Indiana Michigan Power Company

2024 INDIANA IRP STAKEHOLDER MEETING 1

June 27, 2024

INDIANA MICHIGAN POWER℠

An AEP Company

Welcome & Introductions

I&M Leadership Team

David Lucas | Vice President, Regulatory and Finance
Andrew Williamson | Director, Regulatory Services
Stacie Gruca | Manager, Regulatory Services
Austin DeNeff | Regulatory Consultant Senior
Tammara Avant | Senior Counsel

1898 Leadership Team

Brian Despard | Senior Project Manager

I&M IRP Planning Team

Kelly Pearce | Managing Director, Resource Planning & Strategy
Mark Becker | Managing Director, Resource Planning & Grid Solutions
Mohamed Abukaram | Manager, Resource Planning
Greg Soller | Manager, Resource Planning
Dylan Drugan | Manager, Resource Planning
Mark O'Brien | Director, Generation & Market Simulation
Joshua Burkholder | Managing Director, RTO Strategy & Policy
David Canter | Manager, RTO Regulatory PJM

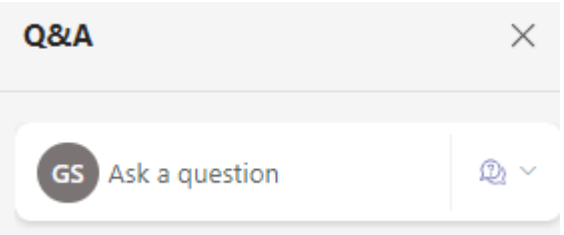
Agenda

Time (EST)	Agenda Topic	Presenter
1:00 – 1:25 PM	Welcome & Introductions • Stakeholder Meeting Objectives • Introduction of 1898 & Co. • Company Overview & Updates	Brian Despard (1898 & Co.) Andrew Williamson
1:25 – 1:40 PM	IRP Process & Stakeholder Engagement IRP Requirements	Greg Soller
1:40 – 1:50 PM	2024 IRP Highlights • Indiana specific IRP • Cook and Hydro Relicensing	Andrew Williamson
1:50 – 2:00 PM	Q&A	
2:00 – 2:30 PM	IURC Pillars and 2024 IRP Objectives & Metrics • Reliability, Affordability, Stability, Resiliency, Sustainability PJM Update Capacity and Energy Needs Review (Going-In Position)	Greg Soller Joshua Burkholder/David Canter Greg Soller
2:30 – 2:45 PM	Q&A and Break	
2:45 – 3:30 PM	Fundamentals and Scenario Analysis Technology Alternatives and Strategies IRP Proposed Cases and Sensitivities	Mark O'Brien Greg Soller
3:30 – 3:40 PM	Q&A	
3:40 – 4:15 PM	Proposed Portfolio Performance Metrics	Greg Soller
4:15 – 4:30 PM	Final Questions, Discussion, Action Items, and Adjourn	Brian Despard (1898 & Co.)

Participation

- Participants joining today's meeting will be in a "listen-only" mode. Please use the "Raise" function to be recognized and unmuted.
- During the presentation, please enter questions at any time into the Teams Q&A feature. Questions will be addressed after each section. At the end of the presentation, we will open up the floor for additional questions, thoughts, ideas, and suggestions.
- All questions and answers will be logged and provided on the IRP website. Any questions not answered during the meeting will be answered after the meeting and provided in the Q&A log posted to the IRP website.
- Questions, thoughts, ideas, and suggestion related to Stakeholder Meeting 1 can be provided to I&MIRP@aep.com following this meeting.

Click the Q&A feature at the top of the Teams screen



Guidelines

- Please focus questions, thoughts, ideas, and suggestions to the IRP process and the content being discussed in this meeting. Time will be taken during this meeting to respond to questions.
- Please respect other participants and their views by not addressing other participants directly and not commenting on the views expressed by others.
- This meeting will not be recorded or transcribed.
- Any further questions or comments can be provided to I&MIRP@aep.com.

Stakeholder Meeting Objectives

Objectives for meeting include:

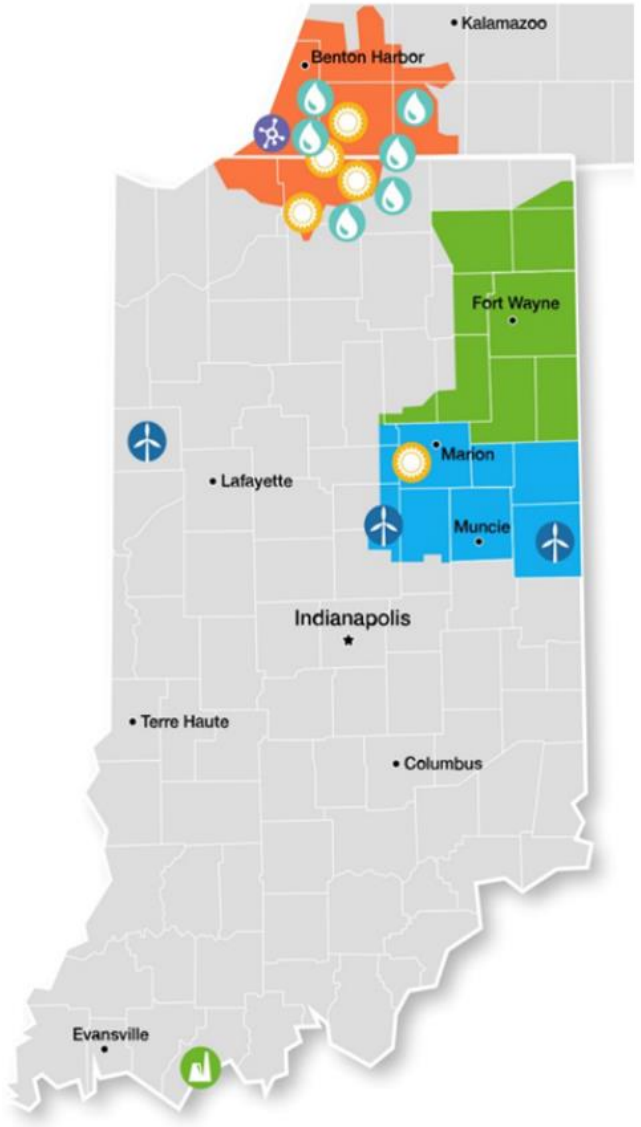
- ❑ **Transparency:** Share 2024 IRP Objectives and Assumptions at the beginning of our process
- ❑ **Gather Feedback:** Provide a forum for productive stakeholder feedback

I&M welcomes stakeholder comments and input on any aspect of the IRP process, including:

- ❑ Requirements & Objectives
- ❑ Key IRP Topics
- ❑ PJM and Market Conditions
- ❑ Capacity Needs
- ❑ Fundamentals Pricing Assumptions
- ❑ IRP Cases/Sensitivities
- ❑ Proposed Portfolio Performance Metrics

About Indiana Michigan Power Company (I&M)

- Indiana Michigan Power Company (I&M) headquartered in Fort Wayne, IN
- More than 614,000 retail customers in Indiana and Michigan.
  - ~482,000 customers - IN
  - ~133,000 customers - MI
- I&M also serves wholesale customers which represents 12.6% of its load
- I&M participates in the PJM Regional Transmission Organization which establishes system reliability criteria



I&M is a unit of American Electric Power (NYSE: AEP), which is one of the largest electric utilities in the United States, delivering electricity to more than 5 million customers in 11 states.

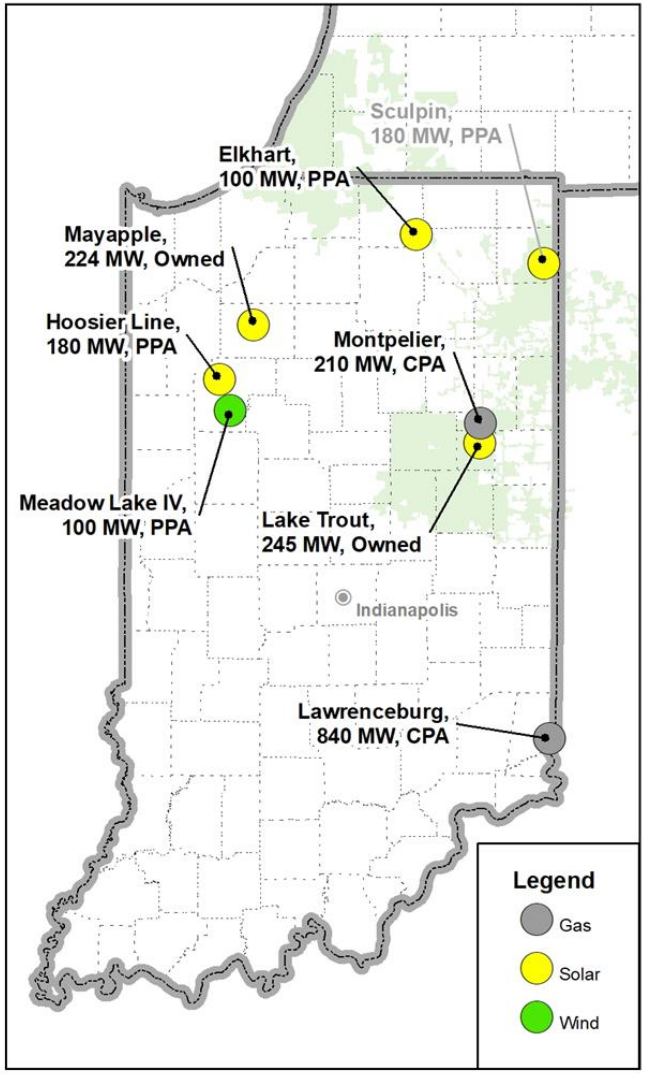
New Generation Resource Overview

Facility Name	Agreement Type	COD/Term Start	Nameplate (MW)
Solar			
Lake Trout	PSA	2027	245
Mayapple	PSA	2027	224
Hoosier Line	PPA	2027	180
Elkhart County	PPA	2026	100
~~Sculpin~~	~~PPA~~	~~2025~~	~~180~~
Total Solar			749

