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November 2, 2016

**VIA ELECTRONIC**

PUC Filing Center  
Public Utility Commission of Oregon  
PO Box 1088  
Salem, OR 97308-1088

**Re: Docket No. UE 316 – 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 Power Plant**

Attention Filing Center:

Attached for filing in the above-referenced docket is an electronic copy of Idaho Power Company's Application for Authorization to Increase Rates. Please contact this office with any questions.

Very truly yours,

Wendy McIndoo  
Office Manager

Enclosures

cc: UE 233 Service List

1 **CERTIFICATE OF SERVICE**

2 I hereby certify that I served a true and correct copy of the foregoing document on  
3 the following named person(s) on the date indicated below by email addressed to said  
4 person(s) at his or her last-known address(es) indicated below.

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DATED: November 2, 2016

  
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BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

**UE 316**

In the Matter of the Application of IDAHO	)	
POWER COMPANY for Authority to	)	<b>APPLICATION FOR AUTHORIZATION</b>
Increase Its Rates for Electric Service to	)	<b>TO INCREASE RATES</b>
Recover Costs Associated with the North	)	
Valmy Power Plant.	)	

Idaho Power Company ("Idaho Power" or "Company"), in accordance with ORS 757.140, hereby respectfully makes Application to the Public Utility Commission of Oregon ("Commission") for an order authorizing the Company to: (1) accelerate the depreciation schedule for the North Valmy power plant ("Valmy") to allow the plant to be fully depreciated by December 31, 2025, (2) establish a balancing account to track the incremental costs and benefits associated with the accelerated Valmy end-of-life date, and (3) adjust customer rates to recover the associated incremental annual levelized revenue requirement of \$1,056,800 with an effective date of June 1, 2017. This Application is being filed with the Commission concurrently with an application in Docket No. UM 1801 requesting approval to institute revised depreciation rates for the Company's electric plant-in-service and adjust Oregon jurisdictional base rates to reflect the revised depreciation rates ("Depreciation Application"). Idaho Power is simultaneously filing these applications in order to facilitate a single rate change for customers. In support of this Application, Idaho Power asserts as follows:

**I. BACKGROUND**

Pursuant to OAR 860-027-0350(2), Idaho Power is required to file an updated depreciation study within five years of the Company's previous depreciation study. The

1 Company's most recent update, approved by Order No. 12-296 in Docket No. UM 1576,<sup>1</sup>  
2 went into effect on June 1, 2012,<sup>2</sup> and reflects a plant life for Valmy of 50 years for each  
3 unit, resulting in retirement years of 2031 for Unit 1 and 2035 for Unit 2.<sup>3</sup> In 2013, the Public  
4 Utilities Commission of Nevada ("PUCN") approved a 2025 end-of-life date for both Unit 1  
5 and Unit 2 for NV Energy, Idaho Power's co-owner in Valmy.<sup>4</sup> Likewise, in its most recent  
6 depreciation study filed with the PUCN on June 6, 2016, NV Energy used the same end-of-  
7 life date for both units.<sup>5</sup>

8 Because nearly five years have passed since the last update, the Company began  
9 preparations in early 2016 to file a new depreciation study. Through these preparations, the  
10 Company identified that significant changes had occurred with regard to the life of the Valmy  
11 plant, warranting the need for specific review separate from the Company's general  
12 depreciation filing. The 2025 end-of-life date currently utilized by NV Energy provides an  
13 indication that the Valmy plant will not be operational beyond 2025. Therefore, the Company  
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17 <sup>1</sup> *In the Matter of Idaho Power Company, Application to Implement Revised Depreciation*  
18 *Rates for the Company's Electric Plant-in-Service*, Docket No. UM 1576, Order No. 12-296 (July  
19 20, 2012).

20 <sup>2</sup> Order No. 12-296 approved revised depreciation rates effective June 1, 2012, for  
21 accounting purposes and customer rates effective August 1, 2012.

22 <sup>3</sup> *In the Matter of Idaho Power Company, Application to Implement Revised Depreciation*  
23 *Rates for the Company's Electric Plant-in-Service*, Docket No. UM 1576, Idaho Power/100,  
24 Spanos/11 (Feb. 2, 2012) (50-year life span for Valmy); Order No. 12-296 (approving the  
25 Company's revised depreciation rates for Valmy).

26 <sup>4</sup> *Application of Sierra Pacific Power Company d/b/a/ NV Energy for Approval of New and*  
27 *Revised Depreciation Rates for its Electric and Common Accounts*, Docket No. 13-06004, Doc. ID  
28 34333 at 46 (Jan. 29, 2014).

29 <sup>5</sup> *In the Matter of the Application of Sierra Pacific Power Company d/b/a/ NV Energy*  
30 *Demonstrating New and Revised Depreciation Rates for its Electric and Common Accounts*, Docket  
31 No. 16-06008, Doc. ID 12379, Allis-Direct at 11 (June 6, 2016).

1 believes it is appropriate to consider Valmy-related issues concurrently with the  
2 comprehensive depreciation study filed in Idaho in Case No. IPC-E-16-23.<sup>6</sup>

## 3 **II. VALMY**

4 Valmy is a coal-fired power plant that consists of two units and is located near  
5 Winnemucca, Nevada. Unit 1 went into service in 1981 and Unit 2 followed in 1985. Idaho  
6 Power owns 50 percent, or 284 megawatts (“MW”) (generator nameplate rating), of Valmy.  
7 NV Energy also has 50 percent ownership and is the operator of the Valmy facility. Idaho  
8 Power and NV Energy work jointly to make decisions regarding any environmental  
9 investment, plant retirement, or conversion. The plant is connected via a single 345 kilovolt  
10 transmission line to the Idaho Power control area at the Midpoint substation. Idaho Power  
11 has the northbound capacity and NV Energy has the southbound capacity of this line.

12 Coal for the plant is shipped via railroad from various mines in Utah, Wyoming, and  
13 Colorado. The power plant uses a variety of emissions control technologies, including state-  
14 of-the-art fabric filters that remove more than 99 percent of particulate emissions.  
15 Additionally, a Dry Sorbent Injection (“DSI”) system is used on Unit 1 to reduce acid gas  
16 emissions, and flue-gas scrubber technology is utilized on Unit 2 for the reduction of sulfur  
17 dioxide emissions. Both units have an activated carbon injection system installed to control  
18 the emissions of mercury from the flue gas.

## 19 **III. VALMY OPERATIONS**

20 A 2031 end-of-life for Unit 1 and a 2035 end-of-life for Unit 2 were used in Idaho  
21 Power’s Coal Unit Environmental Investment Analysis for the Jim Bridger and North Valmy  
22 Coal-Fired Power Plants (“2013 Coal Study”). The analysis performed for the 2013 Coal  
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24 <sup>6</sup>*In the Matter of the Application of Idaho Power Company for Authority to Increase its Rates*  
25 *Due to Revised Depreciation Rates for Electric Plant-in-Service*, Case No. IPC-E-16-23 (Oct. 21,  
26 2016).

1 Study examined future investments required for environmental compliance at existing coal  
2 units and compared those investments to the costs of two alternatives: (1) replacing such  
3 units with combined cycle combustion turbine units; or (2) converting the existing coal units  
4 to natural gas. Idaho Power concluded that installation of the investments required for  
5 environmental compliance was a low-cost approach to retain a diversified portfolio of  
6 generation assets for customers.

7 Therefore, the Company continued to include Valmy in its generation portfolio for the  
8 2013 Integrated Resource Plan (“IRP”) and future resource planning. Similarly, the  
9 preferred resource portfolio identified in the 2013 IRP included continued operations of the  
10 Valmy coal facility in full compliance with environmental regulations through the 2013-2032  
11 planning period. At that time, Idaho Power committed financially to the investments required  
12 on Unit 1 to meet current environmental regulation and installation of the required emission  
13 control systems was completed in the spring of 2015.

14 As part of the Company’s 2015 IRP,<sup>7</sup> Idaho Power again analyzed a variety of  
15 retirement dates for Valmy. Results consistently indicated favorable economics associated  
16 with two significant resource actions: construction of the Boardman to Hemingway (“B2H”)   
17 transmission line and the early retirement of Valmy.<sup>8</sup> The preferred portfolio selected for  
18 the 2015-2034 planning horizon contained both actions in the year 2025, with completion of  
19 the transmission line preceding the end-of-year coal plant retirement. The 2015-2018 action  
20 plan recognized in the 2015 IRP included ongoing permitting, planning studies, and  
21 regulatory filings associated with the B2H transmission line during all four years, and  
22 indicated that in 2016 Idaho Power would work with NV Energy to synchronize depreciation

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25 <sup>7</sup> *In the Matter of Idaho Power Company’s 2015 Integrated Resource Plan*, Docket No. LC 63,  
Application at 5 (June 30, 2015).

26

<sup>8</sup> *Id.*

1 dates and determine if a date could be established to cease coal-fired operations.<sup>9</sup> This  
2 filing will synchronize depreciation rates between the two companies.

3 Significant changes in Valmy operations have occurred between 2010 and 2014. In  
4 2011, the average price Idaho Power received for off-system sales was \$22.71 per MW  
5 compared to 2015 when the average price Idaho Power received for off-system sales was  
6 only \$11.82 per MW. Moreover, year-to-date 2016, Idaho Power's average price for off-  
7 system sales is only \$8.76 per MW. In addition to reducing off-system sales, the significant  
8 decrease in market prices has resulted in a decrease in the number of hours Valmy operates  
9 economically, as the dispatch cost is now typically higher than the market price. Rather  
10 than a resource used to generate off-system sales, Idaho Power has been relying on Valmy  
11 to meet the Company's peak energy needs, preserving the balanced portfolio needed to  
12 reliably serve Idaho Power customers during all types of system conditions.

13 As shown in the preferred portfolio of Idaho Power's 2015 IRP, the economics of  
14 Valmy's operation are impacted in the long term as new resources such as B2H or other  
15 operating facilities are available to maintain the balanced portfolio required to serve load  
16 reliably. Idaho Power relies on Valmy to meet peak energy needs and to preserve the  
17 balanced portfolio needed to reliably serve customers during all types of system conditions.  
18 When extreme cold weather or extreme hot temperatures occur in the West, Valmy is  
19 providing reliable energy and capacity to serve customers. Idaho Power will continue to rely  
20 on Valmy during similar circumstances in the future as load increases in the Company's  
21 service territory and until the addition of new resources are available during peak hours or  
22 can provide additional transmission capacity.

23 In 2016, Idaho Power assessed continued use of the 2025 end-of-life assumption for  
24 Valmy using an updated evaluation of the present value revenue requirement of operating

25

26 <sup>9</sup> *In the Matter of Idaho Power Company's 2015 Integrated Resource Plan*, Docket No. LC 63,  
Order No. 16-160 Appx. B at 1 (Apr. 28, 2016).



1 period alternatives, which is provided as Exhibit No. 203 to the direct testimony of Company  
2 witness Tom Harvey that accompanies this Application. The Company's analysis  
3 determined that the net present value of the revenue requirement associated with a 2025  
4 end-of-life is \$103 million less than the revenue requirement of a 2031/2034 retirement date,  
5 concluding that a 2025 end-of-life will strike a balance between long-term revenue  
6 requirement savings and the immediate customer rate impact.

#### 7 **IV. VALMY INVESTMENTS SINCE 2011**

8 Since Idaho Power's last general rate case, Valmy plant balances have increased  
9 approximately \$70 million due to a number of investments required at Valmy to ensure the  
10 plant continues to operate in a safe, efficient, and reliable manner, including investments  
11 required for environmental compliance, as well as a number of investments for routine  
12 maintenance and repair.

13 For all planned capital projects, Idaho Power receives from the plant operator, NV  
14 Energy, a description of the project, the factors driving the need for the project, and a  
15 recommendation for the work to be performed. The investments for environmental  
16 compliance include DSI installation and coal pipe replacement on Unit 1, the scrubber  
17 upgrade on Unit 2, the coal crusher belt feeder project, dust collector upgrade, caustic tank  
18 building replacement, evaporation pond liner replacement, bed demineralizer replacement,  
19 and the coal combustion residual compliance project. In addition, several investments were  
20 made on either or both units to maintain the safe, reliable, and economic operation of the  
21 plant. The capital investments made at Valmy since the last general rate case were prudent  
22 and essential for continued operation of the plant.

23 Exhibit No. 201 to the testimony of Mr. Harvey details the investments made at Valmy  
24 since the Company's last general rate case, including the spend per year and whether the  
25 investment was for environmental compliance, the safe and economic operation of the plant,  
26

1 or for reliability purposes. Exhibit No. 201 also includes a description and justification of the  
2 investments made.

3 **V. ACCELERATED RECOVERY OF VALMY-RELATED COSTS**

4 As described in the testimony of Mr. Harvey, evidence strongly supports the  
5 modification of the existing Valmy depreciation schedule to reflect a 2025 shutdown date. It  
6 is beneficial to accelerate Valmy's depreciation schedule at this time because: (1) doing so  
7 will result in the appropriate matching of cost recovery with the remaining operating life of  
8 the plant; and (2) accelerating the deprecation schedule at this time will mitigate future rate  
9 impacts associated with the earlier shutdown of the plant.

