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Summer Preparedness 2022

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Executive Summary

- Prepared with adequate resources and infrastructure to meet customer needs during Summer 2022
- Proactively reaching out to communicate with and engage customers



Indiana Michigan Power Resource Diversity

Diverse set of Generation Resources and PPAs:

- 2,278 MW Cook Nuclear Plant
- 2,223 MW Rockport Coal Plant
- 22 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

80+%

*Carbon-free System-wide
Generation In 2021*

I&M Demand-Side Resources:

- Energy Efficiency Programs
- ~ 300 MW of Interruptible and Demand Response Load



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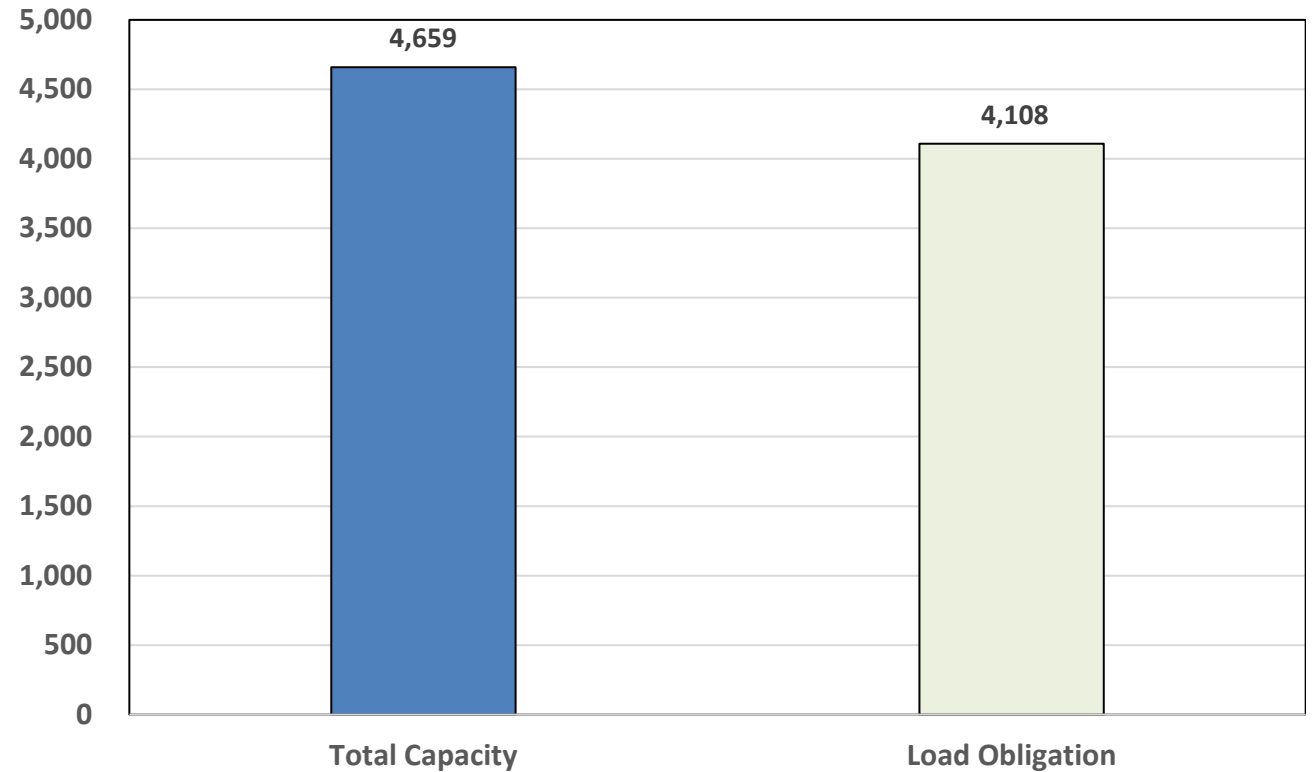
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Summery Energy Outlook PJM Unforced Capacity (UCAP)

I&M has sufficient capacity to meet its load obligations for Summer 2022 with adequate reserve margin

