









We exist to deliver safe, reliable energy that drives value to our customers

2023 Summer Reliability Forum

May 3, 2023









Energy Market Dynamics: Domestic and global trends

- Energy markets rallied to multi-year highs last year on reaction to the Russian invasion of Ukraine, but have since dropped precipitously.
- Natural gas prices through Summer 2023 are quoted near \$2.50/MMBtu, levels which haven't been seen since the early days of the pandemic in 2020.
- With the decline in natural gas pricing since its multi-year high seen in late 2022, MISO daily location marginal prices are now trading around \$30 per MWh.
- Bituminous coal prices (Central and Northern Appalachian, and Illinois Basin specifically), reached record highs in 2022. Coal prices in 2023 have fallen back, but are still well above the 5-year average.

What actions are taken with fuel suppliers to ensure reliable electricity supply during summer peaking events?

NIPSCO Electric Fuel Supply: 2023 Coal and Natural Gas Supply Plan and Reliability

- R. M. Schahfer Generating Station Coal Supply (Illinois Basin Coal):
 - Coal and transportation supply agreements cover 100% of anticipated delivery requirements
 - Inventories are projected to trend above target inventory¹ levels of 40 days supply at maximum burn rate
- Michigan City Generating Station Coal Supply (Powder River Basin and Northern Appalachia Coal):
 - Coal and transportation supply agreements cover 100% of anticipated delivery requirements
 - Inventories are projected to trend close to target inventory¹ levels of 25-30 days supply at maximum burn rate
- Natural Gas Supply:
 - NIPSCO has firm gas supply contracts to ensure natural gas for all electric generation needs

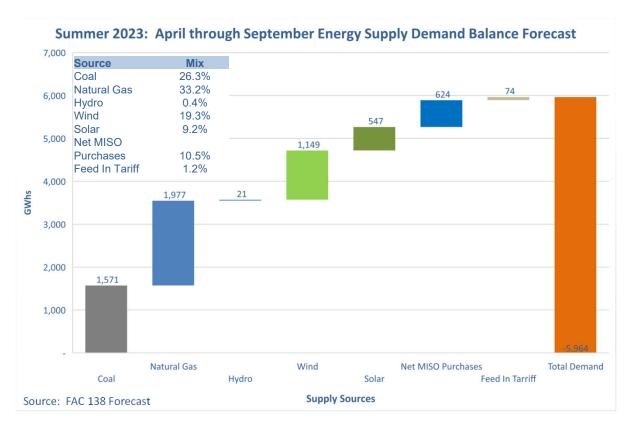
^{1.} Inventory projections are provided in the appendix

2023 Energy Supply Plan, Reliability, and Supplier Performance Management

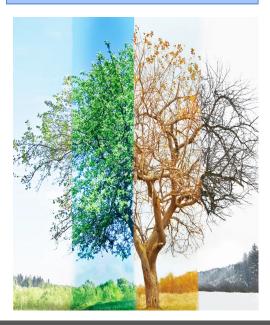
What actions are taken with fuel suppliers to ensure reliable electricity supply during summer peaking events? (continued)

Key Actions and Supply Management Plan:

- Robust fuel and energy supply agreements are inplace
- Energy and Fuel Supply contracts provide flexibility to react to supply mix and demand changes
- Solid internal controls and escalation processes are in place to manage supplier performance
- Load modifying resources are in place through Rate 831



What ongoing RTO changes in markets, operations, resource adequacy, etc. is your company watching most closely and how might these potential changes impact your company's operations and resource requirements over the next 3-5 years?



Seasonal Resource Adequacy Construct:

- MISO's upcoming Planning Resource Auction (PRA) has been delayed by the recent FERC Show Cause Order.
- MISO's response to the Order required NIPSCO to acquire additional MW of accredited capacity:
 - Fall-154 MW
 - Winter-53 MW
 - Spring-108 MW
 - Summer-36 MW
- NIPSCO is in favor of a seasonal construct, as there are benefits to looking at seasonal reliability however, the recent implementation in MISO has not gone smoothly.
- NIPSCO was party to several successful seasonal transactions and believes that the '24/'25 planning year will be easier to navigate as participants become more comfortable with the process, capacity market design questions are satisfied, and seasonal markets become more robust.
- There is a greater emphasis on unit availability, performance, and outages that *could* drive the need for unexpected replacement capacity during seasons.
- NIPSCO anticipates the market for capacity will evolve over the coming years with new product offerings for things like "capacity by the season" or "capacity swaps" (e.g., swapping spring for winter), and NIPSCO has seen some of this already.

