

VERIFIED DIRECT TESTIMONY
OF
ALEXANDER J. DICKERSON
ON BEHALF OF
INDIANAPOLIS POWER & LIGHT COMPANY
D/B/A AES INDIANA
Cause No. 45911

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PETITIONER'S
EXHIBIT NO. 12-19-23 17
DATE REPORTER AT

SPONSORING AES INDIANA ATTACHMENTS AJD-1 THROUGH AJD-3

**OFFICIAL
EXHIBITS**

VERIFIED DIRECT TESTIMONY OF ALEXANDER J. DICKERSON
ON BEHALF OF AES INDIANA

1. INTRODUCTION

Q1. Please state your name, employer, and business address.

A1. My name is Alexander Dickerson. I am employed by Indianapolis Power & Light Company d/b/a AES Indiana ("AES Indiana", "IPL", or "the Company"). My business address is One Monument Circle, Indianapolis, IN 46204.

Q2. What is your position with AES Indiana?

A2. I am Manager, Wholesale Energy.

Q3. On whose behalf are you submitting this direct testimony?

A3. I am submitting this testimony on behalf of AES Indiana.

Q4. Please describe your duties as Manager, Wholesale Energy.

A4. As the Manager, Wholesale Energy, I am responsible for managing AES Indiana's participation in the Midcontinent Independent System Operator, Inc. ("MISO") energy market and oversight of AES Indiana's strategy and execution for demand bids and generation offers. I am also responsible for the management of AES Indiana's wind power purchase agreements ("PPAs") and procurement of natural gas and coal.

Q5. Please summarize your education and professional qualifications.

A5. I received a Bachelor of Arts Degree in Economics and Political Science from Marian College and a Master's in Business Administration from Western Governors University.

1 **Q6. Please summarize your prior work experience.**

2 A6. I have been employed by AES since 2017, assuming my current role in September of 2017.
3 Prior to AES, I worked at Citizens Energy Group, Indianapolis, Indiana between 2015 to
4 2017, as a Rates and Regulatory Analyst. Prior to that, I was a Gas Control Specialist from
5 2012 to 2015.

6 **Q7. Have you testified previously before the Indiana Utility Regulatory Commission**
7 **(“Commission”) or any other regulatory agency?**

8 A7. No.

9 **Q8. What is the purpose of your testimony in this proceeding?**

10 A8. My testimony discusses AES Indiana’s fuel inventory and presents the calculation of the
11 base cost of fuel. I also provide the coal contract pricing.

12 **Q9. Are you sponsoring or co-sponsoring any financial exhibits or attachments?**

13 A9. Yes. I sponsor or co-sponsor the following financial exhibits or attachments:

- 14 • AES Indiana Financial Exhibit AESI-RB, Schedule RB8 – Electric Fuel Stock
15 Inventory
- 16 • AES Indiana Financial Exhibit AESI-OPER, Schedule OM2 – Cost of Fuel and
17 Purchased Power
- 18 • AES Indiana Attachment AJD-1 – Fuel by Source Type Consumed in Test Year
19 2022
- 20 • AES Indiana Attachment AJD-2 – Coal Inventory Levels
- 21 • AES Indiana Attachment AJD-3 – Fuel Oil Inventory Levels

1 **Q10. Did you submit any workpapers?**

2 A10. Yes. The calculations shown on the financial exhibits above have been cross-referenced,
3 when appropriate, to the workpapers which provide additional detailed support for these
4 calculations.

5 **Q11. Were these exhibits, attachments, or workpapers, or portions thereof, that you are**
6 **sponsoring or co-sponsoring prepared or assembled by you or under your direction**
7 **and supervision?**

8 A11. Yes.

9 **2. FUEL INVENTORY OVERVIEW**

10 **Q12. What is included in the Company's fuel inventory?**

11 A12. AES Indiana's fuel inventory includes coal and diesel fuel (fuel oil). Coal is used in the
12 generation of electricity at the Petersburg Generating Station. Diesel fuel or fuel oil is
13 primarily used for unit start-up, flame stabilization, as an alternative fuel for dual fuel units,
14 or, in some cases, as the primary fuel for certain small generating units.