10 The Company anticipates that customers will continue to be served by the Valmy plant  
11 until year-end 2025, at which point the plant is no longer expected to be utilized. By  
12 accelerating the depreciation schedule to reflect a 2025 shutdown date, the recovery of  
13 Valmy-related costs will align with the remaining operating life of the plant, resulting in cost  
14 recovery from customers who are served by the plant.

15 **VI. RECOMMENDED REGULATORY ACCOUNTING**  
16 **AND RATEMAKING TREATMENT**

17 In addition to the earlier end-of-life date, Valmy will also require incremental  
18 investments to maintain operations prior to ultimately decommissioning the plant. However,  
19 the specific timing and exact amounts of these future investments are not yet known. For  
20 these reasons, Idaho Power proposes the establishment of a balancing account that would  
21 allow flexibility for the timing and recovery of the remaining Valmy revenue requirement.

22 There are three types of costs the Company anticipates booking to the balancing  
23 account: (1) the accelerated depreciation associated with existing Valmy plant investments  
24 through May 31, 2017, (2) the return on the undepreciated capital investments at Valmy  
25 until its end-of-life, and (3) decommissioning costs related to the Valmy shutdown. The  
26 proposed accounting treatment will result in accelerated depreciation expense related to all

1 Valmy plant investments as compared to current depreciation that is based on retirement  
2 dates of 2031 for Unit 1 and 2035 for Unit 2. In addition, Idaho Power is proposing to track  
3 decommissioning costs related to the Valmy 2025 end-of-life in the balancing account.

4 The Valmy balancing account will smooth revenue requirement impacts of a 2025  
5 Valmy shutdown over the remaining eight and a half years of the plant's life and allow for  
6 full recovery of Valmy-related costs by its end-of-life. This will effectively align the cost  
7 recovery period with the remaining operating life of the plant, resulting in an appropriate  
8 matching of cost recovery from customers who benefit from the plant's operations while  
9 mitigating the risk of future customers bearing the costs of a plant that will no longer be  
10 providing service. Additionally, through the proposed accounting treatment, customers will  
11 pay no more than the actual fixed costs of operating the Valmy plant between the proposed  
12 effective date of June 1, 2017, and the proposed end-of-life date in 2025.

13 The proposed accounting treatment will result in accelerated depreciation expense  
14 related to all Valmy plant investments as compared to current depreciation based on a  
15 retirement date of 2031 for Unit 1 and 2035 for Unit 2. As described more fully in the Direct  
16 Testimony of Company witness Matthew T. Larkin that accompanies this Application, the  
17 Company is requesting recovery of the revenue requirement that includes the costs of  
18 accelerating the depreciation of the Valmy plant and the decommissioning costs associated  
19 with the Valmy 2025 end-of-life. The Oregon jurisdictional incremental annual levelized  
20 revenue requirement the Company is requesting to recover in this proceeding is \$1,056,800.

21 The Company proposes to allocate the increase related to the Valmy balancing  
22 account using the jurisdictional separation study methodology consistent with that utilized  
23 to determine the Oregon jurisdictional revenue requirement in Docket No. UE 233.<sup>10</sup> The  
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25 <sup>10</sup> *In the Matter of the Application of Idaho Power Company for Authority to Increase its Rates*  
26 *Due to Revised Depreciation Rates for Electric Plant-in-Service*, Case No. IPC-E-16-23 (Oct. 21,  
2016).

1 Company requests that the incremental revenue requirement of approximately \$1.06 million  
2 be recovered from all customer classes through a uniform percentage increase to all base  
3 rate components except the service charge. The proposed change equates to an overall  
4 increase of 1.91 percent (see Attachment No. 1).

5 Attachment No. 2 to this Application shows a comparison of revenues from the various  
6 tariff customers under Idaho Power's existing rates to the corresponding new revenue levels  
7 resulting from the proposed Valmy ratemaking treatment and the updated depreciation  
8 study, filed concurrently in Docket No. UM 1801.

9 **VII. COAL PLANT OPERATING LIFE ADJUSTMENT TARIFF**

10 Idaho Power is seeking authority to revise Schedule 92, Boardman Operating Life  
11 Adjustment, to incorporate the revenue requirement impacts associated with the 2025 end-  
12 of-life of Valmy that are captured in the balancing account. Because Schedule 92 will reflect  
13 the revenue requirement impacts of both the Valmy and Boardman end-of-life changes, the  
14 Company is proposing to change the name of Schedule 92 to Coal Plant Operating Life  
15 Adjustment. A copy of the proposed revisions to Schedule 92 is included as Attachment  
16 No. 3.

17 **VIII. COMMUNICATIONS AND SERVICE OF PLEADINGS**

18 Idaho Power wishes to waive paper service in this docket. Communications and  
19 service of pleadings with reference to this Application should be sent to the following:

20 Lisa Nordstrom  
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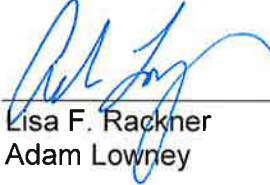
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**IX. REQUEST FOR RELIEF**

Idaho Power respectfully requests that the Commission issue an order authorizing the Company to: (1) accelerate the depreciation schedule for Valmy to allow the plant to be fully depreciated by December 31, 2025, (2) establish a balancing account to track the incremental costs and benefits associated with the accelerated Valmy end-of-life date, and (3) adjust customer rates to recover the associated incremental annual revenue requirement of \$1,056,800 with an effective date of June 1, 2017.

Respectfully submitted this 2nd day of November, 2016.

McDOWELL RACKNER & GIBSON PC



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Lisa F. Rackner  
Adam Lowney

IDAHO POWER COMPANY  
Lisa D. Nordstrom  
Lead Counsel  
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Attorneys for Idaho Power Company

BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

IDAHO POWER COMPANY

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Attachment 1  
Summary of Billing Impact (Valmy)

November 2, 2016

**Idaho Power Company**  
**Calculation of Revenue Impact**  
**State of Oregon**  
**Coal Plant Operating Life Adjustment Filing**  
**Effective June 1, 2017**

**Summary of Revenue Impact**  
**Current Billed Revenue to Proposed Billed Revenue**

Line No	Tariff Description	Rate Sch. No.	Average Number of Customers	Normalized Energy (kWh)	Current Billed Revenue	Mills Per kWh	Total Adjustments to Billed Revenue	Proposed Total Billed Revenue	Mills Per kWh	Percent Change Billed to Billed Revenue
<u>Uniform Tariff Rates:</u>										
1	Residential Service	1	13,818	191,786,131	\$19,141,539	99.81	\$294,313	\$19,435,852	101.34	1.54%
2	Small General Service	7	2,563	18,411,930	\$1,960,259	106.47	\$28,255	\$1,988,514	108.00	1.44%
3	Large General Service	9	923	140,119,303	\$10,851,334	77.44	\$215,026	\$11,066,360	78.98	1.98%
4	Dusk to Dawn Lighting	15	0	443,024	\$110,520	249.47	\$680	\$111,200	251.00	0.62%
5	Large Power Service	19	7	270,322,296	\$16,635,693	61.54	\$414,834	\$17,050,527	63.07	2.49%
6	Agricultural Irrigation Service	24	1,915	66,621,250	\$6,509,533	97.71	\$102,236	\$6,611,769	99.24	1.57%
7	Unmetered General Service	40	2	5,568	\$546	98.07	\$9	\$555	99.61	1.56%
8	Street Lighting	41	25	922,474	\$145,432	157.65	\$1,416	\$146,848	159.19	0.97%
9	Traffic Control Lighting	42	8	21,019	\$2,000	95.17	\$32	\$2,033	96.70	1.61%
10	Total Uniform Tariffs		19,261	688,652,995	\$55,356,857	80.38	\$1,056,800	\$56,413,657	81.92	1.91%
11	Total Oregon Retail Sales		19,261	688,652,995	\$55,356,857	80.38	\$1,056,800	\$56,413,657	81.92	1.91%

BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

IDAHO POWER COMPANY

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Attachment 2  
Summary of Billing Impact (Depreciation and Valmy)

November 2, 2016



**Idaho Power Company**  
**Calculation of Revenue Impact**  
**State of Oregon**  
**Depreciation Study/Coal Plant Operating Life Adjustment Combined**  
**Effective June 1, 2017**

**Summary of Revenue Impact**  
**Current Billed Revenue to Proposed Billed Revenue**

Line No	Tariff Description	Rate Sch. No.	Average Number of Customers	Normalized Energy (kWh)	Current Billed Revenue	Mills Per kWh	Total Adjustments to Billed Revenue	Proposed Total Billed Revenue	Mills Per kWh	Percent Change Billed to Billed Revenue
<u>Uniform Tariff Rates:</u>										
1	Residential Service	1	13,818	191,786,131	\$19,141,539	99.81	\$537,246	\$19,678,785	102.61	2.81%
2	Small General Service	7	2,563	18,411,930	\$1,960,259	106.47	\$50,533	\$2,010,792	109.21	2.58%
3	Large General Service	9	923	140,119,303	\$10,851,334	77.44	\$359,439	\$11,210,774	80.01	3.31%
4	Dusk to Dawn Lighting	15	0	443,024	\$110,520	249.47	\$2,243	\$112,764	254.53	2.03%
5	Large Power Service	19	7	270,322,296	\$16,635,693	61.54	\$636,302	\$17,271,994	63.89	3.82%
6	Agricultural Irrigation Service	24	1,915	66,621,250	\$6,509,533	97.71	\$189,060	\$6,698,592	100.55	2.90%
7	Unmetered General Service	40	2	5,568	\$546	98.07	\$16	\$562	100.93	2.91%
8	Street Lighting	41	25	922,474	\$145,432	157.65	\$3,450	\$148,883	161.39	2.37%
9	Traffic Control Lighting	42	8	21,019	\$2,000	95.17	\$60	\$2,060	98.01	2.99%
10	Total Uniform Tariffs		19,261	688,652,995	\$55,356,857	80.38	\$1,778,348	\$57,135,205	82.97	3.21%
11	Total Oregon Retail Sales		19,261	688,652,995	\$55,356,857	80.38	\$1,778,348	\$57,135,205	82.97	3.21%

BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

IDAHO POWER COMPANY

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Attachment 3  
Schedule 92 – Coal Plant Operating Life Adjustment

November 2, 2016

SCHEDULE 92  
COAL PLANT OPERATING LIFE ADJUSTMENT

(C)

PURPOSE

To recover from Customers the revenue requirement impact of the incremental costs and benefits associated with the shutdown of the Boardman and Valmy power plants. (N)

APPLICABILITY

This Schedule is applicable to all retail Customers served under the Company's schedules and special contracts.

ADJUSTMENT RATE

The Adjustment Rate is 0.1685 cents per kWh which is comprised of the Boardman Coal Plant Adjustment Rate (N) and the Valmy Coal Plant Adjustment Rate. (N)

The Boardman Coal Plant Adjustment Rate is:

(C)

<u>Schedule</u>	<u>Description</u>	<u>Adjustment Rate</u>
1	Residential Service	0.0150¢ per kWh
7	Small General Service	0.0150¢ per kWh
9-S	Large General Service (Secondary)	0.0150¢ per kWh
9-P	Large General Service (Primary)	0.0150¢ per kWh
9-T	Large General Service (Transmission)	0.0150¢ per kWh
15	Dusk to Dawn Lighting	0.0150¢ per kWh
19-S	Large Power Service (Secondary)	0.0150¢ per kWh
19-P	Large Power Service (Primary)	0.0150¢ per kWh
19-T	Large Power Service (Transmission)	0.0150¢ per kWh
24-S	Irrigation Service (Secondary)	0.0150¢ per kWh
24-T	Irrigation Service (Transmission)	0.0150¢ per kWh
40	Unmetered General Service	0.0150¢ per kWh
41	Municipal Street Lighting	0.0150¢ per kWh
42	Traffic Control Lighting	0.0150¢ per kWh

The Valmy Coal Plant Adjustment Rate is:

(N)

<u>Schedule</u>	<u>Description</u>	<u>Adjustment Rate</u>
1	Residential Service	0.1535¢ per kWh
7	Small General Service	0.1535¢ per kWh
9-S	Large General Service (Secondary)	0.1535¢ per kWh
9-P	Large General Service (Primary)	0.1535¢ per kWh
9-T	Large General Service (Transmission)	0.1535¢ per kWh
15	Dusk to Dawn Lighting	0.1535¢ per kWh
19-S	Large Power Service (Secondary)	0.1535¢ per kWh
19-P	Large Power Service (Primary)	0.1535¢ per kWh
19-T	Large Power Service (Transmission)	0.1535¢ per kWh
24-S	Irrigation Service (Secondary)	0.1535¢ per kWh
24-T	Irrigation Service (Transmission)	0.1535¢ per kWh
40	Unmetered General Service	0.1535¢ per kWh
41	Municipal Street Lighting	0.1535¢ per kWh
42	Traffic Control Lighting	0.1535¢ per kWh

(N)

BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

**DOCKET NO. UE 316**

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 Power Plant. )  
 )  
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\_\_\_\_\_ )

**IDAHO POWER COMPANY**

**DIRECT TESTIMONY**

**OF**

**MATTHEW T. LARKIN**

**November 2, 2016**

1 **Q. Please state your name, business address, and present position with Idaho**  
2 **Power Company (“Idaho Power” or “Company”).**

3 A. My name is Matthew T. Larkin. My business address is 1221 West Idaho Street,  
4 Boise, Idaho 83702. I am employed by Idaho Power as the Revenue Requirement  
5 Manager in the Regulatory Affairs Department.

