EWC Strategy

To preserve optionality and manage risk in the business

Manage Risk

Overall POV for power prices remains bullish based on views for natural gas and heat rates

Northeast Power Prices$; $/MWh

Market Structure

Pursue fair and competitive wholesale markets that provide proper compensation for needed plants

Indian Point

EWC’s most valuable asset, ¾ of portfolio value, is critical to safely and reliably serve demand in the region

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1 Northeast nuclear portfolio capacity-weighted; market as of April 30, 2014
Return to Earnings Growth...

Recap: Utility and EWC financial outlooks

EWC Operational Adjusted EBITDA\(^1\); $M

![Bar chart showing EWC Operational Adjusted EBITDA from 2013 to 2016.]

- **POV adds** $125 – 150M uplift in 2017 and 2018 versus April 30, 2014 market forwards

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\(^1\) Based on April 30, 2014, market prices, except for LHV; not intended to be guidance
Discussion Outline

Manage Risk

Hedging strategy insights and upside potential from a high level perspective
Hedging Portfolio Performance

*Strategy proved profitable last two winters*

**EWC Nuclear Revenue Sensitivity for 1Q14; $M**

- **We Were Prepared**: positioned hedging portfolio to capture bullish POV
- **Impact**: realized ~$0.90/share uplift vs. original 2014 guidance
- **Colder-than-Normal Winter**: market prices increased to reflect weather and market fundamentals
- **Plants Performed and Coordinated with Commercial Team**: plants performed above plan and plant and commercial teams coordinated to lock in gains

**Breakdown:**
- 20% Not Hedging VY
- 35% Remaining Open
- 45% Structured Product

**Illustrative**

*Position going into 2014*

**Market Price; $/MWh**

- (200) to 300
Hedging Product Comparison

Structured products provide potential upsides to hedged positions

Hedging Product Comparison

Illustrative

| UC @ 7%\(^1\) Discount or $46.5 UC Price |
| $50 * 7% = $3.50 |
| UC Price: $50 - $3.50 = $46.5 |

| $50 Market Price |
| Swap @ Market + $15 Protective Call @ $3.5 Premium |
| Swap Price: $50 |
| Protective Call Strike: $65 |

| Realized Spot Prices +/- $20 |
| $70 |
| $30 |

| Realized EWC Price |
| $46.5 |

| Illustrative |
| Impact |
| • Potential for upside |
| • Lower margining requirement |
| • More ways to align to POV |
| • Lower expected hedging cost (i.e., < $3.5) |

\(1\) Mid of 4% and 10% range
Hedging Product Options

*Product diversity lowers overall hedging costs*

Hedging Product Supply Curves; Hedging Cost % Discount to Market

1. **Minimum UC discount required by counterparty**
2. **Discount increases quickly when reaching market saturation**
3. **Old Supply Curve (UC Only)**
4. **Opportunity for lower discount**
5. **Increased market depth**
6. **Hedging Need**

Illustrative

**Volume, Market Supply**
**Hedging Strategy**

*Looking ahead*

**Favorable Factors**

- Bullish POV in 2017 and 2018
- Existing positions hedged at attractive upside to downside exposure (as shown earlier)
- Increased volatility → Existing option positions more valuable

**Challenges Ahead**

- Increased volatility → New options hedges more expensive
- Reduced market liquidity / counterparties in exiting business (e.g., Barclays, Deutsche Bank)

This will not be the first time we face reduced market liquidity.

We will continue our strategy of counterparty and product exploration/development coupled with rigorous analytics, market POV and corporate risk oversight.
Market structure initiatives and opportunities to increase transparency
Market Structure Objectives
Aligning objectives and creating win-win

Long Term Policy Objectives

Reliability
• Sufficient capacity the system can count on
• Fuel diversity

Economic Sustainability
• Low cost/efficient system
• Reasonable return/sustained investments

Environmental Sustainability
• Achieve carbon targets
• Reduce other pollutants

Our Objectives

Proper compensation (price signals) for attributes provided by all resource types. For nuclear:
• Baseload energy/price stabilization
• Effectively zero greenhouse gas emissions
• On-site fuel supply

