LAUREN RICHARDS
Main (503) 595-3922
lauren@mrg-law.com

October 31, 2024

VIA E-MAIL TO

Public Utility Commission of Oregon
Filing Center
201 High Street SE, Suite 100
Salem, Oregon 97301-3398

Re: Docket No. UE 444 – Idaho Power Company's 2025 Annual Power Cost Update (APCU)

Attention Filing Center:

Attached for filing in the above-referenced docket, please find Idaho Power Company's Direct Testimony of Jessica G. Brady and Exhibits of Jessica G. Brady (Idaho Power/100-109). Please direct all communications in this matter to the following individuals:

Lisa Nordstrom
Idaho Power Company
P.O. Box 70
Boise, ID 83707/0070
lnordstrom@idahopower.com

Idaho Power Company
Regulatory Dockets
P.O. Box 70
Boise, ID 83707/0070
dockets@idahopower.com

Adam Lowney
McDowell Rackner Gibson PC
419 SW 11th Avenue, Suite 400
Portland, OR 97205
dockets@mrg-law.com

An electronic copy of this filing has been served on all parties in Docket No. UE 425 – In the Matter of IDAHO POWER COMPANY, 2024 Annual Power Cost Update.

Please contact this office with any questions.

Sincerely,

Lauren Richards
Legal Assistant
McDowell Rackner Gibson PC

Idaho Power/100
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

UE 444

IN THE MATTER OF IDAHO POWER COMPANY'S 2025 ANNUAL POWER COST UPDATE	)
	)
OCTOBER UPDATE	)

IDAHO POWER COMPANY

DIRECT TESTIMONY

OF

JESSICA G. BRADY

October 31, 2024

Q. Please state your name, business address, and present occupation.

A. My name is Jessica G. Brady. I am employed by Idaho Power Company ("Idaho Power" or "Company") as a Senior Regulatory Analyst in the Regulatory Affairs Department. My business address is 1221 West Idaho Street, Boise, Idaho 83702.

Q. Please describe your educational background.

A. In May 2016, I received a Bachelor of Science degree in Economics and a Bachelor of Arts degree in Spanish from the University of Idaho. I have also attended "The Basics: Practical Regulatory Training for the Electric Industry," an electric utility ratemaking course offered through New Mexico State University's Center for Public Utilities, "Electric Utility Fundamentals & Insights," an electric utility course offered through the Western Energy Institute, and Edison Electric Institute's "Electric Rates Course" offered at the University of Wisconsin-Madison.

Q. Please describe your business experience.

A. In September 2021, I accepted a position at Idaho Power as a Regulatory Analyst in the Regulatory Affairs Department. In October 2023, I was promoted to Senior Regulatory Analyst. As a Senior Regulatory Analyst, I am responsible for running the AURORA model ("AURORA"), an hourly economic dispatch model, to calculate net power supply expenses ("NPSE"). AURORA is used for ratemaking purposes, as well as in the determination of the marginal cost of energy used in the Company's marginal cost analyses. My duties also include testifying on behalf of Idaho Power in APCU and other power cost-related proceedings, as well as providing analytical support for regulatory activities within the Regulatory Affairs Department.

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

A. The purpose of my testimony is to present the determination of the Company's 2025 October Update, the first portion of the Company's Annual Power Cost Update ("APCU"). If approved, the 2025 October Update will result in a revenue increase of

$2.65 million, or a 4.35 percent increase in base revenue collection, to become effective June 1, 2025.

Q. How is your testimony organized?

A. My testimony begins with a brief history of the APCU, and the filing requirements associated with it. Next, my testimony describes the required updates to AURORA and the resulting modeling outputs. I then present and discuss the total NPSE for the 2025 October Update, and how it compares to last year's 2024 October Update. My testimony then discusses the quantification of the projected revenue requirement and the proposed rate implementation to recover the revenue requirement.

Q. Have you prepared exhibits for this proceeding?

A. Yes. I am sponsoring the following exhibits:

1. Exhibit 101, Total Normalized Base Power Supply Expenses for the 2025 October Update
2. Exhibits 102 – 104, Mid-Columbia Forward Price Curves Discounted for Inflation, Producer Price Index for Electric Power, and Forward Prices Used for Re-Pricing Purchased Power and Surplus Sales
3. Exhibit 105, Total Normalized Base Power Supply Expenses for the 2025 October Update – With Repricing
4. Exhibit 106, Energy Imbalance Market Benefits
5. Exhibit 107, Year-Over-Year Differences in Modeled NPSE
6. Exhibit 108, Revenue Spread
7. Exhibit 109, Revenue Impact

APCU Overview

Q. What is the APCU?

A. The APCU is a rate mechanism that has two components, an October Update and a March Forecast. The October Update establishes the prospective "base" or "normal"

power supply expenses for an April through March test period. The March Forecast is a forecast of expected power supply expenses over the same test period as the October Update. "Base" or "normal" power supply expenses are calculated by modeling the test period under multiple historical water conditions; in this case, the Company modeled 37 historical water conditions (1981-2017) as discussed later in my testimony. Expected power supply expenses are calculated by modeling the same test period as the October Update, except the power supply expenses are calculated by modeling a single forecast water condition. The results of the October Update are reflected as an update to base rates and the results of the March Forecast are reflected in the March Forecast Rate Adjustment listed in Schedule 55, with both of the rate adjustments going into effect on June 1st of each year.

Q. What is the definition of the term "net power supply expense" as the Company and the Public Utility Commission of Oregon ("Commission") have used the term historically?

A. The Company and the Commission have used the term "net power supply expense" to refer to the sum of the following Federal Energy Regulatory Commission ("FERC") accounts: fuel expense (FERC Accounts 501 and 547), and purchased power expenses (FERC Account 555), minus surplus sales revenues (FERC Account 447).

Q. What regulatory actions led to the implementation of the APCU?

A. In the final order issued in Idaho Power's general rate case, docket UE 167, the Commission specifically recognized the Company's unique reliance on hydro generation and its extended amortization of deferred costs, and therefore, directed the parties to work together to "consider whether there is a more effective regulatory

mechanism for Idaho Power to recover its allowable power costs."[1] Following that order, the Company filed its request for a power cost adjustment mechanism ("PCAM"). The result of that filing was a settlement stipulation approved by the Commission in Order No. 08-238[2], establishing the APCU and implementation of the PCAM, or the annual power supply expense true-up.

Q. What is the purpose of the APCU?

A. The APCU was implemented to adjust rates on an annual basis to capture variability in power supply expenses that occur with a predominantly hydro-based generation fleet. The APCU mechanism closely aligns the power supply expenses included in customer rates with the power supply expenses actually incurred by the Company. Prior to the APCU, the Company would defer excess power supply expenses and then amortize them at a later time for collection, which led to multiple deferrals and long amortization periods.

Q. What are the general requirements for the APCU described in Order No. 08-238?

A. Order No. 08-238 directed the Company to model its power supply expenses using the AURORA model and identified a number of variables that were to be updated annually in AURORA. The specific variables are discussed in the following section.

Q. What is the AURORA model?

A. The AURORA model is a comprehensive electric resource dispatch model that simulates the economic dispatch of the Company's resources to determine NPSE for the APCU. The Commission has also accepted the use of AURORA to determine

[1] *In the Matter of Idaho Power Company Application for General Rate Increase in the Company's Oregon Annual Revenues*, Docket No. UE 167, Order No. 05-871 at 7 (July 28, 2005).

[2] *In the Matter of Idaho Power Company Application for Authority to Implement a Power Cost Adjustment Mechanism for Electric Service Customers in the State of Oregon*, Docket No. UE 195, Order No. 08-238 (April 28, 2008).

NPSE for general rate cases, marginal cost analyses, and resource modeling for the Company's Integrated Resource Plan ("IRP").

AURORA Model Inputs and Modeling Results

Q. What are the specific variables that are updated during each APCU filing?

A. Commission Order No. 08-238 identified the following power supply expense variables to be updated annually:

a. Fuel prices and transportation costs
b. Wheeling expenses
c. Planned outages and forced outage rates
d. Heat rates
e. Forecast of normalized load and normalized sales
f. Contracts for wholesale power and power purchases and sales
g. Forward price curve
h. Public Utility Regulatory Policies Act of 1978 ("PURPA") contract expenses
i. The Oregon state allocation factor

The Company reviewed all the inputs and updated those that have changed since last year's October Update, as described in more detail in the following sections.

Coal Fuel Expense

Q. Have any changes in coal fuel expense and coal-fired generation occurred since last year's October Update filing?

A. Yes. Total coal fuel expense included in the 2025 October Update is $58.3 million, compared to $84.6 million in the 2024 October Update, a decrease of 31 percent. Coal-fired generation decreased from last year's October Update, from 2.08 million megawatt-hours ("MWh") to 1.52 million MWh, a decrease of 27 percent.

Q. What is driving the decrease in year-over-year coal-fired generation?

A. Forecast coal-fired generation decreased 27 percent compared to last year primarily due to the relative decrease in economics compared to natural gas and market purchases in the spring and summer months of the APCU year, as well as scheduled maintenance at Valmy beginning January 1, 2026[3] to convert Unit 2 from a coal-fueled resource to natural gas fuel.

Q. How did the changes in coal fuel expense and coal-fired generation impact the cost of coal-fired generation on a per-unit basis?

A. The average per-unit cost of coal-fired generation for the 2025 October Update is $38.37 per MWh, compared to $40.63 per MWh for the 2024 October Update. At the Bridger plant, the per-unit cost of production decreased 4 percent, from $35.59 per MWh in 2024 to $34.22 per MWh in this year's October Update. This is due to a decrease in both the forecast coal prices and the per-MWh Oil, Handling, and Administrative and General ("OHAG") expenses at Bridger.

The per-unit cost of production at Valmy increased 70 percent compared to last year. This is primarily a result of fixed costs being spread over decreased generation, due to the outage beginning January 1, 2026, as well as a 6 percent increase in forecast coal prices at Valmy.

Q. Did Idaho Power model OHAG expenses as agreed upon in the settlement stipulations approved in the 2016 and 2017 APCU dockets?

A. Yes. Per the settlement stipulation approved in the 2016 APCU[4], the per-MWh OHAG expense included in the AURORA model has been updated to reflect the amount of

[3] Valmy Unit 2 is scheduled for maintenance beginning January 2026, as it is scheduled to be converted to natural gas by May 2026.

[4] *In the Matter of Idaho Power Company's 2016 Annual Power Cost Update*, Docket No. UE 301, Order No. 16-206 (May 31, 2016).

OHAG expense driven by Idaho Power's dispatch of the Bridger and Valmy plants. The Company has separately accounted for its proportional share of the total OHAG expense incurred at both plants.

Per the settlement stipulation approved in the Company's 2017 APCU[5], the Company is to forecast its proportional share of total OHAG expense incurred at both of the coal-fired plants using a three-year historical average of actual OHAG costs, with a growth (reduction) rate equal to the five-year historical average growth (reduction) rate. However, consistent with the 2024 March Forecast, Idaho Power updated the OHAG forecast at Bridger using the 2021-2023 historical average of actual OHAG costs, with a growth rate equal to the 2022-2023 historical average growth rate. The Company excluded the growth rates prior to 2022 due to the change in OHAG beginning in 2021. Starting in 2021, OHAG moved from a positive to a negative number, which is the result of an increase in revenue from fly ash sales.

Q. Have you prepared an exhibit that illustrates the calculation of OHAG expenses for the 2025 APCU?

A. Yes. Exhibit 101 reflects the AURORA-modeled OHAG expense resulting from Idaho Power's dispatch, as well as Idaho Power's fixed ownership share of total OHAG expense at both of its coal-fired plants. This methodology effectively includes in the AURORA dispatch price the true variable component of OHAG driven by the Company's dispatch of each plant. After the AURORA-modeled dispatch has occurred, the resulting costs are adjusted to align with costs actually incurred by the Company at both of its coal-fired facilities.

[5] *In the Matter of Idaho Power Company's 2017 Annual Power Cost Update*, Docket No. UE 314, Order No. 17-165 (May 16, 2017).

For example, on Exhibit 101, Line 4 illustrates the AURORA-modeled OHAG expense resulting from Idaho Power's dispatch of Bridger. Line 5 is the difference between the total AURORA-modeled expenses, Line 3, and the AURORA-modeled OHAG expense, Line 4, at Bridger ($51,690.6 – ($838.3) = $52,528.9). Line 6 represents the Company's proportional share of total OHAG expenses at Bridger using the stipulated methodology discussed above. Line 7 is the sum of the AURORA-modeled expenses (less the AURORA-modeled OHAG at Bridger, Line 5), and the Company's proportional share of total OHAG, Line 6, ($52,528.9 + ($3,911.6) = $48,617.3). Line 7 reflects the final total NPSE for Bridger. In this case, calculated OHAG at Bridger reduces total expenses due to proceeds from the sale of combustion fly ash. This method is replicated for Valmy as shown on Lines 9-14.

Q. Does Idaho Power's 2025 APCU account for revenues received from or expenses paid to NV Energy (its ownership partner in Valmy) for usage of the Company's unused capacity or the Company's usage of NV Energy's unused capacity?

A. Yes. Per the settlement stipulation approved in the 2017 APCU,[6] Idaho Power agreed to include the three-year historical average of actual net balances associated with ownership partner use of unused capacity at Valmy Unit 2 as an offset or addition to total NPSE.

For the 2025 October Update, the 2021-2023 historical average net revenue paid to Idaho Power associated with NV Energy's dispatch of Idaho Power's unused capacity at Valmy Unit 2 is $32,194 on a system basis. As shown on Line 13 of Exhibit 101, this amount has been reflected as an offset to NPSE for Valmy Unit 2 for the 2025

[6] *Id* at 4.

October Update. The Company will update the three-year historical average as part of the 2025 March Forecast.

Natural Gas Fuel Expense

Q. Have any changes in natural gas expense and generation occurred since last year's October Update filing?

A. Yes. Natural gas expense in this year's October Update is $166.4 million, compared to $163.4 million in 2024, an increase of 2 percent. Natural gas generation in this year's October Update is 3.13 million MWh compared to 3.04 million MWh in 2024, an increase of 3 percent.

Q. Please explain the increase in natural gas generation in this year's October Update.

A. The 3 percent increase in natural gas generation is attributed to the increased natural gas capacity as a result of Valmy Unit 1 coming online as a natural gas unit, which is discussed in more detail later in my testimony, as well as a decrease in natural gas prices during the spring and summer months of the APCU year.

Q. Please explain the increase in natural gas expenses in this year's October Update.

A. The 2 percent increase in natural gas expenses is attributable to the increase in generation as well as an increase in fixed costs for transport capacity and storage.

Q. How does the natural gas price forecast for the 2025 October Update compare to last year's October Update?

A. The average Henry Hub price used for the 2024 October Update was $3.90 per MMBtu, while the average Henry Hub price used in the 2025 October Update is $4.39 per MMBtu, an increase of $0.49 per MMBtu or 13 percent.

Q. How is the Henry Hub gas price forecast used as an AURORA input?

A. The Company uses the gas price forecast for Henry Hub as the starting point in the AURORA model. Henry Hub is considered a reference fuel in AURORA, meaning other gas market prices are determined by applying an adjustment factor to the Henry Hub price. For example, a Henry Hub gas price of $4.39 per MMBtu applied to a Sumas basis of $0.82 per MMBtu equals a Sumas gas price of $5.21 per MMBtu ($4.39 + $0.82 = $5.21). The Company develops a separate gas price for its natural gas units also based upon the Henry Hub gas price forecast.

Q. Please explain the Idaho Citygate price, the Bridger Gas price, and the Valmy Gas price.

A. The Idaho Citygate price is representative of the gas price delivered to Langley Gulch, Danskin, and Bennett Mountain. It is based on the Henry Hub price and applies adjustments for Sumas basis and transport costs.

The Bridger Gas price is representative of the gas price delivered to Bridger Units 1 and 2. It is based on the Henry Hub price and applies adjustments for Rockies basis and transport costs.

The Valmy Gas price is representative of the gas price delivered to Valmy Unit 1. It is based on the Henry Hub price and applies adjustments for Rockies basis and transport costs.

Q. How does the Idaho Citygate price and Bridger Gas price for the 2025 October Update compare to last year?

A. The average Idaho Citygate price for the 2025 October Update is $5.26 per MMBtu compared to $5.50 per MMBtu for the 2024 October Update. The average Bridger Gas price for the 2025 October Update is $4.73 per MMBtu compared to $4.72 per MMBtu for the 2024 October Update.

Q. What is driving the decrease in the Idaho Citygate price?

A. The decrease in the Idaho Citygate price for the 2025 October Update is primarily due to a decrease in the Sumas Basis compared to last year, which is attributable to continued high natural gas production and above-average storage inventories in the Northwest.

Q. What is the Valmy Gas price used in this year's October Update?

A. The average Valmy Gas price for the 2025 October Update is $4.74 per MMBtu.

PURPA Expense

Q. Please explain any changes in PURPA generation since last year's October Update.

A. Last year's October Update included 354.7 average megawatts ("aMW") of PURPA generation, whereas PURPA generation included in the 2025 October Update is 337.2 aMW, a decrease of 17.45 aMW, or 4.92 percent. The decrease is largely due to the removal of two solar projects (Moore's Hollow and Prairie City) from the forecast, as the developers missed their online dates and the agreements for these projects have been terminated.

Q. How has the annual PURPA expense changed from last year's October Update?

A. Forecast PURPA expense in this year's October Update is $252.7 million, an increase of $2.4 million, or 1 percent, compared to last year's forecast. Compared to last year's settled PURPA expense amount, this year's PURPA forecast is an increase of $14.4 million, or 6 percent. The increase in forecast annual PURPA expense is primarily a result of updated PURPA contract values, partially offset by decreased forecast generation.

New Resources

Q. Have any additional resources been added to the Company's resource portfolio since last year's 2024 October Update?

A. Yes. The following resources have been added to the AURORA model for this year's October Update. In order to calculate a "base" or "normal" level of net power supply expense, all new resources were modeled as annualized online resources for the entire test year, reflecting the same treatment applied to new projects in prior APCU dockets when they were scheduled to come online during an APCU test year.

a. Valmy 1 Gas

b. Happy Valley Battery Energy Storage System ("BESS")

c. Kuna BESS

Q. Please describe the new resources, including how they were modeled for the October 2025 filing.

A. Valmy 1 Gas represents the conversion of Valmy Unit 1 to natural gas. Idaho Power's participation in coal operations of Valmy Unit 1 ceased at year-end 2019. However, Unit 1 is scheduled to be converted to natural gas by January 2026. As a result, it was modeled in this year's October Update as online for the entire APCU test year.

Happy Valley BESS represents the addition of 77 MW of Idaho Power-owned battery storage at the Happy Valley substation. Kuna BESS represents a 20-year energy sales agreement ("ESA") for 150 MW of battery storage located in Kuna, Idaho. Consistent with the modeling of other BESS resources, Happy Valley and Kuna BESS were modeled so that the scheduled generation of the batteries are shaped to the Company's demand, net of the "must-run" PURPA and Power Purchase Agreement ("PPA") resources. In addition, both were modeled to be grid-charged.

Normalized Load

Q. Please describe the changes in the Company's system loads since last year's October Update.

A. The Company's normalized system load used in last year's October Update was 1,971 aMW. The Company's normalized system load used in this year's October Update is 2,028 aMW, representing an increase in load of 57 aMW, or 2.9 percent, between the two test years.

Q. Please explain what is driving the increase in the Company's system load.

A. The Company's 2.9 percent increase in system load is due to continued customer growth in the service area as well as anticipated increased loads from large industrial customers.

Q. Did Idaho Power include the additional load required to serve third-party transmission losses in its load forecast?

A. Yes. Consistent with the 2024 APCU filing, Idaho Power included third-party transmission losses into the Company's load forecast. Third-party transmission losses represent the additional electricity that Idaho Power generates in each hour in order to offset losses from third parties wheeling through Idaho Power's transmission system. The calculated hourly load required to serve third-party transmission losses is approximately 36 MW. Support for this calculation will be included in the Company's workpapers to be provided after this filing.

Q. Does the Company also include the associated revenues from third-party transmission losses as an offset to total NPSE?

A. Yes. The Company has included the offsetting revenues received from third-party transmission losses in its total NPSE calculation. This was calculated by multiplying Idaho Power's average hourly marginal resource price, as calculated by AURORA, by

the 36 MW. Line 59 of Exhibit 101 contains the total revenue associated with third-party transmission losses.