15 **Q13. How much fuel, by source type, did AES Indiana's plants consume in the test year**
16 **ended December 31, 2022?**

17 A13. The amount of coal and fuel oil consumed by Petersburg is shown on AES Indiana
18 Attachment AJD-1. The amount of natural gas and fuel oil consumed at Harding Street and
19 the amount of natural gas consumed at Eagle Valley are also shown on AES Indiana
20 Attachment AJD-1.

1 **Q14. What is the cost of the fuel consumed by AES Indiana, by source type, in the test year**
2 **ended December 31, 2022?**

3 A14. The amounts are shown on AES Indiana Attachment AJD-1.

4 **Q15. Is the amount stated above consistent with prior years?**

5 A15. From a volumetric standpoint the test year was consistent to previous years. However, fuel
6 costs can vary from year to year based upon factors such as price fluctuations. These price
7 fluctuations, which are fundamentally driven by supply and demand balance, can be caused
8 by weather, load growth, planned generating unit maintenance outages, unplanned
9 generating unit outages, availability of energy from renewables, such as wind power, and
10 outside market forces, such as the price for natural gas and electricity available for purchase
11 on the grid. As more of the Company's generation comes from natural gas, the overall fuel
12 cost will be more tied to gas market changes. The test year saw historically volatile natural
13 gas prices and peaked at levels not seen in the last ten years. There were issues surrounding
14 Europe potentially not having enough gas to get through winter, which put pressure on
15 natural gas pricing. Coal supply around the country was tight beginning in 2021 and
16 through much of 2022, and the seasonal NOx market was reacting to new rules regarding
17 emissions allowances causing many baseload coal plants to stay offline through the
18 summer. This resulted in increased gas burn for power generation, which in turn put gas
19 storage well behind the five-year average. Production of natural gas was slow to respond,
20 and the market was projecting a much smaller than normal end of season storage inventory.
21 This further put pressure on both spot market gas and futures as more molecules were
22 needed to be pulled out of the market and put into storage.

1
2 **3. COAL INVENTORY**

3 **Q16. How does the Company determine the appropriate level of coal inventory?**

4 A16. The amount of coal inventory needed at Petersburg is based upon several factors, including
5 the quality and availability of the coal needed, whether the coal is purchased under contract
6 or on the spot market, the predictability of the consumption at the plant, price volatility in
7 the coal and electric power markets and the possibility for supply interruptions. These
8 variables cause coal inventories to fluctuate up and down every month. Operational and
9 safety concerns also play an important part in determining the target inventory level.
10 Having the inventory too low can cause unit operational issues (such as derates in an
11 extreme weather event like excessive rain) and having the inventory too high can cause
12 safety issues for trucks dumping coal on the pile. Some of these variables can be anticipated
13 and some cannot so the uncertainty must be managed accordingly. Further, this process has
14 been adjusted and updated based upon the retirement of Petersburg Unit 1 on June 1, 2021,
and the retirement of Petersburg Unit 2 on May 31, 2023.

15 **Q17. What are the test year and pro forma levels of coal inventory?**

16 A17. The test year level of coal inventory is 1,065,105 tons. AES Indiana proposes an adjustment
17 to the test year level to decrease coal inventory to 525,000 tons as shown on AES Indiana
18 Financial Exhibit AESI-RB, Schedule RB8. This adjustment reflects AES Indiana's future
19 coal inventory goal and is appropriate in light of lower daily burns after the retirements of
20 Petersburg Units 1 and 2.

