



**LCRA TSC Hays Energy – Kendall Corridor
Transmission Line Rehabilitation Projects
– ERCOT Independent Review Final Update**

Tanzila Ahmed
System Development, Transmission Planning

Regional Planning Group
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Recap

- **LCRA TSC submitted the Hays Energy – Kendall Corridor Transmission Line Rehabilitation Projects for Regional Planning Group review and comment in March 2022. The projects are submitted as Tier 3 with the estimated cost of \$399.9 million**
 - Rebuild the 345-kV and 138-kV double-circuit transmission line from Hays Energy to Kendall
 - Addresses the need to rehabilitate aging transmission infrastructures
 - Proposed project completion dates range from May 2024 to May 2025
- **ERCOT determined to categorize this as a Tier 1 project**
 - It is more appropriately considered to a single project
 - The estimated costs of these projects exceed \$100 million
- **ERCOT provided study scope during May 2022 RPG meeting**
 - https://www.ercot.com/files/docs/2022/05/12/EIR-LCRA_TSC_Hays_Energy%E2%80%93Kendall_Corridor_Transmission_Line_Rehabilitation_Projects_Scope.pdf

Study Area



Results of Reliability Assessment

- Although this project is driven by the aging transmission infrastructures, some TSP expressed concerns of reliability issues in the study area under X-1+N-1 condition
- Reliability assessment was conducted based on the study assumptions presented in the May 2022 RPG meeting
- No reliability violations were identified

Project Alternatives

- **Alternatives were evaluated to address the project need driver**
 - Option A: Construct new 345/138-kV lines on new right of way and loop the new 138-kV lines into the existing 138-kV substations
 - Option B: Rebuild the existing 345/138-kV lines without temporary circuits (i.e., Non-energized construction method)
 - Option C: LCRA proposed Option: Rebuild the existing 345 kV line with temporary circuits (i.e., Energized method)
 - Option D: (for the preferred one among Options A, B, and C) Build the new double-circuit capable of 345/345-kV line, but operate at 345-kV and 138-kV

Project Alternatives (Cont.)

Estimated Project Alternatives Costs

| Option | Estimated Cost* (\$ Million) | New Right of Way |
|----------|---------------------------------|------------------|
| Option A | ~ 844 | Yes |
| Option B | ~ 229 | No |
| Option C | ~ 400 | No |
| Option D | > 519 | Yes |

* Cost estimates were provided by LCRA TSC

- Option A and Option D were eliminated from further evaluation due to the high estimated cost, requiring new right of way, and routing challenges based on the inputs from LCRA TSC

Project Alternatives (Options B & C) Evaluation

■ Construction Outage Impact

- Significant outage duration is expected for Option B (Non-energized construction method). According to LCRA TSC, total of approximately 200 outage weeks are needed for Option B
- Assuming no construction outages during Summer and Winter, the total construction for Option B may take about nine years to complete
- Depending on system conditions, transmission congestions in the area may occur during the construction outages for Option B

Subsynchronous Resonance Assessment

- **Pursuant to Nodal Protocol 3.22.1.3**
 - Based on known SSR concern in the area and potential sensitivity to an impedance change due to this project, a detailed SSR assessment is required

Conclusion

- **ERCOT supports Option C (LCRA preferred option) as the preferred solution based on the following considerations**
 - Addresses the need driver (aging transmission infrastructures)
 - Reduces construction outage duration
 - Provides better operational flexibility during construction
- **Based on ERCOT Independent Review, ERCOT will reclassify this RPG project to a Tier 4 project**
 - Based on the need driver (aging transmission infrastructure)
 - No reliability issues



Stakeholder Comments Also Welcomed to Sun Wook Kang:
sunwook.kang@ercot.com