

Indiana Utility Regulatory Commission 2024 Summer Reliability Forum



May 9, 2024



aes Indiana

AES Indiana Team



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Accelerating the future of energy





528
square miles



521,00
customers



3,956
MW of Generation

● Lakefield PPA (MN) – 200 MW

Hoosier Wind – 100 MW

Hardy Hills – 195 MW

Harding Street Generation – 1,079 MW

REP Projects – 96 MW

Eagle Valley Gas – 719 MW

Petersburg Generation
– 1,072 MW

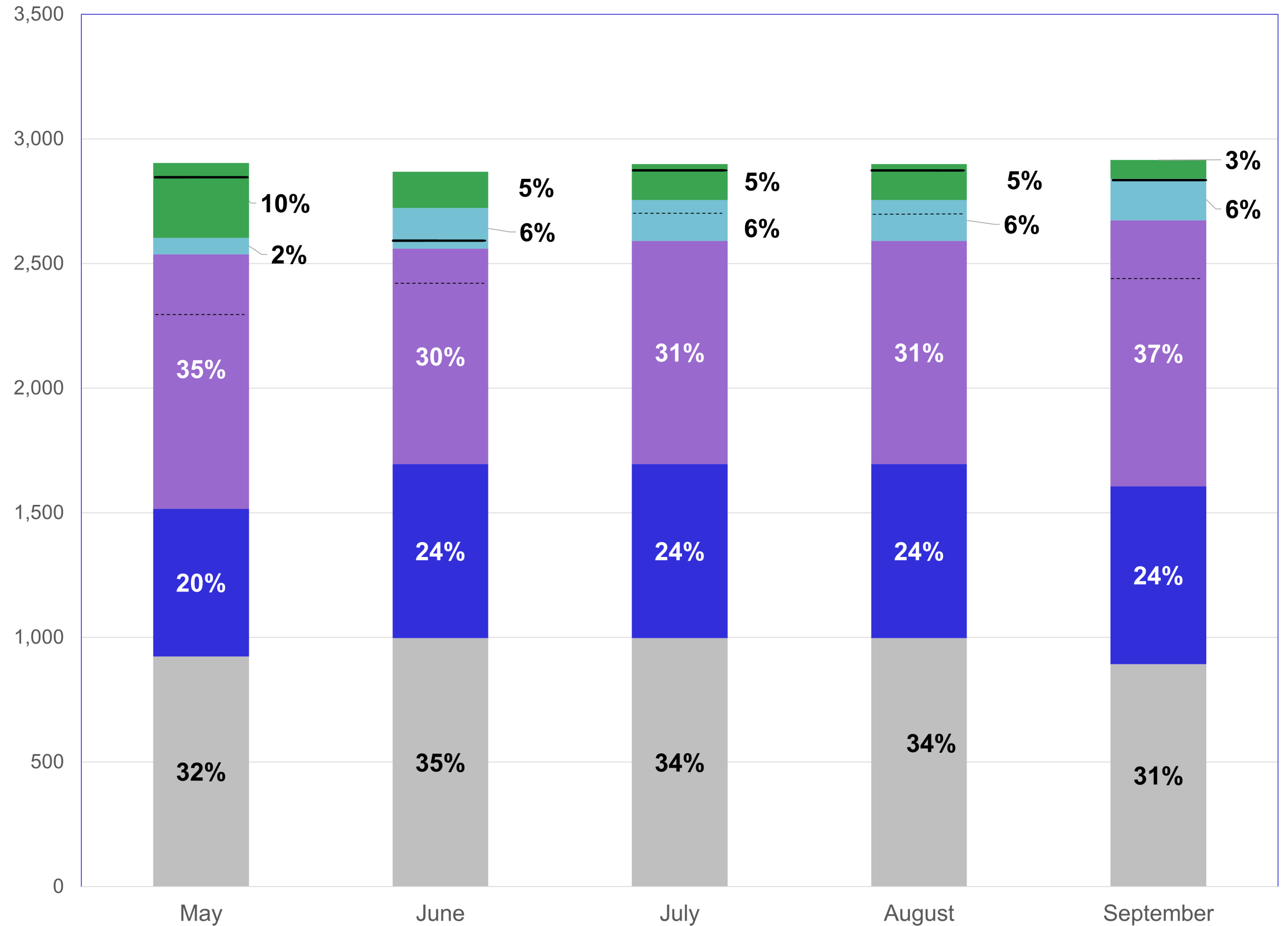
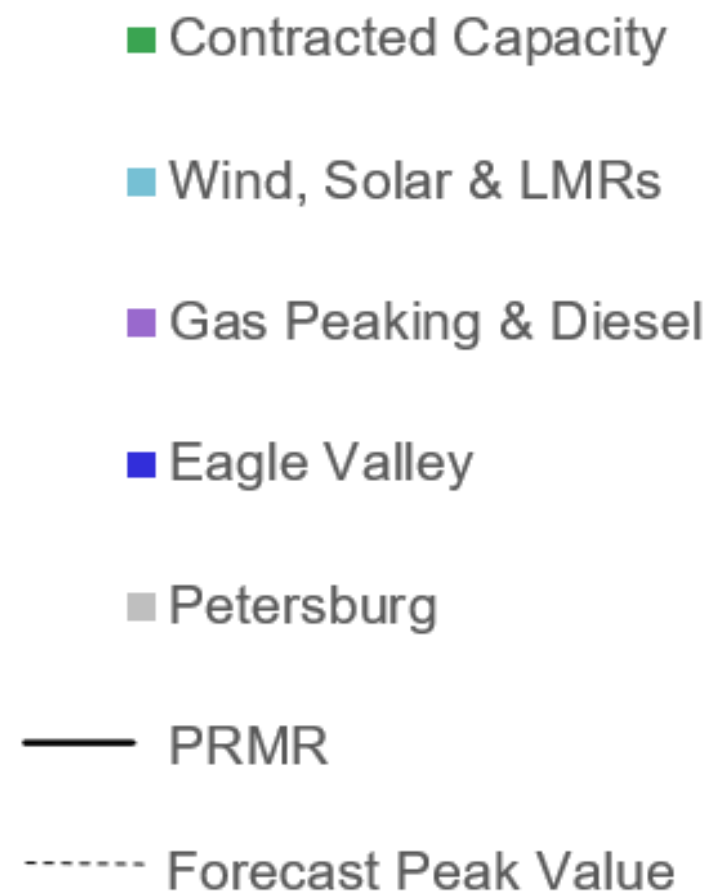
Petersburg Energy Center
– 250 MW solar + 45 MW BESS
Pike County Energy Storage
– 200 MW BESS