6 **Q. Please describe your educational background.**

7 A. I received a Bachelor of Business Administration degree in Finance from the  
8 University of Oregon in 2007. In 2008, I earned a Master of Business Administration  
9 degree from the University of Oregon. I have also attended electric utility ratemaking  
10 courses, including the Electric Rates Advanced Course, offered by the Edison  
11 Electric Institute, and Estimation of Electricity Marginal Costs and Application to  
12 Pricing, presented by National Economic Research Associates, Inc.

13 **Q. Please describe your work experience with Idaho Power.**

14 A. I began my employment with Idaho Power as a Regulatory Analyst I in January  
15 2009. As a Regulatory Analyst I, I provided support for the Company’s regulatory  
16 activities, including compliance reporting, financial analysis, and the development of  
17 revenue forecasts for regulatory filings.

18 In January 2012, I was promoted to Regulatory Analyst II, and, in January  
19 2014, I was promoted to Senior Regulatory Analyst. As a Senior Regulatory Analyst,  
20 my responsibilities expanded to include the development of complex cost-related  
21 studies and the analysis of strategic regulatory issues.

22 In March of 2016, I was promoted to my current position of Revenue  
23 Requirement Manager. As Revenue Requirement Manager, I oversee the  
24 Company’s regulatory activities related to revenue requirement, such as power  
25 supply expense modeling, jurisdictional separation studies, and Idaho Power’s Open  
26 Access Transmission Tariff formula rate.

**I. OVERVIEW**

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**Q. What is the Company requesting in this case?**

A. The Company is requesting the Public Utility Commission of Oregon (“Commission”) authorize Idaho Power to (1) accelerate the depreciation schedule for the North Valmy power plant (“Valmy”) to allow the plant to be fully depreciated by December 31, 2025, (2) establish a balancing account to track the incremental costs and benefits associated with the accelerated Valmy end-of-life date, and (3) adjust customer rates to recover the associated incremental annual revenue requirement of \$1,056,800 with an effective date of June 1, 2017.

**Q. How is the Company’s case organized?**

A. My testimony begins with a discussion of why the 2025 end-of-life date for the Valmy plant is appropriate and describes why the Valmy depreciation schedule should be accelerated at this time. My testimony then details the proposed balancing account intended to recover incremental costs and benefits associated with a 2025 end-of-life assumption for Valmy. My testimony concludes with a quantification of the proposed \$1,056,800 increase to rates with a requested effective date of June 1, 2017, and a summary of why the Company’s request is in the public interest.

The Direct Testimony of Company witness Tom Harvey discusses the prudence of investments made at Valmy that have added to the associated plant balances since the Company’s last general rate case, and informs the Commission of necessary future investments at the plant to ensure Valmy continues to be available for reliable load service through the end of 2025. Mr. Harvey’s testimony then presents the analysis relied upon by Idaho Power to determine that the proposed depreciable life at Valmy reflecting a 2025 end-of-life date is appropriate.

**Q. Please summarize your exhibits.**

1 A. Exhibit No. 101 details the derivation of the Oregon jurisdictional share of the  
2 revenue requirement that the Company is proposing in this case to include in  
3 customer rates.

4 **II. VALMY ACCELERATED DEPRECIATION**

5 **Q. Why is the Company proposing to modify the depreciable life of Valmy at this**  
6 **time?**

7 A. Pursuant to OAR 860-027-0350(2), Idaho Power is required to file an updated  
8 depreciation study within five years of the Company's previous depreciation study.  
9 The Company's most recent update, approved by Order No. 12-296 in Docket No.  
10 UM 1576, went into effect on June 1, 2012.<sup>1</sup> Because nearly five years have passed  
11 since the last update, the Company began preparations in early 2016 to file a new  
12 depreciation study. Through these preparations, the Company identified that  
13 significant changes had occurred with regard to the economic life of the Valmy plant,  
14 warranting the need for specific review separate from the Company's general  
15 depreciation filing. Given the requirement to file an updated depreciation study  
16 within the next year, the Company believes it is appropriate to consider Valmy-  
17 related issues concurrently with the comprehensive depreciation study filed in Docket  
18 No. UM 1801. The requested effective date in both cases is June 1, 2017, which is  
19 five years from the effective date of the Company's last depreciation rate update.

20 **Q. Why does Idaho Power believe it is appropriate to address depreciation for**  
21 **Valmy in a separate proceeding rather than through the general depreciation**  
22 **study update filed in Docket No. UM 1801?**

23

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24 <sup>1</sup> *In the Matter of Idaho Power Company, Application to Implement Revised Depreciation Rates for*  
25 *the Company's Electric Plant-in-Service*, Docket No. UM 1576, Order No. 12-296 (July 20, 2012). Order  
26 No. 12-296 approved revised depreciation rates effective June 1, 2012 for accounting purposes and  
customer rates effective August 1, 2012.

26

1 A. As discussed in detail in Mr. Harvey's testimony, circumstances surrounding the  
2 Valmy plant have changed since the Company last updated its depreciation rates in  
3 2012, resulting in the Company's request for the proposed accounting treatment  
4 detailed in my testimony. Similar to the circumstances surrounding the Boardman  
5 plant ("Boardman") in 2012, changing conditions have resulted in an expected end-  
6 of-life at Valmy that is several years earlier than what is currently reflected in  
7 customer rates. Given the complexity associated with the acceleration of Valmy's  
8 depreciation schedule, the Company felt that a separate proceeding was appropriate  
9 to allow for a full review of the issues presented herein.

10 **Q. What is Valmy's currently approved depreciable life for ratemaking purposes?**

11 A. Currently approved depreciation rates reflect a plant life of 50 years for each unit,  
12 resulting in a retirement year of 2031 for Unit 1 and 2035 for Unit 2.

13 **Q. What analysis led Idaho Power to determine that the end-of-life assumption for  
14 Valmy should be accelerated to year-end 2025?**

15 A. As detailed in Mr. Harvey's testimony, Idaho Power's preferred portfolio from the  
16 2015 Integrated Resource Plan ("IRP") included the shutdown of Valmy Units 1 and  
17 2 in 2025 to coincide with the completion of the Boardman to Hemingway ("B2H")  
18 transmission line. In addition to the 2015 IRP analysis, in 2016, Idaho Power  
19 completed an assessment of the operating future of Valmy with respect to economics  
20 of production and system reliability. As discussed by Mr. Harvey, the assessment  
21 indicates that Valmy is not expected to operate beyond 2025.

22 **Q. In addition to the analyses performed by Idaho Power, are there any other  
23 factors that support the use of 2025 as the appropriate end-of-life date for  
24 Valmy?**

25 A. Yes. In 2013, Idaho Power's co-owner in Valmy, NV Energy, filed a request with the  
26 Public Utilities Commission of Nevada ("PUCN") for a 2021 end-of-life date for Unit 1



1 at Valmy. The request did not include a change to NV Energy's existing end-of-life  
2 date of 2025 for Unit 2. Because of concerns about the increase in common costs  
3 that would result from operating only one of the two units beginning in 2021, the  
4 PUCN instead approved a 2025 end-of-life date for both Unit 1 and Unit 2.<sup>2</sup>  
5 Likewise, in its most recent depreciation study filed with the PUCN on June 6, 2016,  
6 in Docket No. 16-06008, NV Energy used the same end-of-life date for both units.<sup>3</sup>  
7 As discussed in more detail in the testimony of Mr. Harvey, the 2025 shutdown date  
8 currently utilized by NV Energy provides an additional indication that the Valmy plant  
9 will not be operational beyond 2025.

10 **Q. Has Idaho Power considered utilizing an end-of-life date for Valmy earlier than**  
11 **2025?**

12 A. Yes. As part of the 2015 IRP, Idaho Power considered the impact to customers of  
13 an end-of-life at both Valmy units earlier than 2025. However, Idaho Power's  
14 analysis concluded that an end-of-life assumption of 2025 would result in net present  
15 value revenue requirement savings as compared to the existing operating  
16 assumption while mitigating the customer rate impacts associated with a 2019 end-  
17 of-life.<sup>4</sup>

18 **Q. Please summarize why a 2025 end-of-life date is appropriate for the Valmy**  
19 **plant.**

21 \_\_\_\_\_  
22 <sup>2</sup> *Application of Sierra Pacific Power Company d/b/a/ NV Energy for approval of new and revised depreciation rates for its electric and common accounts, Docket No. 13-06004, Doc. ID 34333 at 46 (Jan. 29, 2014).*

23 <sup>3</sup> *In the Matter of the Application of Sierra Pacific Power Company d/b/a/ NV Energy demonstrating new and revised Depreciation rates for its Electric and Common Accounts, Docket No. 16-06008, Doc. ID 12379, Allis-Direct at 11 (June 6, 2016).*

24 <sup>4</sup> *In the Matter of Idaho Power Company's 2015 Integrated Resource Plan, Docket No. LC-63, Application (June 30, 2015).*

26

1 A. There are multiple aspects of the current circumstances surrounding the Valmy plant  
2 that support the use of a 2025 end-of-life date for depreciation purposes. First, Idaho  
3 Power's 2015 IRP led to the use of a 2025 closure date for both Valmy units as part  
4 of the Company's preferred portfolio, balancing the short-term rate impacts of an  
5 earlier shutdown with long-term revenue requirement savings. The 2025 date was  
6 further supported by the assessment performed by the Company in 2016, which  
7 concluded that a 2025 end-of-life date for Valmy is preferable with respect to  
8 reliability and revenue requirement impacts. Lastly, the currently approved  
9 depreciable life utilized by the Company's co-owner at the Valmy plant, NV Energy,  
10 reflects a 2025 end-of-life date. This body of evidence strongly supports the  
11 modification of the existing Valmy depreciation schedule to reflect a 2025 shutdown  
12 date.

13 **III. BENEFITS OF ACCELERATED RECOVERY**  
14 **OF VALMY-RELATED COSTS**

15 **Q. Why is it beneficial to accelerate the depreciation schedule at Valmy to reflect**  
16 **the 2025 end-of-life date as requested?**

17 A. There are two primary reasons why it is beneficial to accelerate Valmy's depreciation  
18 schedule at this time because (1) doing so will result in the appropriate matching of  
19 cost recovery with the remaining operating life of the plant and (2) accelerating the  
20 depreciation schedule at this time will mitigate future rate impacts associated with the  
21 earlier shutdown of the plant.

22 **Q. Please explain why the Company's proposal results in the appropriate**  
23 **matching of costs and rate recovery.**

24 A. For the reasons summarized above, customers will continue to be served by the  
25 Valmy plant until year-end 2025, at which point the plant is no longer expected to be  
26 used. By accelerating the depreciation schedule to reflect a 2025 shutdown date,

1 the recovery of Valmy-related costs will align with the remaining operating life of the  
2 plant, resulting in cost recovery from customers who are served by the plant.  
3 Without accelerating the depreciation schedule to reflect the 2025 shutdown date,  
4 cost recovery from customers could extend beyond the plant's operating life,  
5 resulting in cost recovery from future customers for a plant that will no longer be  
6 providing service at that time.

7 **Q. How does the acceleration of Valmy's depreciation schedule mitigate future**  
8 **rate impacts to customers?**

9 A. From a ratemaking perspective, depreciation expense represents the recovery of  
10 investment in plant and equipment over time. When the life of an asset is adjusted to  
11 reflect an earlier retirement date, it results in a shorter time period over which costs  
12 can be recovered, meaning more costs must be recovered in each year to provide  
13 for full recovery of the investment over its useful life. Therefore, the more time that  
14 passes before the depreciation schedule at Valmy is adjusted to reflect the 2025  
15 retirement date, the larger the revenue requirement increase will be to allow for full  
16 cost recovery.

17 **IV. RECOMMENDED REGULATORY ACCOUNTING**  
18 **AND RATEMAKING TREATMENT**

19 **Q. Please describe the need for the Valmy balancing account.**

20 A. As stated above, the Company believes the operating life of Valmy will end in 2025,  
21 earlier than the current depreciable end-of-life of 2031 for Unit 1 and 2035 for Unit 2.  
22 In addition to the earlier end-of-life date, Valmy will also require incremental  
23 investments to maintain operations prior to ultimately decommissioning the plant.  
24 However, the specific timing and exact amounts of these future investments are not  
25 yet known. For these reasons, Idaho Power proposes the establishment of a  
26

1 balancing account that would allow flexibility for the timing and recovery of the  
2 remaining Valmy revenue requirement.

