BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

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| IN THE MATTER OF IDAHO POWER COMPANY'S APPLICATION FOR AUTHORITY TO INCREASE ITS RATES FOR ELECTRIC SERVICE TO RECOVER COSTS ASSOCIATED WITH THE NORTH VALMY POWER PLANT. | ) | CASE NO. IPC-E-19-08 |

IDAHO POWER COMPANY

DIRECT TESTIMONY

OF

TOM HARVEY

Q. Please state your name, business address, and present position with Idaho Power Company ("Idaho Power" or "Company").

A. My name is Tom Harvey and my business address is 1221 West Idaho Street, Boise, Idaho 83702. I am employed by Idaho Power as the General Manager of Power Supply, Planning and Operations in the Power Supply Department.

Q. Please describe your educational background.

A. I have a Bachelor of Business Administration in business management from Boise State University. I also attended the University of Idaho's *Utility Executive Course* in 2011.

Q. Please describe your work experience with Idaho Power.

A. I was hired by Idaho Power in July 1980 to work in the Plant Accounting Department. From 1985 through 2009, I was the Fuels Management Coordinator and then was promoted to the Joint Projects Manager. In April 2015, I was promoted to Resource Planning and Operations Director. In January 2018, I was promoted to my current position, General Manager of Power Supply, Planning and Operations in the Power Supply Department. My current responsibilities include supervision over Idaho Power's jointly owned coal

assets, integrated resource planning, load serving operations, and merchant activities.

Q. What is the purpose of your testimony in this case?

A. The purpose of my testimony is to discuss the results of successful negotiations between Idaho Power and Sierra Pacific Power Company d/b/a NV Energy ("NV Energy") by describing the provisions of the North Valmy Project Framework Agreement between NV Energy and Idaho Power dated as of February 22, 2019 ("Agreement"). I will discuss how those provisions clarify the respective rights and obligations of Idaho Power and NV Energy ("Party" or collectively, the "Parties") with respect to the continued operation, retirement, and decommissioning of the Valmy plant or the units thereof, resulting in benefits for Idaho Power's customers. I will also present an evaluation of the economics of a Unit 2 closure supporting a December 31, 2025, end-of-life date. Finally, I will discuss the prudence of investments made at the Valmy plant that have added to the associated plant balances since the Company's last request to update Valmy plant balances became effective on June 1, 2017, and to inform the Idaho Public Utilities Commission ("Commission") of necessary future investments at the plant to ensure Unit 1 and Unit 2

continue to be available for reliable load service through the end of 2019 and 2025, respectively.

Q. Please describe the Valmy plant.

A. Valmy is a coal-fired power plant that consists of two units and is located near Winnemucca, Nevada. Unit 1 went into service in 1981 and Unit 2 followed in 1985. Idaho Power owns 50 percent, or 284 megawatts[1] ("MW") (generator nameplate rating), of Valmy. NV Energy is the co-owner of the plant with the remaining 50 percent ownership and operates the Valmy facility. The Parties work jointly to make decisions regarding Valmy. The plant is connected via a single 345 kilovolt transmission line to the Idaho Power control area at the Midpoint substation. Idaho Power owns the northbound capacity and NV Energy owns the southbound capacity of this line.

Coal for Valmy is shipped via railroad from various mines in Utah, Wyoming, and Colorado. The power plant uses a variety of emissions control technologies, including state-of-the-art fabric filters that remove more than 99 percent of particulate emissions. Additionally, a dry sorbent injection system has been installed on Unit 1 to reduce acid gas emissions and flue-gas scrubber

[1] For planning purposes, Idaho Power uses the net dependable capability of 262 MW.

technology is utilized on Unit 2 for the reduction of sulfur dioxide emissions.

Q. Please describe the current agreements under which NV Energy and Idaho Power own and operate Valmy.

A. Currently, the ownership and operation of Valmy is dictated by three agreements: the Agreement for the Ownership of the North Valmy Power Plant Project ("Ownership Agreement"), the Agreement for the Operation of the North Valmy Power Plant Project ("Operation Agreement"), both of which are dated December 12, 1978, and the North Valmy Station Operating Procedures Criteria, dated as of February 11, 1993, between Idaho Power Company and Sierra Pacific Power Company, as amended by Amendment No. 1 to the Operating Procedure Criteria for Valmy Coal Diversion Procedures and Usage, dated as of January 1, 2012 (collectively, the "Existing North Valmy Agreements"). The Ownership Agreement sets forth Idaho Power's ownership rights and interests in the Valmy plant while the Operation Agreement assigns NV Energy as the operator of the Valmy plant while also setting forth operating decision procedures, operating expense payments, and the annual budgeting process, among other terms and conditions. The Existing North Valmy Agreements have provided the Parties the basis for owning and operating the Valmy plant for over 40 years.

## I. THE AGREEMENT

Q. Do the Existing North Valmy Agreements offer NV Energy or Idaho Power the ability to end participation in a Valmy unit?

A. No. While the Ownership Agreement provides for cessation of operations under a variety of scenarios, none contemplate a scenario in which one party chooses to exit one or both units during the time the other party wishes to continue operations.

Q. Please provide an overview of the provisions of the Agreement.

A. As described in the testimony of Company witness Matthew T. Larkin, the Agreement, included as Exhibit No. 2 to my testimony, clarifies the respective rights and obligations of the Parties with respect to the continued operation, retirement, and decommissioning of the Valmy plant or the units thereof. The Agreement sets forth provisions that:

- Allow for the termination of participation in a unit and the retirement of a unit;
- Include the election to retire or continue to operate and the associated decommissioning study, decommissioning fee, and final exit;
- Set forth decommissioning governance;

- Detail decommissioning activities during the interim period;
- Provide for a decommissioning plan;
- Establish a decommissioning budget, dispute, and payment processes; and
- Contain representation and warranties of the Parties, describe defaults, and incorporate other miscellaneous terms.

It also provides for a contractual mechanism by which Idaho Power may meet its obligations pursuant to Order No. 33771 in Case No. IPC-E-16-24 in which Idaho Power agreed[2] to use prudent and commercially reasonable efforts to reach an agreement with NV Energy to amend the Existing North Valmy Agreements to provide for the cessation of Idaho Power's coal-fired operations, or participation thereof, at Valmy.