- Solar
- Thermal
- Wind

Summer load and supply summary

AES Indiana has capacity resources for **reliable summer supply**:

- Generation shown as MISO Seasonal Accredited Capacity
- Capacity exceeds load Planning Reserve Margin Requirement (PRMR) in every month
- Awaiting results of the Planning Resource Auction



MISO transition to seasonal capacity construct

Construct design

- Seasonal Design accounts for differing seasonal resource availability and peaks vs the previous summer-focused annual design
- Resource Adequacy Hours metric that focuses on 65 hours per season increases volatility of accreditation values seasonally and from year-to-year

Construct implementation

- Planned outages to support reliability that last longer than 31 days in a season are penalized, and outages may have a more dramatic impact on future accreditation
- Accreditation values and Planning Reserve Margins have gone through revisions during the implementation



Power Generation

Planned and Summer Preparation Outages

- Scheduled with our Commercial Operations & Resource Planning Team and MISO to limit a shortage of capacity.
- Target 6/8 for completion of all spring outages
- Address potential reliability issues
- Ensure heat exchangers are working well
- Check all AC and ventilation systems



Power Generation – Cooling/Permit limitations



New National Pollutant Discharge Elimination System (NPDES) permit timeline

- HSS – Permit renewal issued November of 2023, Effective January 2024
- Petersburg – Permit renewal is in process, expected 2nd-3rd quarter 2024
- Eagle Valley – Permit renewed 2023, no thermal impacts