3 **Q. Has the Commission authorized the Company to implement the requested**  
4 **recovery treatment in any other cases?**

5 A. Yes. In Docket No. UE 239, the Commission approved a cost recovery approach for  
6 incremental annual costs associated with the early retirement of the Boardman  
7 power plant.<sup>5</sup> Idaho Power's proposal in this case mirrors the cost recovery  
8 approach approved in Docket No. UE 239.

9 **Q. Please provide an overview of the Company's proposed cost recovery**  
10 **approach for Valmy.**

11 A. There are three types of costs the Company anticipates booking to the balancing  
12 account: (1) the accelerated depreciation associated with existing Valmy plant  
13 investments through May 31, 2017, (2) the return on the undepreciated capital  
14 investments at Valmy until its end-of-life, and (3) decommissioning costs related to  
15 the Valmy shutdown.

16 **Q. What are the benefits associated with this approach?**

17 A. Like the Boardman balancing account, the Valmy balancing account will effectively  
18 align the cost recovery period with the remaining operating life of the plant, resulting  
19 in an appropriate matching of cost recovery from customers who benefit from the  
20 plant's operations while mitigating the risk of future customers bearing the costs of a  
21 plant that will no longer be providing service.

22 **Q. Please describe the tracking of the accelerated depreciation associated with**  
23 **existing Valmy plant investments.**

24 \_\_\_\_\_  
25 <sup>5</sup> *In the Matter of Idaho Power Company Application for Authority to Implement a Boardman*  
26 *Operating Life Adjustment Tariff for Electric Service to Customers in the State of Oregon*, Docket No. UE  
239, Order No. 12-235 (June 26, 2012).

1 A. The proposed accounting treatment will result in accelerated depreciation expense  
2 related to all Valmy plant investments as compared to current depreciation that is  
3 based on a retirement date of 2031 for Unit 1 and 2035 for Unit 2. The Company is  
4 proposing to track and recover the accelerated depreciation expense associated with  
5 Valmy's 2025 end-of-life through the Valmy balancing account as quantified later in  
6 my testimony.

7 **Q. Please explain the return on undepreciated capital investments at Valmy that**  
8 **will be tracked in the balancing account.**

9 A. Although Valmy's end-of-life is expected to occur in 2025, there will be required  
10 investments at the plant in addition to its normal maintenance in order to keep the  
11 plant operational until that time. The return on the additional investments and the  
12 associated depreciation expense will be tracked in the balancing account.

13 **Q. Does the requested incremental revenue requirement proposed in this**  
14 **proceeding include the recovery on, or of, any capital improvements that are**  
15 **not currently used and useful?**

16 A. No. Aside from the recovery of forecasted decommissioning costs, the Company is  
17 only requesting at this time the recovery of the incremental revenue requirement  
18 impacts of the accelerated depreciation of plant investments that were in service as  
19 of May 31, 2017. That is, the Company is only requesting that rates be adjusted to  
20 reflect the accelerated depreciation of Valmy-related investments that are currently  
21 used and useful. Any revenue requirements associated with capital investment  
22 related to Valmy that are placed into service June 1, 2017, and beyond will be  
23 tracked in the balancing account and requested for inclusion in rates in a subsequent  
24 proceeding.

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1 **Q. Please describe the proposed tracking of the Valmy decommissioning costs.**

2 A. Idaho Power will incur decommissioning costs related to the Valmy 2025 end-of-life.  
3 Currently, estimated decommissioning costs are accounted for as an Asset  
4 Retirement Obligation (“ARO”), which considers costs to decommission and remove  
5 plant components, including the power plant and associated ponds and material  
6 handling facilities. The ARO also includes a 15 percent contingency estimate and is  
7 partially offset by expected salvage proceeds associated with decommissioning the  
8 plant. The Company’s current base rates do not include any recovery of ARO  
9 related to Valmy.

10 **Q. Does the Company account for the Valmy ARO under Accounting Standards**  
11 **Codification (“ASC”) 410?**

12 A. Yes. In accordance with Order No. 04-585,<sup>6</sup> Idaho Power records (1) a regulatory  
13 asset for the cumulative financial statement impact resulting from the Company’s  
14 implementation of ASC 410, and (2) the ongoing annual differences between the  
15 ASC 410 depreciation and accretion expenses and the annual depreciation  
16 expenses that are currently authorized by the Commission in depreciation rates and  
17 accruals. If the Commission approves the Company’s proposal related to Valmy  
18 decommissioning costs, Idaho Power would begin collecting revenues to cover the  
19 existing ARO-related liabilities, as well as non-ARO decommissioning costs.  
20 Therefore, Idaho Power requests Valmy-related ARO balances be exempted from  
21 the deferral treatment under Order No. 04-585 and that previously deferred amounts  
22 be amortized over the expected remaining life of Valmy.

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<sup>6</sup> *In the Matter of Idaho Power Company Application for an Accounting Order Regarding Treatment of Certain Asset and Requirement Obligations*, Docket No. UM 1167, Order No. 04-585 (Oct. 7, 2004).

1 **Q. Has the Company determined the revenue requirement associated with the**  
2 **costs proposed to be tracked in the Valmy balancing account?**

3 A. Yes. The incremental annual revenue requirement associated with the recovery of  
4 both existing investments in Valmy on an accelerated basis, as well as  
5 decommissioning costs, is \$1,056,800 on an Oregon jurisdictional basis. Exhibit No.  
6 101 details the development of the revenue requirement.

7 **Q. How does the Company propose to determine the revenue requirement**  
8 **amounts that are requested for recovery in this proceeding?**

9 A. The Company has prepared an Oregon jurisdictional revenue requirement using  
10 plant balances as of May 31, 2017. The calculation includes impacts resulting from  
11 the accelerated depreciation of the Valmy plant accounts and from increased  
12 decommissioning costs. Incremental depreciation expense was based on actual July  
13 31, 2016, plant balances, forecasted to May 31, 2017, and the decommissioning  
14 costs were calculated using Idaho Power's 50 percent share of the costs of the study  
15 performed by URS Corporation. The annual recovery amount for decommissioning  
16 costs was determined by converting the future value of the decommissioning costs  
17 into an equivalent annual annuity or levelized payment. The annuity recognizes the  
18 time value of dollars collected from customers for future costs.

19 **Q. Please quantify the accelerated depreciation component of the revenue**  
20 **requirement amount.**

21 A. The Company's proposal will result in accelerated depreciation expense related to all  
22 Valmy plant investments. As previously mentioned, concurrent with this filing, Idaho  
23 Power has filed its updated depreciation study in Docket No. UM 1801 that  
24 incorporates Valmy's 2025 end-of-life date and adjusts depreciation rates  
25 accordingly, anticipating a proposed change in rates effective June 1, 2017. In that  
26 filing, however, the Company is proposing to exclude the impacts of the accelerated

1 depreciation for Valmy and instead track these incremental expenses in the Valmy  
2 balancing account proposed in this case. As of July 31, 2016, the Valmy net plant  
3 investment is approximately \$222 million and the Company estimates the net plant  
4 investment as of May 31, 2017, will be \$217 million. The total accelerated  
5 depreciation associated with the Valmy 2025 end-of-life date included in the annual  
6 incremental revenue requirement calculation is approximately \$976,000 on an  
7 Oregon jurisdictional basis.

8 **Q. Please quantify the annual revenue requirement associated with the Valmy**  
9 **decommissioning costs.**

10 A. Idaho Power estimated its share of the decommissioning costs by applying the  
11 Company's 50 percent ownership percentage to the decommissioning study  
12 performed by URS Corporation for NV Energy. The total included in the Oregon  
13 jurisdictional revenue requirement calculation is \$80,330.

14 **Q. How does the Company plan to administer the Valmy balancing account on an**  
15 **annual basis?**

16 A. Idaho Power is proposing to administer the Valmy balancing account in the same  
17 way the Company administers the Boardman balancing account. The Company will  
18 track the monthly deviations between forecasted revenue collection and actual  
19 revenue collection and adjust rates annually at the same time rates associated with  
20 the Boardman balancing account are updated.

21 **Q. How does the Company propose to allocate the incremental annual revenue**  
22 **requirement amount of approximately \$1.06 million to each class of**  
23 **customers?**

24 A. The Company requests that the incremental revenue requirement of approximately  
25 \$1.06 million be recovered from all customer classes through the Company's  
26 proposed revised Schedule 92, Coal Plant Operating Life Adjustment.



1 **Q. Has the Company prepared a schedule that presents the rate impact for each**  
2 **customer class under the Company's proposed methodology?**

3 A. Yes. Attachment No. 1 to the Application presents a summary of the proposed  
4 revenue impact for each customer class.

5 **V. CONCLUSION**

6 **Q. Please summarize your testimony.**

7 A. Multiple studies support the use of 2025 as the end-of-life date for the Valmy plant,  
8 including Idaho Power's 2015 IRP and the 2016 analysis detailed in the testimony of  
9 Mr. Harvey. In addition, the currently approved depreciable life for the Company's  
10 co-owner at Valmy, NV Energy, also reflects a 2025 end-of-life date. Given this body  
11 of evidence, Idaho Power is proposing to accelerate the depreciation schedule for  
12 the Valmy plant to reflect this earlier shutdown of year-end 2025. The Company's  
13 proposal will result in the appropriate matching of cost recovery with the remaining  
14 operations of the plant, and mitigate future rate increases that will be required if  
15 Valmy's depreciable life is not updated at this time.

16 Additionally, Valmy will require incremental investments to maintain  
17 operations prior to ultimately decommissioning the plant. However, the specific  
18 timing and exact amounts of these future investments are not yet known. For that  
19 reason, Idaho Power proposes the establishment of a balancing account that would  
20 allow flexibility for the timing and recovery of the remaining Valmy revenue  
21 requirement, and appropriately align the cost recovery period with the remaining  
22 operational life of the plant. The requested treatment is identical to the currently  
23 approved methodology related to the early closure of the Boardman power plant,  
24 which has proven to be an effective method to provide for cost recovery while  
25 smoothing out rate impacts to customers. Under the proposed methodology, Idaho  
26

1 Power seeks approval of an adjustment of \$1,056,800 to the Company's Oregon  
2 jurisdictional revenue requirement to take place on June 1, 2017.

3 **Q. Does this complete your testimony?**

4 A. Yes, it does.

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BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

IDAHO POWER COMPANY

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Exhibit Accompanying Testimony of Matthew T. Larkin  
Revenue Requirement Computation

November 2, 2016

## Revenue Requirement for the Valmy Plant at May 31, 2017

### Revenue Requirement On Existing Investments at May 31, 2017

	<u>Existing Accelerated</u>
2017	48,412,363
2018	45,911,028
2019	43,753,280
2020	41,597,925
2021	39,447,159
2022	37,298,108
2023	35,147,165
2024	32,997,673
2025	<u>30,847,844</u>
Total	355,412,545
PV	267,247,735
Payment	40,955,491

### Decommissioning Costs

	2025 Costs	Payment
Decommissioning Costs (Estimated in 2025 dollars)	21,583,188	1,871,087

<b>Total System Summary</b>		
Rev Rqmt - Existing Investment	40,955,491	
Rev Rqmt - Decommissioning Costs & Salvage	<u>1,871,087</u>	
New Rev Rqmt (To be tracked through the balancing account)	42,826,578	
Estimated Rev Rqmt Currently in Base Rates (2011)	<u>18,021,801</u>	
Net Change in Rev Rqmt	<u>24,804,777</u>	
Annual Rev Rqmt. Impact to Customers	<u>24,804,777</u>	

<b>Oregon Jurisdictional Summary</b>		
Rev Rqmt - Existing Investment	1,758,316	
Rev Rqmt - Decommissioning Costs & Salvage	<u>80,330</u>	
New Rev Rqmt (To be tracked through the balancing account)	1,838,646	
Estimated Rev Rqmt Currently in Base Rates (2011)	<u>781,846</u>	
Net Change in Rev Rqmt	<u>1,056,800</u>	
Annual Rev Rqmt. Impact to Customers	<u>1,056,800</u>	

BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

**DOCKET NO. UE 316**

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 Power Plant. )  
\_\_\_\_\_)

**IDAHO POWER COMPANY**  
**DIRECT TESTIMONY**  
**OF**  
**TOM HARVEY**

**November 2, 2016**

1 **Q. Please state your name, business address, and present position with Idaho**  
2 **Power Company (“Idaho Power” or “Company”).**

3 A. My name is Tom Harvey and my business address is 1221 West Idaho Street, Boise,  
4 Idaho 83702. I am employed by Idaho Power as the Resource Planning and  
5 Operations Director in the Power Supply Department.

6 **Q. Please describe your educational background.**

7 A. I have a Bachelor of Business Administration in business management from Boise  
8 State University. I also attended the University of Idaho’s Utility Executive Course in  
9 2011.

10 **Q. Please describe your work experience with Idaho Power.**

11 A. I was hired by Idaho Power in July 1980 to work in the Plant Accounting Department.  
12 I continued working in the accounting area through 1985. From 1985 through 2009, I  
13 was the Fuels Management Coordinator and then was promoted to the Joint Projects  
14 Manager. In April 2015, I was promoted to my current position, Resource Planning  
15 and Operations Director. My current responsibilities include supervision over Idaho  
16 Power’s jointly owned coal assets, integrated resource planning, cloud seeding  
17 program, river engineering, streamflow gaging, and operations hydrology.