Hydro Modeling

Q. Please describe the changes to the hydro modeling process that occurred in the 2022 and 2023 APCU October Updates.

A. Idaho Power adopted new software called RiverWare for the 2022 October Update that replaced the then-existing modeling tools. It is an object-oriented, multi-objective river and reservoir modeling decision support system. Unlike the legacy tools, the RiverWare software is widely used, well-funded, and is actively being improved. Idaho Power procured a Snake RiverWare Planning Model, which covers the Snake River Basin from the headwater basins downstream to Brownlee Reservoir inflow, from the U.S. Bureau of Reclamation. Idaho Power also worked with RiverWare developers to develop a model of the Hells Canyon Complex with reservoir operating logic. The RiverWare models simulate reservoir operations, flows at each Idaho Power hydroelectric project, and an estimate of maximum available hydropower production given water resource constraints. With the change from the legacy systems to RiverWare, the hydrology period of record ("POR") was also updated in the 2022 October Update to 1951 - 2017 (67 water years). Idaho Power, Commission Staff, and the Citizens' Utility Board convened a workshop prior to the filing of the 2022 APCU to discuss the transition to RiverWare, and the stipulation from that case reflected modeling utilizing this new software.

For the 2023 October Update, forecast hydro generation was derived from the hydro modeling developed for the 2023 IRP. It included a shortened baseline hydrology POR of 1981 – 2017 (37 water years).

Q. Why were these changes made?

A. These changes were identified as part of a systematic review of modeling processes in advance of the 2023 IRP. The resulting updates to the hydro modeling provide an improved representation of observed hydrogeneration and incorporate the Company's best understanding of current and future changes to the distribution of hydropower.

The shortened baseline hydrology POR focuses on the most recent years and current hydrologic conditions, while maintaining a sufficient number of years to capture the expected distribution of hydrogeneration. The POR change also allowed the Company to better align with industry standard practices, as federal and other hydro modeling entities use a "30-year normal" analysis period. In addition, the hydrologic modeling updates represent an improved calibration of the hydrologic model from a recent recalibration of key cloud seeding basins, which considered only years after 1980.

Q. Were any additional changes made to the hydro modeling process for this year's APCU October Update?

A. Yes. The hydro modeling for this year's October Update incorporates the following improvements: updated groundwater present-conditioning to align reach gains to current levels, updated managed recharge infrastructure capacity given the most recent estimates from the Idaho Water Resource Board ("IWRB"), and updated recharge logic to simulate the anticipated Milner bypass agreement with the IWRB.

Base Net Power Supply Expenses

Repricing Methodology

Q. How does Order No. 08-238 address the repricing of AURORA modeled power market prices with an average forward electric price curve?

A. Order No. 08-238 states that the output of the AURORA model should be used to determine net power supply average dispatch cost for normal loads and average

stream flow conditions, and the wholesale electric prices for purchased power and surplus sales determined by the AURORA model should be replaced with an average forward electric price curve.[7]

Q. Please describe the re-pricing methodology mentioned above.

A. The Company is to re-price the AURORA-generated volumes of purchased power and surplus sales with a forward-based price curve using the Mid-C hub. This methodology prescribes the use of a one-year average of the daily Mid-C forward price curves calculated from the previous 12 months of daily Mid-C heavy load ("HL") and Mid-C light load ("LL") forward price curves for the period starting in the April immediately following the current April through March test period. Forward prices are then adjusted for inflation back one year using the most recent Producer Price Index for Electric Power.

Q. Is Idaho Power proposing a change to the repricing methodology?

A. Yes. Beginning with this year's APCU filing, Idaho Power is proposing to remove the requirement to reprice the AURORA-generated volumes of purchased power and surplus sales to ensure that customer rates reflect a reasonable expectation of NPSE in light of changing operational circumstances.

Q. Why is Idaho Power proposing to remove the repricing process?

A. As stated earlier in my testimony, the AURORA model is a comprehensive electric resource dispatch model that simulates the economic dispatch of the Company's resources. In other words, AURORA determines the generation volumes of each resource, as well as purchases and sales, based on the AURORA-calculated dispatch price (or market price) of the respective resource. Applying a different price to the

[7] *Id* at 2, p. 3.

purchase and sale volumes outside of the simulation results in an NPSE value that no longer reconciles to the economic dispatch of resources.

This disconnect has existed since the implementation of the repricing methodology. However, in recent years, changing market and resource conditions has exacerbated the issue. Over the last few years, Mid-C forward market prices have diverged from the AURORA-calculated hourly market prices. In the 2024 October Update, the annual average Mid-C forward purchase price was 131 percent higher than the AURORA-calculated price. In this year's October Update, this difference is 111 percent. Furthermore, the volume of AURORA-dispatched market purchases has generally increased over time compared to the volume of dispatched off-system sales.

This combination of increased Mid-C forward market prices compared to AURORA-calculated prices as well as increased net purchases has resulted in higher impacts to NPSE due to repricing over the last few years. More specifically, the combined impact due to repricing from the previous five October Update filings is an increase of approximately $56 million. The impact in this year's October Update due to repricing is an increase of $74.8 million, or $3.03 million on an Oregon-allocated basis. Under the repricing methodology, the requested increase in this filing would be 9.33 percent as opposed to 4.35 percent.

Q. Does the Company's determination of this year's October Update NPSE reflect the proposal to remove repricing?

A. Yes. Idaho Power's requested increase of 4.35 percent reflects the Company's proposal to remove the repricing process. Exhibit 101 shows the calculated base NPSE and per-unit cost using AURORA generated volumes and expenses. This per-unit cost was utilized in Exhibits 108 and 109, which show the total increase to the revenue requirement of $2.65 million, or 4.35 percent.

For comparison purposes, the Company has included Exhibit 105, which shows the calculation of base NPSE and the per-unit cost with the repricing methodology, as well as Exhibits 102-104, which contain the Mid-C forward prices used in the repricing process. The repriced values are also included in Exhibit 107, which shows changes in generation and expenses from last year's October Update. To reiterate, Exhibits 102-104 as well as the repriced values in Exhibits 105 and 107 are included for informational purposes but are not used in the determination of the requested revenue requirement in this filing.

Energy Imbalance Market ("EIM") Benefits and Costs

Q. Has the Company adjusted the NPSE amounts included in the 2025 October Update to reflect Idaho Power's participation in the Western EIM?

A. Yes. The NPSE requested for approval in the 2025 October Update includes the incremental benefits associated with Idaho Power's participation in the Western EIM. Beginning with this year's APCU, Idaho Power is not including the incremental costs associated with Idaho Power's participation in the Western EIM, as these costs were included in the Company's general rate case, for which updated rates went into effect October 15, 2024.[8]

Q. What level of EIM benefits is Idaho Power proposing to include in the 2025 October Update?

A. Idaho Power is proposing to include $21.2 million in system EIM benefits as an offset to NPSE in the 2025 October Update. On an Oregon allocated basis, the EIM benefits to be included in the 2025 October Update are approximately $0.85 million.

[8] *In the Matter of Idaho Power Company's Request for a General Rate Revision*, Docket No. UE 426.

Q. How does this compare to the level of EIM benefits included in last year's APCU filing?

A. Compared to last year's settled EIM benefit amount of $55.6 million, this year's level of EIM benefits have decreased approximately 62 percent. However, as discussed in Idaho Power's Reply Testimony in last year's October Update,[9] the increased level of benefits in last year's October Update was largely due to a one-time issue with pricing used for Bridger that no longer exists, as Bridger Units 1 and 2 have been converted to natural gas.

Q. How does CAISO quantify EIM benefits?

A. CAISO uses a counterfactual methodology in which dispatch for an EIM Balancing Authority Area ("BAA") mimics market operations without importing or exporting through EIM transfers. The counterfactual dispatch moves units inside the BAA to meet real-time imbalance based on economic merit order. CAISO's quantification of total estimated EIM benefits is the cost savings of the EIM dispatch compared to the counterfactual without EIM dispatch. In order to determine both EIM dispatch costs and counterfactual costs, CAISO relies upon bid prices submitted by EIM entities.

Q. What concerns does the Company have regarding CAISO's EIM benefits methodology as it relates specifically to Idaho Power?

A. One of the major assumptions CAISO makes in its benefits methodology, due to lack of other data, is that the bids submitted for each participating resource reflect the true dispatch costs, or the economic value, of those resources. For most resource types, this assumption may be reasonable; however, this assumption is not accurate for hydro resources.

[9] *In the Matter of Idaho Power Company's 2024 Annual Power Cost Update*, Docket No. UE 425, Idaho Power/200.

Idaho Power bids hydro resources based on an operational need rather than actual dispatch cost. Additionally, Idaho Power utilizes various pricing tiers for its hydro resources to protect the water from overuse in the market and to adhere to regulated water management requirements.[10] The pricing tiers that Idaho Power uses are based upon certain operational parameters and can result in high bid prices when it is necessary to cease or limit water flows for a particular hydro resource's market participation. When Idaho Power operators move water into the higher tiers, which have a higher bid price, it is a response to operational needs and does not reflect market benefits.

Without adjusting for these operating scenarios, CAISO's EIM benefit methodology incorrectly reflects the bid tier price as the economic value of hydro in the determination of both counterfactual costs and EIM dispatch costs, thereby overstating the resulting benefits. In order for the EIM benefit calculation to properly serve as an adjustment to modeled NPSE, Idaho Power adjusted the CAISO methodology as it pertains to the hydro pricing cost structure.

Q. Please describe the changes Idaho Power made to the hydro pricing cost structure for purposes of the EIM benefit calculation.

A. To reflect the correct economic value of the hydro dispatches in the EIM benefit calculation, Idaho Power made a two-part adjustment to the hydro cost structure. First, all hydro dispatch costs are held constant by applying a zero-cost. This satisfies a correction to CAISO's EIM counterfactual costs as there shouldn't be any costs associated with Idaho Power's dispatching up and down of its hydro resources to meet its load imbalances.

[10] Requirements may include flood control obligations, fish flow obligations, etc.

Holding the dispatch costs constant by applying a zero-cost also satisfies a correction to the EIM dispatch costs. The EIM is not a capacity market. Therefore, in a hydro system with limited ability to store water long-term, EIM imports (or the dispatching down and storage of the water) will have matching exports over a given time period (that hydrogeneration will be exported soon thereafter). When EIM hydro imports match exports over a measured period, in the case of Idaho Power's analysis on an hourly basis,[11] dispatch costs should be held constant by replacing all tier prices with a zero cost. In this scenario, the actual benefit is the difference between the EIM import and export price. If the EIM dispatch cost is not held constant over the measured period, it results in an inaccurate benefit.

However, when hydro imports do not equal exports, it is necessary to value, or assign a cost to, the net import / exports to the market. This is the second part of the adjustment Idaho Power made to the hydro pricing cost structure as it pertains to the EIM benefit calculation.

Q. Why is it necessary to value net imports and exports related to the EIM?

A. When imports exceed exports during the measured period, using a zero-cost value will underestimate benefits because it does not properly account for the value of imported energy that serves load (rather than hydro) and provides a benefit to the Company's customers. Conversely, when exports exceed imports during the measured period, the zero-cost value will inflate benefits because there aren't any costs assigned to the hydrogeneration that was moved into the market. In either scenario, the net imports / exports for the hydro resources will show a benefit at the

[11] The adjustments to the hydro pricing cost structure for the EIM benefit calculation are performed on an hourly basis at the recommendation of OPUC Staff. *In the Matter of Idaho Power Company's 2020 Annual Power Cost Update*, Docket UE 366, Idaho Power/300, Blackwell/17-18 (March 24, 2020).

EIM Locational Marginal Price ("LMP") because there are no costs associated with the hydro dispatches. As a result, it is necessary to make a second adjustment to the EIM benefit calculation to properly account for the hydro cost when imports do not equal exports for the measured period.

Q. Please explain the methodology used by the Company to value EIM net imports and exports of hydro-related energy.

A. Idaho Power adjusted the EIM benefits by replacing the zero-priced dispatch cost with the Powerdex Mid-C hourly market electricity price for all hours that the Company was a net importer or net exporter. Applying a market price to the net hydro import / export position allows the Company to properly account for the cost savings associated with imported energy that served load rather than hydro, or the costs associated with hydro energy exported to the EIM. The market prices were multiplied by the net import/export position and the adjusted savings/costs were applied to the zero-cost benefit method to accurately calculate EIM benefits for hydro resources.

Q. Did Idaho Power prepare an Exhibit to illustrate the adjustments to the hydro pricing cost structure of the EIM benefit calculation?

A. Yes. Exhibit 106 demonstrates Idaho Power's adjustments to the CAISO EIM benefit methodology as it pertains to the hydro pricing cost structure for the full 12-month period. Column A of Exhibit 106/1 includes CAISO's reported benefits for Idaho Power for September 2023 – August 2024 of $44.1 million. Column B illustrates Idaho Power's application of a zero-cost for all hydro tier prices when EIM imports equal exports on an hourly basis. This adjustment resulted in an EIM benefit of $26.3 million, a $17.8 million reduction from CAISO's stated EIM benefits for Idaho Power.

Column C of Exhibit 106/1 demonstrates the adjustment to the hourly net import / export position for the hydro resources. As discussed previously, Idaho Power assigned a value to the net import / export position for each hour based on the

Powerdex Mid-C market electricity price. This adjustment resulted in a $5.1 million decrease to Idaho Power's EIM benefit estimate.

Q. Please summarize the final estimate of EIM benefits to be included in the 2025 APCU.

A. The Company's EIM benefits forecast is based on the CAISO's EIM benefits reports, with necessary adjustments for hydro pricing as described in this testimony. As detailed in Exhibit 106, the Company's total estimated benefit for September 2023 through August 2024 is $21.2 million, or $0.85 million on an Oregon jurisdictional basis. The Company has included the estimate of EIM benefits as an offset to forecast NPSE for the October Update as shown in Exhibit 105.

Modeling Results

Q. Have you prepared an exhibit that summarizes the results of the AURORA model with all of the updated inputs described above?

A. Yes. Exhibit 101 shows the results of the AURORA modeling determination of normalized NPSE for the April 2025 through March 2026 test year. It presents the summary of results containing average variable power supply generation output and expenses based on 37 historical water conditions.

Q. Please summarize the sources and disposition of energy shown on Exhibit 101.

A. Hydro generation supplies 8.09 million MWh, approximately 46 percent (8.09 million MWh / 17.77 million MWh = 46 percent) of the generation mix. Thermal generation supplies 4.65 million MWh (Bridger 1.42, Valmy 0.10, Bridger Gas 0.74, Langley Gulch 1.74, Danskin 0.24, Bennett Mountain 0.17, Valmy Gas 0.24), approximately 26 percent (4.65 million MWh / 17.77 million MWh = 26 percent) of the generation mix. Purchases of power are made up of short-term and longer-term market purchases, PPAs, and PURPA. PURPA purchases reflect normalized and annualized generation levels and account for 2.95 million MWh. When combined with market purchases of

2.31 million MWh and PPAs of 1.66 million MWh, total purchases amount to 6.92 million MWh (2.95 million MWh + 2.31 million MWh + 1.66 million MWh = 6.92 million MWh) or approximately 39 percent of the generation mix. Of the 19.55 million MWh generated by the system, 17.77 million MWh are used for system loads while 1.79 million MWh are sold as surplus sales.[12]

Per-Unit Cost Calculation and NPSE Discussion

Q. What modifications were made to the total NPSE and per-unit cost calculation in this year's October Update?

A. Consistent with last year's APCU filing, Idaho Power made modifications to NPSE and the per-unit cost calculation to account for specific treatment of Black Mesa Solar and Lamb Weston, Inc. ("Lamb Weston").

Q. Please explain the modification related to Black Mesa Solar.

A. The Black Mesa Solar PPA was negotiated in conjunction with a special contract with Micron Technology, Inc. ("Micron"). Micron's special contract states that Idaho Power will procure renewable resources to assist Micron in meeting a portion of its annual energy requirements with energy generated by those resources. While the renewable resource, Black Mesa Solar in this case, does not serve Micron directly, and rather is connected to the Company's system, Micron pays for all of the output. Because Micron pays for 100 percent of the output, the cost of the PPA is excluded from the Company's calculation of NPSE. In addition, the corresponding portion of Micron's load met by the PPA are removed from the total customer level sales for the test year. As a result, expenses associated with Black Mesa Solar have been excluded from the final NPSE and related Micron sales have been removed from the per-unit cost

[12] Totals may not sum due to rounding.

calculation. Line 31 of Exhibit 101 illustrates the total forecast generation from Black Mesa Solar of 87,068 MWh and Line 40 shows the total expense of $0.

Q. Please explain the modification related to Lamb Weston.

A. In Order No. 35929, the Idaho Public Utilities Commission approved a new special contract with Lamb Weston for its Idaho operations.[13] Lamb Weston's special contract consists of a two-block pricing structure that includes an embedded-cost pricing block, Block 1, and a marginal energy cost pricing block, Block 2. Block 2 consists of electricity consumed beyond 20 MW. According to their special contract, revenues from Block 2 energy sales should be treated as a surplus sale in NPSE calculations. As a result, revenues associated with Lamb Weston's forecast Block 2 energy sales have been included as an offset to NPSE and the associated MWh have been removed from the per-unit cost calculation.

Line 60 of Exhibit 101 contains the forecast Block 2 revenue from Lamb Weston, referred to as Lamb Weston Surplus Sales, of $3.3 million. Line 67 contains the total forecast Block 2 energy sales. Line 68 contains the total customer level sales, net of the load met by Black Mesa Solar and Lamb Weston Block 2 energy sales, which is used in the final per-unit cost calculation on Line 70.

Q. What is the NPSE per-unit cost when you combine all of the quantifications described earlier?

A. Exhibit 101 shows total system NPSE of $545.7 million and normalized annual sales at the customer level for the April 2025 through March 2026 test year, net of load met by Black Mesa Solar and Lamb Weston Surplus Sales, of 16,215,217 MWh, resulting

[13] *In the matter of Idaho Power's Application for Approval of Special Contract and Tariff Schedule 34 to Provide Electric Service to Lamb Weston, Inc.,* Docket No. IPC-E-23-18, Order No. 35929 (September 21, 2023).

in a per-unit cost for the 2025 October Update of $33.66 per MWh ($545.7 million / 16.215 million MWh = $33.66 per MWh) to become effective on June 1, 2025.

Q. How does the 2025 October Update per-unit cost of $33.66 per MWh compare to the 2024 October Update per-unit cost?

A. The 2024 October Update per-unit cost, which became effective June 1, 2024, was $29.54 per MWh based upon a determination of total NPSE of $465.0 million.

Q. Has the Company prepared an exhibit that demonstrates the changes in NPSE as compared to last year?

A. Yes. Exhibit 107 compares the AURORA-developed results, the re-pricing of purchased power and surplus sales, and the differences between the 2024 October Update and the 2025 October Update. Column K of Exhibit 107 shows the following: (1) A decrease in coal expenses of $26.4 million associated with a decrease of 0.56 million MWh in generation, (2) an increase in natural gas expenses of $2.9 million associated with an increase of 0.09 million MWh in generation, (3) a decrease in market purchased power expenses of $19.7 million associated with an increase of 1.06 million MWh, (4) an increase in PPA expenses of $4.4 million associated with a decrease of 0.02 million MWh, (5) an increase in PURPA expenses of $14.4 million associated with a decrease of 0.15 million MWh, and finally, (6) an increase in surplus sales revenue of $70.7 million associated with a decrease of 0.28 million MWh.

Q. Can you elaborate more on the changes in generation from the 2024 October Update to the 2025 October Update?

A. Yes. To illustrate the changes in generation, Columns F (2024) and D (2025) of Exhibit 107 calculate the percentage of generation compared to total system load. For example, Column D, line 1, shows that hydro provided 46 percent of the generation to meet the total system load of 17,767,261 MWh (8,089,515 / 17,767,261 = 46 percent) compared to 48 percent in the 2024 October Update. Coal generation decreased from

12 percent to 9 percent, natural gas generation remained unchanged at 18 percent, market purchased power increased from 7 percent to 13 percent, PPA generation decreased from 10 percent to 9 percent, PURPA generation decreased from 18 percent to 17 percent, and surplus sales decreased from 12 percent to 10 percent. This comparison between resource type and total system load shows that reduced coal generation is being met with increased market purchases. In addition, due to the increase in BESS capacity, there is more opportunity to charge and dispatch batteries economically, resulting in a decrease in economic off-system sales.

Q. Are the changes in expenses among resource types consistent with the changes in output?

A. Yes. The changes in expenses among resource types are relatively consistent with the changes in output, especially when considering the changes in the per-unit cost of the various resources and the removal of the repricing process. The changes in expenses for each resource type are also shown in Columns F (2024) and D (2025) of Exhibit 107 as follows: Coal expense decreased from 18 percent of total NPSE to 11 percent, natural gas expense decreased from 35 percent to 30 percent, market purchased power expense decreased from 25 percent to 18 percent, PPA expense decreased from 17 percent to 16 percent, PURPA expense decreased from 51 percent to 46 percent, and surplus sales revenue decreased from 35 percent to 17 percent. Exhibit 107 demonstrates that the majority of movement in NPSE is related to the decrease in EIM benefits and surplus sales revenue, partially offset by the decrease in market purchased power expense and coal expense.

Q. Did the Company comply with the methodology in Order No. 08-238 when it performed its analysis to determine the NPSE for the 2025 October Update?

A. Yes. With the exception of the removal of the repricing process, the Company has complied with the methodology detailed in Order No. 08-238 for calculating this year's October Update.