HSS impacts

- New thermal discharge limits
- Largest impacts seen November-April
- Impacts May-August currently average six total days for units 5 & 6
- Thermal limits are currently stayed as we negotiate with IDEM
- Currently, do not anticipate an impact to availability

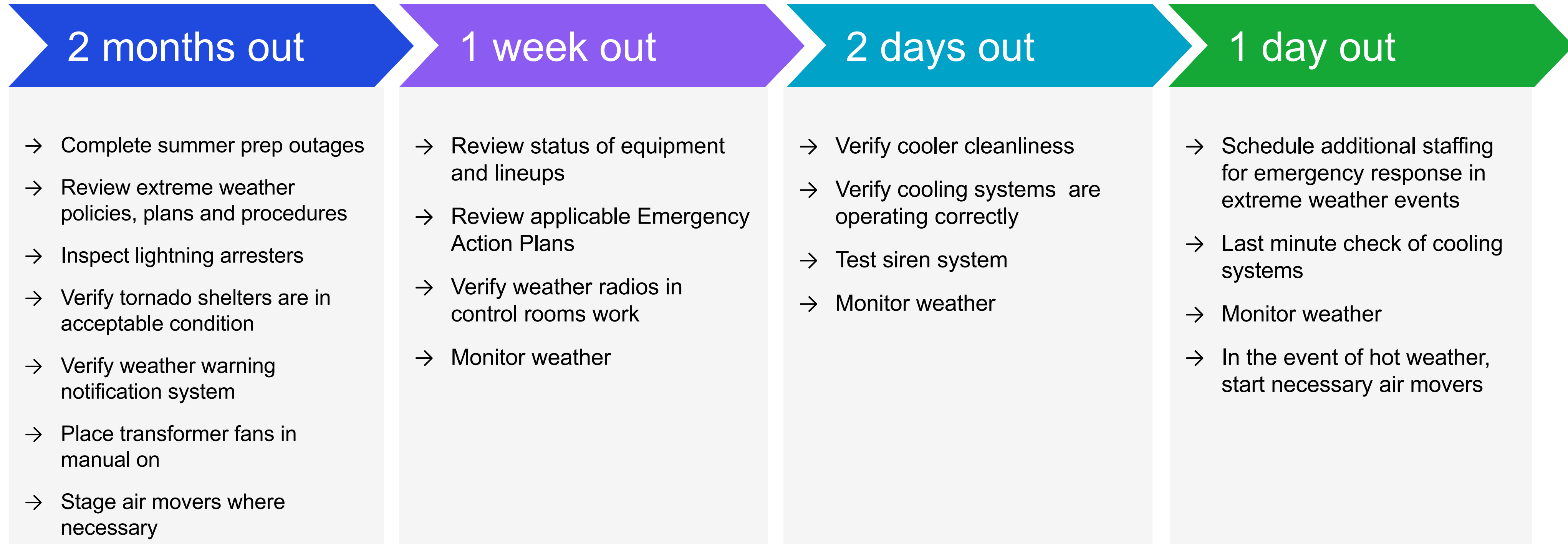


Petersburg impacts

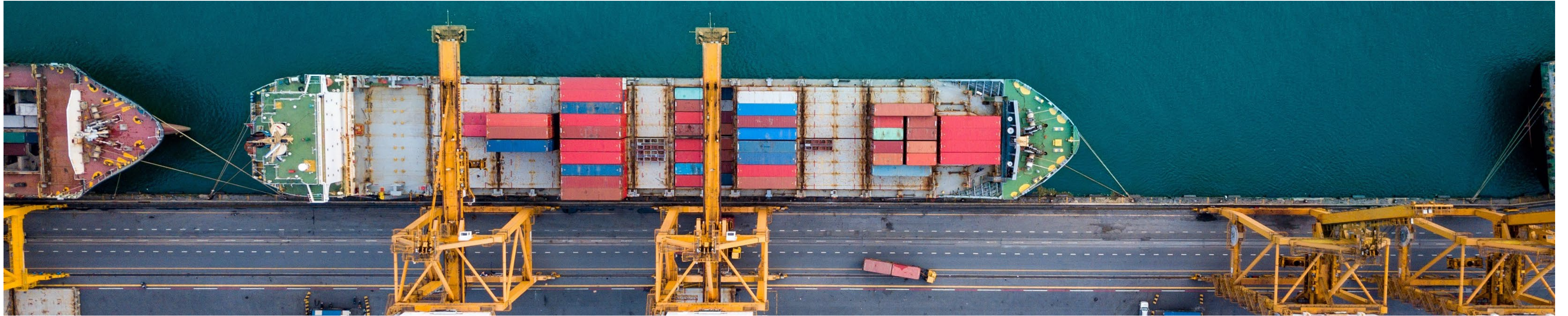
- Currently working with IDEM on permit conditions
- No impacts to date