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

19 A. The purpose of my testimony is to discuss the prudence of investments made at the  
20 North Valmy power plant (“Valmy”) that have added to the associated plant balances  
21 since the Company’s last general rate case, and to inform the Public Utility  
22 Commission of Oregon of necessary future investments at the plant to ensure Valmy  
23 continues to be available for reliable load service through the end of 2025. My  
24 testimony also presents Valmy’s current position in the Company’s generation  
25 portfolio and the results of an analysis performed by Idaho Power that supports the  
26

1 proposed depreciable life at Valmy reflecting an end-of-life date as of December 31,  
2 2025.

3 **Q. Please describe the Valmy plant.**

4 A. Valmy is a coal-fired power plant that consists of two units and is located near  
5 Winnemucca, Nevada. Unit 1 went in service in 1981 and Unit 2 followed in 1985.  
6 Idaho Power owns 50 percent, or 284 megawatts (“MW”)<sup>1</sup> (generator nameplate  
7 rating), of Valmy. NV Energy also has 50 percent ownership and is the operator of  
8 the Valmy facility. Idaho Power and NV Energy work jointly to make decisions  
9 regarding any environmental investment, plant retirement, or conversion. The plant  
10 is connected via a single 345 kilovolt transmission line to the Idaho Power control  
11 area at the Midpoint substation. Idaho Power has the northbound capacity and NV  
12 Energy has the southbound capacity of this line.

13 Coal for the plant is shipped via railroad from various mines in Utah,  
14 Wyoming, and Colorado. The power plant uses a variety of emissions control  
15 technologies, including state-of-the-art fabric filters that remove more than 99  
16 percent of particulate emissions. Additionally, a Dry Sorbent Injection (“DSI”) system  
17 has been installed on Unit 1 to reduce acid gas emissions, and flue-gas scrubber  
18 technology is utilized on Unit 2 for the reduction of sulfur dioxide emissions.

19 **I. VALMY OPERATIONS AND INVESTMENTS SINCE 2011**

20 **Q. Company witness Matthew T. Larkin states in his direct testimony that the**  
21 **current depreciable life at the Valmy plant reflects a 2031 end-of-life for Unit 1**  
22 **and a 2035 end-of-life for Unit 2. What resource planning analyses did the**  
23 **Company prepare based on the 2031 and 2035 end-of-life assumptions for**  
24 **Valmy currently in place?**

25 \_\_\_\_\_  
26 <sup>1</sup> For planning purposes, Idaho Power uses the net dependable capability of 262 MW.

1 A. The current depreciation lives for Valmy, a 2031 end-of-life for Unit 1 and a 2035  
2 end-of-life for Unit 2, were used in Idaho Power's comprehensive study of its coal  
3 units entitled the Coal Unit Environmental Investment Analysis for the Jim Bridger  
4 and North Valmy Coal-Fired Power Plants ("2013 Coal Study"). This analysis guided  
5 Idaho Power's Valmy-related decisions until the preferred portfolio selected as part of  
6 the 2015 Integrated Resource Plan ("IRP") concluded that a 2025 end-of-life  
7 assumption for Valmy would provide a more favorable economic outcome as  
8 compared to the previous operating life assumptions.<sup>2</sup>

9 The analysis performed for the 2013 Coal Study examined future investments  
10 required for environmental compliance at existing coal units and compared those  
11 investments to the costs of two alternatives: (1) replacing such units with combined  
12 cycle combustion turbine units, or (2) converting the existing coal units to natural  
13 gas. The 2013 Coal Study was included as part of the 2011 IRP Update, which was  
14 filed on February 14, 2014, in Docket No. LC 53.<sup>3</sup>

15 **Q. What conclusions about Valmy were drawn by the 2013 Coal Study?**

16 A. The 2013 Coal Study determined that continued operation of Unit 1 until 2031 and  
17 Unit 2 through 2035 was economic, with the only notable environmental investment  
18 required at Valmy being to install DSI for compliance with the Mercury and Air Toxic  
19 Standards ("MATS") regulation on Unit 1. Valmy is not subject to the Regional Haze  
20 Best Available Retrofit Technology ("RH BART") regulations; therefore, no additional  
21 controls were required for compliance with the RH BART regulations. Idaho Power

22 \_\_\_\_\_  
23 <sup>2</sup> *In the Matter of Idaho Power Company's 2015 Integrated Resource Plan*, Docket No. LC-63  
(June 30, 2015).

24 <sup>3</sup> *In the Matter of Idaho Power Company's 2011 Integrated Resource Plan*, Docket No. LC 53,  
25 Coal Environmental Compliance Upgrade Investment Evaluation (Feb. 14, 2014); *In the Matter of*  
26 *Idaho Power Company's 2011 Integrated Resource Plan*, Docket No. LC 53, Coal Unit  
Environmental Investment Analysis for the Jim Bridger and North Valmy Coal-Fired Power Plants  
(Feb. 14, 2014).



1 concluded that installation of the DSI system was a low-cost approach to retain a  
2 diversified portfolio of generation assets for customers and that continued operation  
3 of Unit 1 would provide fuel diversity, helping to mitigate risk associated with natural  
4 gas prices. Thus, the Company continued to include Valmy in its generation portfolio  
5 for the 2013 IRP and future resource planning.

6 **Q. Please describe the operations of Valmy as identified in the preferred portfolio**  
7 **analyzed in the 2013 IRP.**

8 A. Although Idaho Power analyzed ceasing operations at Valmy in 2021 and 2025 as  
9 part of the 2013 IRP, the preferred resource portfolio included continued operations  
10 of the Valmy coal facility in full compliance with environmental regulations through  
11 the 2013 IRP planning period (2013-2032).<sup>4</sup> Consistent with the assumptions  
12 applied in the 2013 Coal Study, continued coal operations were expected to require  
13 advanced financial commitment in 2012 for the installation of DSI emission control  
14 systems, approximately three years prior to their installation and operation.

15 **Q. Did Idaho Power commit financially and subsequently install the DSI emission**  
16 **control systems required at Valmy?**

17 A. Yes. In 2012, Idaho Power committed financially to the DSI investments required on  
18 Unit 1 to meet the MATS regulation. Installation of the required emission control  
19 systems was complete in the spring of 2015.

20 **Q. With the DSI emission control system investments completed on Unit 1, were**  
21 **both units at Valmy in compliance with all known environmental regulations?**

22 A. Yes. However, subsequently it was determined that because of the existing  
23 condition of the scrubber on Unit 2, the scrubber would need to be upgraded to meet  
24

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25 <sup>4</sup> *In the Matter of Idaho Power Company 2013 Integrated Resource Plan*, Docket No. LC 58  
26 (June 28, 2013).

1 the acid gas portion of the MATS regulation. The scrubber upgrade on Unit 2 was  
2 completed in 2015. With existing investments, Valmy is now in compliance with all  
3 current environmental regulations.

4 **Q. Are there any future environmental regulations that could affect Valmy?**

5 A. There are three environmental regulations that have the potential to affect Valmy in  
6 the future: the National Ambient Air Quality Standards (“NAAQS”),<sup>5</sup> Regional Haze,<sup>6</sup>  
7 and the Federal Environmental Protection Agency’s Clean Air Act Section 111(d)  
8 (“111(d”).<sup>7</sup> All impact areas for NAAQS are in attainment, and the State of Nevada  
9 is well below the Reasonable Progress glide slope under the Regional Haze  
10 regulation so no additional controls are anticipated at this time. Finally, although  
11 there is still uncertainty around the effect of final regulation related to 111(d), it is  
12 anticipated that Valmy will be able to meet all targets set by the final rule.

13 **Q. Idaho Power’s last general rate case used a 2011 test year as a basis for plant**  
14 **values, which included \$148 million in Valmy-related plant. However, Mr.**  
15 **Larkin indicated that current Valmy plant balances as of July 31, 2016, are**  
16 **approximately \$217 million. Please explain what is driving the approximately**  
17 **\$70 million increase in the Valmy balances from the 2011 test year to July 31,**  
18 **2016.**

19 A. There have been a number of investments required at Valmy over the last four and a  
20 half years to ensure the plant remains operational in a safe, efficient, and reliable  
21 manner, including investments required to ensure environmental compliance, as well  
22 as a number of investments for routine maintenance and repair.

23  
24 <sup>5</sup> 42 U.S.C. § 7409

25 <sup>6</sup> 42 U.S.C. §§ 7491, 7492

26 <sup>7</sup> 42 U.S.C. § 7411(d)

1 **Q. Have you prepared an exhibit detailing the investments made since the last**  
2 **general rate case?**

3 A. Yes. Exhibit No. 201 details the investments made at Valmy since the last general  
4 rate case, including the investment by year and a classification as to whether the  
5 investment was for environmental compliance, the safe and economic operation of  
6 the plant, or for reliability purposes. Exhibit No. 201 also includes a description and  
7 justification for each of the investments.

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

10 A. Yes. For all planned capital projects, Idaho Power receives from the plant operator,  
11 NV Energy, a description of the project, the factors driving the need for the project,  
12 and a recommendation for the work to be performed. Idaho Power then undertakes  
13 to perform its independent analysis of the proposed investment, upon which it bases  
14 its decision as to whether to approve the proposal.

15 **Q. Did Idaho Power agree that all of the projects comprising the approximately**  
16 **\$70 million in investment that occurred between the 2011 test year and July 31,**  
17 **2016, were necessary for either environmental compliance, the safe and**  
18 **economic operation of the plant, or for reliability purposes?**

19 A. Yes.

20 **Q. Please describe the investments made for environmental compliance since**  
21 **2011.**

22 A. The investments made for environmental compliance include DSI installation and  
23 coal pipe replacement on Unit 1, the scrubber upgrade on Unit 2, the coal crusher  
24 belt feeder project, dust collector upgrade, caustic tank building replacement,  
25 evaporation pond liner replacement, bed demineralizer replacement, and the coal  
26 combustion residual compliance project.

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

3 A. To maintain the safe and reliable operation of the plant, the cooling towers on both  
4 units were replaced, the circulating water lines were recoated, the  
5 mechanical/electrical shop was redesigned for increased productivity, and the  
6 cathodic protection system was upgraded. In addition, Unit 1 required the  
7 replacement of the reheat tube and secondary tube sections of the boiler and the  
8 sootblower system. Similarly, it was essential that Unit 2 undergo a rebuild of the  
9 bottom ash hydrobin, a burner and primary air duct replacement, a generator phase  
10 end turn design betterment project, steam valve hardening, and a primary superheat  
11 lower loop replacement. The capital investments made at Valmy since the last rate  
12 case were prudent and essential for continued operation of the plant.

13 **II. VALMY'S POSITION IN IDAHO POWER'S**  
14 **GENERATION PORTFOLIO**

15 **Q. Please describe the preferred portfolio identified in the Company's 2015 IRP as**  
16 **it relates to Valmy operations.**

17 A. Idaho Power analyzed a variety of retirement dates for Valmy as part of the  
18 Company's 2015 IRP. Results consistently indicated favorable economics  
19 associated with two significant resource actions: (1) construction of the Boardman to  
20 Hemingway ("B2H") transmission line and (2) the early retirement of Valmy. The  
21 preferred portfolio selected for the 2015-2034 planning horizon contained both  
22 actions in the year 2025, with completion of the B2H transmission line preceding the  
23 end-of-year coal plant retirement.<sup>8</sup>

24  
25 <sup>8</sup> *In the Matter of Idaho Power Company's 2015 Integrated Resource Plan*, Docket No. LC-63  
26 (June 30, 2015).

1 **Q. What were the factors driving the 2025 Valmy end-of-life in the 2015 IRP**  
2 **preferred portfolio?**

3 A. The preferred portfolio selected as part of the 2015 IRP process contained no other  
4 resource additions through the end of the 2020s. In addition to the absence of  
5 resource needs, the resource sufficiency through the early 2020s shielded the  
6 preferred portfolio from risk exposure associated with the following near-term  
7 uncertainties identified: planned but yet-to-be-built Public Utility Regulatory Policies  
8 Act of 1978 (PURPA) solar facilities, 111(d)'s proposed regulations, the completion  
9 date of B2H, and the alignment of Valmy's early retirement date with NV Energy.

10 **Q. What was the action plan for Valmy's 2025 end-of-life date as identified in**  
11 **Idaho Power's 2015 IRP?**

12 A. The 2015-2018 action plan recognized in the 2015 IRP included ongoing permitting,  
13 planning studies, and regulatory filings associated with the B2H transmission line  
14 during all four years, and indicated, in 2016, Idaho Power would work with NV  
15 Energy to synchronize depreciation dates and determine if a date could be  
16 established to cease coal-fired operations. This filing will synchronize depreciation  
17 rates between the two companies.

18 **Q. How have changes in market energy prices in recent years impacted the value**  
19 **of Idaho Power's surplus energy or "off-system" sales?**

20 A. In 2011, the average price Idaho Power received for off-system sales was \$22.71 per  
21 MW compared to 2015 when the average price Idaho Power received for off-system  
22 sales was only \$11.82 per MW. Moreover, year-to-date 2016, Idaho Power's  
23 average price for off-system sales is only \$8.76 per MW.