MW's	2022 Capacity (MW)
Description	
Fossil and Nuclear	4,289
Demand Response	285
Intermittent (wind, solar, hydro)	85
Total Capacity	4,659

Estimated I&M Summer 2022 Capacity Position



PJM-2022 Watch List

- I&M does not anticipate RTO changes to impact the ability to meet 2022 summer load obligations.
- I&M is monitoring ongoing activities in PJM related to:
 - Comprehensive review of capacity market
 - Timeline for interconnection of new generation resources
 - Integration of DER's into capacity, energy, and ancillary service markets



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Summer 2022 Preparation: Cyber Security

US Industry & Government are still on heightened alert for Russia

- AEP I&M, like many utilities maintain 24x7 heightened level to monitor/block cyber attacks
- AEP is leader in Threat sharing with government, Energy sector, Banks and Communications
- Active threat sharing and collaboration are key to a unified front against threat actors

Russia Primary Cyber tactics:

- DDOS Attacks – flood of traffic to disable capabilities
- Wiper Malware – malicious code that destroys systems
- Phishing – email social engineering to gain access or distribute malware

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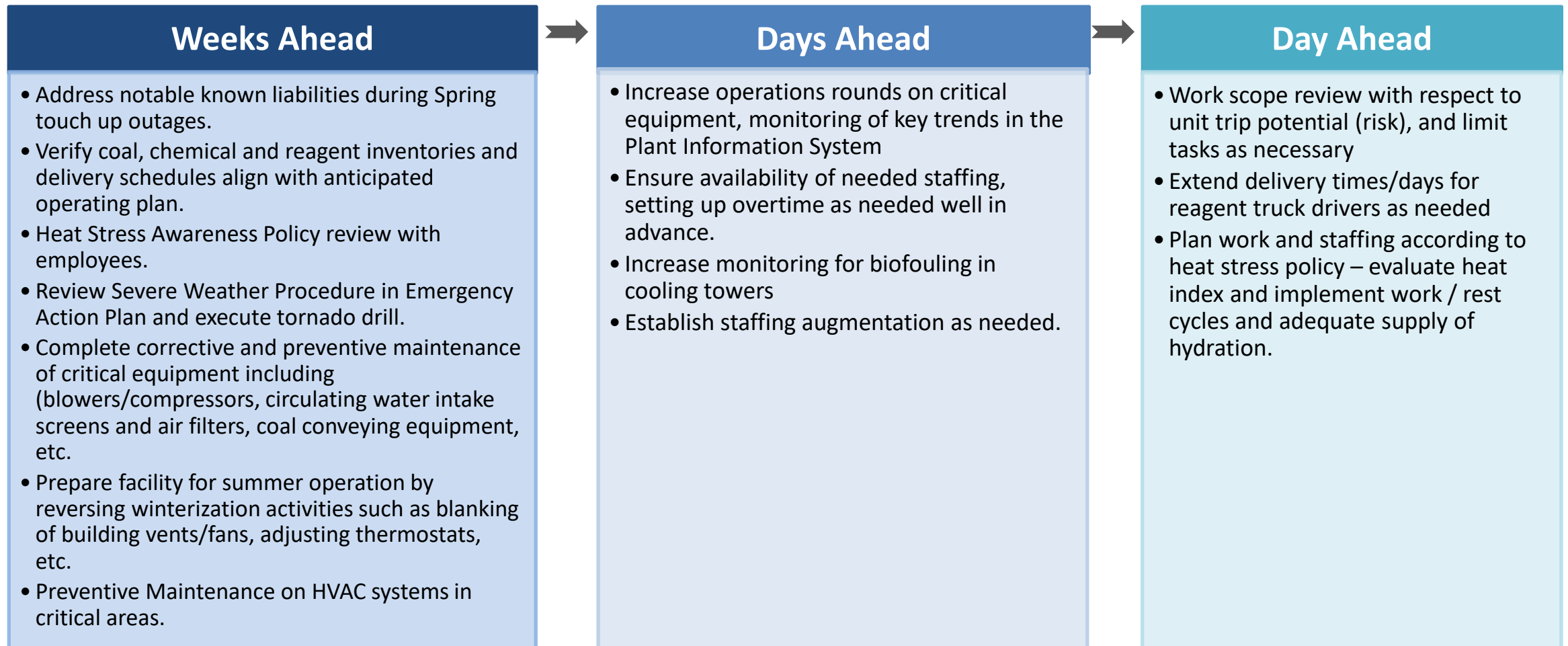
Summer 2022 Preparation: Fossil Generation