1 **Q18. Please explain how the coal inventory adjustment shown on AES Indiana Financial**
2 **Exhibit AESI-RB, Schedule RB8 was calculated.**

3 A18. The coal pile must be at an adequate level to ensure efficient and reliable plant operations.
4 Too small of a pile can lend to difficulty in efficiently gathering coal from the pile, while
5 too big of a pile can pose a safety risk for plant personnel. Each year, AES Indiana
6 examines the most recent five-year historical burns on a month-by-month basis. The
7 highest monthly coal burn in the past five years divided by 30 is known as the Maximum
8 Burn Day ("MBD"). The amount of coal in inventory divided by the MBD provides an
9 approximation of the number of days of supply on hand each month based upon peak
10 generation when fuel supply is most critical. AES Indiana Attachment AJD-2 shows the
11 MBD and the average inventory at each of AES Indiana's generation stations covering the
12 period beginning January 1, 2018 through December 31, 2022. The average inventory
13 represents a five-year rolling average using month end reports for the respective time
14 period and the target inventory.

15 After evaluating historical coal pile averages it was determined that a pile of 50 days is
16 recommended as the appropriate target inventory. Although a target of 39 days was
17 established in the last rate case, the recommended 50-day target inventory level will now
18 be 525,000 tons as shown on AES Indiana Financial Exhibit AESI-RB, Schedule RB8. The
19 MBD with only two remaining units running has dropped from 16,900 tons to 10,500 and
20 39 days of burn would have a target inventory of 409,500 tons. This does not allow for
21 enough variability in the coal pile to maintain efficient and reliable operations at the plant
22 and any prolonged downward shifts in the size of the pile would cause the plant to lose
23 reliability and decrease its ability to efficiently move coal to the units. This increase in the

1 number of days allows AES Indiana to maintain efficient and reliable operations at the
2 plant, however, it does not increase the target inventory level.

3 **Q19. Is the target coal inventory level reasonable?**

4 A19. Yes. With only two units remaining operational at Petersburg, it is essential that the target
5 inventory provide enough opportunity for variability while also maintaining efficient and
6 reliable operations at the plant. Actual inventory can be adjusted up or down at various
7 times for specific reasons. For example, prior to periods of expected high burns or if a
8 temporary mine shutdown is anticipated, the inventory might be increased until the period
9 has passed. If a generating unit maintenance outage is planned, the inventory might be
10 decreased during the time leading up to the outage. As a result, an appropriate target
11 inventory level must account for these desired variations up and down throughout the year
12 and ensure there is an appropriate level of coal on the ground to operate safely and
13 efficiently. AES Indiana maintains monthly tonnage flexibility in its coal contracts to
14 enable it to manage through these periods. Consistent with state policy, adequate fuel
15 inventory levels helps provide customers with reliable service and a stable source of
16 electricity. The target inventory represents the levels which, based on AES Indiana's
17 experience, are reasonable in order to account for all of the variables previously mentioned.

18 **4. FUEL OIL INVENTORY**

19 **Q20. Does AES Indiana keep a fuel oil inventory for generation purposes at each of its**
20 **plants?**

21 A20. No. Only Petersburg and Harding Street have fuel oil in inventory for the purposes of
22 generating power.

1 **Q21. How does Petersburg use fuel oil in the generation process and what is the target**
2 **inventory at this location?**

3 A21. The primary generating units at Petersburg are coal-fired. These units use fuel oil to re-fire
4 the units after they come offline. They also use fuel oil from time to time to stabilize the
5 flame during periods of disruption. Petersburg also has three 2.5 MW diesel generators on-
6 site. The target fuel oil inventory for Petersburg is 325,000 gallons.

7 **Q22. How did you arrive at the Petersburg target fuel oil inventory level?**

8 A22. Petersburg's inventory target reflects several considerations. A single restart of Units 3 or
9 4 will consume 67,000 gallons on average. It is not uncommon for these units to be restarted
10 several times a year. At Petersburg, fuel oil is used to transition from a cold start to a
11 sustainable coal-fired state. In addition, this target fuel oil inventory is consistent with
12 actual average inventory over the last five years and very close to the inventory at the close
13 of the test year.

