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COAL-FIRED GENERATION

July 31, 2024

Coal Plant Statistics

Coal Inventory Expressed in Full Burn Days (Target is 35 days)

Coal Type	Amos	Mountaineer	Mitchell
High Sulfur	42	69	55
Low Sulfur	88	NA	124

Invested more than $364 million on CCR & ELG work at the plants

Total Projected Capital Investment from 2025 to 2029 (*in millions*)

	Amos	Mountaineer	Mitchell
Capital Investment	$351	$103	$182

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Long-Term and Short-Term Coal Agreements

Summary of Contracts in Effect in 2023

	Long-Term Agreements	Long-Term Period	Short-Term Agreements
APCo	20	2021 to 2028	3
WPCo	10	2022 to 2026	5

The Companies have more than thirty-days of coal under contract.

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Coal-Fired Plants: Retirement Dates

- The Companies and their parent company, American Electric Power ("AEP"), have been consistent in their stated plans and intentions to operate their coal-fired power plants in West Virginia through 2040.
- The following are just a few of the filings with various Commissions that are based on the 2040 retirement date.
  - WV original CCR & ELG Filing (December 23, 2020; approved on August 4, 2021)
  - VA original CCR & ELG Filing (December 23, 2020; approved on August 23, 2021)
  - WV CCR & ELG filing seeking to recovery 100% of the ELG investments from West Virginia customers since Virginia and Kentucky did not approve ELG investment (September 8, 2021; affirmed prior decision October 12, 2021)
  - VA second filing seeking approval of the ELG investments (March 18, 2022; approved November 21, 2022)
  - Various Virginia Clean Economy Act filings

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Equivalent Availability Factor (EAF)

- EAF identifies the maximum achievable Net Capacity Factor for a generating unit.
- EAF is reduced by Forced, Planned and Maintenance Outages.
- In 2023, PJM coal-fired power plants had an aggregate EAF of 71.6%
- If the EAF is 71.6%, a power plant would need to run at 96.3% capacity factor when not in outage to achieve a 69% capacity factor for the year.
- Note: Some of the Companies' required outages were for CCR & ELG investments.

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Principle of Economic Dispatch

- The Companies have operated, and will continue to operate, all of their generation resources based on the principle of economic dispatch to ensure that their customers receive the lowest reasonable cost energy.
- Under the principle of economic dispatch, if the Companies can operate their assets at a price lower than the market, then customers get the benefit of that option by clearing an asset in the PJM market and taking advantage of the price difference between its costs and the market price of energy.
- If the market is providing a less expensive option for generation, then customers can take advantage of the market and avoid the higher costs of self-generation.
- The Companies properly managed their actions under this model to get the best outcome for customers.

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Supply Constraints in Late 2021 and most of 2022

Key factors impacting coal generation during this period:

- the Russia-Ukraine War and its global impacts on fuel markets;
- the swift and unexpected volatility in fuel prices;
- the well-documented fuel balance under-recoveries of similarly situated electric utilities across the country;
- the amount of coal-fired generation across PJM during the relevant time period;
- the timing and need for planned and maintenance outages at the coal plants; and
- the 3.8 million tons of coal to which the Companies were contractually entitled during the relevant time period but that were ultimately not delivered by suppliers in breach of the Companies' coal supply agreements.