Wind			
Meadow Lake IV	PPA	2025*	100

Natural Gas			
Montpelier	Capacity-Only Purchase (7 yr)	2027	210
Lawrenceburg	Capacity-Only Purchase (6 yr)	2028	840
Total Natural Gas			1,050

* Repower of existing facility

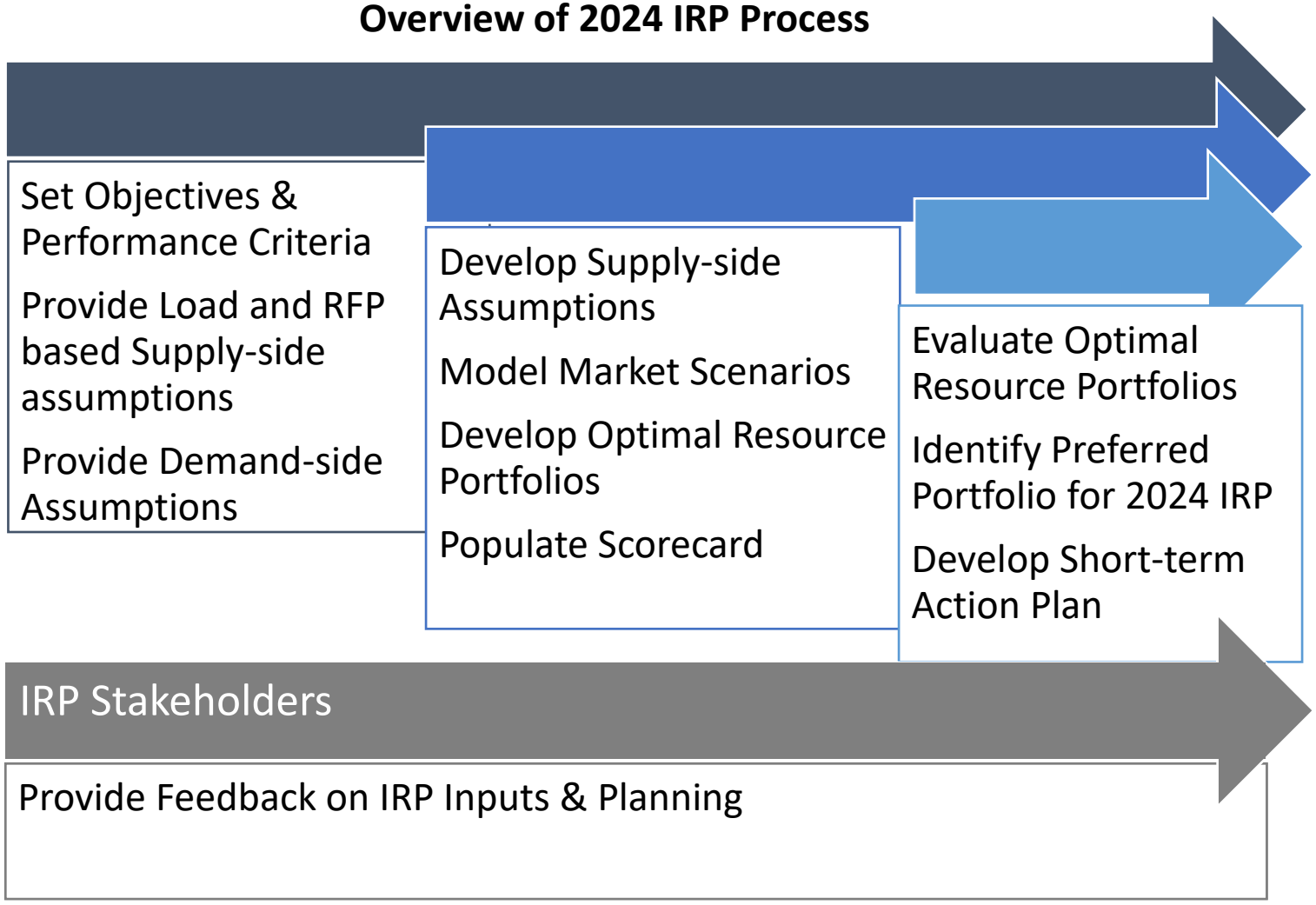


2024 IRP Highlights

- Relicense Evaluation for Cook Nuclear Plant and Certain Hydroelectric Assets
- Transition to State-Specific Planning Model
- Major Load Growth Underway
- Dynamic Market Conditions Impacting New Generation Resources

2024 IRP Process

Overview of 2024 IRP Process



2024 IRP Analysis Steps

1. Define IRP Objectives Aligned to Customer Needs
2. Forecast Multiple Market Scenarios of Fundamental PJM Energy, Capacity, and Commodity Prices
3. Optimize I&M Resource Portfolios under multiple market scenarios, load, and technology cost cases and sensitivities
4. Perform Scenario-Based Risk Analysis on I&M Resource Plans
5. Compare Results & Identify the Preferred Portfolio

2024 I&M Indiana IRP Stakeholder Engagement Timeline

I&M IRP Planning Technical Conference*

Technical Conference(s) held with key stakeholders with IRP Plexos licenses for modeling application.

Stakeholder Meeting 1

IRP Objectives
Assumptions
Estimated Resource Needs
Scenarios
Proposed Portfolio Metrics

Stakeholder Meeting 2

Discuss IRP assumptions and modeling inputs

Stakeholder Meeting 3

Discuss IRP Draft Modeling Results, Portfolio Metrics

Stakeholder Meeting 4

Review IRP Preferred Portfolio Risk Analysis

I&M submits 2024 Indiana IRP

Draft timeline is provided for preliminary planning purposes.

All dates and activities are subject to change by I&M as new information becomes available.

Additional technical information will be shared and technical conferences held as appropriate.

****The Company's Market Potential Study (MPS) is complete and IRP Technical Sessions have been held on EE Bundling.***

May

IRP Requirements

- Indiana regulations require the Company to submit Integrated Resource Plans (IRPs) every three years according to Indiana Code § 8-1-8.5-3(e)(2).
- The IRPs are subject to a rigorous stakeholder process.
- IRPs describe how the utility plans to deliver safe, reliable, and efficient electricity at just and reasonable rates.
- Further, these plans must be in the public interest and consistent with state energy and environmental policies.
- Each utility's IRP explains how it will use existing and future resources to meet customer demand.
- When selecting these resources, the utility must consider a broad range of potential future conditions and variables and select a combination that would provide reliable service in an efficient and cost-effective manner.
- The IRP will also address how the Company's Preferred Plan will align to the recently enacted HEA 1007, codified at Ind. Code § 8-1-2-0.6, that set forth five attributes (also referred to as "pillars").
- The five pillars are **reliability, affordability, resiliency, stability and environmental sustainability**.

2021 IRP Action Plan

1. Continue the planning and regulatory actions necessary to implement additional economic DSM programs in Indiana and Michigan.
2. Obtain the short-term capacity needed for the 2024/2025 and subsequent PJM Planning Years.
3. Issue All-Source RFPs in 2022 and 2023 to target the generation resources identified in I&M's Preferred Portfolio that are necessary to meet the capacity and energy needs of I&M's customers as Rockport is retired by the end of 2028.
4. Initiate efforts to evaluate Cook relicensing costs
5. Be in a position to adjust this action plan and future IRPs to reflect changing circumstances.

