Welcome to Partners in Business

May 6, 2025

Cheri Monahan

Director, Customer & Business Solutions
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Safe Harbor Language and Legal Disclosure

This presentation contains certain statements that describe our management's beliefs concerning future business conditions and prospects, growth opportunities and the outlook for our business and the electricity transmission industry based upon information currently available. Such statements are "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995. Wherever possible, we have identified these forward-looking statements by words such as "anticipates", "believes", "intends", "estimates", "expects", "projects", and similar phrases. These forward-looking statements are based upon assumptions our management believes are reasonable. Such forward-looking statements are subject to risks and uncertainties which could cause our actual results, performance and achievements to differ materially from those expressed in, or implied by, these statements, including, among other things, the risks and uncertainties disclosed in our annual report on Form 10-K and our quarterly reports on Form 10-Q filed with the Securities and Exchange Commission from time to time.

Because our forward-looking statements are based on estimates and assumptions that are subject to significant business, economic and competitive uncertainties, many of which are beyond our control or are subject to change, actual results could be materially different and any or all of our forward-looking statements may turn out to be wrong. They speak only as of the date made and can be affected by assumptions we might make or by known or unknown risks and uncertainties. Many factors mentioned in our discussion in this presentation and in our annual and quarterly reports will be important in determining future results. Consequently, we cannot assure you that our expectations or forecasts expressed in such forward-looking statements will be achieved. Actual future results may vary materially. Except as required by law, we undertake no obligation to publicly update any of our forward-looking statements or other statements, whether as a result of new information, future events, or otherwise.

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Your participation further releases and discharges ITC from any and all claims and demands that may arise out of, or in connection with, the use of your likeness.

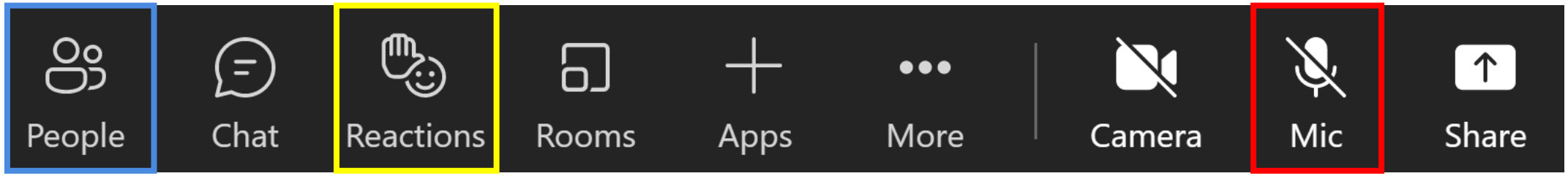
Thank you for your cooperation!

Today's Facility and Meeting Accommodations

- Register for meeting: take your badge and enter drawing
- Refreshments
- Relax, enjoy, and ask questions
- Restroom and facility locations
- Lunch
- Professional Development Hours (PDH) Attendance Form
  - Reach out to Aaron Curtis in-person or email
- Introductions

Virtual Meeting Reminders

Microsoft Teams



Click “People” to view virtual participants

If you have a question, please raise your hand and we will call on you

Please stay on mute unless you have a question

Presentations Available Online

ITC Midwest website:

https://www.itc-holdings.com/itc-midwest/customer-solutions/partners-in-business/

MISO OASIS website:

http://www.oasis.oati.com/ITCM/index.html

Today's Themes

ITC Midwest Update
Dusky Terry

Regulatory Landscape
Scott Drzycimski and Emily Loder

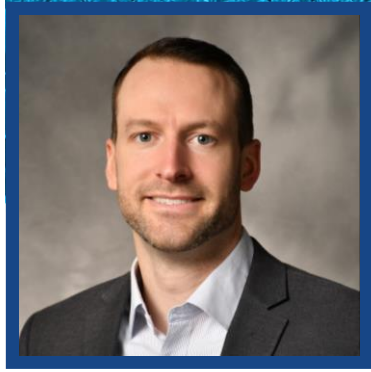
MISO and Generator Interconnection Queue
Meghan Ross and Rob Wells

Boosting Economic Development
Mike Frank

Summer Operational Preparedness
Matt Heinisch

GIS Expansion and 765 kV Introduction
Ethan Ehrisman and Aaron Graber

Safety Message



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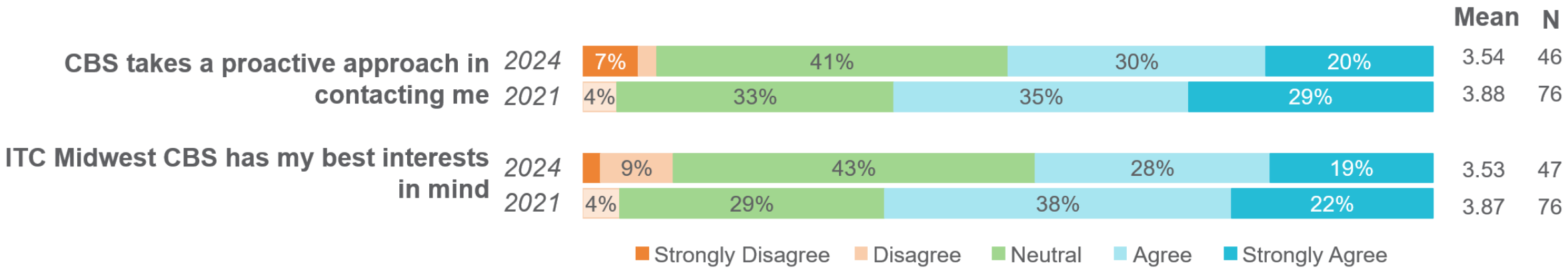
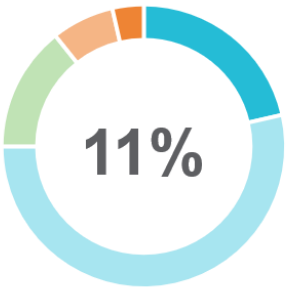
Stakeholder Survey – Resulting Changes

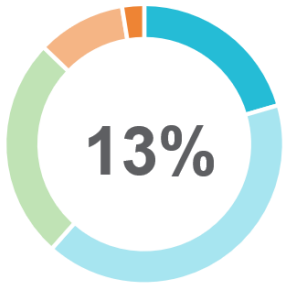
Proactive Communication





OUTAGE SCHEDULING

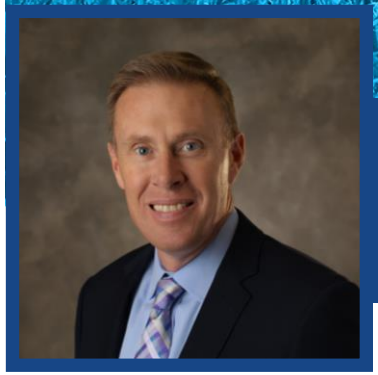
*CBS coordinates the various parties involved in scheduling an outage and **I am kept fully informed** of developments*



UNPLANNED OUTAGES

The information communicated (type and level of detail) by ITC Midwest during unplanned outages meets my expectations

ITC Midwest Update



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State Regulatory

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Minnesota

Minnesota Public Utilities Commission:

Sieben

Sullivan

Partridge

Ham

Tuma

Minnesota

MISO Tranche 2.1

- LRTP Tranche 2.1 – about 24 Regional Projects
  - IDs: 22, 23 & 24
- Partnering with Xcel Energy and GRE
- Submitted Intent to Construct letter under the MN ROFR

Iowa

Iowa Utilities Commission:

Martz

Helland

Byrnes

Iowa

MISO Tranche 1 Projects

Name	Docket	Progress
Morgan Valley - Twinkle	E-22544	Petition filed
Ottumwa - Skunk River/Coddington	E-22548	Petition filed
Skunk River/ Coddington – Deeds	E-22549	Petition filed
Beverly – Sub 92	E-22560	PI meeting 10/2024, in the easement acquisition phase
Deeds - Ipava	E-22564	PI meeting scheduled for May 6, 2025

Note: Map is for illustrative purposes and is not indicative of proposed or suggested routes.

Thank you!

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Federal Regulatory

Emily Loder

Associate Regulatory Analyst
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FERC Commissioners

FERC

Chairman Mark Christie (R)
Term Expires 6/30/2025

Vacant Seat
Term Expires 6/30/2026

Commissioner David Rosner (D)
Term Expires 6/30/2027

Commissioner Lindsay See (R)
Term Expires 6/30/2028

Commissioner Judy Chang (D)
Term Expires 6/30/2029

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Current Landscape and Priorities

Mark Christie was appointed FERC Chairman shortly after President Trump was inaugurated in January.

- Chairman Christie's policy priorities:
  - Energy affordability for consumers
  - Grid reliability and resource adequacy
  - Uplifting state opinions

Despite uncertainty due to various Executive Orders by President Trump, Chairman Christie has downplayed the actions and does not believe FERC's day-to-day will be impacted.

ROE Update

FERC addressed MISO-wide ROE policy in October, establishing a base ROE of 9.98% using the two-model approach (DCF and CAPM)

- ITC has been working with MISO to issue refunds for the 15 months associated with the first complaint (11/12/13 – 2/11/15), as well as from 9/28/16 to 10/17/24; a refund report is due to FERC by 12/1/25
- FERC maintained its earlier decision to deny the second complaint

ITC and the MISO TOs requested rehearing on the length of the refund period and interest rates associated with the refund period

- FERC recently rejected all rehearing requests, upholding the October Order
- The MISO TOs and other parties already appealed the October Order; those appeals are now proceeding

Order 1920 Progress

In May 2024, FERC issued landmark Order 1920 – codifying nationwide requirements for LRTP-like holistic, long-term planning

- Various parties sought rehearing of the rule, and subsequent rehearing orders have largely upheld the original provisions
- The initial order and orders on rehearing were appealed by diverse interests; the Courts must now review FERC's actions

The compliance process is underway; extensions being sought

- Many RTOs, state entities, and other transmission providers have requested extensions for compliance filings and conducting state engagement
- The extensions grant state entities and transmission providers additional time to finalize cost allocation methodologies and implement required Tariff revisions

Local Planning

In December 2024, a complaint was made at FERC against local transmission planning processes

- FERC previously held a technical conference to discuss transmission planning and cost management
- Complainants requested all projects 100 kV and above be subjected to the regional planning process and reviewed by an Independent Transmission Planner (ITP)

The complaint is overly general, and the requested relief would result in additional costs and delays

- Each region has a unique planning process for local and lower-voltage projects
- MISO's planning process produces optimized outcomes though fair and transparent practices

Co-location of Large Loads

Chairman Christie has prioritized the facilitation of co-located data centers after a trend of contentious proposals last year

- No concrete conclusions have been gleaned from previous proceedings and industry discussions
- The Commission is conducting a review of the PJM Tariff to determine whether additional, clear rules need to be established
- Christie is adamant on doing data centers “right” and avoiding cost shifts to customers

ITC and Alliant collaborated on comments highlighting the importance of co-located data centers paying their “fair share” of transmission charges

Questions?

Emily Loder

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Scott Drzycimski

Director, Public Affairs
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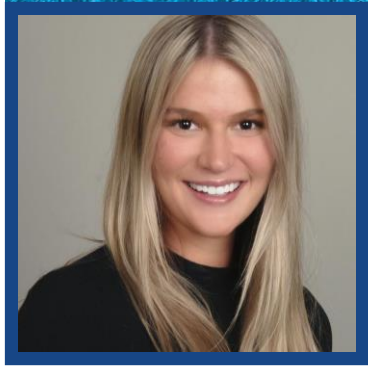
Break

2025 MISO Planning Futures Update



Meghan Ross

RTO Policy Analyst

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Agenda

- MISO Landscape
- Futures Refresh

MISO Landscape; Reliability Imperative

MARKET REDEFINITION

Improve Market Signals & Resource Adequacy

- Demand Response and Emergency Resource Reforms
- Provide Accreditation Data
- Implement Shortage Pricing Across Time Horizons
- Execute Planning Resource Auction with Sloped Demand Curve
- Illustrate Energy Adequacy Risks Across Time Horizons and Locations
- Revise and Communicate Risk Metrics
- Implement Dynamic Locational Reserve Products Including Flexibility & Ramping

TRANSMISSION EVOLUTION

Enable Resource Fleet & Needed Transmission

- Reform Interconnection Queue to Achieve one year cycle time
- Enable Expedited Resource Additions Through New Study Process (ERAS)
- Revise MISO Futures
- Develop Probabilistic Load Forecast

SYSTEM ENHANCEMENTS

Digital & Data Transformation

- Implement Real-Time Market Clearing Engine
- Enhance Systems to Accommodate New Rules (e.g., Order 881)
- Expand Data & Analytics Modeling Capabilities
- Apply Advanced National Institute of Standards and Technology Cybersecurity Framework

OPERATIONS OF THE FUTURE

Grid Management & Control Room Readiness

- Advance Platform to Improve Risk Assessment & Evaluation
- Probabilistic Forecasting to Capture Growing Uncertainty and Complexity
- Evolve Operator Training and Development
- Enhanced Scenario Manager for Operations Simulator

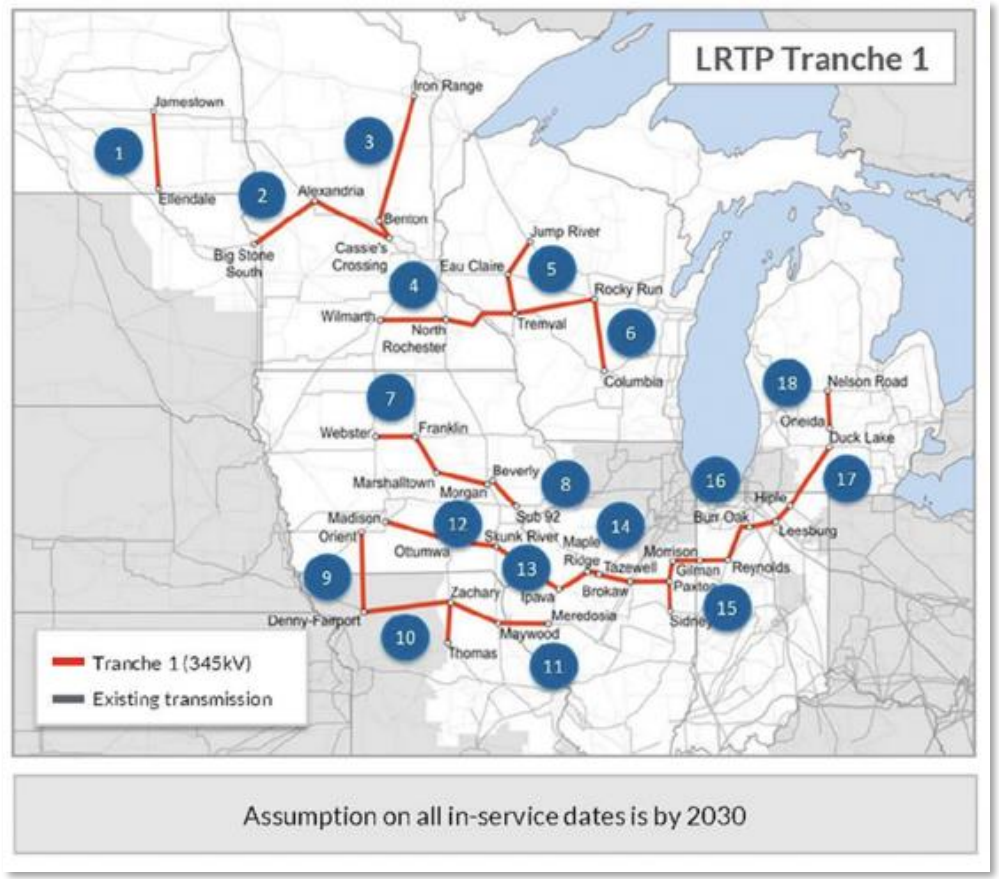
Futures Explained

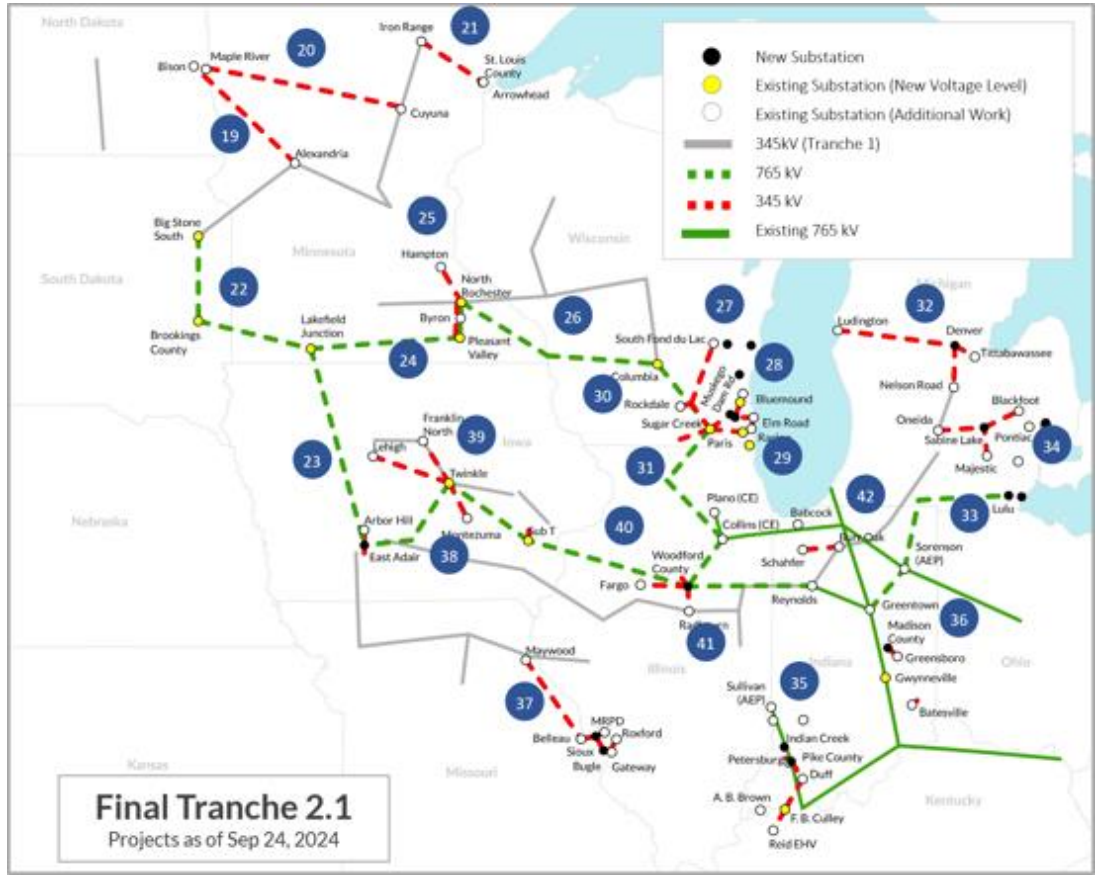
What They Are: Futures model 20-year power system scenarios based on economic, policy, and tech drivers

How They Are Used: Futures provide the foundation for MISO's transmission planning – both local and regional.

