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Winter Preparedness 2023/2024

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November 27, 2023

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Executive Summary

- Prepared with adequate resources and infrastructure to meet customer needs during Winter 2023/2024
- Focused on proactive communication with customers, local officials and state agencies if grid conditions have the potential to impact service



Indiana Michigan Power Resource Diversity

Diverse set of Generation Resources and PPAs:

- 2,181 MW Cook Nuclear Plant
- 1,318 MW Rockport Coal Plant (Unit 1)
- 19 MW of Hydroelectric Power
- 35 MW of Universal Solar
- 187 MW OVEC ICPA
- 450 MW of Wind Power under PPA;
 - 100 MW from the Fowler Ridge I Wind Farm in Benton County, IN
 - 50 MW from the Fowler Ridge II Wind Farm in Benton County, IN
 - 100 MW from the Wildcat Wind Farm in Madison County, IN
 - 200 MW from Headwaters Wind Farm in Randolph County, IN

~90%

Dispatchable Generation Resources

I&M Demand-Side Resources:

- Energy Efficiency Programs
- ~ 340 MW of Interruptible and Demand Response Load



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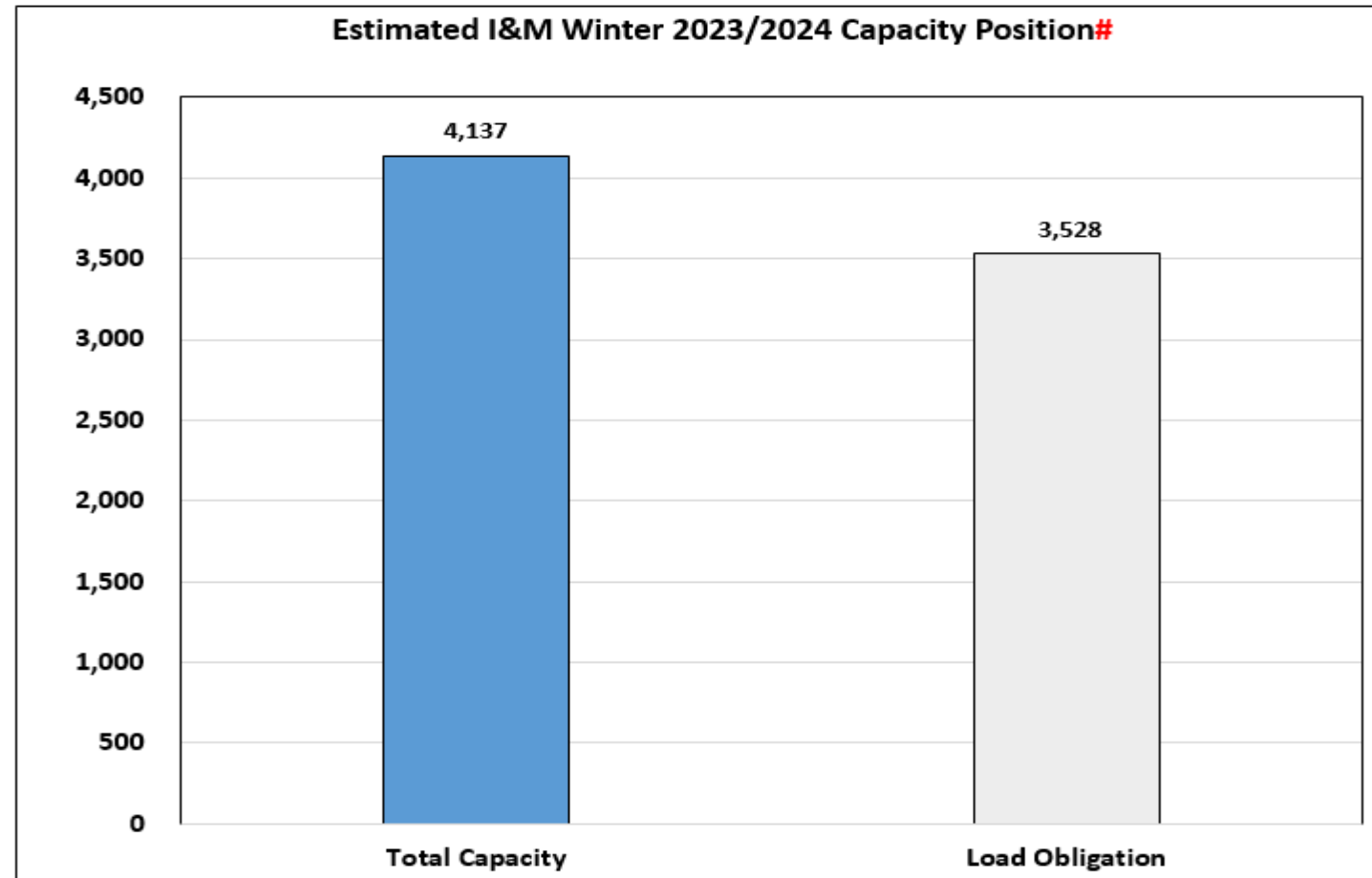
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Winter Energy Outlook

