I&M Exhibit: _____

INDIANA MICHIGAN POWER COMPANY

PRE-FILED VERIFIED DIRECT TESTIMONY

OF

ROBERT A. JESSEE

Cause No. 45933

Content

DIRECT TESTIMONY OF ROBERT A. JESSEE
ON BEHALF OF
INDIANA MICHIGAN POWER COMPANY

I. Introduction of Witness

Q1. Please state your name and business address.

My name is Robert A. Jessee, and my business address is 2791 N. US Highway 231, Rockport, IN 47635.

Q2. By whom are you employed and in what capacity?

I am employed by American Electric Power Service Corporation (AEPSC) as the Managing Director – Generating Assets for Indiana Michigan Power Company (I&M or Company) and Kentucky Power Company.

Q3. Briefly describe your educational background and professional experience.

I hold a Bachelor of Science in Mechanical Engineering from Virginia Tech and have been employed with AEP for over 25 years. I have worked at various power plants across the AEP system as a Performance Engineer, Maintenance Superintendent, Operations Superintendent, and as Plant Manager. I was Plant Manager at the Rockport Plant from 2020 until being promoted to my current position in March of 2023.

Q4. What are your responsibilities for I&M as Managing Director – Generating Assets?

I am responsible for the safe, reliable, efficient, and environmentally compliant performance of I&M's Fossil (Steam), Hydroelectric (Hydro), and Universal Solar Generation Fleet. More specifically, I oversee and direct this fleet's operation and maintenance (O&M) and capital budget expenditures.

I collaborate with I&M's Executive Leadership, AEPSC's Fossil & Hydro Generation group, AEPSC's Commercial Operations group, and other AEPSC organizations in support of such responsibilities.

Q5. Have you previously submitted testimony or testified before any state regulatory commissions?

Yes. I have submitted testimony on behalf of I&M before the Michigan Public Service Commission in Case No. U-21053, the 2022 Power Supply Cost Recovery Reconciliation.

II. Purpose of Testimony

Q6. What is the purpose of your testimony?

My testimony describes I&M's non-nuclear Generation Fleet, which is comprised of Rockport Unit 1, hydro assets, and I&M's universal solar generating assets (referred to hereafter as "Generation Fleet"). I explain the operations of these facilities and how I&M's Generation Fleet supports the Five Pillars of Indiana energy policy (Reliability, Affordability, Resiliency, Stability, and Environmental Sustainability).

I support the forecasted O&M expenses and capital investments for I&M's Generation Fleet. As described in more detail by Company witness Sloan, these

forecasted costs are developed collaboratively as part of a work plan that fits within I&M's overall effort to continue to provide safe, reliable, efficient, and environmentally compliant service to its customers.

More specifically, I support generation O&M expenses for the forward-looking 12-month test year period ending December 31, 2024 (the Test Year). I also support I&M's forecasted generation capital expenditures during 2023 and 2024 (the Capital Forecast Period).

All O&M expenses and capital investments that I present in my testimony, both historical and forecasted, represent Total Company levels and are not representative of the Indiana jurisdictional share. Company witness Duncan describes the Indiana jurisdictional allocation of the Test Year O&M expenses and capital investments.

Q7. Are you sponsoring any workpapers?

Yes. I am supporting the following workpapers:

- WP-RAJ-1 – O&M
- WP-RAJ-2 – Consumable Expense
- WP-RAJ-3 – Capital
- WP-RAJ-4 – Fuel Inventory

Q8. Were the workpapers that you sponsor prepared by you or under your direction?

Yes.

Q9. Please summarize your testimony.