Why MISO Is Redesigning Them: To reflect recent changes to load and supply, identify transmission needs, and support efficient and reliable grid planning.

LRTP Tranche 1 (2022) and Tranche 2.1 (2024) Approved



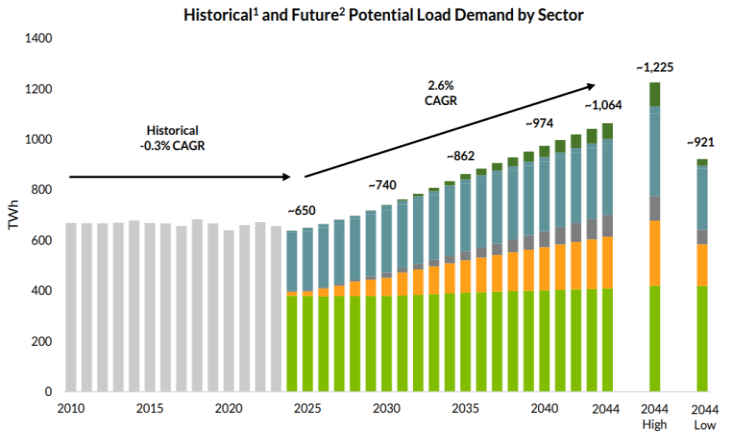


Anticipated Load Growth

New projections show electrification-driven load growth is 3x higher than earlier estimates.

- MISO expects most load growth from data centers, EVs and green hydrogen.

Current Trends Outlook



	CAGR % Low-High (2024-44)	Growth TWh Low-High (2024-44)	Level of Certainty*
Hydrogen	27-32	26-95	Low
Industry Development & Reshoring	3-7	21-105	Medium
EVs	14-17	54-91	Medium-High
Data Centers	12-15	149-241	Medium-High
Building Electrification	0.45-0.54	36-43	High

CAGR – compounded annual growth rate

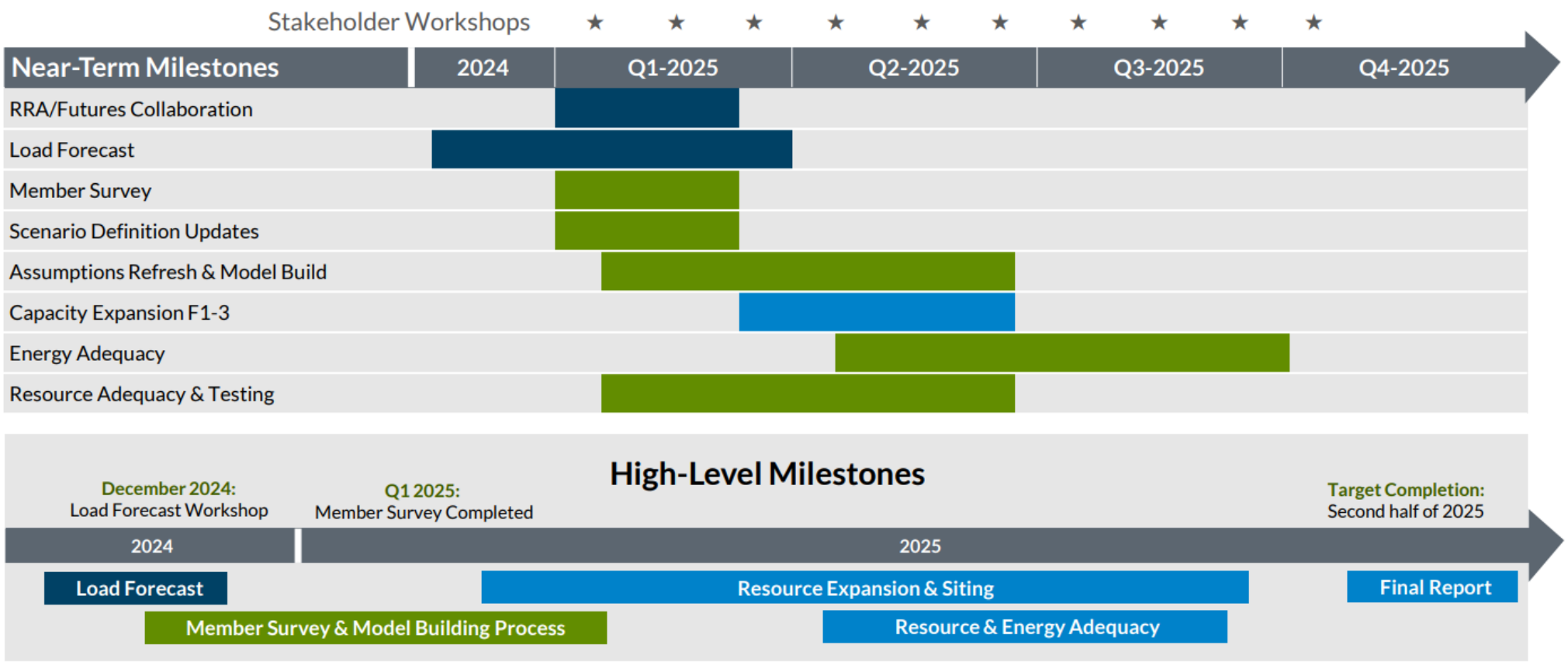
Futures Refresh Scenarios

MISO can't predict the future, but it can make educated projections about what the electric system will look like in the coming years

Future Scenario Definitions

	Lower Load Growth		*Stated Policy*		*Higher Load Growth*		*Supply Shift*
	FUTURE 1		**FUTURE 2**		**FUTURE 3**		**FUTURE 4**
	Series 1 & 1A	*Series 2 (New)*	*Series 1 & 1A*	*Series 2 (New)*	*Series 1 & 1A*	*Series 2 (New)*	*Series 2 (New)*
Footprint Development	In line with 100% of utility IRPs and state legislation; and 85% of utility/state announcements	No Change	Companies/states meet their goals, policies and announcements	No Change	Companies/states meet their goals, policies and announcements	No Change	In line with supply frictions: limits build rate and causes tension with timelines of member plans and goals
Emissions	minimum 40% reduction from 2005 levels	No Change	minimum 60% reduction from 2005 levels	No Change	minimum 80% reduction from 2005 levels	No Change	minimum 60% reduction from 2005 levels, unless supply friction build rate violated
Load Growth	Consistent with current trends (0.35% CAGR)	Consistent with low-end projections (1.1% CAGR)	30% energy increase (0.8% CAGR)	Consistent with anticipated values (1.6% CAGR)	50% energy increase (1.1% CAGR)	Consistent with high-end projections (2.1% CAGR)	Consistent with anticipated values (1.6% CAGR) – additional Demand Response if needed
Generation Retirements	Age-based and member planned generation retirements	No Change	**Accelerated** age-based and member planned generation retirements	No Change	**Advanced** age-based and member planned generation retirements	No Change	No age-based generation retirements – delayed retirements if needed

Futures Timeline



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*Status as of March 2025. A full list of project milestones is included in the appendix.

Complete In Process Not Started

MISO

Questions?

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Generator Interconnection Update

Rob Wells

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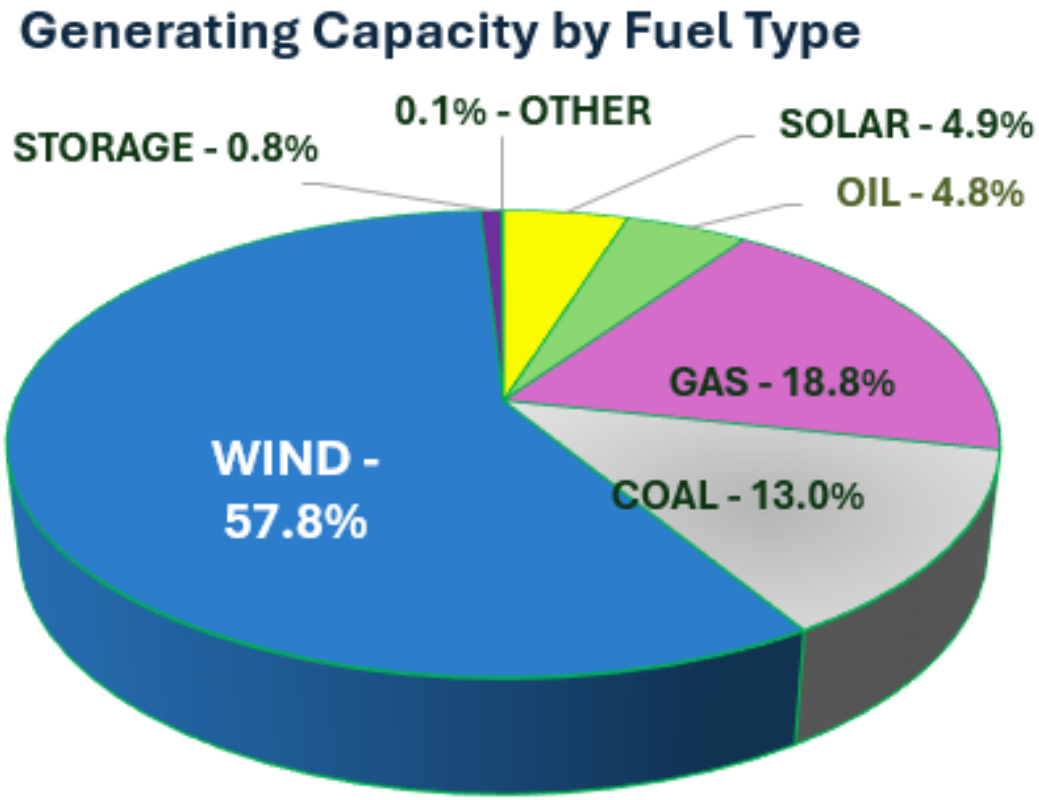
ITC Midwest Connected Generation

ITC Midwest has connected 45 projects representing 5,734 MW of new generation since 2008*

*Based on ITCM interconnection facilities in service

ITCM has executed GIAs for another 2,385 MW of new generation not yet in service



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Active Projects in Queue (as of mid-April)

Projects with POI's on ITCM system:

- DPP 2019
  - GIAs executed – 7 projects – 419 MW wind, 580 MW solar, 95 MW gas
- DPP 2020
  - GIAs executed – 4 projects – 585 MW solar
- DPP 2021
  - In Phase 2 Study – 15 projects – 1,116 MW wind, 880 MW solar, 200 MW storage
- DPP 2022
  - In Phase 1 Study – 27 projects – 1,304 MW wind, 1,298 MW solar, 1,450 MW storage, 185 MW hybrid

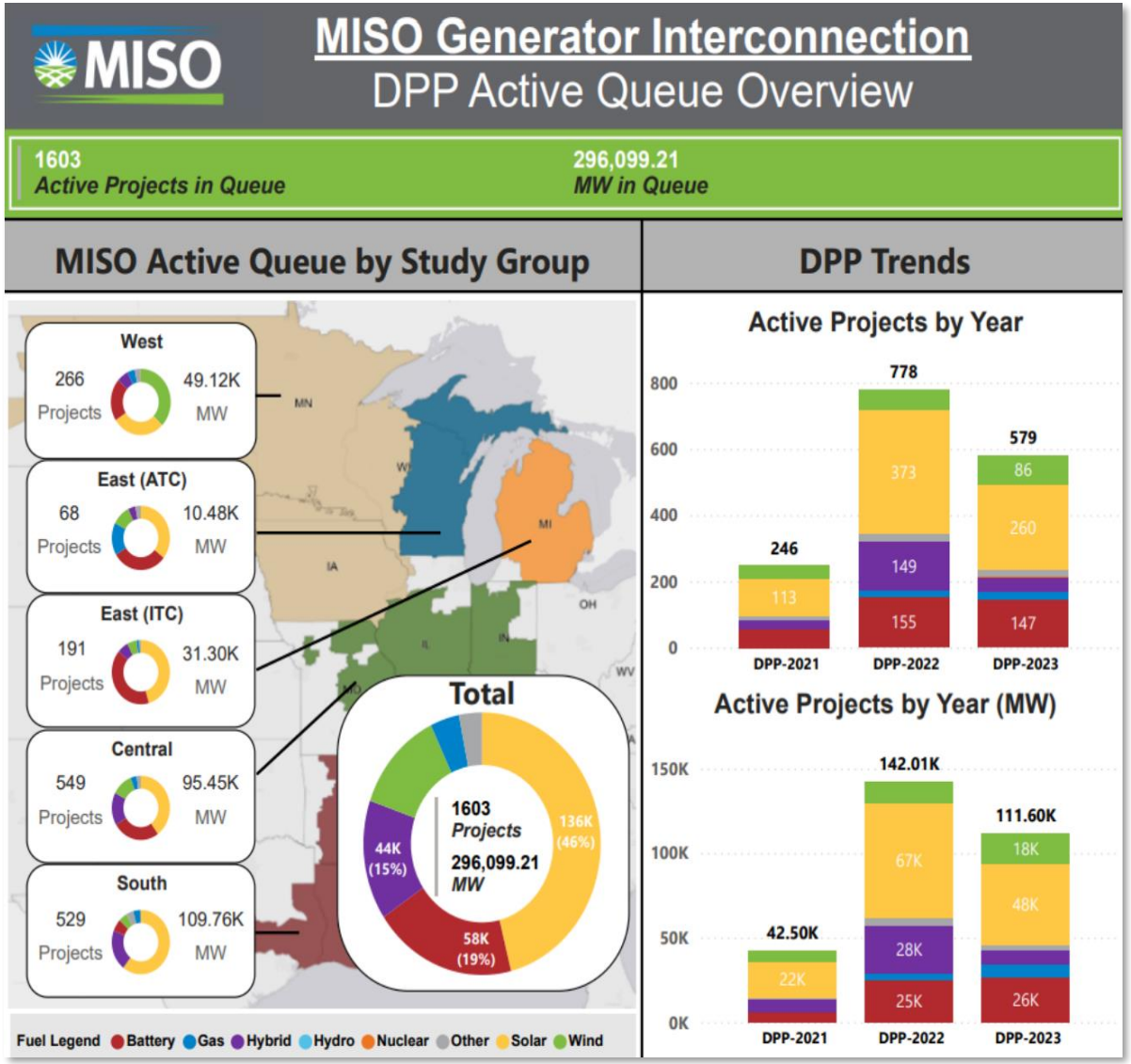
Active Projects in Queue (cont'd as of mid-April)

- DPP 2023
  - Pre-kickoff – 11 projects - 780 MW wind, 602 MW solar, 300 MW storage
- Surplus Requests
  - 3 projects – 240 MW storage additions to existing facilities
- Generation Replacement
  - 5 projects – 424 MW of replacements, 50 MW fuel change of an approved replacement (replacement of a replacement)

MISO Queue Status

MISO Queue is processing 1,603 projects totaling 296.1 GW of new generating capacity (through 2023 DPP)