Fossil Generation

- Fuel Suppliers: I&M anticipates having adequate supply on hand for Summer 2022
- Monitoring transportation constraints & evaluating alternative options
- Planned Outages: Spring outages to be complete by Mid-May 2022



Generation: Proactive Management of Extreme Weather (Summer Peaking)



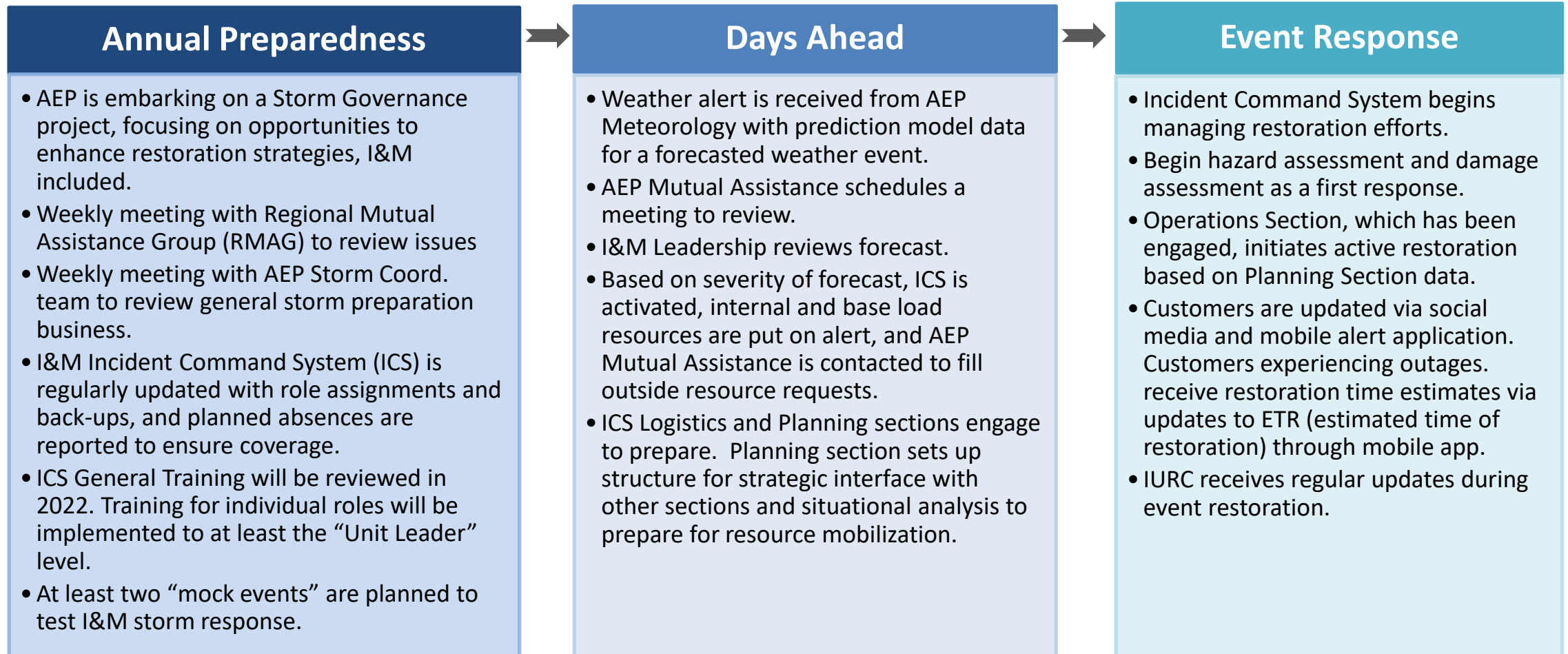
Summer 2022 Preparation: Nuclear Generation