24 **Q. How does the decrease in the average price for off-system sales impact Valmy**  
25 **operations?**

26

1 A. The significant decrease in market prices has resulted in a decrease in the number  
 2 of hours Valmy operates economically, as the dispatch cost is now typically higher  
 3 than the market price. The following chart details the decrease in Idaho Power's  
 4 capacity factor at Valmy over the last eight years as a result of the decrease in  
 5 market prices. NV Energy is experiencing a similar trend in its share of Valmy  
 6 generation.

Year	Idaho Power's Dispatched Capacity Factor
2008	76%
2009	72%
2010	64%
2011	29%
2012	27%
2013	49%
2014	41%
2015	15%

7  
 8  
 9  
 10  
 11  
 12  
 13  
 14 Rather than a resource used to generate off-system sales, Idaho Power has been  
 15 relying on Valmy to meet the Company's peak energy needs, preserving the  
 16 balanced portfolio needed to reliably serve Idaho Power customers during all types  
 17 of system conditions. For example, when extreme cold weather or extreme hot  
 18 temperatures occur in the West, raising market prices, Valmy is available to provide  
 19 reliable energy and capacity to serve Idaho Power's customers. Absent Valmy's  
 20 generation, the Company would be required to rely on market purchases on non-firm  
 21 transmission, which may not be available to serve the load.

22 **Q. If Valmy is currently being used to help Idaho Power reliably serve load, why is**  
 23 **the Company proposing a 2025 end-of-life?**

24 A. As shown in the preferred portfolio of Idaho Power's 2015 IRP, the economics of  
 25 Valmy's operation are impacted in the long term, as new resources such as B2H or  
 26

1 other operating facilities are available to maintain the balanced portfolio required to  
2 serve load reliably.

3 **Q. Absent B2H, is it feasible to discontinue operations prior to 2025?**

4 A. No. As previously stated, Idaho Power relies on Valmy to meet peak energy needs  
5 and to preserve the balanced portfolio needed to reliably serve customers during all  
6 types of system conditions. When extreme cold weather or extreme hot  
7 temperatures occur in the West, Valmy is providing reliable energy and capacity to  
8 serve customers. The Company's peak-hour load and resource balance analysis  
9 included on page 96 of the Company's 2015 IRP demonstrates that Idaho Power  
10 would have peak-hour capacity deficits beginning in 2020 if Valmy were retired in  
11 2019. A copy of the 2015 peak-hour analysis is provided as Exhibit No. 202. As can  
12 be seen in Table 7.5 of Exhibit No. 202 under the line labeled "Valmy Retire Units 1  
13 and 2 Year-End 2019," peak-hour deficits without Valmy generation capacity grow  
14 from 24 MW in 2020 to 236 MW by 2024.

15 **Q. Please provide an example of how Valmy is currently being used to balance**  
16 **Idaho Power's portfolio and reliably serve customers.**

17 A. In the summers of 2015 and 2016, Idaho Power's loads exceeded 2900 MW,  
18 resulting in market purchases between 300 to 500 MW to cover load while Valmy  
19 was economically displaced by the market purchases and operating at minimum  
20 levels. As the temperatures and load continued to rise, wind generation decreased  
21 and Idaho Power was unable to import additional market purchases to cover the load  
22 due to transmission constraints. During these hot afternoon time periods, Valmy was  
23 dispatched at or near capacity. Another example occurred in the fall and winter of  
24 2014 and 2015. Valmy was dispatched during the Langley Gulch power plant  
25 maintenance outages as Fall Chinook spawning flows restricted hydro generation  
26 and there was not sufficient transmission capacity to reliably serve load with market

1 purchases. Idaho Power will continue to rely on Valmy during similar circumstances  
2 in the future as load increases in the Company's service territory and until the  
3 addition of new resources that are available during peak hours or can provide  
4 additional transmission capacity.

5 **III. CESSATION OF VALMY OPERATIONS**

6 **Q. Have Idaho Power and NV Energy agreed to a date to cease coal-fired**  
7 **operations at Valmy?**

8 A. No. However, Idaho Power and NV Energy continue discussions working towards a  
9 mutually agreed upon closure date. Synchronized depreciation dates for ratemaking  
10 purposes will help in establishing a date to cease coal-fired operations.

11 **Q. In his testimony, Company witness Mr. Larkin discusses the use of a 2025**  
12 **depreciable end-of-life date by NV Energy for both units at the Valmy plant.**  
13 **Would it be feasible for Idaho Power to continue to utilize Valmy beyond 2025**  
14 **if NV Energy was no longer an ownership partner?**

15 A. No. If NV Energy establishes a closure date of 2025, Idaho Power's continued  
16 utilization of Valmy beyond 2025 would require negotiation with NV Energy to modify  
17 or terminate the existing Agreement for the Ownership of the North Valmy Power  
18 Plant Project ("Ownership Agreement"). In addition, the Agreement for the Operation  
19 of the North Valmy Power Plant Project ("Operation Agreement") would require  
20 nullification as it identifies NV Energy as the operator of Valmy. Absent the  
21 acquisition of a new operating partner or Idaho Power acquiring or developing the  
22 skills and experience to operate a coal-fired plant, it would be impractical for Idaho  
23 Power to continue operating the plant after 2025 without NV Energy.

24 **Q. Has Idaho Power performed any additional analyses associated with the Valmy**  
25 **end-of-life date since the 2015 IRP was completed?**

26



1 A. Yes. In 2016, Idaho Power assessed the continued use of the 2025 end-of-life  
2 assumption for Valmy using an updated evaluation of the present value revenue  
3 requirement of operating period alternatives.

4 **Q. How did the Company analyze the potential revenue requirement impact of**  
5 **modifying the Valmy end-of-life date?**

6 A. To determine the potential revenue requirement impact, Idaho Power analyzed the  
7 present value revenue requirement of two operating period alternatives: (1) the 2025  
8 end-of-life for both units and (2) the existing 2031 and 2034<sup>9</sup> staggered end-of-life  
9 assumptions. The operating period alternatives used under the revenue requirement  
10 scenarios consisted of the following two components: (1) net present value (“NPV”)  
11 revenue requirement associated with the existing investment, additional run rate  
12 capital, fixed operation and maintenance (“O&M”) expenses, and forecasted taxes  
13 and insurance and (2) the total variable portfolio costs using the AURORA model  
14 from the 2015 IRP, updated with the most recent load forecast, natural gas forecast,  
15 and Valmy coal price forecast, utilizing the resource assumptions from the preferred  
16 portfolio. The results of this analysis are presented as Exhibit No. 203.

17 **Q. Please describe the results of the revenue requirement impact of the two**  
18 **operating period alternatives presented in Exhibit No. 6.**

19 A. Idaho Power’s analysis results presented in Exhibit No. 203 indicate that the NPV of  
20 the revenue requirement associated with a 2025 end-of-life is \$103 million less than  
21 the revenue requirement of a 2031/2034 retirement date.

22 **Q. Did Idaho Power conduct updated present value revenue requirement analyses**  
23 **that assessed the economics of ceasing operations sooner than 2025?**

24 \_\_\_\_\_  
25 <sup>9</sup> Although the actual current depreciable life of Valmy Unit 2 is through the end of 2035, the 2015  
26 IRP planning period did not extend beyond 2034; therefore, this IRP-based analysis reflects a 2034  
retirement. Extending the analysis to 2035 would likely result in an increase in the cost difference.

1 A. No. While Idaho Power's forecast indicates Valmy is expected to be a necessary,  
2 but relatively infrequent, contributor to system reliability, resulting in a low capacity  
3 factor between now and 2025, the current Ownership Agreement and Operation  
4 Agreement between Idaho Power and NV Energy do not provide for provisions to  
5 cease coal-fired operations at the plant if the plant owners do not align on end-of-life  
6 dates. In addition, as described in Mr. Larkin's testimony, the rate impact associated  
7 with an accelerated depreciation schedule ending in 2019 would be materially higher.  
8 In an attempt to mitigate this customer rate impact, the Company has concluded that  
9 a 2025 end-of-life date strikes a reasonable balance between reliability, economics,  
10 and customer rate impacts.

11 **Q. Please describe the routine capital expenditures Idaho Power anticipates will**  
12 **be necessary to safely and reliably operate Valmy through the plant's end-of-**  
13 **life date of 2025.**

14 A. The incremental investments expected through Valmy's end-of-life are for upgrades  
15 and replacements of plant infrastructure required to keep the plant operational, safe,  
16 and reliable. Both units are on a three-year outage cycle that requires each unit to  
17 be taken down once every three years for unit inspection and selected  
18 refurbishment. In 2018 and 2019, the units are scheduled for their next outages so  
19 incremental investments are expected to be higher these years. These outages,  
20 which should be the last large ones performed, will help ensure the units are  
21 operational and can continue to provide reliable service through 2025.

22 **Q. Will Idaho Power perform the same review of future incremental investments**  
23 **prior to any work being done as the review performed for investments made**  
24 **since the Company's last general rate case?**

25 A. Yes. The Company will receive a description of the factors driving the need for the  
26 project and a recommendation for the work to be performed from the plant operator,

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

6 **Q. Please summarize your testimony.**

7 A. Significant changes to the ongoing economics of Valmy operations have occurred  
8 between 2010 and 2014. Market prices have decreased considerably, resulting in a  
9 decrease in the number of hours Valmy operates economically as the dispatch cost  
10 is now typically higher than the market price. Idaho Power relies on Valmy to meet  
11 peak energy needs and to preserve the balanced portfolio needed to reliably serve  
12 customers during all types of system conditions. However, Idaho Power's 2016  
13 assessment of Valmy indicated that a 2025 shutdown date is preferable with respect  
14 to reliability and revenue requirement impacts. Consistent with the action plan  
15 recognized in the 2015 IRP, Idaho Power will continue working with NV Energy to  
16 synchronize the depreciation date of Valmy and determine if a mutually agreeable  
17 date can be established to cease coal-fired operations. It is not the expectation of  
18 Idaho Power that any date agreed upon by the Company and its operating partner  
19 would extend Valmy operations beyond 2025.

20 **Q. Based on the analysis presented in your testimony, do you believe December**  
21 **31, 2025, reflects the most reasonable end-of-life assumption for the Valmy**  
22 **plant based on what is known today?**

23 A. Yes, I do.

24 **Q. Does this complete your testimony?**

25 A. Yes, it does.

26

BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

IDAHO POWER COMPANY

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Exhibit Accompanying Testimony of Tom Harvey  
Valmy Investments Since Last General Rate Case

November 2, 2016

VALMY INVESTMENTS SINCE LAST GENERAL RATE CASE (CASE NO. IPC-E-11-08)									
Project	2011	2012	2013	2014	2015	2016	Total	Purpose	Project Description/Justification
Unit 2 Cooling Tower Replacement	\$80,324	\$104,931	\$113,989	\$4,504,556	\$2,450,464	\$93,878	\$7,348,142	Safety / Reliability	The Unit 2 cooling tower was operational in 1985 and was designed for a 20 - 25 year life. Safety Metric: The existing cooling tower structure was nearing the end of its service life and the wood in the tower was deteriorating. Wood supports for access ways, piping, and the hot deck were rotted and became unsafe. Reliability Metric: The cooling tower was operating at 67% of its performance due to degradation of the tower affecting the condensers performance to cool the exhaust from the turbine, causing a derate in back pressure. O&M Metric: The rotting of the wood structure resulted in an increase of maintenance costs to replace affected areas.
Unit 1 DSI Installation	\$0	\$1,661,173	\$624,036	\$3,992,239	\$495,356	\$42,554	\$6,815,359	Environmental	Both units must meet the Mercury and Air Toxics Standard (MATS) 4-16-2015. This project / scope covers the Hydrochloric Acid (HCl) mitigation to comply with MATS Rule for the unit to run beyond 4-16-2015. Technology selected was Dry Sorbent Injection (DSI) - Hydrated Lime is injected in the backend of the boiler to remove HCl. HCl limit is .0020 lb/ MMBtu. This project was required for the unit to meet the MATS standard.
Unit 2 Scrubber Upgrade	\$0	\$21,178	\$1,014,212	\$2,257,179	\$3,062,885	\$248,467	\$6,603,920	Environmental	The Valmy Unit 2 Dry Flue Gas Desulphurization (DFGD) system began service in 1985. It was based on technology developed and designed by Rockwell International. The system was not capable of optimum operation. This was due to problems with the original design, obsolete and worn-out equipment, the complexity of the system design and a lack of plant staffing to properly operate and maintain the system in its current condition. These problems fell into four main categories: safety issues, environmental problems, process issues related to the design complexity and a high cost of operation when compared to more recently designed and built DFGD systems. After started, this project was modified to increase the SO2 removal from the original design of 70% to roughly 85% to ensure compliance with the Mercury and Air Toxics Standard (MATS). This project included: 1) the replacement of the Lime Slurry and Recycled Ash Slurry three way valve with Pinch valves, 2) the replacement of the valves below the inlet strainers with new 1-1/2" pinch valves, 3) fabrication and installation of access safety platforms missed by engineering but are required for operations and maintenance, 4) upgrading the gland seals on the recycled ash and Lime Slurry Pumps, 5) relocating the two Lime Slurry Pumps for operations and maintenance, 6) replacing the day bin vibrator, 7) resolving the slurry pluggage issues at the atomizers by extending the hard piping to the atomizers and replacing the atomizer hoses, 8) replacement of lime and recycle ash slurry loop pressure transducers and isolation rings, 9) cleaning, inspection and modification of the atomizer slurry feed systems, 10) cleaning and inspection of atomizers and slurry distribution wheels, 11) vessel flue gas exit temperature thermocouple modifications, 12) replacement of all Orbinox valves to Clarkson valves, 13) installing new flushing water strainer, 14) installing pressure gauge isolation seals, 15) tuning of slaking water inlet temperature sparger and controls, 16) refining Flushing Sequences Logic, 17) installing new level indicators at the recycled ash day bins, and 18) removing and replace drains at the atomizer deck.
Unit 2 Scrubber Atomizer Upgrade	\$0	\$18,148	\$1,355,170	\$1,226,229	\$3,505,849	(\$102,237)	\$6,003,158	Environmental	The V2 Scrubber was placed into service in 1985, using three (3) separate vessels. Each vessel contains three (3) spray machines for a total of nine (9) spray machines. The machines are used for the removal of SO2 from the flue gas in order to comply with the Title 5 mandate. Each spray machine consists of a 300HP water cooled motor turning at 3600 rpm, coupled to a 10,000 rpm gearbox with a flex shaft and an atomizer wheel. The equipment condition deteriorated and became unreliable and inefficient. Costs to maintain the equipment significantly increased. (12) Atomizer Machines were purchased from Alstom Power. (9) are in continuous use and (3) were purchased as spares. Along with the purchase of the Atomizers, all (9) turning vanes and Atomizer Housings and associated controls were replaced. After started, this project was modified to increase the SO2 removal from the original design of 70% to roughly 85% to ensure compliance with the Mercury and Air Toxics Standard (MATS). This project was a complement to the previous project to ensure compliance with the Mercury and Air Toxics Standard (MATS).

