Partners in Business
For the Greater Grid

Kick-off
Mike Dabney – Manager, Stakeholder Relations

October 9, 2019
For the Greater Grid

Safety First!

Mike Dabney – Manager, Stakeholder Relations

October 9, 2019
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 or other statements, whether as a result of new information, future events, or otherwise.
Photo Release and Waiver

By participating in this ITC event or activity, you authorize ITC Holdings Corp., its subsidiaries and affiliates (hereinafter “ITC”) and its employees, agents and representatives acting on behalf of ITC, to use your name, voice, photograph, image and/or video (collectively referred to as your likeness) in any manner and media, worldwide in perpetuity, without compensation. All such photographs and recordings will be the sole property of ITC.

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

- Registration for meeting: Sign in/Drawing Ticket
- Refreshments
- Relax, enjoy and ask questions
- Restroom/Facility locations
- Lunch
- Partners in Business website at: www.itctransco.com
  or MISO OASIS website: www.oasis.oati.com
- Introductions
Today’s Agenda

**Kick-off:** Mike Dabney – Manager, Stakeholder Relations

**Welcome/Update:** Dusky Terry – President, ITC Midwest

**Regulatory Update:** Tom Petersen – Director, Public Affairs
Zach Paquette – Manager, Rates

**Ice Storm Recovery:** Matt Heinisch – Supervisor, Operations Planning

**Reliability Update:** Dan Daavettila – Operations Planning Engineer

**Formula Rate:** Zach Paquette – Manager, Rates

**Projects Overview:** Jeff Eddy – Manager, Planning
Dan Barr – Supervisor, Planning
Robert Walter – Supervisor, Planning

**Renewable Generation Integration:** Jordan Bakke – Manager Policy Studies, MISO

**ICF Study Next Steps:** Tom Petersen – Director, Public Affairs
For the Greater Grid

ITC Midwest Update

Dusky Terry – President, ITC Midwest

Fall 2019
For the Greater Grid

State Regulatory Update
Tom Petersen – Director, Public Affairs
Iowa Regulatory Activities

ITC Midwest intervention in IPL Electric Rate Case

• Continuing to monitor to identify key opportunities for ITC to provide input in the case
  • Reviewed filings and testimony for opportunities to further develop the record
  • Responded to data requests and filed testimony on key topics
  • Participated in hearing held earlier this week
• Opportunity through post-hearing briefs to provide additional input in advance of the Board’s decision
Regulatory Progress on Cardinal-Hickory Creek Project

Wisconsin
• Public Service Commission of Wisconsin announced oral decision August 20 and issued written order September 26 approving the Wisconsin portion of the project

Iowa
• Secured 85% voluntary easements along proposed route
• Hearing set for December 10-12 in Dubuque, Iowa
• Anticipate final decision by Iowa Utilities Board in second quarter 2020

Federal
• Federal environmental impact statement record of decision anticipated in January 2020. If approved, federal permits to follow.

If receive all regulatory approvals, in-service by Dec. 2023
Additional Capital Project Proceedings

Huntley-Wilmarth 345 kV transmission line project with Xcel Energy in Minnesota

- Received MPUC approval with a minor route modification
- Construction is scheduled to begin in July 2020 with an in-service date of December 2021

Beverly-Morgan Valley 345 kV line project in South Linn County, Iowa

- Critical project to support electric reliability and capacity in area
- 100% voluntary easements
- If approval received, anticipate in service by 2020
Questions?

Tom Petersen
Director, Public Affairs
ITC Holdings Corp.
tpetersen@itctransco.com
For the Greater Grid

FERC Update

Zach Paquette – Manager, Rates

Fall 2019
Hot Topics

• FERC’s Electric Transmission Incentives & ROE Policy Inquiries

• Reliability & Cybersecurity

• Generator Interconnection Procedures

• Concentric Report Findings

• Interregional Issues
FERC’s Transmission Incentives & ROE Policies Inquiries

• March 2019 – FERC initiated broad reviews of both their transmission incentives and ROE policies

• **Incentives Inquiry** – Investigates whether existing incentives should be retained, new incentives should be created, and the mechanics around incentives
  
  o ITC’s comments offered insight on how incentives can enable the development of the greater grid of the future
FERC’s Transmission Incentives & ROE Policies Inquiries

- **ROE Inquiry** – Examines whether, and if so how, the Commission should revise its policies on determining the ROE used in setting rates charged by FERC-jurisdictional public utilities

  - This inquiry follows FERC’s October 2018 landmark Order for utilities in ISO-New England setting forth a new methodology for calculating ROE. Under the proposed modifications, FERC would utilize models in addition to the DCF to determine whether an existing ROE is just and reasonable and, if not, to establish the new just and reasonable ROE.

  - The MISO TOs, including ITC, filed comments supporting FERC’s proposal to depart from DCF analysis alone to calculate ROE, as the new four-model approach will provide estimates more aligned with investors’ expectations.
Reliability & Cybersecurity

- **Reliability** – On Sept. 10 and 11, FERC convened a technical conference exploring the benefits and challenges of implementing static, seasonal, ambient-adjusted ratings (AAR) and dynamic line ratings (DLR)
  - Post-conference comments are due Nov. 1, and reply comments are due Nov. 18
  - At a high-level, ITC supports implementation of AAR, however, there are significant challenges and we believe that reliability and resilience must remain paramount
  - On Nov. 5-6, FERC will hold an additional workshop to discuss “Grid-Enhancing Technologies” technologies that increase the capacity, efficiency, or reliability of transmission facilities
• Cybersecurity – FERC and NERC Staff recently released a whitepaper proposing revisions to the format for Notices of Penalty (NOP) involving violations of Critical Infrastructure Protection (CIP) Reliability Standards. The proposed format would include a coversheet listing the utility name, CIP Reliability Standard violated, and penalty amount.

  o The industry is considering the appropriate balance between transparency and protection of information that could make utilities vulnerable to attack.
Generator Interconnection Procedures

- In 2018 and 2019, FERC issued Order Nos. 845 and 845-A regarding interconnection procedures and interconnection agreement for large generators
  - One of the 10 reforms included expanding the interconnection customer’s option to build
  - In Order No. 845-A, FERC reserved judgement on whether MISO transmission owners can elect self-funding when the interconnection customer exercises its option to build
- May 2019 – MISO made a compliance filing to adhere with FERC’s directive, which includes the Transmission Owner’s ability to self-fund the construction costs of Network Upgrades for which the interconnection customer elects the Option to Build
- The MISO TOs, including ITC, support MISO’s proposal
Concentric Energy Advisors issued a report in June 2019 that reviews electric transmission projects and costs in the six wholesale electricity markets in the U.S. that are required to comply with FERC Order 1000.

This study is the most comprehensive compilation of data on the experience with competitive solicitations under Order 1000 to date.
Key findings include:

- Concentric finds no support for the claim that current transmission planning processes conducted by incumbent transmission owners limit customer savings—or that expansion of project solicitations under Order 1000 will yield meaningful additional savings.

- Claims that incumbent transmission developers have experienced significant cost escalations are inaccurate and overstated.

