



Date: April 15, 2026
To: Board of Directors
From: Kristi Hobbs, Vice President, System Planning and Weatherization
Subject: 25RPG004 Oncor Southern DFW Load Interconnection and General Grid Strengthening Planning Group Project

Issue for the ERCOT Board of Directors

ERCOT Board of Directors Meeting Date: April 20-21, 2026

Item No.: 5.1

Issue:

Whether the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) should accept the recommendation of ERCOT staff to endorse the need for the Tier 1 Oncor Southern DFW Load Interconnection and General Grid Strengthening Regional Planning Group (RPG) Project in order to meet the reliability requirements for the ERCOT System and address thermal overloads, voltage violations and unsolved power flows due to proposed load additions in the Southern DFW area in the North Central and East Weather Zones, which ERCOT staff has independently reviewed and which the Technical Advisory Committee (TAC) has voted unopposed with two abstentions to endorse.

Background/History:

Oncor Electric Delivery (Oncor) proposed the Oncor Southern DFW Load Interconnection and General Grid Strengthening Project in February 2025, a \$1.219 billion, Tier 1 project with the expected in-service date of December 2028, to meet reliability planning criteria due to proposed load additions in the Southern DFW area in the North Central and East Weather Zones. Protocol Section 3.11.4.7, Processing of Tier 1 Projects, requires ERCOT to independently review submitted projects. ERCOT performed an independent review of the Oncor Southern DFW Load Interconnection and General Grid Strengthening Project and identified thermal overloads, voltage violations and unsolved power flows in Dallas and Ellis counties. The ERCOT project recommendation (Option 3), a \$2.886 billion, Tier 1 project with the expected in-service dates between May 2026 to April 2033 addresses the need for a project under North American Electric Reliability Corporation (NERC) and ERCOT Planning Criteria to address thermal overloads on approximately 146 miles of 345-kV, 121 miles of 138-kV, 5 miles of 69-kV transmission lines and one 345/138-kV transformer, 44 voltage



violations and 3 unsolved power flows in Dallas and Ellis counties with the following ERCOT System improvements:

- Construct a new Greene Road 345/138-kV Switch by installing fourteen 345-kV, 5,000 A and ten 138-kV, 3,200 A breakers in a breaker-and-a-half bus arrangement:
 - Install two new 345/138-kV autotransformers with a normal rating of 700 MVA and an emergency rating of 750 MVA;
 - Re-terminate the existing Watermill Switch to Sargent Road Switch/West Levee Switch 345-kV double-circuit transmission line into the new Greene Road 345-kV Switch, which creates the new Watermill Switch to Greene Road Switch and the new Greene Road Switch to Sargent Road Switch/West Levee Switch 345-kV double-circuit transmission lines;
 - Re-terminate the existing Wilson Switch to Cedar Hill Switch/Cedar Crest Switch 138-kV double-circuit transmission line into the new Greene Road 138-kV Switch, which creates the new Wilson Switch to Greene Road Switch and the new Greene Road Switch to Cedar Hill Switch/Cedar Crest Switch 138-kV double-circuit transmission line;
- Rebuild the new Greene Road Switch to Watermill Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 2,987 MVA, for approximately 3.6 miles/circuit;
- Rebuild the new Wilson Switch to Greene Road Switch 138-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 764 MVA, for approximately 2.0 miles/circuit;
- Rebuild the new Greene Road Switch to Cedar Crest Switch 138-kV single-circuit transmission line on double-circuit structures with one circuit in place, with normal and emergency ratings of at least 764 MVA, for approximately 10.9 miles/circuit;
- Construct a new Alba Road 345-kV Switch by installing eleven 345-kV, 5,000 breakers in a breaker-and-a-half bus arrangement:
 - Re-terminate the new Watermill Switch to Greene Road Switch 345-kV double-circuit transmission line into the new Alba Road 345-kV Switch, which creates the new Watermill Switch to Alba Road Switch and the new Alba Road Switch to Greene Road Switch 345-kV double-circuit transmission lines;
- Construct a new Stainback 345-kV Switch by installing fourteen 345-kV, 5,000 breakers in a breaker-and-a-half bus arrangement:
 - Re-terminate the existing Watermill Switch to Elrod Switch/Big Onion Switch 345-kV double-circuit transmission line into the new Stainback 345-

kV Switch, which creates the new Watermill Switch to Stainback Switch and the new Stainback Switch to Elrod Switch/Big Onion Switch 345-kV double-circuit transmission lines;

