



Oncor – Roanoke Area Upgrades – ERCOT Independent Review Status Update

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Regional Planning Group

June 15, 2022

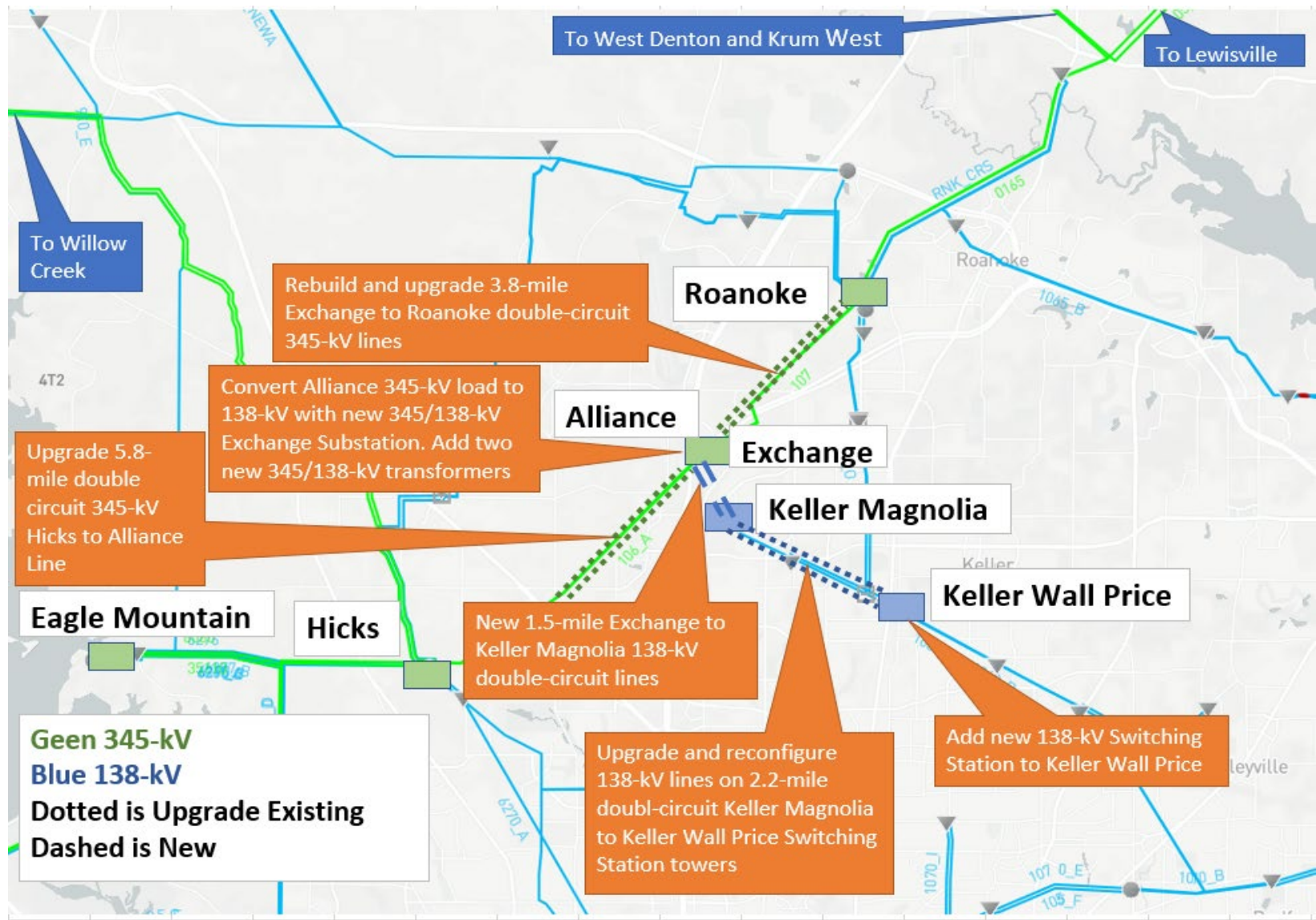
Recap

- **Oncor submitted the Roanoke Area Upgrade Project for Regional Planning Group review in February 2022. This is a Tier 1 project that is estimated to cost \$285.9 million**
 - Proposed for May 2025. Oncor has expressed a need for “critical status designation”
 - Address rapid load growth in Roanoke area, existing capacity limitations and forecasted thermal and voltage violations
 - Increase thermal capacity and operational flexibility in Roanoke area