What ongoing RTO changes in markets, operations, resource adequacy, etc. is your company watching most closely and how might these potential changes impact your company's operations and resource requirements over the next 3-5 years?

Long Range Transmission Planning

- Engineering is underway on NIPSCO's Tranche 1 project
- Additional NIPSCO projects have been included on MISO's Tranche 2 indicative projects map
- Ambient Adjusted Ratings (AARs)
 - NIPSCO continues work internally, with its system software vendor and with MISO, to prepare for 2025 implementation of AAR
 - Uncertainty remains as MISO and transmission owners wait for FERC's Order on MISO's Order 881 Compliance Filing

As we prepare for the summer season, what is the date by which all spring maintenance outages, if any, are planned to be completed? How will you address generation needs during those planned outages?

2023 NIPSCO generation Outage Season: February through July							
July	Week 1						
June	Week 4						
	Week 3					Unit 16B	
	Week 2						
	Week 1			Unit 17			
May	Week 4						
	Week 3						
	Week 2						
	Week 1				Sugar Creek		
	Week 4						
April	Week 3						
	Week 2		Unit 18				
	Week 1						
	Week 4	Unit 12					
March	Week 3						
	Week 2						
	Week 1						
February	Week 4						
	Week 3						
	Week 2						
	Week 1						
January	Week 4						

What actions are taken to prepare for severe weather events (i.e. extreme heat, tornados, hail, etc.)? Describe weather-related actions and how these might differ by the type of facility. Describe the planned actions one week prior to the expected start of the event and provide a timeline as the arrival of the weather event moves closer.

- Electric System Dispatch monitors the weather continuously
- NIPSCO also monitors the 15-day outlook that is provided by a contracted meteorological service
- When any adverse weather is identified, a detailed forecast for NIPSCO's service territory is created
- Based on the anticipated impact, NIPSCO implements NIPSCO's Electric Emergency Response Plan

Briefly describe your restoration response following the recent severe storms across the state.







- Late on the evening of March 31 and into Saturday, April 1, high wind/storm event impacted the NIPSCO service territory.
- We experienced three confirmed tornados and two probable EFOs tornados. 27,700 customers lost power during the event, and NIPSCO replaced over 270 damaged transmission and distribution poles.
- 99% of customers were restored by 7:00 AM Monday, April 3, with all remaining customers restored by 7:00 PM Tuesday, April 4.
- All 138 kV and 69 kV transmission lines were returned to service on Thursday, April 7.

Have you seen reductions in tree-related outages especially during storm events? Has your company made changes to distribution operations, management practices, and investments that have affected performance during and following storm events that limit outages and speed restoration?

Vegetation Management Statistics

System Average Interruption Frequency Index (SAIFI): NOTES

2016-2019 Average Severe Days 20 Average Major Event Days (MEDs) 4.75 2020-2022 Average Severe Days 18 Average MEDs 8

Tree Outages Excluding MEDs	Year End
2016 - 2019 Avg. Tree Outages	3,492
2020 -2022 Avg. Tree Outages	2,980

Please indicate any supplychain issues that are currently impacting your ability to serve or will hinder this ability in the summer months.