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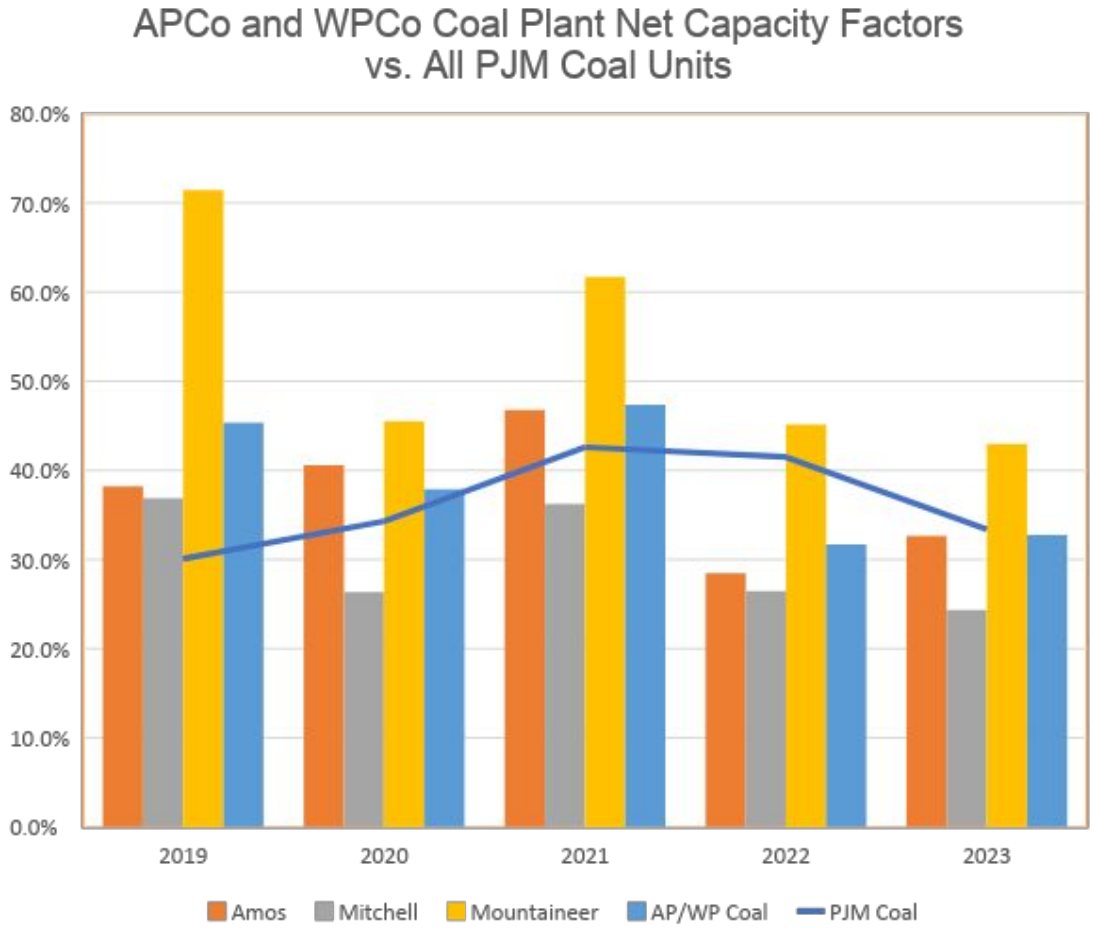
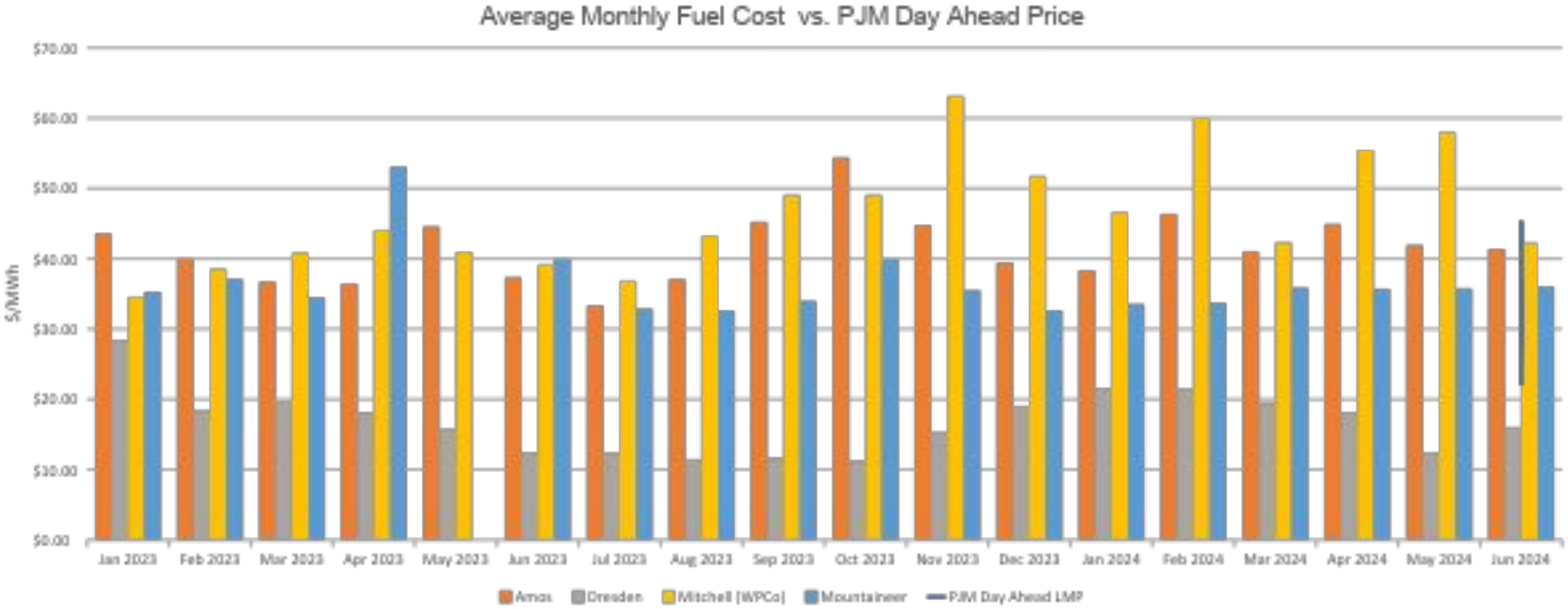
Net Capacity Factor vs. PJM Peers