Power Generation: Proactive preparation for extreme weather conditions

Safety is always first



Supply chain impacts on operations



Generation

→ Increased lead times seen across a variety of equipment

- Potential to delay some scheduled projects and increase repair times

→ Plants continue reviewing inventory and critical spares

- Adding new items to stock due to extended lead times
- Purchasing extra critical spares as needed to ensure reliability

→ Do not anticipate supply chain impact to service

10

T&D

→ Increased lead times seen for many critical stock items

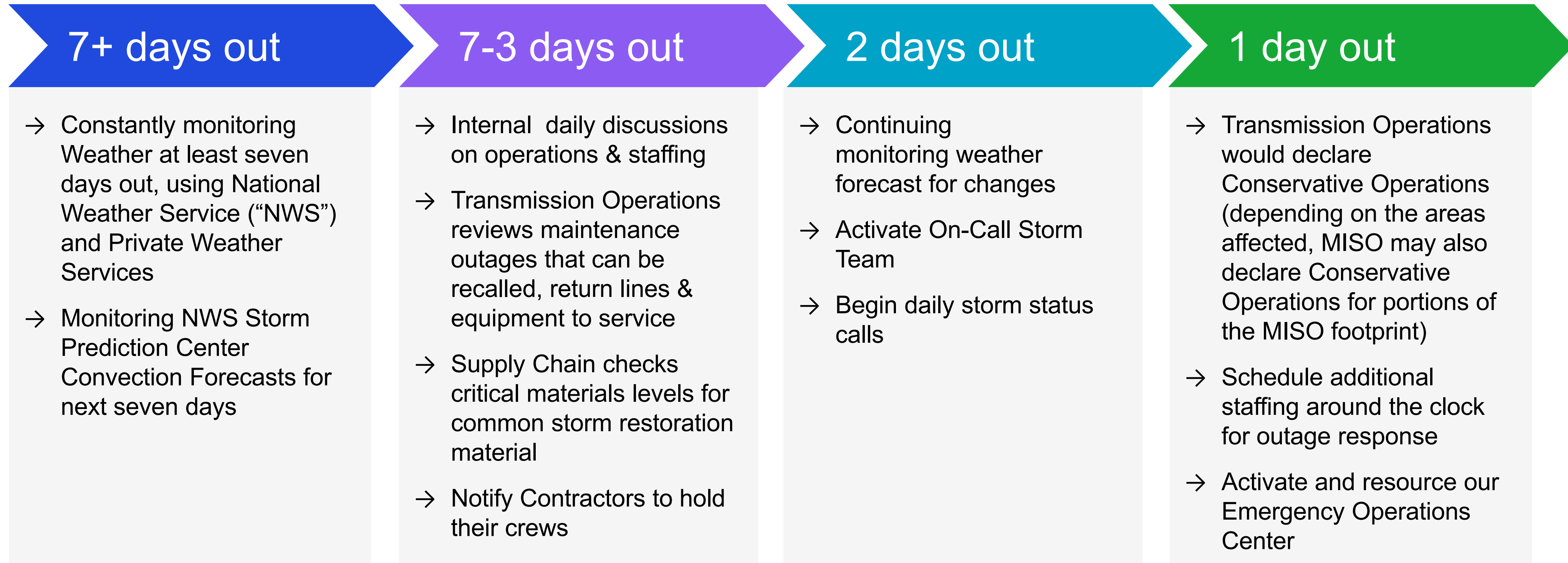
- Increased effort by Work Schedulers to adjust schedules to meet requirements for customer driven projects

→ Increased advance purchasing of critical stock items

- Distribution Transformers, both Overhead and Underground
- Poles
- Wire and Cable
- Ancillary materials like brackets and insulators

T&D Operations: Proactive management of extreme weather

Safety is always first



T&D Operations: Storm restoration management



How are distribution outage restoration activities organized and evaluated over the course of an event and the following recovery?