I&M Commitments Related to the 2024 IRP

- Rockport Unit 2 Declination of Jurisdiction Settlement in CN 45546:
  - Model Rockport Unit 1 retirement in 2025
  - Model Rockport Unit 1 retirement in 2026
  - Model exiting the OVEC ICPA in 2030
  - Adjust the load forecast methodology to be consistent with the use of a Net-To-Gross methodology associated with Energy Efficiency.
- 2024 Test Year Base Case Settlement in CN 45933:
  - IRP Modeling Licenses: Provide up to three executable modeling licenses for IURC, OUCC and CAC.
  - Schedule of data releases
  - Energy Efficiency: work with CAC and interested stakeholders to construct IRP bundles.
  - Storage Resources: model longer duration (8-10 hour lithium ion) and potentially multiday storage in the 2024 IRP (and solicit input on cost and performance in SH process prior to modeling)

Cook Nuclear Plant Overview

- 2,200+ MWs of carbon-free generation, producing on average 16 - 18 million MWhs of generation annually
- Highest capacity, reliability and availability of all generation sources
- Highest Institute of Nuclear Power Operations (INPO) rating
- Provides lowest cost fuel resource within AEP's regulated fleet and has supported fuel cost stability during periods of volatility
- Provides sustainable generation to customers
- I&M invested more than $1 billion between 2012 and 2022 completing the Life Cycle Management project which has uniquely positioned Cook to operate beyond its current license dates

Cook Analysis Considerations

- Cook Relicensing
  - U1 Current License Expiration Q4 2034
  - U2 Current License Expiration Q4 2037
  - Evaluate economics of Subsequent License Renewal (SLR)

Costs Considered in Cook Relicensing Analysis

- Subsequent Renewal Operating License
- One-Time Inspection Costs
- Dry Cask Fuel Storage Pad Extension
- Capital Improvement Costs
- On-Going Capital Costs
- Fixed Operations & Maintenance (FO&M) Costs

I&M Hydroelectric Generation Overview

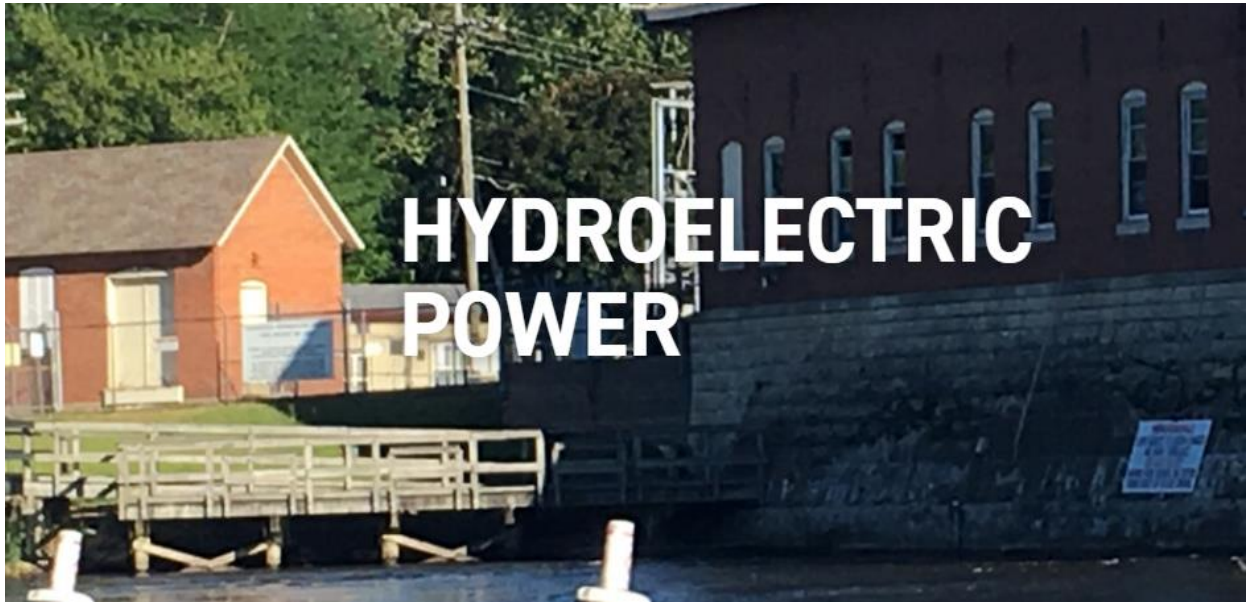
Hydro Facility	Year Installed	License Expiration	Lifespan (years)
Berrien Springs	1908	2036	128
Buchanan	1919	2036	117
Constantine	1921	2053*	132
Elkhart	1913	2033	117
Mottville	1923	2033	110
Twin Branch	1904	2036	132

* Anticipated 30 year extension of current license by FERC

Hydro Analysis Considerations

- Hydro Relicensing
  - Affects Elkhart & Mottville units with license expirations within next 10 years.
  - I&M engaged WSP as an independent consultant to assist with evaluating I&M's hydroelectric assets
  - Evaluation of license renewal includes:
    - Updated decommissioning study
    - Socio-economic analysis
    - Public engagement process
    - Independent evaluation of long-term operating costs

- Costs Considered in Hydro (Elkhart and Mottville) Relicensing Analysis
  - On-Going Capital Costs
  - FO&M Costs
  - Decommissioning Costs



Q&A

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IURC Pillars and 2024 IRP Objectives

IURC Pillar	IRP Objective	IURC Pillar Definition
Reliability*	Maintain capacity reserve margin and the consideration of reliance on the market for the benefit of customers.	(A) the adequacy of electric utility service, including the ability of the electric system to supply the aggregate electrical demand and energy requirements of end use customers at all times, taking into account: (i) scheduled; and (ii) reasonably expected unscheduled; outages of system elements; and (B) the operating reliability of the electric system, including the ability of the electric system to withstand sudden disturbances such as electric short circuits or unanticipated loss of system components.
Affordability	Maintain focus on cost and risks to customers	Including ratemaking constructs that result in retail electric utility service that is affordable and competitive across residential, commercial, and industrial customer classes.
Resiliency*	Maintain diversity of resources and fleet dispatchability	Including the ability of the electric system or its components to: (A) adapt to changing conditions; and (B) withstand and rapidly recover from disruptions or off-nominal events.
(Grid) Stability*	Maintain a fleet of flexible and dispatchable resources	Including the ability of the electric system to: (A) maintain a state of equilibrium during: (i) normal and abnormal conditions; or (ii) disturbances; and (B) deliver a stable source of electricity, in which frequency and voltage are maintained within defined parameters, consistent with industry standards.
Environmental Sustainability	Maintain focus on portfolio environmental sustainability benefits and compliance costs	Including: (A) the impact of environmental regulations on the cost of providing electric utility service; and (B) demand from consumers for environmentally sustainable sources of electric generation.

* I&M operates in the PJM Regional Transmission Organization (RTO) which also supports these three pillars through its planning processes

Portfolio Performance Indicators

IURC Pillar	IRP Objective	Performance Indicator	Metric Description
Reliability	Maintain capacity reserve margin and the consideration of reliance on the market for the benefit of customers.	Energy Market Exposure – Purchases	Cost and volume exposure of market purchases (Costs and MWhs % of Internal Load) in 2033 and 2044
		Energy Market Exposure - Sales	Revenue and volume exposure of market sales (Revenues and MWhs % of Internal Load) in 2033 and 2044
		Planning Reserves	Target Reserve Margin
Affordability	Maintain focus on cost and risks to customers	Net Present Value Revenue Requirement (NPVRR) Levelized Rate ($/MWh)	Portfolio 30yr NPVRR Portfolio 30yr Levelized Rate (NPVRR/Levelized Energy)
		Near-Term Rate Impacts (CAGR)	7-year CAGR of Annual Rate
		Portfolio Resilience	Range of Portfolio NPVRR and associated Rate Impact ($/MWh) (at rqd IRP Planning Period) costs dispatched across all Scenarios
Resiliency	Maintain diversity of resources and fleet dispatchability	Resource Diversity	Diversity Index inclusive of Capacity and Energy Diversity
		Fleet Resiliency	% Dispatchable Capacity of Company Peak Load
(Grid) Stability	Maintain fleet of flexible and dispatchable resources	Fleet Resiliency	% Dispatchable Capacity of Company Peak Load
Environmental Sustainability	Maintain focus on portfolio environmental sustainability benefits and compliance costs	Emissions Change	CO2, NOx, SO2 emissions change compared to 2005 levels
		Total Portfolio Costs (NPVRR)	Considered under Affordability Pillar above

Update on PJM Capacity Market Changes

- On January 30, 2024, FERC issued an Order accepting the capacity market changes proposed by PJM in October 2023 in docket ER24-99 at the direction of the PJM Board.
- This Order accepts PJM's proposal to implement proposed changes to capacity accreditation and increased required reserve margin to better account for winter risks.
- The Key elements of ER24-99 are:
  - ***Market Structure***: PJM will maintain an annual market design that uses enhanced resource adequacy risk modeling that considers risks throughout the year to establish the appropriate planning reserve margin.
  - The ***Required Reserve Margin*** will be approximately 3% higher than the current level based on enhanced risk modeling, and this will apply in both the auction markets (RPM) and for the Fixed Resource Requirement (FRR or "self-supply") Alternative.
  - ***Capacity Resource Accreditation***: PJM will adopt the annual version of the marginal ELCC approach that is a blend of summer and winter capabilities. This will reduce the capacity accreditation of gas, solar and storage resource, while wind will have a modest increase in accreditation and nuclear and coal will have minimal impact.
- PJM will hold the 2025/26 delivery year Base Residual Auction (BRA) beginning July 17, 2024.