**A. <u>Termination of Participation in a Unit; Retirement of a Unit</u>.**

Q. What are the termination of participation and retirement of a unit provisions set forth in the Agreement?

[2] *In the Matter of the Application of Idaho Power Company for Authority to Increase Its Rates for Electric Service to Recover Costs Associated with the North Valmy Plant*, Case No. IPC-E-16-24, Settlement Stipulation and Motion to Approve Settlement Stipulation signed by Idaho Power, commission Staff, the Idaho Irrigation Pumpers Association, Inc., Micron Technology, Inc., the U.S. Department of Energy and Federal Executive Agencies, the Idaho Conservation League, Sierra Club, and the Industrial Customers of Idaho Power (filed May 3, 2017)("Settlement Stipulation"). The Settlement Stipulation was approved by Commission Order No. 33771 (May 31, 2017).

A. Article III gives each Party the right to elect to terminate participation in a unit, an option not available in the Existing North Valmy Agreements. If a Party desires to exit a unit, that party (the "Exiting Participant") must provide the remaining participant written notice no less than 15 months prior to the proposed exit date. The exit notice shall indicate whether or not the Exiting Participant intends to retain ownership of its ownership interests and liabilities with respect to the unit and confirm that the Exiting Participant foregoes its right to all output and productive uses of the unit upon exit of the unit. Upon receipt of the exit notice, the remaining participant has the right to elect to retire such unit at any point from and after the proposed exit date and must provide notice to the Exiting Participant of such election on or before 90 days prior to the proposed retirement date.

Q. Has the Company provided NV Energy an exit notice for Unit 1 pursuant to the terms of the Agreement?

A. Yes. Article III acknowledges that Idaho Power's prior notice to NV Energy of its desire to exit Unit 1 on December 31, 2019, contained in the Term Sheet dated December 27, 2017, constitutes a valid exit notice.

Q. What happens to Idaho Power's share of the output from a unit upon Idaho Power's cessation of participation in operation of that unit?

A. Pursuant to Section 3.1.4, if NV Energy does not elect to retire a unit when the Company exits participation of that unit, Idaho Power's ownership percentage share of the output of the unit will no longer be available to either Party. Should inadvertent use of an Exiting Participant's output occur at a unit, an inadvertent output operations fee will be assessed. Exhibit C, Unit Operation Limitations and Controls, of the Agreement describes the means and methods to limit the net capacity of a unit after a party has exited participation in the operation of that unit.

Q. Would Idaho Power be responsible for any costs associated with the operation of Valmy upon exiting a unit?

A. Yes. As Mr. Larkin mentioned in his testimony, the Agreement sets forth payment obligations associated with a Party's exit from participation in operation of a Valmy unit, which obligations are described in Exhibit A of the Agreement. Under the Agreement, the Company would be responsible for the applicable exit fees and its portion of shared costs until the earlier of the retirement date of the unit or December 31, 2025. In addition, Idaho Power remains responsible for its share of

the applicable decommissioning costs, or those liabilities, costs, and expenses arising from activities that occurred prior to exit of the unit. The Company would not, however, be responsible for the following costs arising after exit from the unit: operating expenses, fuel-related costs, costs of capital additions, or any new fixed or variable costs, associated with such unit.

Q. Company witness Mr. Larkin discussed the exit fee and shared costs. Please describe these costs detailed in Exhibit A of the Agreement.

A. The exit fee and shared costs, or collectively "Project Costs," are an Exiting Participant's contractual payment obligations for the Valmy plant and both categories of costs represent ongoing Valmy-related costs that the Exiting Participant would have been responsible for under the Existing North Valmy Agreements. The exit fee is a fixed dollar amount that was calculated based upon (1) negotiated expected labor costs for maintenance on the exited unit, (2) non-labor fixed operations and maintenance ("O&M") costs for the exited unit, and (3) government-mandated fixed O&M costs for the exited unit.

Shared costs are those known, ongoing plant-related payment obligations that exist regardless of a decision to exit from a unit. Shared costs include the actual common facility fixed O&M costs, non-exited unit fixed O&M costs,

and fuel handling fixed O&M expenses in accordance with the Existing North Valmy Agreements. An Exiting Participant is responsible for 50 percent of the shared costs.

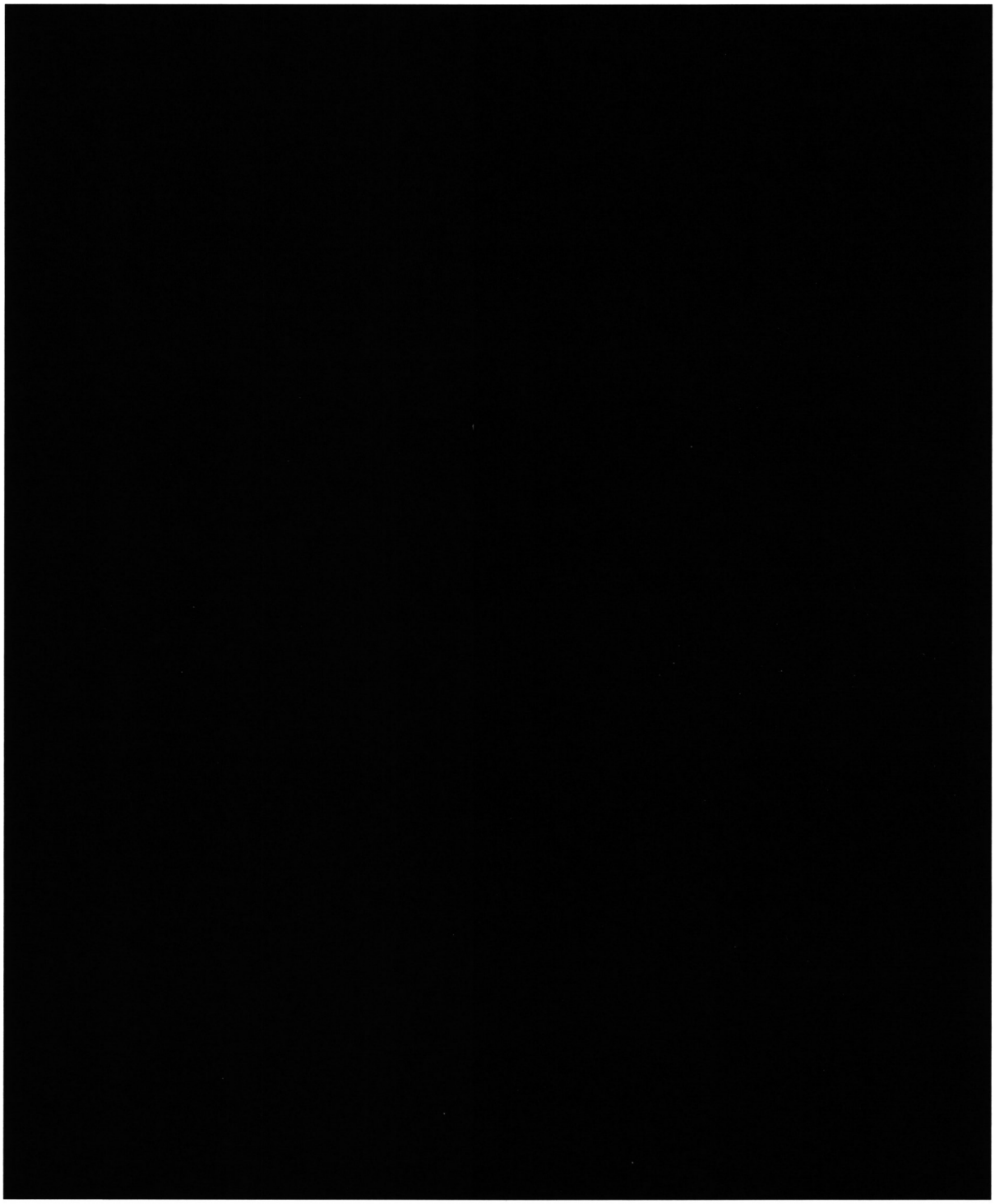
Q. Will either of the Project Costs change over time?