- Activate Incident Command Team
- Determine what type of storm has occurred and what is the type of damage
- Determine initial level of the storm
- Implement the Emergency Response Plan
- What are the expected weather conditions for the restoration effort
- With current resources determine what is the initial ETR then determine additional resources needed.
- Continually monitor restoration status
- After Action Review



AMI Infrastructure

- AMI data supplements customer calls to confirm outages
- AMI Data used to help clear outages that have been restored.
- Post Storm AMI data used to scrub OMS outage data to verify outage start/stop times



Vegetation management

Issues

- Contract labor issues
- 42% of tree related outages due to branch failures
- 94% of all tree-related outages due to non-hazardous trees
- Ash trees continue to be an issue (continued decay with no access to mitigate)

Initiatives

- Increased non-storm vegetation management spending to \$25 million approved in rate case
- Targeted circuit trim based on time since last trim and impact on SAIFI/SAIDI (data analytics approach)
- Hazard Tree program to mitigate trees outside the trim zone (up to 45' from conductor) utilizing ISA Tree Risk Assessment Qualified Inspectors to identify
- Increase overhang clearance from 15' to removing all overhang of species with weak branching structure



We are prudently managing our fuel supply in current market conditions

Onsite inventories



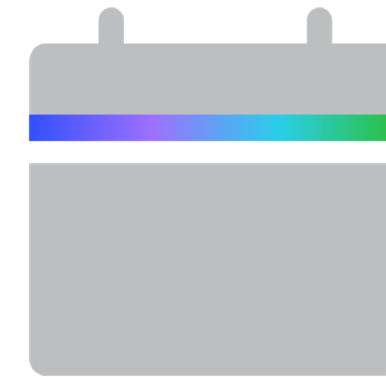
- Maintain onsite coal inventories to address potential supply disruptions
- Coal 100% hedged for 2024
 - including high range of inventory for summer
- Maintain fuel oil onsite for Harding Street dual fuel units

Natural gas transportation



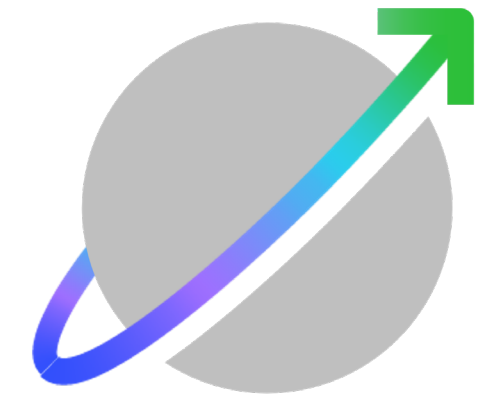
- Firm transportation on Texas Gas Transmission, PEPL, Trunkline, and Rockies Express ("REX") pipelines
- Fixed price natural gas hedge for Eagle Valley CCGT
- REX supply purchases include firm pipeline transportation
 - Increases firm capacity overall – supports firm transport and reliability for Harding Street
- Contracted Citizens storage

Communication with supply and logistics



- Be prepared – get ready for the season internal and external
- 20-day look forward – monitor weather and plan for potential events
- During an event – hyper-communicate as appropriate to recognize and address issues in addition to normal daily calls

MISO



- Follow MISO protocol
- Generation operators in continuous contact with MISO
- Monitor Multiday Operating Margin Forecast Report to anticipate critical days