- Rebuild the new Watermill Switch to Stainback Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 2,987 MVA, for approximately 3.0 miles/circuit;
- Rebuild the existing Watermill Switch to Wilson Switch 138-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 764 MVA, for approximately 0.8 miles/circuit;
- Construct a new Ironwood 345/138-kV Switch by installing seventeen 345-kV, 5,000 A and ten 138-kV, 3,200 A breakers in a breaker-and-a-half bus arrangement:
 - Install two 345/138-kV autotransformers with normal and emergency ratings of 700 MVA and 750 MVA, respectively;
 - Re-terminate the existing Liggett Switch to Endeavor Switch 345-kV Line at the new Ironwood 345-kV Switch, which creates the new Liggett Switch to Venus Switch (north bus)/Ironwood Switch 345-kV double-circuit transmission line;
 - Disconnect the existing Endeavor Switch to Venus Switch (south bus) and Midlothian ANP #2 to Venus Switch (south bus) 345-kV Lines from Venus Switch (south bus) and connect the Midlothian ANP to Endeavor 345-kV Switch. This will create Midlothian ANP #1 to Venus Switch (north bus) and Midlothian ANP #2 to Endeavor Switch 345-kV double-circuit transmission line;
 - Re-terminate the existing Timberview Switch to Venus Switch (south bus) at the new Ironwood 345-kV Switch, which creates the new Everman Switch to Venus Switch (north bus) and the new Timberview Switch to Ironwood Switch 345-kV double-circuit transmission line;
 - Re-terminate the existing Cedar Hill Switch to Venus Switch (south bus) at the new Ironwood 345-kV Switch, which creates the new Sherry Switch to Venus Switch (north bus) and the new Cedar Hill Switch to Ironwood Switch 345-kV double-circuit transmission line;
 - Re-terminate the existing Sam Switch to Venus Switch (south bus) at the new Ironwood 345-kV Switch, which creates the new Fort Smith Switch to Venus Switch (north bus) and the new Sam Switch to Ironwood Switch 345-kV double-circuit transmission line;

- Re-terminate the existing Navarro Switch to Venus Switch (south bus) at the new Ironwood 345-kV Switch, which creates the new Navarro Switch to Venus Switch (north bus)/Ironwood Switch 345-kV double-circuit transmission line;
- Re-terminate the existing Cottonwood Creek 345/138-kV Autotransformer #2 at the north bus of Venus 345-kV Switch by installing one 345-kV, 5,000 A breaker;
- Loop the existing Kemp Ranch Switch to Sardis Switch/Soap Creek Switch 138-kV double-circuit transmission line into the new Ironwood 138-kV Switch by disconnecting the double-circuit line at structure #1/2 (Midlothian Tap) and constructing four circuits from Midlothian Tap to the new Ironwood 138-kV Switch on separate structures, with normal and emergency ratings of at least 764 MVA, for approximately 2.0 miles each circuit;
- Rebuild the two Kemp Ranch Switch to Midlothian Tap 138-kV single-circuit transmission line sections using two separate structures, with normal and emergency ratings of at least 764 MVA, for approximately 0.5 miles/circuit;
- Rebuild the existing Sterrett Switch to Midlothian TXI 138-kV single-circuit transmission line sections, with normal and emergency ratings of at least 764 MVA, for approximately 11.8 miles/circuit;
- Rebuild the existing Ennis West Switch to Sterrett Switch 138-kV single-circuit transmission line, with normal and emergency ratings of at least 614 MVA, for approximately 21.0 miles/circuit;
- Rebuild the existing Big Brown 345-kV Switch by installing twelve 345-kV, 5,000 A breakers in a breaker-and-a-half bus arrangement. Upon completion, Big Brown Switch will be renamed as Pin Oak Switch:
 - Re-terminate the existing Big Brown Switch to Jewett Switch 345-kV double-circuit transmission line at the new Pin Oak 345-kV Switch, which creates the new Pin Oak Switch to Jewett Switch 345-kV double-circuit transmission line;
 - Re-terminate the existing Big Brown Switch to Navarro Switch 345-kV double-circuit transmission line at the new Pin Oak 345-kV Switch, which creates the new Pin Oak Switch to Navarro Switch 345-kV double-circuit transmission line;
 - Re-terminate the existing Big Brown Switch to Richland Chamber Switch 345-kV double-circuit transmission line at the new Pin Oak 345-kV Switch, which creates the new Pin Oak Switch to Richland Chambers Switch 345-kV double-circuit transmission line;