A. The exit fee will not change over time, except in the event a unit is retired on or prior to December 31, 2025, at which time the exit fee may cease, or in the event that the exit date for the exited unit occurs after January 1 of the exit year, when the exit fee is proportionately reduced. Because the shared costs are based on actual expenses, they change each month.

Q. What is the amount of the annual exit fee that Idaho Power will be responsible for assuming the Company exits from participation in Unit 1 operations at December 31, 2019?

A. The below Table 1, included as Table A-1 in Exhibit A of the Agreement, summarizes the exit fee and shared costs Idaho Power would be responsible for under the current assumption that the Company ceases participation in operations of Unit 1 on December 31, 2019, but remains a participant in Unit 2 operations until December 31, 2025.

**Table 1. Exiting Participant Exits Unit 1 and Remains in Unit 2**



Q. If NV Energy ceases operations of Unit 1 on December 31, 2021, would the exit fees listed in Table 1 cease?

A. Yes. If NV Energy continued to operate Unit 1 through December 31, 2021, as current publicly available sources[3] suggest, Idaho Power's exit fee obligations would cease on that date. Shared cost obligations however would continue as long as Unit 2 was in operation, or until December 31, 2025, whichever is earlier.

Q. When are the exit fees and shared costs paid?

A. The first exit fee is payable on or prior to the exit date for a unit, and annually on or before December 1 of each year thereafter. Shared costs are paid monthly in accordance with the Existing North Valmy Agreements.

Q. Are there any other costs Idaho Power would be responsible for with respect to the Valmy plant that are not a component of the exit fees or shared costs?

A. Yes. In accordance with the Existing North Valmy Agreements, Idaho Power is obligated to pay its ownership percentage share of capital projects required for

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[3] *Joint Application of Nevada Power Company d/b/a NV Energy and Sierra Pacific Power Company d/b/a NV Energy for approval of their 2019-2038 Triennial Integrated Resource Plan and 2019-2021 Energy Supply Plan*, Docket No. 18-06003 (December 21, 2018).

operation of the plant's common facilities[4] and any capital projects specific to units it has not exited. In addition, the Company is responsible for its ownership percentage share of materials and supplies purchased and used in the sole operation of any unit it has not exited, and coal and diesel fuel consumed in the operations of any unit it has not exited.

Q. You indicated earlier that upon receipt of an exit notice, the remaining participant has the right to elect to retire such unit. Has NV Energy provided notice that it intends to retire Unit 1 upon Idaho Power's exit on December 31, 2019?

A. No. However, under the provisions of the Agreement, should NV Energy choose to retire a unit, exit fees for such unit will cease upon retirement.

**B. Election to Retire or Continue to Operate; Decommissioning Study, Decommissioning Fee, Final Exit; Decommissioning Activities During Interim Period.**

Q. At this time, Idaho Power expects to cease operations of both units by December 31, 2025, and NV Energy's Integrated Resource Plan ("IRP") suggests that it has similar timing. When will decommissioning activities begin?

[4] Excluding common facility projects that are solely attributable to production, which Idaho Power will be billed at a rate equal to the applicable revised net capacity after exit of a unit.

A. Under the provisions of the Agreement, a remaining participant will provide notice to an Exiting Participant as to whether or not the remaining participant will retire the units on December 31, 2025, or continue to operate them beyond December 31, 2025. If the remaining participant chooses to continue to operate, within 30 days from the notice, the Exiting Participant has the right to elect to (1) follow the decommissioning provisions in Articles VII and VIII of the Agreement, which allow for decommissioning activities to occur under a decommissioning committee structure or (2) in the alternative, jointly undertake the development of a decommissioning study with the option to pay the remaining participant a one-time decommissioning payment equal to 50 percent of the total decommissioning costs as described in Section 4.3 of the Agreement. Either option would satisfy an Exiting Participant's obligations to pay decommissioning costs.

Q. Under the one-time decommissioning payment structure, once that decommissioning payment is made, is the Exiting Participant responsible for any other decommissioning costs?

A. After payment of the decommissioning fee, the only other decommissioning-related costs would be for costs that were unknown at the time of payment, including costs that (1) were not the type described in the decommissioning

study, (2) were not known to the remaining participant at the time the decommissioning study was completed, (3) were not reasonably foreseeable by a plant operator, and (4) were not due to actions of the remaining participant after the Exiting Participant's exit date for a unit.

Q. What would happen to Idaho Power's ownership rights in the Valmy plant if NV Energy continued to operate a unit or units after year-end 2025?

A. If NV Energy continued to operate either unit after December 31, 2025, Idaho Power's ownership interests in the Valmy plant would be terminated by the conveyance to NV Energy via an asset purchase agreement in form and substance mutually accepted by both Parties, releasing the Company of liability for future claims[5] with respect to the Valmy plant.

Q. What will occur if the notice to the Exiting Participant indicates the Valmy units will be retired on December 31, 2025?

A. If the remaining participant notifies the Exiting Participant that it will retire the units on December 31, 2025, then the Parties will begin the establishment of a decommissioning plan and a

[5] Idaho Power would continue to be liable for unknown Decommissioning Costs as defined in the Agreement and set forth in Section 4.3.3, liabilities due to events that occurred prior to the date which it exited a unit, and certain types of liabilities that by law cannot be disclaimed via contract.

decommissioning budget, a dispute process, and a payment process as described in Articles VII and VIII of the Agreement.