My testimony explains how the forecasted Test Year O&M and forecasted capital expenditures are reasonable and necessary to continue to maintain and

operate I&M's generating units in a safe, reliable, efficient, and environmentally compliant manner for the benefit of its customers. I explain that I&M's Test Year O&M expense reflects I&M's transition of Rockport Unit 2 to a merchant generating resource at the end of 2022, consistent with the Commission's orders in Cause Nos. 45546 and 45576, as well as I&M's continuous focus on managing O&M costs while maintaining the safe and reliable operation of its generating units. I also explain how I&M is managing the end-of-life transition of Rockport Unit 1 for the benefit of I&M's customers. Lastly, I explain certain hydro projects that are necessary to support the ongoing safe operation of these facilities.

III. I&M's Generation Fleet

Q10. What generating units do you discuss in this testimony?

I discuss the coal-fired Rockport Unit 1, six Run-Of-River Hydro facilities, and five Universal Solar Generating sites.

I&M also owns and operates the Cook Nuclear Plant generating facility, which Company witness Ferneau discusses in this proceeding. The terms "generation" and "generating" in my testimony exclude Cook.

Q11. Please describe the Rockport Plant.

I&M's Rockport Plant is located in Rockport, Indiana and consists of two similar, pulverized coal-fired generating units. The nominal net generating capacity of Rockport Unit 1 is 1320 MW, and the nominal net generating capacity of Rockport Unit 2 is 1300 MW. I&M operates both units. Rockport Unit 2 transitioned to merchant status on December 8, 2022. The costs associated with the ongoing merchant operations of Unit 2 are not included in the forecast used in this case.

I&M has a 50% direct ownership share of Rockport Unit 1. I&M's affiliate AEP Generating Company (AEG) has direct ownership of the remaining 50%. I&M purchases 100% of AEG's portion of the output of Unit 1 through a Unit Power Agreement.

Rockport Unit 1 was placed in service in 1984 and has been an efficient and reliable unit that supports Indiana's reliability and resiliency strategic pillars. For over thirty years, the Rockport Plant has achieved low emission rates of nitrogen oxides (NO_X) and sulfur dioxide (SO_2).

Rockport Unit 1 is equipped with: (1) an Electrostatic Precipitator (ESP) for collection of particulate matter (PM, also referred to as fly ash); (2) low-NO_x burners (LNB) with overfire air (OFA) to minimize the formation of NO_x during combustion; (3) Activated Carbon Injection (ACI) for the capture of mercury emissions; (4) enhanced Dry Sorbent Injection (DSI) for the reduction of acid gases and SO_2 removal; and (5) Selective Catalytic Reduction (SCR) technology to reduce NO_X emissions.

Rockport Unit 1 currently consumes approximately 95% to 100% Powder River Basin (PRB) sub-bituminous coal. This high percentage PRB blend results in lower emission rates of SO_2 and NO_x.

Q12. Please explain how I&M plans to manage the end-of-life transition for Rockport Unit 1, which will be retired by the end of 2028.

I&M is taking steps to balance reliability and availability to optimize the potential capacity value for Rockport Unit 1, while closely managing the ongoing capital and O&M requirements over its remaining life. The Company also has a commitment to a Just Transition related to the plant workforce and local community impacts.[1]

[1] Details of AEP's approach to creating a Just Transition can be found at aepcommunitytransition.com.

Q13. Please describe I&M's Run-of-River Hydro units.

Run-of-River Hydro units are power stations situated along a river that utilize the river's flow for generation of power without materially altering the normal course of the river. Consequently, the output of these units is primarily dictated by river flow conditions and varies accordingly. A Run-of-River Hydro unit is advantageous in that it does not utilize a reservoir for power production and therefore has less of an impact on upstream ecosystems. Additionally, Run-of-River Hydro units are renewable energy sources that help to support I&M's sustainability goals and support Indiana's environmental sustainability strategic pillar.

Figure RAJ-1 provides information about I&M's six Run-of-River Hydro facilities.