- Rebuild the new Jewett Switch to Pin Oak Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 1,792 MVA and with a conductor rating of at least 2,987 MVA, for approximately 32.8 miles/circuit;
- Rebuild the existing Richland Chambers Switch to Trinidad Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place with normal and emergency ratings of at least 1,792 MVA and with a conductor rating of at least 2,987 MVA, for approximately 18.7 miles/circuit;
- Rebuild the existing Parker Switch to Hicks Switch 345-kV transmission line, with normal and emergency ratings of at least 1,912 MVA and with a conductor rating of at least 2,987 MVA, for approximately 23.0 miles/circuit;
- Rebuild the existing Pebble Creek Switch to Shankle Switch 138-kV transmission line, with normal and emergency ratings of at least 764 MVA, for approximately 15.5 miles/circuit;
- Rebuild the existing Mesquite East Switch to Seagoville Switch 138-kV transmission line, with normal and emergency ratings of at least 764 MVA, for approximately 7.4 miles/circuit;
- Rebuild the existing Farmersville Switch to Royse Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 1,792 MVA and with a conductor rating of at least 2,987 MVA, for approximately 15.3 miles/circuit;
- Install one +250/-250 MVar Grid-forming STATCOM at each of the following:
 - Alba Road 345-kV Switch;
 - Greene Road 345-kV Switch;
 - Wilmer 345kV Switch;
- Install 240 MVar 345-kV capacitor banks (3-80 MVar each):
 - One at Greene Road 345-kV Switch;
 - Two at Alba Road 345-kV Switch;
 - Two at Stainback 345-kV Switch;
- Install 110.4 MVar 138-kV capacitor banks (3-36.8 MVar each) at:
 - One at Greene Road 138-kV Switch;
 - Two at Ironwood 138-kV Switch;
 - Two at Pebble Creek 138-kV Switch;
- For terminal equipment:
 - The existing 345 kV terminal equipment, ensure they meet or exceed a rating of 3,000 A (1,792 MVA);
 - The new 345-kV terminal equipment, ensure they meet or exceed a rating of 5,000 A if the station is 5,000 A capable. Otherwise ensure the new 345-kV terminal equipment meets or exceeds a rating of 3,200 A;