Q. Does the Agreement provide an avenue for decommissioning activities to occur on Unit 1 once the unit is no longer in operation?

A. Not necessarily. However, if any decommissioning activities are undertaken during the period between cessation of Unit 1 operations and the complete cessation of the Valmy plant, those activities would be subject to the Retirement Guidelines included as Exhibit B to the Agreement. The Retirement Guidelines were prepared by the Parties and are intended to identify the primary work scope components necessary to complete the retirement of the Valmy plant in accordance with the Existing North Valmy Agreements.

**C. Decommissioning: Governance; Plan; Budget; Disputes; Payments.**

Q. Please describe the establishment of the decommissioning plan that will commence once both units are retired.

A. The decommissioning plan will determine the current federal and state requirements under law, if any, for decommissioning Valmy and estimate the cost of decommissioning. This plan will serve as a foundation for,

and describe in reasonable detail, the decommissioning activities proposed to be performed under the direction of the decommissioning agent or the decommissioning committee.

Q. What is a decommissioning agent?

A. A decommissioning agent is responsible for performing decommissioning activities assigned by the decommissioning committee. In accordance with Article V of the Agreement, NV Energy is appointed as the decommissioning agent.

Q. Please describe the decommissioning committee.

A. The decommissioning committee consists of one appointed representative of each Party. The committee will oversee the performance of the decommissioning agent, including decommissioning activities and the identification thereof. The functions and responsibilities of the decommissioning committee include the review, and approval or rejection of, (1) the decommissioning plan proposed by the decommissioning agent, (2) any changes to the Retirement Guidelines, (3) each annual decommissioning budget, (4) any changes to the scope of decommissioning activities or incurrence of additional decommissioning costs proposed by the decommissioning agent, (5) the reports submitted by the decommissioning agent regarding interim decommissioning activities, and (6) proposed decommissioning costs or increases in the decommissioning

budget in excess of the amounts identified in Exhibit E of the Agreement.

In addition, the decommissioning committee will be responsible for determining each Party's decommissioning share pursuant to the Agreement and determining when the decommissioning activities and the decommissioning have been completed. The decommissioning agent will monitor budgets and schedules for the decommissioning activities and approve all proposed changes to the budgets or schedules for the decommissioning activities.

Q. With representation from both NV Energy and Idaho Power, how is approval of a request from the decommissioning agent decided?

A. Any actions or determinations brought to the decommissioning committee require a unanimous vote by both members.

Q. You indicated the decommissioning budget is prepared annually and presented to the decommissioning committee for approval or rejection. Is there a process in place for disputes to components of the decommissioning budget?

A. Yes. Once the budget is received from the decommissioning agent, the decommissioning committee may provide written notice to the decommissioning agent of any activities or costs within the decommissioning budget that

it disputes. The written notice must contain supporting documentation to show the basis for the dispute. The decommissioning agent may then revise the decommissioning budget and resubmit it to the decommissioning committee.

Q. Are decommissioning payments made based on the annual decommissioning budget?

A. Yes. Idaho Power would be responsible for making its payment of the Company's ownership percentage share of the annual decommissioning costs on or before January 15 and July 1 of the budget year. During that budget year, on a monthly basis, the decommissioning agent will submit to the decommissioning committee a comparison of monthly and year-to-date actual and budgeted decommissioning costs. The decommissioning agent will true-up the total decommissioning costs paid on or before March 1 of the year following the budget year.

Q. Does the Agreement allow for a review of the actual expenditures once the decommissioning activities have been completed and payment has been made?

A. Yes. Following the true-up of the decommissioning costs billed for the prior budget year, either Party may perform an audit of the expenditures. Each party has 12 months to dispute any portion of the decommissioning costs.

Q. Are there any other provisions of the Agreement you have not discussed?

A. Yes. In addition to the provisions described earlier in my testimony, the Agreement contains representation and warranties of the Parties, describes defaults, and incorporates other miscellaneous terms.

Q. Please provide an overview of the provisions of the Agreement.

A. The Agreement provides for a mechanism by which either Party can cease participation in Valmy operations and sets forth the terms by which decommissioning of the plant is to occur, which was not provided for in the Existing North Valmy Agreements and affords Idaho Power a contractual mechanism by which the Company may meet its obligations pursuant to Order No. 33771.

## II. VALMY UNIT 2 CLOSURE ANALYSIS

Q. Order No. 33771 requires that the Company continue to conduct Unit 2 closure analyses. Has Idaho Power performed any analyses evaluating an earlier retirement date for Unit 2?

A. Yes. First, in accordance with the Settlement Stipulation approved in Order No. 33771, Idaho Power is evaluating the economics of a Unit 2 retirement as part of the Company's 2019 IRP. The 2019 IRP is currently in the

development phase, and therefore a discussion of the results is premature. The Company expects to have preliminary results of this analysis no later than the end of March.

However, the provisions of the Agreement, specifically Article III, Termination of Participation in a Unit; Retirement of a Unit, set forth the Parties' contractual payment obligations, which provide insight into the economics of a Unit 2 closure. As I discussed earlier in my testimony, Article III defines the effects of a Party's notice of exiting a unit and the associated fee schedule, as set forth in Exhibit A to the Agreement. This fee schedule, in combination with the Existing North Valmy Agreements, indicate that it is unlikely there would be any economic benefit associated with the exit of Unit 2 prior to December 31, 2025.

Q. Please explain this further.

A. As discussed earlier in my testimony, Table A-1 in Exhibit A of the Agreement establishes the exit fee structure for costs associated with Idaho Power's exit from Unit 1 in 2019 prior to NV Energy and both Parties' exit from Unit 2 in 2025. Beginning January 1, 2020, the Company would be responsible for an exit fee and sustained payment of shared costs. The exit fee payments would continue through the earlier of year-end 2025 or NV

Energy's exit from Unit 1 operations, which is set for 2021 in NV Energy's current IRP. Shared costs, that are fixed in nature, would be paid as long as Unit 2 remained in operation. Idaho Power would be responsible for the cost associated with coal it consumes and for 50 percent of diesel fuel consumed at the plant. These payment obligations exist in accordance with the Existing North Valmy Agreements and under the terms of the Agreement would continue through 2025, or until NV Energy ceases participation in Unit 2, whichever is earlier.

Therefore, it is unlikely that Idaho Power's exit from Unit 2 operations prior to 2025 would result in material savings because the only payment obligation relief would come from a reduction in certain costs associated with Idaho Power's capacity reduction in Unit 2 operations. To the extent Idaho Power has payment obligations associated with participation in Unit 2 operations, the Company benefits from its ownership share of Valmy's capacity by having that capacity available should its dispatch prove to be economically viable.