- Conducting solicitations for new transmission grid projects is time-and-resource intensive. These factors need to be considered when we think about whether competition for transmission projects makes sense in all instances.
Interregional Issues

- **January 2017** – FERC granted NIPSCO’s complaint against provisions of the MISO-PJM Joint Operating Agreement and Ordered MISO to propose a cost allocation methodology for interregional economic projects from 100 to 345 kV on the PJM seam

- **February 2019** – MISO made a compliance filing to lower the voltage threshold for Interregional Economic Projects to 100 kV on not only the PJM seam, but also the SPP seam
Interregional Issues

• **June 24, 2019** – FERC denied the proposal and gave MISO 90 days to make another compliance filing
  - FERC took issue with the proposal to allocate to a single Transmission Pricing Zone the cost of projects from 100 to 230 kV

• **September 13, 2019** – FERC accepted MISO’s extension of time request from September 23, 2018, to January 2, 2020, to fulfill their obligation to comply with FERC’s interregional cost allocation methodology compliance directive
Questions?

Zach Paquette
Manager, Rates
ITC Holdings Corp.
zpaquette@itctransco.com
For the Greater Grid

Spring Ice Storm Recovery
Matthew Heinisch – Supervisor, Operational Planning

Fall 2019
Pre-Storm

Preparations

- ULC began preparations 2 days in advance of the storm, identifying additional personnel and pre-emptively staging equipment in areas where response was most likely based on forecast.

- Operations Control Room (OCR) looked for jobs to recall where available to strengthen system.

- Operations Call held prior to storm to align field and OCR.
Weather During Event

Winter Storm Wesley

- Winds gusts surpassing 60 mph
- Reports of up to 1 inch of ice
- Dakotas saw up to 30” of snow
- Thunderstorms in Central Iowa
Outages

Outage Statistics

52 Operations – Momentary and Sustained

• Spread out over 24 hours
• 60% of lockouts due to broken structures
• Other causes: galloping conductors, insulators, arresters
Restoration

Storm Response

Use of Smartsheet
- Allowed multiple users to enter data simultaneously
- Provided central repository for storm outage information

Incident Command System Activation
- Beginning morning of 4/11; held morning and evening calls throughout event and restoration efforts.
- Updates to restoration prioritization, progress, crew availability, etc.
Restoration

External Coordination

Communication with Local Distribution Companies

- Underbuild affected by ITC equipment
- Critical Loads
- Distribution Backup Capabilities
- Frequent discussions with neighbors to ensure collaborative restoration efforts
## Restoration

**Increased OCR Staff for Storm Response**

Normal OCR Staffing for ITC Midwest Includes 2 Primary TSCs, 1 Backup TSC, 1 SRC and 1 Senior TSC (Responsible for All Systems)

<table>
<thead>
<tr>
<th>Date</th>
<th>Day Shift</th>
<th>Night Shift</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/11</td>
<td>1 Additional Senior TSC 1</td>
<td>1 Additional Senior TSC 2</td>
</tr>
<tr>
<td></td>
<td>Dedicated to ITC Midwest 4</td>
<td>Additional TSCs 3</td>
</tr>
<tr>
<td>4/11</td>
<td>1 Additional Senior TSC 1</td>
<td>1 Additional TSC 2</td>
</tr>
<tr>
<td></td>
<td>Dedicated to ITC Midwest 4</td>
<td>Additional TSCs 3</td>
</tr>
<tr>
<td>4/12</td>
<td>1 Additional Senior TSC 1</td>
<td>1 Additional Senior TSC 1</td>
</tr>
<tr>
<td></td>
<td>Dedicated to ITC Midwest 4</td>
<td>Additional TSCs 4</td>
</tr>
<tr>
<td>4/13</td>
<td>1 Additional TSC 1</td>
<td>1 Additional TSC 1</td>
</tr>
<tr>
<td>4/14</td>
<td>2 Additional TSCs</td>
<td>2 Additional TSCs</td>
</tr>
</tbody>
</table>

*FOR THE GREATER GRID*
Noteworthy Statistics

Equipment Damage

- Total of 436 poles replaced
- Lakefield Junction-Windom 69kV most damaged circuit with 81 poles down

Personnel

- 200+ overhead crew members dispatched from various contractors at peak of restoration
Questions?

Matt Heinisch
Supervisor, Operational Planning
ITC Holdings Corp.
mheinisch@itctransco.com
For the Greater Grid

System Performance

Dan Daavettita – Senior Engineer, Operational Planning
Reliability Definitions

Planned Outage
• A non-automatic outage with advance notice for planned activities that may be deferred

Forced Outage
• A non-automatic outage for the purpose of avoiding emergency that cannot be deferred

Automatic Outage
• An outage that results from the automatic operation of a switching device, causing an element to change from an In-Service State to a not In-Service State

Momentary Outage
• An automatic outage with an outage duration of less than one minute

Sustained Outage
• An automatic outage with an outage duration of a minute or greater

External Outage
• An outage to a transmission asset with a cause that is external to, and outside the control of, the transmission system
Reliability Benchmarking

- ITC benchmarks performance against a broad peer group
- ITC targets top quartile performance for each of its operating companies
- 2018 Benchmarking group:
  - 100 kV and above
    - 71 companies
    - 15,816 circuits
    - 59% of U.S. and Canadian circuit miles
  - Below 100 kV
    - 41 companies
    - 5,426 circuits
Reliability by Voltage Class

- Typical Double-circuit 345 Kv Steel Pole Structure: 145'
- Typical Double-circuit 345 Kv Lattice Tower: 120'
- Typical Single-circuit 161 Kv Wood or Steel Pole Structure at 300' Spacing: 70' to 85'
- Typical Single-circuit 161 Kv H-frame Structure at 600' spacing: 65' to 80'
- Typical Single-circuit 69 Kv Wood Pole structure: 58'
- Typical Single-circuit 12 Kv or 34.5 Kv Wood Pole structures: 37 to 40'

Transmission and Sub-Transmission Lines

Distribution Lines

FOR THE GREATER GRID
ITC Midwest
100kV and above:
Average circuit should experience
~1 sustained outage for every 5 years
2018 Outage Performance

Average Circuit Outage Frequency - Sustained, 2018, 100kV and Above, Internal Causes

When externally caused outages are excluded:
The average ITCM circuit above 100 kV should experience ~1 sustained outage for every 9 years
2018 Outage Performance

Average Circuit Outage Frequency - Sustained, 2018, Below 100kV*

Below 100kV:
Average circuit should experience ~1 sustained outage for every 3 years

ITC Midwest

Below 100kV:
Average circuit should experience ~1 sustained outage for every 3 years

*ITCM 69kV System
Benchmarking Trend

Average Circuit Outage Frequency - Sustained, Below 100kV*

*ITCM 69kV System
2018 Outage Causes

ITCM Outage Cause - Sustained, 2018, Below 100kV*

- TOTAL
- EXTERNAL
- HUMAN
- EQUIPMENT
- LIGHTNING
- LINES
- OTHER
- SYSTEM-PROT
- UNKNOWN
- VEGETATION
- WEATHER

*ITCM 69kV System

FOR THE GREATER GRID
Historical Outage Performance

OUTAGE DECREASE UNDER ITC OWNERSHIP
ITC Midwest | 3-year rolling averages

3-year rolling averages include both momentary and sustained outages
Questions?

