Near Term Generation

Brad Underwood
Vice President, Systems Transformation
August 15, 2023
Purpose
Review OPPD’s near-term generation needs and proposed revisions to Strategic Directive (SD) 9

Agenda
- Review “Near Term Generation” proposal
- Discuss proposed revisions to SD-9: Integrated System Planning
Key Drivers
Residential, Commercial, Industrial Growth

• Multi-year load growth is exploding:
  – Residential, Commercial and Industrial loads
• Largest consumption expansion primarily in the industrial class.
  – Data centers are supporting more of our daily functions.

Planned Industrial Load Growth

- Electrification
- Biotech
- Manufacturing
- Data Centers (Fintech)
- Food Processing
- Agricultural Processing

Average Annual Commercial and Residential Customers
Historic Actual and 2024 COP Forecast
Load Growth & Implications
Customers and Other Agencies/Organizations are Waiting and Taking on Risk

• Some customers are taking financial risk while OPPD thoughtfully works to plan for and deliver service to their projects.
  – Energy service delays can disrupt land availability, supply chain, permitting and cost plans on customer projects.

• Without clarity of service timelines provided by a defined resourcing plan, projects may decide to look outside of eastern Nebraska.

• Many of these projects involve state agencies, counties, cities and other infrastructure – working in parallel – that are essential to supporting these customer projects and potential OPPD service uncertainty places risks to others.

• Many local and state programs and incentives being offered to assist these businesses and service uncertainty places risk on state and local financial economic development packages.
• Manufacturing production slots are being occupied at increasing volumes for long lead time, major equipment purchases (i.e. step up transformers).
  – Over the last few quarters, the completion dates continue to extend at a concerning rate.

• In addition to manufacturing production slots, workforce availability for specialty firms offering Engineer, Procure and Construction services remains challenged.

• If supply resources are not secured and “deliverable” to OPPD load by 2028, the District faces a significant forecasted capacity deficit.
Board Feedback
Near Term Generation Governance

• Broad support for the technical recommendation but uncertainty remained around how the Board would interact with Management in key decision making and project execution.

• The Systems Management and Nuclear Oversight Committee consolidated board feedback for expectations related to decision making and execution.

• These expectations can be summarized in the following themes:
  - Frequency of Board updates on progress
  - Board involvement in key decisions
  - Annual board affirmation of current plans
  - Chronological goals for resource contracting

• The Systems Management and Nuclear Oversight Committee recommends to the Board that a revision to “SD-9: Integrated System Planning” is the best place to house the Board’s expectations of Management.
SD-9: Resource Planning
Board Policy Refinement Discussion
<table>
<thead>
<tr>
<th>Policy No. and Name:</th>
<th>Category:</th>
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<tbody>
<tr>
<td>SD-9: Integrated System Planning</td>
<td>Strategic Direction</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Monitoring Method:</th>
<th>Frequency:</th>
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<tbody>
<tr>
<td>System Management and Nuclear Oversight Committee</td>
<td>Annually</td>
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<table>
<thead>
<tr>
<th>Date of Approval:</th>
<th>Resolution No.:</th>
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<tbody>
<tr>
<td>October 15, 2015</td>
<td>6082</td>
</tr>
<tr>
<td>April 21, 2022</td>
<td>6494</td>
</tr>
<tr>
<td>August 18, 2022</td>
<td>6816</td>
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</table>

Integrated System Planning is the ecosystem of planning processes used to efficiently integrate the transmission system, supply and demand side resources, and the increasingly complex distribution system. Through Integrated System Planning efforts, OPPD will continually plan for, adapt to, and enable both the needs of our customers and the rapidly transforming electric industry. Successful planning will ensure both a reliable electric system and the resiliency of the system and its components to prepare for, withstand, respond to, adapt to and quickly recover from a non-routine event.