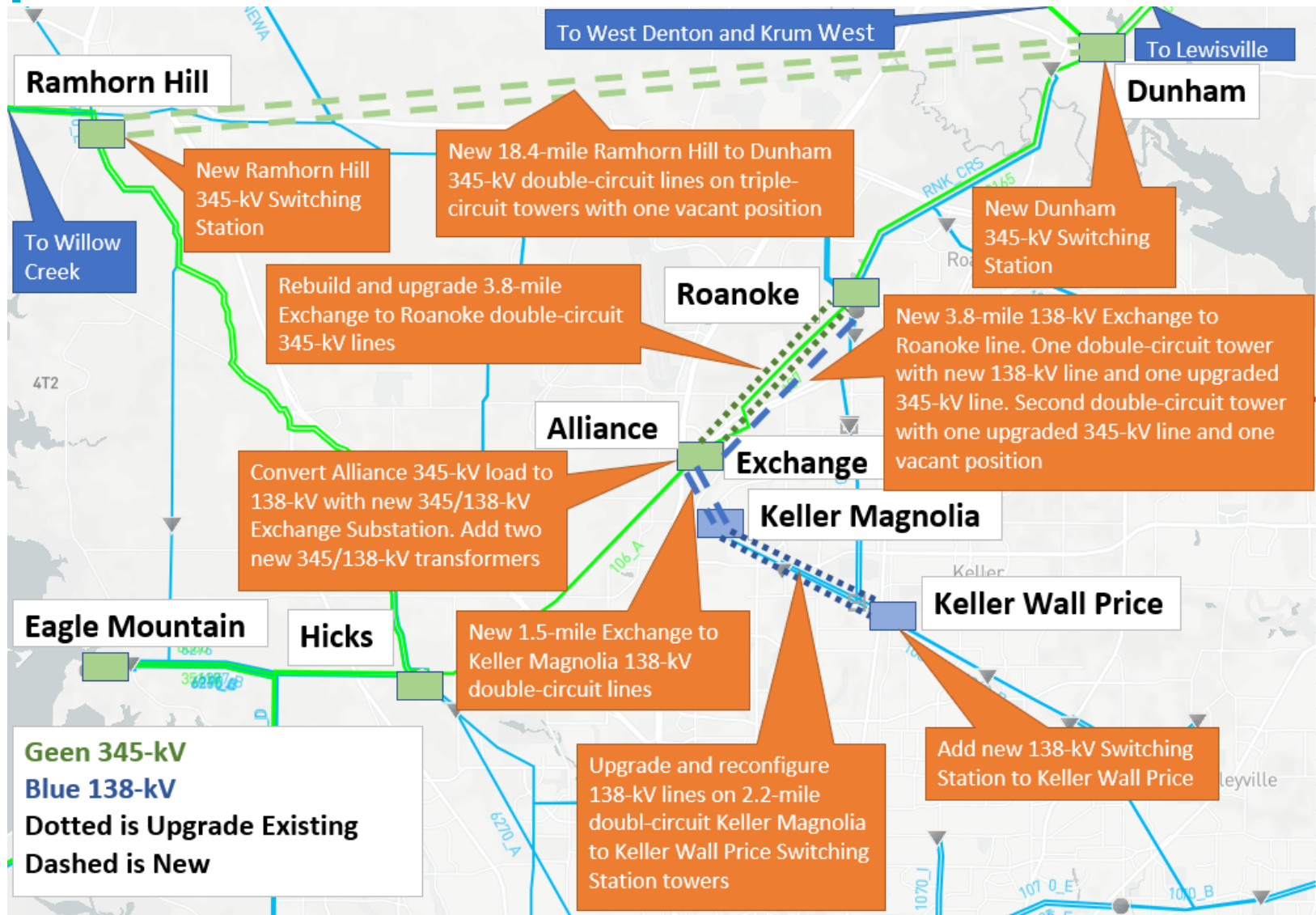
Recap - continued

- **March RPG presented Scope:**
 - https://www.ercot.com/files/docs/2022/03/11/Oncor_Roanoke_Area_Upgrades_EIR_Scope_03_15_2022.pdf
- **April RPG presented Need:**
 - https://www.ercot.com/files/docs/2022/04/07/Oncor_Roanoke_Area_Upgrades_EIR_Status.pdf
- **May RPG presented Initial Options:**
 - https://www.ercot.com/files/docs/2022/05/12/Oncor_Roanoke_Area_Upgrades_EIR_Status.pdf
- **June RPG:**
 - Present Additional Option
 - Discuss Maintenance Assessment Assumptions and Findings
 - Discuss Next Steps