Project	2011	2012	2013	2014	2015	2016	Total	Purpose	Project Description/Justification
Valmy Coal Crusher Belt Feeder Project	\$0	\$378,222	\$3,709,529	\$46,342	\$0	\$0	\$4,134,093	Environmental / Economic	The crusher tower arrangement and equipment created unnecessary dust generation which could have caused violations of the Nevada Department of Environmental Protection dust elimination requirements. The vibratory feeders were not equipped with effective seals to the feeder skirtboard, which caused particulate spillage and dust emissions. The ring-granulator-style crushers generate significant dust when crushing, and also act as a fan to push dust out of the skirtboard and headbox openings when operating empty. Also, the system throughput was compromised due to sizing of the existing feeders/crushers; the 400 rating requires both feeders /crushers be operated to match downstream belt capacity of 800 TPH. Upgrading the feeders and crushers to a higher rate provides additional operating flexibility. Existing crusher discharge chute work was not well configured and prone to pluggage. In order to significantly improve reliability, the new arrangement eliminated the single flop gate bottleneck present in the current transfer arrangement. These upgrades were also required per Nevada Department of Environmental Protections request for dust elimination.
Unit 2 Sootblower System Replacement	\$0	\$144,858	\$3,527,234	\$79,877	\$0	\$0	\$3,751,969	Reliability	The current condition of the Unit 2 sootblower system was rated from poor to very poor. The issues ranged from current overloading to excessive amounts of condensate to excessive slagging (wall slagging). These conditions were contributing to increasing tube erosion and decreased efficiency due to slagging issues. To ensure reliable operations of the boiler, this project was needed for reliability.
Unit 1 Cooling Tower Replacement	\$2,974,603	\$219,234	\$1,437	\$13,197	\$0	\$0	\$3,208,471	Safety / Reliability	The unit 1 cooling tower was operational in 1981 and was designed for a 20 - 25 year life. Safety Metric: The existing cooling tower structure was nearing the end of its service life and the wood in the tower was deteriorated. Wood supports for access ways, piping, and the hot deck were rotted and became unsafe. Reliability Metric: The cooling tower outlet water temperature never met the design parameter thus affecting the condensers performance to cool the exhaust from the turbine, causing high back pressure. O&M Metric: The rotting of the wood structure was resulting in an increase of maintenance costs to replace affected areas.
Unit 1 Reheat Tube Replacement	\$3,165,809	\$25,449	\$0	\$0	\$0	\$0	\$3,191,257	Reliability / Economic	Unit 1 experienced an increase of forced outages to repair failed tubes; 2010 Unit 1 inspection outage required over 100 pad welds to patch thin tube wall areas, but the reheat section needed replacement during the 2011 outage. Per the NVE Generation Engineering inspection - recommendation was to replace all reheat sections otherwise failures will continue to occur with escalating frequency up to potentially an average of one per month.
North Valmy Dust Collector Upgrade	\$723,834	\$922,915	\$987,841	\$354,106	\$135,968	(\$1,662)	\$3,123,002	Environmental	The current Valmy coal dust collection systems were original installation, circa late 1970's/early 1980's, designed to meet combustible dust control standards of that time. OSHA in 2008 upgraded the standards for combustible dust control and issued Instruction CPL 03-00-008 (3/11/2008) that contained policies and procedures for inspecting work places that create or handle combustible dusts. This program focused on specific industries that have frequent combustible dust incidents and the National Emphasis Program is to inspect those facilities that generate or handle combustible dusts which pose a deflagration or other fire hazard when suspended in the air. Along with OSHA's directive and the potential to burn different sources of coal, the old dust collection systems needed to be upgraded to meet those requirements.
Unit 2 Bottom Ash Hydrobin Rebuild	\$0	\$0	\$0	\$83,458	\$3,024,866	(\$275,518)	\$2,832,806	Reliability / Economic	The Valmy Unit 2 bottom ash dewatering and recycle system was deteriorated and become unreliable and was at risk of total failure. An inspection by the OEM, Allen Sherman Hoff was completed in 2010 and repeated in 2012 with both inspections identifying a number of serious issues. If the plant did not complete the highest priority repairs, the system would have become very unreliable and resulted in significant load reductions and emergency repair costs. Additional work identified after the project started is: concrete foundation repairs, replacing corroded underground electrical conduits, thickness inspections and repairs to the lower cone sections of two dewatering bins, additional Non Destructive Examination (NDE) testing, power outage and weather delays and repairs to 6 inch and 8 inch knife gate valves.

Project	2011	2012	2013	2014	2015	2016	Total	Purpose	Project Description/Justification
Unit 2 Burner Replacement	\$0	\$693	\$2,330	\$74,157	\$2,339,126	\$9,732	\$2,426,039	Reliability / Economic	The Valmy Unit 2 burners were in poor condition and had a history of high failure rate. Advanced Control Technology burners were installed in 2007. The burner components were failing due to excessive wear and overheating. The failures included, the burner inner barrel, diffusers, igniters, and scanners. In addition to the need of replacement for reliability purposes, there was an average of 21,717 lost MWHs per year from 2007-2011 due to burner and igniter issues. This project replaced the burner components with high wear resistant materials, installed heavy duty igniter tubes, scanners, and new igniters. Cooling air was supplied to the scanners.
Unit 1 Sootblower System Replacement	\$0	\$118,438	\$838,112	\$1,198,044	(\$23,995)	\$0	\$2,130,599	Reliability	Unit 1 experienced premature boiler tube erosion from the sootblowing activities. The cause for the erosion was from excessive moisture in the sootblowing medium. The redesigned system allowed for the extra sootblowing without damage to the boiler tubes. Without a properly functioning sootblower system, the potential for an increase in ash contributes to more accumulation on the tubes reducing the thermal exchange, which would require more frequent cleaning.
Unit 1 Secondary Superheat Replacement	\$2,114,142	(\$29,440)	\$0	\$0	\$0	\$0	\$2,084,702	Reliability	This project involved the replacement of the secondary superheat assemblies in the Unit 1 Boiler. Since 1998 eighteen (18) documented derates and forced outages have occurred requiring repairs to tube leaks. The Unit 1 boiler inspection conducted in 2008 indicated significant loss in the wall thickness of the tubing and the potential for a substantial increase in tube leaks.
Unit 2 Primary Air Duct Replacement	\$0	\$0	\$0	\$22,843	\$2,212,396	(\$289,625)	\$1,945,614	Reliability	The North Valmy Unit 2 Primary Air Duct System is part of a system that apportions hot and cold air flow to the pulverizers for drying and transporting pulverized coal to the burners in a measured and controlled way. The duct work, dampers and expansion joints have been altered by pulverizer explosions and emergency repairs to return the unit to service. This has resulted in maldistribution and control of primary air and has led to combustion control problems from burner coking to ductwork puffs. Restoration of the system restored its performance and increased reliability of the unit from forced outages.
North Valmy Caustic Tank Building Replacement	\$0	\$257,820	\$1,210,585	\$368,344	\$0	\$0	\$1,836,748	Reliability / Safety / Environmental	This project replaced the building that housed the caustic tanks. In early 2012 the containment basin in the Caustic Tank Building began leaking. The leaking caustic soda caused the ground to heave under the building resulting in significant damage to the structure and the associated systems, including the electrical and piping to the caustic tank. The earth was excavated at the heave to alleviate the uplift pressure on the building. The excavated material was tested with the test results showing an elevated ph of 12.5 indicative of a caustic soda leak.
Evaporation Pond Liner Replacement	\$774,302	\$1,262,317	(\$315,770)	\$0	\$0	\$0	\$1,720,848	Environmental	The existing pond liner was 30 years old and was exhibiting several areas of delamination that are indicative of material failure. The condition of the existing liner suggests it has reached the end of its useful life and therefore required a new liner system to be installed with upgraded materials. This included a double walled liner with leak detection to ensure environmental compliance.
Mixed Bed Demineralizer Replacement	\$0	\$30,834	\$841,661	\$796,332	(\$35,487)	\$0	\$1,633,341	Safety / Environmental	This project replaced the mixed bed demineralizer and sulfuric acid and caustic soda tanks. The mixed bed demineralizers were 30+ years old. The sulfuric acid tank and the caustic soda tanks were reaching the end of their designed corrosion life which involved serious leaks from the tanks. Sulfuric acid and caustic soda were becoming a higher priced commodity. The entire system needed to be replaced.
Unit 1 Circulating Water Line Recoat	\$0	\$0	\$0	\$48,357	\$1,199	\$1,486,158	\$1,535,714	Reliability / Economic	The circulating water pipe lining was failing and in need of being relined during an extended outage. A failure of the lining could result in pipe corrosion and leaks and could require several days to excavate the line and complete repairs. System leaks required an outage for repair. The cathodic protection system for the plant was replaced in 2013. The poor performance of the system before the replacement most likely resulted in pipe exterior damage. Several other underground pipes have had an increased failure rate in recent years. A total failure of the pipe would result in a six (6) month forced outage.