Jurisdictional Allocation of NPSE

Q. How did the Company calculate the Oregon jurisdictional share of NPSE?

A. The Oregon jurisdictional share of NPSE is calculated by multiplying the system NPSE total per-unit cost of $33.66 per MWh by the forecasted Oregon jurisdictional loss-adjusted normalized sales for the April 2025 through March 2026 test period of 657,719.558 MWh, resulting in an Oregon jurisdictional share of NPSE of $22.13 million ($33.66 x 657,719.558 MWh = $22.13 million), as shown on Line 1 of Exhibit 108.

Quantification and Discussion of the APCU Revenue Requirement

Q. Based on the determination of the Oregon jurisdictional share of NPSE, what is the APCU revenue requirement for the 2025 October Update?

A. As shown on Line 1 and 3 of Exhibit 108, the APCU revenue requirement is $22.13 million.

Q. What is the overall base revenue impact of this year's October Update compared to current revenue?

A. Exhibit 108 also reveals the revenue impact resulting from this year's October Update. As shown on Line 12, base NPSE recovery under current approved APCU rates is $19.49 million, whereas the proposed 2025 APCU October Update revenue requirement is $22.13 million, as shown on Lines 1 and 3. The comparison of this year's October Update to current approved revenue indicates an increase in Oregon customer rates of $2.65 million.

Rate Implementation

Q. What method of allocation did the Company use to spread the APCU revenue requirement associated with the 2025 October Update to the various customer classes?

A. The Company allocated the $22.13 million APCU revenue requirement associated with the 2025 October Update using the revenue spread methodology agreed upon in the settlement stipulation approved by Order No. 18-170.[14] Order No. 18-170 established a revenue spread methodology whereby the total APCU revenue requirement is allocated to individual customer classes on the basis of normalized jurisdictional forecasted sales at the generation level for the test period. It should also be noted that the agreed upon revenue spread methodology included a provision that any rate increases resulting from application of this new methodology as applied to a customer class would be capped at 3 percent above the overall average rate increase on a percentage of total revenue basis. This cap was implemented to recognize that the movement to the new methodology could result in relatively large increases for individual classes within a single year. The cap is not applicable for the 2025 APCU.

Q. Have you provided an exhibit with the final proposed revenue spread?

A. Yes. The final proposed revenue spread resulting from the application of the stipulated methodology is provided in Exhibit 108.

Q. Have you prepared an exhibit showing the summary of the revenue impact resulting from the October Update proposed by the Company?

A. Yes. Exhibit 109 provides a summary of the revenue change resulting from this year's October Update as compared to current revenue.

[14] *In the Matter of Idaho Power Company's 2018 Annual Power Cost Update*, Docket No. UE 333, Order No. 18-170 (May 21, 2018).

Q. Does the Company intend to provide supporting workpapers for the 2025 October Update to Staff and CUB?

A. Yes. Idaho Power will provide its supporting workpapers to Staff and CUB as part of the 2025 APCU filing. The Company intends to provide these workpapers within five business days of filing the 2025 APCU.

Q. Does this conclude your testimony?

A. Yes, it does.

Idaho Power/101
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 101

Idaho Power Company's AURORA Modeled Determination Of Normalized Power Supply Expenses for April 1, 2025 – March 31, 2026

October 31, 2024

IPCO NORMALIZED POWER SUPPLY EXPENSES FOR APRIL 1, 2025 -- MARCH 31, 2026 (Multiple Gas Prices/37 Hydro Year Conditions)
AURORA Developed Results - 2025 October Update
Variable Coal Handling Costs Modeled Using UE 301 & UE 314 Settlement Methodologies
AVERAGE

Line No.		April	May	June	July	August	September	October	November	December	January	February	March	Annual
1	Hydroelectric Generation (MWh)	813,949.6	864,018.2	836,303.1	722,314.4	593,473.2	556,353.3	454,478.7	413,754.2	579,861.3	751,783.4	732,991.5	770,234.6	8,089,515.3
	Bridger													
2	Energy (MWh)	2,987.9	36,506.9	66,822.4	112,066.5	119,679.6	92,965.1	95,752.9	196,067.3	244,922.8	214,642.6	208,565.8	29,872.2	1,420,851.8
3	AURORA Modeled Expense ($ x 1000)	$ 136.1	$ 1,616.4	$ 2,734.5	$ 4,193.9	$ 4,436.0	$ 3,566.1	$ 3,675.1	$ 6,845.0	$ 8,419.5	$ 7,378.1	$ 7,126.5	$ 1,563.6	$ 51,690.6
4	AURORA Modeled Handling Expense ($ x 1000)	$ (1.8)	$ (21.5)	$ (39.4)	$ (66.1)	$ (70.6)	$ (54.8)	$ (56.5)	$ (115.7)	$ (144.5)	$ (126.6)	$ (123.1)	$ (17.6)	$ (838.3)
5	AURORA Expense less Modeled Handling Expense ($ x 1000)	$ 137.8	$ 1,637.9	$ 2,774.0	$ 4,260.0	$ 4,506.6	$ 3,620.9	$ 3,731.6	$ 6,960.6	$ 8,564.0	$ 7,504.7	$ 7,249.5	$ 1,581.2	$ 52,528.9
6	IPC Share of OHAG Expense ($ x 1000)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (326.0)	$ (3,911.6)
7	Total Expense ($ x 1000)	$ (188.1)	$ 1,311.9	$ 2,448.0	$ 3,934.1	$ 4,180.7	$ 3,295.0	$ 3,405.6	$ 6,634.7	$ 8,238.0	$ 7,178.7	$ 6,923.5	$ 1,255.2	$ 48,617.3
	Valmy													
8	Energy (MWh)	2,316.4	1,756.7	11,566.0	17,675.1	14,735.1	4,993.4	2,092.5	1,053.7	41,651.4	-	-	-	97,840.2
9	AURORA Modeled Expense ($ x 1000)	$ 136.3	$ 103.3	$ 669.8	$ 1,017.6	$ 847.6	$ 287.7	$ 121.9	$ 60.0	$ 2,365.5	$ -	$ -	$ -	$ 5,609.6
10	AURORA Modeled Handling Expense ($ x 1000)	$ 5.2	$ 4.0	$ 26.0	$ 39.8	$ 33.2	$ 11.2	$ 4.7	$ 2.4	$ 93.7	$ -	$ -	$ -	$ 220.1
11	AURORA Expense less Modeled Handling Expense ($ x 1000)	$ 131.1	$ 99.3	$ 643.8	$ 977.8	$ 814.4	$ 276.5	$ 117.2	$ 57.6	$ 2,271.8	$ -	$ -	$ -	$ 5,389.5
12	IPC Share of OHAG Expense ($ x 1000)	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 357.9	$ 4,294.7
13	Usage Charges Paid to IPC ($ x 1000)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	$ (32.194)
14	Total Expense ($ x 1000)	$ 486.3	$ 454.5	$ 999.0	$ 1,333.0	$ 1,169.7	$ 631.7	$ 472.4	$ 412.8	$ 2,627.0	$ 355.2	$ 355.2	$ 355.2	$ 9,652.0
	Bridger Gas													
15	Energy (MWh)	62,960.4	64,054.7	79,192.0	75,874.3	78,030.9	63,262.9	76,002.6	48,958.5	21,798.9	23,214.9	59,031.9	86,276.2	738,658.1
16	Expense ($ x 1000)	$ 2,791.0	$ 2,582.4	$ 3,237.8	$ 4,082.7	$ 4,296.1	$ 3,496.0	$ 3,482.5	$ 3,723.4	$ 3,844.0	$ 4,017.8	$ 5,413.6	$ 4,763.0	$ 45,730.2
	Langley Gulch													
17	Energy (MWh)	189,767.8	189,502.7	210,651.6	221,230.3	209,978.5	204,300.9	224,062.2	45,644.0	330.8	1,911.0	78,832.3	166,201.2	1,742,413.1
18	Expense ($ x 1000)	$ 4,691.9	$ 4,028.4	$ 4,700.2	$ 6,641.4	$ 6,608.6	$ 6,209.0	$ 5,807.6	$ 2,223.4	$ 31.6	$ 179.6	$ 5,284.2	$ 6,398.9	$ 52,804.7
	Danskin													
19	Energy (MWh)	39,620.7	30,493.2	29,762.6	29,718.1	30,038.7	23,408.9	34,363.7	1,054.9	1,164.1	1,089.2	4,021.6	16,007.5	240,743.1
20	Expense ($ x 1000)	$ 1,365.1	$ 882.0	$ 975.8	$ 1,375.0	$ 1,424.6	$ 1,069.4	$ 1,291.1	$ 87.4	$ 168.8	$ 149.6	$ 458.0	$ 944.7	$ 10,191.3
	Bennett Mountain													
21	Energy (MWh)	23,236.0	19,594.0	19,384.5	21,036.4	19,987.3	16,856.3	21,408.6	1,416.1	2,302.1	1,352.3	5,917.1	15,260.9	167,751.8
22	Expense ($ x 1000)	$ 804.5	$ 564.8	$ 628.6	$ 970.7	$ 948.4	$ 768.2	$ 799.6	$ 116.9	$ 328.9	$ 184.3	$ 674.7	$ 901.2	$ 7,690.9
	Valmy 1 Gas													
23	Energy (MWh)	27,179.11	25,639.07	31,448.82	29,323.48	27,250.20	23,837.22	30,974.31	10,616.33	2,194.54	1,530.22	11,817.33	18,479.57	240,290.2
24	Expense ($ x 1000)	$ 1,095.2	$ 943.9	$ 1,233.7	$ 1,495.8	$ 1,431.2	$ 1,212.6	$ 1,326.1	$ 691.2	$ 250.2	$ 176.7	$ 1,082.9	$ 1,053.3	$ 11,992.9
25	Fixed Capacity Charge - Gas Transportation ($ x 1000)	$ 2,892.7	$ 2,968.3	$ 2,892.7	$ 2,973.1	$ 2,977.8	$ 2,888.0	$ 2,977.8	$ 3,460.1	$ 3,559.4	$ 3,564.1	$ 3,247.3	$ 3,564.1	$ 37,965.5
	Purchased Power (Excluding PURPA)													
26	Market Energy (MWh)	36,255.2	58,941.4	110,637.7	344,506.1	328,213.6	164,092.9	114,216.5	324,206.9	344,442.8	281,540.8	107,560.9	90,579.0	2,305,193.9
27	Elkhorn Wind Energy (MWh)	26,081.1	23,901.8	22,170.1	29,029.0	23,542.1	19,209.0	22,048.2	26,774.7	29,962.1	34,666.4	26,098.3	26,035.7	309,518.3
28	Jackpot Solar Energy (MWh)	27,033.8	31,614.2	32,018.5	34,433.0	29,643.1	24,965.7	20,269.6	10,778.9	6,582.6	9,161.8	14,452.2	23,261.2	264,214.5
29	Neal Hot Springs Energy (MWh)	16,493.9	13,842.4	11,168.4	8,355.9	9,790.3	12,545.1	16,106.1	18,426.0	19,760.7	19,522.2	17,532.1	18,084.7	181,627.8
30	Raft River Geothermal Energy (MWh)	6,620.6	7,351.1	6,459.3	6,759.6	6,844.0	7,118.8	8,037.3	8,236.3	8,785.8	8,805.9	8,076.8	8,442.3	91,537.7
31	Black Mesa Solar Energy (MWh)	8,908.6	10,418.0	10,551.3	11,346.9	9,768.5	8,227.1	6,679.6	3,552.0	2,169.2	3,019.2	4,762.5	7,665.4	87,068.3
32	Franklin Solar Energy (MWh)	11,245.1	15,587.8	19,289.5	24,015.6	26,418.2	30,080.3	30,464.0	26,217.9	23,827.4	18,636.5	9,889.3	10,024.7	245,696.4
33	Pleasant Valley Solar Energy (MWh)	15,780.5	25,862.8	37,881.9	50,876.1	56,077.0	62,201.1	63,832.8	54,669.4	46,815.6	33,144.6	15,752.6	14,107.5	477,002.0
34	Total Energy Excl. PURPA (MWh)	148,418.8	187,519.4	250,176.6	509,322.2	490,296.8	328,440.0	281,654.2	472,862.0	482,346.3	408,497.4	204,124.7	198,200.5	3,961,858.7
35	Market Expense ($ x 1000)	$ 858.5	$ 1,151.0	$ 3,333.4	$ 12,764.9	$ 12,507.8	$ 5,850.9	$ 3,685.1	$ 14,097.8	$ 19,892.9	$ 14,926.1	$ 5,447.4	$ 3,083.5	$ 97,599.3
36	Elkhorn Wind Expense ($ x 1000)	$ 2,028.3	$ 1,858.8	$ 1,724.2	$ 2,257.6	$ 1,830.9	$ 1,493.9	$ 1,714.7	$ 2,082.3	$ 2,330.2	$ 2,696.0	$ 2,029.7	$ 2,024.8	$ 24,071.2
37	Jackpot Solar Expense ($ x 1000)	$ 607.7	$ 710.7	$ 719.8	$ 774.1	$ 666.4	$ 561.2	$ 455.7	$ 242.3	$ 148.0	$ 206.0	$ 324.9	$ 522.9	$ 5,939.6
38	Neal Hot Springs Expense ($ x 1000)	$ 2,099.3	$ 1,761.9	$ 1,421.5	$ 1,063.5	$ 1,246.1	$ 1,596.7	$ 2,050.0	$ 2,345.3	$ 2,515.1	$ 2,484.8	$ 2,231.5	$ 2,301.8	$ 23,117.6
39	Raft River Geothermal Expense ($ x 1000)	$ 471.0	$ 523.0	$ 459.5	$ 480.9	$ 486.9	$ 506.4	$ 571.8	$ 585.9	$ 625.0	$ 626.5	$ 574.6	$ 600.6	$ 6,512.0
40	Black Mesa Solar Expense ($ x 1000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41	Franklin Solar Expense ($ x 1000)	$ 335.6	$ 465.1	$ 575.6	$ 716.6	$ 788.3	$ 897.6	$ 909.1	$ 782.3	$ 711.0	$ 556.1	$ 295.1	$ 299.1	$ 7,331.6
42	Pleasant Valley Solar Expense ($ x 1000)	$ 114.2	$ 240.6	$ 2,086.9	$ 3,989.4	$ 2,780.0	$ 1,618.2	$ 1,504.7	$ 1,703.9	$ 1,937.7	$ 1,039.4	$ 721.8	$ 81.0	$ 17,817.8
43	Total Expense Excl. PURPA ($ x 1000)	$ 6,514.7	$ 6,711.1	$ 10,320.9	$ 22,046.9	$ 20,306.3	$ 12,525.0	$ 10,891.0	$ 21,839.9	$ 28,160.0	$ 22,534.8	$ 11,624.9	$ 8,913.8	$ 182,389.0
	Storage													

44	Black Mesa Battery Energy (MWh)	(706.6)	(759.8)	(541.7)	(671.9)	(682.5)	(509.4)	(537.1)	(368.9)	(238.5)	(275.7)	(474.2)	(689.0)	(6,455.33)	
45	80 MW Hemingway Battery Energy (MWh)	(2,261.8)	(2,254.8)	(1,713.7)	(1,753.8)	(1,754.8)	(1,833.8)	(2,479.9)	(2,373.8)	(2,439.8)	(2,781.2)	(2,529.1)	(2,588.8)	(26,765.17)	
46	11 MW Grid Battery Energy (MWh)	(235.7)	(237.3)	(188.8)	(216.5)	(226.9)	(182.0)	(191.4)	(169.1)	(171.2)	(189.0)	(226.3)	(241.5)	(2,475.76)	
47	Franklin Battery Energy (MWh)	(998.2)	(1,147.5)	(826.9)	(1,132.1)	(1,160.4)	(855.9)	(888.5)	(807.6)	(827.6)	(788.3)	(804.4)	(982.1)	(11,219.48)	
48	36 MW Hemingway Battery Energy (MWh)	(822.6)	(827.0)	(663.5)	(759.6)	(777.5)	(718.4)	(796.5)	(741.9)	(795.0)	(783.5)	(862.1)	(901.3)	(9,448.76)	
49	Happy Valley Battery Energy (MWh)	(1,789.5)	(1,800.3)	(1,492.4)	(1,639.7)	(1,668.9)	(1,568.5)	(1,759.7)	(1,666.0)	(1,802.1)	(1,797.9)	(1,916.9)	(1,995.3)	(20,897.07)	
50	Kuna Battery Energy (MWh)	(3,582.0)	(3,566.0)	(3,001.2)	(3,214.6)	(3,266.0)	(3,090.2)	(3,587.1)	(3,347.1)	(3,688.4)	(3,656.4)	(3,820.2)	(3,978.1)	(41,797.22)	
51	Total Storage (MWh)	(10,396.4)	(10,592.6)	(8,428.1)	(9,388.2)	(9,536.9)	(8,758.2)	(10,240.2)	(9,474.4)	(9,962.5)	(10,271.9)	(10,633.2)	(11,376.2)	(119,058.8)	
52	Total Storage Expense ($ x 1000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Demand Response														
53	Energy (MWh)	-	-	3,779.5	12,991.3	388.4	-	-	-	-	-	-	-	17,159.2	
54	Cost($ X 1000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Oregon Solar														
55	Energy (MWh)	73.1	88.6	102.2	98.2	88.9	75.2	68.7	47.6	24.8	36.2	33.5	74.9	811.9	
56	Cost($ X 1000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Surplus Sales														
57	Energy (MWh)	370,020.6	328,360.2	232,270.4	53,236.9	64,877.0	132,460.4	170,220.1	13,623.5	17,268.7	54,284.3	159,543.5	189,419.7	1,785,585.2	
58	Revenue ($ x 1000)	$ 12,610.1	$ 10,383.3	$ 9,353.8	$ 2,955.1	$ 3,743.0	$ 6,906.5	$ 7,956.0	$ 773.9	$ 1,144.5	$ 2,835.4	$ 9,695.4	$ 8,071.5	$ 76,428.6	
59	Surplus Sales - Third Party Transmission Losses ($ x 1000)	$ 752.8	$ 672.7	$ 864.2	$ 1,101.5	$ 1,136.1	$ 1,009.0	$ 983.2	$ 1,208.0	$ 1,603.1	$ 1,425.3	$ 1,322.4	$ 992.7	$ 13,071.11	
60	Lamb Weston Surplus Sales ($ x 1000)	$ 218.43	$ 216.04	$ 330.86	$ 283.99	$ 233.31	$ 245.77	$ 278.63	$ 223.76	$ 244.73	$ 356.58	$ 307.08	$ 349.19	$ 3,288.4	
61	Net Power Supply Expenses ($ x 1000)	$ 6,871.8	$ 9,175.2	$ 16,887.9	$ 40,512.1	$ 38,230.9	$ 23,933.4	$ 21,235.8	$ 36,984.1	$ 44,215.5	$ 33,723.6	$ 23,739.4	$ 18,736.0	**$ 314,245.7**	
	PURPA														
62	Energy (MWh)	287,733.2	310,339.7	302,418.3	279,831.6	279,844.4	234,189.4	229,942.3	169,293.6	183,869.9	195,701.9	232,427.2	248,420.4	2,954,011.8	
63	Cost($ X 1000)	$ 19,674.9	$ 22,491.0	$ 26,110.8	$ 28,598.0	$ 28,496.3	$ 20,684.8	$ 18,791.9	$ 16,843.8	$ 18,367.1	$ 16,676.6	$ 19,448.5	$ 16,508.3	$ 252,691.8	
64	EIM Benefits ($ x 1000)													$ 21,193.1	
65	Total Net Power Supply Expenses ($ x 1000)	$ 26,546.77	$ 31,666.22	$ 42,998.73	$ 69,110.10	$ 66,727.15	$ 44,618.17	$ 40,027.66	$ 53,827.88	$ 62,582.62	$ 50,400.17	$ 43,187.87	$ 35,244.22	**$ 545,744.5**	
66	Sales at Customer Level (In 000s MWH)	1,124.55	1,171.81	1,352.20	1,627.12	1,752.70	1,566.64	1,217.06	1,166.61	1,316.45	1,419.05	1,363.10	1,292.11	16,369.389	
67	Lamb Weston kWh Sales (In 000s MWH)	4.66	4.61	7.06	6.06	4.98	5.24	5.94	4.77	5.22	7.60	6.55	7.45	70.130	
68	Sales at Customer Level - Net Black Mesa, LW (In 000s MWH)	1,111.29	1,157.14	1,334.96	1,610.11	1,738.29	1,553.46	1,204.67	1,158.40	1,309.14	1,408.54	1,351.95	1,277.27	16,215.217	
69	Hours in Month	720	744	720	744	744	720	744	721	744	744	672	743	8760	
70	Unit Cost / MWH (for PCAM)	$ 23.89	$ 27.37	$ 32.21	$ 42.92	$ 38.39	$ 28.72	$ 33.23	$ 46.47	$ 47.80	$ 35.78	$ 31.94	$ 27.59	**$ 33.66**	