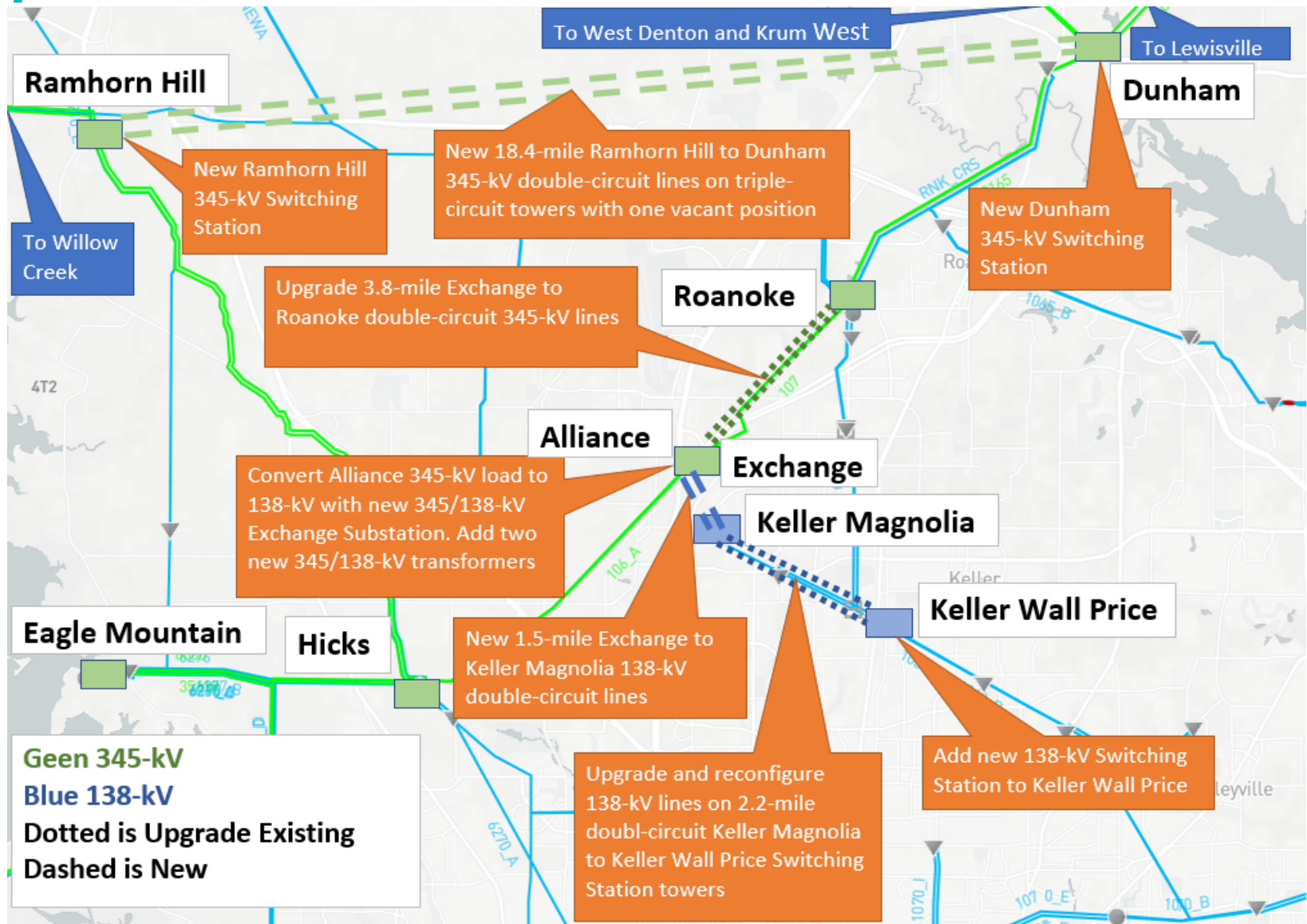
Option 1



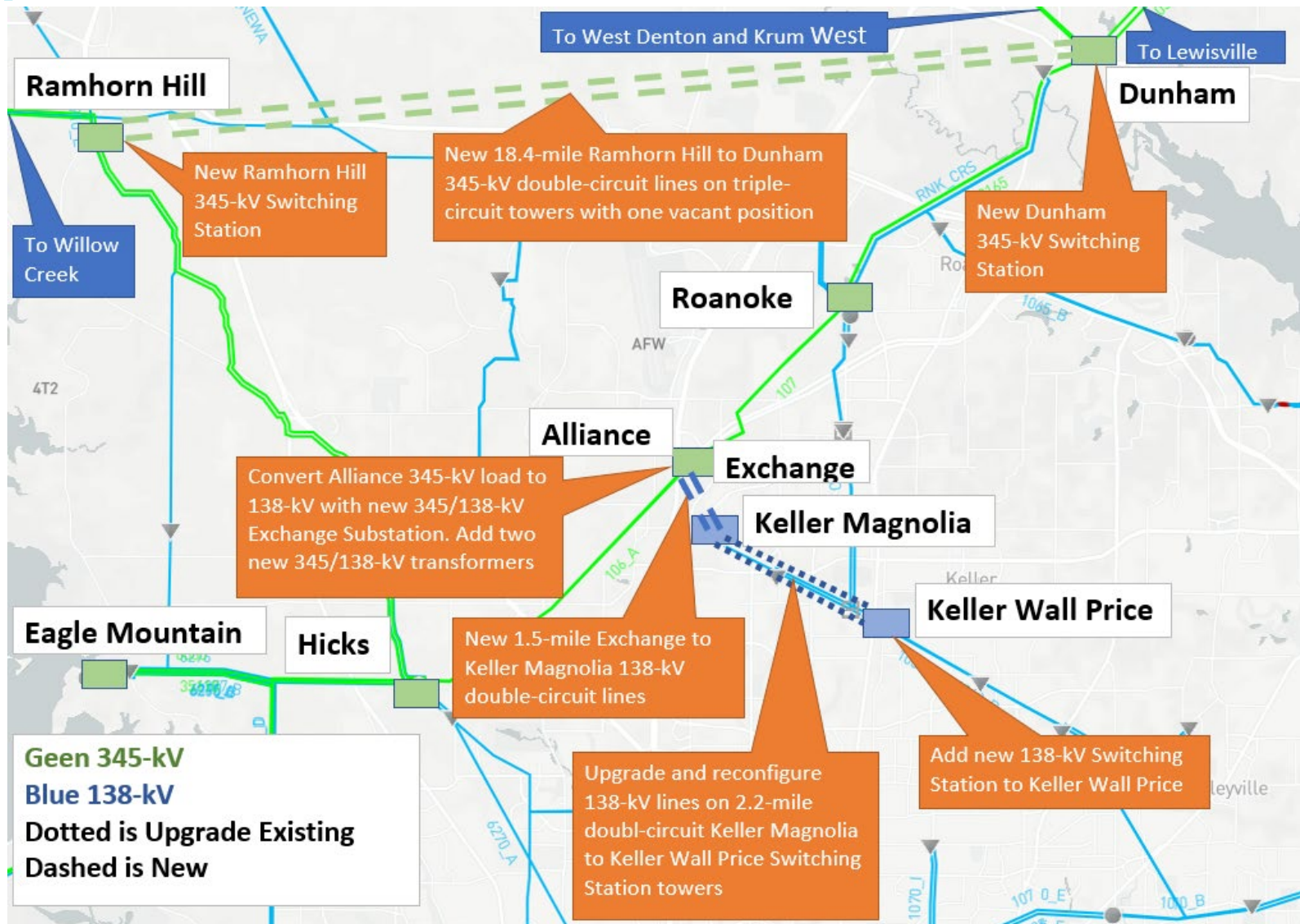
Option 2



Option 3



Option 4



Reliability Assessment for short-listed Options

	N-1		X-1 N-1		G-1 N-1	
	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations
Option 1	Yes	No	Yes*	No	No	No
Option 2	No	No	No	No	No	No
Option 3	No	No	No	No	No	No
Option 4	No	No	No	No	No	No

*Correction from May 17, 2022, RPG presentation:

One 345/138-kV transformer overload for Option 1

Option 1 eliminated to create short-listed options

Maintenance Outage Assumptions

- **Load adjusted to reflect off-peak system condition**
 - North Central weather zone load adjusted only
 - Base on review of 2019 thru 2021 historic load data
 - Adjustment set to 89.3% of North Central weather zone summer peak load
- **Prior Outages**
 - Based on input from TSP