Dan Daavettila
Senior Engineer, Operations
ITC Holdings Corp.
ddaavettila@itctransco.com
Agenda

• Meeting purpose
• Formula rate protocol cycle
• Attachment O changes
• 2020 projected formula rate and key drivers
• Next steps for stakeholders
Meeting Purpose

Discuss ITC Midwest’s 2020 Projected Rates which were posted on August 29, 2019 and will be in effect for customer billing from January 1, 2020 – December 31, 2020

The rate postings along with all contents can be found on the MISO Transmission Owners’ Rate page and OASIS or using the link below:

- www.oasis.oati.com/ITCM/index.html
**Formula Rate Protocol Cycle**

**Rate Posting Timeline**
- **FERC Form 1** (Apr 18)
- **Prior year True-Up** (Jun 1)
- **Projected Rate for Next year** (Sep 1)
- **Informational Filing** (Mar 15)

**Protocols Open Review Process**
- **Informational Exchange Period** (Jun 1 – Dec 1)
- **Informal Challenge Due** (Jan 31)
- **Formal Challenge Due** (Apr 15)

**Projected Rate Year**
- (Jan 1 – Dec 31)

*Includes complete True-Up and projected rate postings published the prior year*
Docket ER18-2323

• On 6/17/2019, pursuant to FERC’s compliance directive, ITC Midwest filed Tariff changes to its Attachment O formula rates to eliminate the use of the “two-step” (double) averaging methodology in the calculation of Accumulated Deferred Income Tax (“ADIT”) balances for the projected test year.

• As a result, ITC Midwest added a revised ADIT workpaper in their 2020 projected rate calculations to eliminate the “two-step” (double) averaging in the calculation of Account 190, 282 and 283 balances.
## Formula Rate Annual Projection

<table>
<thead>
<tr>
<th>Description</th>
<th>2020 Projected</th>
<th>2019 Projected</th>
<th>Increase/Decrease</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate Base</td>
<td>2,998,758,937</td>
<td>2,716,628,969</td>
<td>282,129,969</td>
<td>10.39%</td>
</tr>
<tr>
<td>X WACC*</td>
<td>8.43%</td>
<td>8.47%</td>
<td>-0.04%</td>
<td></td>
</tr>
<tr>
<td>= Return on Rate Base**</td>
<td>252,793,940</td>
<td>230,228,318</td>
<td>22,565,622</td>
<td>9.80%</td>
</tr>
<tr>
<td>+ Total Operating Expenses</td>
<td>250,216,456</td>
<td>233,982,980</td>
<td>16,233,476</td>
<td>6.94%</td>
</tr>
<tr>
<td>= Gross Revenue Requirement Revenue**</td>
<td>503,010,395</td>
<td>464,211,297</td>
<td>38,799,098</td>
<td>8.36%</td>
</tr>
<tr>
<td>- Revenue Credits &amp; Offsets</td>
<td>152,002,625</td>
<td>129,930,043</td>
<td>22,072,582</td>
<td>16.99%</td>
</tr>
<tr>
<td>+ True-up*** under/(over)</td>
<td>-14,795,635</td>
<td>-860,096</td>
<td>-13,935,539</td>
<td></td>
</tr>
<tr>
<td>= Net Revenue Requirement**</td>
<td>336,212,135</td>
<td>333,421,158</td>
<td>2,790,977</td>
<td>0.84%</td>
</tr>
<tr>
<td>/ Network Load (kW)</td>
<td>2,954,078</td>
<td>2,937,034</td>
<td>17,044</td>
<td>0.58%</td>
</tr>
<tr>
<td>= Network &amp; P-to-P Rate ($/kW-Mo)</td>
<td>9.484</td>
<td>9.460</td>
<td>0.024</td>
<td>0.26%</td>
</tr>
</tbody>
</table>

*Weighted Average Cost of Capital (WACC)*
**Totals may not reconcile due to rounding
***True-up amounts for 2018 and 2017 respectively
Drivers for Projected 2020 Rate Base

Key Drivers for Rate Base:

• **Higher Net Plant in Service** largely driven by the capital additions

• **Higher Deferred Taxes** largely driven by the capital additions

---

Total Gross Plant in Service = $382.0

*Net Plant In Service ($329M) is made of Gross Plant in Service ($382M) less Accumulated Depreciation ($53M).

**Working Capital is made up of Cash Working Capital, Materials & Supplies and Prepayments
## Major Projected Transfers to Plant in Service

<table>
<thead>
<tr>
<th>Major Projects ($ in millions)</th>
<th>Transfers to Plant Projected in Service</th>
<th>Impact on 13-Month Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.5kV to 69kV Conversion Phase 1</td>
<td>$103,509</td>
<td>$40,318</td>
</tr>
<tr>
<td>Morgan Valley 345/161kV Substation</td>
<td>28,454</td>
<td>3,755</td>
</tr>
<tr>
<td>Substation NRUC/Reliability</td>
<td>19,582</td>
<td>8,531</td>
</tr>
<tr>
<td>Cedar Rapids - North Liberty Area</td>
<td>19,064</td>
<td>8,761</td>
</tr>
<tr>
<td>OH-UG NRUC/Reliability</td>
<td>14,545</td>
<td>6,468</td>
</tr>
<tr>
<td>J475 Affected Sys, TO-Fnd Ntwrk Upg</td>
<td>10,587</td>
<td>6,440</td>
</tr>
<tr>
<td>Other Projects</td>
<td>40,377</td>
<td>18,072</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$236,118</strong></td>
<td><strong>$92,345</strong></td>
</tr>
</tbody>
</table>

- Planned capital additions include expected line, substation, and other construction projects that are currently known.
- Projects identified represent our best estimates for projects to be initiated and completed.
- Note that many factors such as regulatory approvals, construction resources, availability of materials, weather and other unforeseen events, could alter projections and schedules.
Key Drivers for Total Operating Expenses & Taxes

- **Higher Depreciation Expense** due to higher projected transfers to plant in service

- **Higher Income Taxes** due to higher projected plant in service

*TOIT – Taxes Other Than Income Taxes
**O&M – Operations & Maintenance Expense, A&G – Administrative & General Expenses*
Disclosures

• At the end of 2018, ITC Midwest filed an accounting change with the Internal Revenue Service (“IRS”) to change its repairs and maintenance deduction. The impact of the accounting change is estimated to be a $0.6 million overall decrease in the 2020 projected net revenue requirement.