Impact of renewable energy resources on meeting customer demands

Generation & fuels

- During the IRP, a reliability analysis of a variety of generation is conducted to ensure seasonal demand is met
- Current penetration of renewable energy within MISO is still relatively low
- Monitoring for “Grid Inflection Points” as identified in MISO’s RIIA study¹
- Fuel inventories for this summer not materially impacted due to currently low mix of renewables in the Company’s generation portfolio

T&D

- Change in distribution circuit power flow directions and operations may require facility upgrades
- Consideration for changes on circuit outage restoration process
- Managing circuit voltage profile
- Potential for islanding and how to handle reconnection

RTO changes & impacts

We continue to **monitor and engage** with MISO as they seek to implement:

- Updated accreditation methods
- Continued changes to capacity auction mechanics
- FERC Order 2222
- Long Range Transmission Planning



Supporting our customers today and well into the future



Billing and payment assistance

- Budget Billing
- Preferred Bill dates
- Power of Change
- Payment Extensions
- LIHEAP



Energy Efficiency

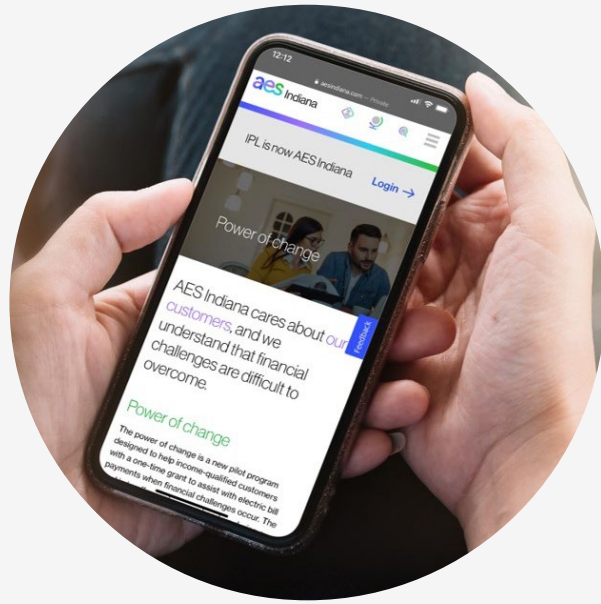
- Home energy assessments & Income Qualified Weatherization
- Multifamily direct install
- Energy Efficiency Kits
- Demand Response
- Marketplace and Efficient Products



Customer service support

- Online chat support
- Greater protection for customers with Medical Alerts
- Elimination of disconnections on Fridays, weekends and certain holidays
- Waived late fees once every 12 months





Communicating with our customers



- Social Media
- Direct Email and Mail
- Interactive Voice Response
- Bill Inserts and Messages
- Newsletter
- Press Release

Stay cool and save energy

AES Indiana wants you to have a cool summer by following these hot energy saving tips.

-  Keep windows and doors closed when air conditioning is running
-  Turn off any unnecessary lights when leaving a room
-  Use bathroom exhaust fans when showering or bathing to eliminate heat and humidity
-  Change air filters regularly so HVAC systems don't have to work harder

For more ways to save, visit www.aesindiana.com/your-home

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811 Day

August 11 (8/11) serves as a natural reminder for residents to contact 811 at least two full working days prior to any digging project to have underground utility lines marked. Striking a single line can cause injury, repair costs, fines and inconvenient outages. Every digging project, no matter how large or small, warrants contacting Indiana 811 beforehand.



Go to www.indiana811.org or call 811 to get your underground utility lines marked.

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Follow ...

10:45pm update: 220 incidents were reported from tonight's storm. Crews will work safely thru the night to restore power to the remaining 5,700 customers. ETRs (estimated time of restoration) will be entered - and found on the outage map once crews arrive & assess the situation.

10:53 PM · Jul 16, 2023 · 2,158 Views

WISHTV.COM 8

AES Indiana provides tips to reduce energy use during summer heat wave

INDIANAPOLIS (WISH) – With temps soaring into the 90s this week, AES Indiana has a few tips on how customers can reduce energy use.

AES says they are prepared to meet the increased demand this week as a heat advisory has been issued by the National Weather Service through midnight Thursday.