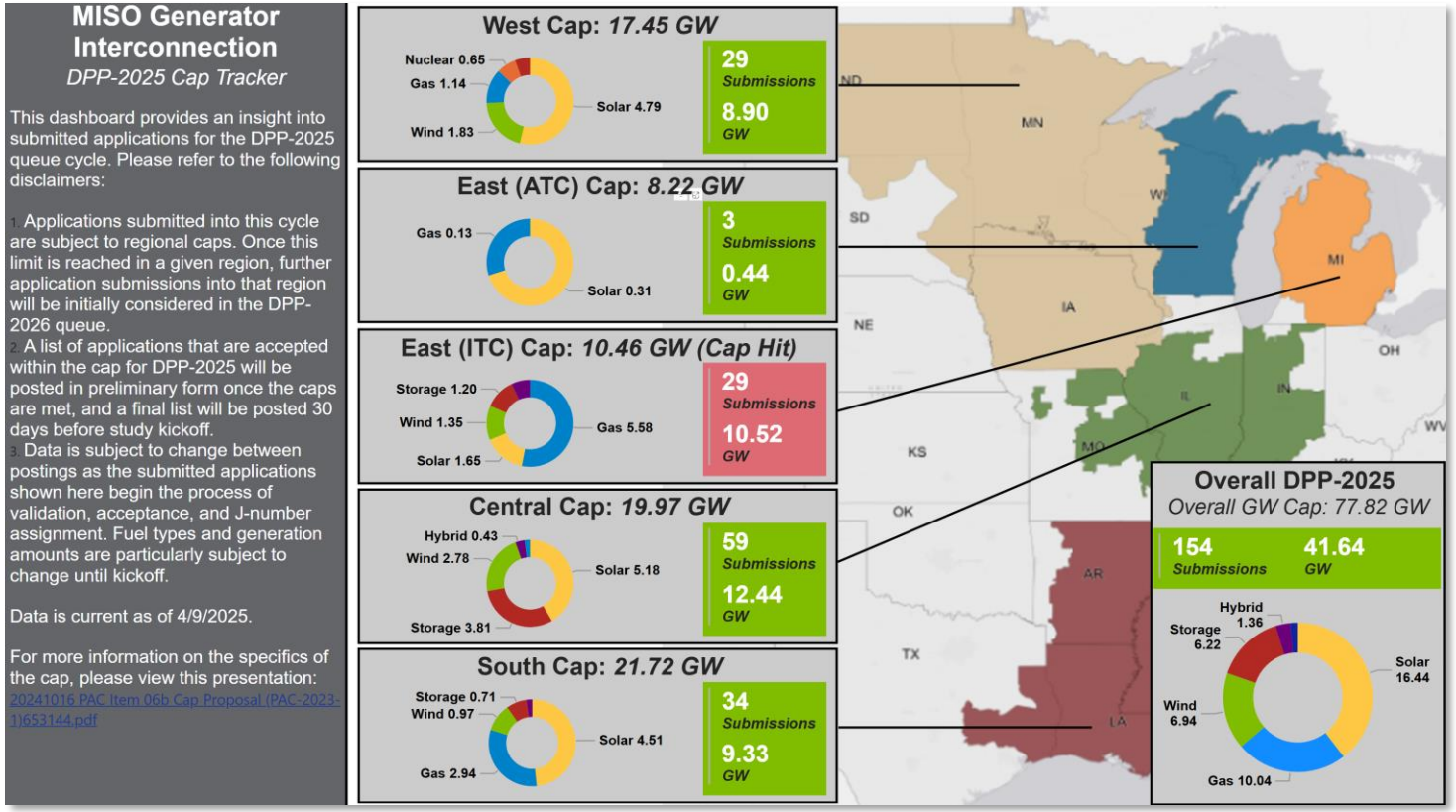
- LTRP Tranche 2.1 projects expected to be applied to 2022 queue models as mitigations
- Proposal to apply Tranche 2.1 to DPP 2023 base case models



MISO Queue Changes – Cap

A MW Queue Cap was approved by FERC, effective for DPP 2025

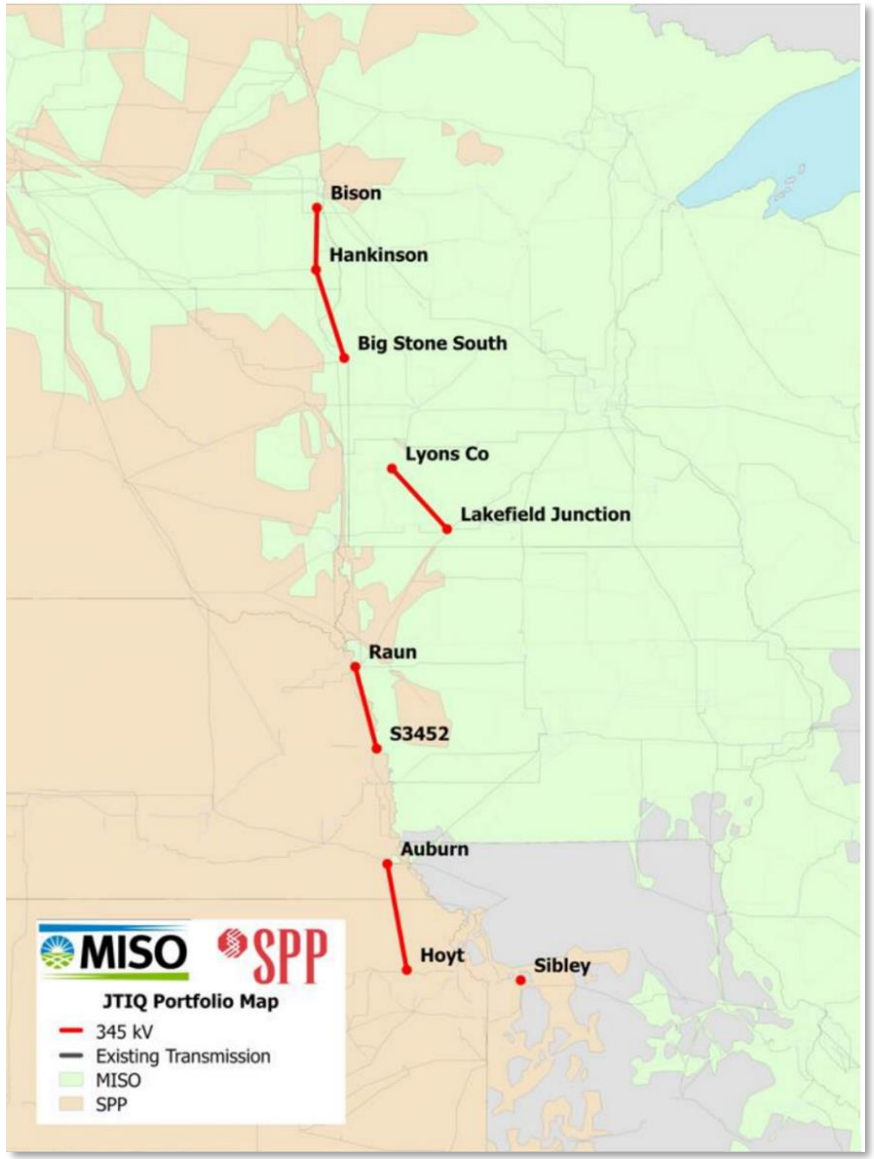
- The cap sets a limit equivalent to 50% of MISO non-coincident peak load for each study region, based on the power flow data in the MTEP models



MISO Queue Changes – JTIQ

MISO/SPP Joint Targeted Interconnection Queue (JTIQ)

- JTIQ portfolio was MTEP approved in December 2024
- Current proposal to request FERC approval to apply portfolio to DPP 2023 base case models



MISO Queue Changes – ERAS

Expedited Resource Addition Study (ERAS)

- Proposed fast track process under FERC review
- More rigorous requirements than DPP
- Near term solution with a sunset at the end of 2028 or completion of DPP 2027

Qualifying Applicants

- LSEs with an acknowledgement to self supply
- ICs with PPAs, BTAs, or other qualifying agreements
- DPP projects (meeting all requirements) transferring from GIQ

ERAS requirements	DPP requirements	Common / technical requirements
• D1 = non-refundable $100,000	• D1 = $7,000	• Synchronization Date
• D2 = $50,000 - $640,000 (dependent on project size)	• D2 = $50,000 - $640,000 (dependent on project size)	• Interconnection Facilities In-Service Date
• M2 = $24,000/MW	• M2 = $8,000/MW	• Generator Output
• 100% site control (site and POI)	• M3 = 20% of NU – M2	• Primary Fuel Type
• Service type: NRIS	• M4 = 30% of NU – M2 and M3	• Generator Manufacturer & Model Number
• RERRA Notification	• 50% POI site control or $80,000/line mile with 100% generating facility site control	• Library Stability Model
• Executed agreement/PPA/BTA*	• Service type: ERIS or NRIS	• One-Line Diagram
• COD no later than 3 years from submission for 2025/2026 applications, and no later than 12/31/2028 for 2027/2028 applications	• COD no more than 5 years from submission, plus 3 years during negotiation, plus 3-year grace period	• Generating Facility Data
		• Step-Up Transformer Data

MISO Queue Changes – Generation Replacement

Generation Replacement Enhancement

- Proposed changes to generation replacement process to allow more POI flexibility under FERC review
- Requirements:
  - No voltage level change unless the same voltage level not available by the Commercial Operation Date
  - No new constraints due to the POI change (Contingency Analysis)
  - Dfax change no more than 5% due to the POI change (Base case analysis)
  - Exception: Exclude the flow change on the path from existing POI to new POI(only if no queued project on the path), or on the zero-impedance line
  - Use latest year latest DPP Phase model based on availability
  - MISO will validate the evaluation study of POI change
  - Deliverability study will be performed if POI moved

Questions?

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Boosting Economic Development

Mike Frank

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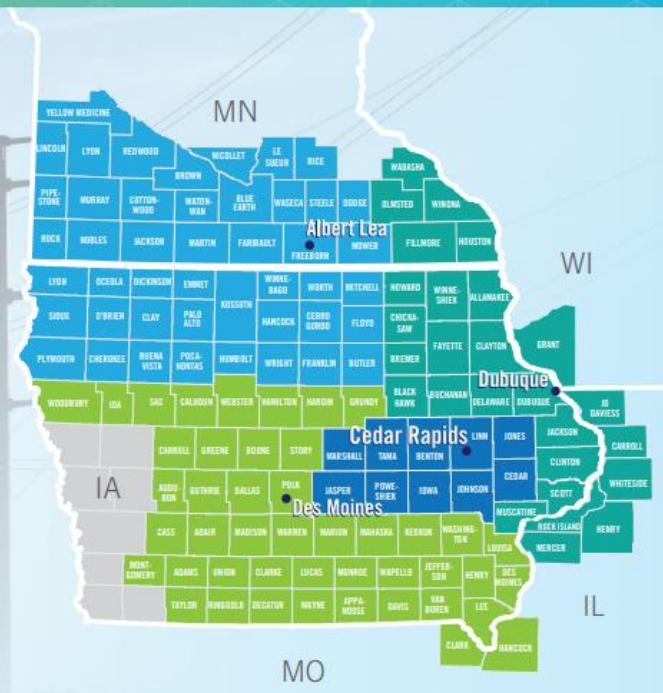
ITC Midwest – LGCA Territories

ITC MIDWEST LOCAL GOVERNMENT AND COMMUNITY AFFAIRS

AREA MANAGERS

Local Government and Community Affairs Area Managers work with local city councils, county boards of supervisors, township officials, natural resources districts, chambers of commerce, economic development boards, department of transportation staff members and others to coordinate ITC Midwest communications, work activities and transmission system projects.



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4 **Nicole Breitbach,** Area Manager - Dubuque
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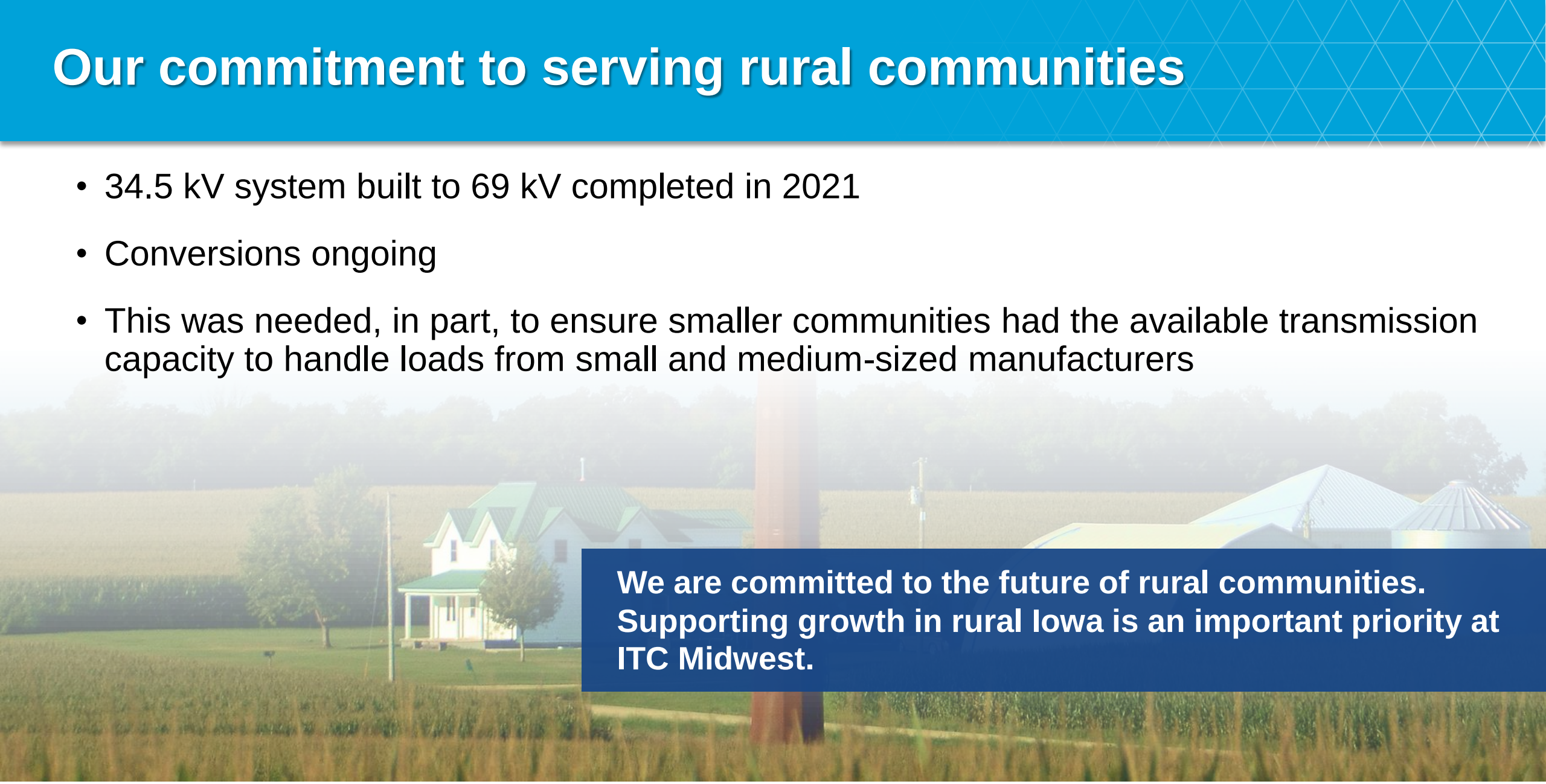
Customer Service Hotline: Issues or concerns from landowners can be directed to **1-877-482-4829**

www.itcmidwest.com

Our commitment to serving rural communities

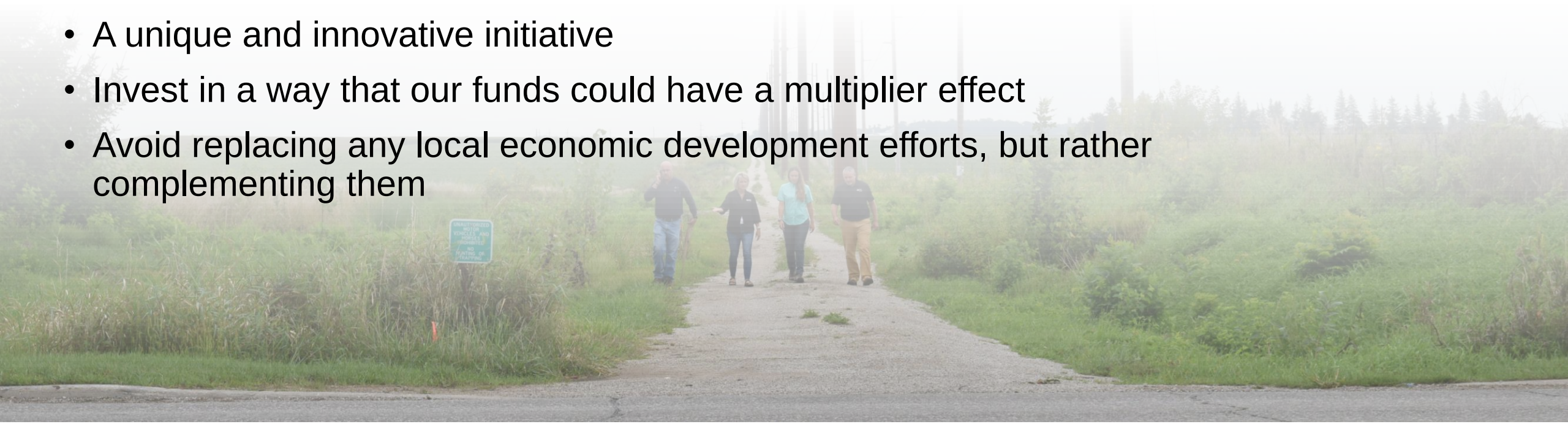
- 34.5 kV system built to 69 kV completed in 2021
- Conversions ongoing
- This was needed, in part, to ensure smaller communities had the available transmission capacity to handle loads from small and medium-sized manufacturers



We are committed to the future of rural communities. Supporting growth in rural Iowa is an important priority at ITC Midwest.

Promoting economic development in rural areas

Along with supplying reliable and resilient transmission service, what else could we do to support economic growth in rural communities?