Transmission & Distribution

- All sizes of 277/480 overhead and underground transformers (outside of 15, 25 and 50 kva)
- All sizes of 120/208 underground transformers
- 3 phase service meter boxes
- Underground primary elbows #2
- Transmission voltage insulators (side mount and hang down)
- Distribution arrestors
- Transmission poles (above 60')

Electric Generation: Coal Supply

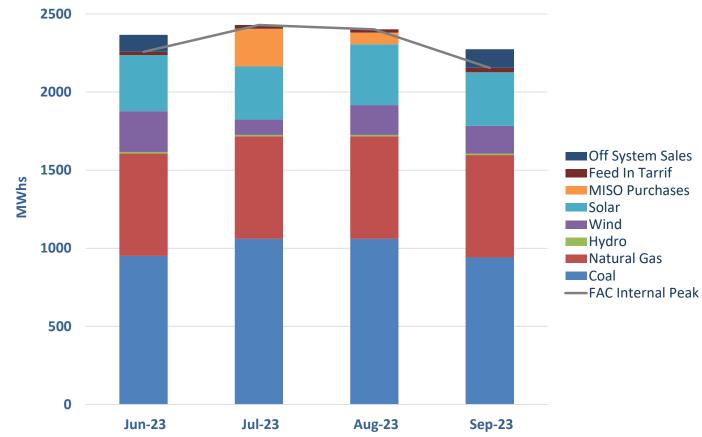
- NIPSCO Fuel Supply worked closely with Class I railroads to manage and improve service levels in 2022. These efforts have allowed NIPSCO to maintain inventory levels at and/or above targets consistently since mid-2021.
- NIPSCO is not experiencing coal supply chain issues currently.

Electric Generation: Variable Chemical and Environmental

 NIPSCO has established contracts with vendors that supply our operational chemicals; limestone, urea and diabasic acid (DBA). These vendors have performed to support the generating fleet assets without interrupting operations since 2015. NIPSCO maintains communication with these suppliers to understand any supply chain issue immediately. What are your projected monthly peak loads and monthly supply portfolio to meet these peaks? Do you have concerns about the variability in renewable energy and its impact on meeting customer demands during the summer months? If so, how is this considered when determining fuel inventories?

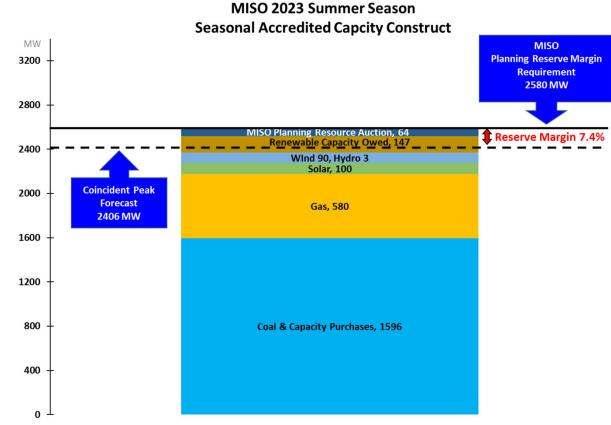
NIPSCO has sufficient resources to reliably and economically serve customers through its mix of MISO purchases and its owned/contracted assets.





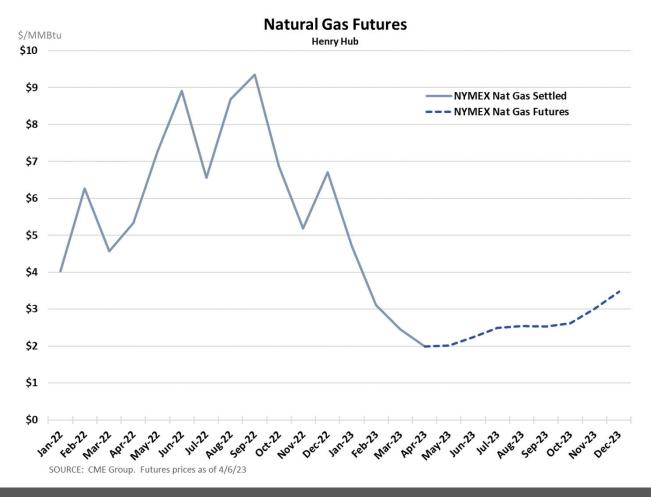
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- NIPSCO maintains a small open capacity position (64 MW) in the MISO planning reserve auction due to late changes made by MISO in its implementation of the Seasonal Adjusted Capacity
- Timing of new resources and retirements is driving the short-term need for capacity