- Over the last five years, APCo and Wheeling Coal units had capacity factors near or better than the average for all PJM coal units.
- The decreased 2022 generation from the Companies' coal-fired power plants was the direct result of **3.8 million tons of shortfalls in contracted-for coal deliveries**. If these 3.8 million tons of coal had been delivered in 2022, the Companies' plants could have run at a capacity factor of approximately **50%**.
- Other owners of coal-fired generation in PJM could not capitalize on the significant energy price volatility in the market because coal was not available to them either.
- The margins referenced in the Memorandum (pg. 2) were not attainable by the Companies or other owners of coal-fired generation in PJM.

Fuel Cost vs. PJM Price



Running at a 69% capacity factor during this period would have produced $240.4 million in <u>additional</u> fuel costs.

Factors Limiting Coal-Fired Dispatch

What factors limit the dispatch of the Companies' coal-fired plants?

- Availability of coal
- Price of coal
- The competing price of natural gas

What is not limiting the dispatch of the Companies' coal-fired plants?

- A corporate decarbonization goal
- Executive Compensation programs

Neither AEP, nor the Companies, have any type of decarbonization policy governing the operation of their coal-fired power plants.

AEP executive compensation goals do not impact the energy production or day-to-day operation of the Companies' coal-fired plants.

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Costs Associated with Achieving a Set Capacity Factor

- If the Companies would have operated their coal-fired power plants at a 69% capacity factor during the last 18 months, the costs to customers would have been $240.4 million higher.
- The additional costs of doing this would have to be borne by West Virginia electric utility customers (residential, commercial, industrial, etc.) through necessary rate increases.
  - This would increase residential customer monthly bills by approximately $15.
  - And as an example of the impact on industrial customers, the impact on one of the Companies' largest industrial customers would be approximately $3 million annually.

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Gas vs. Coal Generation

The price of coal in relation to natural gas is the primary factor that drives the utilization of the Companies' and other utilities' coal fired generation versus energy purchases from the PJM market.

- Combined cycle natural gas plants have lower heat rates (more efficient) and hence are more economical than the Companies' coal-fired fleet under current commodity prices.
- Coal-fired power plants also have additional expenses related to coal handling and consumables costs and the operation of environmental equipment.
- In today's market, coal needs to be 40-50% less expensive on a MMBTU basis than natural gas to be economically competitive.
- Over the last 18 months when coal prices were greater than this efficiency and cost differential, combined cycle natural gas plants displaced the dispatch of coal-fired units in PJM and coal-fired units were called to operate less frequently.
- In 2023, coal generation only represented approximately 15% of PJM's energy supply.

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Key Takeaway

- The only things that impact the dispatchability of our coal-fired plants are the availability of coal and the relative economics of our coal-fired plants in relation to the other available forms of generation including PJM market purchases. Moving away from the long-held utility practice of economic dispatch would greatly increase costs for our customers.

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Questions

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