Moreover, as detailed in the 2017 IRP Appendix C,[6] Idaho Power's ownership share of Valmy's capacity is

[6] *In the Matter of Idaho Power Company's 2017 Integrated Resource Plan*, Case No. IPC-E-17-11, 2017 IRP Appendix C, pp. 42-48 (filed June 30, 2017). The Commission acknowledged the Company's 2017 Integrated Resource Plan in Order No. 33983 (February 9, 2018).

utilized to meet the Company's current peak-hour load and resource balance. Without it, Idaho Power could experience a deficit during the year, with potential deficits growing in subsequent years through 2025. Valmy is a necessary, although relatively infrequent, contributor to system reliability through 2025 and there is no material economic benefit associated with the exit of Unit 2 prior to year-end 2025.

Q. Please describe the analysis the Company is performing as part of the 2019 IRP that evaluates the economics of the cessation date of Unit 2 operations.

A. The Company committed to conducting ongoing analyses that evaluate the economics of a Unit 2 retirement date prior to December 31, 2025, as part of the Settlement Stipulation approved with Order No. 33771, and to submit those as part of the IRP process. Idaho Power will continue monitoring the economics and include the analysis results in its 2019 IRP, at a minimum.

## III. VALMY INVESTMENTS

Q. Company witness Mr. Larkin explained the Commission approved actual Valmy-related plant investments as of July 31, 2016, and approximately $1.5 million in forecasted investments associated with Unit 1 through December 31, 2018, as part of the levelized revenue requirement included in customer rates with Order No.

33771, and that the Settlement Stipulation[7] requires the Company to true-up to actuals those forecasted expenditures. Please explain the investments made at the Valmy plant since July 31, 2016.

A. While Idaho Power is cognizant of the approaching end-of-life date for Unit 1, there were some required investments to ensure Valmy remains operational in a safe, efficient, and reliable manner, including investments required to ensure environmental compliance, as well as a number of investments for routine maintenance and repair.

Q. Does Idaho Power perform a review of the planned capital projects prior to any investments being made at Valmy?

A. Yes. For all planned capital projects, Idaho Power receives from NV Energy as the plant operator a description of the project, the factors driving the need for the project, and a recommendation for the work to be performed. In addition, as part of the drafting of the Agreement, the Parties extensively reviewed the 2019 through 2025 capital business plans, identifying and ensuring the forecast included only those projects needed for environmental compliance and for the safe, efficient, and reliable operation of the Valmy plant.

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[7] *Settlement Stipulation, pp. 8-9, paragraph 15.*

Q. Have you prepared an exhibit detailing the investments made since July 31, 2016?

A. Yes. Exhibit No. 3 details the investments made at Valmy since July 31, 2016, including the investment by unit or common facility and a classification as to whether the investment was for environmental compliance, the safe and economic operation of the plant, or for reliability purposes for those projects over $100,000. Exhibit No. 3 also includes a description of all investments made since July 31, 2016, and justification for those investments over $100,000.

Q. You stated Exhibit No. 3 indicates whether an investment was for environmental compliance, the safe and economic operation of the plant, or for reliability purposes. Please describe the investments made for environmental compliance since August 1, 2016.

A. There was only one investment for the sole purpose of environmental compliance since August 31, 2016. This investment was associated with Unit 1 and mentioned by Mr. Larkin in his testimony. During a required inspection in December 2017, it was discovered that unexpected significant degradations were noted on 22 thermocouples, 15 coal burner assemblies, and refractory around all burners. The Mercury and Air Toxics Standard ("MATS") requires burner and combustion control inspection and combustion

tuning every 36 months and, as a result of the degradation, burner and combustion control parts were required to be replaced in order to comply with MATS regulations.[8]

Q. What investments were made for the safe, reliable, and economic operation of the plant?

A. The remaining investments made for the continued safe, reliable, and economic operation of the plant included the elimination of arc flash hazards in the plant, the redesign and installation of the clarifier recirculation system on both units, a pulverizer rebuild of Unit 1, and installation of the spare generator step-up unit ("GSU") on Unit 2 due to failure of the existing GSU, a turbine water injection protection system for both units, and a secure wireless system. In addition, a Unit 1 sootblower system redesign was required, insulation and lagging work was done at the plant, cyber security program enhancements were made, Unit 2 GSU work was performed, and replacement of a production well pump, secondary air heater gearbox, emergency lighting, and fan motors on both units occurred.

One other investment was made in combination with the safe operation of the plant: the re-drill of the original domestic water well. The well, drilled in 1977, that provides domestic water supply to the plant and that

[8] Mercury and Air Toxics Standards Rule 40 CFR 63.10021.

is used for the plant sanitary system, eye wash system, and safety showers had reached the end of its useful life and re-drilling was the only option.

Q. What type of investments does Idaho Power anticipate will be made at the Valmy plant for the remainder of its operating life?

A. Idaho Power anticipates necessary, routine capital expenditures to safely and reliably operate Valmy through the plant's end-of-life in 2025. Only standard, annual maintenance and repairs are forecasted for Unit 1 during 2019. For Unit 2 and common facilities, a number of upgrades and replacements of plant infrastructure that are required periodically will be made in 2019, including an outage that requires inspection and selected refurbishment. This outage is the last large one to be performed and will help ensure the unit is operational and can continue to provide reliable service through 2025.

Q. Will Idaho Power perform the same review of future incremental investments prior to any work being done?

A. Yes. The Parties will continue the annual budget meetings where all capital projects included in the budget are reviewed and approved by Idaho Power. The Company will receive a description of the factors driving the need for the project and a recommendation for the work

to be performed from the plant operator, NV Energy. The estimated cost of each project will then be compared to the expected life of the asset as well as the Valmy end-of-life date to determine prudency of the planned investment. In addition, Idaho Power and NV Energy will work together to identify ways to reduce O&M as both partners prepare for future low production from the plant through its end-of-life.

Q. Please summarize your testimony.

A. The Agreement provides for a contractual mechanism by which Idaho Power may meet its obligations pursuant to Order No. 33771 and clarifies the respective rights and obligations of the Parties with respect to the continued operation, retirement, and decommissioning of the Valmy plant or the units thereof. While NV Energy and Idaho Power are cognizant of the approaching end-of-life of the plant, some investments were required to ensure the plant remains operational in a safe, efficient, and reliable manner, including investments required to ensure environmental compliance. Idaho Power will continue to work with NV Energy to ensure that any future investments in the Valmy plant are necessary and prudent in light of the expected end-of-life dates discussed in my testimony. Valmy is a necessary, although relatively infrequent, contributor to system reliability through 2025 and there is

no material economic benefit associated with the exit of Unit 2 prior to year-end 2025.