Idaho Power/102
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 102

Mid-Columbia Forward Price Curves Discounted for Inflation

October 31, 2024

Mid-Columbia Heavy Load and Light Load Daily Forward Curves
April 2020 - March 2021

Mid-C HL	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27
10/11/2023	59.00	55.45	58.25	122.75	145.05	123.20	80.50	89.60	106.95	105.10	88.90	72.90
10/12/2023	59.65	56.05	58.90	124.05	146.60	124.50	81.35	90.55	108.10	106.30	89.90	73.70
10/13/2023	60.50	56.85	59.70	125.80	148.65	126.25	82.50	91.80	109.60	107.85	91.20	74.75
10/16/2023	61.00	57.30	60.15	126.80	149.80	127.25	83.15	92.50	110.45	108.75	91.95	75.35
10/17/2023	62.50	58.70	61.65	129.95	153.50	130.40	85.20	94.80	113.20	111.55	94.35	77.30
10/18/2023	62.25	58.45	61.40	129.40	152.85	129.85	84.85	94.40	112.75	111.05	93.95	76.95
10/19/2023	62.20	58.40	61.35	129.30	152.75	129.75	84.80	94.35	112.70	111.00	93.90	76.90
10/20/2023	61.65	57.90	60.80	128.15	151.40	128.60	84.05	93.50	111.70	110.00	93.05	76.20
10/23/2023	62.00	58.25	61.15	128.85	152.25	129.30	84.50	94.05	112.35	110.65	93.60	76.65
10/24/2023	61.75	58.00	60.90	128.35	151.65	128.80	84.15	93.65	111.90	110.20	93.20	76.35
10/25/2023	63.15	59.30	62.30	131.25	155.10	131.75	86.05	95.80	114.45	112.80	95.40	78.15
10/26/2023	62.40	58.60	61.55	129.70	153.25	130.20	85.05	94.65	113.10	111.40	94.25	77.20
10/27/2023	61.70	57.95	60.90	128.30	151.60	128.80	84.15	93.60	111.85	110.15	93.20	76.35
10/30/2023	61.85	58.10	61.05	128.65	152.05	129.15	84.40	93.85	112.15	110.45	93.45	76.55
10/31/2023	62.30	58.55	61.50	129.65	153.20	130.15	85.05	94.55	113.00	111.30	94.20	77.15
11/1/2023	61.70	57.95	60.90	128.35	151.70	128.85	84.20	93.60	111.90	110.15	93.25	76.35
11/2/2023	61.40	57.65	60.60	127.75	150.95	128.25	83.80	93.15	111.35	109.60	92.80	75.95
11/3/2023	62.25	58.45	61.45	129.50	153.00	130.00	84.95	94.45	112.90	111.15	94.15	77.05
11/6/2023	60.90	57.20	60.10	126.70	149.70	127.20	83.10	92.40	110.45	108.65	92.00	75.30
11/7/2023	60.60	56.90	59.80	126.05	148.95	126.55	82.70	91.95	109.90	108.10	91.50	74.90
11/8/2023	61.55	57.75	60.70	128.00	151.25	128.50	83.95	93.35	111.60	109.85	92.95	76.10
11/9/2023	61.00	57.20	60.15	126.80	149.85	127.30	83.15	92.50	110.55	108.80	92.05	75.35
11/10/2023	61.15	57.30	60.30	127.05	150.15	127.55	83.35	92.70	110.80	109.05	92.25	75.50
11/13/2023	61.25	57.35	60.40	127.20	150.35	127.70	83.45	92.80	110.95	109.20	92.40	75.60
11/14/2023	60.55	56.70	59.75	125.80	148.70	126.30	82.55	91.75	109.70	107.95	91.35	74.75
11/15/2023	60.65	56.80	59.85	126.05	149.00	126.55	82.70	91.95	109.90	108.15	91.55	74.90
11/16/2023	60.60	56.75	59.80	126.00	148.90	126.50	82.65	91.90	109.85	108.10	91.50	74.85
11/17/2023	60.25	56.40	59.45	125.25	148.00	125.75	82.15	91.35	109.20	107.45	90.95	74.40
11/20/2023	60.10	56.25	59.30	124.90	147.55	125.40	81.90	91.10	108.90	107.15	90.70	74.20
11/21/2023	59.25	55.45	58.45	123.15	145.50	123.65	80.75	89.85	107.40	105.60	89.40	73.10
11/22/2023	58.60	54.85	57.80	121.80	143.90	122.30	79.85	88.85	106.20	104.40	88.35	72.25
11/24/2023	58.60	54.85	57.80	121.80	143.90	122.30	79.85	88.85	106.20	104.40	88.35	72.25
11/27/2023	58.25	54.50	57.45	121.05	143.00	121.50	79.35	88.30	105.55	103.70	87.75	71.75
11/28/2023	58.35	54.60	57.55	121.25	143.20	121.70	79.45	88.45	105.70	103.85	87.90	71.85
11/29/2023	58.45	54.70	57.65	121.50	143.50	121.95	79.60	88.65	105.90	104.05	88.10	72.00
11/30/2023	58.65	54.85	57.85	121.90	143.95	122.35	79.85	88.95	106.25	104.40	88.40	72.25
12/1/2023	58.75	54.95	57.95	122.10	144.20	122.55	80.00	89.10	106.45	104.60	88.55	72.40
12/4/2023	58.15	54.35	57.35	120.80	142.70	121.25	79.15	88.15	105.35	103.45	87.55	71.60
12/5/2023	58.30	54.50	57.50	121.10	143.05	121.55	79.35	88.35	105.60	103.70	87.75	71.75
12/6/2023	56.15	52.50	55.40	116.65	160.15	117.05	76.40	85.10	101.70	98.95	83.70	68.45
12/7/2023	56.30	52.65	55.55	117.00	160.65	117.40	76.65	85.35	102.00	99.25	83.95	68.65
12/8/2023	56.70	53.05	55.95	117.90	161.85	118.30	77.25	86.00	102.75	100.05	84.60	69.20
12/11/2023	56.00	52.40	55.25	116.45	159.85	116.85	76.30	84.95	101.50	98.75	83.50	68.30
12/12/2023	56.95	53.30	56.20	118.45	162.60	118.85	77.60	86.40	103.25	101.75	86.05	70.35
12/13/2023	57.00	53.35	56.25	118.60	162.80	119.00	77.70	86.50	103.35	101.85	86.15	70.45
12/14/2023	57.25	53.55	56.50	119.10	163.50	119.50	78.05	86.85	103.80	102.30	86.50	70.75
12/15/2023	57.60	53.85	56.85	119.80	164.45	120.20	78.50	87.35	104.40	102.90	87.00	71.15
12/18/2023	57.60	53.85	56.85	119.75	164.40	120.15	78.50	87.30	104.35	102.60	86.75	70.95
12/19/2023	57.50	53.80	56.75	119.60	164.20	120.00	78.40	87.20	104.20	102.45	86.60	70.85
12/20/2023	59.00	55.20	58.20	122.70	168.45	123.10	80.45	89.45	106.90	104.70	88.50	72.40
12/21/2023	59.25	55.45	58.45	123.25	169.25	123.65	80.80	89.85	107.40	105.00	88.75	72.60
12/22/2023	59.05	55.25	58.25	122.80	168.60	123.20	80.50	89.50	107.00	104.60	88.40	72.30
12/26/2023	59.05	55.25	58.25	122.80	168.60	123.20	80.50	89.50	107.00	104.60	88.40	72.30
12/27/2023	59.10	55.30	58.30	122.90	168.70	123.30	80.55	89.55	107.10	104.70	88.45	72.35

Mid-Columbia Heavy Load and Light Load Daily Forward Curves
April 2020 - March 2021

Mid-C HL	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27
12/28/2023	59.10	55.30	58.30	122.90	168.70	123.30	80.55	89.55	107.10	104.70	88.45	72.35
12/29/2023	58.35	54.60	57.60	121.35	166.55	121.75	79.55	88.40	105.75	102.85	86.90	71.10
1/2/2024	58.35	54.60	57.60	121.40	166.60	121.80	79.60	88.45	105.80	102.90	86.95	71.10
1/3/2024	58.50	54.70	57.75	121.70	167.00	122.10	79.80	88.65	106.05	103.15	87.15	71.25
1/4/2024	58.70	54.90	57.95	122.15	167.60	122.55	80.10	88.95	106.45	103.55	87.45	71.50
1/5/2024	59.65	55.80	58.90	124.15	170.30	124.55	81.40	90.40	108.20	105.10	88.75	72.55
1/8/2024	59.55	55.70	58.80	123.95	170.00	124.35	81.25	90.25	108.00	104.90	88.60	72.40
1/9/2024	59.85	56.00	59.10	124.55	170.85	124.95	81.65	90.70	108.55	105.45	89.05	72.80
1/10/2024	60.15	56.30	59.40	125.15	171.70	125.60	82.05	91.15	109.10	105.55	89.10	72.85
1/11/2024	61.35	57.45	60.60	127.70	175.20	128.15	83.70	93.00	111.30	107.40	90.65	74.10
1/12/2024	61.55	57.65	60.80	128.10	175.80	128.55	84.00	93.30	111.65	107.75	90.95	74.35
1/16/2024	62.75	58.75	61.95	130.55	179.20	131.00	85.60	95.10	113.80	109.95	92.80	75.85
1/17/2024	60.75	56.85	59.95	126.35	173.45	126.80	82.85	92.05	110.15	109.50	92.45	75.55
1/18/2024	60.60	56.75	59.80	126.10	173.10	126.55	82.65	91.85	109.90	109.25	92.25	75.40
1/19/2024	59.45	55.65	58.65	123.65	169.75	124.10	81.05	90.05	107.75	106.25	89.70	73.30
1/22/2024	59.75	55.95	58.95	124.35	170.70	124.80	81.50	90.55	108.35	107.55	90.80	74.20
1/23/2024	60.45	56.60	59.65	125.80	172.70	126.25	82.45	91.60	109.60	108.85	91.90	75.10
1/24/2024	60.20	56.35	59.40	125.25	171.95	125.70	82.10	91.20	109.15	108.35	91.50	74.75
1/25/2024	59.75	55.95	59.00	124.35	170.70	124.80	81.50	90.55	108.35	107.55	90.80	74.20
1/26/2024	59.70	55.90	58.95	124.20	170.50	124.65	81.40	90.45	108.25	107.35	90.65	74.05
1/29/2024	58.55	54.85	57.80	121.85	167.25	122.25	79.85	88.70	106.20	105.20	88.85	72.55
1/30/2024	58.10	54.40	57.35	120.90	165.95	121.30	79.25	88.00	105.40	104.35	88.15	71.95
1/31/2024	58.10	54.40	57.35	120.90	166.00	121.30	79.25	88.00	105.40	104.35	88.15	71.95
2/1/2024	58.10	54.40	57.35	120.85	165.95	121.25	79.25	88.00	105.40	105.55	89.15	72.75
2/2/2024	57.60	53.95	56.85	119.80	164.55	120.20	78.55	87.25	104.50	104.60	88.35	72.10
2/5/2024	57.80	54.15	57.05	120.20	165.10	120.60	78.80	87.55	104.85	105.25	88.90	72.55
2/6/2024	57.75	54.10	57.00	120.10	164.95	120.50	78.75	87.45	104.75	105.15	88.80	72.50
2/7/2024	57.95	54.30	57.20	120.50	165.50	120.90	79.00	87.75	105.10	105.55	89.10	72.75
2/8/2024	58.10	54.45	57.35	120.80	165.95	121.20	79.20	88.00	105.40	105.85	89.35	72.95
2/9/2024	57.95	54.30	57.20	120.50	165.50	120.90	79.00	87.75	105.15	105.55	89.10	72.75
2/12/2024	57.65	54.00	56.90	119.90	164.65	120.30	78.60	87.30	104.60	105.00	88.65	72.35
2/13/2024	57.05	53.45	56.30	119.00	163.40	119.40	78.00	86.65	103.80	104.55	88.30	72.05
2/14/2024	56.45	52.85	55.70	117.75	161.65	118.15	77.20	85.75	102.70	103.70	87.55	71.45
2/15/2024	56.20	52.65	55.45	117.25	161.00	117.65	76.90	85.40	102.30	103.40	87.30	71.25
2/16/2024	56.00	52.45	55.25	116.85	160.45	117.25	76.65	85.10	101.95	103.05	87.00	71.00
2/20/2024	55.15	51.65	54.45	115.15	158.10	115.50	75.50	83.85	100.45	102.15	86.25	70.40
2/21/2024	54.70	51.25	54.00	115.60	158.70	115.95	75.80	84.15	100.80	102.55	86.60	70.65
2/22/2024	54.00	50.60	53.30	114.15	156.70	114.50	77.05	85.50	102.45	102.25	86.35	70.45
2/23/2024	53.60	50.20	52.90	113.25	155.50	113.60	76.45	84.85	101.65	101.45	85.65	69.90
2/26/2024	52.65	49.30	51.95	112.15	153.95	112.50	75.70	84.00	100.65	100.30	84.70	69.10
2/27/2024	52.05	48.70	51.35	110.85	152.15	111.20	74.80	83.00	99.45	99.10	83.70	68.25
2/28/2024	51.75	48.45	51.05	110.25	151.35	110.60	74.40	82.55	98.90	98.55	83.25	67.90
2/29/2024	51.65	48.35	50.95	110.05	151.10	110.40	74.30	82.40	98.75	98.40	83.10	67.80
3/1/2024	51.50	48.20	50.80	109.70	150.60	110.05	74.05	82.15	98.40	98.05	82.80	67.55
3/4/2024	51.10	47.85	50.40	108.85	149.45	109.20	73.50	81.50	97.65	97.30	82.20	67.05
3/5/2024	50.95	47.70	50.25	108.55	149.00	108.90	73.30	81.25	97.35	97.60	82.45	67.25
3/6/2024	50.85	47.60	50.15	108.35	148.75	108.70	73.15	81.10	97.20	97.45	82.30	67.15
3/7/2024	50.55	47.30	49.85	107.65	147.80	108.00	72.70	80.60	96.60	96.80	81.75	66.70
3/8/2024	50.50	47.25	49.80	107.50	147.60	107.85	72.60	80.50	96.45	96.65	81.65	66.60
3/11/2024	50.50	47.25	49.80	107.55	147.65	107.90	72.65	80.55	96.50	97.60	82.45	67.25
3/12/2024	50.50	47.25	49.80	107.55	147.65	107.90	72.65	80.55	96.50	97.60	82.45	67.25
3/13/2024	50.45	47.20	49.75	107.40	147.45	107.75	72.55	80.45	96.35	98.05	82.85	67.55
3/14/2024	50.15	46.90	49.45	106.75	146.55	107.10	72.10	79.95	95.75	98.05	82.85	67.55
3/15/2024	50.40	47.10	49.65	107.25	147.20	107.60	72.45	80.30	96.20	98.50	83.25	67.85

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3/18/2024	50.70	47.35	49.95	107.85	148.05	108.20	72.85	80.75	96.75	99.05	83.70	68.20
3/19/2024	50.60	47.30	49.85	107.70	147.80	108.05	72.75	80.60	96.60	98.90	83.55	68.10
3/20/2024	50.70	47.40	49.95	108.15	148.40	108.50	73.05	80.95	97.00	99.05	83.70	68.20
3/21/2024	50.70	47.40	49.95	108.15	148.40	108.50	73.05	80.95	97.00	99.05	83.70	68.20
3/22/2024	50.55	47.25	49.80	107.90	148.10	108.25	72.90	80.80	96.80	99.05	83.70	68.20
3/25/2024	50.60	47.25	49.85	107.95	148.20	108.30	72.95	80.85	96.85	99.05	83.70	68.20
3/26/2024	50.70	47.35	49.95	108.20	148.55	108.55	73.15	81.05	97.10	99.30	83.90	68.35
3/27/2024	50.55	47.20	49.80	107.85	148.05	108.20	72.90	80.80	96.75	98.95	83.60	68.10
3/28/2024	51.00	47.60	50.25	108.85	149.40	109.20	73.55	81.55	97.65	99.85	84.35	68.70
4/1/2024	51.05	47.65	50.30	109.10	149.75	109.45	73.75	81.75	97.90	99.65	84.15	68.55
4/2/2024	51.20	47.80	50.45	110.40	151.45	110.75	74.65	82.75	99.05	100.70	85.05	69.30
4/3/2024	50.65	47.25	49.90	109.30	149.95	109.65	73.90	81.95	98.05	99.65	84.15	68.55
4/4/2024	50.35	47.00	49.65	108.75	149.20	109.10	73.55	81.55	97.55	99.15	83.70	68.20
4/5/2024	50.30	46.95	49.60	108.65	149.05	109.00	73.50	81.50	97.45	99.05	83.60	68.15
4/8/2024	50.30	46.95	49.60	108.65	149.05	109.00	73.50	81.50	97.45	99.05	83.60	68.15
4/9/2024	49.15	45.85	48.45	111.45	151.75	111.70	72.25	80.35	96.15	98.50	83.15	67.75
4/10/2024	47.75	44.50	47.05	114.10	154.15	114.20	70.70	78.85	94.50	98.50	83.15	67.75
4/11/2024	47.60	44.35	46.90	113.80	153.75	113.90	70.50	78.60	94.20	98.50	83.15	67.75
4/12/2024	45.40	42.25	44.70	113.65	153.25	113.75	72.35	80.10	95.70	97.55	82.35	67.10
4/15/2024	46.10	42.90	45.40	115.45	155.65	115.55	73.50	81.35	97.20	98.25	82.95	67.55
4/16/2024	46.25	43.05	45.55	115.85	156.20	115.95	73.75	81.65	97.55	97.40	82.20	66.95
4/17/2024	46.35	43.15	45.65	116.15	156.60	116.25	73.95	81.85	97.80	97.95	82.70	67.35
4/18/2024	45.95	42.80	45.25	115.55	155.85	115.65	73.45	81.35	97.25	97.65	82.45	67.15
4/19/2024	46.10	42.90	45.35	115.85	156.30	115.95	73.65	81.55	97.50	98.25	83.00	67.70
4/22/2024	45.95	42.75	45.20	115.50	155.85	115.60	73.45	81.30	97.20	98.20	83.00	67.80
4/23/2024	44.90	41.75	44.15	114.50	154.90	114.65	76.85	84.30	100.50	98.30	83.10	67.90
4/24/2024	44.70	41.60	44.00	108.55	148.15	108.85	76.05	83.30	99.20	97.25	82.20	67.20
4/25/2024	44.65	41.60	43.95	108.50	148.05	108.80	76.00	83.25	99.15	96.55	81.60	66.70
4/26/2024	44.70	41.65	44.00	108.60	148.20	108.90	76.05	83.30	99.25	96.65	81.65	66.75
4/29/2024	43.50	40.50	42.80	107.35	146.90	107.70	74.80	82.15	98.00	96.55	81.55	66.65
4/30/2024	43.45	40.45	42.75	107.15	146.60	107.50	74.70	82.00	97.80	96.00	81.10	66.25
5/1/2024	43.16	40.17	42.46	106.71	146.08	107.07	75.13	82.35	98.16	95.78	80.91	66.10
5/2/2024	43.29	40.29	42.58	107.04	146.53	107.40	75.36	82.60	98.46	96.09	81.17	66.31
5/3/2024	43.84	40.80	43.12	108.42	148.41	108.78	76.33	83.66	99.73	97.35	82.23	67.18
5/6/2024	43.56	40.53	42.84	108.01	147.92	108.38	75.98	83.32	99.34	96.01	81.09	66.25
5/7/2024	43.81	40.76	43.08	108.64	148.78	109.01	76.43	83.81	99.92	96.87	81.82	66.85
5/8/2024	43.64	40.60	42.91	108.47	148.62	108.85	76.94	84.27	100.42	96.87	81.82	66.85
5/9/2024	43.81	40.76	43.08	108.90	149.21	109.28	77.24	84.60	100.82	97.26	82.15	67.12
5/10/2024	44.19	41.12	43.46	109.85	150.51	110.24	77.92	85.34	101.70	98.13	82.89	67.72
5/13/2024	44.01	40.95	43.29	109.41	149.91	109.80	77.61	85.00	101.29	97.73	82.55	67.44
5/14/2024	44.01	40.95	43.29	109.41	149.91	109.80	77.61	85.00	101.29	97.73	82.55	67.44
5/15/2024	44.08	41.02	43.36	109.59	150.15	109.98	77.74	85.14	101.45	97.89	82.69	67.55
5/16/2024	44.02	40.97	43.30	109.52	150.04	109.91	77.65	85.04	101.33	97.79	82.60	67.48
5/17/2024	43.97	40.92	43.25	109.38	149.85	109.77	77.55	84.93	101.20	97.66	82.49	67.39
5/20/2024	43.82	40.78	43.10	109.43	149.84	109.81	77.35	84.73	100.97	97.50	82.36	67.28
5/21/2024	40.88	37.96	40.16	109.48	149.62	109.83	78.00	85.20	101.42	96.83	81.79	66.82
5/22/2024	40.20	37.31	39.48	108.47	148.42	108.84	79.12	86.12	102.37	96.35	81.39	66.49
5/23/2024	40.31	37.42	39.59	108.55	148.41	108.91	79.13	86.09	102.31	96.12	81.19	66.33
5/24/2024	40.07	37.19	39.35	108.24	148.06	108.61	78.84	85.82	102.01	96.02	81.11	66.26
5/28/2024	40.06	37.18	39.34	108.33	148.20	108.70	79.18	86.14	102.37	96.16	81.23	66.36
5/29/2024	40.03	37.15	39.31	108.31	148.19	108.69	79.28	86.23	102.47	96.17	81.24	66.37
5/30/2024	41.24	38.30	40.52	110.08	150.28	110.43	77.19	84.50	100.67	97.14	82.06	67.04
5/31/2024	42.89	39.87	42.16	112.81	150.00	110.45	80.10	87.43	103.55	97.15	82.05	67.05
6/3/2024	41.46	38.49	40.73	112.69	149.92	110.34	81.09	88.33	104.53	97.26	82.14	67.13