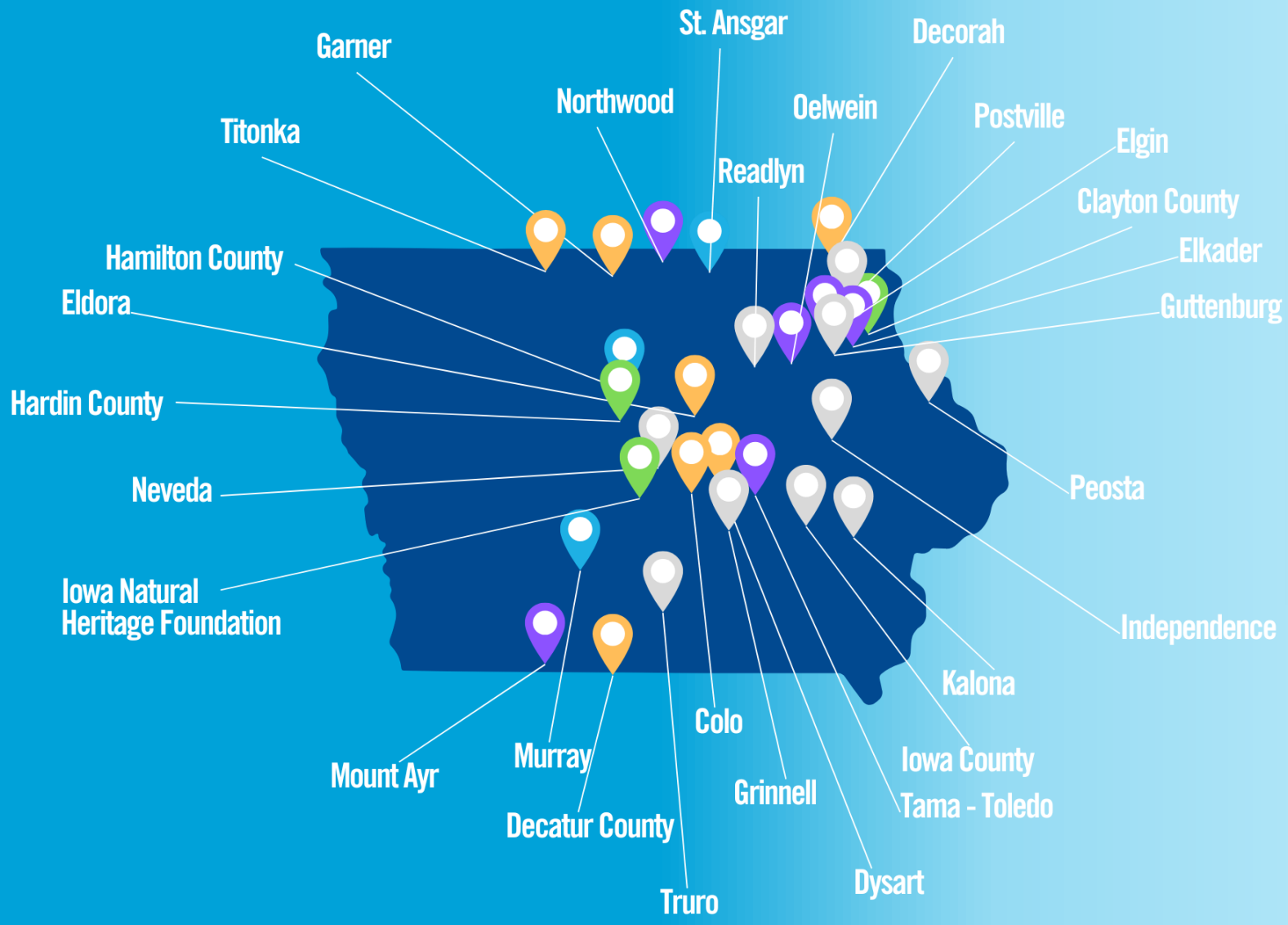


- A unique and innovative initiative
- Invest in a way that our funds could have a multiplier effect
- Avoid replacing any local economic development efforts, but rather complementing them

Power of Connection Community Grant Program

- A joint program with the Iowa Rural Development Council (IRDC)
- Launched by ITC Midwest and the IRDC in December 2019
- Intended to fund soft costs to get projects launched, not cover capital dollars
- Up to $5,000 grants, but that has leveraged lots of additional funding
- Targeted to communities under 10,000 people
- Outside of metropolitan areas, including many northern Iowa communities

Impacts of the Program have been far-reaching



- Childcare
- Housing
- Historic Revitalization
- Nature/ Conservation
- Other

Additional funding throughout the service territory

Albert Lea Inclusive Playground & Miracle Field

- Sponsor of this initiative
- Focus on creating a space where people of all ages and abilities can come together in the community

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Additional funding throughout the service territory

Albert Lea Splash Pad

- Sponsor of this initiative
- Focus on promoting a positive space for children to be themselves

Additional funding throughout the service territory

"Funding from ITC Midwest has enabled We Care Childcare to provide additional childcare options, eliminating barriers and attracting additional businesses to our community."

– Laurie Lee,
We Care Childcare Board Trustee

Extending giving across the footprint

- Charitable giving continues to grow.
- We'll continue to evolve to best meet the economic development needs of rural communities throughout our footprint and beyond.

Questions?

Mike Frank

Area Manager, Local Government & Community Affairs

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Lunch

Derecho 5-year Anniversary Video

Summer Operational Preparedness

Matt Heinisch

Supervisor, Operational Planning
mheinisch@itctransco.com

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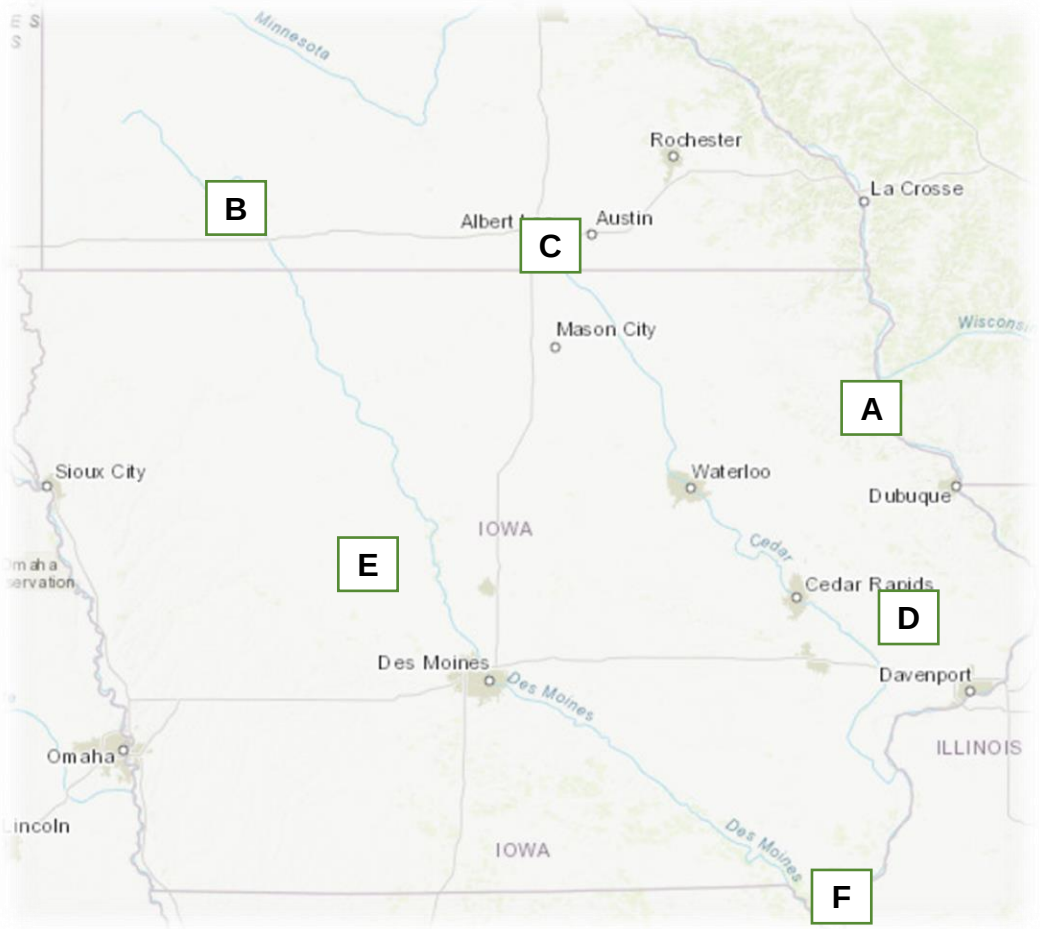
Transmission System Topology Changes



A. Hickory Creek-Hill Valley 345kV/Nelson Dewey-Turkey River 161kV

B. Heron Lake 161kV Rebuild

C. Hayward T1 161/69kV Transformer

D. Maquoketa 161kV Substation (CIPCO)

E. Continued 34.5kV to 69kV Conversions

F. Keokuk Hydro-Carbide 69kV

Generation Changes

Solar Generation Capacity

Summer 2024

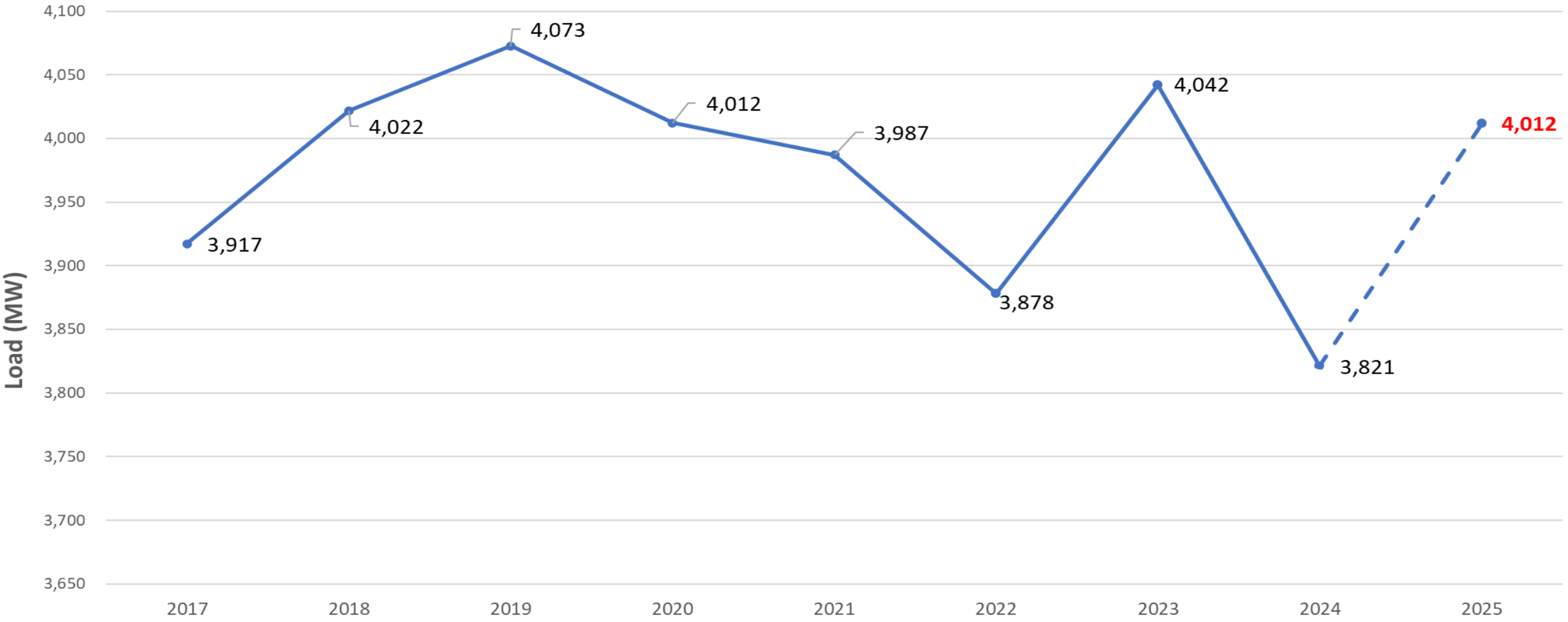
150 MW

Summer 2025

550 MW

- **Traditional/baseload & wind generation remain consistent year-over-year.**
- **Wind generation covered over 90% of the network load on average during 2024.**
  - June-August 2024: 56%

Yearly Control Area Load



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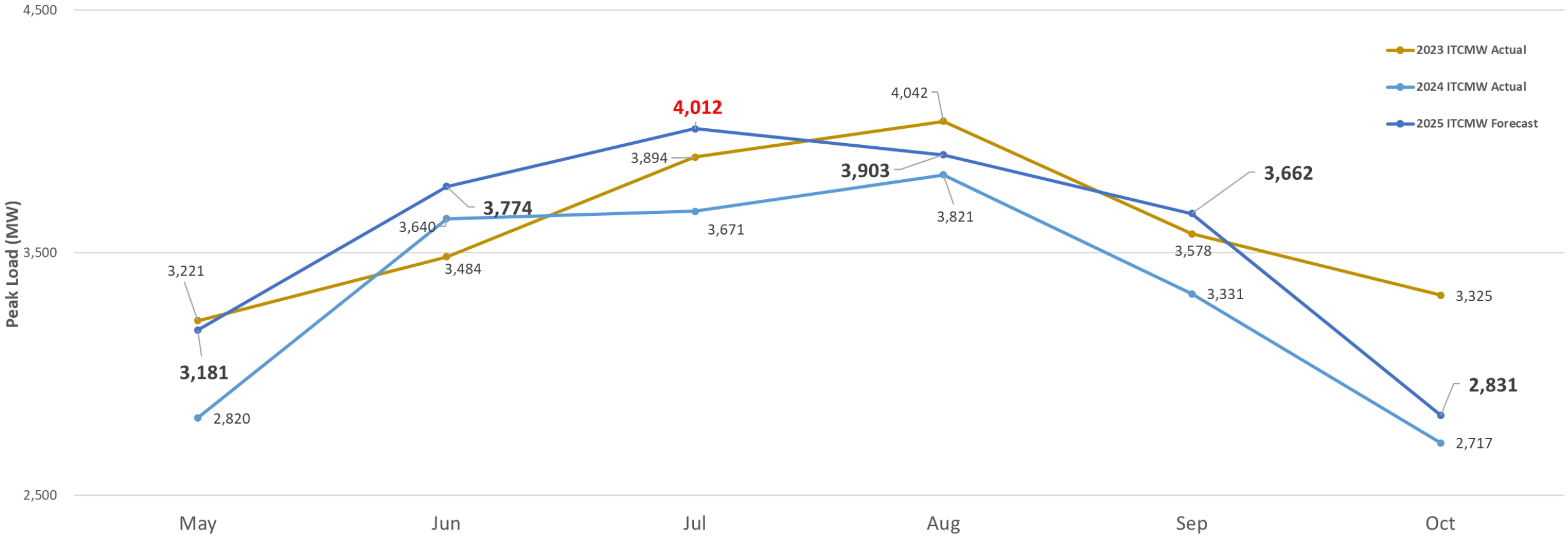
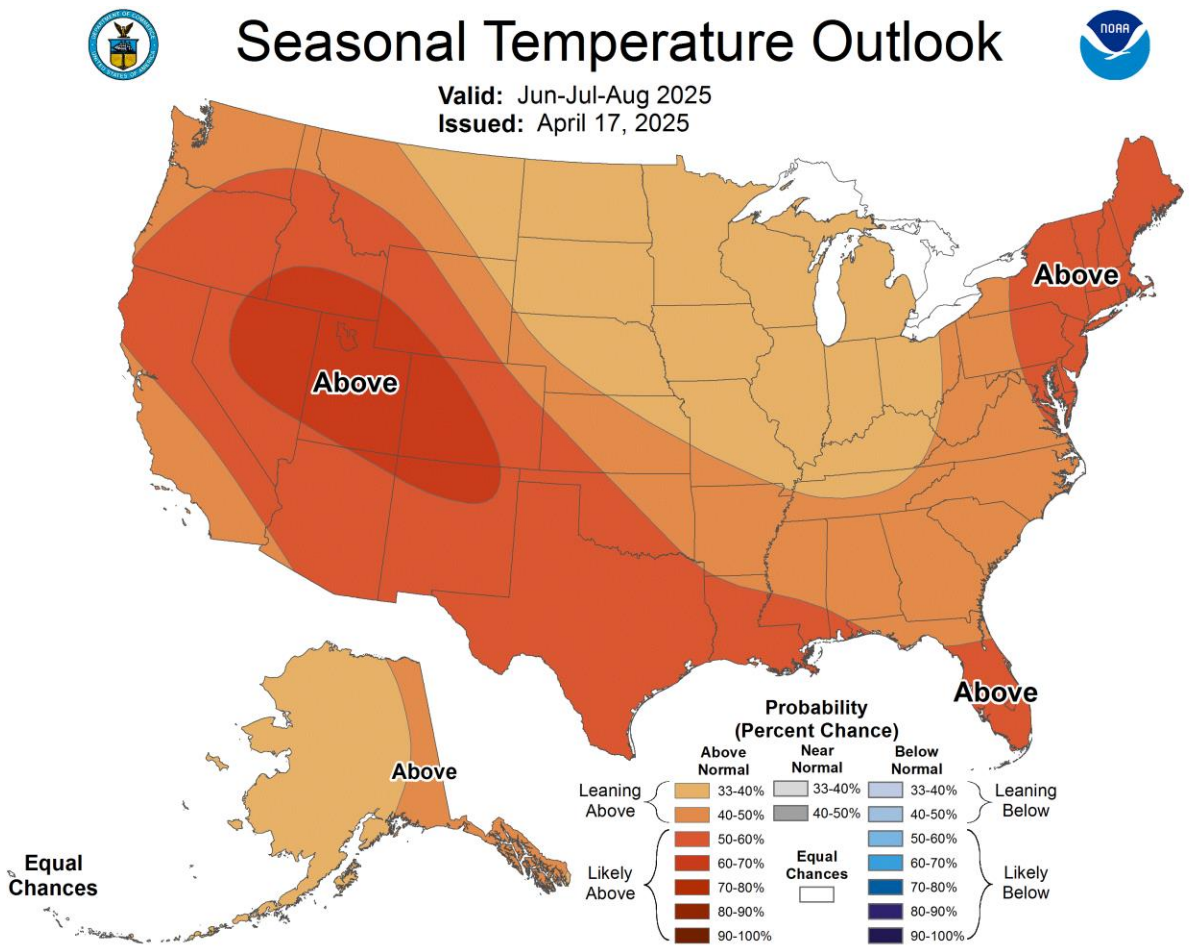
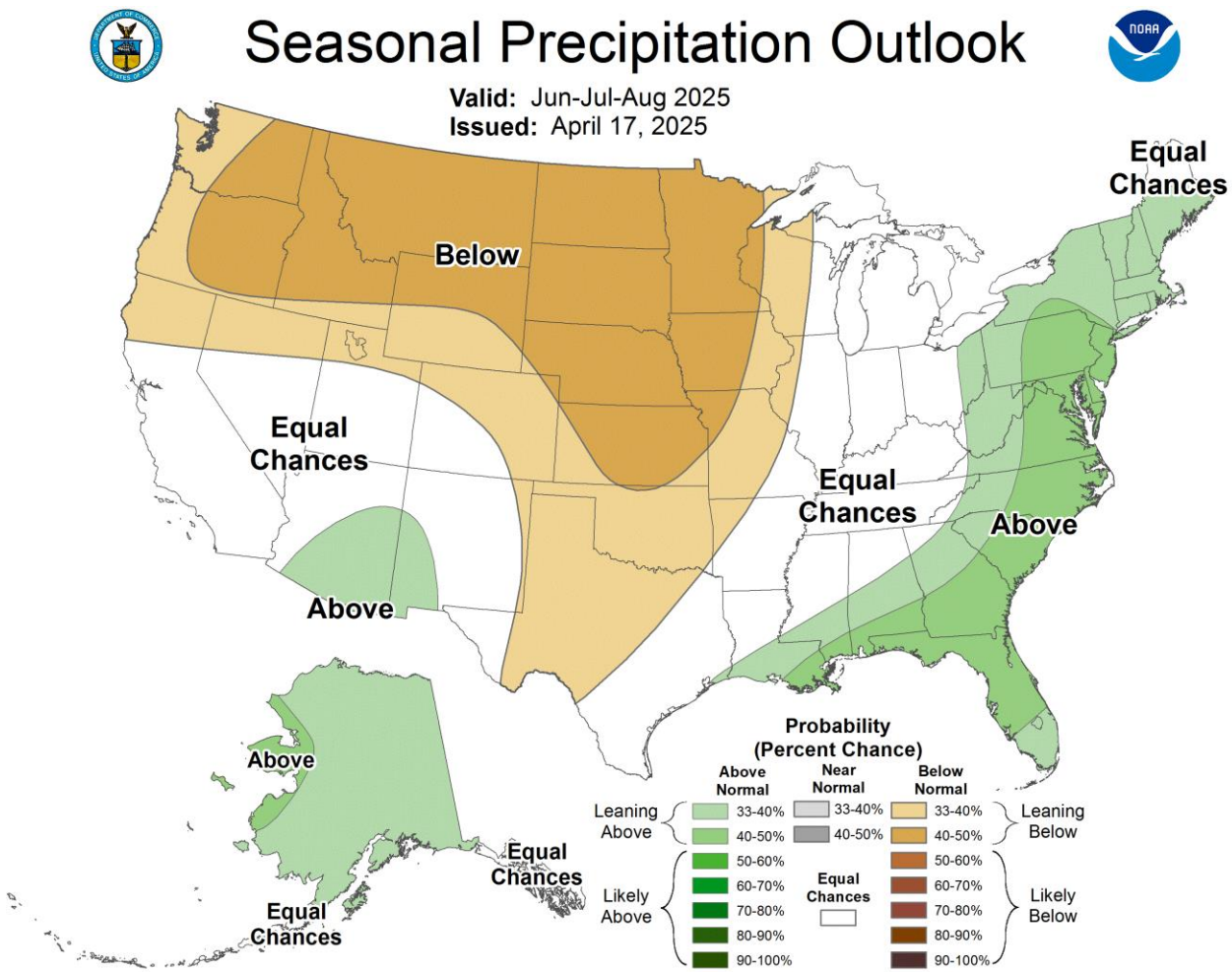
Monthly Control Area Load