Alignment
Wwww’s Needed?
## The Wholesale Markets Today

*Current Northeast market structures are broken*

<table>
<thead>
<tr>
<th>Design</th>
<th>Description</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulated / Rate-Based</td>
<td>• Utility planned generation development through rate base</td>
<td>• Customers pay for prudently-incurred costs approved by regulators (who represent the market)</td>
</tr>
<tr>
<td></td>
<td>• Regulators approve projects based on economics, reliability, social and environmental benefits</td>
<td></td>
</tr>
<tr>
<td>Market Based (Objective of Our Effort)</td>
<td>• ISOs set long term policy objectives for reliability and market economics</td>
<td>• Markets determine most efficient resources to meet these long term objectives</td>
</tr>
<tr>
<td></td>
<td>• Legislators and regulators set environmental goals</td>
<td>• New and existing generators receive proper compensation for attributes provided</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Financial risk borne by shareholders</td>
</tr>
<tr>
<td>Hybrid (NYISO, ISO-NE Today)</td>
<td>• Artificially low “market” prices for existing generators</td>
<td>• Shutdown of otherwise economic units</td>
</tr>
<tr>
<td></td>
<td>• Growing out-of-market contracts to entice new generation based on case-by-case regulatory approval</td>
<td>• Higher retail prices due to excessive uneconomical out-of-market contracts and special charges</td>
</tr>
<tr>
<td></td>
<td>• Continued state interventions</td>
<td>• Volatile market prices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Financial risk borne by ratepayers</td>
</tr>
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</table>
Impact of Out-of-Market Market Intervention and Reform

Out-of-Market interventions lead to higher cost in the long run

1. Out-of-market intervention can suppress wholesale power prices and customer energy cost in the short term

2. However, when low prices induce needed units to shutdown, total energy cost to customers would rise to reflect shortage/cost of new build

3. If we properly compensate for attributes generators provide in the wholesale market, it would temporarily raise wholesale prices

4. ... However, it would minimize shutdowns and the need for new builds

Customer Energy Cost

Time
Wholesale vs. Retail Rates

Cost of out-of-market intervention beginning to show

New York Lower Hudson Valley Retail Electricity Prices; $
Average Monthly Bill for 600 kWh Residential Customer

![Bar chart showing contribution to total 47% increase](chart)

- **Commodity (Wholesale):** 8%
- **Delivery:** 33%
- **Surcharge:** 6%

Total Bill Increase 47%

Estimated Impact of LHV over ROS Capacity Zone on Retail Price in 2014:
$4 or ~3% of 2013 Customer Bill

* Illustrative impact of LHV in 2014 holding other 2013 costs constant
Source: Utility website; Entergy Research and Analysis
## EWC Market Structure Initiatives

*Ensure proper compensation for all attributes provided by nuclear*

<table>
<thead>
<tr>
<th>Initiatives (Target ISO)</th>
<th>Target Market</th>
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<tbody>
<tr>
<td>Ensure new/repowered projects are subjected to fair and competitive market treatment (NYISO)</td>
<td>✓</td>
</tr>
<tr>
<td>Ensure 2014/2015 winter reliability program applies to all fuel types and is market-based (ISO-NE)</td>
<td>✓</td>
</tr>
<tr>
<td>Improve day-ahead/real-time energy price formation (ISO-NE)</td>
<td>✓</td>
</tr>
<tr>
<td>Minimize uplift charges (ISO-NE)</td>
<td>✓</td>
</tr>
<tr>
<td>Support continued effectiveness of Lower Hudson Valley capacity zone (NYISO)</td>
<td>✓</td>
</tr>
<tr>
<td>Apply minimum offer price rule (MOPR) to preclude uneconomic market entry (both)</td>
<td>✓</td>
</tr>
<tr>
<td>Explore market-based mechanisms with FERC, ISOs and regional stakeholders for currently uncompensated nuclear attributes (both):</td>
<td></td>
</tr>
<tr>
<td>• Baseload resource / Price stability</td>
<td>✓</td>
</tr>
<tr>
<td>• On-site fuel supply</td>
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<td>• Effectively zero greenhouse gas emissions</td>
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Discussion Outline

Indian Point
Continued Operation

Indian Point license renewal paths
and value of Indian Point
Indian Point License Renewal Proceedings

- NRC/ASLB
- Water Quality Certification
- Coastal Zone Management
**Cooling Water Issues at Indian Point**

*Wedgewire screens are available; cooling towers are not*

We believe IPEC does not adversely affect water quality, so no new cooling water technology is needed

But if a new technology is required...