Preliminary PJM ELCCs

ELCC Class	2026/ 27	2027/ 28	2028/ 29	2029/ 30	2030/ 31	2031/ 32	2032/ 33	2033/ 34	2034/ 35
Onshore Wind	35%	33%	28%	25%	23%	21%	19%	17%	15%
Offshore Wind	61%	56%	47%	44%	38%	37%	33%	27%	20%
Fixed-Tilt Solar	7%	6%	5%	5%	4%	4%	4%	4%	3%
Tracking Solar	11%	8%	7%	7%	6%	5%	5%	5%	4%
Landfill Intermittent	54%	55%	55%	56%	56%	56%	56%	56%	54%
Hydro Intermittent	38%	40%	37%	37%	37%	37%	39%	38%	38%
4-hr Storage	56%	52%	55%	51%	49%	42%	42%	40%	38%
6-hr Storage	64%	61%	65%	61%	61%	54%	54%	53%	52%
8-hr Storage	67%	64%	67%	64%	65%	60%	60%	60%	60%
10-hr Storage	76%	73%	75%	72%	73%	68%	69%	70%	70%
Demand Resource	70%	66%	65%	63%	60%	56%	55%	53%	51%
Nuclear	95%	95%	95%	96%	95%	96%	96%	94%	93%
Coal	84%	84%	84%	85%	85%	86%	86%	83%	79%
Gas Combined Cycle	79%	80%	81%	83%	83%	85%	85%	84%	82%
Gas Combustion Turbine	61%	63%	66%	68%	70%	71%	74%	76%	78%
Gas Combustion Turbine Dual Fuel	79%	79%	80%	80%	81%	82%	83%	83%	83%
Diesel Utility	92%	92%	92%	92%	92%	93%	93%	93%	92%
Steam	74%	73%	74%	75%	74%	75%	76%	74%	73%

https://www.pjm.com/-/media/planning/res-adeq/elcc/preliminary-elcc-class-ratings-for-period-2026-2027-through-2034-2035.ashx

PJM Interconnection Reform & FERC Order 2023

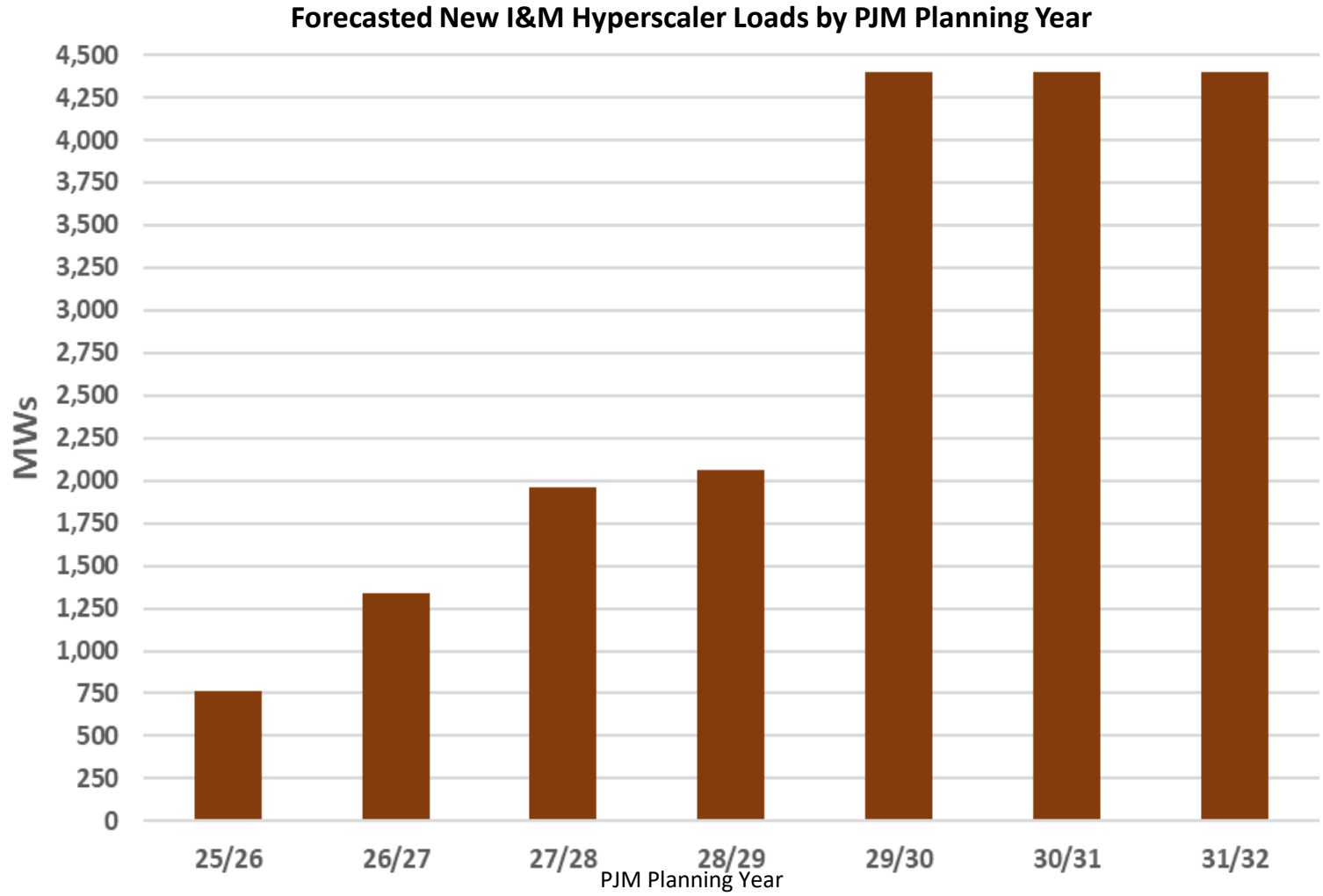
- FERC Order (Docket ER22-2110-000/001): On November 29, 2022, FERC approved PJM's Generator Interconnection Queue Reforms subject to compliance filings.
  - Transitions from a serial "First in, First Out" approach to a "First Ready-First Serve" clustered approach and establishes increased security and readiness deposits throughout the study process.
  - On July 10, 2023, PJM commenced transition activities for their reformed interconnection process that included defined "transition cycles" to analyze projects currently in the interconnection queue over the next two years. New interconnection requests will be studied under the new process starting in 2026.
- FERC Order 2023 regarding Interconnection Reform: PJM made compliance filing on May 16, 2024.
  - Requires a first-ready, first-served cluster study process that is generally consistent with PJM's new process.
  - Includes reforms intended to increase the speed of Interconnection queue processing including deadlines and penalties for the transmission provider; these aspects are the subject of multiple requests for rehearing and appeals.
  - Further incorporates technological advancements into the interconnection process.

Capacity Interconnection Rights Transfers: "Retire & Replace"

- **MISO**: On May 15, 2019, FERC accepted MISO's enhanced generator replacement process.
  - Within one year of deactivation, the existing generator submits an Interconnection Request with a study deposit that will be processed in a serial fashion outside of the interconnection queue process.
  - MISO performs a Replacement Impact Study and if no material impact is identified then the project typically can receive a Generation Interconnection Agreement in 10-12 months.
- **PJM**: Existing generation owners are permitted to transfer their Capacity Interconnection Rights (CIRs) to an affiliated or non-affiliated entity, but if the new generating resource is a different generation type, the project must enter the interconnection queue to be studied like a new project.
  - The existing Generation Capacity Resource owner must initiate the CIR transfer within one year after the deactivation date.
  - A new project entering the interconnection study queue today will not be studied until 2026 and the study process then takes approximately two years; PJM's FERC approved queue reforms will significantly reduce the study backlog over time.
- **Seeking process change in PJM**: AEP is advocating for changes in the PJM stakeholder process to establish an expedited retire-replacement process like MISO's.
  - If successfully advanced in the stakeholder process, current timeline is for a solution to be endorsed and filed at FERC by mid-Summer 2024. If approved, processing of interconnection applications under a new process could begin during the 1st Qtr. of 2025.

