Generation Deactivation Notification Update

Transmission Expansion Advisory Committee
July 7, 2020
### Deactivation Status

<table>
<thead>
<tr>
<th>Unit(s)</th>
<th>Transmission Zone</th>
<th>Requested Deactivation Date</th>
<th>PJM Reliability Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dickerson 1, 2, and 3 (545 MW)</td>
<td>PEPCO</td>
<td>08/13/2020</td>
<td>Reliability analysis Complete. Existing baseline revolves identified impact. Unit can retire as scheduled.</td>
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</tbody>
</table>
Problem Statement: Generation Deliverability for Dickerson 1, 2, and 3

Messick Rd. – Ridgeley 138 kV line is overloaded for the following scenarios.

- Breaker failure contingency for loss of Bedington - Black Oak 500 kV line and Bedington 500/138 kV Transformers 1&3
- Breaker failure contingency for loss of Bedington - Black Oak 500 kV line, Bedington 500/138 kV Transformers 2&4, and Capacitor Bank at Bedington 500 kV bus

Recommended Solution (B3158):
Replace line relays on the Ridgeley Terminal at Messick Rd. 138 kV Substation.

- Existing Scope Rating: 221 MVA SN / 229 MVA SE
- New Scope Rating: 221 MVA SN / 268 MVA SE

Estimated Project Cost: $0.14M
Original Required IS Date: 12/1/2024
Newly required IS Date: 08/13/2020
Projected IS date: 06/01/2021
Additional Problem Statement: N-1-1 voltage violations - FERC 715 AEP criteria violation

Original TEAC Date: 10/17/2019
Deactivation units: Buchanan 1 and 2 (80MW)
Requested Deactivation Date: 06/01/2023

Richland, Whitewood, Shack Mills, Grassy Creek, Buchanan, Keen Mountain 138 kV buses became radial line connection for the following N-1-1 contingencies:

- Broadford - Claypool Hill and Claypool Hill – Richland 138 kV.
- Hales Branch - Garden Creek and Hales Branch – Shack Mills 138 kV along with loss of Hales Branch 69 kV bus.

As a result, these radial connected 138 kV buses, and 69 kV buses through Richland 138 kV bus have voltage magnitude and drop violations.

Recommended Solution (B3220):

- Install 14.4 MVAR Capacitor Bank at Whitewood 138 KV

Estimated Project Cost: $1.2M
Required IS Date: 06/01/2023
Projected IS Date: 12/31/2022
The following pending resolution upgrade is required due to executed AB2-093 ISA

- B3085 (AEP) - Conductor Kammer – George Washington 138 kV line (~0.08 mile) and replace wavetrap at Kammer 138 kV bus
- Current rating: SN 296 MVA / SE 398 MVA
- New rating: SN 389 MVA / SE 550 MVA

Estimated Project Cost: $0.5M
Required IS Date: 06/01/2022
Projected IS Date: 06/01/2022
3/28/2018: First Energy announces deactivation of Davis Besse 1, Perry 1, and Beaver Valley 1-2

8/29/2018: First Energy announces deactivation of Eastlake 6, Sammis 5-7, Sammis Diesel, and Mansfield 1-3

7/29/2019: First Energy announces reinstatement of Davis Besse 1, Perry 1, and Sammis 5-7

3/13/2020: First Energy announces reinstatement of Beaver Valley 1-2
• V1 - 06/30/20 - Original slides posted
• V2 – 07/02/20 – Baseline number was corrected from B3065 to B3085 for slide 6 and 7.