Appendix

Henry Hub Summer 2023 Natural Gas Futures

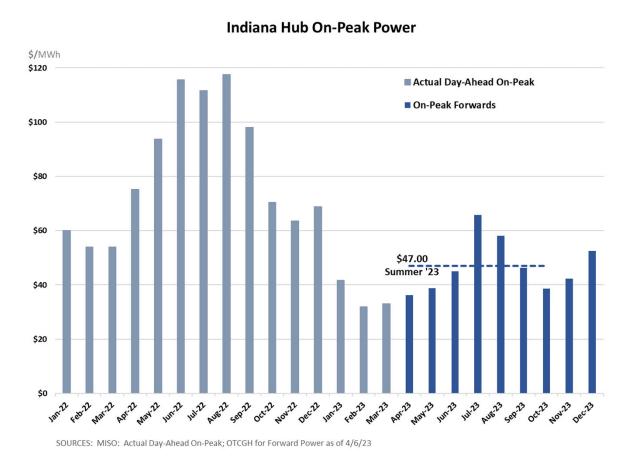


Summer 2023 natural gas futures through October have declined to below \$3/MMBtu, as mild temps, above-average storage, and high production are holding prices in check

LNG exports are capped at about 14 Bcf/d, as no additional LNG export facilities are scheduled to be brought online until late 2024

Natural gas futures remain under \$3/MMBtu until November 2023

MISO Summer 2023 Forward Electric Energy Price Curve: Power Prices Revert to Historical Norms



Power prices decreased significantly since year-ago levels, particularly as natural gas and coal prices have declined

Summer 2022 Indiana Hub, Day-Ahead, On-Peak power averaged \$97.43/MWh

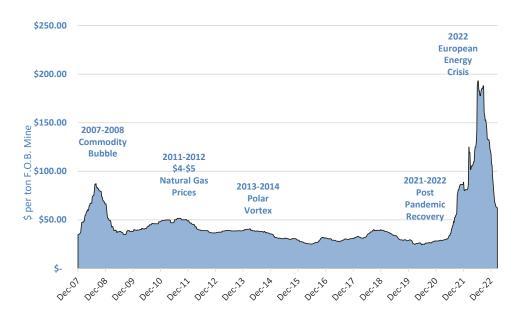
Summer 2023 On-Peak power forwards are priced at \$47/MWh, due largely to substantial declines in fuel input costs

But volatility remains: weather and other events can create transient increases in power prices

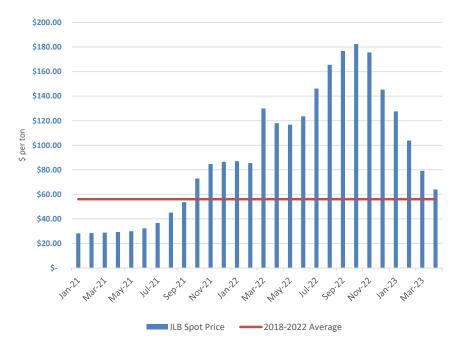
The National Oceanic and Atmospheric Administration (NOAA) is expecting Summer 2023 temperatures for NIPSCO's service territory to be normal to somewhat above-average

ILB Coal Market FOB Mine Prices (RMSGS Coal Supply) through March 2023

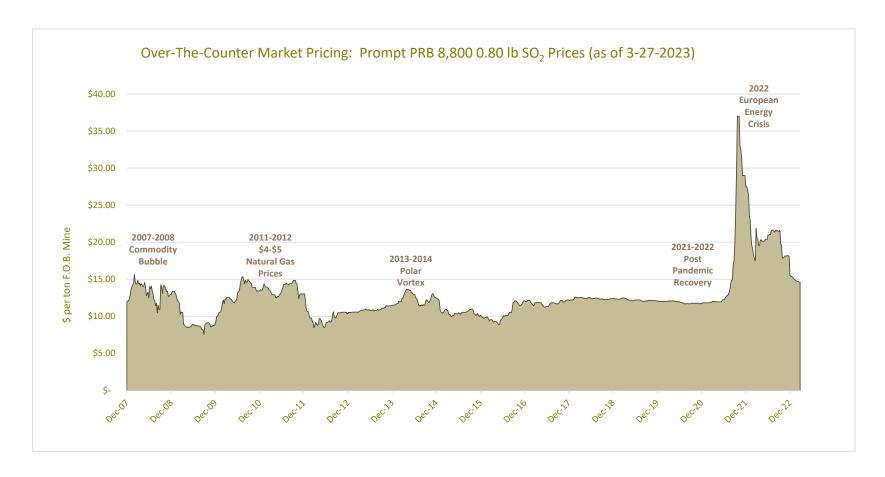
ILB Coal Prompt Market Pricing: 11,000 BTU/lb and 6.0 Lbs SO2 per MBTU (as of 3-29-2023)



