

## #N01 Graceton – Nottingham 550 MW Generation Interconnection

This analysis was completed to assess the reliability impact for a new generator interconnecting to the PJM system as a Capacity resource.

### Network Impacts - 550 MW Capacity Injection

The system, as planned, was evaluated for compliance with reliability criteria. **The #N01 Graceton – Nottingham project was studied as an 550 MW Capacity injection into the Graceton – Nottingham 230 kV line.** The results are summarized below.

#### Generator Deliverability

1. The Graceton – N01 tap 230 kV circuit is overloaded at **120%** of its emergency rating for the outage of the Conastone – Peach Bottom 500 kV circuit. The N01 project contributes approximately 455 MW to the contingency facility loading.
2. The Graceton – Raphael 230 kV circuit is overloaded at **105%** of its emergency rating for the outage of the Brighton – Conastone 500 kV circuit. The N01 project contributes approximately 104 MW to the contingency facility loading.
3. The Northwest – Conastone 230 kV circuit (#2322) is overloaded at **104%** of its emergency rating for the outage of the Brighton – Conastone 500 kV circuit. The N01 project contributes approximately 27 MW to the contingency facility loading.

#### Multiple Facility Contingency – Tower Line Outages (MAAC Criteria IIC)

1. The Northwest – Conastone 230 kV (#2322) circuit is overloaded at **104%** of its emergency rating for the Brighton – Conastone and Brighton – Doubs 500 kV tower line outage. The N01 project contributes approximately 25 MW to the contingency facility loading.
2. The Graceton – Raphael 230 kV circuit is overloaded at **115%** of its emergency rating for the Conastone -- Northwest 230 kV tower line outage. The N01 project contributes approximately 119 MW to the contingency facility loading.

#### New System Reinforcements

1. Reconductor Graceton – N01 230 kV circuit. Estimated cost is \$1,615,000 and it is expected to take approximately 3 years to complete.
2. Reconductor Graceton – Raphael 230 kV circuit. Estimated cost is \$12,700,000 and it is expected to take approximately 3 years to complete.
3. Reconductor Northwest – Conastone (#2322) 230 kV circuit. Estimated cost is \$7,700,000 and it is expected to take 3 years to complete.

#### Contribution to Previously Identified System Reinforcements

None