Nuclear Generation

- **Fuel suppliers**
 - Adequate fuel supply for 4 years (through 2025)
 - No direct dependence on Russia
- **Planned/maintenance outages**
 - Unit 1 Spring refueling outage
- **Severe Weather**
 - Summerization procedure
 - Severe weather procedure
 - High heat, high winds, rough lake



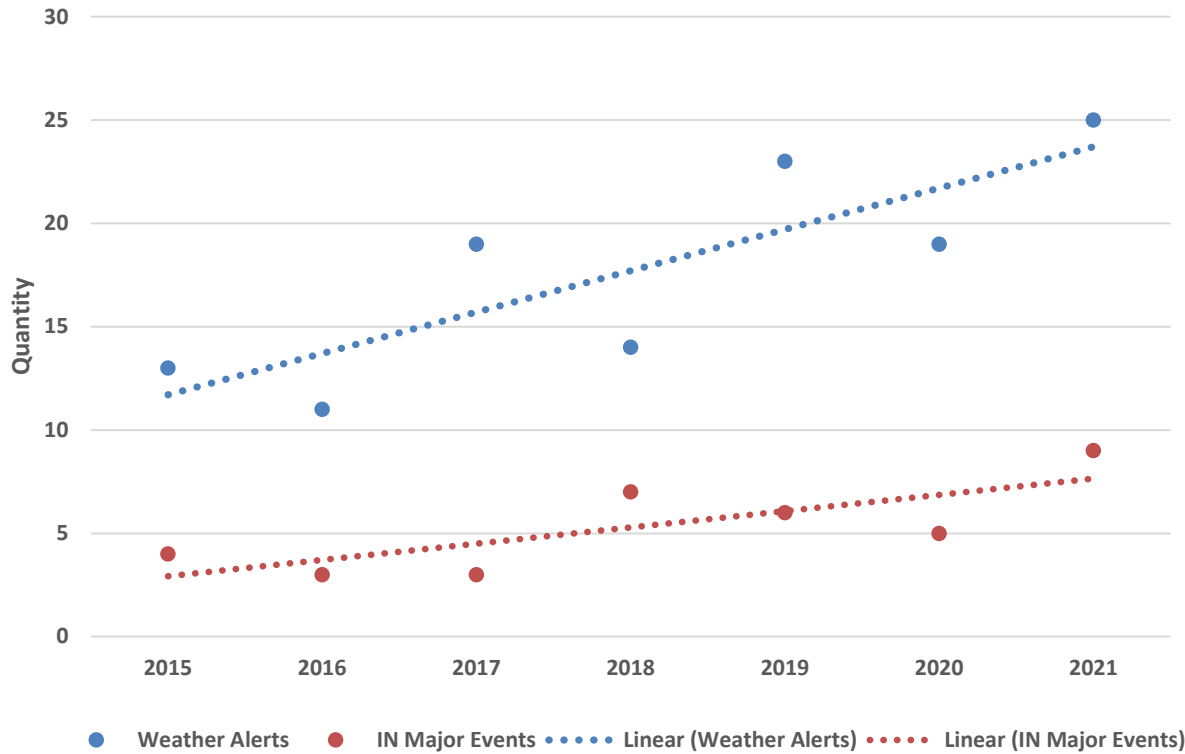
Transmission & Distribution Operations: Extreme Weather Preparations and Response