Q. Does this complete your testimony?

A. Yes, it does.

**ATTESTATION OF TESTIMONY**

STATE OF IDAHO )
) ss.
County of Ada )

I, Tom Harvey, having been duly sworn to testify truthfully, and based upon my personal knowledge, state the following:

I am employed by Idaho Power Company as the General Manager of Power Supply, Planning and Operations in the Power Supply Department and am competent to be a witness in this proceeding.

I declare under penalty of perjury of the laws of the state of Idaho that the foregoing pre-filed testimony and exhibits are true and correct to the best of my information and belief.

DATED this 8th day of March 2019.

Tom Harvey

SUBSCRIBED AND SWORN to before me this 8th day of March 2019.

CHRISTA S. BEARRY NOTARY PUBLIC Comm. No. 39431 STATE OF IDAHO

Notary Public for Idaho
Residing at: Meridian, Idaho
My commission expires: 02/04/2021

BEFORE THE

IDAHO PUBLIC UTILITIES COMMISSION

CASE NO. IPC-E-19-08

IDAHO POWER COMPANY

# HARVEY, DI
# TESTIMONY

# EXHIBIT NO. 2

# EXHIBIT NO. 2
# IS CONFIDENTIAL AND WILL BE PROVIDED TO THOSE PARTIES THAT EXECUTE THE PROTECTIVE AGREEMENT IN THIS MATTER