• ITC Midwest purchased transmission assets with a net book value of $7.4 million from Jo-Carroll Energy in July 2019. The impact of the transmission asset purchase is estimated to have increased overall 2020 projected net revenue requirement by $0.9 million.
## ITC Midwest’s Rate

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>% Change in Rev. Req.</strong></td>
<td>4.66%</td>
<td>5.49%</td>
<td>2.72%</td>
<td>-8.22%</td>
<td>4.05%</td>
<td>0.90%</td>
<td></td>
</tr>
<tr>
<td><strong>Load (kW)</strong></td>
<td>2,917,000</td>
<td>2,898,000</td>
<td>2,945,000</td>
<td>2,926,000</td>
<td>2,930,212</td>
<td>2,937,034</td>
<td>2,954,078</td>
</tr>
<tr>
<td><strong>% Change in Load</strong></td>
<td>-0.65%</td>
<td>1.62%</td>
<td>-0.65%</td>
<td>0.14%</td>
<td>0.23%</td>
<td>0.58%</td>
<td></td>
</tr>
<tr>
<td><strong>% Change in Rate</strong></td>
<td>5.34%</td>
<td>3.78%</td>
<td>3.33%</td>
<td>-8.35%</td>
<td>3.84%</td>
<td>0.25%</td>
<td></td>
</tr>
</tbody>
</table>

* After incorporating the impacts of Tax Reform
Questions?

Zach Paquette
Manager, Rates
ITC Holdings Corp.
zpaquette@itctransco.com
Appendix
# ITC Midwest Projected Rate Increased by $0.024/kW-Mo.

<table>
<thead>
<tr>
<th>Description</th>
<th>2020 Projected</th>
<th>2019 Projected</th>
<th>Increase/ (Decrease)</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected Gross Plant in Service</td>
<td>$4,010,625,212</td>
<td>$3,628,665,870</td>
<td>$381,959,342</td>
<td></td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>525,411,570</td>
<td>472,428,570</td>
<td>52,983,000</td>
<td></td>
</tr>
<tr>
<td>Deferred Income Taxes</td>
<td>-537,481,236</td>
<td>-483,204,143</td>
<td>-54,277,093</td>
<td></td>
</tr>
<tr>
<td>ADIT Deferral/M&amp;S/Prepayment/CWC/Land</td>
<td>51,026,531</td>
<td>43,595,812</td>
<td>7,430,720</td>
<td></td>
</tr>
<tr>
<td><strong>Rate Base</strong></td>
<td>$2,998,758,937</td>
<td>$2,716,628,969</td>
<td>$282,129,969</td>
<td>10.4%</td>
</tr>
<tr>
<td><strong>Return on Rate Base</strong></td>
<td>$252,793,940</td>
<td>$230,228,318</td>
<td>$22,565,622</td>
<td>9.8%</td>
</tr>
<tr>
<td>O&amp;M Expenses</td>
<td>34,006,821</td>
<td>34,517,333</td>
<td>-510,512</td>
<td></td>
</tr>
<tr>
<td>A&amp;G Expenses</td>
<td>42,471,646</td>
<td>40,931,609</td>
<td>1,540,037</td>
<td></td>
</tr>
<tr>
<td>Depreciation &amp; Amortization Expense Amortization</td>
<td>69,718,439</td>
<td>63,656,976</td>
<td>6,061,463</td>
<td></td>
</tr>
<tr>
<td>Income Taxes</td>
<td>84,205,288</td>
<td>75,338,792</td>
<td>8,866,496</td>
<td></td>
</tr>
<tr>
<td>Taxes Other than Income Taxes</td>
<td>19,814,262</td>
<td>19,538,270</td>
<td>275,992</td>
<td></td>
</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td>$250,216,456</td>
<td>$233,982,980</td>
<td>$16,233,476</td>
<td>6.9%</td>
</tr>
<tr>
<td>Credits/Offsets (Sch. 26, 26A, PTP, rents)</td>
<td>152,002,625</td>
<td>129,930,043</td>
<td>22,072,582</td>
<td></td>
</tr>
<tr>
<td>True-Up Adjustments</td>
<td>-14,795,635</td>
<td>-860,096</td>
<td>-13,935,539</td>
<td></td>
</tr>
<tr>
<td><strong>Projected Net Revenue Requirement</strong></td>
<td>$336,212,135</td>
<td>$333,421,158</td>
<td>$2,790,977</td>
<td></td>
</tr>
<tr>
<td>Projected Network Load (based on 12 CP; kW)</td>
<td>2,954,078</td>
<td>2,937,034</td>
<td>17,044</td>
<td></td>
</tr>
<tr>
<td><strong>Projected Rate ($/kW-Mo)</strong></td>
<td>$9.484</td>
<td>$9.460</td>
<td>$0.024</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

*Totals may not reconcile due to rounding
<table>
<thead>
<tr>
<th>Rate Base Items</th>
<th>2020 Projected Amount</th>
<th>2019 Projected Amount</th>
<th>Increase/ (Decrease)</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Plant in Service</td>
<td>$4,010,625,212</td>
<td>$3,628,665,870</td>
<td>$381,959,342</td>
<td></td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>525,411,570</td>
<td>472,428,570</td>
<td>52,983,000</td>
<td></td>
</tr>
<tr>
<td><strong>Net Plant in Service</strong>*</td>
<td>$3,485,213,642</td>
<td>$3,156,237,300</td>
<td><strong>$328,976,342</strong></td>
<td><strong>10.4%</strong></td>
</tr>
<tr>
<td>Deferred Income Taxes</td>
<td>-537,481,236</td>
<td>-483,204,143</td>
<td>-54,277,093</td>
<td></td>
</tr>
<tr>
<td>Materials &amp; Supplies</td>
<td>37,557,504</td>
<td>30,646,250</td>
<td>6,911,254</td>
<td></td>
</tr>
<tr>
<td>Prepayments</td>
<td>3,909,219</td>
<td>3,518,444</td>
<td>390,775</td>
<td></td>
</tr>
<tr>
<td>Working Capital</td>
<td>9,559,808</td>
<td>9,431,118</td>
<td>128,691</td>
<td></td>
</tr>
<tr>
<td><strong>Total Rate Base</strong>*</td>
<td>$2,998,758,937</td>
<td>$2,716,628,969</td>
<td><strong>$282,129,969</strong></td>
<td><strong>10.4%</strong></td>
</tr>
</tbody>
</table>

*Totals may not reconcile due to rounding
## Calculation of Rate of Return & Allowed Return

### Cost of Capital

<table>
<thead>
<tr>
<th>Cost of Capital</th>
<th>Weight</th>
<th>Cost</th>
<th>2020 Projected WACC</th>
<th>2019 Projected WACC</th>
<th>Increase/ (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>60%</td>
<td>11.07%</td>
<td>6.64%</td>
<td>6.64%</td>
<td></td>
</tr>
<tr>
<td>Debt</td>
<td>40%</td>
<td>4.47%</td>
<td>1.79%</td>
<td>1.83%</td>
<td></td>
</tr>
</tbody>
</table>

**Rate of Return***

<table>
<thead>
<tr>
<th></th>
<th>2020 Projected</th>
<th>2019 Projected</th>
<th>Increase/ (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rate of Return</strong>*</td>
<td>8.43%</td>
<td>8.47%</td>
<td>-0.04%</td>
</tr>
</tbody>
</table>