Summer 2022 Preparation: Indiana Tree Related Outages

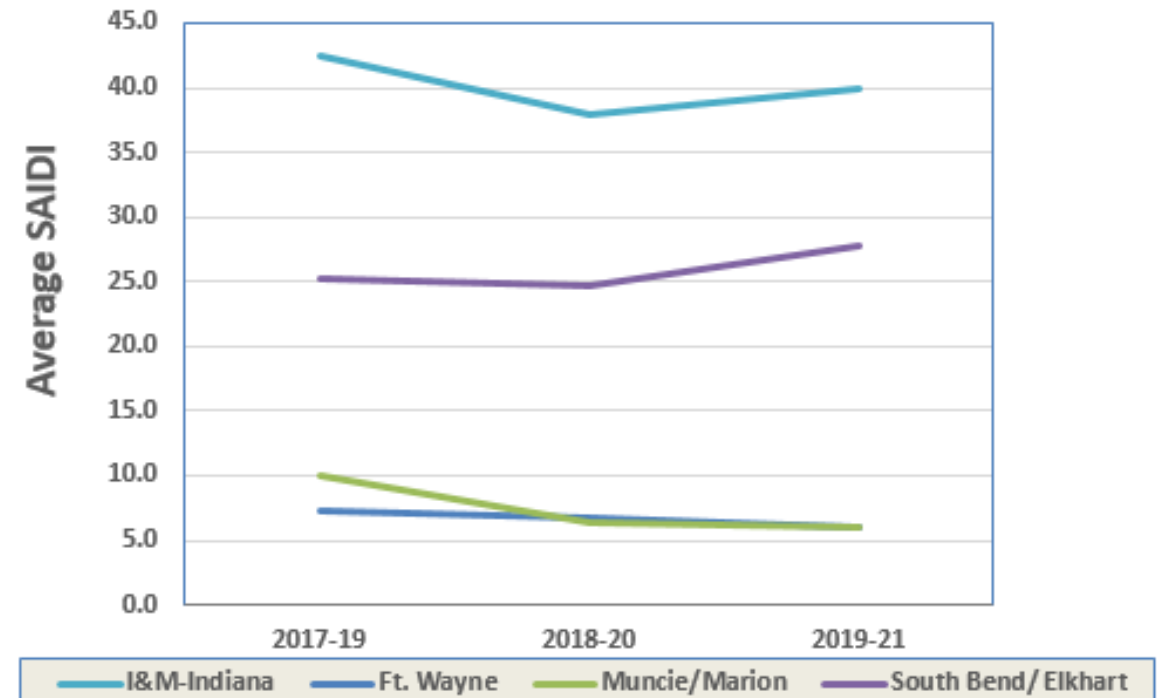
Weather Alerts vs. Major Events

By Year



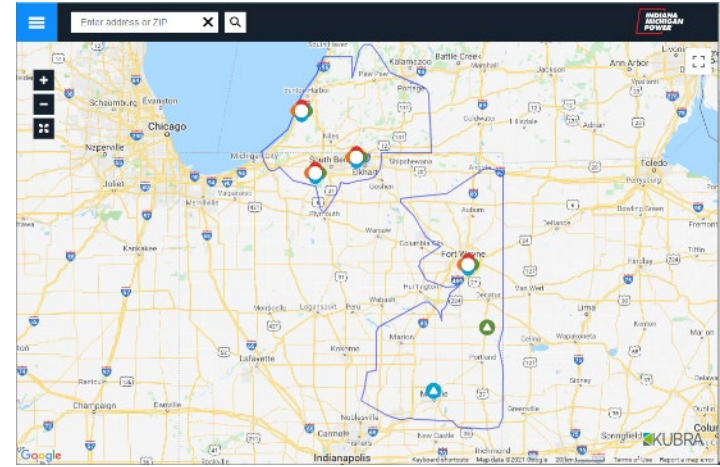
Vegetation Caused SAIDI

Rolling 3-Year Average
JMED excluded



Summer 2022 Preparation: Customer Focus / Engagement

- Event Prediction Preparation
 - AEP Meteorology
 - constantly monitors weather patterns
 - Incident Command Structure (ICS)
 - Provides predictable, scalable approach
 - Accommodates adjustment as changes occur
 - Damage Assessment & Hazard Mitigation occur immediately
- Customer Interface
 - Mobile Alerts-provides ETR updates
 - Social Media/One Voice-provides current “picture” of recovery
 - I&M Website – provides geographical outage information
- Technology Improvements
 - AMI deployment
 - Drones – developing use for line patrols: assess & assign





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Questions

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