14 **Q23. How does Harding Street use fuel oil in the generation process and what is the target**
15 **fuel oil inventory at this location?**

16 A23. Harding Street is home to both natural gas and fuel oil powered generators. The three steam
17 generators at Harding Street, Units 5, 6, & 7, are natural gas fired units and have no need
18 for fuel oil. However, Harding Street has a pair of fuel oil-only powered units (Units 1 &
19 2) and two dual- fuel units that can operate on both natural gas and fuel oil (gas turbine
20 ("GTs") 4 & 5). These fuel oil and dual fuel generation units provide Harding Street with
21 its black start capabilities. The target diesel fuel inventory level for Harding Street is
22 1,000,000 gallons.

1 **Q24. How did you arrive at the Harding Street target fuel oil inventory level?**

2 A24. Harding Street's black start protocol requires, at a minimum, a 24-hour supply of fuel oil
3 sufficient to drive Units 1 & 2 and GTs 4 & 5 at full load. This calculates to approximately
4 278,000 gallons per day. The target inventory was set at approximately four days' supply
5 at full load because in the absence of a reliable gas supply, fuel oil is the only source of
6 fuel until a natural gas disruption is resolved.

7 **Q25. Is the Company proposing an adjustment to fuel oil inventory?**

8 A25. Yes. AES Indiana proposes an adjustment to the test year level to increase fuel oil
9 inventory. This adjustment is shown on AES Indiana Financial Exhibit AESI-RB, Schedule
10 RB8. This adjustment is necessary so that fuel oil inventory is not understated.

11 **Q26. Please explain how the fuel oil pro forma adjustment shown on AES Indiana Financial**
12 **Exhibit AESI-RB, Schedule RB8 was calculated.**

13 A26. The target inventory levels of fuel oil for Petersburg and Harding Street are 325,000 and
14 1,000,000 gallons respectively. As of December 31, 2022 Petersburg had 413,597 gallons
15 of fuel oil and Harding Street had 853,429 gallons of fuel oil. As a result Petersburg's
16 inventory was adjusted down to 325,000 gallons and Harding Street was adjusted up to
17 1,000,000 gallons. The net result of this is an increase in the volume of inventory but a
18 decrease in the cost. AES Indiana Attachment AJD-3 shows the inventory as of December
19 31, 2022 and then the calculation of the Pro Forma adjustment shown in AES Indiana
20 Financial Exhibit AESI-RB, Schedule RB8.

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- A no-notice storage contract with Citizens Gas provides additional on-system supply as well as balancing needs for both Georgetown and Harding Street.

Q28. What are the test year and pro forma amounts for cost of fuel and purchased power costs?

A28. AES Indiana receives power from multiple fuel source-types including coal, natural gas, purchased power from wind and solar, and MISO. These fuel sources combine to form the base cost of fuel and purchased power for our customers on a normalized basis. As shown in AES Indiana Financial Exhibit AESI-OPER, Schedule OM2 the total MWh is just over 13 million. The source of the information used in this exhibit is the resulting outputs from the Company's dispatch model as further described by AES Indiana witness Steiner. The actual cost of fuel and purchased power in the test year is \$734.2 million and the pro forma fuel and purchased power is \$540.0 million (AES Indiana Financial Exhibit AESI-OPER, Schedule OM2 lines 19 and 20). This pro forma adjustment is a result of decreasing natural gas and power prices in the adjustment period from the actuals in the test year. The calculation to determine base cost of fuel is \$540.0 million divided by 13,019,725 MWh. Once converted to kwh the new base cost of fuel is \$0.041479 per kwh (AES Indiana Financial Exhibit AESI-OPER, Schedule OM2 line 27).

Q29. Are the Company's fuel procurement practices reasonable?

A29. Yes. AES Indiana has and continues to manage its fuel supplies in a manner to provide reasonable overall fuel costs, manage its inventory position, and monitor conditions in the fuel markets.

6. SUMMARY AND RECOMMENDATIONS

Q30. Please summarize your testimony and recommendations.