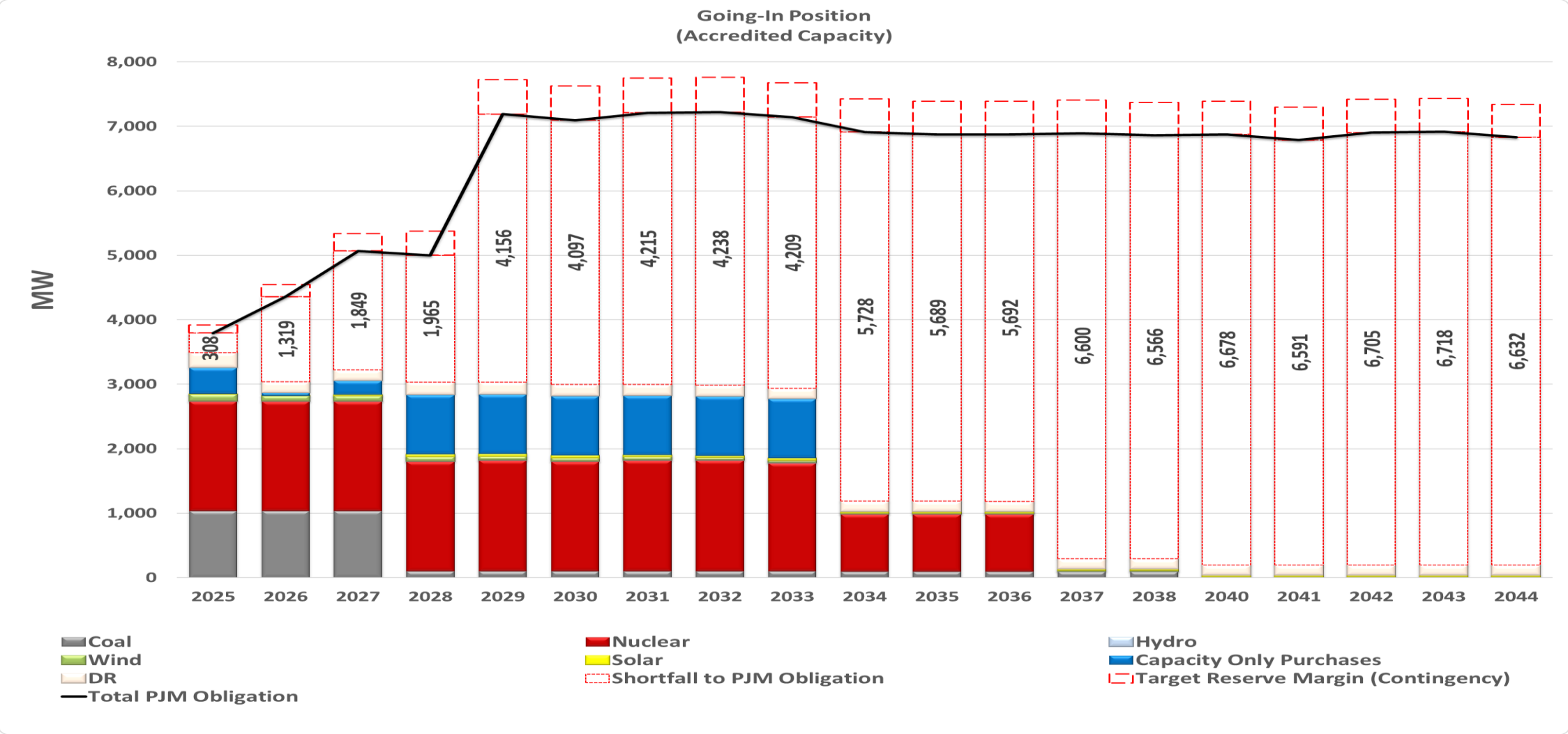
Considerations for New Hyperscaler Loads (HSL) in IRP

- New load forecasted to more than double the current peak load served by I&M and occur over the next five to six years
- AEP and PJM will identify any transmission upgrades necessary to serve the new load
- I&M will utilize short-term existing PJM resources that provide a bridge to a long-term generation resource portfolio
- The long-term generation portfolio will be optimized through the IRP process to identify the best mix of resources to serve all Indiana customers
- Additional post-2030 HSL will be considered as part of a sensitivity (phase 2 load)



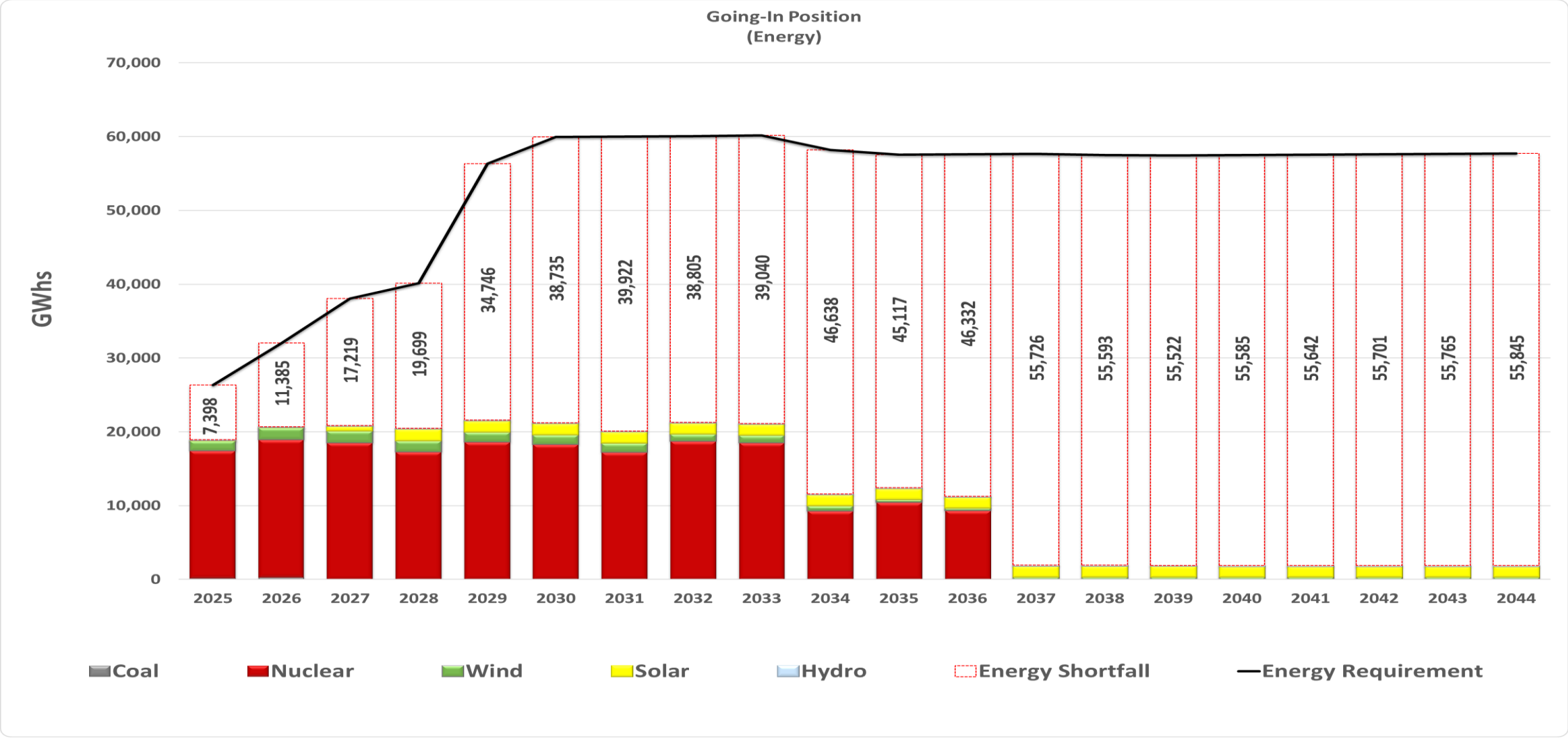
Note: Forecasted loads are under development and subject to final updates.

Capacity Needs Assessment (Preliminary Going-In Position)



- To reasonably capture contingency risk around future uncertainties such as changes to load obligations and available capacity, a probabilistic risk analysis is being performed to evaluate a 'Target Reserve Margin. The final Target Reserve Margin is still under development, but is shown above for illustrative purposes.