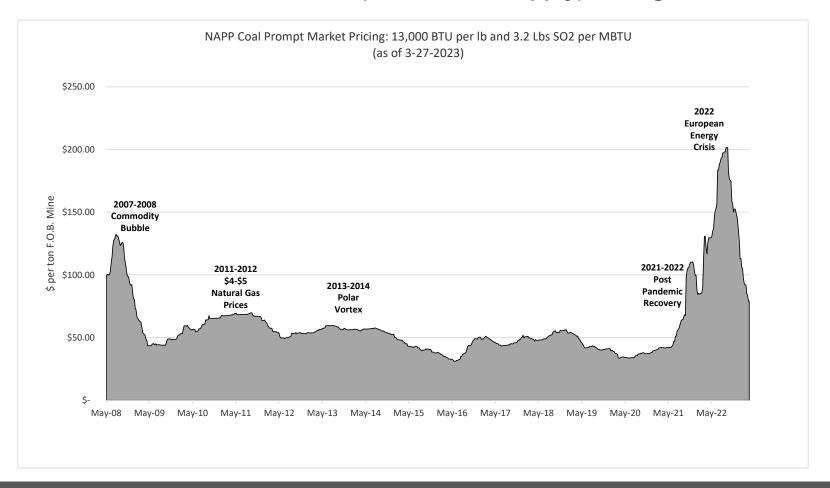
2021-2023 YTD Monthly Average Prompt Coal FOB Mine Price (RMSGS Supply)



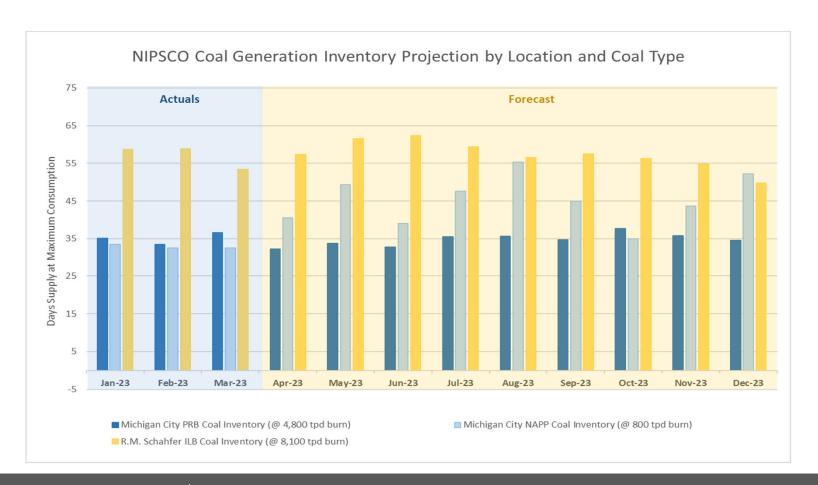
PRB Coal Market FOB Mine Prices (MCGS Coal Supply) through March 2023



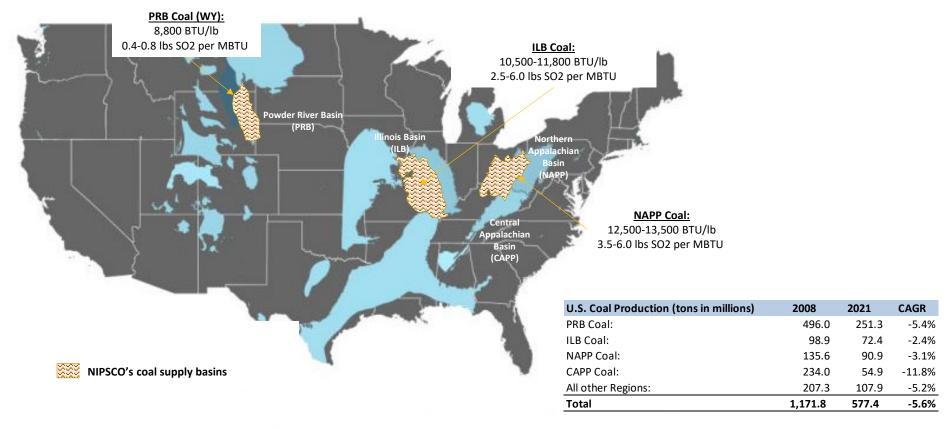
NAPP Coal Market FOB Mine Prices (MCGS Coal Supply) through March 2023



