2 contingency involving the loss of the Sewaren 230/138 kV transformer and Brunswick – Edison 138 kV circuit results in an overload on the Lafayette Rd. – Metuchen 138 kV circuit under the 2010 N-2 test. The recommended solution is to close the normally open tie breaker 1-3 and replace five breakers at Metuchen 138 kV substation by June 2010. The estimated cost is $2.25 million.
5. The N-2 contingency involving the loss of Athenia 230/138 kV transformer coupled with numerous other contingencies results in an overload on circuits around Athenia vicinity under the 2010 N-2 test. The recommended solution is to close the normally open bus tie 1-2 and replace two breakers at Athenia 138 kV substation by June 2010. The estimated cost is $0.75 million.
6. The single contingency involving the loss of either one of the Burtonsville – Sandy Springs 230 kV circuit results in an overload on the other Burtonsville – Sandy Springs 230 kV circuit at 102% under the 2010 generation deliverability test. The recommended solution is to upgrade the overloaded circuits by June 2010. The estimated cost is $0.4 million.
7. Various voltage violations identified across Mid Atlantic region for loss of several 500 kV circuits and generators under the 2010 load deliverability test for Mid Atlantic region. The recommended solution is to install 100 MVAR reactive device at Airydale 500 kV substation by June 2010. The estimated cost is $8.0 million.
8. The single contingency involving the loss of the Indian River – Robinsville 138 kV results in an overload on the Indian River – Millsboro 69 kV at 106% under the 2010 load deliverability test for DPL zone. The recommended solution is to build a new substation by tapping the second Milford – Indian River 230 kV

circuit, install 230/69 kV transformer and build a new 69 kV circuit from the new station to Harbeson by June 2010. The estimated cost is $13 million.

9. The single contingency involving the loss of the Yukon – South Bend 500 kV circuit and the Yukon 500/138 kV transformers #1 and #3 results in an overload on the Yukon 500/138 transformer #4 at 107% under the 2010 generation deliverability test. The recommended solution is to install a new Prexy 500 kV substation and build a new Prexy – 502 Junction 500 kV circuit by June 2010. The estimated cost is $120 million.
    - The above recommendation also resolves the numerous thermal and voltage violations identified on the Alleghney Power 138 kV system under the 2011 N-2 test.
10. The following circuits are overloaded under the 2010 generation deliverability test:
    - The Lisle – York 138 kV "Blue" circuit is contingency overloaded at 113% for the loss of the Itasca – Lombard 345 kV, Electric Junction – Lombard 345 kV and associated equipments.
    - The Lisle – York 138 kV "Red" circuit is contingency overloaded at 114% for the loss of the Electric Junction – Fermi Lab 345 kV, Fermi Lab – Lombard 345 kV and associated equipments.

    The recommended solution is to reconductor the 10301 and 10302 Lisle – Lombard 138 kV circuits by June 2010. The estimated cost is $2 million.
11. The contingency involving the loss of the Goodings Grove – Blue Island – Wilton Center 345 kV, Blue Island – Burnham 345 kV and associated equipments results in an overload on the Burnham – Wildwood 17713 138 kV and the Wildwood – Beverly Tap 7611 circuits at 120% under the 2010 generation deliverability test. The recommended solution is to reconductor the Burnham – Wildwood 17713 138 kV and the Wildwood – Beverly Tap 7611 circuits (about 6.9 miles total) by June 2010. The estimated cost is $7.0 million.
12. The single contingency involving the loss of the Amos – Kanawah 345 kV circuit and Amos 345/138 kV transformer #8 results in an overload on the Amos 345/138 kV transformer #7 at 102% under the 2010 generation deliverability test. The recommended solution is to install a new 765/138 kV transformer by June 2010. The estimated cost is $13.4 million.
13. The contingency involving the loss of the Lanexa – Dunnsville – Northern Neck 230 kV circuit and the Harmony 230/115 kV transformer results in an overload in the Shackle – Harmony 115 kV transformer at 139% under the 2010 generation deliverability test. The recommended solution is to install a 115 kV breaker at Norhtern Neck substation by June 2006. The estimated cost is $0.5 million.

Addendum per the presentation at the October 30, 2006 TEAC:

14. The line fault stuck breaker contingency involving the loss of the Kammer – South Canton 500 kV circuit and associated equipments at Kammer and South Canton 500kV substations results in an overload on the Harrison – Belmont 500 kV circuit at 102%. The recommended solution is to replace terminal equipments

at Harrison and Belmont 500 kV substations by June 2010. The estimated cost is $0.09 million.

15. The line fault stuck breaker contingency involving the loss of the Keystone – Cabot 500kV circuit and Cabot 500/138 kV transformer # 2 and #4 results in an overload on the Cabot 500/138 kV transformer #1 at 101%. The recommended solution is to install a breaker failure auto-restoration scheme at Cabot 500 kV substation by June 2010.
16. The line fault stuck breaker contingency involving the loss of the Bedington – Doubs 500 kV circuit and the Bedington 500/138 kV transformers #2 and #4 results in an overload on the Bedington 500/138 kV transformers # 1 and #3 at 125%. The recommended solution is to install a breaker failure auto-restoration scheme at Bedington 500 kV substation by June 2010.
17. The line fault stuck breaker contingency involving the loss of the Hatfield – Ronco 500 kV circuit and Hatfield generating unit #1 results in an overload on the Black Oak 500/138 kV transformer #3 at 114%. The recommended solution is to implement an operating procedure to open the Black Oak 500/138 kV transformer #3 for this contingency by June 2010.
18. The contingency involving the loss of Electric Junction – Dresden, Electric Junction – Aurora, Electric Junction – Plano 345 kV circuits and Dresden 345/138 kV transformer results in an overload on the Wolfs – Frontenac 138 kV circuit at 122%. The recommended solution is to reconductor 2.8 miles of the 14310 Wolfs – Frontenac 138 kV circuit by June 2010. The estimated cost is $3.0 million.
19. The single contingency involving the loss of the Black Oak – Bedington 500 kV circuit results in an overload on the Pruntytown – Mt. Storm 500 kV circuit under the 2010 generation deliverability test. The recommended solution is to retension 1/10 miles of the Pruntytown – Mt. Storm 500 kV circuit by June 2010.
20. The single contingency involving the loss of the Linden – Bayway 230 kV circuit and Bayway 230/138 kV transformers #1 and #2 results in an overload on the Linden – North Avenue 138 kV circuit under the 2010 generation deliverability test. The recommended solution is to re-configure the Bayway 138 kV substation by June 2010. The estimated cost is $1.5 million.