A30. The adjustment to reduce AES Indiana's coal inventory from 1,065,105 tons to 525,000 tons was appropriate in light of lower daily burns after the retirements of Petersburg Units 1 and 2. The target 525,000 ton coal inventory level provides enough opportunity for variability while also maintaining efficient and reliable operations at the plant. Petersburg's fuel oil inventory was adjusted down from 413,597 gallons to 325,000 gallons to allow sufficient inventory for re-firing the units after they come offline, to stabilize the flame during periods of disruption from time to time, and to support the three 2.5 MW diesel generators on-site. Harding Street was adjusted up from 853,429 gallons to 1,000,000 gallons to comply with the black start protocol requirements. Further, the target inventory was set at approximately four days' supply at full load because fuel oil is the only source of fuel if there is a natural gas disruption. The net result of these fuel oil adjustments is an increase in the volume of inventory but a decrease in the cost. These adjustments and pro forma amounts are reasonable and necessary to ensure efficient and reliable plant operations.

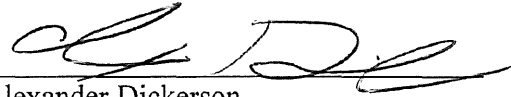
Because of decreasing natural gas and power prices in the adjustment period from the actuals in the test year, the base cost of fuel including fuel and purchased power costs are adjusted. The adjustment is a decrease from test year of \$734.2 million to \$540.0 million. This results in a converted new base cost of fuel of \$0.041479 per kwh.

Q31. Does this conclude your verified pre-filed direct testimony?

A31. Yes.

VERIFICATION

I, Alexander J. Dickerson, Manager, Wholesale Energy for AES Indiana, affirm under penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

A handwritten signature in black ink, appearing to read 'A. J. Dickerson', written over a horizontal line.

Alexander Dickerson

Dated: June 28, 2023

AES INDIANA FUEL CONSUMPTION

TEST YEAR JANUARY 1, 2022 THROUGH DECEMBER 31, 2022

Generating Station	Measurement	Fuel Consumption
Petersburg- Coal	Tons	3,782,108
Petersburg- Oil	Gallons	1,084,185
Harding Street- Gas	Dekatherms	16,072,845
Harding Street- Oil	Gallons	176,475
Eagle Valley- Gas	Dekatherms	28,827,389

AES INDIANA COST OF FUEL CONSUMPTION

TEST YEAR JANUARY 1, 2022 THROUGH DECEMBER 31, 2022

Generating Station	Cost of Fuel Consumption
Petersburg- Coal	\$202,763,382
Petersburg- Oil	\$3,893,348
Harding Street- Gas	\$111,499,728
Harding Street- Oil	\$358,483
Eagle Valley- Gas	\$200,611,643

AES INDIANA COAL INVENTORY LEVELS

	Petersburg
Maximum Burn Day Tons (Total)	14,400
Average Coal Inventory Tons (2018-2022)	699,000
Average Coal Inventory Days (2018-2022)	48.5
Post Retirement Maximum Burn Day Tons (excl U1 & U2)	10,500
Desired Inventory Tons	525,000
Desired Inventory Days	50.0

CALCULATION OF PRO-FORMA ADJUSTMENT

	Petersburg
Coal Inventory (Actual Tons 12-31-22)	1,065,105
Tons Subtracted	(540,105)
Cost of Inventory Tons (\$/Ton)	\$49.30
Pro Forma Adjustment	(\$26,628,000)
Source of Coal	Somerville, Oaktown, Antioch & Gibson County

AES INDIANA OIL INVENTORY LEVELS AT DECEMBER 31, 2022

	Petersburg	Harding Street
Oil Gallons	413,597	853,429
Average Price per Gallon	\$ 4.14	\$ 1.82

CALCULATION OF PRO-FORMA ADJUSTMENT

	Petersburg	Harding Street
Oil Inventory Pro Forma Gallons	325,000	1,000,000
Oil Inventory Gallons at December 31, 2022	413,597	853,429
Proposed Change in Gallons	-88,597	146,571
Average Price per Gallon at December 31, 2022	\$4.14	\$1.82
Oil Inventory Adjustment	-\$366,792	\$266,759