PJM Unforced Capacity (UCAP)

I&M has sufficient capacity to meet its load obligations for Winter 2023/2024 with adequate reserve margin

Resource Type	2023 Capacity (MW)
Fossil & Nuclear	3,712
Demand Response	341
Intermittent (wind, solar, hydro)	84
Total Capacity	4,137



Includes 334.9 MWs of Rockport 2

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PJM-2023 Watch List

- I&M does not anticipate RTO changes to impact the ability to meet 2023/2024 winter load obligations.
- I&M is monitoring ongoing activities in PJM related to:
 - Capacity market changes to address resource adequacy
 - Implementation of interconnection queue reforms for new generation resources
 - Capacity interconnection rights transfer efficiency

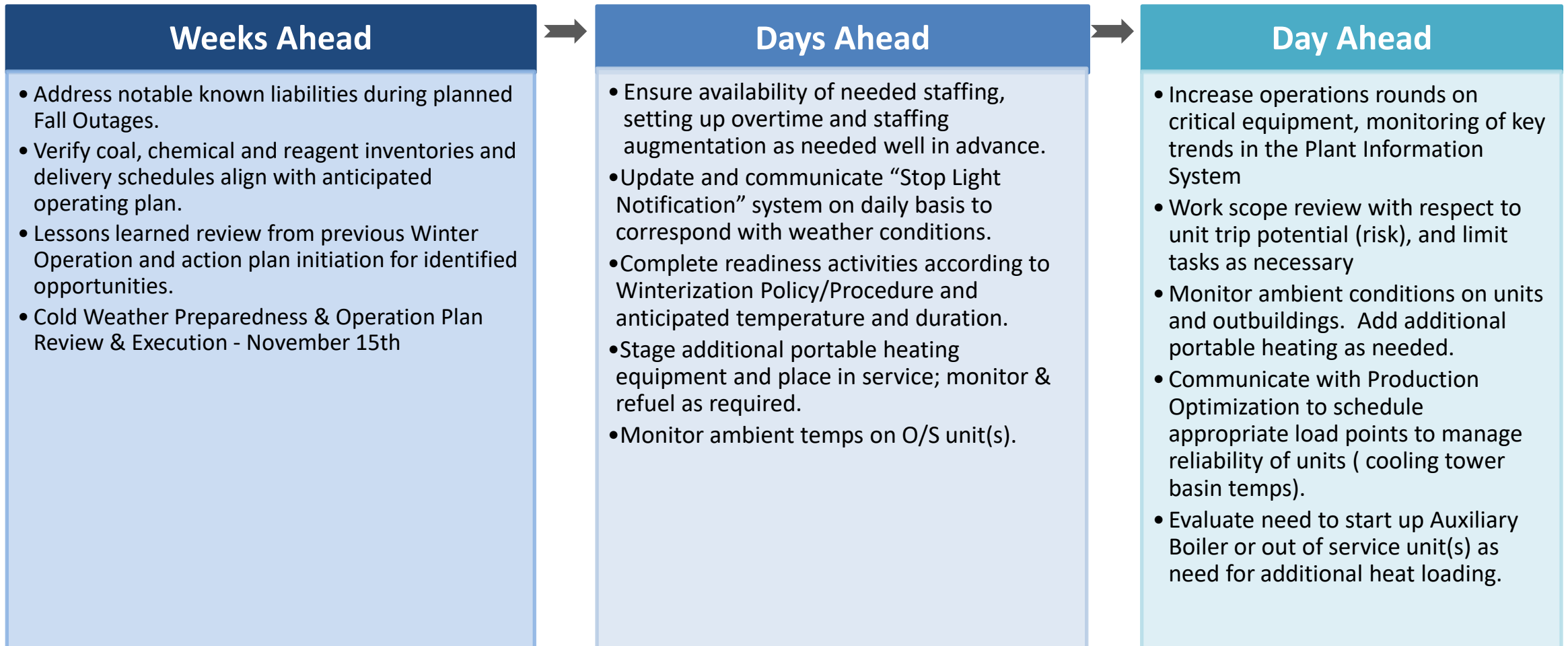
Winter Preparation: Fossil Generation

Fossil Generation

- Fuel Supply: I&M anticipates having adequate fuel supply on hand for Winter Operation
 - Projecting ~60 days of Full Load Burn (Dec. 1st)
- Winterization – Cold Weather Preparedness & Operation Plan Execution