Project	2011	2012	2013	2014	2015	2016	Total	Purpose	Project Description/Justification
Unit 2 Circulating Water Line Recoat	\$0	\$0	\$0	\$28,074	\$1,476,360	\$18,739	\$1,523,174	Reliability / Economic	The circulating water pipe lining was failing and in need of being relined during an extended outage. A failure of the lining could result in pipe corrosion and leaks and could require several days to excavate the line and complete repairs. System leaks required an outage for repair. The cathodic protection system for the plant was replaced in 2013. The poor performance of the system before the replacement most likely resulted in pipe exterior damage. Several other underground pipes have had an increased failure rate in recent years. A total failure of the pipe would result in a six (6) month forced outage.
Mechanical/Electrical Shop Rebuild	\$0	\$102,137	\$1,586,592	(\$172,626)	(\$50)	\$0	\$1,516,053	Economic	The old maintenance shop complex was comprised of several disconnected areas which decreased productivity, restricted the ability to provide optimal plant support, and inhibited the ability to conduct effective staff training. The old welding shop consisted of a small area between the units enclosed by insulation attached to chain link fencing. The combined electrical/instrumentation shop was contained in a small room adjacent to the business center. The lunchrooms were separate, with the largest used to conduct safety meetings/training with standing room only. Productive ongoing training could not be conducted with the entire staff because of inadequate meeting space.
Unit 2 Generation Phase End Turn Design Betterment	\$0	\$1,420,942	(\$133,291)	\$0	\$0	\$0	\$1,287,652	Reliability / Economic	After an investigative analysis of the generator stator end turns, it was determined that the current phase end-turn connections were too rigid when last rebuilt by REGENCO. The phase end-turn connections must account for different component expansion rates and also avoid the potential issues with natural frequency near the electromagnetic exciting frequency forces of 120 hertz. All the generator stator end turns needed to be resoldered to prevent failure.
Cathodic Protection System	\$36,294	\$500,521	\$634,186	(\$11,703)	\$0	\$0	\$1,159,298	Reliability / Economic	The original cathodic protection system was installed during a period from 1981 to 1984. The old cathodic protection system was installed as an upgrade in 1991. The plant observed an increase in the rate of underground pipe corrosion, which suggested the existing cathodic protection system failed or was at the end of its useful life. An evaluation was performed for all five systems and the determination was that the majority of the depressed sacrificial anodes have been depleted and new anodes needed to be installed in order to protect the underground piping, fire lines, and tank bottoms. It was also determined that there were several new wells put into service without any cathodic protection. These new well casings needed protection, and required a complete system for each well. Also, the evaluation proposed that the majority of the anodes in the condenser water boxes were depleted and need to be replaced.
North Valmy Coal Combustion Residual Compliance	\$0	\$0	\$0	\$0	\$1,289,835	(\$166,324)	\$1,123,511	Environmental	The Coal Combustion Residual (CCR) rule was published in the Code of Federal Regulations on April 17, 2015. Valmy had 180 days to comply with the CCR regulations. Valmy has taken a proactive approach to addressing the impacts of potential "ash piles" noted onsite. To continue to be proactive and avoid inadvertently creating CCR impoundment, North Valmy needed to place asphalt and concrete at the bottom ash handling areas of Unit 1 and Unit 2. If this area was not paved, under the CCR rule, these areas would have been considered an "open dump" and a violation of the regulation, and may ultimately have lead to the creation of additional CCR impoundments at Valmy.
Unit 2 Steam Valve Hardening	\$0	\$0	\$0	\$0	\$1,116,028	\$6,720	\$1,122,748	Reliability / Economic	Due to high temperatures, the current materials that made up the steam turbine valve internals were subject to formation of an oxide layer that could eliminate the clearance between the moving and stationary parts. This could have caused the valves to bind and bend, causing a forced outage. The valves were also originally designed for base load operation. This project helped increase the availability of the valves during high cycling.
Unit 1 Coal Pipe Replacement	\$0	\$0	\$0	\$0	\$189,674	\$921,442	\$1,111,116	Safety / Environmental	The plant was experiencing considerable erosion on its coal piping that leads from the pulverizers to the burners. This erosion resulted in coal leaks that were a housekeeping, dust control (OSHA dust control initiative) and ultimately a fire, health and explosion hazard. Identifying and replacing individual sections of piping has been performed in the past, which was a short term solution to the problem. A total replacement of the piping system including wear resistant pipe and a revised support and hanger system was required.



Project	2011	2012	2013	2014	2015	2016	Total	Purpose	Project Description/Justification
Unit 2 Primary Superheat Lower Loop Replacement	\$0	\$0	\$0	\$0	\$1,057,855	\$6,384	\$1,064,239	Reliability / Economic	From the North Valmy Unit 2, 2009 boiler inspection for the primary superheat section of the boiler, 36 areas were identified with tubes 50% or less of Minimum Wall Thickness (MWT) and 68 areas were tubes were 60% or less than MWT. In comparing 2010 inspection report with 2009, sootblower lanes of the primary superheat had lost an additional 10% of their wall thickness. The inspection reports indicated the potential for an increase of forced outages. Many of the thinned tubes were replaced in 2010. Follow up inspection in 2012 identified a few additional tubes to be replaced. A capital project in 2013 installed tube shields over the tubes in the sootblower paths. The lower loops were still exposed to flue gas erosion. The inspection in 2014 indicated the tubes in the flue gas path continued to deteriorate. The 2015 planned outage created the opportunity to replace the high wear area tubes with new resistant material.
Unit 1 Pulverizer 'B' Major Rebuild	\$623,089	(\$42,115)	\$1,047,583	\$438,835	\$0	\$0	\$1,033,696	Reliability / Economic	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 the interior of the pulverizer equipment. Mill overhauls at Valmy have historically been on an 18 to 24 month cycle. The coal imported to Valmy is high in silica and quartz which causes excessive wear on pulverizer grinding sections. If the pulverizer condition deteriorates the units efficiency is decreased thus increasing the fuel usage and power costs. This project removed and replaced all major components including roll wheels, grinding table segments, yoke, classifier and vanes, reject chute, loading cylinders and cables, labyrinth air seals, pyrite plows, burner shut off valves and seats, rebuilt pulverizer motor, coal feeder belt drive and conveyor reducer and motor, eroded downspouts and chute, rebuilt lube oil system pumps.

Note: The information presented in this exhibit reflects the total capital spend by specific project, for projects over \$1 million, including amounts closed to FERC Account 101 - Electric Plant in Service, FERC Account 107 - Construction Work in Progress and any FERC Account 108 - Accumulated Provision for Depreciation removals but excluding AFUDC.

Idaho Power/202  
Witness: Tom Harvey

BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

IDAHO POWER COMPANY

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Exhibit Accompanying Testimony of Tom Harvey  
Load and Resource Balance from 2015 Integrated Resource Plan

November 2, 2016

Tables 7.5 and 7.6 provide the peak-hour capacity deficits for July and December for the coal futures considered. Darker shading in the tables corresponds to larger deficits. Surplus positions are not specified in the tables. Because no deficits exist prior to 2020, the tables include data only for 2020 to 2034.

**Table 7.5 July monthly peak-hour capacity deficits (MW) by coal future with existing and committed supply- and demand-side resources (90<sup>th</sup>-percentile water and 95<sup>th</sup>-percentile load)**

Energy Deficits (aMW)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Status Quo	-	-	-	-	-	(14)	(61)	(136)	(175)	(224)	(316)	(352)	(426)	(491)	(523)
Maintain Coal Capacity	-	-	-	-	-	(14)	(61)	(136)	(175)	(224)	(316)	(352)	(426)	(491)	(523)
Valmy Retire Units 1 and 2 Year-End 2019	(24)	(141)	(143)	(176)	(236)	(277)	(324)	(399)	(438)	(487)	(579)	(615)	(689)	(754)	(786)
Valmy Retire Units 1 and 2 Year-End 2025	-	-	-	-	-	(14)	(324)	(399)	(438)	(487)	(579)	(615)	(689)	(754)	(786)
Valmy Retire Unit 1 Year-End 2019 and Unit 2 Year-End 2025	-	(9)	(11)	(44)	(105)	(145)	(324)	(399)	(438)	(487)	(579)	(615)	(689)	(754)	(786)
Valmy Retire Unit 1 Year-End 2021 and Unit 2 Year-End 2025	-	-	(11)	(44)	(105)	(145)	(324)	(399)	(438)	(487)	(579)	(615)	(689)	(754)	(786)
Bridger Retire Unit 1 Year-End 2023 and Unit 2 Year-End 2028	-	-	-	-	(149)	(190)	(236)	(312)	(350)	(576)	(667)	(703)	(777)	(842)	(874)
Bridger Retire Unit 1 Year-End 2023 and Unit 2 Year-End 2032	-	-	-	-	(149)	(190)	(236)	(312)	(350)	(400)	(491)	(527)	(601)	(842)	(874)
Bridger Retire Unit 1 Year-End 2023 and Unit 2 Year-End 2032, Valmy Retire Units 1 and 2 Year-End 2025	-	-	-	-	(149)	(190)	(499)	(575)	(613)	(663)	(754)	(790)	(864)	(1,105)	(1,137)

**Table 7.6 December monthly peak-hour capacity deficits (MW) by coal future with existing and committed supply- and demand-side resources (90<sup>th</sup>-percentile water and 95<sup>th</sup>-percentile load)**

Energy Deficits (aMW)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Status Quo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maintain Coal Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Valmy Retire Units 1 and 2 Year-End 2019	-	-	-	-	-	-	(12)	(32)	(59)	(58)	(99)	(129)	(158)	(187)	(165)
Valmy Retire Units 1 and 2 Year-End 2025	-	-	-	-	-	-	(12)	(32)	(59)	(58)	(99)	(129)	(158)	(187)	(165)
Valmy Retire Unit 1 Year-End 2019 and Unit 2 Year-End 2025	-	-	-	-	-	-	(12)	(32)	(59)	(58)	(99)	(129)	(158)	(187)	(165)
Valmy Retire Unit 1 Year-End 2021 and Unit 2 Year-End 2025	-	-	-	-	-	-	(12)	(32)	(59)	(58)	(99)	(129)	(158)	(187)	(165)
Bridger Retire Unit 1 Year-End 2023 and Unit 2 Year-End 2028	-	-	-	-	-	-	-	-	-	(147)	(188)	(218)	(247)	(276)	(254)
Bridger Retire Unit 1 Year-End 2023 and Unit 2 Year-End 2032	-	-	-	-	-	-	-	-	-	-	(12)	(42)	(71)	(276)	(254)
Bridger Retire Unit 1 Year-End 2023 and Unit 2 Year-End 2032, Valmy Retire Units 1 and 2 Year-End 2025	-	-	-	-	-	-	(187)	(207)	(235)	(234)	(275)	(305)	(334)	(539)	(517)

BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON

IDAHO POWER COMPANY

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Exhibit Accompanying Testimony of Tom Harvey  
Present Value Revenue Requirement Analysis

November 2, 2016

## North Valmy Generating Station

### Revenue Requirement of Valmy Operating Period Alternatives

To determine the potential customer rate impact of modifying the depreciable end-of-life assumption at Valmy to 2025, Idaho Power analyzed the revenue requirement of two operating period alternatives: (1) the 2025 end-of-life for both units, and (2) the existing 2031 and 2035 staggered retirement assumption. The revenue requirement alternatives consist of two components:

1. The net present value (“NPV”) revenue requirement associated with the existing investment, additional run rate capital, fixed operation and maintenance (“O&M”) expenses, and forecasted taxes and insurance; and
2. The total variable portfolio costs using the AURORA model from the 2015 IRP, updated with the most recent load forecast, natural gas forecast, and Valmy coal price forecast, utilizing the resource assumptions from Portfolio P6(b).

When combining components 1 and 2 above, the Company’s analysis indicates that the least-cost result is the end-of-life for both Valmy units at the end of 2025 as compared to 2031/2035, by a differential of approximately \$103 million. Figure 1 below provides a summary of the results, while the detailed NPV cash flow analysis is provided as Appendix A to this document.

**Figure 1:**  
NPV Revenue Requirement Analysis Summary  
2025 vs. 2031/2034 End-of-Life<sup>1</sup>  
(\$000’s)

<b>Scenario</b>	<b>Component 1: Fixed Cost NPV</b>	<b>Component 2: AURORA NPV</b>	<b>Combined NPV</b>
2025 Retirement	\$397,342	\$4,167,493	\$4,564,835
2031/2034 Retirement	\$522,715	\$4,145,163	\$4,667,878
Difference	(\$125,283)	\$22,330	(\$103,043)

Based on this analysis, from an NPV perspective the net reduction in revenue requirement resulting from a 2025 end-of-life assumption at Valmy as compared to 2031/2034 is approximately \$103 million. When evaluating the 2025 and 2031/2034 scenarios, an end-of-life assumption of 2025 would result in NPV revenue requirement savings as compared to the existing operating assumption.

<sup>1</sup> Although the actual current depreciable life of Valmy Unit 2 is through the end of 2035, the 2015 IRP planning period did not extend beyond 2034; therefore, this IRP-based analysis reflects a 2034 retirement. Extending the analysis to 2035 would likely result in an increase in the cost difference.

**Appendix A**

Idaho Power Company  
Valmy Revenue Requirement Comparison  
2025 or 2031-2034 Retirement  
Forecasted Fixed Costs and Total Power Supply Costs  
for the period 2016-2034  
\$(000)

Discount Rate	6.74%		6.74%	
	Fixed Costs	Aurora	Fixed Costs	Aurora
2016	50,578	\$ 293,380	58,943	\$ 293,380
2017	48,627	\$ 332,194	56,520	\$ 332,194
2018	49,774	\$ 347,073	57,236	\$ 347,073
2019	50,410	\$ 349,001	57,504	\$ 349,001
2020	53,234	\$ 330,816	60,062	\$ 330,816
2021	52,812	\$ 336,715	58,004	\$ 336,715
2022	50,506	\$ 343,726	53,712	\$ 343,726
2023	51,054	\$ 357,713	52,135	\$ 357,713
2024	50,911	\$ 398,496	50,129	\$ 398,496
2025	51,204	\$ 414,280	49,440	\$ 414,280
2026	51,461	\$ 426,509		\$ 434,241
2027	51,478	\$ 443,502		\$ 450,235
2028	51,240	\$ 477,128		\$ 484,014
2029	51,060	\$ 493,717		\$ 500,986
2030	49,736	\$ 511,211		\$ 518,893
2031	48,160	\$ 515,699		\$ 523,324
2032	38,638	\$ 530,706		\$ 535,860
2033	37,136	\$ 535,206		\$ 538,971
2034	36,366	\$ 563,041		\$ 567,098
<b>Total</b>	<b>\$ 924,384</b>	<b>\$ 8,000,111</b>	<b>\$ 553,684</b>	<b>\$ 8,057,016</b>
NPV	\$522,715.36	\$4,145,162.64	\$397,341.99	\$4,167,492.87
Total NPV		\$4,667,878.00		\$4,564,834.86
NPV difference			(\$103,043)	