Planning Your Energy Future?
Let EE Be Your Guide

Presented by Victoria Vrab
February 21, 2019
Overview of NIPSCO

**Electric**
- 468,000 electric customers in 20 counties
- ~2,900 MW generating capacity
  - Operates 5 electric generating facilities
    (2 coal, 1 natural gas, 2 hydro)
  - Additional 100 MW of wind purchased power
- 12,800 miles of transmission and distribution
  - Interconnect with 5 major utilities (3 Midcontinent Independent System Operator ("MISO"); 2 PJM)
  - Serves 2 network customers and other independent power producers

**Gas**
- 819,000 natural gas customers in 32 counties
- 17,000 miles of transmission and distribution lines
- Interconnections with 7 major interstate pipelines
- 2 on-system storage facilities

2,900 Employees  
Merrillville, IN  
Headquarters
How Does NIPSCO Plan for the Future?

Charting The Long-Term Course for Electric Generation

About the IRP Process

• Every three years, NIPSCO outlines its long-term plan to supply electricity to customers over the next 20 years

• This study – known as an Integrated Resource Plan (“IRP”) – is required of all electric utilities in Indiana

• IRP process includes extensive analysis of a range of generation scenarios, with criteria such as reliable, affordable, compliant, diverse and flexible

• The IRP is submitted to the Indiana Utility Regulatory Commission which solicits comments on the Plan, but it is not approved by the Commission

Requires Careful Planning and Consideration for:
• NIPSCO’s employees
• Environmental regulations
• Changes in the local economy (property tax, supplier spend, employee base)
Overview of Public Advisory Process

• Stakeholder input was critical to the process
  – NIPSCO held 5 meetings and one technical webinar

• The Public Advisory Process provided NIPSCO with feedback on its assumptions and sources of data and helps inform the modeling process
  – It also served as a “check” on the modeling process as results are received
  – This improved the Integrated Resource Plan and its results

• Candid and on-going feedback was key to the process
  – Allowed time for stakeholder presentations, which were given by the NAACP, Sierra Club, Hoosier Environmental Council, Indiana DG, vendors and other interested parties

• In addition, the Indiana Utility Regulatory Commission hosts an annual Contemporary Issues Forum to discuss broad policy issues related to the development of IRPs
  – The agenda of the technical conference shall be set by the commission staff
  – Utilities and interested parties may request commission staff include specific contemporary issues and presenters
NIPSCO Energy Efficiency

• Promoting energy efficiency is good for customers, it can play an important role in helping ensure that we can meet future energy needs. NIPSCO offers a variety of programs to help residential and business customers save energy. The programs are tailored to customers and designed to help ensure energy savings.

• Since 2010, NIPSCO customers have saved more than 1 million megawatt hours of electricity and 31 million therms of gas by participating in the range of energy efficiency programs offered by NIPSCO.

• Technologies continue to change, and it’s important that we constantly evaluate our offerings. We regularly track and report on program performance, which helps to inform and improve future program filings and customer offerings.
## DSM Modeling

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
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<tbody>
<tr>
<td>DSM Analysis</td>
<td>Identify DSM “bundles” or decrements</td>
<td>Analyze each “bundle” across all scenarios and full stochastic range</td>
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### DSM Analysis
- Evaluate detailed program-level opportunities in service territory (DSM Savings Update)
- Identify program impacts and associated costs

### Identify DSM “bundles” or decrements
- Aggregate detailed DSM measures into “bundles” of measures that reflect energy savings potential at varying levels of measure costs per lifetime kWh saved
- Produce bundles with detailed energy savings characteristics and costs

### Analyze each “bundle” across all scenarios and full stochastic range
- Run each DSM “bundle” or decrement in IRP models against other resource options
- Record savings, risks, environmental metrics
- Assess vs. costs to identify the preferred DSM plan to be integrated into portfolio
DSM Bundles

For purposes of modeling energy efficiency programs in NIPSCO’s 2018 IRP, GDS grouped DSM Plan energy efficiency measures into bundles according to each measure’s cost of saved energy over its measure life. The following three bundle categories were created:

<table>
<thead>
<tr>
<th>Bundle 1</th>
<th>Measures with a utility incentive cost ranging from $.00 to $.01 per lifetime kWh saved</th>
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<tbody>
<tr>
<td>Bundle 2</td>
<td>Measures with a utility incentive cost ranging from $.011 to $.05 per lifetime kWh saved</td>
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<tr>
<td>Bundle 3</td>
<td>Measures with a utility incentive cost over $.05 per lifetime kWh saved</td>
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DSM Modeling in IRP

Evaluate each DSM portfolio

DSM Savings (MW over time)

Different Tiers or “Bundles” of DSM options are analyzed as decrements to load

Aurora & PERFORM
- Hourly Chronological Dispatch
- NIPSCO Portfolio Dispatch
- Financial Accounting

Major Inputs
- Existing Resources
- Fuel Prices
- Emission Prices
- Demand
- Power Prices

Major Outputs
- Portfolio Market Purchases and Sales
- Plant Dispatch, Revenues, and Cost Profiles
- Total Revenue Requirement

DSM program costs (annual spending)

Record savings and risk metrics across all scenarios/stochastics to evaluate vs. DSM “bundle” costs
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<tbody>
<tr>
<td>NIPSCO Activity Description</td>
<td>• Initiate retirement process of Schahfer Units 14,15,17,18</td>
<td>• Fully implement required reliability upgrades</td>
<td>• Monitor market and industry development and refine future IRPs</td>
</tr>
<tr>
<td></td>
<td>• Identify and begin implementation of required reliability and transmission upgrades</td>
<td>• Actively monitor technology and market trends, and continue engagement with project developers and asset owners to understand landscape</td>
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<td></td>
<td>• Select initial replacement projects identified from the 2018 RFP evaluation process, prioritizing resources that have expiring federal tax incentives to achieve customer savings</td>
<td>• Conduct subsequent RFP to identify preferred resources to fill the remainder of the 2023 capacity need; procure replacement resources</td>
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<tr>
<td></td>
<td>• Actively monitor technology and market trends and evolution</td>
<td>• Implement Schahfer coal retirement with a focus on interests of customers, employees and local communities</td>
<td></td>
</tr>
<tr>
<td>Retirements</td>
<td>• None</td>
<td>• Schahfer Units 14/15/17/18 (2023)</td>
<td>• Michigan City Unit 12 (2028)</td>
</tr>
<tr>
<td>Expected Capacity Additions</td>
<td>• ~150-200MW (UCAP)</td>
<td>• ~1,100-1,150MW (UCAP)</td>
<td>• ~400MW (UCAP)</td>
</tr>
<tr>
<td>NIPSCO's Preferred Replacement Plan</td>
<td>• Demand Side Management</td>
<td>• Demand Side Management</td>
<td></td>
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<tr>
<td></td>
<td>• PPA / Market purchases</td>
<td>• Wind/Solar/Storage</td>
<td>• Demand Side Management</td>
</tr>
<tr>
<td></td>
<td>• Primarily Wind</td>
<td>• Market Purchases</td>
<td>• Wind/Solar/Storage</td>
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<td></td>
<td></td>
<td></td>
<td>• Market Purchases</td>
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<tr>
<td>Expected Regulatory Filings</td>
<td>• Approvals for replacement capacity projects</td>
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<td>• DSM Plan for 2022-2025 (file in late 2020)</td>
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NIPSCO Supply Resource Plan And Timing
Your Energy, Your Future Initiative

We envision a brighter future for Northern Indiana in three key ways: by focusing on the long-term strength of our local economy; delivering the best cost, most balanced and reliable energy our customers need; and reducing emissions to improve our environment.

<table>
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<th>Customer Benefits</th>
<th>Economic Benefits</th>
<th>Environmental Benefits</th>
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<tr>
<td>More than $4 Billion in Customer Cost Savings</td>
<td>5-10 Years Transitioning to Lower Cost Renewable Energy</td>
<td>90% Lower Cost Emissions by 2028</td>
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Thank you!