Summer Climate Forecast





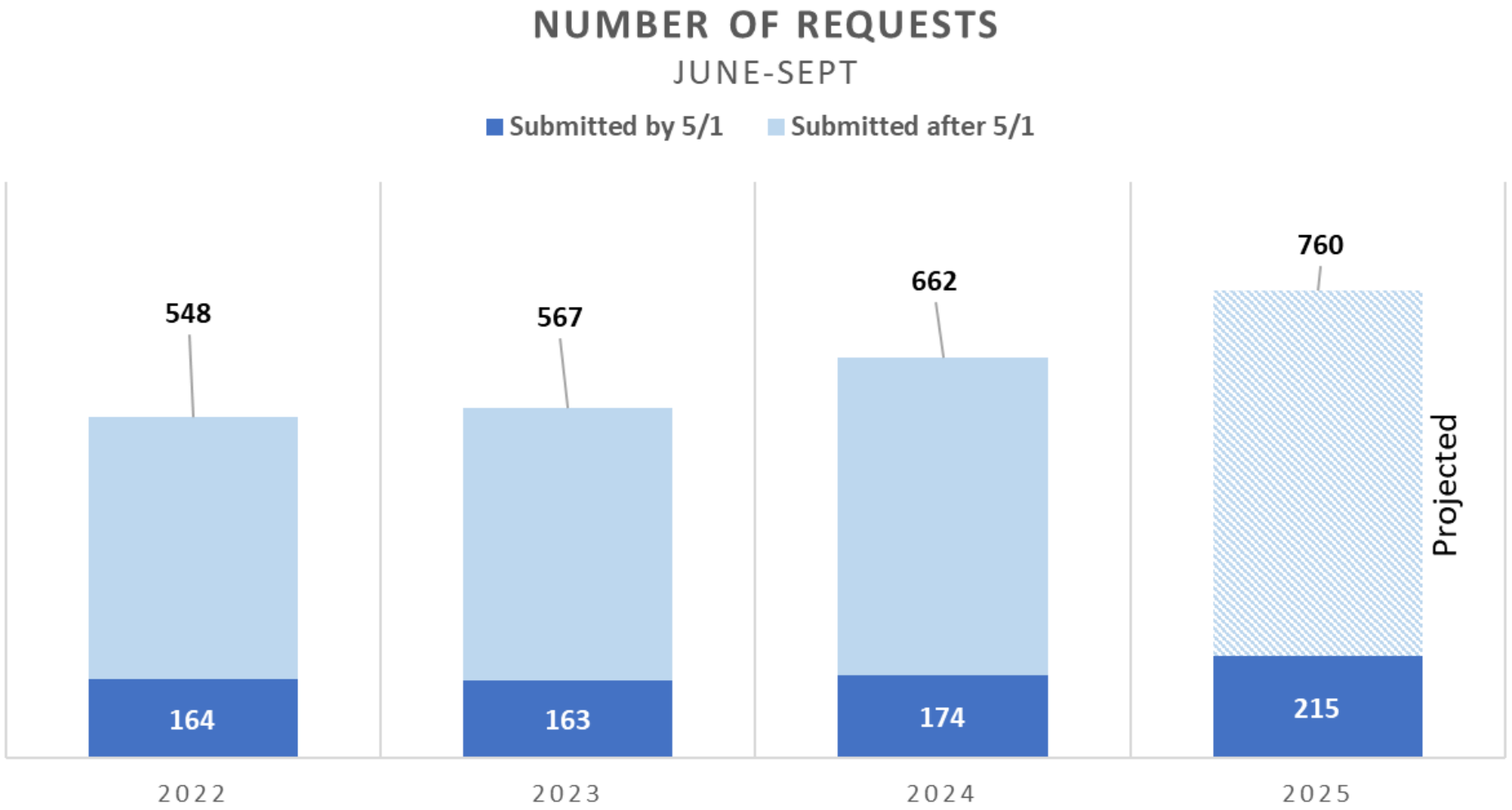
Study Methodology

Studied outages submitted as of 3/26/25.

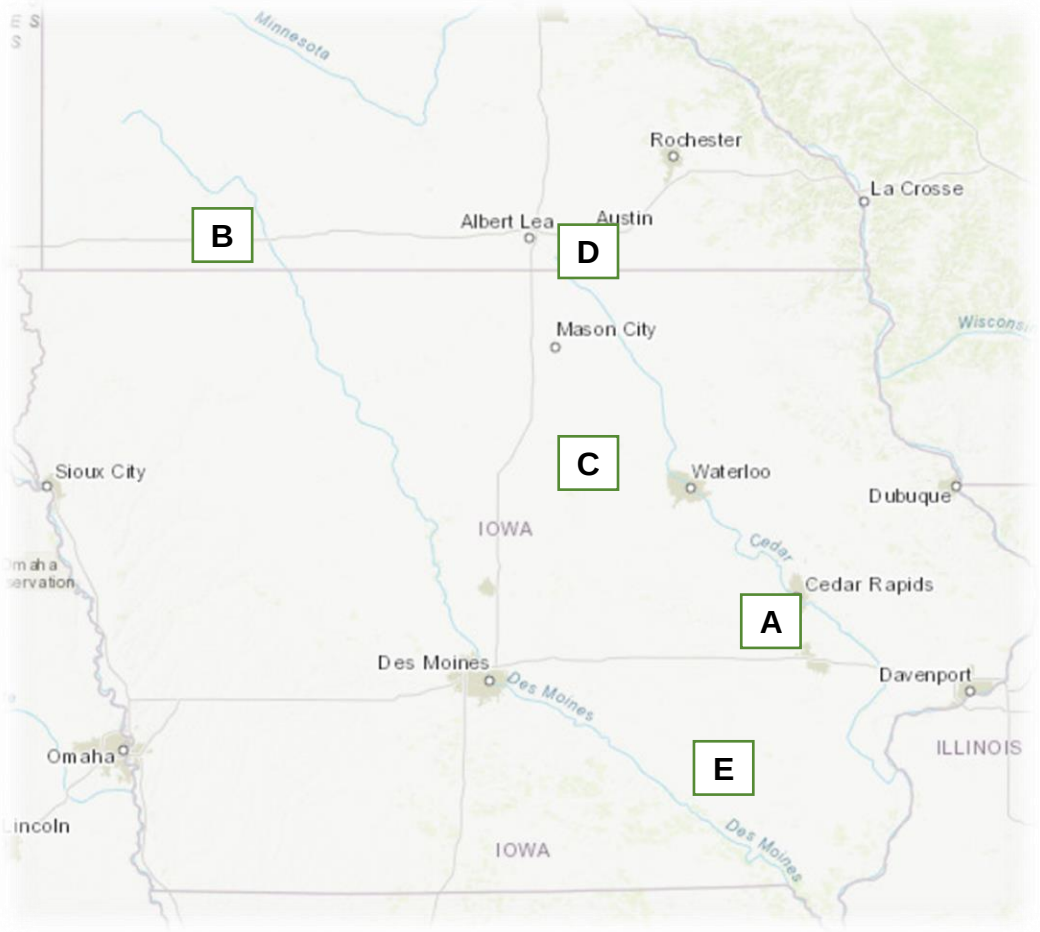
- Studied non recallable/greater than 24 hour recall planned outages that are 1 week or longer in duration.
- Studied recallable (under 24 hours) planned outages that are 2 weeks or longer in duration.

Studied summer outages using a standard high load base case and two additional stressed biased cases using TARA and OSI.

Anticipated Outages



Major Outages



A. Beverly-Morgan Valley 345kV

B. Magnolia T1 161/69kV Transformer

C. Franklin-Nuthatch 161kV

D. Adams-Hayward 161kV

E. Jefferson County-Woody 161kV

Summer Assessment

Maximizing Resources

- Over 1,350 MVAR cap bank capacity (69kV and above) – 98.5% Available

- Utilization of reconfigurations to minimize generation impact.
  - 2024: Over 90 Operating Guides utilizing reconfigurations to minimize congestion (addressing over 150 constraints).

Preparation

- Upcoming changes from FERC Order 881
  - Utilized new four-season rating methodology for summer ratings.
- Operational Planning Analysis (OPA) Benchmarking
  - Initiative to improve studies for the next operating day.
- Re-review worst case 34.5kV contingencies and load transfer plans.
- Develop operating guides for standing issues or long-term jobs ahead of summer.
- Control Room training on study results and expected operating actions.

Questions?

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Leveraging GIS at ITC

Ethan Ehrisman

Senior GIS Analyst
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What is GIS?

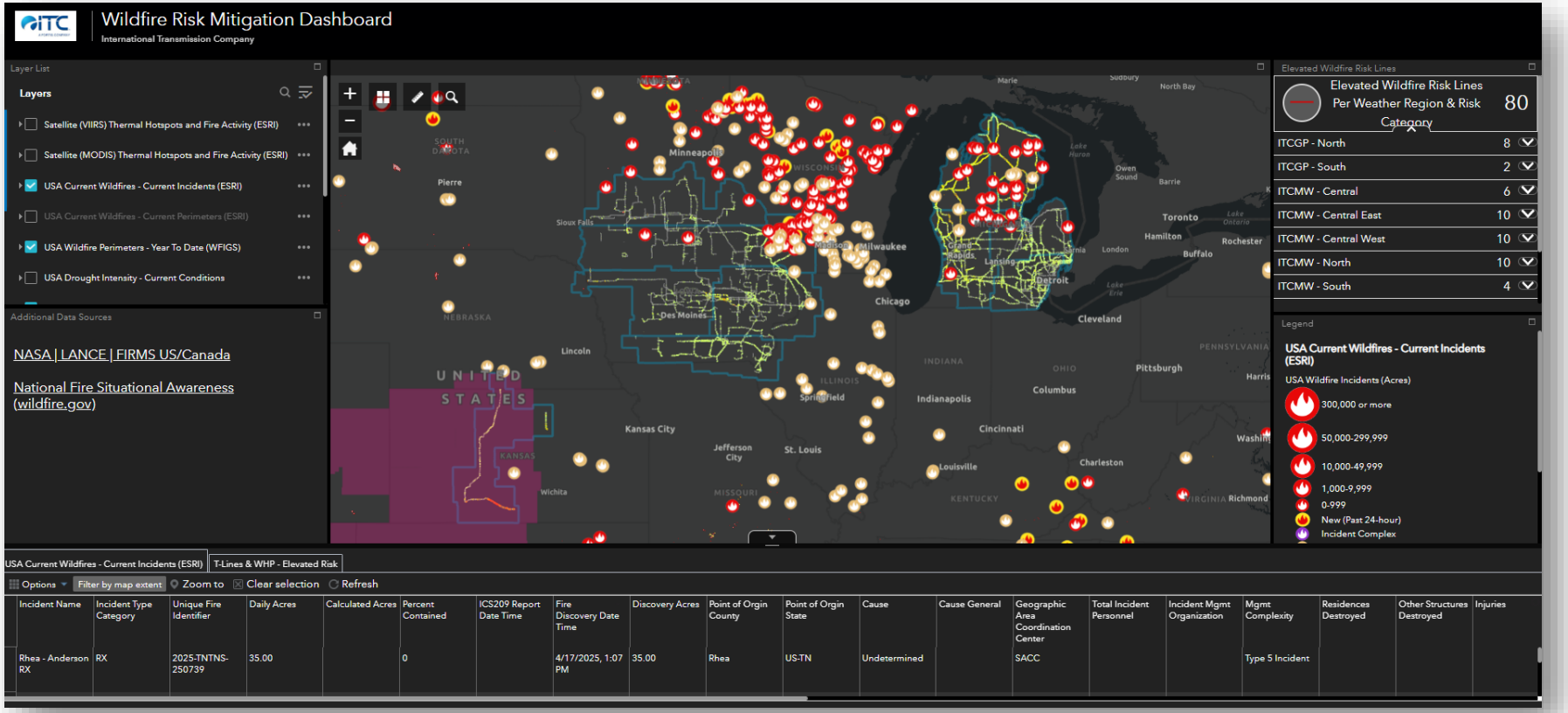
“A computer-based system used to collect, manage, analyze, and visualize spatial data, providing tools to understand and solve real-world problems by connecting data to geographic locations.”