### Allowed Return

<table>
<thead>
<tr>
<th>Allowed Return</th>
<th>2020 Projected Amount</th>
<th>2019 Projected Amount</th>
<th>Increase/(Decrease)</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate Base x Return (above)</td>
<td>$ 2,998,758,937</td>
<td>$ 2,716,628,969</td>
<td>$ 282,129,969</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

= **Allowed Return***

|                      | $ 252,793,940 | $ 230,228,318 | $ 22,565,622 | 9.8%       |
## Calculation of Gross Revenue Requirement before Revenue Credits & Offsets

<table>
<thead>
<tr>
<th>Operating Expense + Income Taxes</th>
<th>2020 Projected Amount</th>
<th>2019 Projected Amount</th>
<th>Increase/(Decrease)</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation &amp; Maintenance Expenses</td>
<td>$34,006,821</td>
<td>$34,517,333</td>
<td>$(510,512)</td>
<td></td>
</tr>
<tr>
<td>Administrative &amp; General Expenses</td>
<td>42,471,646</td>
<td>40,931,609</td>
<td>1,540,037</td>
<td></td>
</tr>
<tr>
<td>Depreciation Expense</td>
<td>69,718,439</td>
<td>63,656,976</td>
<td>6,061,463</td>
<td></td>
</tr>
<tr>
<td>Taxes Other Than Income Taxes</td>
<td>19,814,262</td>
<td>19,538,270</td>
<td>275,992</td>
<td></td>
</tr>
<tr>
<td>Income Taxes</td>
<td>84,205,288</td>
<td>75,338,792</td>
<td>8,866,496</td>
<td></td>
</tr>
<tr>
<td><strong>Total Operating Expenses + Income Taxes</strong></td>
<td>$250,216,456</td>
<td>$233,982,980</td>
<td>$16,233,476</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

### Projected Gross Revenue Requirement

<table>
<thead>
<tr>
<th>2020 Projected Allowed Return (from previous slide)</th>
<th>$252,793,940</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Projected Operating Expenses + Income Taxes (above)</td>
<td>250,216,456</td>
</tr>
<tr>
<td><strong>2020 Projected Gross Revenue Requirement before Revenue Credits &amp; Offsets</strong></td>
<td><strong>$503,010,395</strong></td>
</tr>
</tbody>
</table>

*Totals may not reconcile due to rounding
## Calculation of Revenue Requirement after Revenue Credits & Offsets

<table>
<thead>
<tr>
<th>Gross Revenue Requirement &amp; Revenue Credits &amp; Offsets</th>
<th>2020 Projected Amount</th>
<th>2019 Projected Amount</th>
<th>Increase/(Decrease)</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Revenue Requirement before Revenue Credits &amp; Offsets</td>
<td>$503,010,395</td>
<td>$464,211,297</td>
<td>$38,799,098</td>
<td></td>
</tr>
<tr>
<td>Less: Attachment GG Revenue Requirement (Sch. 26)</td>
<td>20,526,950</td>
<td>21,161,473</td>
<td>-634,523</td>
<td></td>
</tr>
<tr>
<td>Less: Attachment MM Revenue Requirement (Sch. 26A)</td>
<td>116,047,226</td>
<td>92,775,302</td>
<td>23,271,924</td>
<td></td>
</tr>
<tr>
<td>Less: Point-to-Point/Other Transmission Service Revenues</td>
<td>13,337,894</td>
<td>13,936,403</td>
<td>-598,509</td>
<td></td>
</tr>
<tr>
<td>Less: Rental Revenues</td>
<td>2,090,555</td>
<td>2,056,865</td>
<td>33,690</td>
<td></td>
</tr>
<tr>
<td>Total Revenue Credits &amp; Offsets*</td>
<td>$152,002,625</td>
<td>$129,930,043</td>
<td>$22,072,582</td>
<td>17.0%</td>
</tr>
<tr>
<td>Total 2020 Projected Revenue Requirement after Revenue Credits &amp; Offsets*</td>
<td>$351,007,770</td>
<td>$334,281,254</td>
<td>$16,726,516</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

*Totals may not reconcile due to rounding
### Calculation of Net Revenue Requirement after 2018 True-Up

<table>
<thead>
<tr>
<th>Net Revenue Requirement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 Projected Revenue Requirement after Revenue Credits &amp; Offsets</td>
<td>$351,007,770</td>
</tr>
<tr>
<td>+ 2018 True-up Adjustment under/(over) Recovery</td>
<td>-$14,795,635</td>
</tr>
<tr>
<td><em><em>2020 Projected Net Revenue Requirement (including 2018 True-up Adjustment</em>)</em>*</td>
<td><strong>$336,212,135</strong></td>
</tr>
</tbody>
</table>

*Totals may not reconcile due to rounding*
For the Greater Grid

New Projects Submitted to MTEP 2020

Jeff Eddy – Manager, Planning

Fall 2019
Summary

33 new projects submitted for MTEP20 category “A” approval

- 2 age and/or condition projects
- 1 asset management “blanket” project (MISO project 17740)
- 1 small customer interconnection “blanket” budget (MISO project 17741)
- 3 system capacity projects
- 1 Iowa 34/69kV conversion project
- 8 customer interconnection projects
- 8 generator interconnection projects
- 9 Illinois 34/69kV rebuild/conversion projects
Customer Connections

**Hunter Field**

- Cedar Rapids, Iowa
- Initial single transformer
- IPL station
- ISD 12/31/21
- MISO Project 17704
Customer Connections

- Rebuild existing station
- Add 69kV breakers
- Support IPL station project
- ISD 12/31/21
- MISO Project 17705
Customer Connections

**Clinton Perrin**
- New station
- Support IPL station project
- ISD 12/31/2023
- MISO Project 17734

**Clinton South Retirement**
- Station will be retired after Clinton Perrin in-service
- ISD 12/31/2024
- MISO Project 17735
Customer Connections

Waukon Snakeskin

- New station
- Support IPL station project
- ISD 12/31/2021
- MISO Project 17736
Customer Connections

Thompson MacTavish
- 69 kV line tap
- 12/31/25
- MISO Project 17738

Calmar Prairie Farmer
- 69 kV line tap
- ISD 12/31/21
- MISO Project 17739
Customer Connections

Mason City Industrial

- New 161kV station
- Support IPL station project
- ISD 5/30/2022
- MISO Project 18061
Iowa 34/69 kV Conversion

6th Street Retirement

- 115/34 kV Station
- Generator officially retired 2011
- ISD 1/31/23
- MISO Project 17724
Infrastructure Improvement

Adams Breaker-and-1/2

- Convert Adams Station to breaker-and-1/2
- Project coordinated with work for J523
- ISD 9/21/21
- MISO Project 18114
Infrastructure Improvement

Hancock – Replace Transformer

- Existing T3 transformer gassing
- Replace T3 75 MVA transformer with 75 MVA transformer from Beaver Channel Station
- Replace two 75 MVA transformers at Beaver Channel with one 150 MVA
- Replace circuit switcher with circuit breaker
- ISD 4/30/20
- MISO Project 17980
System Capacity