BEFORE THE

IDAHO PUBLIC UTILITIES COMMISSION

CASE NO. IPC-E-19-08

IDAHO POWER COMPANY

# HARVEY, DI
# TESTIMONY

# EXHIBIT NO. 3

**VALMY PLANT ADDITIONS: Aug 1, 2016 - Dec 31, 2018**

| Project | Descr | V1 | V2 | VC | Total | Purpose | Project Description/Justification |
|---|---|---|---|---|---|---|---|
| 27502697 | VALMY 98434354 V1 LOW NOX BURNERS | 602,997 | - | - | 602,997 | Environmental | Mercury and Air Toxics Standards ("MATS") Rule 40 CFR 63.10021 require a burner and combustion control inspection, and combustion tuning every thirty-six months. During the inspection, completed in December 2017, significant degradations were noted on 22 thermocouples, 15 coal burner assemblies, and refractory around all burners. This scope of work was identified as required to be completed to meet regulations and allow continued boiler operation. |
| 27451198 | VALMY 98385894 V1 ARC FLASH MITIGATION | 596,131 | | | 596,131 | Safety | This project improved electrical safety for plant employees. An arc flash analysis study was performed by Zachery Engineering. During their study, Zachery Engineering determined that there were 166 locations with indecent energy more than 8 Cal/CM2. This makes it unsafe to perform many activities such as locally operating breakers, racking breakers in or out. It was also unsafe to work inside the motor control center buildings. This project installed mitigation hardware to essentially eliminate arc flash hazards. |
| 27430166 | VALMY 98367466 V1 CLARIFIER RECIRCULATION DRIVES | 541,177 | | | 541,177 | Reliability | The clarifier recirculation system was in need of a complete refurbishment. The clarifier recirculation drives have been marginal since original installation and were subject to frequent failure and maintenance. This project redesigned and installed improved recirculation drives on the clarifier. This work order was specific to Unit 1. |
| 27430167 | VALMY 98367407 V2 CLARIFIER RECIRCULATION DRIVES | | 535,218 | | 535,218 | Reliability | The clarifier recirculation system was in need of a complete refurbishment. The clarifier recirculation drives have been marginal since original installation and were subject to frequent failure and maintenance. This project redesigned and installed improved recirculation drives on the clarifier. This work order was specific to Unit 2. |
| 27501116 | VALMY 98427786 V1 PULVERIZER REBUILD | 319,565 | - | - | 319,565 | Reliability | Pulverizers are utilized to grind coal to fine dust before being transported to burner fronts. This process wears out roll wheel assemblies, table grinding segments, and interior of pulverizer equipment. The normal operating life cycle of a Unit 1 pulverizer is roughly 18 to 24 months. Routine inspections are performed at 3,000 hours and required maintenance is performed to ensure the maximum life of the pulverizer rebuild. Major overhaul includes replacements of roll wheels, air seals, coal shields, bearings, wear resistant ceramic liners, classifier vanes, coal feeder wear components, spring frame wear plate, and the pyrites plow. In addition, the gearbox and lubrication system was refurbished and other associated welding and re-building was performed due to erosions to the pulverizer housing and associated equipment. The purpose of this project is for the continued reliable operation of Unit 1. |
| 27463428 | VALMY 98396938 V2 INSTALL SPARE GSU | | 315,635 | | 315,635 | Reliability | In 2016, there was a failure on the Unit 2 GSU which necessitated the replacement of this transformer with the plant spare to ensure the unit was available to meet summer peak loads. |
| 27424728 | VALMY 98362606 V1 SOOTBLOWER PROJECT | 302,748 | - | - | 302,748 | Reliability | Unit 1 was experiencing premature boiler tube erosion from the sootblowing activities. The cause for the erosion is from excessive moisture in the sootblowing medium. In addition, the increase in ash from the use of Powder River Basin coal contributes to more accumulation on the tubes, reducing the thermal exchange, and requiring more frequent cleaning. To allow for additional sootblowing, the sootblowing system required a redesign. The redesign will prevent damage to the boiler tubes. |
| 27478748 | VALMY 98409233 VC GRAVEL PIT WELL | - | - | 282,743 | 282,743 | Safety / Environmental | The original well was drilled in 1977 and reached the end of its useful life. Re-drilling was the only option. This well provides the domestic water supply to the plant which is also used the for the plant sanitary system, eye wash system, and safety showers. |
| 27467689 | VALMY 98397407 V1 TWIP, INSTALL | 274,822 | - | - | 274,822 | Reliability | The installation of the Turbine Water Injection Protection system for Unit 1 was necessary to prevent possible failure of the main turbine from water injection. The old system did not meet the American Society of Mechanical Engineers recommended practices for the prevention of water damage to steam turbines criteria (TDP-1-2013). Water injection to the main turbine can cause significant repair costs with long lead time for equipment. This work order was specific to Unit 1. |
| 27467688 | VALMY 98397405 V2 TWIP, INSTALL | - | 191,249 | - | 191,249 | Reliability | The installation of the Turbine Water Injection Protection system for Unit 2 was necessary to prevent possible failure of the main turbine from water injection. The old system did not meet the American Society of Mechanical Engineers recommended practices for the prevention of water damage to steam turbines criteria (TDP-1-2013). Water injection to the main turbine can cause significant repair costs with long lead time for equipment. This work order was specific to Unit 2. |
| 27469463 | VALMY 98399357 V1 GSU HIGH VOLTAGE BUSHING REPLACEMENT | 163,871 | | | 163,871 | Safety/Reliability | The Unit 1 generator step-up transformer was equipped with GE type U high voltage bushings which have a high rate of failure. In addition, the bushings can burst and cause a safety concern. The bushings were replaced with ABB high voltage bushings that have no known failure mechanisms. |
| 27458954 | VALMY 98393558 V1 INSULATION AND LAGGING WORK | 159,539 | | | 159,539 | Reliability | During outage work over the two previous years and inspections of the high energy piping project, multiple insulation needs were identified. Most were due to the age of the existing insulation or various repair projects over the last 20 years. In addition weather, wind, leaks and heat tracing failures can require insulation work. This project mitigates hazards and eliminates the possibility of future failures to the insulation and jacketing. |
| 27495142 | VALMY 98428468 VC OT SECURITY PROJECT | - | - | 159,166 | 159,166 | Safety/Security | Valmy's cybersecurity program required enhancement. This project funded the research and development of the necessary enhancements based on the Center for Internet Security's Top 20 Critical Security Controls (CSC). The Top 20 CSC's are high-level categories for 149 specific sub-controls. The project resulted in the recommendation and approval of cybersecurity enhancements that address requirements for CSC 3.6, CSC 3.7, CSC 4.5, CSC 6.6, CSC 8.1, and CSC 8.2. |
| 27510571 | VALMY 98437315 V2 ID FAN MOTOR REPLACE | - | 141,531 | - | 141,531 | Reliability | A Unit 2 ID fan motor was sent to the Sulzer electrical shop for routing cleaning, testing and inspection. When tested, the motor failed the surge test and a visual inspection revealed at least two broken stator bars. The motor shop refurbished the motor. Without this fan in service the unit would have been derated to approximately 50 percent load. |
| 27495141 | VALMY 98428409 VC OT WIRELESS SYSTEM | - | - | 128,438 | 128,438 | Reliability | Installed a secure operational technology ("OT") wireless system for both the well field and for the continuous emission monitoring ambient networks. The current OT wireless networks had components that did not meet the security requirements of the Top 20 CSC Standards. This includes in-house engineering support for warranty replacement work performed on the newly installed system, UPS battery packs and well field and ambient monitors sites. |
| 27469464 | VALMY 98399359 V2 GSU HIGH VOLTAGE BUSHING REPLACEMENT | | 118,130 | | 118,130 | Safety/Reliability | The Unit 2 generator step-up transformer is equipped with Trench COTA high voltage and high voltage neutral bushings. These types of high voltage bushings have a known manufacturing defect in the insulation that causes a high failure rate. In addition, the bushings can burst and cause a safety concern. The bushings were replaced with ABB high voltage bushings that have no known failure mechanisms. |
| 27440893 | VALMY 98376800 VC PRODUCTION WELL | - | - | 109,095 | 109,095 | Reliability | The pump on the #23 production well failed. This is one of the highest producing wells for the plant and can provide 24 percent of the Unit 2 demand for cooling water. In order to have a continuous reliable water supply for the plant, it was necessary to replace this pump. |
| 27495135 | VALMY 98427053 V1 SECONDARY AIR PREHEATER GEARBOX | 108,715 | - | - | 108,715 | Reliability | This project replaced the failing Unit 1 secondary airheater gearbox. This gearbox developed a bad noise and high vibration indicating a bearing or gear failure which could eventually lead to complete failure of the gearbox. When a gearbox fails, the air heater rotation will stop, which could result in warpage, distortion, and other permanent damage, and could even can cause a fire in the air heater and associated ductwork. |
| 27514789 | VALMY 98443689 V1 ID FAN MOTOR REPLACE | 105,326 | - | - | 105,326 | Reliability | The Unit 1 induced draft fan motor experienced a phase to phase fault during a start attempt . The fault caused significant damage to the windings, which required a complete rewind to restore the motor to serviceable condition. A compatible motor was found on site and the motor base was modified to fit the fan. The modified motor was a temporary solution as it draws 7 percent more amps than the original motor, at full load resulting in hotter winding and bearing temperatures. This project was a full replacement of the fan motor. |
| 27481041 | VALMY 98412639 V1 EMERGENCY LIGHTING | 104,000 | - | - | 104,000 | Safety | The 120VAC to DC converter cabinets for the emergency lighting were not suitable for power plant needs. The panels were in failure and half of the converters would not function in the test mode. The plastic fixtures were broken and hanging by the wires. In the event of a loss of primary lighting due to a plant trip or outage, the emergency lighting would not have been available. This project replaced the emergency lighting to a reliable safe condition and in accordance with OSHA 1910.261. |
| 27421554 | VALMY 98362473 VA2 REDUNDANT C | | 92,173 | | 92,173 | | |