 - Started Sept. 1st and attestation of plan execution was completed on Nov. 15th
- Planned Fall Outages: Addressing known liabilities
 - Rockport U1 – LP 1&2 Turbine and SCR Outage
 - November 1 – outage end date and unit released to service.



Generation: Proactive Management of Extreme Cold Weather (Winter)



Nuclear Generation Winter Preparation

Fuel Supply – 18 months fuel supply loaded each refueling outage



Planned outages

- Completed U1 Fall outage 2023
- Planned U2 spring



Weeks Ahead

- System readiness reviews and challenge boards
- Plant walkdowns and maintenance completed on equipment needed for winter
- November 1 – winter readiness actions completed



Days Ahead

- Plant walkdowns completed
 - ensure contingency heaters in place
 - ensure heat trace operable
- Ensure measures are in place for safe employee access
- Place de-ice in service



Day Ahead

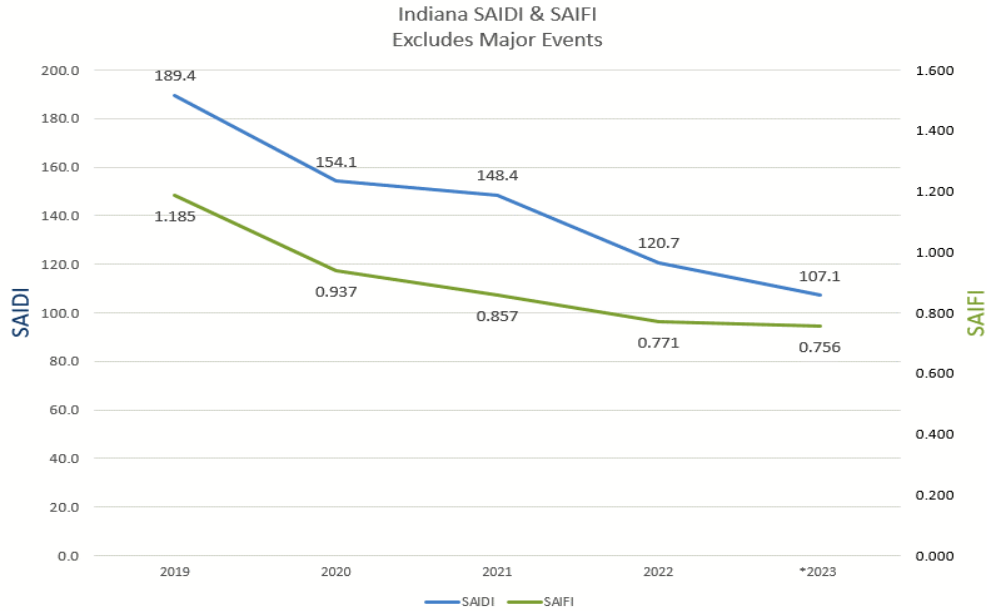
- Increase plant operator touring frequency
- Contingencies to reduce intake velocity