Figure RAJ-1. I&M Hydro Facilities

Facility Name	Location	Number of Units	MW
Berrien Springs	Berrien Springs, MI	12	7
Buchanan	Buchanan, MI	10	4
Constantine	Constantine, MI	4	1
Elkhart Plant	Elkhart, IN	3	2
Mottville	White Pigeon, MI	4	1.7
Twin Branch	Mishawaka, IN	8	5

These facilities combine for a total of 20.7 megawatts (MW) of installed capacity (ICAP) and consistently produce, on average, approximately 100,000 MWH of emission-free renewable energy annually.

Figure RAJ-2 identifies the license expiration dates for each of I&M's Hydro facilities.

Figure RAJ-2. I&M Hydro Facilities License Expirations

Hydro Facility	Year Installed	License Expiration	Life Span (Years)
Berrien Springs	1908	2036	128
Buchanan	1919	2036	117
Constantine	1921	2053*	132
Elkhart	1913	2030	117
Mottville	1923	2033	110
Twin Branch	1904	2036	132

*Anticipated 30 year extension of current license by FERC

The current operating license for the Constantine Hydro facility, issued to I&M by the Federal Energy Regulatory Commission (FERC), expires September 30, 2023. On September 30, 2021, I&M submitted a license renewal application to FERC. I&M anticipates that FERC will approve the license renewal application and grant a 30-year extension through 2053 for operation of the Constantine Hydro facility.

Q14. Please describe I&M's solar generation.

Figure RAJ-3 provides information about I&M's five Universal Solar facilities.[2]

Figure RAJ-3. I&M Universal Solar Facilities

Solar Facility	Location	In-Service Date	MW
Watervliet	Berrien County, MI	11/10/2016	4.6
Olive	St. Joseph County, IN	8/30/2016	5
Deer Creek	Grant County, IN	3/1/2016	2.5
Twin Branch	St. Joseph County, IN	8/16/2016	2.6
St. Joseph	South Bend, IN	3/31/2021	20

The power output of these units is dictated by the amount of solar energy they are able to receive and transform into electric energy for consumption. Correspondingly, the time of day and the amount of atmospheric interference (e.g., cloud cover) dictate these units' generation output.

Together, I&M's Universal Solar Generating units have an installed capacity of 34.7 MW and provide another renewable energy resource to I&M's generation portfolio, which helps support the Company's sustainability goals, as well as Indiana's environmental sustainability strategic pillar.

IV. Operation and Maintenance Expense

Q15. Please summarize I&M's non-fuel generation O&M expense.

Non-fuel generation O&M expense includes costs associated with the operation, maintenance, administration, and support of I&M's generating units. These costs exclude fuel but include labor, material and supplies, contractor services,

[2] St. Joseph Solar was referred to as South Bend Solar in Cause No. 45245.

consumables, allowances, and other miscellaneous expenses for I&M's Generation Fleet. I support generation work plans, which include Rockport Unit 1, Hydro, and Universal Solar Generation O&M expenses presented in my testimony.

Q16. How is the total amount of O&M expense planned for I&M's Generation Fleet determined?

I&M develops its O&M budget based on the costs that are necessary to maintain ongoing operations plus incremental O&M needs with a focus to optimize O&M costs whenever possible. Company witness Sloan discusses this in further detail.

Ongoing operations costs for I&M's Generation Fleet typically include labor, fringe benefits, consumable materials and chemicals, mandated fees, and other ongoing expenses, and are largely non-discretionary within a given year. Incremental O&M includes the cost associated with unit outages and maintenance at the generating facilities.

Once ongoing operations O&M has been approved, the generation incremental needs are evaluated and prioritized against other business units by I&M management, and the available resources are allocated in order of greatest operational and/or customer benefit.

Q17. Please describe the O&M expense associated with Rockport Unit 1, Hydro, and Universal Solar Generation.

There are four major categories into which Rockport Unit 1, Hydro, and Universal Solar Generation O&M expense is divided. These are:

- BCO (Base Cost of Operations)
- Planned Outages
- Forced and Opportunity Outages

- Non-Outage Maintenance and Inspection (NOMI)

I discuss each in further detail below.