- The 138-kV terminal equipment, ensure they meet or exceed a rating of 3,000 A;
- Construct a new Goat Pad Switch 138-kV Substation:
 - Install a new Goat Pad Switch to Padera 138-kV single-circuit transmission line on double-circuit structures with only one circuit in place, with normal and emergency ratings of at least 287 MVA, for approximately 2.6 miles/circuit;
 - Install a new Goat Pad Switch to Midlothian 138-kV single-circuit transmission line on double-circuit structures with only one circuit in place, with normal and emergency ratings of at least 287 MVA, for approximately 3.0 miles/circuit;
 - Install a new Goat Pad Switch to Goatheard 138-kV single-circuit transmission line on double-circuit structures with only one circuit in place, with normal and emergency ratings of at least 524 MVA, for approximately 0.1 miles/circuit;
- Construct a new Goatheard Switch 138-kV Substation:
 - Re-terminate the existing Cedar Hill Switch to Saint Paul Switch 138-kV single-circuit transmission line into the new Goatheard 138-kV Switch, which creates the new Goatheard Switch to Cedar Hill Switch and the new Goatheard Switch to Saint Paul Switch 138-kV single-circuit transmission line, and rebuild on double-circuit structures with only one circuit in place, with normal and emergency ratings of at least 237 MVA, for approximately 0.7 miles/circuit;
- Upgrade the existing Navarro Switch to the new Pin Oak (Big Brown) Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 2,987 MVA, for approximately 27.6 miles/circuit;
- Upgrade the existing Navarro Switch to Outlaw Switch 345-kV double-circuit transmission line on double-circuit structures with both one circuit in place, with normal and emergency ratings of at least 2,987 MVA, for approximately 5.6 miles/circuit;
- Upgrade the existing Desoto 345/138-kV Switch:
 - Install five 345-kV circuit breakers in a breaker-and-a-half configuration with ratings of 5,000 A;
 - Install nine 138-kV circuit breakers in a breaker-and-a-half configuration with ratings of 3,200 A;
- Construct a new Desoto Switch to Sam Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 2,987 MVA, for approximately 56.0 miles/circuit;

- Install four 345-kV circuit breakers at the existing Desoto Switch 345-kV substation with ratings of at least 5,000 A;
 - Install four 345-kV circuit breakers at the existing Sam Switch 345-kV substation with ratings of at least 5,000 A;
- Construct a new Wilmer Switch to Navarro Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 2,987 MVA, for approximately 53.0 miles/circuit:
 - Install three 345-kV circuit breakers at the existing Wilmer Switch 345-kV substation with ratings of at least 5,000 A;
 - Install four 345-kV circuit breakers at the existing Navarro Switch 345-kV substation with ratings of at least 5,000 A;
- Rebuild the existing Tri Corner 345-kV Switch:
 - Install twelve 345-kV circuit breakers in a breaker-and-a-half configuration with ratings of 5,000 A;
 - Ensure all terminal equipment meets or exceeds 5,000A;
- Upgrade the existing Watermill Switch to Tri Corner Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 1,912 MVA, for approximately 11.5 miles/circuit:
 - Ensure all terminal equipment meets or exceeds 5,000A;
- Upgrade the existing Tri Corner Switch to Trinidad Switch 345-kV double-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 1,912 MVA, for approximately 40.5 miles/circuit:
 - Ensure all terminal equipment meets or exceeds 5,000A; and
- Upgrade the existing Farmerville Switch to Saltillo Switch 345-kV single-circuit transmission line on double-circuit structures with both circuits in place, with normal and emergency ratings of at least 1,912 MVA, for approximately 59.9 miles/circuit:
 - Ensure all terminal equipment meets or exceeds 3,200A.

ERCOT's independent review verified the reliability need for the Oncor Southern DFW Load Interconnection and General Grid Strengthening Project to satisfy ERCOT Planning Guide Section 4.1.1.2(1)(d), Reliability Performance Criteria, contingency for the loss of a single generator followed by a single transmission element or common tower outage, and 4.1.1.2(1)(e), Reliability Performance Criteria, contingency for the loss of a single transformer followed by a single transmission element or common tower outage.



RPG considered project overviews during meetings in April 2025 and March 2026. Between April 2025 and March 2026, ERCOT staff presented scope and status updates at RPG meetings in April, July, August 2025, January and March 2026. Pursuant to paragraph (2) of Protocol Section 3.11.4.9, Regional Planning Group Acceptance and ERCOT Endorsement, ERCOT presented the Tier 1 project to the Technical Advisory Committee (TAC) for review and comment, and on March 25, 2026, TAC endorsed the project, unopposed with two abstentions, as recommended by ERCOT. Pursuant to the terms of paragraph (1)(a) of Protocol Section 3.11.4.3, *Categorization of Proposed Transmission Projects*, in effect at the time Oncor submitted the Southern DFW Load Interconnection and General Grid Strengthening Project, projects with an estimated capital cost of \$100 million or greater are Tier 1 projects, for which Protocol Section 3.11.4.7(2) requires endorsement by the Board. Pursuant to Section 3.11.4.9, ERCOT's endorsement of a Tier 1 project is obtained upon affirmative vote of the Board.