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Winter 2023 Preparation: Indiana Reliability & Resiliency



SAIDI (non-JMED)	Past Year (*2023 vs. 2022)	Five Year (*2023 vs. 2019)
Overall	11%	42%
Vegetation	16%	43%
Equipment/Lightening	24%	42%
Station/Trans. Line	14%	71%

*Oct. 2022 - Sept. 2023

System/Process Improvements:

- Storm Hardening Standards
 - Aids in avoiding outages (SAIFI)
 - Less damage in events
 - Quicker recovery
- Grid Modernization Investments
 - DACR & AMI reduce time (SAIDI)
 - AMI will be complete in 2024
- Incident Command Structure
 - Continuous improvement in storm responsiveness/communications
- Mutual Assistance remains strong

Distribution Operations: Weather Preparations and Response

Annual Preparedness

- Weekly meeting with AEP Storm Coord. team to review general storm preparation business
- I&M Incident Command System (ICS) is regularly updated with back-ups to ensure coverage
- ICS General Training has been reviewed in 2023, down to the “Unit Leader” level
- Two “mock events” have been completed to test I&M storm response
 - Load Shed has been incorporated
 - November 7 “event” included participants from each Commission’s staffs

Days Ahead

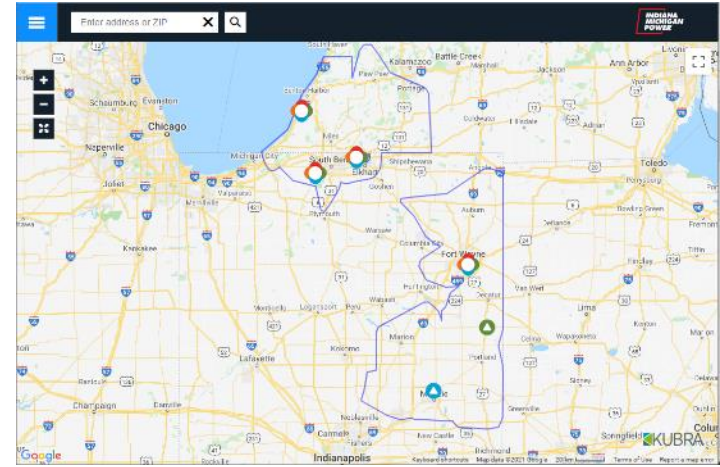
- Weather alert is received from AEP Meteorology with prediction model data for a forecasted weather event
- AEP Mutual Assistance schedules a meeting to review
- I&M Leadership reviews forecast
- Based on severity of forecast, internal and base load resources are put on alert
- AEP Mutual Assistance is contacted with projected needs
- ICS Logistics and Planning sections set up structure for strategic interface and situational analysis to prepare for resource mobilization

Event Response

- Incident Command System begins managing restoration efforts
 - Begin hazard assessment and damage assessment as a first response
 - Operations Section, which has been engaged, initiates active restoration based on Planning Section data
 - Customers are updated via social media and mobile alert application
 - IURC receives regular updates during event restoration
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- Severe cold weather events include:
 - Prioritize warming stations
 - Staging crews 24/7
 - Pairing Servicicers days and nights (safety and service)

Winter Preparation: Customer Focus / Engagement

- **Winter Usage / Bill Impacts**
 - Primary impact associated with electric heat customers (approximately 14% of Indiana customers)
 - High usage and bill alerts sent to enrolled customers
- **Customer Messaging**
 - Energy efficiency winter savings tips
 - Winter preparedness messaging to customers
- **Customer Engagement During Event**
 - Social Media/One Voice-provides current “picture” of recovery
 - Mobile Alerts-provides ETR updates
 - I&M Website – provides geographical outage information
- **Demand Response**
 - Notifications sent to enrolled customers
 - Large customers contacted by customer service representatives





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Questions

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