BCO

The largest portion of the Rockport Unit 1 and Hydro Generation O&M expense is the BCO category, which includes costs involved in normal operation and maintenance that are relatively consistent from year-to-year. An example of BCO costs includes maintenance on parts and equipment that is typically routine and predictable, along with their attendant labor costs. Rockport Unit 1 O&M expense, emission allowances, and consumables are other items that would fall under this category. I present allowances and consumables separately in my testimony.

Planned Outages

Planned Outages also represent a significant portion of the Rockport Unit 1 and Hydro Generation O&M expense. Planned outages are outages that can include repair and major overhaul of large systems and components such as the boiler, turbine, or generator. These types of outages are scheduled and planned months or years in advance and often require long lead times on equipment and engineering of new or replacement components.

The O&M costs associated with planned outages can vary significantly from outage to outage, depending on the needs of each individual operating unit, but are necessary to maintain the safe, reliable, efficient, and environmentally compliant operation of Rockport Unit 1 & I&M's Hydro generating units.

Forced and Opportunity Outages

The Forced and Opportunity Outage category includes unplanned outages that require the unit to be taken offline because of an unanticipated event or failure. Forced outages are associated with an immediate impending removal from service. Costs associated with forced outages are influenced by the nature and

cause of the unanticipated event or failure and the necessary repairs to return the unit to service.

Opportunity outages are outages of a short duration scheduled typically just hours or days in advance with the purpose of mitigating an emergent issue. Opportunity outages are only scheduled if allowed by the level of system demand.

NOMI

Lastly, the NOMI category of O&M expense represents maintenance work that can be performed while the generating unit remains in service.

Q18. What is I&M doing to maintain a reasonable level of O&M expense for its Generation Fleet?

I&M is continuously looking for ways to keep its O&M expenses low, without compromising the safe and reliable operation of its units. For example, the current operating profile of Rockport Unit 1 aligns with a market response view compared to its previous role as a base load resource. This allows the Company to manage staffing levels accordingly and has resulted in a reduction in BCO and Planned Outage expenses.

Planned Outage expenses are reduced due to the decreased run time on equipment, which then requires less frequent maintenance. Similarly, fewer service hours lead to reduced BCO expenses in areas such as process chemicals, consumables, and labor.

Q19. Please provide the historical and Test Year levels of Generation O&M expense by category.

Figure RAJ-4 provides the historical and Test Year Generation Total Company O&M expense, by category. The values below reflect operational expenses only:

Figure RAJ-4. Historical & Test Year Generation O&M Expense by Category ($000)

O&M Type	Generation O&M Category	2022	Test Year
Rockport Generation O&M Expense[3]	BCO	$88,442	$13,272
	Planned Outage	$3,156	$116
	NOMI	$466	$0
	Forced and Opportunity Outage	$1,243	$500
	Allowances	$190	$3,092
	Consumables	$17,536	$6,809
	Total	**$111,033**	**$23,789**
Hydro Generation O&M Expense	BCO	$2,504	$2,459
	Planned Outage	$85	$605
	NOMI	$990	$7,083
	Forced and Opportunity Outage	$96	$0
	Total	**$3,676**	**$10,147**
Solar Generation O&M Expense	BCO	$276	$170

Q20. Please explain the difference in Fossil (Steam) Generation O&M expense between 2022 and the Test Year.

The Fossil (Steam) Generation O&M Expense is forecasted to be lower in the Test Year as compared to 2022 mainly because the Test Year does not include Rockport Unit 2, which changed to merchant status on December 8, 2022. The BCO category reflects the largest decrease, as the Test Year total excludes the Unit 2 lease cost. Allowance expenses[4] are higher in the Test Year due to the

[3] The "2022" expenses include Rockport Unit 2 expenses for the period January 1 through December 7. "Test Year" expenses only include Rockport Unit 1.