ERCOT's assessment of the Sub-Synchronous Oscillations (SSO) of existing facilities in Dallas and Ellis counties in the North Central and East Weather Zones, conducted pursuant to Protocol Section 3.22.1.3, Transmission Project Assessment, yielded no adverse SSO impacts to the existing and planned generation resources at the time of the study. Results of the congestion analysis ERCOT conducted pursuant to Planning Guide Section 3.1.3, Project Evaluation, indicated no significant new congestion in the area with the addition of the Oncor Southern DFW Load Interconnection and General Grid Strengthening Project (Option 3).

The report describing the ERCOT Independent Review of the Oncor Southern DFW Load Interconnection and General Grid Strengthening Project (Option 3), including ERCOT staff's recommendation, is included as Attachment A.

Key Factors Influencing Issue:

1. ERCOT System improvements are needed to meet reliability planning criteria due to a proposed load additions in the Southern DFW area in the North Central and East Weather Zones.
2. ERCOT staff found the recommended set of improvements to be the most efficient solution for meeting the planning reliability criteria, addressing thermal overloads, voltage violations and unsolved power flows.
3. Protocol Section 3.11.4.7 requires Board endorsement of a Tier 1 project, which is a project with an estimated capital cost of \$100 million or greater pursuant to the terms of Protocol Section 3.11.4.3(1)(a) in effect at the time Oncor submitted the Southern DFW Load Interconnection and General Grid Strengthening Project.
4. TAC voted unanimously to endorse the Tier 1 Oncor Southern DFW Load Interconnection and General Grid Strengthening Regional Planning Group (RPG) Project (Option 3), as recommended by ERCOT, on March 25, 2026.



Conclusion/Recommendation:

ERCOT staff recommends that the Board endorse the need for the Tier 1 Oncor Southern DFW Load Interconnection and General Grid Strengthening RPG Project (Option 3), which ERCOT staff has independently reviewed, and which TAC has voted unopposed with two abstentions to endorse based on North American Electric Reliability Corporation (NERC) and ERCOT reliability planning criteria.



ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.

BOARD OF DIRECTORS RESOLUTION

WHEREAS, pursuant to the terms of Section 3.11.4.3(1)(a) of the Electric Reliability Council of Texas, Inc. (ERCOT) Protocols in effect at the time Oncor Electric Delivery submitted the Southern DFW Load Interconnection and General Grid Strengthening project, projects with an estimated capital cost of \$100 million or greater are Tier 1 projects, for which Section 3.11.4.7 requires endorsement by the ERCOT Board of Directors (Board); and

WHEREAS, after due consideration of the alternatives, the ERCOT Board of Directors (Board) deems it desirable and in the best interest of ERCOT to accept ERCOT staff's recommendation to endorse the need for the Tier 1 Oncor Southern DFW Load Interconnection and General Grid Strengthening Regional Planning Group Project (Option 3), which ERCOT staff has independently reviewed and which the Technical Advisory Committee (TAC) has voted unopposed with two abstentions to endorse based on North American Electric Reliability Corporation (NERC) and ERCOT reliability planning criteria;

THEREFORE, BE IT RESOLVED, that ERCOT is hereby authorized and approved to endorse the need for the Tier 1 Oncor Southern DFW Load Interconnection and General Grid Strengthening Regional Planning Group Project (Option 3), which ERCOT staff has independently reviewed, and which TAC has voted unopposed with two abstentions to endorse based on NERC and ERCOT reliability planning criteria.

CORPORATE SECRETARY'S CERTIFICATE

I, Brandon Gleason, Assistant Corporate Secretary of ERCOT, do hereby certify that, at its April 20-21, 2026 meeting, the Board passed a motion approving the above Resolution by _____.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of _____, 2026.

Brandon Gleason
Assistant Corporate Secretary