Burlington – 4th St. Rebuild

- 0.75 mile portion of circuit requires rebuild
- Increase conductor size to T2-477 ACSR
- Upgrade terminal equipment at Burlington
- N-1 Contingency Violation
- ISD 5/31/21
- MISO Project 9100
System Capacity

EIC 161kV Substation Expansion

• Expand the 161kV portion of the EIC substation adding 3 line breakers

• Reretermine the Beacon – Tri County 161kV Circuit into EIC Substation

• P6 Contingency violation results in load shed of significant industrial load

• ISD 12/31/23

• MISO Project 17732

FOR THE GREATER GRID
System Capacity

Thisius Substation

- Construct 161/69kV Station
- Re-use 100 MVA transformer from Glenworth
- Resolves voltage violations and increases operational flexibility in the Albert Lea Area
- ISD 12/31/27
- MISO Project 17968
Illinois 34/69kV Conversion

Transmission
• Savanna-York 34kV 6 Mi. Rebuild
  o ISD 12/30/2020, MISO Project 17728
• Savanna-Argo Fay-York 6 Mi. 69kV
  o ISD 12/30/25, MISO Project 17729
• Savanna-Clay 7.75 Mi. Rebuild
  o ISD 12/30/2025, MISO Project 17730
• Savanna City Loop 1.7 Mi. Rebuild
  o ISD 12/30/2025, MISO Project 17731

Substations
• Savanna 161kV Substation Expansion
  o ISD 12/31/21, MISO Project 17725
• Savanna 69kV Substation Expansion
  o ISD 12/31/21, MISO Project 17726
• York Substation 69kV Expansion
  o ISD 12/30/21, MISO Project 17727
• Metform 69kV Conversion
  o ISD 12/31/21, MISO Project 17966
• Bowen 69kV Conversion
  o ISD 12/30/21, MISO Project 17967

FOR THE GREATER GRID
For the Greater Grid

2020 – 2022 Projects (non-conversion)

Jeff Eddy – Manager, Planning
Eastern Iowa

Projects (2020-2022)

1. Asbury 161kV Breaker Additions
   - Customer Connection - Two XFMR Station
   - MTEP Project #15485

2. South Grandview 161kV Breaker Additions
   - Customer Connection - Two XFMR Station
   - MTEP Project #15486

3. Beaver Channel - Rock Creek 161kV Reconduct
   - Recondutor 3.7 miles
   - N-1-1 or P6 Contingency Violations
   - MTEP Project #10785

4. Clinton 2nd Ave. - Clinton North 69kV Rebuild
   - Rebuild 6.1 mi.
   - MTEP Project #16687

FOR THE GREATER GRID
Northeast Iowa

Projects (2020-2022)

1. Lansing to Monona 69kV Rebuild
   - Rebuild 24.8 ml.
   - Age and Condition
   - MTEP Project #4104

2. Waukon Snakeskin Sub
   - Customer Connection - New Distribution Sub
   - MTEP Project #17736

3. Calmar Prairie Farm Sub
   - Customer Connection - New Distribution Sub
   - MTEP Project #17739

FOR THE GREATER GRID
North Central Iowa

Projects (2020-2022)

1. Meservey Tap 69kV Retirement
   • Customer Connection - Station Retirement
   • 12 mile 69kV radial line retirement
   • MTEP Project #15445 (Blanket)

2. Riceville Sleeping Duck 69kV Substation Interconnection
   • Customer Connection - New Station
   • Install 69kV Line Tap
   • MTEP Project #13877

3. Lake Mills 69kV Substation Interconnection
   • Customer Connection - New Station
   • Install 69kV Line Tap
   • MTEP Project #12200

4. Garner Galls Creek 161kV Substation Interconnection
   • Customer Connection - New Two Transformer Station
   • 161kV Ring Bus
   • MTEP Project #16686

5. Mason City Industrial Substation Interconnection
   • Customer Connection - New Two Transformer Station
   • 161kV Ring Bus
   • MTEP Project #18061

6. Hancock Transformer Replacement
   • Age and Condition - Gassing
   • Replace with Beaver Channel xfmr
   • Replace two Beaver Channel xfmr's with one new xfmr
   • MTEP Project #17980

FOR THE GREATER GRID
Projects (2020-2022)

1. Heron Lake 161 kV - Rebuild Sub
   - Age and Condition
   - MTEP Project #8106

2. Waseca Jct to Montgomery 69kV Rebuild - Phase 2
   - Rebuild 14.6 mi.
   - Age and Condition
   - MTEP Project #4101

3. Summit-Dovray Tap 69kV Rebuild
   - Rebuild 12.9 mi.
   - Age and Condition
   - MTEP Project #9907

4. Adams Breaker-and-1/2
   - Infrastructure Improvement
   - Reliability (9 positions on 161kV bus)
   - MTEP Project #18114
Southeast Iowa

Projects (2020-2022)

1. Columbus Junction 14.4 MVAR Capacitor
   - System Capacity - Low contingent voltage
   - MTEP Project #13891

2. Columbus Jct. to Newport 69kV Rebuild
   - Rebuild 23.5 mi.
   - Age and Condition
   - MTEP Project #4102

3. New London Tap to Mediapolis 69kV Rebuild
   - Rebuild 6.6 mi.
   - Age and Condition
   - MTEP Project #11974

4. Huntwoods-Sawyer 69kV Rebuild
   - Reroute due to difficult terrain (4.4 mile)
   - MTEP Project #15024

5. New London Tap 69kV Rebuild
   - Rebuild 10.6 mi.
   - Age and Condition
   - MTEP Project #15004

6. Burlington-4th Street 69kV Rebuild
   - System Capacity, N-1 Violation
   - 0.75 mile portion of line
   - MTEP Project #9100

7. Construct new Keokuk Hydro-Carbide 69 kV line
   - System Capacity
   - MTEP Project #3053
South Iowa

Projects (2020-2022)

1. Ottumwa East 161kV Distribution Substation
   - Customer Connection - New Distribution Substation
   - MTEP Project #13889

2. Ottumwa Heights 161kV Substation
   - Customer Connection - New Distribution Substation
   - MTEP Project #15449

FOR THE GREATER GRID
Cedar Rapids Area

Projects (2020-2022)

1. Newhall 161kV Breaker Station
   - System Capacity
   - MTEP Project #9988

2. Williamsburg-Newhall 161kV Line
   - Age and Condition / System Capacity
   - MTEP Project #9985

3. Morgan Valley
   - System Capacity
   - MTEP Project #8160

4. South Loop Upgrades
   - System Capacity
   - MTEP Project #9668

5. Dysart-Traer 161kV Rebuild
   - Age and Condition
   - MTEP Project #15455

6. Hunter Field 69 kV Station Interconnection
   - Customer Connection - New Distribution Sub
   - MTEP Project #17704

FOR THE GREATER GRID
Projects (2020-2022)

1. Nevada 19th St Substation Expansion
   - Customer Connection - Distribution Sub Rebuild
   - Expand to two distribution xfmr's
   - MTEP Project #16685