[4] I&M uses emission allowances to comply with Title IV of the Clean Air Act Amendments and the U.S. Environmental Protection Agency's Cross-State Air Pollution Rule (CSAPR)

Commission's approval in Cause No. 45576 to amortize I&M's non-current SO_2 allowances over a 6-year period.

Q21. What consumables are included in the Test Year fossil O&M expense?

I&M has installed DSI control technology and has an existing ACI system on Rockport Unit 1 to meet emission limitations required by the Mercury and Air Toxics Standards (MATS) Rule. The DSI and ACI systems inject sodium bicarbonate and activated carbon, respectively, into the flue gas stream, allowing the Rockport Plant to remove hazardous acid gases and mercury for compliance with the MATS Rule.

Additionally, I&M has installed SCR technology to further reduce NO_X emissions. As part of the SCR process, anhydrous ammonia is vaporized and injected into the flue gas where, in the presence of the SCR catalyst, it reacts with the NO_X, transforming it into nitrogen, an inert gas, and water.

These three consumables (sodium bicarbonate, activated carbon, and anhydrous ammonia) are included in the Test Year Fossil (Steam) Generation O&M expense identified in *Figure RAJ-4* above. Since Rockport Unit 2 transitioned to a merchant unit effective December 8, 2022, no consumables O&M expense is included in the Test Year for Unit 2.

Q22. What factors cause variation in I&M's consumables expense?

Figure RAJ-5 shows I&M's Total Company annual consumables expense for Activated Carbon, Sodium Bicarbonate, and Anhydrous Ammonia for historical years 2019-2022, as well as for forecasted years 2023 and 2024.

Figure RAJ-5. I&M Annual Consumables Expense ($000)

Year[5]	Activated Carbon	Anhydrous Ammonia	Sodium Bicarbonate	Total
2019	$1,837	$181	$7,919	$9,937
2020	$897	$178	$6,095	$7,170
2021	$1,136	$385	$8,240	$9,761
2022	$2,571	$1,037	$13,928	$17,536
2023	$1,065	$668	$5,620	$7,353
2024	$1,370	$580	$4,859	$6,809

Figure RAJ-5 demonstrates that the operational cost of the consumables used at Rockport vary significantly over time. The largest drivers of variability are PJM market prices and the fuel mixture. As with fuel usage, usage rates of consumables at Rockport vary significantly depending on several factors, including generating unit output, coal blend being fired, and emission removal targets. During 2022, market energy prices were considerably higher than previous years and forecasted years which increased production at Rockport, the amount of consumables required to operate the plant, and the associated cost.

Activated carbon expense increases in 2024 as the market for this product is expected to strengthen compared to 2023 due to competing demand from the water filtration industry.

The generating unit output, which is determined by unit outages, weather, grid demand, power prices, and other factors, will directly impact the amount of air emissions in the flue gas and require varying amounts of consumables.

Additionally, I&M makes an effort to manage its dispatch costs for the benefit of customers, but there are many factors outside our control that impact the price

[5] Years 2019 - 2022 include both Rockport Unit 1 and Unit 2 expenses, Years 2023 and 2024 only include Rockport Unit 1 expenses.

of energy in PJM that ultimately impacts Rockport's dispatch and volume of consumables.

Likewise, different coal blends fired at Rockport will result in different levels of air emissions in the flue gas. Low sulfur blends will result in lower NO_X and SO_2 levels in the flue gas, while higher sulfur blends will result in higher NO_X and SO_2 levels in the flue gas. The different air emissions quantities caused by varying coal blends require alternate injection rates of consumables.

Further, as environmental rules are modified or enacted, air emissions removal targets for the Rockport Plant will potentially vary, impacting the rate of consumables required to meet the targets.

Q23. Are allowance costs largely outside of I&M's control and potentially significant?