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6/4/2024	41.18	38.23	40.45	111.83	148.79	109.50	80.53	87.71	103.80	96.63	81.61	66.69
6/5/2024	40.49	37.58	39.77	110.67	147.38	108.37	79.69	86.86	107.23	95.96	81.05	66.23
6/6/2024	38.77	35.93	38.05	108.84	145.50	106.61	80.09	87.19	107.57	96.63	81.62	66.69
6/7/2024	38.44	35.61	37.72	108.50	145.16	106.29	79.74	86.88	107.96	96.63	81.62	66.69
6/10/2024	38.36	35.52	37.63	109.03	146.01	106.82	81.70	88.76	110.12	97.49	82.35	67.28
6/11/2024	38.67	35.82	37.94	109.34	146.32	107.12	82.03	89.05	110.43	97.62	82.47	67.42
6/12/2024	38.58	35.73	37.85	110.26	147.34	108.01	82.06	89.12	110.55	98.61	83.39	68.38
6/13/2024	38.55	35.70	37.80	110.15	147.15	107.90	81.95	89.00	110.40	98.85	83.60	68.65
6/14/2024	38.50	35.65	37.75	109.95	146.90	107.70	81.80	88.85	110.20	97.95	82.90	68.10
6/17/2024	38.25	35.45	37.50	109.25	146.00	107.00	81.30	88.30	109.50	97.10	82.15	67.50
6/18/2024	38.25	35.45	37.50	109.00	145.60	106.75	80.55	87.60	108.70	96.75	81.85	67.25
6/19/2024	38.25	35.45	37.50	109.00	145.60	106.75	80.55	87.60	108.70	96.75	81.85	67.25
6/20/2024	39.95	37.05	39.20	109.30	146.00	107.05	81.45	88.45	109.65	97.40	82.40	67.70
6/21/2024	40.90	37.95	40.15	110.80	147.80	108.50	81.15	88.30	109.60	98.25	83.15	68.30
6/24/2024	40.90	37.95	40.15	110.80	147.80	108.50	81.15	88.30	109.60	98.25	83.15	68.30
6/25/2024	41.05	38.10	40.30	111.00	148.25	108.70	82.10	89.25	110.70	99.00	83.75	68.80
6/26/2024	41.55	38.55	40.80	112.35	150.05	110.05	83.10	90.35	112.05	99.35	84.05	69.05
6/27/2024	41.05	38.10	40.30	111.85	149.55	109.60	83.45	90.65	112.35	105.65	90.10	75.85
6/28/2024	40.50	37.60	39.75	110.35	147.55	108.15	82.35	89.45	110.85	110.35	94.75	81.45
7/1/2024	40.86	37.93	40.10	111.32	148.84	109.10	83.07	90.23	111.82	111.36	95.61	82.19
7/2/2024	40.85	37.92	40.09	111.67	149.38	109.45	83.27	90.49	112.17	112.45	96.54	82.99
7/3/2024	41.20	38.28	40.45	109.81	147.00	107.63	81.89	89.04	110.41	110.87	95.18	81.82
7/5/2024	41.18	38.26	40.43	109.76	146.93	107.58	81.85	89.00	110.36	110.82	95.14	81.78
7/8/2024	40.67	37.79	39.93	108.40	145.11	106.24	80.83	87.90	108.99	109.40	93.92	80.73
7/9/2024	40.99	38.09	40.25	107.19	144.19	105.09	83.35	90.27	111.66	110.29	94.68	81.39
7/10/2024	40.95	38.05	40.21	107.08	144.04	104.98	83.26	90.17	111.54	110.17	94.58	81.30
7/11/2024	40.02	37.17	39.29	106.51	143.20	104.41	82.87	89.70	110.93	109.52	94.02	80.82
7/12/2024	40.13	37.27	39.39	108.57	145.42	106.40	81.51	88.57	109.76	110.03	94.46	81.19
7/15/2024	39.28	36.47	38.55	106.86	143.24	104.73	80.14	87.14	108.04	108.57	93.21	80.12
7/16/2024	39.33	36.51	38.60	106.95	143.35	104.81	80.21	87.21	108.13	108.63	93.26	80.17
7/17/2024	37.89	35.13	37.16	107.26	143.45	105.10	79.81	86.76	107.56	107.96	92.69	79.68
7/18/2024	37.79	35.03	37.06	106.97	143.06	104.81	79.59	86.52	107.27	107.88	92.62	79.62
7/19/2024	38.36	35.58	37.63	105.98	142.14	103.86	80.27	87.16	107.99	108.11	92.82	79.79
7/22/2024	38.15	35.37	37.42	105.97	142.16	103.85	81.88	88.61	109.57	108.19	92.89	79.85
7/23/2024	38.23	35.45	37.50	106.27	142.57	104.14	82.10	88.86	109.88	108.54	93.19	80.11
7/24/2024	39.07	33.91	37.15	105.27	141.23	103.16	81.33	88.03	108.85	106.66	91.49	78.44
7/25/2024	39.83	33.51	37.33	105.79	141.93	103.67	81.73	88.47	109.39	107.19	91.95	78.83
7/26/2024	40.40	33.05	37.39	106.45	142.71	104.31	81.67	88.47	109.43	107.57	92.27	79.10
7/29/2024	39.51	32.29	36.55	104.47	142.70	102.38	80.10	86.81	107.41	105.52	90.49	77.51
7/30/2024	39.85	31.64	36.40	104.15	142.29	102.07	79.84	86.54	107.09	106.47	91.31	78.21
7/31/2024	40.31	31.59	36.61	103.14	140.98	101.08	79.73	86.32	106.75	105.82	90.76	77.74
8/1/2024	39.53	30.62	35.72	101.49	138.90	99.48	78.58	85.12	105.30	104.16	89.29	76.37
8/2/2024	39.66	30.28	35.62	102.24	139.76	100.21	78.92	85.46	105.70	105.38	90.34	77.26
8/5/2024	39.40	30.05	35.37	102.26	139.72	100.23	78.58	85.13	105.32	105.19	90.18	77.12
8/6/2024	38.25	29.04	34.27	100.31	137.30	98.33	77.19	83.70	103.61	103.84	89.03	76.13
8/7/2024	38.14	28.95	34.17	100.06	136.97	98.09	77.30	83.77	103.65	103.77	88.97	76.08
8/8/2024	37.96	28.81	34.01	99.58	136.31	97.62	76.93	83.37	103.15	103.27	88.54	75.71
8/9/2024	37.42	28.41	33.53	98.11	134.29	96.18	75.81	82.15	101.63	101.71	87.20	74.57
8/12/2024	37.97	28.99	34.11	95.32	131.23	93.49	76.10	82.30	101.69	100.94	86.54	74.00
8/13/2024	37.67	28.79	33.86	92.85	128.30	91.09	75.06	81.19	100.33	100.55	86.21	73.72
8/14/2024	38.28	29.37	34.46	92.44	127.91	90.69	75.71	81.78	100.98	100.61	86.26	73.77
8/15/2024	38.39	29.56	34.62	88.68	123.77	87.06	76.63	82.44	101.56	100.22	85.99	73.70
8/16/2024	38.57	29.70	34.78	89.07	124.30	87.44	76.95	82.78	101.98	100.87	86.55	74.18
8/19/2024	38.90	30.04	35.12	87.50	122.63	85.93	77.18	82.95	102.12	101.43	87.09	74.78

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8/20/2024	38.59	29.80	34.84	86.77	121.60	85.21	76.54	82.26	101.27	101.49	87.14	74.84
8/21/2024	38.64	29.86	34.90	86.74	121.50	85.17	76.53	82.22	101.21	101.50	87.15	74.85
8/22/2024	38.56	29.81	34.83	86.45	121.05	84.88	76.28	81.94	100.85	101.18	86.87	74.61
8/23/2024	38.20	29.53	34.50	85.63	119.91	84.08	75.55	81.16	99.89	100.24	86.06	73.92
8/26/2024	37.86	29.27	34.20	84.85	118.81	83.31	74.86	80.42	98.98	99.32	85.27	73.24
8/27/2024	37.67	29.11	34.02	84.50	118.34	82.97	74.54	80.09	99.35	98.99	84.99	73.00
8/28/2024	38.03	29.39	34.35	85.22	119.37	83.68	75.24	80.84	100.28	100.46	86.25	74.08
8/29/2024	38.45	29.72	34.73	86.12	120.61	84.56	76.04	81.69	101.33	101.47	87.11	74.83

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8/30/2024	38.24	29.56	34.54	85.65	119.95	84.09	75.62	81.24	100.77	100.93	86.64	74.43
9/3/2024	38.46	29.73	34.74	86.15	120.65	84.58	76.06	81.72	101.36	101.51	87.14	74.86
9/4/2024	40.15	31.31	36.41	86.28	121.01	84.72	75.06	80.92	100.57	102.15	87.69	75.33
9/5/2024	39.78	31.03	36.08	85.43	119.79	83.88	74.33	80.12	99.57	101.86	87.44	75.11
9/6/2024	38.96	30.39	35.34	83.68	117.33	82.16	72.81	78.48	97.53	101.37	87.03	74.80
9/9/2024	39.00	30.42	35.38	83.63	117.28	82.11	72.84	78.51	97.56	101.37	87.03	74.80
9/10/2024	39.04	30.46	35.42	83.42	117.06	81.91	72.86	78.53	97.57	101.33	86.99	74.77
9/11/2024	38.22	29.73	34.63	82.20	115.60	80.73	73.00	78.55	97.50	100.69	86.45	74.32
9/12/2024	38.08	29.63	34.51	81.86	115.13	80.39	72.73	78.26	97.13	100.80	86.56	74.45
9/13/2024	37.78	29.40	34.24	81.08	114.07	79.63	72.13	77.61	96.32	99.97	85.85	73.84
9/16/2024	37.86	29.46	34.31	81.20	114.24	79.74	72.27	77.75	96.50	100.44	86.25	74.19
9/18/2024	37.98	29.47	34.37	80.15	113.63	78.75	74.52	79.93	99.02	101.26	86.95	74.80
9/19/2024	38.03	29.43	34.37	83.34	117.23	81.84	74.89	80.43	99.71	101.59	87.23	75.04
9/20/2024	38.27	29.62	34.59	83.87	117.97	82.36	75.37	80.94	100.35	102.21	87.76	75.50
9/23/2024	38.48	29.78	34.78	84.32	118.61	82.80	75.78	81.38	100.89	102.74	88.22	75.89
9/24/2024	38.32	29.62	34.62	85.07	119.38	83.52	75.63	81.26	100.76	102.60	88.08	75.72
9/25/2024	38.56	29.81	34.84	85.60	120.13	84.04	76.11	81.78	101.40	103.22	88.62	76.18
9/26/2024	38.07	29.43	34.40	84.51	118.60	82.97	75.14	80.74	100.11	101.96	87.54	75.25
9/27/2024	39.34	30.60	35.64	83.40	117.71	81.91	75.71	81.34	100.84	102.37	87.89	75.55
9/30/2024	39.37	30.56	35.64	84.69	119.32	83.17	75.63	81.40	101.02	102.70	88.17	75.79
10/1/2024	39.18	30.44	35.48	83.39	117.71	81.91	75.12	80.82	100.28	101.81	87.41	75.13
10/2/2024	39.11	30.33	35.39	83.32	117.84	81.85	74.55	80.87	100.40	102.38	87.90	75.55
10/3/2024	39.11	30.32	35.39	83.30	117.88	81.83	76.08	82.25	101.92	102.37	87.89	75.54
10/4/2024	39.21	30.40	35.48	83.51	118.18	82.04	76.28	82.46	102.18	102.62	88.11	75.73
10/7/2024	39.31	30.52	35.59	83.46	118.02	81.99	75.33	81.57	101.17	102.29	87.83	75.49
10/8/2024	39.21	30.45	35.51	82.60	117.01	81.15	75.39	81.56	101.11	102.26	87.84	71.95
10/9/2024	38.55	29.89	34.89	81.76	115.84	80.33	75.01	81.08	100.47	101.54	87.23	69.52
10/10/2024	38.74	30.04	35.06	82.16	116.41	80.73	75.38	81.48	100.96	102.15	87.77	68.49

Average	48.66	44.14	47.28	110.13	147.10	109.69	78.27	85.99	104.07	102.63	87.13	72.21
Max HL	63.15	59.30	62.30	131.25	179.20	131.75	86.05	95.80	114.45	112.80	96.54	82.99
Min HL	37.42	28.41	33.53	80.15	113.63	78.75	70.50	77.61	94.20	95.78	80.91	66.10
Spread	25.73	30.89	28.77	51.10	65.57	53.00	15.55	18.19	20.25	17.02	15.63	16.89

Mid-Columbia Heavy Load and Light Load Daily Forward Curves
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Mid-C LL	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27
10/11/2023	44.60	39.10	39.40	86.50	106.75	89.65	65.85	73.15	85.60	84.95	73.95	61.00
10/12/2023	45.25	39.70	40.05	87.80	108.30	90.95	66.70	74.10	86.75	86.15	74.95	61.80
10/13/2023	46.10	40.50	40.85	89.55	110.35	92.70	67.85	75.35	88.25	87.70	76.25	62.85
10/16/2023	46.60	40.95	41.30	90.55	111.50	93.70	68.50	76.05	89.10	88.60	77.00	63.45
10/17/2023	48.10	42.35	42.80	93.70	115.20	96.85	70.55	78.35	91.85	91.40	79.40	65.40
10/18/2023	46.85	41.25	41.65	91.25	112.20	94.30	68.75	76.35	89.50	89.55	77.80	64.05
10/19/2023	46.80	41.20	41.60	91.15	112.10	94.20	68.70	76.30	89.45	89.50	77.75	64.00
10/20/2023	46.25	40.70	41.05	90.00	110.75	93.05	67.95	75.45	88.45	88.50	76.90	63.30
10/23/2023	46.60	41.05	41.40	90.70	111.60	93.75	68.40	76.00	89.10	89.15	77.45	63.75
10/24/2023	46.35	40.80	41.15	90.20	111.00	93.25	68.05	75.60	88.65	88.70	77.05	63.45
10/25/2023	47.75	42.10	42.55	93.10	114.45	96.20	69.95	77.75	91.20	91.30	79.25	65.25
10/26/2023	47.00	41.40	41.80	91.55	112.60	94.65	68.95	76.60	89.85	89.90	78.10	64.30
10/27/2023	46.30	40.75	41.15	90.15	110.95	93.25	68.05	75.55	88.60	88.65	77.05	63.45
10/30/2023	46.45	40.90	41.30	90.50	111.40	93.60	68.30	75.80	88.90	88.95	77.30	63.65
10/31/2023	46.90	41.35	41.75	91.50	112.55	94.60	68.95	76.50	89.75	89.80	78.05	64.25
11/1/2023	46.30	40.75	41.15	90.20	111.05	93.30	68.10	75.55	88.65	88.65	77.10	63.45
11/2/2023	46.00	40.45	40.85	89.60	110.30	92.70	67.70	75.10	88.10	88.10	76.65	63.05
11/3/2023	46.85	41.25	41.70	91.35	112.35	94.45	68.85	76.40	89.65	89.65	78.00	64.15
11/6/2023	45.50	40.00	40.35	88.55	108.00	91.65	67.00	74.35	87.20	87.60	76.25	62.75
11/7/2023	45.20	39.70	40.05	87.90	107.25	91.00	66.60	73.90	86.65	87.05	75.75	62.35
11/8/2023	46.15	40.55	40.95	89.85	109.55	92.95	67.85	75.30	88.35	88.80	77.20	63.55
11/9/2023	45.60	40.00	40.40	88.65	108.15	91.75	67.05	74.45	87.30	87.75	76.30	62.80
11/10/2023	45.75	40.10	40.55	88.90	108.45	92.00	67.25	74.65	87.55	88.00	76.50	62.95
11/13/2023	45.85	40.15	40.65	89.05	108.65	92.15	67.35	74.75	87.70	88.15	76.65	63.05
11/14/2023	45.15	39.50	40.00	87.65	107.00	90.75	66.45	73.70	86.45	86.90	75.60	62.20
11/15/2023	45.25	39.60	40.10	87.90	107.30	91.00	66.60	73.90	86.65	87.10	75.80	62.35
11/16/2023	45.20	39.55	40.05	87.85	107.20	90.95	66.55	73.85	86.60	87.05	75.75	62.30
11/17/2023	44.85	39.20	39.70	87.10	106.30	90.20	66.05	73.30	85.95	86.40	75.20	61.85
11/20/2023	44.70	39.05	39.55	86.75	105.85	89.85	65.80	73.05	85.65	86.10	74.95	61.65
11/21/2023	43.85	38.25	38.70	85.00	103.80	88.10	64.65	71.80	84.15	84.55	73.65	60.55
11/22/2023	43.20	37.65	38.05	83.65	102.20	86.75	63.75	70.80	82.95	83.35	72.60	59.70
11/24/2023	43.20	37.65	38.05	83.65	102.20	86.75	63.75	70.80	82.95	83.35	72.60	59.70
11/27/2023	42.85	37.30	37.70	82.90	101.30	85.95	63.25	70.25	82.30	82.65	72.00	59.20
11/28/2023	42.95	37.40	37.80	83.10	101.50	86.15	63.35	70.40	82.45	82.80	72.15	59.30
11/29/2023	43.05	37.50	37.90	83.35	101.80	86.40	63.50	70.60	82.65	83.00	72.35	59.45
11/30/2023	43.25	37.65	38.10	83.75	102.25	86.80	63.75	70.90	83.00	83.35	72.65	59.70
12/1/2023	43.35	37.75	38.20	83.95	102.50	87.00	63.90	71.05	83.20	83.55	72.80	59.85
12/4/2023	42.75	37.15	37.60	82.65	101.00	85.70	63.05	70.10	82.10	82.40	71.80	59.05
12/5/2023	42.90	37.30	37.75	82.95	101.35	86.00	63.25	70.30	82.35	82.65	72.00	59.20
12/6/2023	41.90	36.30	36.65	80.70	99.20	83.80	62.00	68.95	80.65	80.95	70.60	58.10
12/7/2023	42.05	36.45	36.80	81.05	99.70	84.15	62.25	69.20	80.95	81.25	70.85	58.30
12/8/2023	42.45	36.85	37.20	81.95	100.90	85.05	62.85	69.85	81.70	82.05	71.50	58.85
12/11/2023	41.75	36.20	36.50	80.50	98.90	83.60	61.90	68.80	80.45	80.75	70.40	57.95
12/12/2023	42.70	37.10	37.45	82.50	101.65	85.60	63.20	70.25	82.20	81.55	71.05	58.45
12/13/2023	42.75	37.15	37.50	82.65	101.85	85.75	63.30	70.35	82.30	81.65	71.15	58.55
12/14/2023	43.00	37.35	37.75	83.15	102.55	86.25	63.65	70.70	82.75	82.10	71.50	58.85
12/15/2023	43.35	37.65	38.10	83.85	103.50	86.95	64.10	71.20	83.35	82.70	72.00	59.25
12/18/2023	43.35	37.65	38.10	83.80	103.45	86.90	64.10	71.15	83.30	82.40	71.75	59.05
12/19/2023	43.25	37.60	38.00	83.65	103.25	86.75	64.00	71.05	83.15	82.25	71.60	58.95
12/20/2023	44.75	39.00	39.45	86.75	107.50	89.85	66.05	73.30	85.85	84.50	73.50	60.50
12/21/2023	45.00	39.25	39.70	87.30	108.30	90.40	66.40	73.70	86.35	84.80	73.75	60.70
12/22/2023	44.80	39.05	39.50	86.85	107.65	89.95	66.10	73.35	85.95	84.40	73.40	60.40
12/26/2023	44.80	39.05	39.50	86.85	107.65	89.95	66.10	73.35	85.95	84.40	73.40	60.40
12/27/2023	44.85	39.10	39.55	86.95	107.75	90.05	66.15	73.40	86.05	84.50	73.45	60.45