NIPSCO's 2023 coal inventories are projected to trend at or above target levels

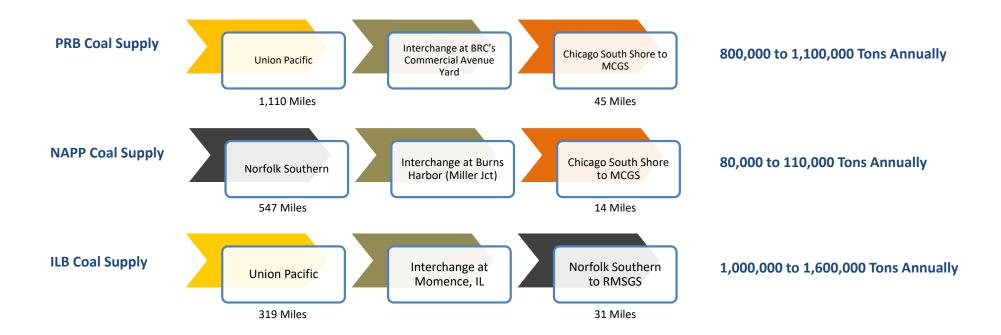


NIPSCO receives coal supply from three major coal basins: Illinois Basin (ILB), Northern Appalachian Basin (NAPP, aka "Pitt8"), and the Powder River Basin (PRB)



https://www.eia.gov/coal/data/browser/

NIPSCO Coal Transportation Routes and Logistics



Severe Weather event timeline



- Learn of upcoming severe weather event (weather.gov)
- Re-verify operability of HVAC systems and plant cooling systems are all available at maximum capacity for any heat related event.
- Ensure proper operation of sump pumps and clear drains to avoid flooding in critical areas
- Escalate any deficiencies in maintenance schedule for immediate work.

- Secure loose objects that may become airborne during tornado or high wind conditions
- Verify any corrective maintenance identified on day 7 has been corrected or contingency plans have been put in place to mitigate risk.
- Execute plans to protect employee health and safety under severe weather conditions
- Closely monitor and respond to high temp alarms and perform checks using heat detectors on critical equipment bearings and motors that are not electronically monitored
- Implement Emergency Action Plans for high flow events at hydros

Generation wide

- Summer preparedness work orders are performed each spring and are issued automatically in the maintenance management system. These are station specific and are designed to prepare the site for summertime operation.
- Readiness drills and/or tabletop exercises are executed for emergency weather events both seasonally and as a "Just in time" reminder.
- Water management plans are reviewed seasonal and upon notification of an upcoming event. Plans are executed when water flows (drought or flood) meet trigger levels. (Schahfer Generating Station and Hydros).

Have you seen reductions in tree-related outages especially during storm events? Has your company made changes to distribution operations, management practices, and investments that have affected performance during and following storm events that limit outages and speed restoration?

Vegetation Management Statistics

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2020-2022 Average Severe Days 18 Average MEDs 8

Tree SAIFI

Excluding MEDs	Year End
2016 – 2019 Avg. Tree SAIFI	0.3263
2020 – 2022 Avg. Tree SAIFI	0.2777

Affected Customers

Excluding MEDs	Year End
2016 - 2019 Avg. Customers affected	151,701
2020 -2022 Avg. Customers affected	133,002

Tree Outages

Excluding MEDs	Year End
2016 - 2019 Avg. Tree Outages	3,492
2020 -2022 Avg. Tree Outages	2,980