**Cooling Towers**

- Major, unresolved challenges to feasibility and siting (e.g., air quality, aesthetics, zoning)
- Reduced safety margins, especially during construction
- Significant adverse impacts on output, particularly at peak demand period
- Capital costs at least $1.19B (direct overnight cost, 2009$) + lost revenue (~14 TWh)
- Bottom line – in operation in 2033 at the earliest

**Wedgewire Screen**

- No challenges to feasibility and siting
- Achieve most of the impingement/entrainment reduction that cooling towers could provide on a substantially advanced timeline
- No adverse impact on output
- Capital costs (2013$) ~$250 – $300M
- Bottom line – in operation no later than 2021 for first unit and 2023 for second unit

**Cooling towers are not available**

**Wedgewire screens are available**
State Challenges to Indian Point Continued Operation

*Water Quality Certification initiatives already underway*

IPEC proceedings will take time and have multiple success paths

Path 1: NYSDEC Litigation (2018+)

- **Agency Decision**
  - NYS Appeal?
    - No
    - Yes
  - ETR Appeal
    - No
    - Yes
- **NY Courts 3 Levels**
- **ETR** evaluates mitigation conditions based on latest market conditions

Path 2: Waiver

- **Waiver notice filed with NRC in 2011**
- **NRC** stated it would not address while litigation is pending

**NY Decision**
- NYS Action
- ETR Action

**Federal Decision**

- **WQC Favorably Resolved**
State Challenges to Indian Point Continued Operation

Coastal Zone Management proceedings already underway

Path 1: Consistency Determination (2017+)

- NYSDOS Decision
  - Intervener Appeal?
    - Yes
    - NYSDOS Decision
  - ETR Appeal
    - No
    - Federal Decision
      - Higher Courts

Path 2: Grandfathering (2016+)

- Appeal Court Decision
  - Yes
  - ETR Appeal
    - Yes
    - NY Action
      - Federal Decision
        - ETR Action
          - CZM Received

Path 3: Previous Review (2018+)

- Consultation/ Renewed Motion
  - ASLB Decision
    - Yes
    - NYS Appeal?
      - No
      - Federal Courts
Indian Point Benefits

Indian Point plays a critical role in its community

Indian Points is beneficial to New York

- Supplies 25% of power for New York City and Westchester
- Employs ~1,000 full-time employees
- Made $1.85B in payments to New York State since acquisition: purchase price, PILOT payments, value sharing and charitable contributions

Indian Point has broad support in New York

- Supporters of license renewal outnumber opponents by more than 2 to 1; 1 in 5 undecided

Indian Point shutdown will be costly to New York

- “IPEC’s retirement will increase the cost to New York’s consumers under every feasible scenario,” according to a Charles River Associates study commissioned by NYCDEP

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1 Based on a recent poll: “Do you favor or oppose renewing the licenses to continue operating the electricity-generating nuclear plants at the Indian Point Energy Center”
No IPEC Equivalent Replacement on Horizon

Other retirements and load growth will increase needs

Based on Entergy’s Assessment

(Economics and Timeliness)
Nuclear is Important in Meeting New York GHG Goals

*New York Greenhouse Gas Reduction Framework; MMTCO$_2$e*


Internal Analysis.

Nuclear shutdown substantially increases threshold in meeting goals

---

**2030 Interim Goal – Total**

- From Power Supply and Delivery (PS&D): 34
- Incremental Need w/o IPEC: 7
- Incremental Need w/o All Existing Nuclear: 11
- Total: 52

**% increase vs. PS&D Goals**

- Nuclear: 20%
- IPEC: 33%
- Existing Nuclear: 53%
- Total: 52%
Key Points

Indian Point remains a vital asset

- Indian Point plays a critical role in its community
  - **Reliability**: Baseload unit with on-site fuel
  - **Economic Sustainability**: Price-stable baseload energy
  - **Environmental Sustainability**: Important to meeting New York’s greenhouse gas reduction goals

- There are no Indian Point Energy Center-equivalent replacements on the horizon

- There are multiple paths to favorably resolve WQC and CZM
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Northeast Power Prices\(^1\); $/MWh

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<tr>
<td>POV + 1σ</td>
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