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Mid-C LL	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27
12/28/2023	44.85	39.10	39.55	86.95	107.75	90.05	66.15	73.40	86.05	84.50	73.45	60.45
12/29/2023	44.15	38.40	38.85	85.40	105.65	88.50	65.15	72.30	84.75	84.45	73.45	60.45
1/2/2024	44.15	38.40	38.85	85.45	105.70	88.55	65.20	72.35	84.80	84.50	73.50	60.45
1/3/2024	44.30	38.50	39.00	85.75	106.10	88.85	65.40	72.55	85.05	84.75	73.70	60.60
1/4/2024	44.50	38.70	39.20	86.20	106.70	89.30	65.70	72.85	85.45	85.15	74.00	60.85
1/5/2024	45.45	39.60	40.15	88.20	109.40	91.30	67.00	74.30	87.20	86.70	75.30	61.90
1/8/2024	45.35	39.50	40.05	88.00	109.10	91.10	66.85	74.15	87.00	86.50	75.15	61.75
1/9/2024	45.65	39.80	40.35	88.60	109.95	91.70	67.25	74.60	87.55	87.05	75.60	62.15
1/10/2024	45.95	40.10	40.65	89.20	110.80	92.35	67.65	75.05	88.10	87.15	75.65	62.20
1/11/2024	46.10	40.30	40.90	89.65	111.70	92.75	67.75	75.15	88.25	88.15	76.50	62.90
1/12/2024	46.30	40.50	41.10	90.05	112.30	93.15	68.05	75.45	88.60	88.50	76.80	63.15
1/16/2024	47.50	41.60	42.25	92.50	115.70	95.60	69.65	77.25	90.75	89.00	77.20	63.45
1/17/2024	45.50	39.70	40.25	88.30	109.95	91.40	66.90	74.20	87.10	88.55	76.85	63.15
1/18/2024	45.35	39.60	40.10	88.05	109.60	91.15	66.70	74.00	86.85	88.30	76.65	63.00
1/19/2024	44.20	38.50	38.95	85.60	106.25	88.70	65.10	72.20	84.70	85.30	74.10	60.90
1/22/2024	43.60	38.00	38.50	84.55	105.00	87.55	64.20	71.20	83.55	84.05	73.00	60.00
1/23/2024	44.30	38.65	39.20	86.00	107.00	89.00	65.15	72.25	84.80	85.35	74.10	60.90
1/24/2024	44.05	38.40	38.95	85.45	106.25	88.45	64.80	71.85	84.35	84.85	73.70	60.55
1/25/2024	43.60	38.00	38.55	84.55	105.00	87.55	64.20	71.20	83.55	84.05	73.00	60.00
1/26/2024	43.55	37.95	38.50	84.40	104.80	87.40	64.10	71.10	83.45	83.85	72.85	59.85
1/29/2024	42.40	36.90	37.35	82.05	101.55	85.00	62.55	69.35	81.40	81.70	71.05	58.35
1/30/2024	41.95	36.45	36.90	81.10	100.25	84.05	61.95	68.65	80.60	80.85	70.35	57.75
1/31/2024	41.95	36.45	36.90	81.10	100.30	84.05	61.95	68.65	80.60	80.85	70.35	57.75
2/1/2024	41.95	36.45	36.90	81.05	100.25	84.00	61.95	68.65	80.60	82.05	71.35	58.55
2/2/2024	41.45	36.00	36.40	80.00	98.85	82.95	61.25	67.90	79.70	81.10	70.55	57.90
2/5/2024	41.65	36.20	36.60	80.40	99.40	83.35	61.50	68.20	80.05	81.75	71.10	58.35
2/6/2024	41.60	36.15	36.55	80.30	99.25	83.25	61.45	68.10	79.95	81.65	71.00	58.30
2/7/2024	41.50	36.10	36.50	80.15	99.15	83.10	61.30	67.95	79.75	80.85	70.30	57.70
2/8/2024	41.65	36.25	36.65	80.45	99.60	83.40	61.50	68.20	80.05	81.15	70.55	57.90
2/9/2024	41.50	36.10	36.50	80.15	99.15	83.10	61.30	67.95	79.80	80.80	70.25	57.65
2/12/2024	41.20	35.80	36.20	79.55	98.30	82.50	60.90	67.50	79.25	80.25	69.80	57.25
2/13/2024	40.60	35.25	35.60	78.65	97.05	81.60	60.30	66.85	78.45	79.80	69.45	56.95
2/14/2024	40.60	35.20	35.50	78.55	96.75	81.55	60.40	66.95	78.55	79.75	69.40	56.90
2/15/2024	40.60	35.20	35.45	78.50	96.65	81.50	60.40	66.95	78.55	79.75	69.40	56.90
2/16/2024	40.40	35.00	35.25	78.10	96.10	81.10	60.15	66.65	78.20	79.40	69.10	56.65
2/20/2024	39.55	34.20	34.45	76.40	93.75	79.35	59.00	65.40	76.70	78.95	68.70	56.35
2/21/2024	39.10	33.80	34.00	76.85	94.35	79.80	59.30	65.70	77.05	79.35	69.05	56.60
2/22/2024	38.65	33.35	33.55	75.95	93.00	78.90	60.95	67.55	79.25	79.05	68.80	56.40
2/23/2024	38.25	32.95	33.15	75.05	91.80	78.00	60.35	66.90	78.45	78.25	68.10	55.85
2/26/2024	37.30	32.05	32.20	73.95	90.25	76.90	59.60	66.05	77.45	78.25	68.10	55.85
2/27/2024	37.20	31.90	32.05	73.65	89.70	76.65	59.55	66.00	77.35	78.30	68.15	55.90
2/28/2024	36.90	31.65	31.75	73.05	88.90	76.05	59.15	65.55	76.80	77.75	67.70	55.55
2/29/2024	36.80	31.55	31.65	72.85	88.65	75.85	59.05	65.40	76.65	77.60	67.55	55.45
3/1/2024	36.65	31.40	31.50	72.50	88.15	75.50	58.80	65.15	76.30	77.25	67.25	55.20
3/4/2024	37.60	32.20	32.30	74.35	90.25	77.45	60.40	66.95	78.40	77.70	67.65	55.55
3/5/2024	37.60	32.20	32.25	74.30	90.15	77.40	60.40	66.95	78.40	78.00	67.90	55.75
3/6/2024	37.50	32.10	32.15	74.10	89.90	77.20	60.25	66.80	78.25	77.85	67.75	55.65
3/7/2024	37.20	31.80	31.85	73.40	88.95	76.50	59.80	66.30	77.65	77.20	67.20	55.20
3/8/2024	37.15	31.75	31.80	73.25	88.75	76.35	59.70	66.20	77.50	77.05	67.10	55.10
3/11/2024	37.90	32.60	32.55	74.10	89.60	77.20	60.50	67.05	78.35	77.70	67.65	55.50
3/12/2024	37.90	32.60	32.55	74.10	89.60	77.20	60.50	67.05	78.35	78.80	68.55	56.45
3/13/2024	39.30	34.20	33.95	75.55	90.95	78.60	61.90	68.55	79.80	79.25	68.95	56.75
3/14/2024	39.00	33.90	33.65	74.90	90.05	77.95	61.45	68.05	79.20	78.55	68.35	56.10
3/15/2024	39.25	34.10	33.85	75.40	90.70	78.45	61.80	68.40	79.65	78.55	68.35	56.00

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3/18/2024	39.55	34.35	34.15	76.00	91.55	79.05	62.20	68.85	80.20	79.10	68.80	56.35
3/19/2024	39.45	34.30	34.05	75.85	91.30	78.90	62.10	68.70	80.05	78.95	68.65	56.25
3/20/2024	39.45	34.30	34.05	76.20	91.80	79.25	62.30	68.90	80.35	78.35	68.15	55.65
3/21/2024	39.45	34.30	34.05	76.20	91.80	79.25	62.30	68.90	80.35	78.35	68.15	55.65
3/22/2024	39.30	34.15	33.90	75.95	91.50	79.00	62.15	68.75	80.15	78.35	68.15	55.65
3/25/2024	39.35	34.15	33.95	76.00	91.60	79.05	62.20	68.80	80.20	78.35	68.15	55.65
3/26/2024	39.45	34.25	34.05	76.25	91.95	79.30	62.40	69.00	80.45	78.35	68.15	55.60
3/27/2024	39.30	34.10	33.90	75.90	91.45	78.95	62.15	68.75	80.10	78.00	67.85	55.35
3/28/2024	40.30	35.15	34.90	77.50	93.40	80.50	63.40	70.10	81.60	78.90	68.60	56.00
4/1/2024	40.35	35.20	34.95	77.75	93.75	80.75	63.60	70.30	81.85	78.90	68.60	56.05
4/2/2024	40.50	35.35	35.10	79.05	95.45	82.05	64.50	71.30	83.00	79.95	69.50	56.80
4/3/2024	40.30	35.25	34.90	78.35	94.35	81.35	64.15	70.90	82.45	79.15	68.85	56.30
4/4/2024	40.00	35.00	34.65	77.80	93.60	80.80	63.80	70.50	81.95	78.65	68.40	55.95
4/5/2024	39.95	34.95	34.60	77.70	93.45	80.70	63.75	70.45	81.85	78.55	68.30	55.90
4/8/2024	39.95	34.95	34.60	77.70	93.45	80.70	63.75	70.45	81.85	78.55	68.30	55.90
4/9/2024	38.80	33.85	33.45	80.50	96.15	83.40	62.50	69.30	80.55	78.25	68.05	55.75
4/10/2024	37.65	32.75	32.30	83.35	98.80	86.15	61.15	68.05	79.10	78.00	67.85	55.50
4/11/2024	37.50	32.60	32.15	83.05	98.40	85.85	60.95	67.80	78.80	78.00	67.85	55.50
4/12/2024	35.30	30.50	29.95	82.90	97.90	85.70	62.80	69.30	80.30	77.05	67.05	54.85
4/15/2024	35.05	30.05	29.70	83.65	99.30	86.50	62.95	69.50	80.75	78.25	68.10	55.80
4/16/2024	35.20	30.20	29.85	84.05	99.85	86.90	63.20	69.80	81.10	79.25	68.95	56.90
4/17/2024	35.30	30.30	29.95	84.35	100.25	87.20	63.40	70.00	81.35	80.35	69.90	57.80
4/18/2024	34.90	29.95	29.55	78.55	94.35	81.55	66.70	73.60	84.80	80.05	69.65	57.60
4/19/2024	35.50	30.65	30.15	77.55	93.45	80.60	67.40	74.35	85.60	80.70	70.20	58.15
4/22/2024	35.35	30.50	30.00	76.60	92.35	79.65	67.20	74.10	85.30	80.65	70.20	58.25
4/23/2024	34.30	29.50	28.95	75.55	91.35	78.65	70.60	77.10	88.60	80.75	70.30	58.35
4/24/2024	34.95	30.30	29.60	70.45	85.45	73.70	70.65	77.00	88.20	79.80	69.50	57.70
4/25/2024	34.25	29.50	28.90	69.65	84.65	72.95	69.90	76.20	87.40	79.50	69.25	57.55
4/26/2024	34.30	29.55	28.95	69.75	84.80	73.05	69.95	76.25	87.50	79.60	69.30	57.60
4/29/2024	33.10	28.40	27.75	68.50	83.50	71.85	68.70	75.10	86.25	79.75	69.45	57.80
4/30/2024	33.05	28.35	27.70	68.30	83.20	71.65	68.60	74.95	86.05	79.70	69.40	57.90
5/1/2024	32.76	28.07	27.41	67.86	82.68	71.22	69.03	75.30	86.41	79.48	69.21	57.75
5/2/2024	32.89	28.19	27.53	68.19	83.13	71.55	69.26	75.55	86.71	79.79	69.47	57.96
5/3/2024	33.44	28.70	28.07	69.57	85.01	72.93	70.23	76.61	87.98	81.05	70.53	58.83
5/6/2024	33.64	28.98	28.27	69.68	85.05	73.04	70.37	76.80	88.11	80.77	70.29	58.87
5/7/2024	34.72	30.15	29.34	71.21	86.81	74.55	71.67	78.21	89.59	81.10	70.57	58.98
5/8/2024	34.55	29.99	29.17	71.04	86.64	74.39	72.18	78.66	90.08	81.10	70.57	58.98
5/9/2024	34.39	29.78	29.01	71.12	86.88	74.48	72.15	78.63	90.13	81.49	70.90	59.25
5/10/2024	34.77	30.14	29.39	72.07	88.18	75.44	72.83	79.37	91.01	82.36	71.64	59.85
5/13/2024	34.44	29.81	29.07	71.47	87.42	74.84	72.37	78.86	90.44	81.95	71.30	59.57
5/14/2024	34.67	30.07	29.30	71.73	87.68	75.09	72.61	79.12	90.69	81.95	71.30	59.57
5/15/2024	34.74	30.14	29.37	71.91	87.92	75.27	72.74	79.26	90.85	82.11	71.44	59.68
5/16/2024	34.68	30.09	29.31	71.84	87.81	75.20	72.65	79.16	90.73	82.01	71.35	59.61
5/17/2024	34.63	30.04	29.26	71.70	87.62	75.06	72.55	79.05	90.60	81.88	71.24	59.52
5/20/2024	34.48	29.90	29.11	71.75	87.61	75.10	72.35	78.85	90.37	81.72	71.11	59.41
5/21/2024	31.54	27.08	26.17	71.80	87.39	75.12	73.00	79.32	90.82	81.05	70.54	58.95
5/22/2024	30.86	26.43	25.49	70.79	86.19	74.13	74.12	80.24	91.77	80.57	70.14	58.62
5/23/2024	30.97	26.54	25.60	70.87	86.18	74.20	74.13	80.21	91.71	80.34	69.94	58.46
5/24/2024	30.73	26.31	25.36	70.56	85.83	73.90	73.84	79.94	91.41	80.24	69.86	58.39
5/28/2024	30.72	26.30	25.35	70.65	85.97	73.99	74.18	80.26	91.77	80.38	69.98	58.49
5/29/2024	30.69	26.27	25.32	70.63	85.96	73.98	74.28	80.35	91.87	80.39	69.99	58.50
5/30/2024	32.08	27.62	26.70	72.65	88.31	75.97	72.99	79.49	90.91	81.36	70.81	59.17
5/31/2024	33.73	29.19	28.34	75.38	88.03	75.99	75.90	82.42	93.79	81.37	70.80	59.18
6/3/2024	33.30	28.94	27.90	77.05	89.74	77.62	73.20	79.33	90.89	81.15	70.61	58.96

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Mid-C LL	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27
6/4/2024	33.02	28.68	27.62	77.14	89.56	77.71	72.64	78.71	90.16	80.52	70.08	58.52
6/5/2024	32.33	28.03	26.94	75.98	88.15	76.58	71.80	77.86	93.59	79.85	69.52	58.06
6/6/2024	32.18	28.15	26.79	76.73	88.84	77.34	71.18	77.09	92.86	80.04	69.69	58.09
6/7/2024	31.85	27.83	26.46	76.39	88.50	77.02	70.83	76.78	93.25	80.04	69.69	58.09
6/10/2024	31.77	27.74	26.37	76.62	89.04	77.25	70.96	76.69	93.49	80.90	70.42	58.68
6/11/2024	32.08	28.04	26.68	76.93	89.36	77.55	70.99	76.66	93.49	81.03	70.54	58.82
6/12/2024	31.99	27.95	26.59	77.79	90.33	78.38	70.95	76.66	93.53	82.00	71.44	59.76
6/13/2024	31.95	27.90	26.55	77.65	90.15	78.25	70.80	76.55	93.35	82.20	71.65	60.05
6/14/2024	31.35	27.25	25.95	76.90	89.30	77.50	70.10	75.80	92.55	81.30	70.90	59.50
6/17/2024	31.20	27.10	25.80	77.20	89.40	77.80	70.55	76.25	92.85	80.70	70.40	59.15
6/18/2024	31.20	27.10	25.80	76.95	89.00	77.55	69.80	75.55	92.05	81.35	70.95	59.85
6/19/2024	31.20	27.10	25.80	76.95	89.00	77.55	69.80	75.55	92.05	81.35	70.95	59.85
6/20/2024	31.35	27.00	25.95	77.20	89.35	77.80	70.55	76.25	92.85	81.80	71.30	60.10
6/21/2024	32.30	27.90	26.90	78.70	91.15	79.25	70.25	76.10	92.80	82.65	72.05	60.70
6/24/2024	32.30	27.90	26.90	78.70	91.15	79.25	70.25	76.10	92.80	82.65	72.05	60.70
6/25/2024	32.45	28.05	27.05	78.90	91.60	79.45	71.20	77.05	93.90	83.40	72.65	61.20
6/26/2024	32.95	28.50	27.55	80.25	93.40	80.80	72.20	78.15	95.25	83.75	72.95	61.45
6/27/2024	36.95	33.10	31.55	67.30	80.40	68.20	77.15	83.40	100.40	92.85	81.35	70.80
6/28/2024	36.40	32.60	31.00	68.45	81.05	69.30	75.20	81.30	98.00	97.55	86.00	76.40
7/1/2024	36.76	32.93	31.35	69.42	82.34	70.25	75.03	81.12	98.03	98.22	86.58	76.84
7/2/2024	35.62	31.64	30.21	68.55	81.66	69.41	74.30	80.38	97.41	98.41	86.76	76.83
7/3/2024	34.00	29.77	28.60	68.49	81.08	69.34	74.24	80.35	97.03	97.27	85.77	76.07
7/5/2024	33.98	29.75	28.58	68.44	81.01	69.29	74.20	80.31	96.98	97.22	85.73	76.03
7/8/2024	33.47	29.28	28.08	67.08	79.19	67.95	73.18	79.20	95.60	95.80	84.51	74.98
7/9/2024	33.27	28.99	27.87	65.87	78.27	66.80	74.45	80.22	96.96	96.69	85.27	75.64
7/10/2024	33.23	28.95	27.83	65.76	78.12	66.69	74.29	80.05	96.77	96.57	85.17	75.55
7/11/2024	32.26	28.01	26.86	66.59	78.68	67.49	73.10	78.72	95.32	95.65	84.38	74.82
7/12/2024	32.37	28.11	26.96	66.44	78.70	67.32	71.74	77.59	94.15	96.16	84.82	75.19
7/15/2024	31.52	27.31	26.12	64.73	76.52	65.65	70.37	76.16	92.43	94.70	83.57	74.12
7/16/2024	31.57	27.35	26.17	64.82	76.63	65.73	70.44	76.23	92.52	94.76	83.62	74.17
7/17/2024	30.13	25.97	24.73	63.90	75.50	64.82	70.04	75.78	91.95	94.09	83.05	73.68
7/18/2024	30.60	26.52	25.20	64.22	75.72	65.13	70.41	76.18	92.27	94.82	83.66	74.35
7/19/2024	31.17	27.07	25.77	63.23	74.80	64.18	71.09	76.82	92.99	95.05	83.86	74.52
7/22/2024	31.14	27.08	25.74	63.22	74.82	64.17	72.02	77.53	93.85	95.13	83.93	74.58
7/23/2024	31.15	27.07	25.75	63.76	75.47	64.69	72.24	77.78	94.16	94.61	83.50	74.05
7/24/2024	32.35	25.94	25.75	63.15	74.52	64.09	71.84	77.34	93.52	92.73	81.80	72.38
7/25/2024	33.11	25.54	25.93	63.67	75.22	64.60	72.24	77.78	94.06	93.26	82.26	72.77
7/26/2024	33.57	24.96	25.88	64.33	76.00	65.24	72.18	77.78	94.10	93.64	82.58	73.04
7/29/2024	32.68	24.20	25.04	62.35	76.00	63.31	70.61	76.12	92.08	91.59	80.80	71.45
7/30/2024	33.02	23.55	24.89	62.38	75.94	63.34	71.61	77.21	93.08	92.54	81.62	72.15
7/31/2024	32.82	22.74	24.43	61.72	74.99	62.70	71.50	76.99	92.74	90.61	79.99	70.52
8/1/2024	32.04	21.77	23.54	59.19	72.03	60.23	70.35	75.79	91.29	88.95	78.52	69.15
8/2/2024	32.17	21.43	23.44	60.32	73.26	61.33	70.57	76.01	91.58	89.63	79.11	69.56
8/5/2024	31.91	21.20	23.19	60.34	73.22	61.35	70.57	76.04	91.55	89.60	79.08	69.57
8/6/2024	30.76	20.19	22.09	58.39	70.80	59.45	69.18	74.61	89.84	88.25	77.93	68.58
8/7/2024	32.01	21.64	23.35	57.91	70.23	58.98	69.29	74.68	89.88	88.83	78.41	69.11
8/8/2024	32.60	22.38	23.96	55.50	67.64	56.63	69.72	75.14	90.22	88.33	77.98	68.74
8/9/2024	32.36	22.31	23.78	54.35	65.94	55.50	68.90	74.25	89.02	87.63	77.37	68.38
8/12/2024	33.14	23.16	24.59	51.43	62.74	52.67	69.06	74.26	88.95	86.39	76.32	67.39
8/13/2024	33.08	23.24	24.58	49.22	60.08	50.53	68.27	73.42	87.85	86.00	75.99	67.11
8/14/2024	32.34	22.30	23.84	51.48	62.36	52.74	67.25	72.20	86.74	85.81	75.83	66.93
8/15/2024	33.59	23.77	25.13	48.94	59.44	50.30	67.34	71.96	86.45	85.42	75.56	66.86
8/16/2024	33.32	23.40	24.84	48.84	59.49	50.21	67.20	71.81	86.39	86.07	76.12	67.34
8/19/2024	33.65	23.74	25.18	49.00	59.55	50.38	67.43	71.98	86.53	86.38	76.45	67.72