Smarter, Together

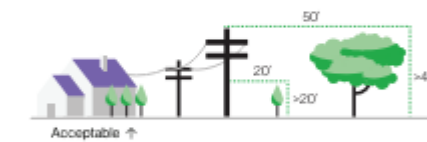
April 2024

Spring planting season is here

Weather is warming up and so are many outdoor activities like landscaping and home improvement projects. By selecting the right tree and planting it in the right place, you can help reduce power outages for you and your neighbors. When planting trees, consider how large they will be at maturity. Follow three easy tips to prevent tree growth into overhead power lines:



1. Find the **right tree**
2. Choose the **right spot**
3. Put **safety first** call before you dig



For more information about the Right Tree, Right Place program, visit aesindiana.com/right-tree-right-place

AES Indiana acquires Hoosier Wind

AES Indiana recently announced approval from the Indiana Utility Regulatory Commission of the acquisition of Hoosier Wind, a 106 MW wind farm located in Benton County. This acquisition provides \$22.2 million in cost savings to AES Indiana customers over the next 6 years and advances efforts to provide sustainable energy solutions. This includes adding up to 1,300 megawatts (MW) of wind, solar and battery energy storage from new procurements in the next five years. Hoosier wind has 53 wind turbines and produces enough electricity to power 29,000 homes.

Save energy and money with instant discounts

No coupons, no hassle. Find qualifying energy-saving products at your favorite local stores and receive a discounted price at the register.



Visit aesindiana.com/discounts to learn more.

AES Indiana system upgrade update

We appreciate your patience as we work to resolve issues impacting some of our customer bills after our recent system upgrade. While we work to resolve these issues, we want to remind you that AES Indiana is not disconnecting customers, nor are any late fees being incurred. We still encourage customers to keep up with monthly payments.

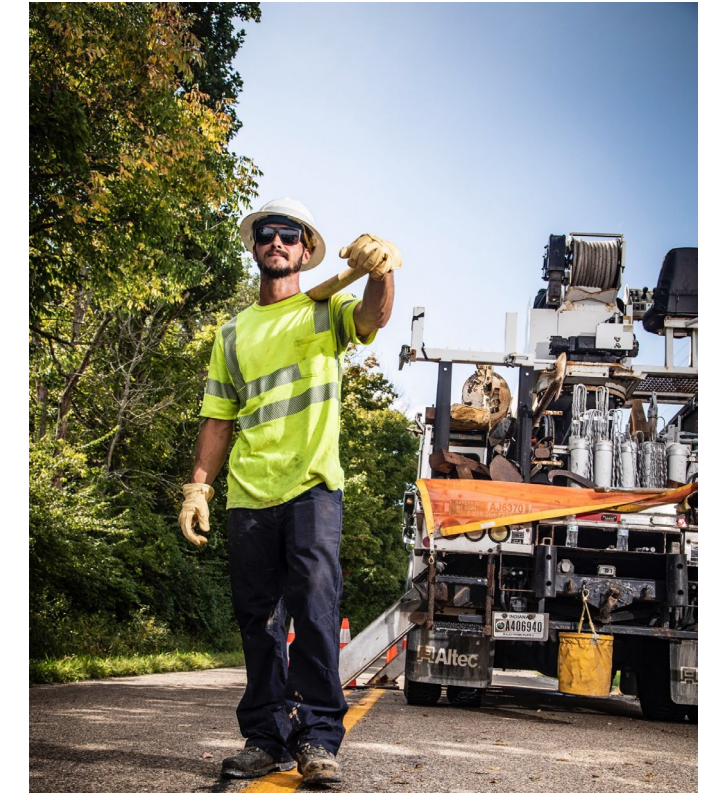
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Workforce of the future

AES has multiple programs that support the attraction and retention of new employees:

- Powerful Pathways
- Hiring Our Heroes
- Modern Apprenticeship Program
- Rotational Engineering Program
- Energy 4 Talent and Entry Level Engineering Rotational Programs
- Coordinated on campus recruiting program
- A robust intern/co-op program
- Employee Resource Groups



Line Technician Graduation: March 28, 2024

COVID delays resulted in an additional 6 months of on-the-job training for the 2024 class.

Q&A