Yes, similar to consumables costs, the allowance-related costs I&M incurs vary based on the dispatch of both Rockport Units (I&M costs are only for Unit 1 after December 8, 2022). This dispatch is largely determined by PJM, based on market energy prices and local needs for generation support, which is largely outside the control of I&M.

Additionally, future changes in environmental regulations such as the regulation of carbon could cause significant increases in annual allowance costs. Company witness Gruca discusses I&M's proposal to continue to track allowance costs along with consumables costs in the Environmental Compliance Rider.

Q24. Please explain the difference in Hydro Generation O&M expense NOMI category between 2022 and the Test Year.

The increase in the Hydro Generation O&M expense NOMI category for the Test Year is driven by the Twin Branch tainter gate repair project. Concrete repairs are necessary to restore the cross-section stiffness and allow proper

operation of these gates. The tainter gates serve the purpose of a flood gate, and proper operation is necessary to control the river level to the proper height. As also discussed by Company witness Baker, this project is required by FERC to ensure that the facility remains safe for I&M and the public, and a reliable generation resource going forward.

Q25. Is the Test Year O&M expense representative of I&M's expected activities and expenses necessary to provide ongoing safe and reliable generation to its customers?

Yes. I&M has a long history of safely and reliably operating its Generation Fleet, which allows for experienced forecasting of O&M expenditures.

These generation O&M expenses have been scrutinized at the plant, operating company, and corporate levels, and are representative of the level of O&M expense necessary to continue providing on-going safe, reliable, resilient, stable, and environmentally compliant electric generation to I&M's customers.

V. Capital Expenditures

Q26. What is the Capital Forecast Period considered in this filing?

The projected period with respect to capital investment (Capital Forecast Period) is the period from January 1, 2023 through December 31, 2024. The Capital Forecast Period includes all of the Company's projected generation capital expenditures in 2023 and 2024.

The investment outlined in this testimony relates to the work plans I&M developed to manage its Generation Fleet. This level of capital is included in the Capital Forecast presented by Company witness Sloan.

Q27. How is the total amount of capital investment to be made in I&M's Generation Fleet determined?

As discussed by Company witness Sloan, I&M bases its investment on work plans developed by the Company and vetted through multiple analyses. I&M employees work collaboratively with AEPSC's Environmental, Engineering, and Project Management teams to evaluate the needs of each generating unit to maintain reliability, safety, environmental compliance, and other unit performance parameters.

The timing of capital investments depends on economic evaluations between competing projects and regulatory, safety, environmental, or reliability requirements. All of these factors serve as inputs to the capital projects approval process for I&M's Generation Fleet.

Q28. What is the amount of capital forecasted to be invested in the Company's Generation Fleet during the Capital Forecast Period?

Figure RAJ-6 establishes that I&M has forecast Total Company generation capital expenditures during the Capital Forecast Period of approximately $49.8 million.

Figure RAJ-6. I&M Generation Capital Expenditures ($000, excluding AFUDC)

Category	2023	2024	Total
Major Projects	$13,279	$22,253	$35,532
Other Capital Investments	$8,593	$5,713	$14,306
Total	$21,872	$27,965	$49,838

Q29. Are there any Rockport Unit 1 Environmental Compliance projects greater than $1 million during the Capital Forecast Period?

Yes. A Coal Combustion Residual Rules (CCR) Environmental Compliance project was included in the capital forecast. The CCR Compliance project involves the development and implementation of a comprehensive plan for Rockport plant compliance with the CCR. I&M 2023-2024 Total Company Capital Expenditures (excluding AFUDC) for the CCR project are approximately $6.822 million.

Q30. What is the amount of Electric Plant in Service to be invested in the Company's Generation Fleet during the Capital Forecast Period?

Figure RAJ-7 establishes that I&M forecasts approximately $67.7 million of Total Company generation capital (including AFUDC) to be placed in service during the Capital Forecast Period.