**VALMY PLANT ADDITIONS: Aug 1, 2016 - Dec 31, 2018**

| Project | Descr | V1 | V2 | VC | Total | Purpose | Project Description/Justification |
|---|---|---|---|---|---|---|---|
| 27481042 | VALMY 98415446 V1 HP ASH PUMP | 86,658 | - | - | 86,658 | | |
| 27517155 | VALMY 98446406 V1 PULVERIZER W | 78,629 | - | - | 78,629 | | |
| 27421450 | VALMY 98362168 VC SERVICE WATE | | | 75,328 | 75,328 | | |
| 27502694 | VALMY 98434199 V2 SORBENT TRAP | - | 75,125 | - | 75,125 | | |
| 27465265 | VALMY 98365346 V01 ID "B" FAN | 74,446 | | | 74,446 | | |
| 27502692 | VALMY 98434198 V1 SORBENT TRAP | 72,200 | - | - | 72,200 | | |
| 27469463 | VALMY 98399357 V1 GSU HIGH VOL | 69,523 | - | - | 69,523 | | |
| 27491675 | VALMY 98418359 V1 DISSOLVED GA | 62,659 | - | - | 62,659 | | |
| 27421553 | VALMY 98362472 VA1 REDUNDANT C | 62,602 | | | 62,602 | | |
| 27403608 | VALMY 98336452 V1 BFPT ELECTRO | 60,292 | | | 60,292 | | |
| 27458936 | VALMY 98369738 V2 CAPITAL VALV | | 53,298 | | 53,298 | | |
| 27460988 | VALMY 98395344 V1 CAPITAL VALV | 48,957 | | | 48,957 | | |
| 27469464 | VALMY 98399359 V2 GSU HIGH VOL | - | 48,893 | - | 48,893 | | |
| 27495131 | VALMY 98427274 V2 BOILER FEED | - | 47,237 | - | 47,237 | | |
| 27493060 | VALMY 98422759 V1 REDUNDANT SO | 44,313 | - | - | 44,313 | | |
| 27489003 | VALMY 98423217 VC RES STATION | - | - | 38,503 | 38,503 | | |
| 27509195 | VALMY 98435090 V2 PULVERIZER 6 | - | 38,361 | - | 38,361 | | |
| 27481095 | VALMY 98412633 VC WAREHOUSE WI | - | - | 38,205 | 38,205 | | |
| 27509175 | VALMY 98437316 VC RO MEMBRANES | - | - | 35,457 | 35,457 | | |
| 27495140 | VALMY 98427785 VC PRODUCTION W | - | - | 26,291 | 26,291 | | |
| 27514787 | VALMY 98444407 V1 SKY CLIMBER | 25,623 | - | - | 25,623 | | |
| 27475273 | VALMY 98405178 V1 BOILER CONTI | 23,646 | | | 23,646 | | |
| 27510856 | VALMY 98442217 V1 PRIMARY AIR | 22,882 | - | - | 22,882 | | |
| 27451198 | VALMY 98385894 V1 ARC FLASH MI | 22,779 | - | - | 22,779 | | |
| 27430164 | VALMY 98368057 V1 COAL PIPE RE | 19,388 | | | 19,388 | | |
| 27434617 | VALMY 98367381 V1 BAGHOUSE HOP | 17,968 | | | 17,968 | | |
| 27505241 | VALMY 98437178 VC EDI MODULE H | - | - | 13,538 | 13,538 | | |
| 27421551 | VALMY 98362169 VC BDC PIPE, RE | | | 9,950 | 9,950 | | |
| 27359233 | VALMY 98301759 V1 UTILITY MACT | 9,042 | | | 9,042 | | |
| 27458970 | VALMY 98393018 U2 A INDUCED DR | | 8,657 | | 8,657 | | |
| 27443238 | VALMY 98378772 V2 BOTTOM ASH S | | 8,547 | | 8,547 | | |
| 27426913 | VALMY 98367251 V2 CAPITAL VALV | | 8,255 | | 8,255 | | |
| 27481094 | VALMY 98409232 V1 REDUNDANT DE | 7,117 | | | 7,117 | | |
| 27517150 | VALMY 98442216 VC ACOUS MONITO | - | - | 6,991 | 6,991 | | |
| 27452894 | VALMLY 98377359 V1 PULVERIZER | 4,321 | | | 4,321 | | |
| 27458953 | VALMY 98391688 V1 CONDENSATE P | 3,197 | | | 3,197 | | |
| 27517152 | VALMY 98444637 VC VLMY BUSINES | - | - | 1,601 | 1,601 | | |
| 27423497 | VALMY 98364792 V2 BOTTOM ASH C | - | 418 | - | 418 | | |
| 27409547 | VALMY 98353176 VC CAPITAL VALV | | | 18 | 18 | | |
| 27365608 | VALMY 98306281V2 SCRUBBER INLE | | 8 | | 8 | | |
| 27365621 | VALMY 98306280 V2 SCRUBBER SPR | | 8 | | 8 | | |
| 27463428 | VALMY 98396938 V2 INSTALL SPAR | - | 1 | - | 1 | | |
| 27451241 | VALMY 98308491 GC-N WORK MANAG | | | (16) | (16) | | |
| 27448852 | VALMY 98386336 V1 "B" HP ASH P | (250) | | | (250) | | |
| 27428439 | VALMY 98367961 VC RO MEMBRANE | | | (732) | (732) | | |
| 27443235 | VALMY 98378771 V1 BOTTOM ASH S | (1,214) | | | (1,214) | | |
| 27454639 | VALMY 98384832 VC VANS, REPLAC | | | (1,623) | (1,623) | | |
| 27432789 | VALMY 98371843 V1 BAH CLINDER | (2,000) | | | (2,000) | | |
| 27434653 | VALMY 98371845 V1 BAH CLINKER | (2,001) | | | (2,001) | | |
| 27448851 | VALMY 98386335 V1 "A" HP ASH P | (2,001) | | | (2,001) | | |
| 27423494 | VALMY 98359979 V2 DESUPERHEATE | | (2,500) | | (2,500) | | |
| 27419415 | VALMY 41606E NVY 3601 & 3401 R | | | (4,387) | (4,387) | | |
| 27426918 | VALMY 98367900 V1 FLYASH DRY U | (5,661) | | | (5,661) | | |
| 27458951 | VALMY 98391132 VC PM2.5 FRM MO | | | (5,833) | (5,833) | | |
| 27457050 | VALMY 98391075 VC REPLACE SERV | | | (8,541) | (8,541) | | |
| 27432787 | VALMY 98366683 V1 FEEDWATER CO | (10,593) | | | (10,593) | | |
| 27428441 | VALMY 98367253 V2 APH HEATING | | (12,808) | | (12,808) | | |
| 27426917 | VALMY 98367475 V2 CLARIFIER AN | | (15,673) | | (15,673) | | |
| 27448849 | VALMY 98386334 V1 BFP BARREL R | (16,011) | | | (16,011) | | |
| 27409554 | VALMY 98350944 VMY1 CIRC WATER | (33,573) | | | (33,573) | | |
| 27434615 | VALMY 98366682 V1 DESUPERHEATE | (40,144) | | | (40,144) | | |
| 27439303 | VALMY 98366685 V1 BAGHOUSE DOO | (43,597) | | | (43,597) | | |
| 27452894 | VALMLY 98377359 V1 PULVERIZER | (45,698) | - | - | (45,698) | | |
| 27445172 | VALMY 98366688 V1 BAGHOUSE FIL | (51,052) | | | (51,052) | | |
| 27460990 | VALMY 98391072 V1 FORCED DRAFT | (74,492) | | | (74,492) | | |
| 27439304 | VALMY 98367236 V1 PRIMARY AND | (80,625) | | | (80,625) | | |
| Grand Total | | 3,686,220 | 1,651,763 | 904,192 | 6,242,175 | | |

Exhibit No. 3
Case No. IPC-E-19-08
T. Harvey, IPC
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