“The fusion of technology, geography, and data”

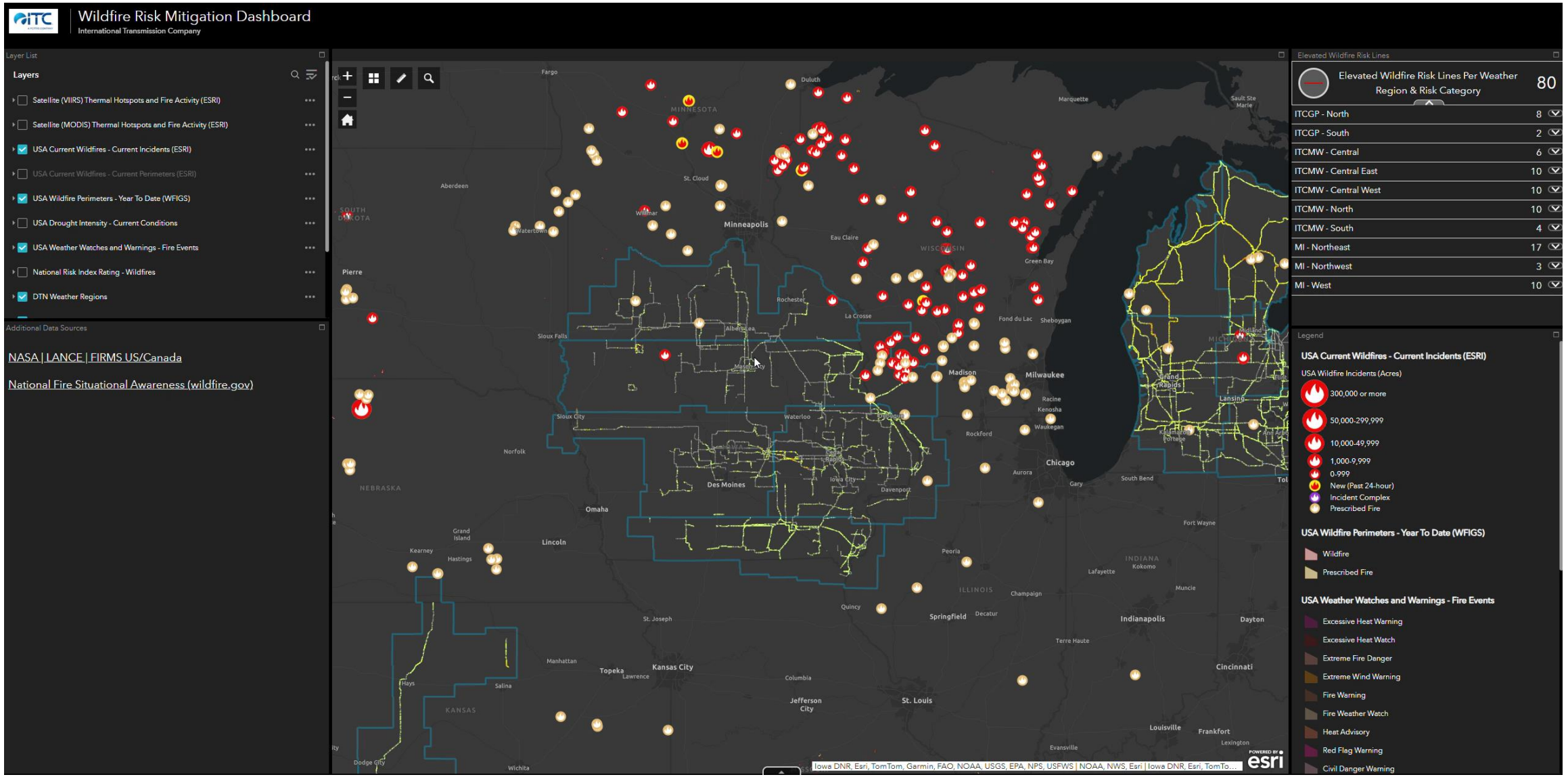
GIS Applications: Enhancing Efficiency Across ITC

Wildfire Dashboard

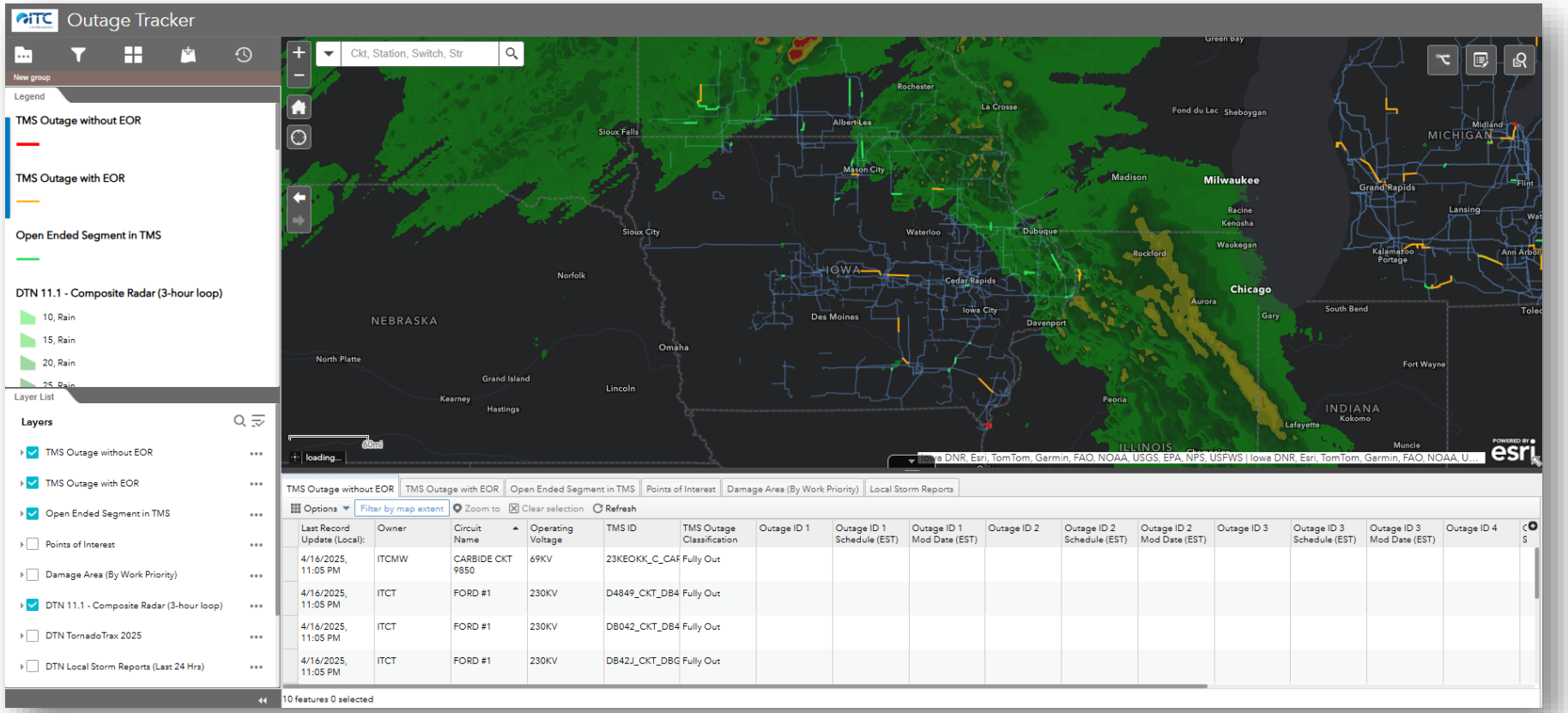
- Transmission Line Elevated Wildfire Risk Assessment
- Wildfire Hazard Potential
- Real Time Wildfire Data
- Automated Proximity Notifications



Wildfire Dashboard - Demonstration



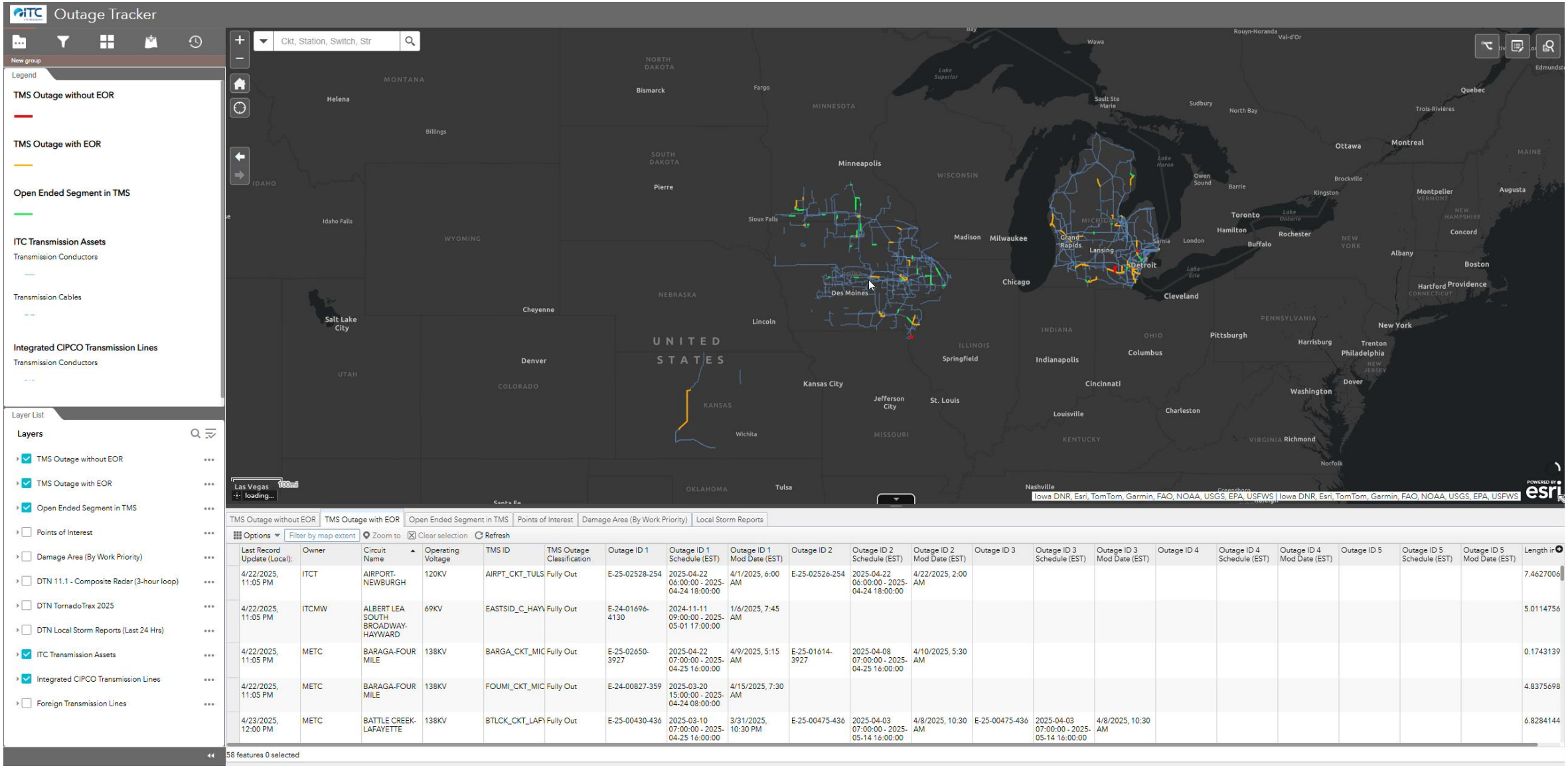
GIS Applications: Enhancing Efficiency Across ITC



Outage Event Tracking

- Operations Data Integrated Into GIS
- Planned and Unplanned Outage Reporting
- Spatial Awareness Across Business
- Current and Historic Weather
- Field Damage Assessment

Outage Tracking - Demonstration

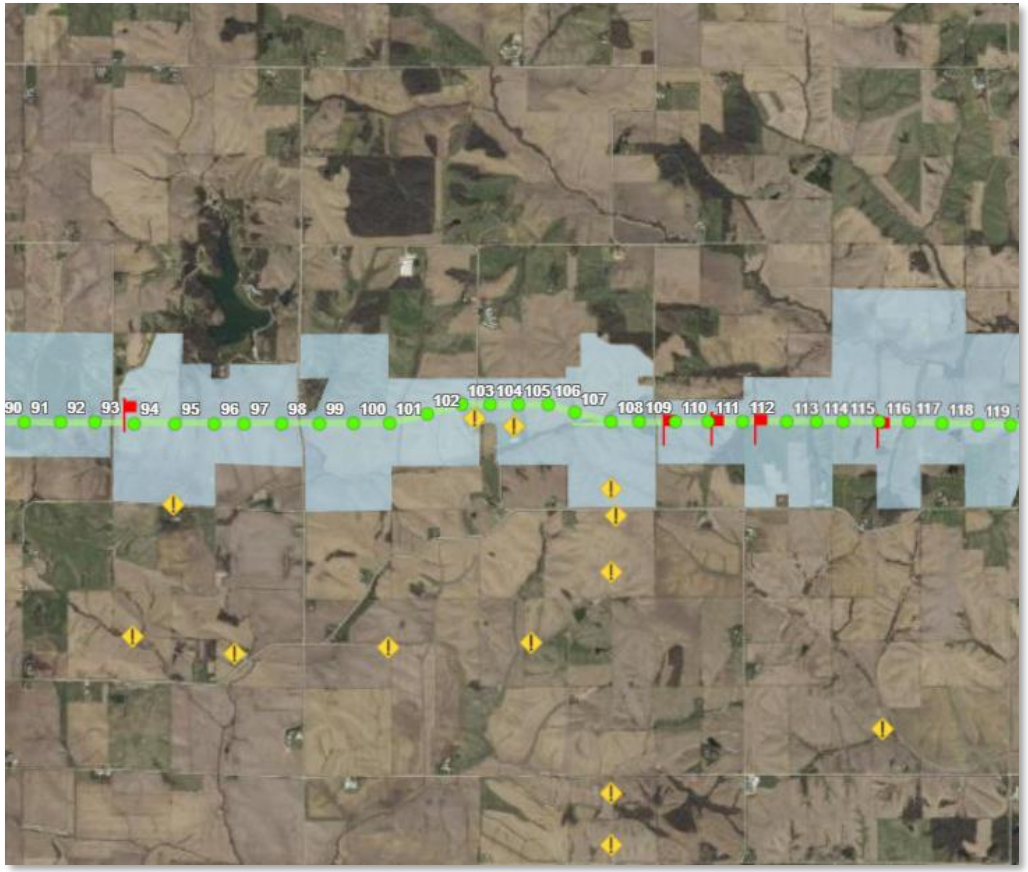


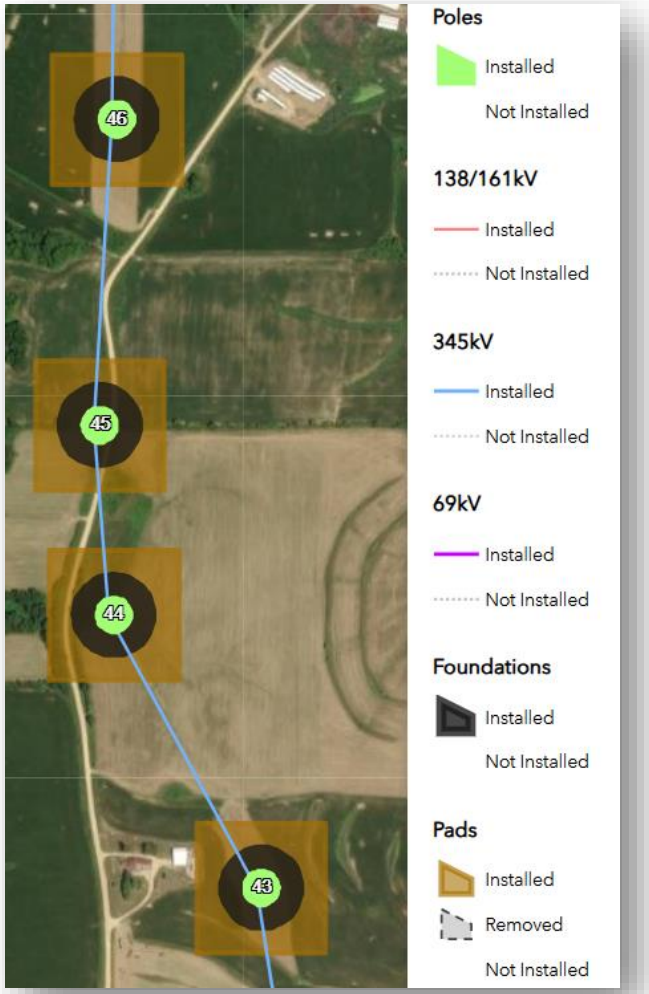
Last Record Update (Local):	Owner	Circuit Name	Operating Voltage	TMS ID	TMS Outage Classification	Outage ID 1	Outage ID 1 Schedule (EST)	Outage ID 1 Mod Date (EST)	Outage ID 2	Outage ID 2 Schedule (EST)	Outage ID 2 Mod Date (EST)	Outage ID 3	Outage ID 3 Schedule (EST)	Outage ID 3 Mod Date (EST)	Outage ID 4	Outage ID 4 Schedule (EST)	Outage ID 4 Mod Date (EST)	Outage ID 5	Outage ID 5 Schedule (EST)	Outage ID 5 Mod Date (EST)	Length
4/22/2025, 11:05 PM	ITCT	AIRPORT-NEWBURGH	120KV	AIRPT_CKT_TULS	Fully Out	E-25-02528-254	2025-04-22 06:00:00 - 2025-04-24 18:00:00	4/1/2025, 6:00 AM	E-25-02526-254	2025-04-22 06:00:00 - 2025-04-24 18:00:00	4/22/2025, 2:00 AM										7.4627006
4/22/2025, 11:05 PM	ITCMW	ALBERT LEA SOUTH BROADWAY-HAYWARD	69KV	EASTSID_C_HAY	Fully Out	E-24-01696-4130	2024-11-11 09:00:00 - 2025-05-01 17:00:00	1/6/2025, 7:45 AM													5.0114756
4/22/2025, 11:05 PM	METC	BARAGA-FOUR MILE	138KV	BARGA_CKT_MIC	Fully Out	E-25-02650-3927	2025-04-22 07:00:00 - 2025-04-25 16:00:00	4/9/2025, 5:15 AM	E-25-01614-3927	2025-04-08 07:00:00 - 2025-04-25 16:00:00	4/10/2025, 5:30 AM										0.1743139
4/22/2025, 11:05 PM	METC	BARAGA-FOUR MILE	138KV	FOUMI_CKT_MIC	Fully Out	E-24-00827-359	2025-03-20 15:00:00 - 2025-04-24 08:00:00	4/15/2025, 7:30 AM													4.8375698
4/23/2025, 12:00 PM	METC	BATTLE CREEK-LAFAYETTE	138KV	BTLCK_CKT_LAF	Fully Out	E-25-00430-436	2025-03-10 07:00:00 - 2025-04-25 16:00:00	3/31/2025, 10:30 PM	E-25-00475-436	2025-04-03 07:00:00 - 2025-05-14 16:00:00	4/8/2025, 10:30 AM	E-25-00475-436	2025-04-03 07:00:00 - 2025-05-14 16:00:00	4/8/2025, 10:30 AM							6.8284144

GIS Applications: Enhancing Efficiency Across ITC

Project Lifecycle

- Routing and Siting
- Real Estate Acquisition
- Design
- Construction
- As Built





ITC Business Units Leveraging GIS Technology

- Line/Sub Design
- SCADA/Relay
- Project Management
- Grid Solutions
- Field Supervision
- Operations/ Emergency Response
- Asset Management
- Real Estate/Regulatory
- Planning
- Community Relations

Questions?