Energy Needs Assessment (Preliminary Going-In Position)



Q&A
Short Break

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Market Scenarios and Commodities Pricing

Values forecasted based on modeling of Eastern Interconnect

Scenario	Load	Gas Price	Environmental Regulations
Base	Base	Base	Pre-EPA 2023 Proposed Rules
High Economic Growth	High	High	
Low Economic Growth	Low	Low	
Enhanced Environmental Regulations (EER)	Base	Base	EPA 2023 Proposed Rules

Fundamentals Enhanced Environmental Regulation (EER) Scenario

Scenario

Scenario Models EPA's 111d Rule Changes

- Proposed Rule Published May 11, 2023

Generators impacted:

- Exiting coal units
- Existing natural gas units >300 MW
- New gas units

Scenario Summary:

- ~50% power price increase on expiration of IRA credits mid-2040s

Dispatchable Generation Options

Existing coal units' options to continue operation past 2032 must:

- Limit capacity factor to 20%, retire by 2035
- Blend 40% Natural Gas with coal, retire by 2040
- Install CCS

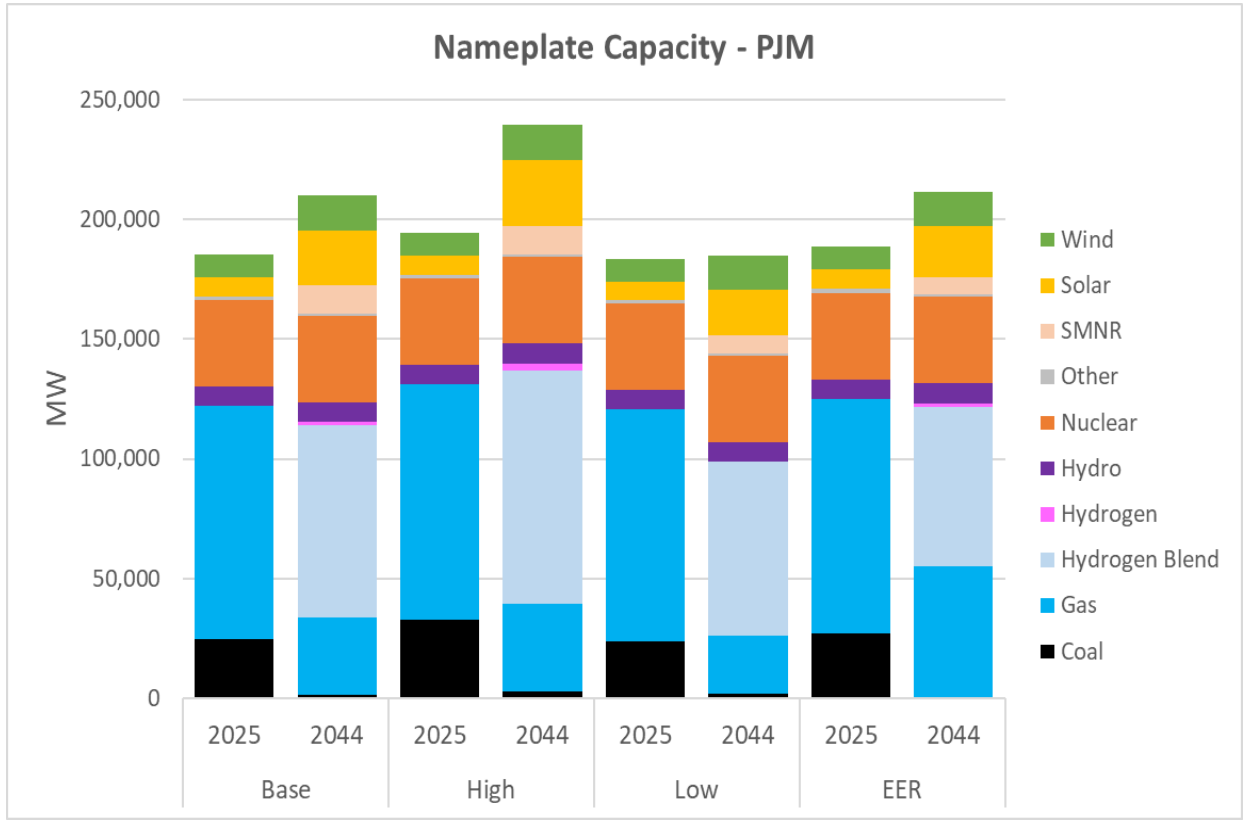
Existing Natural Gas Units >300 MW and 50% Capacity Factor:

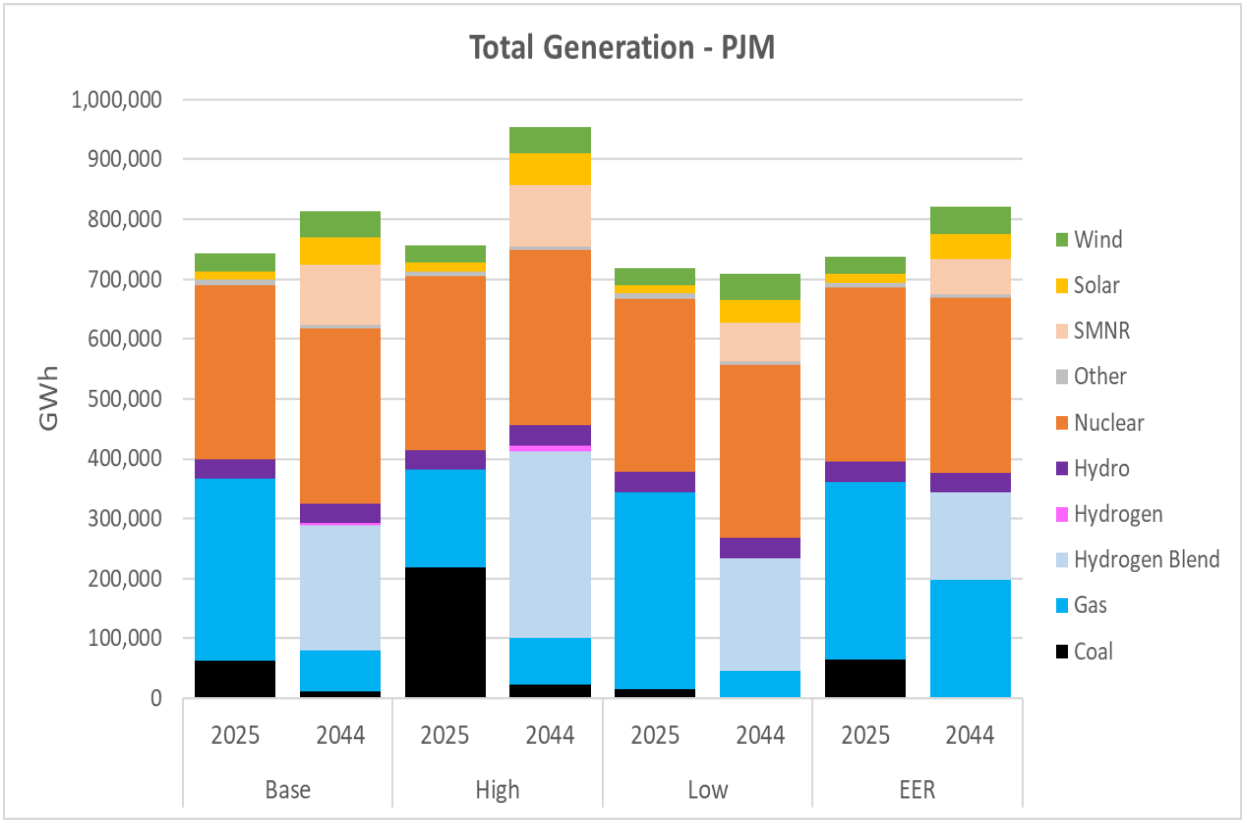
- Up to 96% hydrogen 4% natural gas fuel blend
- Install CCS

New Gas Units:

- Adhere to carbon emission performance standard
- Up to 96% hydrogen 4% natural gas fuel blend
- Install CCS