OPPD shall:

- Ensure that year-round supply-side and demand-side resource capacity exceeds forecasted load in compliance with resource adequacy and planning reserve margin requirements of OPPD’s regional balancing authority.
- Ensure compliance with applicable planning related North American Electric Reliability Corporation Reliability Standards including consideration of Essential Reliability Services.
- Ensure planning accounts for potential extreme weather events, changes to demand-side and supply-side regional resources and extended periods of low energy production by variable energy resources.
- Compute resource adequacy metrics that quantify the ability of OPPD’s resources to meet its forecasted electric demand:
  - Measure the frequency with which a system’s demand is expected to be met by system capacity over a period of time.
  - Measure the percentage of total energy that a system is projected to be able to serve over a period of time.
Refinement Process: Strategic Directives

**BOARD WORK PLAN**

Step 1
Committee chair/director requests during regular All Committee to determine if policy refinement will be added to the Board Work Plan.

**PRIORITIZATION**

Step 2
Board Chair and CEO convene to confirm priority, resource requirements, and start and finish dates; pending discussion, Chair/CEO will inform committee chair.

**PRES & CEO**

Step 3
Assigns SMT to policy refinement as appropriate; approves initial drafts for committee review and comment.

**COMMITTEE**

Steps 4-5
Reviews, revises and finalizes refinements to present to Board.
Committee Chair Committee

**BOARD**

Steps 6-8
Provides feedback on draft; concurs readiness for public posting; approves final committee recommendation via Board vote.

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“Governance exists in order to translate the wishes of an organization’s owners into organizational performance.”
- John Carver

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**Added to Work Plan**
June 13, 2023

**Committee discussion & recommendation development**
June 23, 2023 - present

**Board review/decision**
July 22, 2023

**Public Comment**
July 24 - August 13, 2023

**Vote**
August 17, 2023
System Committee Review: July 13, 2023

Is there anything that requires further clarification?

Is there anything you especially like?

Is there anything that you’d like the Committee to consider before moving this forward for public review and comment?

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**Integrated System Planning**

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  - Measure the frequency with which a system’s demand is expected to be met by system capacity over a period of time.
  - Measure the percentage of total energy that a system is projected to be able to serve over a period of time.
- Update the plan at least every two years, as its programs to develop new combined electric system resources, engage the board in key decisions, and obtain environmental approvals on current plans for developing new full electric system resources.
- Achieve the following resource volumes by dates indicated:

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**Resource Requirements**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>Hydroelectric Power</td>
<td>3,000 MWh</td>
</tr>
<tr>
<td>Gas Turbine Generation</td>
<td>1,000 MWh</td>
</tr>
<tr>
<td>Nuclear</td>
<td>2,000 MWh</td>
</tr>
<tr>
<td>Wind</td>
<td>1,000 MWh</td>
</tr>
<tr>
<td>Solar</td>
<td>1,000 MWh</td>
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**Incremental Additions (MWh)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Incremental Additions (MWh)</th>
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<tbody>
<tr>
<td>2022</td>
<td>3,000 MWh</td>
</tr>
<tr>
<td>2023</td>
<td>2,000 MWh</td>
</tr>
<tr>
<td>2024</td>
<td>1,000 MWh</td>
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**TERMS AND DEFINITIONS**

Bulk Electric System: Facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof) and electric events from generating facilities needed to maintain transmission system reliability.
Feedback & Outreach – July 24 to August 13, 2023

Board Feedback

- Alterations were made to account for enhanced governance related to OPPD’s “Near Term Generation” proposal and included the following subjects:
  - Frequency of Board Updates on progress
  - Board involvement in key decisions
  - Annual board affirmation of current plans
  - Chronological goals for resource contracting

Outreach Effort

- Posted on OPPD Community Connect July 24th
  - 23 comments received
- Board/Executive Leadership Team Contact Center
  - 5 comments received
Next Step

• Option 1: Board Resolution and Vote
  OR
• Option 2: Additional Committee Deliberation