 - Included select single circuit prior outages
 - Included select double circuit common tower prior outages
 - Total of 29 prior outages were considered
 - Security Constrained Optimal Power Flow (SCOPF) applied as post-prior outage adjustment for each individual prior outage scenario

Preliminary Maintenance Assessments for short-listed Options

	Planned Maintenance Single Circuit Prior Outage Study	
	Thermal Violations	Voltage Stability
Option 2	No	ok
Option 3	No	ok
Option 4	No	ok

	Planned Maintenance Double Circuit Prior Outage Study	
	Thermal Violations	Voltage Stability
Option 2	No*	ok
Option 3	No*	ok
Option 4	No*	ok

*Terminal upgrade may be needed at Argyle to Corinth 138-kV line

Preliminary Maintenance Assessments for short-listed Options – cont.

	Planned Maintenance TSP Requested Scenario (X-1)(Double-Circuit Line Segment)	
	Thermal Violations	Voltage Stability
Option 2	No	ok
Option 3	Yes*	ok
Option 4	Yes*	ok

*Roanoke 345/138-kV transformer overload

Next Steps

- **Project Evaluation**
 - ERCOT may also perform the following studies:
 - Long-term Load Serving Capability Assessment
 - Dynamic stability impact
- **Generation and Load Scaling Sensitivity Analyses**
 - Planning Guide Section 3.1.3(4)
- **Subsynchronous Resonance (SSR) Assessment**
 - Nodal Protocol Section 3.22.1.3(2)
- **Congestion Analysis**
 - Congestion analysis will be performed to ensure that the identified transmission upgrades do not result in new congestion within the study area

Deliverables

- **Tentative Timeline**
 - Final recommendation – July 2022 RPG
 - Final Report – August 2022



Stakeholder Comments Also Welcomed to Sun Wook Kang:
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