PJM Supply Mix Changes

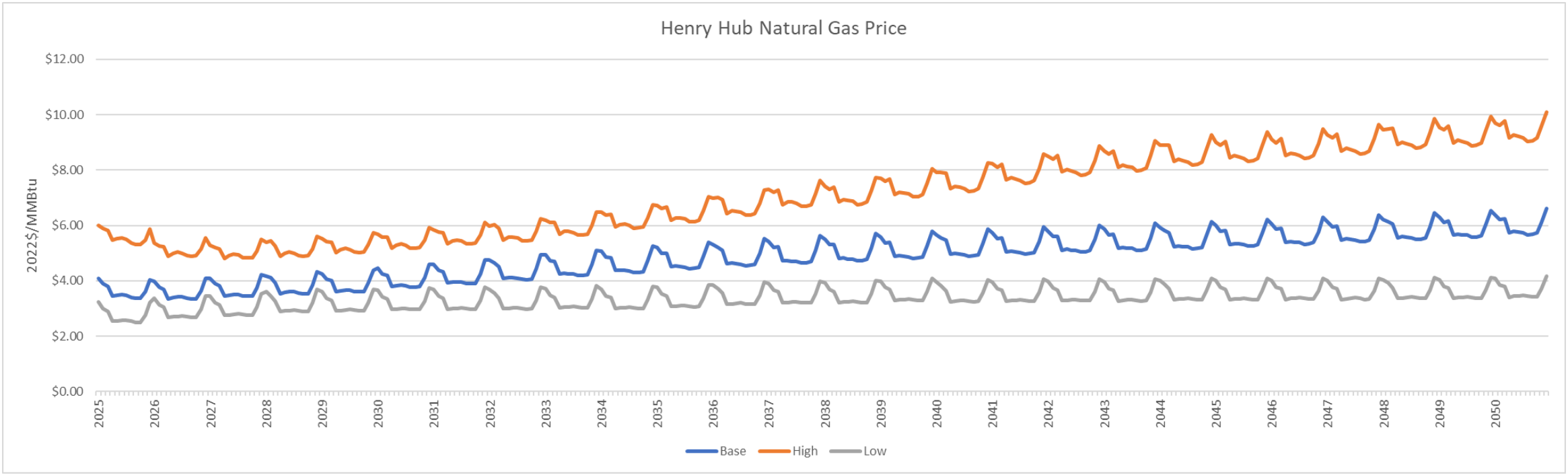




- Under all scenarios, coal is replaced primarily by NG/Hydrogen Blend units
- Solar sees significant growth in the long term
- Wind growth is moderate

- Nuclear and natural gas generation dominate the supply mix
- Natural gas/Hydrogen Blend units provide reliable, dispatchable generation as coal plants are retired

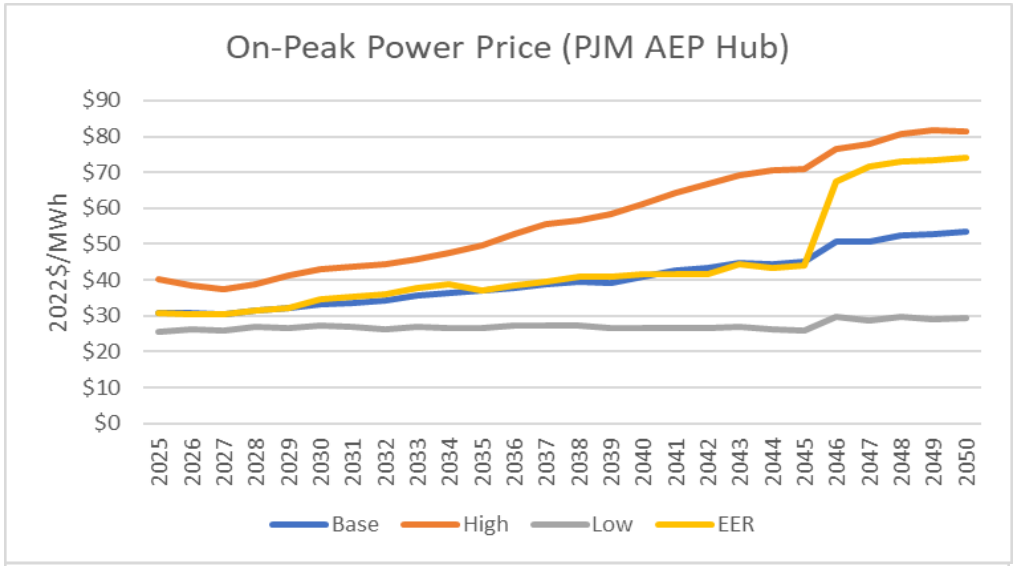
Natural Gas Inputs

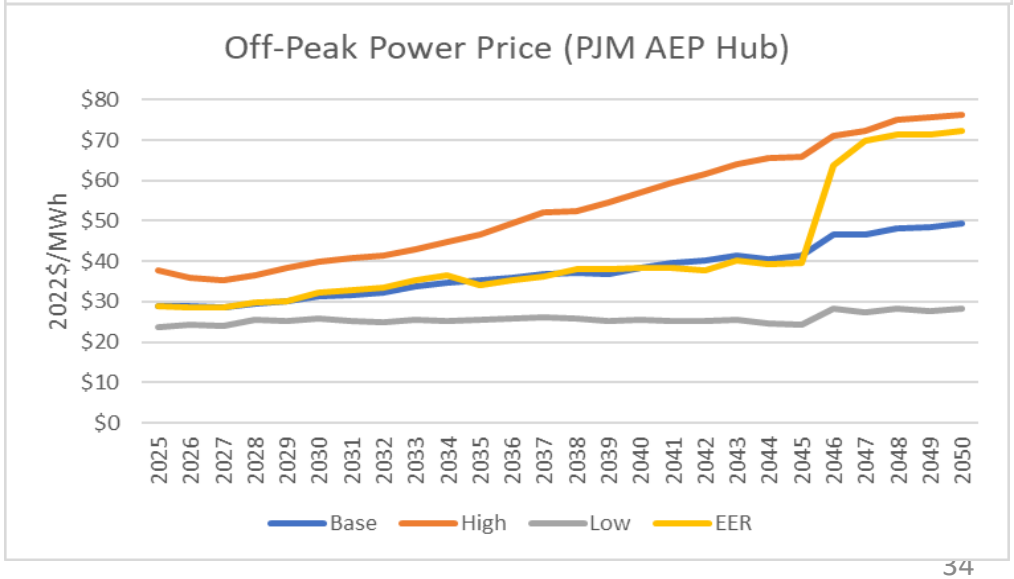


- Base case assumes that natural gas demand will increase as natural gas replaces coal
- High and Low cases have similar assumptions to Base except for WTI prices and LNG exports
  - High case assumes higher WTI prices and LNG exports
  - Low case assumes lower WTI prices and LNG exports

PJM Market Prices

- Under all scenarios, energy prices are mainly influenced by natural gas prices
- Peak/Off-Peak spread averages are as follows:
  - Base: $2.71/MWh
  - High: $3.89/MWh
  - Low: $1.47/MWh
  - EER: $2.69/MWh



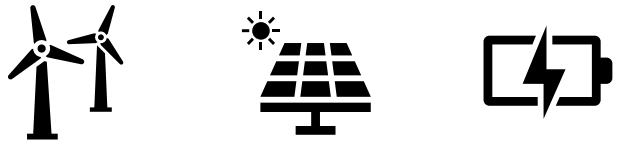


Supply Side Resources

I&M proposes three categories of supply side resources for the selection of an optimal resource mix that is resilient to future uncertainties.

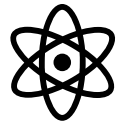
Intermediate & Peaking Options

- H-Class 430 MW single-shaft natural gas combined cycle (NGCC)*
- H-Class 1,080 MW multi-shaft NGCC*
- F-Class 760 MW multi-shaft NGCC*
- 430 MW H-class single shaft NGCC with 90% carbon capture
- F-Class 240 MW natural gas combustion turbine (NGCT*)
- 100 MW aeroderivative unit
- 20 MW reciprocating engine



Renewable & Storage Options

- Utility-scale onshore wind
- Utility-scale solar photovoltaic
- Utility-scale hybrid solar photovoltaic (3:1)
- Storage Resources
  - Lithium-ion battery: 4, 6, 8, 10-hour
  - Long Duration (e.g. 100-hour)



Advanced Generation Options

- Small modular nuclear reactors

Market Capacity Options

- Bi-Lateral Purchases
- Pre-Existing Assets

Note: *New NGCC/CT units are assumed to be retrofittableto burn 100% hydrogen

Potential Generation Resource Timing Strategies

Given large load growth expected for I&M over next decade requires careful consideration of resource type and timing

Short-Term Capacity Market

- I&M will seek short-term capacity through bilateral contracts for existing resources in PJM.
- Expect majority of capacity in early years to come from short-term market reducing over time as new resources are acquired

Acquisition of Existing Assets

- I&M is currently evaluating opportunities for existing generation resources and re-powering of existing facilities
- Requires ability to “strike fast” in response to solicitations from potential seller’s
- Expect market to tighten later in decade; need to move now to be competitive

Mid and Long-Term Resources

- I&M will use both traditional RFPs and self-development for owned and purchase power agreements
- I&M is also evaluating strategic partnerships with OEMs, EPC contractors, and developers to lock in manufacturing slots, PJM queue positions, and development opportunities.

Planned IRP Cases

Portfolio	Market Scenario	I&M IN Load [1]	Gas Price	Technology Cost	Energy Price	Environmental Regulations
Base	Base	Base	Base	Base	Base	Pre-EPA 2023 Proposed Rules
High Economic Growth	High	High	High	Base	High	
Low Economic Growth	Low	Low	Low	Base	Low	
Enhanced Environmental Regulations (EER)	EER [2]	Base	Base	Base	Base	EPA 2024 111(d) Final Rules [2]

[1] All Cases include Hyperscaler Loads.