Figure RAJ-7. Generation Additions to Electric Plant in Service ($000, incl. AFUDC)

Category	2023 - 2024
Major Projects	$44,535
Other Capital Investments	$23,126
Total	$67,661

Q31. Please summarize the type of capital expenditures forecasted for the Generation Fleet during the Capital Forecast Period shown in Figure RAJ-7.

In the Major Projects category, I have included all generation capital projects with capital expenditures exceeding $1 million during the Capital Forecast Period. I describe these in detail below.

The Other Capital Investment category includes capital expenditures associated with multiple smaller projects. Each project is summarized in a Project Life File (Capital Forecast by Project), included as WP-SAS-9 to Company witness Sloan's testimony.

The projects in the Other Capital Investment category represent the type of continuous investment that is necessary to maintain the availability and reliability of the generating units. These planned projects are reasonable and should be included as typical projects in a typical year.

Q32. Please identify the in-service generation projects with capital expenditures greater than $1 million during the Capital Forecast Period.

Figure RAJ-8 shows generation projects that will involve capital expenditures greater than $1 million during the Capital Forecast Period. It excludes projects that will involve capital expenditures greater than $1 million during the Capital Forecast Period but will be placed in service after the Test Year. These costs include AFUDC and present I&M's ownership share of the investment.

Figure RAJ-8. I&M Generation Major Project Capital Expenditures ($000)[6]

	Project Title	In-Service	2023-2024	Total Cost[7]
1	000021635: RK U1 CCR Compliance	Aug-23	$3,914	$6,822
2	EKH000128: Elkhart Spillway Cut Off Wall	Nov-24	$16,093	$19,523
3	EKH000101: EKH U2 CAPITAL UPGRADE	May-23	$1,087	$1,087
4	TBH000422: TBH Spillway Stabilization	Dec-24	$16,487	$17,103

Q33. Please summarize the projects identified in Figure RAJ-8.

The following projects have been or will be placed in service during the Capital Forecast Period:

- *Project 1 – Rockport Unit 1 CCR Compliance.* This project is for compliance with the CCR, and the cost shown in *Figure RAJ-8* are Unit 1's allocated share of the project costs. Rockport operates the following coal combustion storage units that are subject to the CCR Rule: bottom ash pond complex and landfill. The facility has implemented processes to comply with all CCR Rule obligations related to the handling and storage of coal combustion residuals. This includes groundwater monitoring, site inspections, emergency action plans, and a comprehensive program for complying with the administrative and external communication requirements of the rule. U.S. Environmental Protection Agency revisions to the CCR Rule in 2020 require ash storage ponds that are unlined or that meet certain location restrictions, including the bottom ash pond complex, to cease

[6] Total Company, including AFUDC.

[7] Total project cost through end of Capital Forecast Period.

operation and commence closure as soon as possible. To comply with these requirements, the east bottom ash pond is being retrofitted to meet CCR Rule design requirements and the west bottom ash pond will be closed.

- *Project 2 – Elkhart Spillway Cutoff Wall*. Structural stability improvements are needed at the 107-year-old Elkhart Hydro dam to address safety concerns and comply with a regulatory mandate from FERC. The structural deficiencies are creating an uplift on the base of the dam, creating a potential for the structure to overturn, contributing to a declined and unacceptable factor of safety. The remediation project consists of a steel sheet pile cut-off wall and a new concrete apron. This option was selected because the construction materials and techniques provide a durable solution to improve the stability of the structure to meet the FERC required factor of safety. The improvements are forecasted to be placed in service in November 2024 at a total cost of $19.5 million (including AFUDC).
- *Project 3 – Elkhart Unit 2 Capital Upgrade.* This project is for Elkhart Hydro Unit 2 runner replacement. Elkhart U2 is currently a camelback-type (Francis Turbine) unit with a Westinghouse generator. All equipment is original (circa 1913). This unit will be replaced with (2) Flygt units to make them identical to the majority of the other units in I&M. The (2) new Flygt units will increase our power output for U2 from about 1MW to 1.2MW (each unit is 600KW).
- *Project 4 – Twin Branch Spillway Stabilization*. The Twin Branch spillway stabilization work is necessary to address safety concerns and comply with a mandate from FERC to remediate the issue. Soil-filled timber cribbing in rollway sections and the north abutment are vulnerable to internal erosion. Over time, internal erosion creates voids; the air-filled voids are conducive to timber decay. The presence