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Mid-C LL	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27
8/20/2024	33.34	23.50	24.90	49.10	59.36	50.48	67.09	71.62	86.00	86.44	76.50	67.78
8/21/2024	33.73	23.94	25.30	49.63	59.82	50.99	67.35	71.88	86.23	87.57	77.45	68.80
8/22/2024	33.71	23.96	25.30	49.68	59.72	51.04	67.39	71.90	86.17	87.52	77.40	68.81
8/23/2024	33.35	23.68	24.97	48.86	58.58	50.24	66.66	71.12	85.21	86.58	76.59	68.12
8/26/2024	33.01	23.42	24.67	48.08	57.48	49.47	65.97	70.38	84.30	85.66	75.80	67.44
8/27/2024	32.82	23.26	24.49	47.73	57.01	49.13	65.65	70.05	84.68	85.33	75.52	67.20
8/28/2024	33.39	23.78	25.03	48.83	58.41	50.20	67.21	71.73	86.51	86.59	76.60	68.09
8/29/2024	33.81	24.11	25.41	49.72	59.65	51.08	68.00	72.58	87.56	87.60	77.46	68.84

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Mid-C LL	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27
8/30/2024	33.60	23.95	25.22	49.25	58.99	50.61	67.58	72.13	87.00	87.06	76.99	68.44
9/3/2024	33.82	24.12	25.42	49.75	59.69	51.10	68.02	72.61	87.59	87.64	77.49	68.87
9/4/2024	35.51	25.70	27.09	49.88	60.05	51.24	67.02	71.81	86.80	88.28	78.04	69.34
9/5/2024	36.16	26.57	27.78	50.12	59.93	51.47	67.33	72.14	86.89	87.66	77.51	68.83
9/6/2024	35.35	25.94	27.04	49.45	58.55	50.80	65.81	70.50	84.86	87.71	77.56	69.01
9/9/2024	35.39	25.97	27.08	49.40	58.50	50.75	65.84	70.53	84.89	87.71	77.56	69.01
9/10/2024	35.43	26.01	27.12	49.19	58.28	50.55	65.86	70.55	84.90	87.67	77.52	68.98
9/11/2024	34.52	25.18	26.24	47.97	56.82	49.37	65.86	70.42	84.68	87.70	77.54	69.14
9/12/2024	34.38	25.08	26.12	47.63	56.35	49.03	65.59	70.13	84.31	87.81	77.65	69.27
9/13/2024	34.08	24.85	25.85	46.85	55.29	48.27	64.99	69.48	83.50	86.98	76.94	68.66
9/16/2024	34.16	24.91	25.92	46.97	55.46	48.38	65.13	69.62	83.68	87.45	77.34	69.01
9/18/2024	35.42	26.22	27.13	45.92	54.85	47.39	67.38	71.80	86.20	87.86	77.71	69.25
9/19/2024	35.36	26.05	27.02	47.40	56.74	48.81	67.04	71.53	86.14	87.73	77.60	69.07
9/20/2024	35.59	26.22	27.22	47.93	57.48	49.33	67.52	72.04	86.78	88.35	78.13	69.53
9/23/2024	35.80	26.38	27.41	48.38	58.12	49.78	67.93	72.48	87.33	88.88	78.58	69.92
9/24/2024	35.82	26.43	27.43	49.28	59.04	50.65	67.92	72.50	87.35	88.82	78.51	69.83
9/25/2024	35.92	26.45	27.51	49.81	59.79	51.17	68.40	73.02	87.99	89.44	79.04	70.29
9/26/2024	35.39	26.02	27.03	48.72	58.26	50.10	67.43	71.98	86.70	88.18	77.96	69.36
9/27/2024	36.36	26.86	27.98	48.26	58.01	49.67	67.90	72.47	87.33	88.51	78.24	69.59
9/30/2024	36.39	26.82	27.97	48.41	58.47	49.81	68.25	72.99	87.96	88.84	78.52	69.83
10/1/2024	36.35	26.88	27.97	47.76	57.51	49.18	67.85	72.52	87.33	88.68	78.37	69.83
10/2/2024	36.28	26.77	27.88	47.69	57.64	49.12	67.40	72.69	87.58	89.25	78.86	70.25
10/3/2024	36.27	26.75	27.87	48.17	58.18	49.59	67.76	72.81	87.87	89.31	78.91	70.31
10/4/2024	36.36	26.82	27.95	48.38	58.48	49.80	67.96	73.02	88.13	89.56	79.13	70.50
10/7/2024	36.38	26.84	27.98	48.33	58.32	49.75	67.01	72.13	87.12	89.23	78.85	70.26
10/8/2024	36.28	26.77	27.89	47.97	57.81	49.41	67.00	72.05	86.98	88.98	78.67	66.52
10/9/2024	35.62	26.20	27.27	47.83	57.34	49.27	66.14	71.06	85.84	88.26	78.06	64.09
10/10/2024	35.81	26.35	27.44	48.23	57.91	49.67	66.51	71.46	86.33	88.87	78.60	63.06
Average	38.11	32.04	32.17	73.09	88.63	75.44	66.95	73.25	86.48	84.66	74.00	62.44
Max LL	48.10	42.35	42.80	93.70	115.70	96.85	77.15	83.40	100.40	98.41	86.76	76.84
Min LL	30.13	20.19	22.09	45.92	54.85	47.39	58.80	65.15	76.30	77.05	67.05	54.85
Spread	17.97	22.16	20.71	47.78	60.85	49.46	18.35	18.25	24.10	21.36	19.71	21.99

Idaho Power/103
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 103

Producer Price Index for Electric Power

October 31, 2024

Mnemonic:	FXPPIFU4.IUSA
Description:	Baseline Scenario (September 2023): PPI: Electric Power - Total, (Index 1982=100, NSA)
Source:	U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Forecasted
Native Frequency:	QUARTERLY
Geography:	United States
Last Updated:	9/11/2024

2021Q1	214.70
2021Q2	219.90
2021Q3	232.68
2021Q4	223.97
2022Q1	234.02
2022Q2	243.46
2022Q3	263.98
2022Q4	251.47
2023Q1	261.48
2023Q2	263.43
2023Q3	277.85
2023Q4	263.59
2024Q1	268.32
2024Q2	274.17
2024Q3	284.83
2024Q4	274.46
2025Q1	275.92
2025Q2	281.26
2025Q3	291.01
2025Q4	280.13
2026Q1	281.39
2026Q2	286.63
2026Q3	296.31
2026Q4	285.14
2027Q1	286.28
2027Q2	291.54
2027Q3	301.41
2027Q4	290.07

Idaho Power/104
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 104

Forward Prices Used for Re-Pricing Purchased Power and Surplus Sales

October 31, 2024

IDAHO POWER COMPANY
Mid-C Forward Price Curves Discounted for Inflation
Used to Re-Price Purchased Power and Surplus Sales for the October Update (UE 195 & 384 Settlement Methodology)

Line No.													
1	**Forward Curve Prices**	**Apr-26**	**May-26**	**Jun-26**	**Jul-26**	**Aug-26**	**Sep-26**	**Oct-26**	**Nov-26**	**Dec-26**	**Jan-27**	**Feb-27**	**Mar-27**
2	Relevant Quarter	2026 Q2	2026 Q2	2026 Q2	2026 Q3	2026 Q3	2026 Q3	2026 Q4	2026 Q4	2026 Q4	2027 Q1	2027 Q1	2027 Q1
3	Deflator	2.8663	2.8663	2.8663	2.9631	2.9631	2.9631	2.8514	2.8514	2.8514	2.8628	2.8628	2.8628
4	**Water Year**	**Apr-25**	**May-25**	**Jun-25**	**Jul-25**	**Aug-25**	**Sep-25**	**Oct-25**	**Nov-25**	**Dec-25**	**Jan-26**	**Feb-26**	**Mar-26**
5	Relevant Quarter	2025 Q2	2025 Q2	2025 Q2	2025 Q3	2025 Q3	2025 Q3	2025 Q4	2025 Q4	2025 Q4	2026 Q1	2026 Q1	2026 Q1
6	Inflator	2.8126	2.8126	2.8126	2.9101	2.9101	2.9101	2.8013	2.8013	2.8013	2.8139	2.8139	2.8139
7	**Average Prices**	**Apr-26**	**May-26**	**Jun-26**	**Jul-26**	**Aug-26**	**Sep-26**	**Oct-26**	**Nov-26**	**Dec-26**	**Jan-27**	**Feb-27**	**Mar-27**
8	Mid-C HL	48.66	44.14	47.28	110.13	147.10	109.69	78.27	85.99	104.07	102.63	87.13	72.21
9	Mid-C LL	38.11	32.04	32.17	73.09	88.63	75.44	66.95	73.25	86.48	84.66	74.00	62.44
10	**Inflation Adjusted**	**Apr-25**	**May-25**	**Jun-25**	**Jul-25**	**Aug-25**	**Sep-25**	**Oct-25**	**Nov-25**	**Dec-25**	**Jan-26**	**Feb-26**	**Mar-26**
11	Mid-C HL	47.75	43.31	46.39	108.16	144.47	107.72	76.90	84.48	102.24	100.87	85.64	70.97
12	Mid-C LL	37.40	31.44	31.56	71.78	87.04	74.09	65.78	71.96	84.96	83.21	72.74	61.38
13	**Difference**	**Apr-26**	**May-26**	**Jun-26**	**Jul-26**	**Aug-26**	**Sep-26**	**Oct-26**	**Nov-26**	**Dec-26**	**Jan-27**	**Feb-27**	**Mar-27**
14	Mid-C HL	0.91	0.83	0.89	1.97	2.63	1.96	1.38	1.51	1.83	1.75	1.49	1.23
15	Mid-C LL	0.71	0.60	0.60	1.31	1.59	1.35	1.18	1.29	1.52	1.45	1.26	1.07

Idaho Power/105
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 105

Total Normalized Base Power Supply Expenses for the 2025 October Update

October 31, 2024

IDAHO POWER COMPANY NORMALIZED POWER SUPPLY EXPENSES FOR APRIL 1, 2025 -- MARCH 31, 2026 (Multiple Gas Prices/37 Hydro Year Conditions)
Repriced Using UE 195 and 384 Settlement Methodology - 2025 October Update
AVERAGE

Line No.		April	May	June	July	August	September	October	November	December	January	February	March	Annual
1	Hydroelectric Generation (MWh)	813,949.6	864,018.2	836,303.1	722,314.4	593,473.2	556,353.3	454,478.7	413,754.2	579,861.3	751,783.4	732,991.5	770,234.6	8,089,515.3
	Bridger													
2	Energy (MWh)	2,987.9	36,506.9	66,822.4	112,066.5	119,679.6	92,965.1	95,752.9	196,067.3	244,922.8	214,642.6	208,565.8	29,872.2	1,420,851.8
3	Expense ($ x 1000)	$ (188.1)	$ 1,311.9	$ 2,448.0	$ 3,934.1	$ 4,180.7	$ 3,295.0	$ 3,405.6	$ 6,634.7	$ 8,238.0	$ 7,178.7	$ 6,923.5	$ 1,255.2	$ 48,617.3
	Valmy													
4	Energy (MWh)	2,316.4	1,756.7	11,566.0	17,675.1	14,735.1	4,993.4	2,092.5	1,053.7	41,651.4	-	-	-	97,840.2
5	Expense ($ x 1000)	$ 486.3	$ 454.5	$ 999.0	$ 1,333.0	$ 1,169.7	$ 631.7	$ 472.4	$ 412.8	$ 2,627.0	$ 355.2	$ 355.2	$ 355.2	$ 9,652.0
	Bridger Gas													
6	Energy (MWh)	62,960.37	64,054.69	79,191.98	75,874.26	78,030.85	63,262.88	76,002.61	48,958.48	21,798.94	23,214.94	59,031.88	86,276.22	738,658.1
7	Expense ($ x 1000)	$ 2,791.0	$ 2,582.4	$ 3,237.8	$ 4,082.7	$ 4,296.1	$ 3,496.0	$ 3,482.5	$ 3,723.4	$ 3,844.0	$ 4,017.8	$ 5,413.6	$ 4,763.0	$ 45,730.2
	Langley Gulch													
8	Energy (MWh)	189,767.8	189,502.7	210,651.6	221,230.3	209,978.5	204,300.9	224,062.2	45,644.0	330.8	1,911.0	78,832.3	166,201.2	1,742,413.1
9	Expense ($ x 1000)	$ 4,691.9	$ 4,028.4	$ 4,700.2	$ 6,641.4	$ 6,608.6	$ 6,209.0	$ 5,807.6	$ 2,223.4	$ 31.6	$ 179.6	$ 5,284.2	$ 6,398.9	$ 52,804.7
	Danskin													
10	Energy (MWh)	39,620.7	30,493.2	29,762.6	29,718.1	30,038.7	23,408.9	34,363.7	1,054.9	1,164.1	1,089.2	4,021.6	16,007.5	240,743.1
11	Expense ($ x 1000)	$ 1,365.1	$ 882.0	$ 975.8	$ 1,375.0	$ 1,424.6	$ 1,069.4	$ 1,291.1	$ 87.4	$ 168.8	$ 149.6	$ 458.0	$ 944.7	$ 10,191.3
	Bennett Mountain													
12	Energy (MWh)	23,236.0	19,594.0	19,384.5	21,036.4	19,987.3	16,856.3	21,408.6	1,416.1	2,302.1	1,352.3	5,917.1	15,260.9	167,751.8
13	Expense ($ x 1000)	$ 804.5	$ 564.8	$ 628.6	$ 970.7	$ 948.4	$ 768.2	$ 799.6	$ 116.9	$ 328.9	$ 184.3	$ 674.7	$ 901.2	$ 7,690.9
	Valmy 1 Gas													-
14	Energy (MWh)	27,179.1	25,639.1	31,448.8	29,323.5	27,250.2	23,837.2	30,974.3	10,616.3	2,194.5	1,530.2	11,817.3	18,479.6	240,290.2
15	Expense ($ x 1000)	$ 1,095.2	$ 943.9	$ 1,233.7	$ 1,495.8	$ 1,431.2	$ 1,212.6	$ 1,326.1	$ 691.2	$ 250.2	$ 176.7	$ 1,082.9	$ 1,053.3	$ 11,992.9
16	Fixed Capacity Charge - Gas Transportation ($ x 1000)	$ 2,892.7	$ 2,968.3	$ 2,892.7	$ 2,973.1	$ 2,977.8	$ 2,888.0	$ 2,977.8	$ 3,460.1	$ 3,559.4	$ 3,564.1	$ 3,247.3	$ 3,564.1	$ 37,965.5
	Purchased Power (Excluding PURPA)													
17	Market Energy (MWh)	36,255.2	58,941.4	110,637.7	344,506.1	328,213.6	164,092.9	114,216.5	324,206.9	344,442.8	281,540.8	107,560.9	90,579.0	2,305,193.9
18	Elkhorn Wind Energy (MWh)	26,081.1	23,901.8	22,170.1	29,029.0	23,542.1	19,209.0	22,048.2	26,774.7	29,962.1	34,666.4	26,098.3	26,035.7	309,518.3
19	Jackpot Solar Energy (MWh)	27,033.8	31,614.2	32,018.5	34,433.0	29,643.1	24,965.7	20,269.6	10,778.9	6,582.6	9,161.8	14,452.2	23,261.2	264,214.5
20	Neal Hot Springs Energy (MWh)	16,493.9	13,842.4	11,168.4	8,355.9	9,790.3	12,545.1	16,106.1	18,426.0	19,760.7	19,522.2	17,532.1	18,084.7	181,627.8
21	Raft River Geothermal Energy (MWh)	6,620.6	7,351.1	6,459.3	6,759.6	6,844.0	7,118.8	8,037.3	8,236.3	8,785.8	8,805.9	8,076.8	8,442.3	91,537.7
22	Black Mesa Solar Energy (MWh)	8,908.6	10,418.0	10,551.3	11,346.9	9,768.5	8,227.1	6,679.6	3,552.0	2,169.2	3,019.2	4,762.5	7,665.4	87,068.3
23	Franklin Solar Energy (MWh)	11,245.1	15,587.8	19,289.5	24,015.6	26,418.2	30,080.3	30,464.0	26,217.9	23,827.4		9,889.3	10,024.7	227,059.8
24	Pleasant Valley Solar Energy (MWh)	15,780.5	25,862.8	37,881.9	50,876.1	56,077.0	62,201.1	63,832.8	54,669.4	46,815.6	33,144.6	15,752.6	14,107.5	477,002.0
25	Total Energy Excl. PURPA (MWh)	148,418.8	187,519.4	250,176.6	509,322.2	490,296.8	328,440.0	281,654.2	472,862.0	482,346.3	389,860.8	204,124.7	198,200.5	3,943,222.2
26	Market Expense ($ x 1000)	$ 1,563.4	$ 2,247.7	$ 4,605.9	$ 32,349.0	$ 41,240.8	$ 15,998.1	$ 8,391.5	$ 25,689.5	$ 32,675.9	$ 26,242.0	$ 8,581.8	$ 6,036.4	$ 205,622.0
27	Elkhorn Wind Expense ($ x 1000)	$ 2,028.3	$ 1,858.8	$ 1,724.2	$ 2,257.6	$ 1,830.9	$ 1,493.9	$ 1,714.7	$ 2,082.3	$ 2,330.2	$ 2,696.0	$ 2,029.7	$ 2,024.8	$ 24,071.2
28	Jackpot Solar Expense ($ x 1000)	$ 607.7	$ 710.7	$ 719.8	$ 774.1	$ 666.4	$ 561.2	$ 455.7	$ 242.3	$ 148.0	$ 206.0	$ 324.9	$ 522.9	$ 5,939.6
29	Neal Hot Springs Expense ($ x 1000)	$ 2,099.3	$ 1,761.9	$ 1,421.5	$ 1,063.5	$ 1,246.1	$ 1,596.7	$ 2,050.0	$ 2,345.3	$ 2,515.1	$ 2,484.8	$ 2,231.5	$ 2,301.8	$ 23,117.6
30	Raft River Geothermal Expense ($ x 1000)	$ 471.0	$ 523.0	$ 459.5	$ 480.9	$ 486.9	$ 506.4	$ 571.8	$ 585.9	$ 625.0	$ 626.5	$ 574.6	$ 600.6	$ 6,512.0
31	Black Mesa Solar Expense ($ x 1000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32	Franklin Solar Expense ($ x 1000)	$ 335.6	$ 465.1	$ 575.6	$ 716.6	$ 788.3	$ 897.6	$ 909.1	$ 782.3	$ 711.0	$ 556.1	$ 295.1	$ 299.1	$ 7,331.6
33	Pleasant Valley Solar Expense ($ x 1000)	$ 114.2	$ 240.6	$ 2,086.9	$ 3,989.4	$ 2,780.0	$ 1,618.2	$ 1,504.7	$ 1,703.9	$ 1,937.7	$ 1,039.4	$ 721.8	$ 81.0	$ 17,817.8
34	Total Expense Excl. PURPA ($ x 1000)	$ 7,219.6	$ 7,807.8	$ 11,593.4	$ 41,631.0	$ 49,039.3	$ 22,672.2	$ 15,597.4	$ 33,431.5	$ 40,942.9	$ 33,850.8	$ 14,759.3	$ 11,866.6	$ 290,411.7
	Storage													
35	Black Mesa Battery Energy (MWh)	(706.63)	(759.80)	(541.68)	(671.90)	(682.45)	(509.40)	(537.14)	(368.94)	(238.50)	(275.69)	(474.16)	(689.04)	(6,455.33)
36	80 MW Hemingway Battery Energy (MWh)	(2,261.75)	(2,254.82)	(1,713.65)	(1,753.83)	(1,754.82)	(1,833.75)	(2,479.88)	(2,373.76)	(2,439.76)	(2,781.21)	(2,529.10)	(2,588.84)	(26,765.17)
37	11 MW Grid Battery Energy (MWh)	(235.74)	(237.26)	(188.77)	(216.45)	(226.90)	(182.04)	(191.44)	(169.11)	(171.22)	(188.99)	(226.33)	(241.51)	(2,475.76)
38	Franklin Battery Energy (MWh)	(998.17)	(1,147.47)	(826.94)	(1,132.12)	(1,160.39)	(855.88)	(888.52)	(807.60)	(827.56)	(788.28)	(804.43)	(982.12)	(11,219.48)
39	36 MW Hemingway Battery Energy (MWh)	(822.55)	(827.01)	(663.45)	(759.64)	(777.53)	(718.39)	(796.45)	(741.86)	(794.96)	(783.48)	(862.10)	(901.34)	(9,448.76)
40	Happy Valley Battery Energy (MWh)	(1,789.51)	(1,800.29)	(1,492.41)	(1,639.68)	(1,668.88)	(1,568.47)	(1,759.69)	(1,666.03)	(1,802.05)	(1,797.92)	(1,916.88)	(1,995.26)	(20,897.07)
	Kuna Battery Energy (MWh)	(3,582.02)	(3,565.98)	(3,001.21)	(3,214.57)	(3,265.96)	(3,090.24)	(3,587.09)	(3,347.09)	(3,688.42)	(3,656.35)	(3,820.22)	(3,978.07)	(41,797.22)
41	Total Storage (MWh)	(10,396.37)	(10,592.63)	(8,428.11)	(9,388.19)	(9,536.93)	(8,758.17)	(10,240.21)	(9,474.39)	(9,962.47)	(10,271.92)	(10,633.22)	(11,376.18)	(119,058.79)
42	Total Storage Expense ($ x 1000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Demand Response													
43	Energy (MWh)	-	-	3,779.5	12,991.3	388.4	-	-	-	-	-	-	-	17,159.2
44	Cost($ X 1000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Oregon Solar													
45	Energy (MWh)	73.1	88.6	102.2	98.2	88.9	75.2	68.7	47.6	24.8	36.2	33.5	74.9	811.9
46	Cost($ X 1000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Surplus Sales													
47	Energy (MWh)	370,020.6	328,360.2	232,270.4	53,236.9	64,877.0	132,460.4	170,220.1	13,623.5	17,268.7	54,284.3	159,543.5	189,419.7	1,785,585.2
48	Revenue ($ x 1000)	$ 16,107.6	$ 12,261.9	$ 9,288.3	$ 5,054.5	$ 8,430.2	$ 12,908.1	$ 12,221.6	$ 1,089.6	$ 1,661.4	$ 5,046.5	$ 12,883.6	$ 12,694.8	$ 109,648.2