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765 kV Introduction

Aaron Graber

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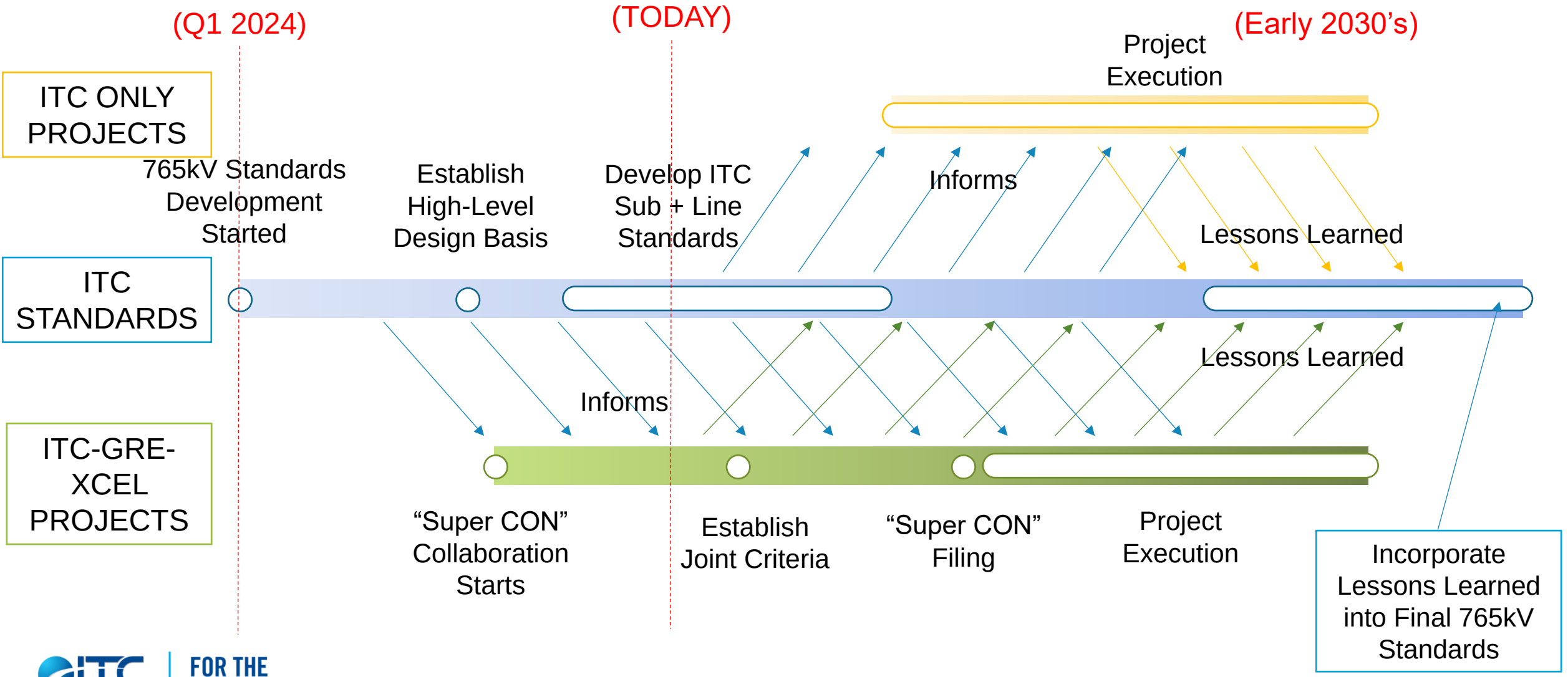
Where We Stand



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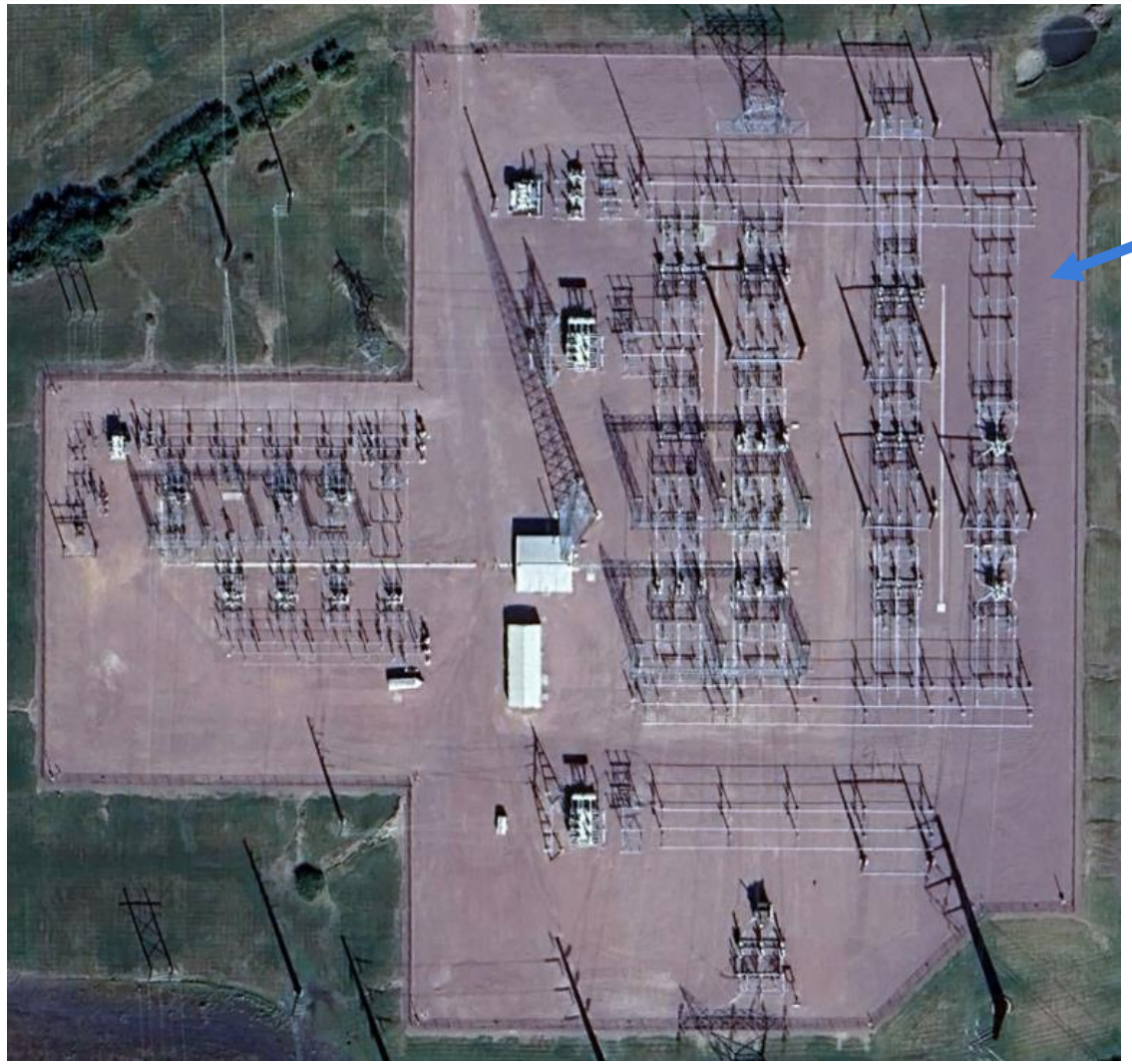
765 kV Substation

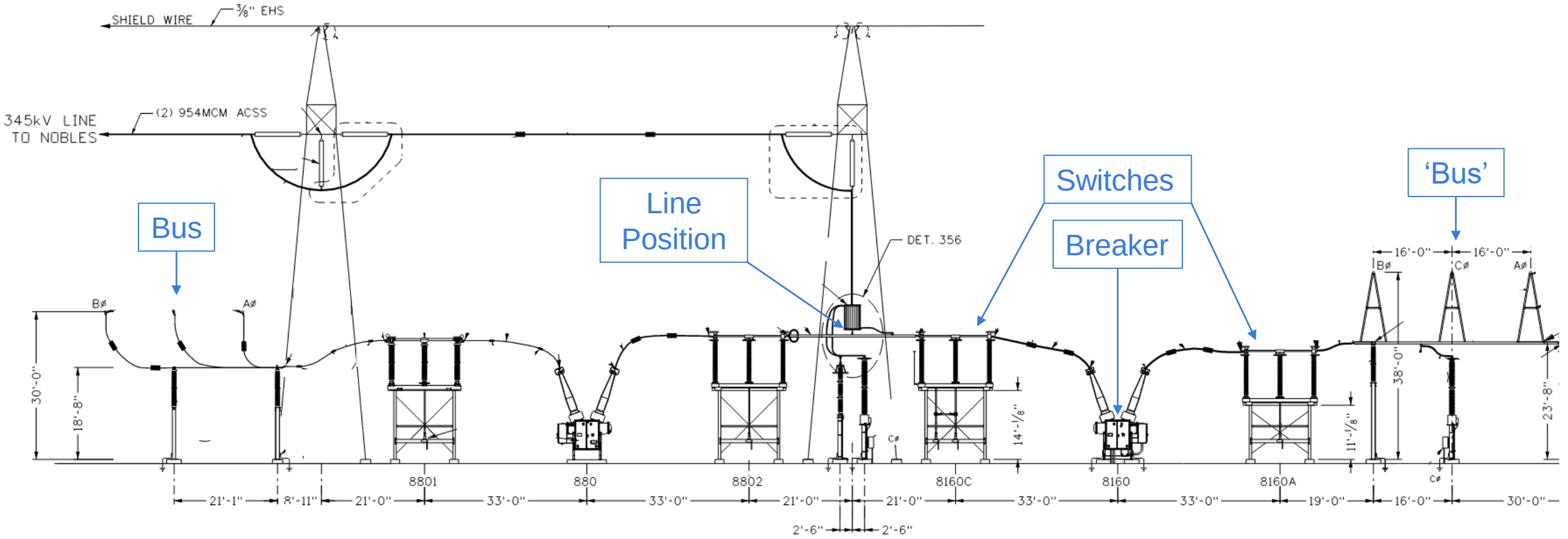


Example – Lakefield Jct.

- Existing 345kV:
  - 2x 345/161 kV XFMR
  - 2x 345 kV Reactor
  - 5x 345 kV Lines
- 765kV Addition:
  - 2x 765/345 kV XFMR
  - 3x 765 kV Reactor
  - 3x 765 kV Lines

765 kV Substation

Lakefield Jct. - Existing 345 kV Row



765 kV Substation

Example – Lakefield Jct.

- Existing 345 kV:
  - 2x 345/161 kV XFMR
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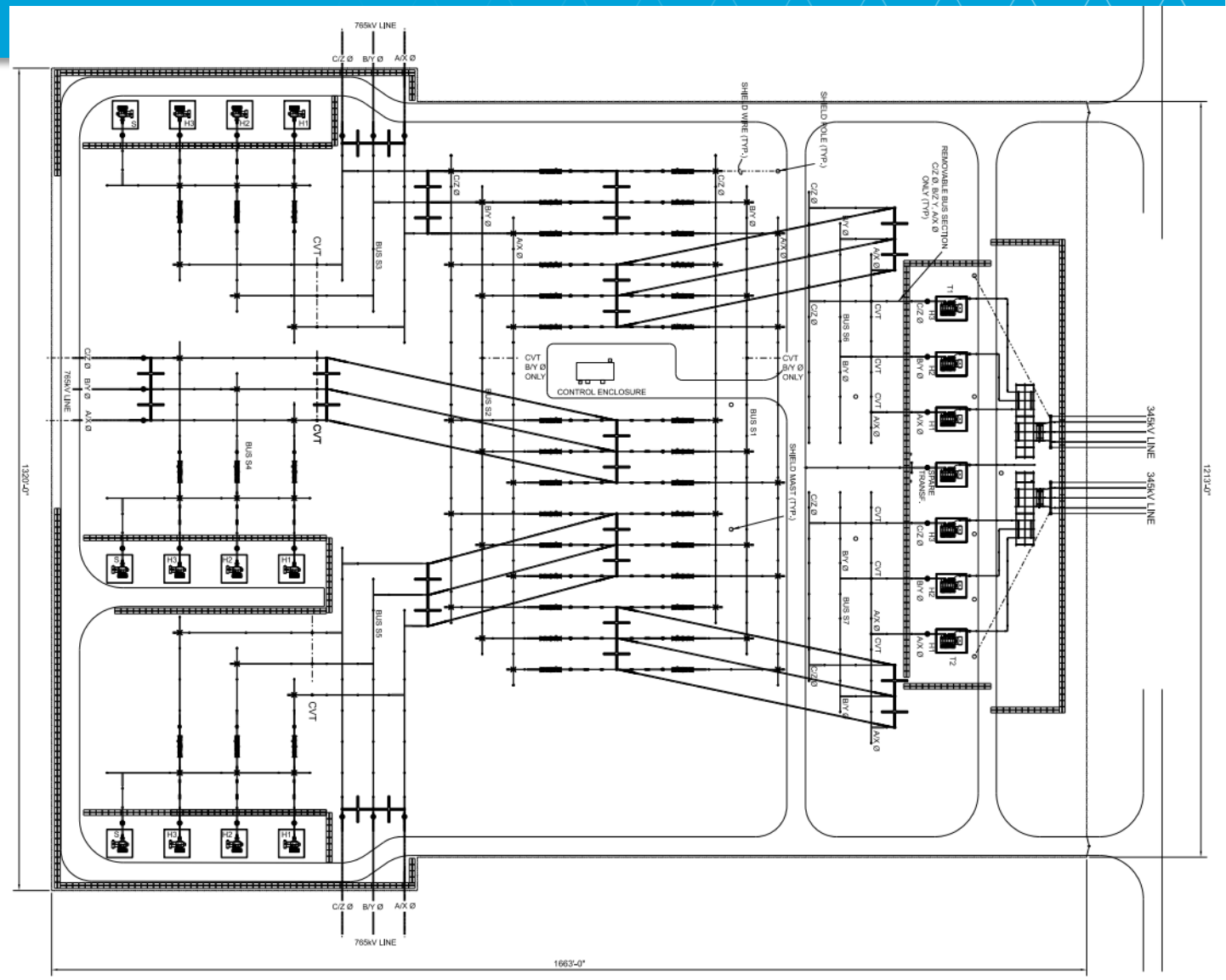
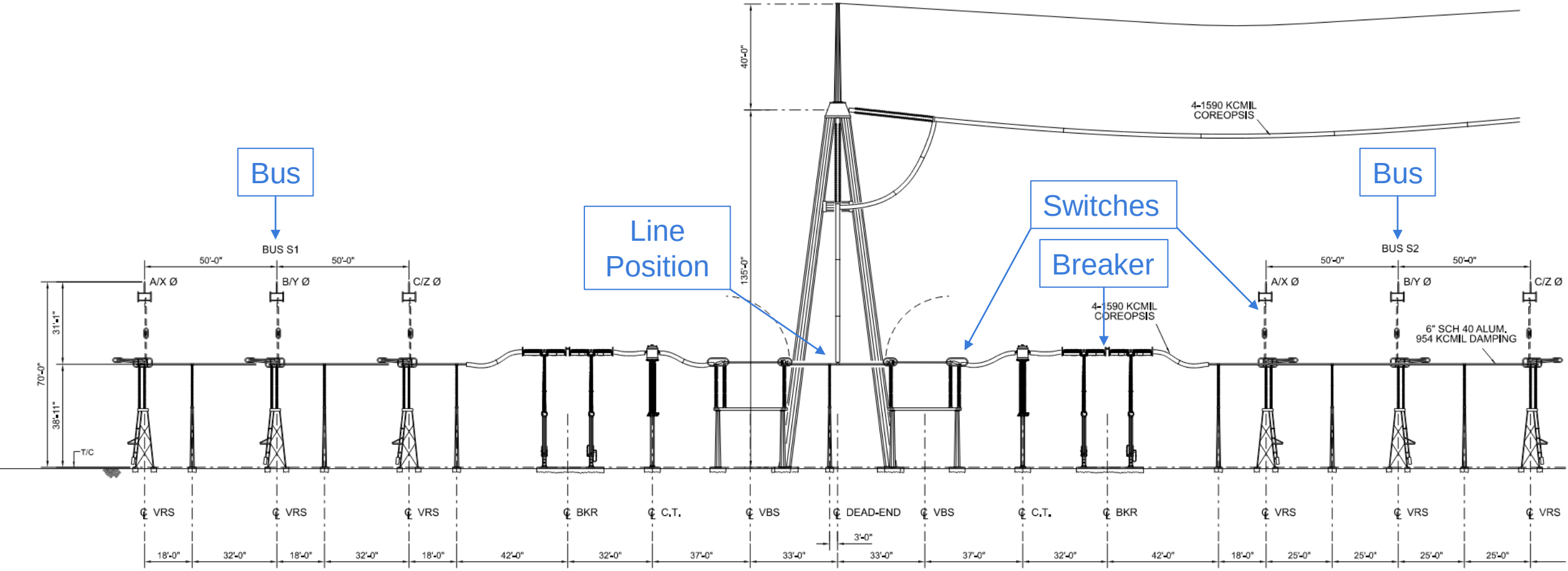
  - 5x 345 kV Lines
- 765kV Addition:
  - 2x 765/345 kV XFMR
  - 3x 765 kV Reactor
  - 3x 765 kV Lines