2. Madrid North 69kV Substation Expansion
   - Customer Connection - Distribution Sub Rebuild
   - Expand to two distribution xfmr's
   - MTEP Project #17705
## Savanna Area

### Projects (2020-2022)

1. **Savanna 161kV Substation Expansion**
   - 34/69kV Conversion
   - MTEP Project #17725

2. **Savanna 69kV Substation Expansion**
   - 34/69kV Conversion
   - MTEP Project #17726

3. **York Substation 69kV Expansion**
   - 34/69kV Conversion
   - MTEP Project #17727

4. **Metform 69kV Conversion**
   - 34/69kV Conversion
   - MTEP Project #17966

5. **Savanna-York 34kV 6 Mi. Rebuild**
   - 34/69kV Conversion
   - 6 mile rebuild
   - MTEP Project #17729

---

**FOR THE GREATER GRID**
Questions?

Jeff Eddy
Manager - Planning, ITC Midwest
ITC Holdings Corp.
jeddy@itctransco.com
For the Greater Grid

Generator Interconnection Update

Daniel Barr – Supervisor, Planning

Fall 2019
ITCM Generation Connected

- ITC Midwest has connected 31 projects representing approximately 4,210 MW of new generation since 2008
  - ITCM Peak Load ~ 3,700 MW
- Wind now accounts for approximately 48% of the generating capacity connected to ITC Midwest
Impacts of Generation

- Roughly $7B has been invested in new generation sources connected to ITC Midwest since 2008.
- Generation additions and generation retirements account for a net change of over 5 GW of generation sources since 2008.
Project J407 – 161 kV interconnection; Glenworth, MN

- 200 MW wind-powered project
- New terminal to 161 kV ring bus
- Replacement of the 100 MVA, 161/69 kV transformer with 150 MVA unit
- August 2020 in service date
**Project J495** – new “Bison” 345 kV station near Buffalo Ctr, IA;

- 200 MW wind-powered project
- New 345 kV, 3-breaker, ring bus station approx. 3.5 miles NW of Buffalo Center, IA
- October 2019 In Service
Working on it.....

Project J514; capacity increase; Marshalltown, IA

- 30 MW Summer/65 MW Winter increase in capacity at MGS
- Upgrade Marshalltown-Blairstown Junction-Prairie Creek 115 kV
- Expected completion of upgrades January 2020
Working on it.....

**Project J523; 161 kV interconnection; Adams, MN**

- 50 MW solar-powered project
- New 161 kV terminal at Adams substation; reconfiguring bus
- August 2020 in service date

**Adams Breaker–and-1/2 Upgrade; Adams, MN**

- Work to be performed in conjunction with J523 work
Project J504 – 161 kV interconnection at DAEC; Cedar Rapids, IA

- 50 MW solar-powered project
- Add terminal to 161 kV ring bus
- October 2020 in service date
Project J475 – MidAm Interconnection

- Nearby MidAm interconnection caused need for upgrade of ITCM facilities
- Rebuild of Poweshiek-Irvine 161 kV required
- October 2020 in service date expected
Projects J498/J499/J500 - MidAmerican Interconnections

- ITCM facilities impacted by nearby interconnections to MidAm
- Upgrade of sag-limited Poweshiek to Reasoner 161 kV required;
- December 2019 in service date is expected
Project J720 – Jackson Co, MN

- 200 MW Wind project
- Provisional GIA requested
- New 3 terminal, 345 kV switching station to be constructed
- Customer has requested earliest possible in service date - 24 months estimated for construction
Facilities Agreement Under Negotiation

345 kV Capacitor Bank – Hickory Creek 345 kV

- 2x84 MVAr at Hickory Creek 345 kV substation near Dubuque, IA
- Required for MISO DPP August 2016 Study Group
- 11 MISO interconnection projects share cost responsibility for the Network Upgrade
- Estimated August 2021 in service date
Facilities Agreement Under Negotiation

345 kV Capacitor Bank – Killdeer 345 kV substation

- 2x84 MVAr at Killdeer 345 kV near Mason City, IA
- Required for MISO DPP August 2016 Study Group
- 11 MISO interconnection projects share cost responsibility for the Network Upgrade
- Estimated August 2021 in service date
MISO queue is processing 590 projects with 91 GW of capacity

- Trend toward solar; pending expiration of PTCs for wind generation
- Wind interconnections to areas with good wind resources are decreasing
DPP February 2017 West Study Group

- Commenced with 27 projects and 3.4 GW of new generation
- Initial results identified need for $3.4B to connect all projects
- Only 2 projects at a total of 250 MW went to completion

DPP August 2017 West Study Group

- Began as 36 projects with 5.5 GW of new generation
- Initial results are pending, but a stability constraint relies on MVP 5 and a new Franklin-Webster- Morgan Valley 345 kV line as a base model assumption
Looking Forward

MISO’s queue is crowded, but functioning (slowly)

• April 2018 DPP West Group has 60 projects & 9.3 GW
  o Approximately ½ wind and ½ solar

• Very little transmission capacity in MISO West for wind projects

Generation retirements continue –
Duane Arnold retirement expected in 2020

• Preliminary MISO results indicate no upgrades will be needed for retirement of the Duane Arnold
  o Morgan Valley-Beverly 345 kV; Fairfax-Liberty-Hills 161 kV and other upgrades have increased system reliability/flexibility
Questions?

Dan Barr
Supervisor, Planning
ITC Holdings Corp.
dbarr@itctransco.com
For the Greater Grid

34.5 to 69 kV Update
Robert Walter – Supervisor, Planning

Fall 2019
Quick Review

Why ITC Midwest is rebuilding our 34.5 kV to 69 kV

- Existing lines are in poor physical condition
- They have no lightning protection: more momentary and sustained outages
- Built with small conductor: limits system voltage and loading capabilities during planned and unplanned outages
  - Limits system load growth
  - Harder to perform maintenance and switching during higher load levels

Rebuilt lines use a larger size conductor and provide lightning protection

- Provides additional capacity
- Reduces voltage drop
- Shield wire helps prevent momentary and sustained outages from weather
Increasing Value to Stakeholders

Radially operated 34.5 kV will be converted to networked 69 kV

- Conversion increases line capacity
- Greater ability to serve future load growth
- Networked 69 kV operation better able to maintain voltage during planned and unplanned outages

Conversion allows for retirement of lines not rebuilt as part of 69 kV plans for a study area

- The lines not rebuilt to 69 kV are not needed in a networked 69 kV system
- Retiring those lines reduces lightning exposure and helps prevent unplanned outages
Fulfilling our Commitments to the Iowa Utilities Board

- We committed to rebuilding 34.5 kV lines to 69 kV construction
  - Completed by end of 2021

- We committed to voltage conversions to 69 kV on the rebuilt lines
  - Completed by the end of 2029
Significant Progress Has Been Made!