49	Surplus Sales - Third Party Transmission Losses ($ x 1000)	$ 752.8	$ 672.7	$ 864.2	$ 1,101.5	$ 1,136.1	$ 1,009.0	$ 983.2	$ 1,208.0	$ 1,603.1	$ 1,425.3	$ 1,322.4	$ 992.7	$ 13,071.11
50	Lamb Weston Surplus Sales ($ x 1000)	$ 218.43	$ 216.04	$ 330.86	$ 283.99	$ 233.31	$ 245.77	$ 278.63	$ 223.76	$ 244.73	$ 356.58	$ 307.08	$ 349.19	$ 3,288.4
51	Net Power Supply Expenses ($ x 1000)	$ 4,079.2	$ 8,393.4	$ 18,225.8	$ 57,996.8	$ 62,276.7	$ 28,079.0	$ 21,676.6	$ 48,260.1	$ 56,481.6	$ 42,828.4	$ 23,685.6	$ 17,065.6	**$ 389,048.8**
52	PURPA ($ x 1000)	$ 19,674.9	$ 22,491.0	$ 26,110.8	$ 28,598.0	$ 28,496.3	$ 20,684.8	$ 18,791.9	$ 16,843.8	$ 18,367.1	$ 16,676.6	$ 19,448.5	$ 16,508.3	$ 252,691.8
53	EIM Benefits ($ x 1000)													$ 21,193.06
54	Total Net Power Supply Expenses ($ x 1000)	$ 23,754.2	$ 30,884.3	$ 44,336.6	$ 86,594.8	$ 90,773.0	$ 48,763.8	$ 40,468.5	$ 65,103.8	$ 74,848.7	$ 59,505.0	$ 43,134.1	$ 33,573.8	**$ 620,547.6**
55	Sales at Customer Level (In 000s MWH)	1,124.55	1,171.81	1,352.20	1,627.12	1,752.70	1,566.64	1,217.06	1,166.61	1,316.45	1,419.05	1,363.10	1,292.11	16,369.389
56	Lamb Weston kWh Sales (In 000s MWH)	4.66	4.61	7.06	6.06	4.98	5.24	5.94	4.77	5.22	7.60	6.55	7.45	70.130
57	Sales at Customer Level - Net Black Mesa, LW (In 000s MWH)	1,111.29	1,157.14	1,334.96	1,610.11	1,738.29	1,553.46	1,204.67	1,158.40	1,309.14	1,408.54	1,351.95	1,277.27	16,215.217
58	Hours in Month	720	744	720	744	744	720	744	721	744	744	672	743	8,760
59	Unit Cost / MWH (for PCAM)	$21.38	$26.69	$33.21	$53.78	$52.22	$31.39	$33.59	$56.20	$57.17	$42.25	$31.90	$26.29	**$38.27**

	Prices Used in Purchased Power & Surplus Sales Above:												
	Heavy Load												
60	Portion of Purchased Power considered HL Purchases	**55.31%**	56.38%	67.88%	60.80%	67.23%	69.58%	69.19%	58.14%	57.33%	56.60%	54.62%	54.88%
61	Purchased Power HL Price	$47.75	$43.31	$46.39	$108.16	$144.47	$107.72	$76.90	$84.48	$102.24	$100.87	$85.64	$70.97
62	Portion of Surplus Sales considered HL Surplus Sales	**59.25%**	49.72%	56.81%	63.68%	74.70%	69.45%	54.16%	64.08%	65.10%	55.22%	62.13%	58.81%
63	Surplus Sales HL Price	$47.75	$43.31	$46.39	$108.16	$144.47	$107.72	$76.90	$84.48	$102.24	$100.87	$85.64	$70.97
	Light Load												
64	Portion of Purchased Power considered LL Purchases	**44.69%**	43.62%	32.12%	39.20%	32.77%	30.42%	30.81%	41.86%	42.67%	43.40%	45.38%	45.12%
65	Purchased Power LL Price	$37.40	$31.44	$31.56	$71.78	$87.04	$74.09	$65.78	$71.96	$84.96	$83.21	$72.74	$61.38
66	Portion of Surplus Sales considered LL Surplus Sales	**40.75%**	50.28%	43.19%	36.32%	25.30%	30.55%	45.84%	35.92%	34.90%	44.78%	37.87%	41.19%
67	Surplus Sales LL Price	$37.40	$31.44	$31.56	$71.78	$87.04	$74.09	$65.78	$71.96	$84.96	$83.21	$72.74	$61.38

Idaho Power/106
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 106

Energy Imbalance Market Benefits

October 31, 2024

IDAHO POWER COMPANY
2025 APCU October Forecast
Energy Imbalance Market Benefit Forecast
Based on September 2023 - August 2024 Historical Data

		(A)	(B)	(C)	(F)
Year	Month	CAISO Benefit	Zero-cost Hydro Adjustment	Hydro Net (Export)/Import Adjustment	Idaho Power EIM Benefit
2023	September	$ 2,149,343	$ 1,675,130	$ (301,780)	$ 1,373,350
2023	October	$ 4,267,170	$ 2,515,778	$ (539,694)	$ 1,976,084
2023	November	$ 3,397,213	$ 2,114,869	$ 20,492	$ 2,135,360
2023	December	$ 1,801,242	$ 309,106	$ 334,708	$ 643,814
2024	January	$ 7,650,267	$ 6,150,669	$ (2,847,348)	$ 3,303,321
2024	February	$ 1,757,574	$ 1,555,104	$ (160,558)	$ 1,394,546
2024	March	$ 1,892,705	$ 1,621,947	$ (9,552)	$ 1,612,395
2024	April	$ 5,512,727	$ 2,455,562	$ (803,748)	$ 1,651,813
2024	May	$ 6,678,762	$ 2,997,083	$ (697,859)	$ 2,299,224
2024	June	$ 3,383,770	$ 1,879,547	$ (118,116)	$ 1,761,431
2024	July	$ 3,530,954	$ 2,019,644	$ (92,875)	$ 1,926,769
2024	August	$ 2,107,809	$ 1,003,691	$ 111,261	$ 1,114,951
Total		**$ 44,129,538**	**$ 26,298,129**	**$ (5,105,071)**	**$ 21,193,058**

Idaho Power/107
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 107

Year-Over-Year Differences in Modeled Normalized Power Supply Expenses

October 31, 2024

IDAHO POWER COMPANY
YEAR OVER YEAR DIFFERENCES IN AURORA DEVELOPED NPSE
2025 OCTOBER UPDATE

	AURORA DEVELOPED NPSE RESULTS BEFORE MARKET ENERGY RE-PRICING					REPRICED USING FORWARD MARKET PRICES					DIFFERENCES				
	GENERATION					GENERATION					GENERATION				
		A	B	C	D		E	F	G	H	I	J	K	L	M
Line No.	Resource Type	2024 October Update		2025 October Update		Resource Type	2024 October Update		2025 October Update		(C-A)	(G-E)	(E-C)	(E-A)	(G-C)
1	Hydro (MWh)	8,224,002	48%	8,089,515	46%	Hydro (MWh)	8,224,002	48%	8,089,515	46%	(134,486)	(134,486)	(134,486)	-	-
2	Coal (MWh)	2,083,094	12%	1,518,692	9%	Coal (MWh)	2,083,094	12%	1,518,692	9%	(564,402)	(564,402)	(564,402)	-	-
3	Natural Gas (MWh)	3,036,709	18%	3,129,856	18%	Natural Gas (MWh)	3,036,709	18%	3,129,856	18%	93,147	93,147	93,147	-	-
4	Market Purchased Power (MWh)	1,247,996	7%	2,305,194	13%	Market Purchased Power (MWh)	1,247,996	7%	2,305,194	13%	1,057,198	1,057,198	1,057,198	-	-
5	Purchased Power Agreements (MWh)	1,677,361	10%	1,656,665	9%	Purchased Power Agreements (MWh)	1,677,361	10%	1,656,665	9%	(20,697)	(20,697)	(20,697)	-	-
6	Storage (MWh)	(64,770)	0%	(119,059)	-1%	Storage (MWh)	(64,770)	-0.4%	(119,059)	-1%	(54,288)	(54,288)	(54,288)	-	-
7	Other*	18,020	0%	17,971	0%	Other*	18,020		17,971	0%	(49)	(49)	(49)	-	-
8	PURPA (MWh)	3,106,875	18%	2,954,012	17%	PURPA (MWh)	3,106,875	18%	2,954,012	17%	(152,863)	(152,863)	(152,863)	-	-
9	Surplus Sales (MWh)	2,064,878	-12%	1,785,585	-10%	Surplus Sales (MWh)	2,064,878	-12%	1,785,585	-10%	(279,293)	(279,293)	(279,293)	-	-
10	System Generation (MWh)	19,329,287		19,552,846		System Generation (MWh)	19,329,287		19,552,846						
11	System Load (MWh)	17,264,409	100%	17,767,261	100%	System Load (MWh)	17,264,409	100%	17,767,261	100%	502,852	502,852	502,852	-	-
12	System Load (aMW)	1,971		2,028		System Load (aMW)	1,971		2,028		57	57	57	-	-
	NET POWER SUPPLY EXPENSES					**NET POWER SUPPLY EXPENSES**					**NET POWER SUPPLY EXPENSES**				
		A	B	C	D		E	F	G	H	I	J	K	L	M
	Resource Type	2024 October Update		2025 October Update		Resource Type	2024 October Update		2025 October Update		(C-A)	(G-E)	(E-C)	(E-A)	(G-C)
13	Hydro ($ x 1000)	$ -	0%	$ -	0%	Hydro ($ x 1000)	$ -	0%	$ -	0%	$ -	$ -	-	$ -	-
14	Coal ($ x 1000)	$ 84,642.4	19%	$ 58,269.3	11%	Coal ($ x 1000)	$ 84,642.4	18%	$ 58,269.3	9%	$ (26,373.1)	$ (26,373.1)	(26,373)	$ -	-
15	Natural Gas ($ x 1000)	$ 163,430.7	36%	$ 166,375.5	30%	Natural Gas ($ x 1000)	$ 163,430.7	35%	$ 166,375.5	27%	$ 2,944.7	$ 2,944.7	2,945	$ -	-
16	Market Purchased Power ($ x 1000)	$ 50,738.2	11%	$ 97,599.3	18%	Market Purchased Power ($ x 1000)	$ 117,331.0	25%	$ 205,622.0	33%	$ 46,861.1	$ 88,290.9	(19,732)	$ 66,592.8	108,023
17	Purchased Power Agreements ($ x 1000)	$ 80,392.5	18%	$ 84,789.8	16%	Purchased Power Agreements ($ x 1000)	$ 80,392.5	17%	$ 84,789.8	14%	$ 4,397.3	$ 4,397.3	4,397	$ -	-
18	Storage ($ x 1000)	$ -	0%	$ -	0%	Storage ($ x 1000)	$ -	0%	$ -	0%	$ -	$ -	-	$ -	-
19	PURPA ($ x 1000)	$ 238,325.4	52%	$ 252,691.8	46%	PURPA ($ x 1000)	$ 238,325.4	51%	$ 252,691.8	41%	$ 14,366.5	$ 14,366.5	14,366	$ -	-
20	Surplus Sales ($ x 1000)	$ (106,189.6)	-23%	$ (92,788.1)	-17%	Surplus Sales ($ x 1000)	$ (163,512.9)	-35%	$ (126,007.7)	-20%	$ 13,401.5	$ 37,505.2	70,725	$ (57,323.4)	(33,220)
21	EIM Benefits	$ (55,585.5)	-12%	$ (21,193.1)	-4%	EIM Benefits	$ (55,585.5)	-12%	$ (21,193.1)	-3%	$ 34,392.4	$ 34,392.4	34,392	$ -	-
22	Total System ($ x 1000)	$ 455,754.2	100%	$ 545,744.5	100%	Total System ($ x 1000)	$ 465,023.6	100%	$ 620,547.6	100%	$ 89,990.3	$ 155,524.0	$ 80,720.9	$ 9,269.4	$ 74,803.1

Idaho Power/108
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 108

Revenue Spread

October 31, 2024

Idaho Power Company
Stipulated Revenue Spread
2025 October Update

Line No.		
1	2025 October Update Oregon Jurisdictional Share of Base NPSE = $33.66/MWh x 657,719.558 MWhs =	$22,138,840
2	Oregon Allocated EIM Costs	$0
3	**Proposed October Update APCU Revenue Requirement**	**$22,138,840**

		TOTAL	RESIDENTIAL (1)	RESIDENTIAL TOD PILOT (5)	GEN SRV (7)	GEN SRV SECONDARY (9-S)	GEN SRV PRIMARY (9-P)	GEN SRV TRANS (9-T)	AREA LIGHTING (15)	LG POWER PRIMARY (19-P)	LG POWER TRANS (19-T)	IRRIGATION SECONDARY (24-S)	UNMETERED GEN SERVICE (40)	MUNICIPAL ST LIGHT (41)	TRAFFIC CONTROL (42)
4	**April 2025 - March 2026 Generation Level Normalized Sales (kWh)**	**698,175,398**	209,639,612	130,523	20,648,973	118,952,546	22,119,384	3,140,157	235,793	155,380,030	97,785,417	69,701,496	5,786.71	412,852.04	22,826.80
5	**Class Share of April 2025 - March 2026 Generation Level Normalized Sales (kWh)**	**100%**	30.03%	0.02%	2.96%	17.04%	3.17%	0.45%	0.03%	22.26%	14.01%	9.98%	0.00%	0.06%	0.00%
6	**2025 October Update Class Allocated Base NPSE**	$ 22,138,840	$ 6,647,582	$ 4,139	$ 654,770	$ 3,771,934	$ 701,396	$ 99,573	$ 7,477	$ 4,927,034	$ 3,100,733	$ 2,210,204	$ 183	$ 13,091	$ 724
7	**June 2025 - May 2026 Loss-Adjusted Normalized Sales (kWh)**	**657,921,437**	195,284,033	121,580	19,231,026	110,783,445	21,050,386	3,051,659	219,547	147,840,181	95,029,560	64,898,972	5,388	384,406	21,254
8	**Proposed APCU Rates for 2025 October Update ($/kWh)**	**0.033650**	**0.034041**	0.034042	**0.034048**	**0.034048**	**0.033320**	**0.032629**	**0.034056**	**0.033327**	**0.032629**	**0.034056**	**0.034056**	**0.034056**	**0.034056**
9	**Proposed October Update APCU Revenue Requirement**	**$22,138,840**	$6,647,582	$ 4,139	$654,770	$3,771,934	$701,396	$99,573	$7,477	$4,927,034	$3,100,733	$2,210,204	$183	$13,091	$724
10	**APCU Rates for 2024 October Update ($/kWh) - Order No. 24-151**	**0.029627**	0.029971	0.029996	0.029981	0.029980	0.029341	0.028730	0.029987	0.029341	0.028730	0.029987	0.029987	0.029987	0.029987
11	**June 2025 - May 2026 Loss-Adjusted Normalized Sales (kWh)**	**657,921,437**	195,284,033	121,580	19,231,026	110,783,445	21,050,386	3,051,659	219,547	147,840,181	95,029,560	64,898,972	5,388	384,406	21,254
12	**Base NPSE Recovered under Current APCU Rates**	**$19,492,649**	$5,852,824	$ 3,647	$576,557	$3,321,341	$617,643	$87,675	$6,583	$4,337,729	$2,730,220	$1,946,103	$162	$11,527	$637

Idaho Power/109
Witness: Jessica G. Brady

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UE 444

IDAHO POWER COMPANY

Exhibit 109

Revenue Impact

October 31, 2024

Idaho Power Company
Calculation of Revenue Impact
State of Oregon
APCU October Update
Effective June 1, 2025

Summary of Revenue Impact
Current Base Revenue to Proposed Base Revenue

Line No	Tariff Description	Rate Sch. No.	Average Number of Customers	Normalized Energy (kWh) [1]	Current Base Revenue w/o NPSE	Current Base NPSE Revenue	Total Current Base Revenue	Proposed Base NPSE Revenue	Total Proposed Base Revenue	Adjustments to Base Revenue	Percent Change Base to Base Revenue	Stipulated Revenue Increase 7.35% Cap	Revenue Requirement Shortfall
	Uniform Tariff Rates:												
1	Residential Service	1	14,176	195,284,033	$16,064,991	5,852,824	$21,917,815	$6,647,582	$22,712,572	$794,757	3.63%	$794,757	$0
2	Residential Service - Time-of-Day Pilot	5	5	121,580	$9,487	3,647	$13,134	$4,139	$13,625	$492	3.75%	$492	$0
3	Small General Service	7	2,828	19,231,026	$1,828,770	576,557	$2,405,327	$654,770	$2,483,540	$78,213	3.25%	$78,213	$0
4	Large General Secondary	9S	887	110,783,445	$6,369,029	3,321,341	$9,690,370	$3,771,934	$10,140,963	$450,593	4.65%	$450,593	$0
5	Large General Primary	9P	8	21,050,386	$1,042,663	617,643	$1,660,306	$701,396	$1,744,059	$83,753	5.04%	$83,753	$0
6	Large General Transmission	9T	1	3,051,659	$126,187	87,675	$213,862	$99,573	$225,760	$11,898	5.56%	$11,898	$0
8	Dusk to Dawn Lighting	15	0	219,547	$110,926	6,583	$117,509	$7,477	$118,403	$893	0.76%	$893	$0
9	Large Power Primary	19P	5	147,840,181	$5,867,199	4,337,729	$10,204,928	$4,927,034	$10,794,233	$589,305	5.77%	$589,305	$0
10	Large Power Transmission	19T	1	95,029,560	$3,914,146	2,730,220	$6,644,367	$3,100,733	$7,014,880	$370,513	5.58%	$370,513	$0
11	Agricultural Irrigation Service	24	2,340	64,898,972	$5,861,743	1,946,103	$7,807,845	$2,210,204	$8,071,947	$264,102	3.38%	$264,102	$0
12	Unmetered General Service	40	2	5,388	$253	162	$415	$183	$437	$22	5.29%	$22	$0
13	Street Lighting	41	26	384,406	$146,552	11,527	$158,079	$13,091	$159,643	$1,564	0.99%	$1,564	$0
14	Traffic Control Lighting	42	11	21,254	$1,912	637	$2,549	$724	$2,635	$86	3.39%	$86	$0
15	Total Uniform Tariffs		20,290	657,921,437	41,343,857	19,492,649	60,836,506	22,138,840	63,482,697	2,646,192	4.35%	$ 2,646,192	$0
16	Total Oregon Retail Sales		20,290	657,921,437	$41,343,857	$19,492,649	$60,836,506	$22,138,840	$63,482,697	$2,646,192	4.35%	$ 2,646,192	$0

(1) Updated June 2025-May 2026 Test Year