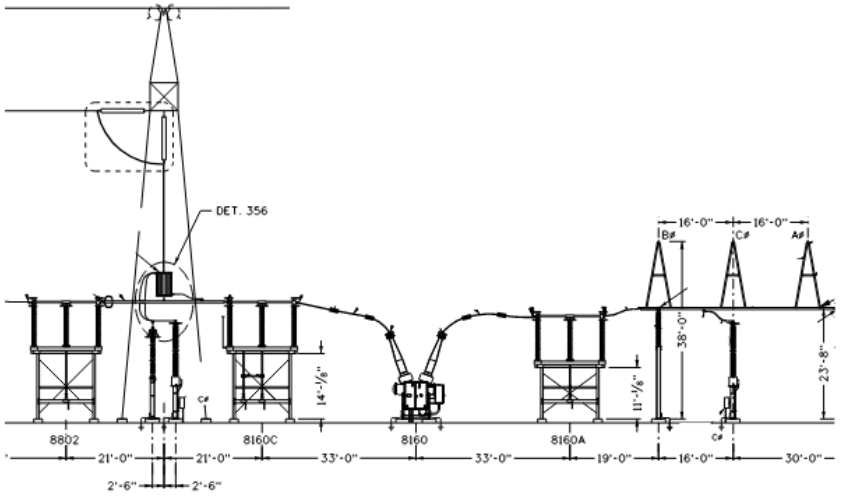
765 kV Substation

Lakefield Jct. - Future 765 kV Row

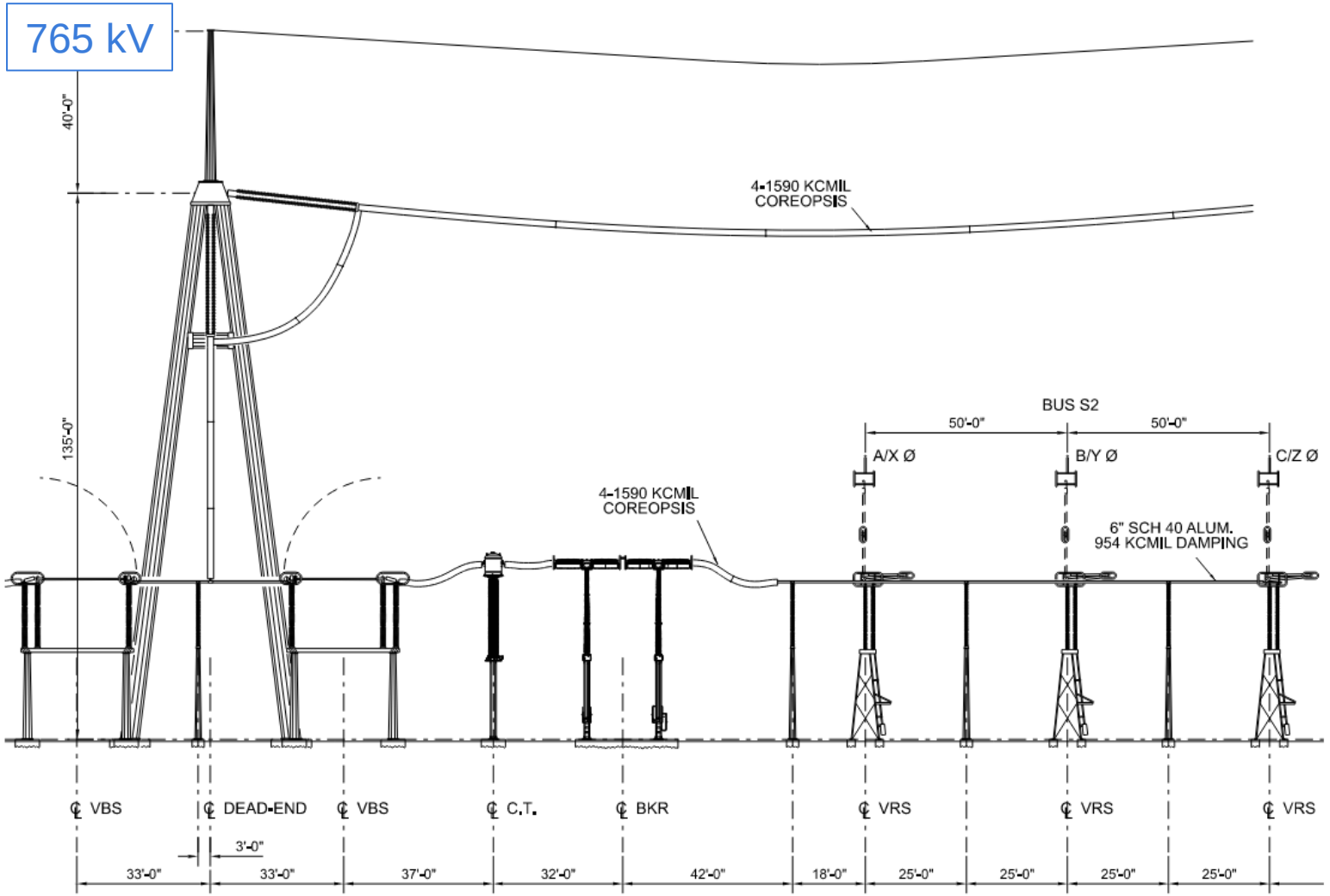


765 kV Substation

345 kV

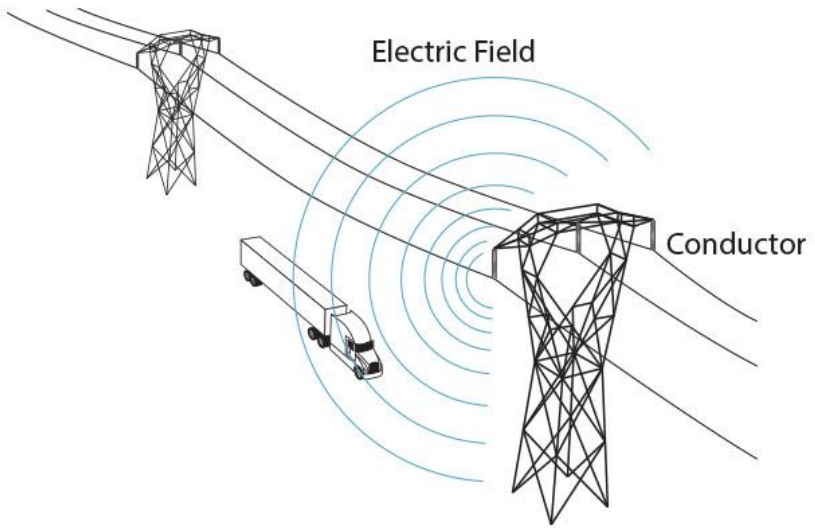


765 kV

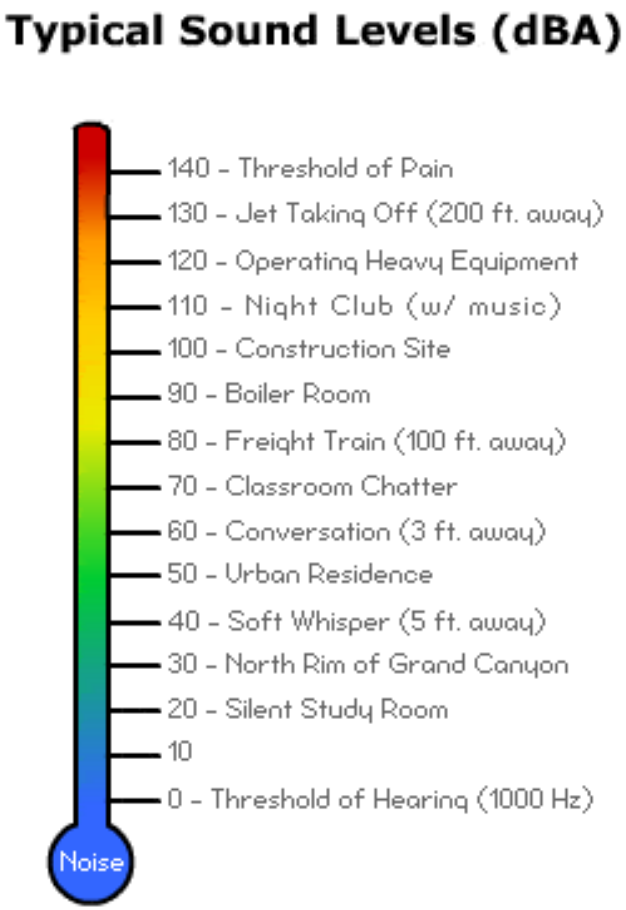


765 kV Lines – New Factors to Consider

- Audible Noise:
  - 345 kV: silent during normal operating conditions
  - 765 kV: will make noise during normal operating conditions
- Induced Current:
  - 345 kV: little impact to ground clearance in most situations
  - 765 kV: main component of ground clearance

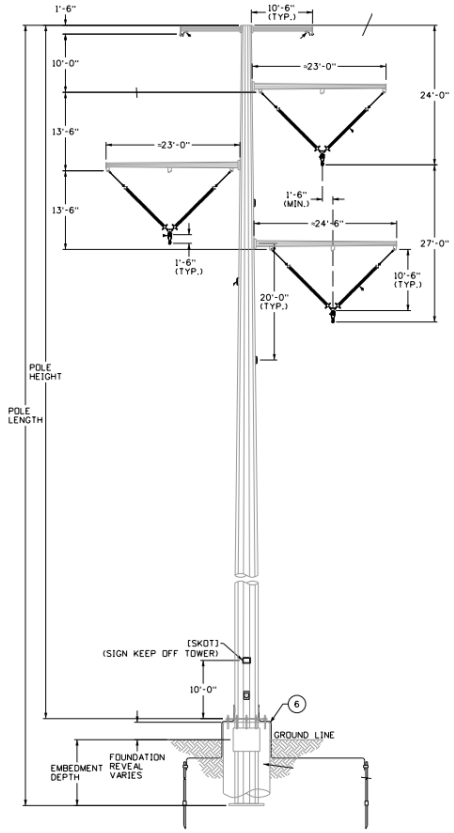


Audible Noise: Impacts on Local Area

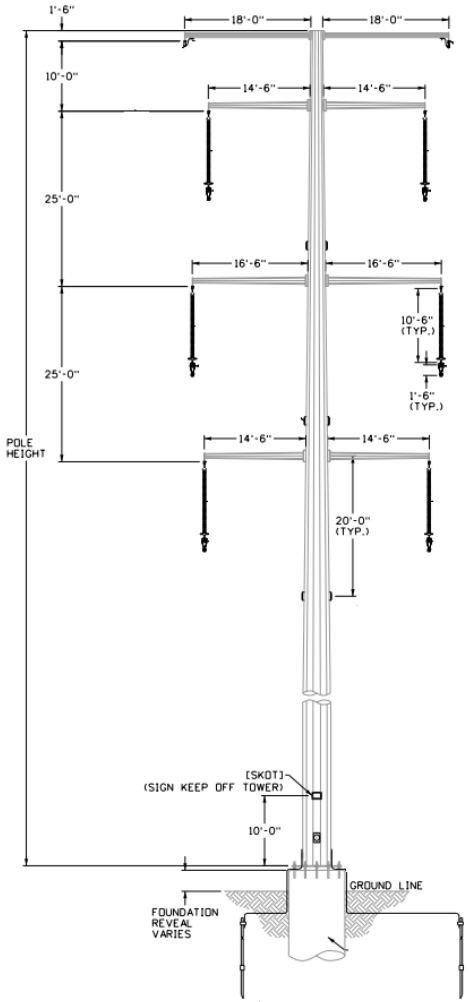


- Design features of transmission lines impact noise
- Very expensive to eliminate all noise
- World Health Organization research
  - 50 dBA leads to few or no complaints
  - 53 dBA leads to mild/moderate annoyance
  - 55 dBA leads to increased annoyance

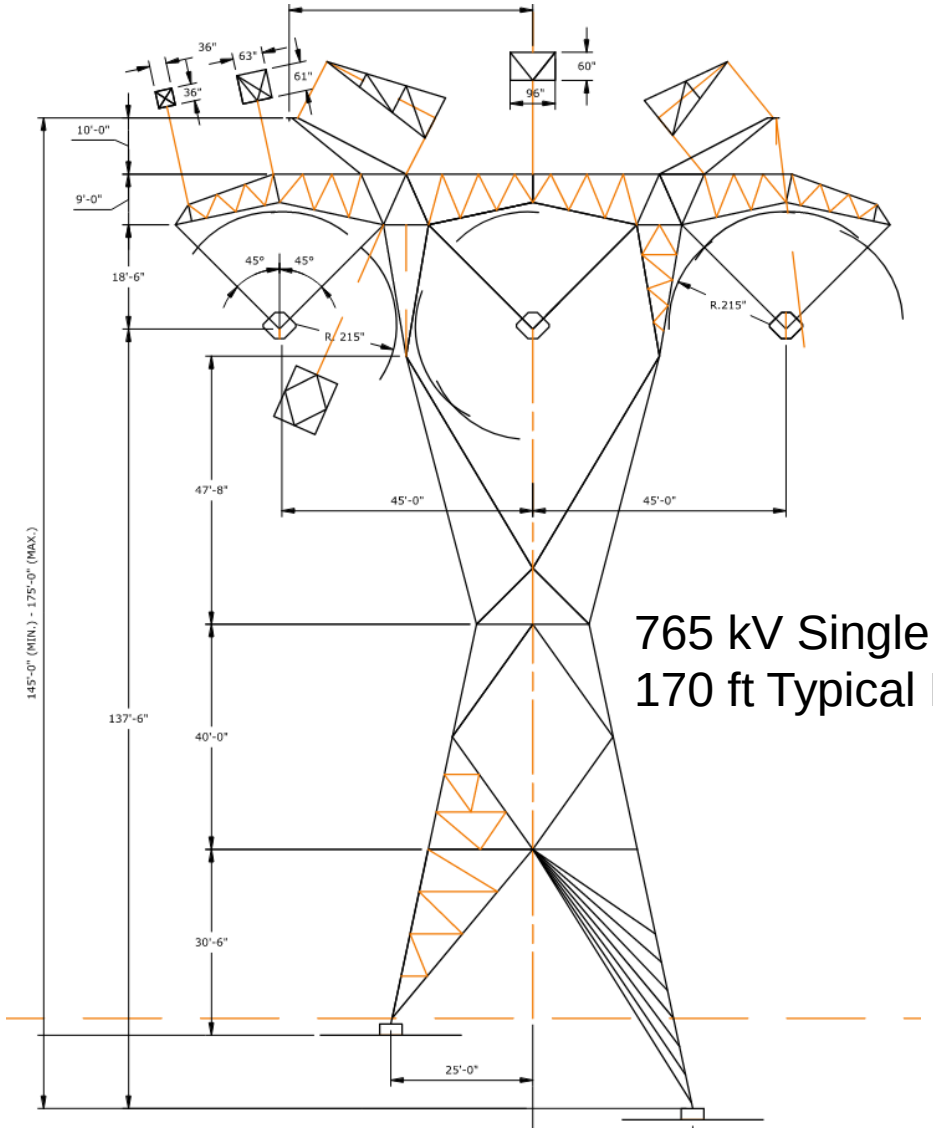
765kV Lines – Structure Comparison



345 kV Single Circuit
120 ft Typical Height



345 kV Double Circuit
165 ft Typical Height



765 kV Single Circuit
170 ft Typical Height

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Lattice Towers??

- Very high loads and tall structures point to lattice towers
- ITC has never designed a new lattice tower
  - Some have been installed in Michigan and Kansas using legacy designs
- Study underway to select most cost-effective structure
  - Tubular steel still under consideration
- Full scale testing industry best practice for new tower designs

Questions?

Aaron Graber

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Closing

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Account Manager, Customer & Business Solutions
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Our Next Meeting

ITC Midwest 2025 Fall Partners in Business

- Dates to be determined

Thank You for Attending!

Copies of today's presentation are available at:

https://www.itc-holdings.com/itc-midwest/customer-solutions/partners-in-business/

http://www.oasis.oati.com/ITCM/index.html

Please leave your nametag on your table before you leave. Thank you!

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Enjoy the summer!