On track for >85% **rebuilt** by the end of 2019

- 551 miles completed, 644 total miles

From 149 radial 34.5 kV circuits to 65 new, networked 69 kV circuits

- 25 new 69 kV circuits completed by the end of 2019
- Includes ITC and CIPCO conversions

38% of all **conversions** completed
Planned Rebuilds

Approximately 48 miles required each year in 2020, 2021

Planned Conversions

2020: 2 new 69 kV circuits
2021: 4 new 69 kV circuits
2022 thru 2029: 34 new 69 kV circuits
34.5 kV System Reliability

- ITC Planning and Asset Management in regular conversation to determine maintenance needs for assets being rebuilt or retired

- Stakeholder impact factored into rebuild and conversion schedules
  - Impacts are typically financial or operational in nature

- 34.5 kV momentary and sustained outages continue to trend downward; flattening as 34.5 kV rebuilds near completion
34.5 kV Total 3-Year Rolling Operations (All Circuits Combined)
34.5 kV Study Areas
34.5 to 69 kV Study and Coordination Process

- All study work completed

- Ongoing plan refinement based on stakeholder feedback and plans within the study areas

- All planned rebuilds and conversions have been submitted to MISO MTEP process
  - Plan updates and additional required projects to connect distribution substations continue to be submitted to MISO as identified/required

- Schedule coordination is ongoing and being updated to support stakeholder needs
All rebuilds and conversions in study area have been completed

- 75 miles rebuilt
- 3 new 69 kV circuits created
Cedar Rapids Area

22 miles rebuilt, 7 miles remaining
- 75% rebuilds completed

5 new 69 kV circuits completed, 2 remaining
- 71% conversions completed

Future projects:
- Oak Hill – Marion Rebuild
- Emerald Isle – Beverly Conversion
- Oak Hill – Marion South – Marion Conversion
Eastern Iowa Area

128 miles rebuilt, 23 miles remaining
- 85% rebuilds completed
7 new 69 kV circuits completed, 9 remaining
- 44% conversions completed

Future projects:
- Wyoming – Rome REC Rebuild
- Radio – Amber Conversion
- Fulton – Walcott Rebuild
- Jones – Maquoketa Conversion
Toledo – Belle Plaine – Williamsburg Area

94 miles rebuilt, 27 miles remaining
- 78% rebuilds completed

1 new 69 kV circuits completed, 14 remaining
- 6% conversions completed

Future projects:
- Traer – Dysart Rebuild
- Belle Plaine Junction – Vining REC Rebuild
- Kalona South – Iowa Junction Rebuild
- Parnell REC – Frytown New 69 kV line
Grand Junction – Ames - Marshalltown

133 miles rebuilt
- 100% rebuilds completed

7 new 69 kV circuits completed, 8 remaining
- 47% conversions completed

Future projects:
- Doud – Lyon Conversion
- Fletcher – Garwin Rd Conversion
- Garwin Rd – Union Conversion
- Fletcher – Ames Conversion
Anita – Grand Junction

58 miles rebuilt, 58 miles remaining
- 50% rebuilds completed

2 new 69 kV circuits completed, 7 remaining
- 22% conversions completed

Future projects:
- Bagley – Scranton Rebuild
- Guthrie – Railway Conversion
- Jefferson WCC – Scranton Rebuild
- Perry – Madrid North Rebuild
ITC’s plans in the Northwest Iowa area are highly dependent on IPL and Corn Belt’s plans.

IPL’s current plans are to move their load from the ITC owned 34.5 kV system onto Corn Belt’s existing 69 kV system in this area.

ITC will need to retire 138 miles of 34.5 kV lines in the Northwest Iowa area.
ITC’s plans in the Fairfield area are highly dependent on IPL’s plans.

IPL’s current plans are to purchase the existing area 34.5 kV lines to be used as distribution lines to serve load.

ITC works with local distribution companies to reuse facilities such as existing poles and/or entire line sections to be used for distribution purposes, which helps control costs for customers.
Questions?

Robert Walter
Supervisor, Planning
ITC Holdings Corp.
rwalter@itctransco.com
For the Greater Grid

ITC Transmission
Investments Benefit Analysis

Tom Petersen – Director, Public Affairs

Fall 2019
In 2016 ITC conducted initial exercise to identify and quantify value its investments and operations have brought to service territories. The 2016 study focused on:

- Projects that would not have been built “but for” ITC
- Projects between 2008 and 2014

The 2019 study focused on:

- All ITC Investments
- Additional ways to quantify value
- Projects between 2008 and 2017
Providing Value – ITC Midwest

- The study worked to quantify benefits in each of these areas.
- Total estimated benefits for ITC Midwest exceeded $5 billion.
- Anticipate that this is conservative result.

- Lower Electricity Costs: $1.2 Billion
- Improved Reliability of Service: $1.6 Billion
- Increased Economic Activity: $2.0 Billion
- Increased Tax Revenues: $430 Million

ICF Study Period: 2008 - 2017

FOR THE GREATER GRID
Providing Value – ITC Midwest

$1.2 Billion Lower Electricity Costs

• ITC projects enabled direct interconnection of more than 5GW of wind generation
• ITC projects improved market efficiencies by using generating sources more efficiently and reducing costs to produce and deliver power

ICF Study Period: 2008 - 2017
Providing Value – ITC Midwest

$1.6 Billion Improved Reliability of Service

- ITC projects have documented significant improvements in reliability since system acquisition - ~60% reduction in transmission outages in ITC Midwest
- ICF provided monetary estimates of those benefits

ICF Study Period: 2008 - 2017
Providing Value – ITC Midwest

$2.0 Billion Increased Economic Activity

- The labor, supply chain expenditures and other expenses to build ITC projects have a significant positive impact on local spending and job creation.
- ITC Midwest projects supported 23,000 job-years over the study period, or roughly 2,300 jobs per year

ICF Study Period: 2008 - 2017
Providing Value – ITC Midwest

Increased Tax Revenues

$430 Million

• Investments and improved taxable value of equipment, property, etc., generated federal, state and local tax payments

ICF Study Period: 2008 - 2017
Providing Value – ITC Midwest

Next Steps

• Planning further stakeholder information to permit a deeper review

• Watch for opportunities to learn more and ask more detailed questions

$1.2 Billion  Lower Electricity Costs

$1.6 Billion  Improved Reliability of Service

$2.0 Billion  Increased Economic Activity

$430 Million  Increased Tax Revenues

ICF Study Period: 2008 - 2017

FOR THE GREATER GRID
Questions?

Tom Petersen
Director, Public Affairs
ITC Holdings Corp.
tpetersen@itctransco.com
Thank You for Attending

We appreciate your time and effort to participate in today’s Partners in Business meeting.

For copies of today’s ITC presentations please visit our web-site at: www.itctransco.com, click on ITC Midwest, click on Partners in Business, click on Meeting and Events or MISO OASIS Website: www.oasis.oati.com

We appreciate your feedback on our meetings, so we can continue to bring you value.

Mike Dabney
mdabney@itctransco.com

Keith Eyler
keyler@itctransco.com

www.itctransco.com
ITC Midwest Stakeholder Survey 2020

Next Meeting: ITC Midwest Spring Meeting May 2020

Drive Safely – Have a Great Autumn and Holiday Season!