[2] EER Market Scenario is based on Proposed EPA rules as previously described. Resource selections will be based on final EPA rules.

Proposed Alternative Sensitivities

Portfolio	Market Scenario	I&M IN Load[1]	Gas Price	Technology Cost	Energy Pricing	Environmental Regulations
High IN Load	Base	**High**	Base	Base	Base	Pre-EPA 2023 Proposed Rules
Low IN Load	Base	**Low**	Base	Base	Base	
High Technology Costs	Base	Base	Base	**Base + 25%**	Base	
Base w/ Phase 2 HSL	Base	**Base+Ph2 HSL**	Base	Base	Base	
Base w/Env. Regs	Base	Base	Base	Base	Base	**EPA 2024 111(d) Final Rules**

[1] All Cases include Hyperscaler Loads; Base w/Phase 2 HSL includes additional load growth post 2030.

Stakeholder Alternative Portfolios Sensitivities

Portfolio	Scenario	I&M Load	Gas Price	Technology Cost	Env. Regs	Settlement R'qmt
Rockport 1 2025	Base	Base	Base	Base	Pre-EPA 2023 Proposed Rules	RP1 Retire in 2025
Rockport 1 2026	Base	Base	Base	Base		RP1 Retire in 2026
OVEC 2030	Base	Base	Base	Base		OVEC Resources exit in 2030

New EPA Section 111 GHG Standards
Greenhouse gas emission limits

Indiana Portfolio Resource Optimization to Include Final EPA 111d Rules

- Applies to existing coal and gas steam units and new combustion turbine units
- EPA will perform a separate rulemaking for existing combustion turbine units and will extend the rulemaking until later in 2024.
- Existing Coal Options:
  (1) Install 90% carbon capture by 2032; or
  (2) 40% gas co-firing by 2030 **and** retire by 2039; or
  (3) Retire by 2032
- Existing Gas Steam limits are based on routine O&M practices, not CCS
- New Gas Combustion Options:
  (1) Baseload (>40% capacity factor): 800 lb CO2/MWh gross changing to 90% CCS by 2032 (note: hydrogen co-firing removed as an option)
  (2) Intermediate: (20-40% cap factor): 1170 lb CO2/MWh gross
  (3) Low Load: (<20 cap factor): 160 lb CO2/mmBtu
- Limited Reliability Mechanisms could extend compliance deadline by 1 year. Requires RTO certification and EPA approval.

Q&A

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Planned Portfolio Performance Comparison

The IRP Performance Indicators compare the performance of the candidate portfolios under each of the market scenarios.
The results inform the Company on the trade-offs between candidate portfolios across performance indicators and metrics defined under each Pillar.

Pillar	Affordability			Reliability			Reliability/ Resiliency	Grid Stability Resiliency	Environmental Sustainability		
Portfolio	***Short Term*** *7-yr Rate CAGR, Base Case*	***Long Term*** *Portfolio NPVRR, Base Case*	***Portfolio Resilience:*** *High Minus Low Scenario Range, Portfolio NPVRR*	***Energy Market Risk*** *Purchases*	***Energy Market Risk*** *Sales*	***Planning Reserves*** *% Reserve Margin*	***Resource Diversity***	***Fleet Resiliency****: Dispatchable Capacity*	***Emissions Analysis:*** *% Change from 2005 Baseline - Base Case* ***CO_2, NOx, SO_2***		
Year Ref.	2025-2031	2025-2054	2025-2054	2033 | 2044	2033 | 2044	2033 | 2044	2033 | 2044	2033 | 2044	2033 | 2044		
Units	%	$MM/ Levelized Rate	$MM/ Levelized Rate	Costs of Market Purchases & MWHs % of Total Demand	Revenues of Market Sales & MWHs % of Total Demand	%	Portfolio Index	Dispatchable Nameplate MW/ % of Company Peak Demand	% Change CO_2	NOx	SO_2
Reference Portfolio											

Affordability

The Affordability indicators compare the cost to customers under Base Case market scenario conditions over the short- and long-term and the Portfolio cost range when evaluated across the different market scenarios.

Performance Indicator	Metric	Description
Near-term	7-year Rate CAGR under the Base Case (2025-2031)	• I&M measures and considers the expected Compound Annual Growth Rate ("CAGR") of expected system costs for the years 2025-2031 as the metrics for the short-term performance indicator. • A lower number is better, indicating slower growth in customer rates.
Long-term	Portfolio NPVRR under the Base Case (2025-2054)	• I&M measures and considers the growth in Net Present Value Revenue Requirement ("NPVRR") over 30 years as the long-term metric. • NPVRR represents total long-term cost paid by I&M related to power supply. This includes plant O&M costs, fuel costs, environmental costs, net purchases and sales of energy and capacity, property and income taxes, and the return on capital. • I&M also evaluates the levelized rate for this indicator, which is the fixed charge needed on a per MWh basis to recover the 30-yr NPVRR. • A lower number is better, indicating lower costs to supply customers with power.
Portfolio Resilience	High Minus Low Scenario Range 30-yr NPVRR (2025-2054)	• I&M measures and considers the range of 30-yr NPVRR reported by each portfolio across all PJM market scenarios. This metric reports the difference between the highest and lowest cost scenarios reported by the candidate portfolio on an NPVRR and levelized rate basis. • A lower number is better, indicating a tighter grouping of expected customer costs across a wide range of long-term market conditions.

Reliability

The Reliability indicators compare the amount of excess reserves and the reliance on market resources to serve customers across candidate portfolios.

Performance Indicator	Metric	Description
Planning Reserves	Reserve Margin % 2033 and 2044	• I&M measures and considers the amount of average amount of firm capacity in each candidate portfolio in 2033 and 2044. • A higher number is better, indicating more reserves are available to meet PJM requirements.
Energy Market Risk	2033 & 2044 Portfolio Cost Range of market purchases, MWhs as % of internal Load	• I&M measures and considers the reliance of each candidate portfolio on market purchases to balance seasonal generation with customer load. • The metric reports the cost of market purchases and MWhs as a % of internal load in 2033 & 2044 • A lower number indicates less reliance on the market to meet customer needs
	2033 & 2044 Portfolio Revenue Range of market sales, MWhs as % of internal Load	• I&M measures and considers the reliance of each candidate portfolio on market sales to balance seasonal generation with customer load. • The metric reports the revenues of market sales and MWhs as a % of internal load in 2033 & 2044 • A lower number indicates less reliance on the market to meet customer needs

Resiliency

The Resiliency indicators compare the amount of dispatchable capacity in the fleet and the technology diversity for capacity and energy of the Indiana generating mix across candidate portfolios.

Performance Indicator	Metric	Description
Resource Diversity	Sum of the Capacity Diversity Index and Energy Diversity Index in 2033 and 2044	• I&M measures and considers the capacity and energy diversity of new technologies added to its portfolio when comparing candidate portfolios. • The metric will use the Shannon-Weiner Index to measure the number of different technologies and their respective contribution to the portfolio totals for both capacity and energy diversity for each Portfolio in year 2033 and 2044. • A higher number is better, a portfolio that includes diverse resources for both capacity and energy delivery mitigates customers' performance risk when conditions for that technology are unfavorable.
Fleet Resiliency	Nameplate MW of dispatchable units in 2033 and 2044	• I&M measures and considers the total amount of dispatchable units added to the portfolio by years 2033 and 2044 to compare candidate resource plans. • The metric for this indicator is the total Nameplate MW of ramping technologies included in the candidate resource plan. • A higher number is better, indicating greater ability to ramp generation up or down to react to market conditions and follow load.

(Grid) Stability

The Grid Stability indicator compares the amount of dispatchable capacity in the fleet, and the technology diversity of the Indiana generating mix across candidate portfolios.

Performance Indicator	Metric	Description
Fleet Resiliency	Nameplate MW of dispatchable units in 2033 and 2044	• I&M measures and considers the total amount of dispatchable units added to the portfolio by years 2033 and 2044 to compare candidate resource plans. • The metric for this indicator is the total Nameplate MW of ramping technologies included in the candidate resource plan. • A higher number is better, indicating greater ability to ramp generation up or down to react to market conditions and follow load.

Sustainability

I&M also considered a Sustainability indicator to compare portfolio performance towards meeting corporate sustainability targets.

Performance Indicator	Metric	Description
CO_2, NOx, SO_2, Emissions	2033 & 2044 % Change from 2005 Baseline - Reference Case	• I&M measures and considers the total amount of expected CO_2, NOx and SO_2 emissions of each candidate portfolio on the Scorecard. • This metric compares the forecast emissions of candidate portfolios in 2033 and 2044 under Reference Case market conditions with actual historical emissions from the year 2005. • A higher number indicates greater levels of emissions reductions have been achieved and customers are less exposed to potential future CO_2 costs.

Stakeholder Feedback and Discussion

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