of voids results in a reduction of mass and timber decay results in reduced strength. Based on seepage velocity measurements, soil testing and timber crib analysis, the current state of internal erosion at Twin Branch is advanced. These conditions require I&M to improve the stability of the dam structures to meet FERC safety requirements. This will be remedied with new rollway caps supported by micropiles to reduce reliance on the 120-year-old timber cribbing elements. The work is projected to be completed in December of 2024 at a cost of $17.1 million (including AFUDC).

Company witness Baker discusses additional considerations for the Elkhart Spillway Cutoff wall and Twin Branch Spillway Stabilization projects.

Q34. Is I&M seeking any state or federal funds to help pay for the dam improvement projects?

Yes. The Company is in the process of submitting applications for funding to the Department of Energy through Section 247 of the amendments to the Energy Policy Act of 2005. These amendments are part of the Infrastructure Investment and Jobs Act, or IIJA. Section 247, among other things, identifies improvements to dam safety as eligible projects for which funding may be granted. For more detail on the Company's grant applications, see the testimony of Company witness Osterholt. Company witness Seger-Lawson describes how grant funds received will be treated for ratemaking purposes.

Q35. Is the forecasted level of capital expenditures reasonable and necessary?

Yes. The forecasted level of capital expenditures is reasonable and necessary in order for I&M to be able to continue to provide safe, reliable, resilient, and stable power to our customers. Additionally, the forecast level of capital investment includes the necessary funds to keep the Company's Generation

Fleet in compliance with evolving regulatory environmental and safety requirements.

VI. Coal Inventories

Q36. What are the projected coal inventories for 2023 and 2024?

Figure RAJ-9 shows I&M's yearly Total Company coal inventory for forecast years 2023 and 2024. I&M's forecasted coal inventory balances reflect the expected change in inventory due to forecasted coal deliveries and consumption from 2022 through the Test Year. Delivery requirements are determined by taking into consideration inventory, forecasted consumption, and any contingencies that would necessitate the increase or decrease in inventory level. The amount of coal projected to be consumed is based on load and market energy price forecasts for those years.

Figure RAJ-9. I&M Coal Inventory Values ($000s)

2022 Ending Balance	$ 23,265
Change in Inventory	$ 18,817
2023 Ending Balance	$ 42,082
Change in Inventory	$ 18,740
2024 Ending Balance	$ 60,822

Q37. Please explain why the coal inventory values have increased from 2022.

The coal and energy markets have experienced significant volatility since 2021, which has influenced the price and supply of coal and coal inventory balances. I&M's forecasted coal commitments for 2023 and 2024 reflect purchases that were made in 2021 and 2022 when forecasted consumption was higher due to forecasted load and market energy prices. However, in late 2022 through the

current time, natural gas prices have experienced a significant decline which has resulted in much lower forecasted load and energy prices and as a result forecasted coal consumption is lower. The combination of these factors over time has led to a forecasted increase in coal inventory balances.

Q38. Are I&M's coal inventories reasonable as projected during the Forecast Period?

Yes. Volatility in the coal inventory balances is not uncommon for I&M and other utilities. I&M has and continues to prudently manage its coal supplies in a manner to reduce overall fuel costs, manage its inventory position, and monitor conditions in the market.

Q39. Does this conclude your pre-filed verified direct testimony?

Yes.

VERIFICATION

I, Robert A. Jessee, Managing Director – Generating Assets for Indiana Michigan Power Company and Kentucky Power Company, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

Date: July 21st, 2023

Robert A. Jessee