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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

**IN THE MATTER OF IDAHO POWER
COMPANY'S 2017 INTEGRATED
RESOURCE PLAN**

CASE NO. IPC-E-17-11

**COMMENTS OF RENEWABLE
ENERGY COALITION**

I. INTRODUCTION

These comments are submitted on behalf of the Renewable Energy Coalition (“REC”) in the matter of Idaho Power Company’s (“Idaho Power”) 2017 Integrated Resource Plan (“IRP”). The main focus of these comments is on Idaho Power’s proposal to use the Energy Information Administration’s (“EIA”) High Oil and Gas Resource and Technology Case as its natural gas price forecast, which projects a low natural gas price over the planning horizon.¹ Idaho Power uses data from the EIA’s 2016 Annual Energy Outlook (“AEO”), which will be referenced throughout these comments.

¹ EIA’s characterization of its forecasts is confusing because the “High Oil and Gas Resource and Technology Case” means *low* gas prices, while the “Low Oil and Gas Resource and Technology Case” means *high* gas prices.

The EIA's High Oil and Gas Resource and Technology Case is not an appropriate measure for Idaho Power's natural gas price forecast because it fails to account for uncertainty and is unlikely to result in the least cost and least risk long-term resource plan. That projection is based on an extreme set of uncertain circumstances that does not take into account possible upward price potential that has historically proved possible in the natural gas industry. Further, Idaho Power's reliance on Intercontinental Exchange ("ICE") settled futures contracts for the sale of natural gas is misplaced because ICE futures contracts only represent real trades for a couple of years and do not account for long-term market trends, industry changes, and price projections. As discussed below, Idaho Power should not be allowed to use such a low natural gas price forecast in its IRP because it misstates real potential impacts in the natural gas industry and sends inaccurate signals regarding which resources are least cost and least risk.

Finally, the practical impacts of Idaho Power's proposal could impact conservation programs as well as form the basis for an attempt by Idaho Power to lower avoided cost rates for qualifying facilities. While Idaho Power is relying upon a different gas forecast for determining the appropriate level of cost effective conservation, should Idaho Power be allowed to use the EIA's High Oil and Gas Resource and Technology Case for its IRP and other purposes, then Idaho Power would overinvest in natural gas and underinvest in conservation and other resources. In addition, while the Commission's Surrogate Avoided Resource ("SAR") methodology for setting avoided cost rates is separate from the IRP, Idaho Power recently proposed (and then withdrew its proposal) to use EIA's High Oil and Gas Resource and Technology Case in the SAR methodology. If it obtains acceptance of an inaccurate gas price methodology in its IRP, Idaho Power may again propose to revise its SAR methodology with this forecast that fails to reflect the historic and expected volatility in natural gas prices.

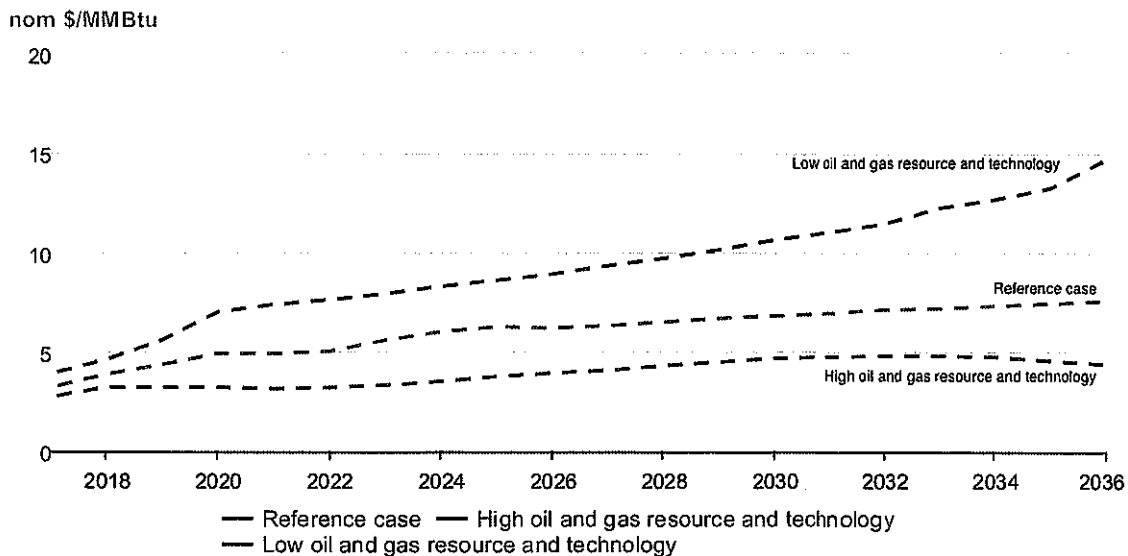
II. COMMENTS


A. **The EIA's High Oil and Gas Resource and Technology Case Represents an Extreme Set of Uncertain Circumstances on One End of the Spectrum**

Idaho Power's natural gas price forecast relies on future discoveries of a larger resource base, higher rates of recovery, and greater technological improvement than business-as-usual, and it does not account for possible downsides in the natural gas industry such as lower rates of recovery, fewer technological advances, or carbon regulation. The EIA analyzes a number of different future natural gas price scenarios in its Annual Energy Outlook. As it pertains to this discussion, there is the "Reference" case, the "High Oil and Gas Resource and Technology" case, and the "Low Oil and Gas Resource and Technology" case. Please refer to the EIA's Natural Gas: Henry Hub Spot Price graph included herein as "Figure 1."

Figure 1

Natural Gas: Henry Hub Spot Price



 Source: U.S. Energy Information Administration

The Reference Case is “a business-as-usual estimate given known market, demographic, and technological trends.”² Idaho Power began using the EIA in its 2013 IRP as the basis for the natural gas price forecast.³ In both the 2013 and 2015 IRPs, Idaho Power used the Reference Case as its price forecast.⁴ As Figure 1 illustrates, the EIA’s 2016 Reference Case represents a middle-of-the-road estimate with rates gradually increasing to approximately \$7.50/MMBtu.

The High Oil and Gas Resource and Technology Case represents a “larger resource base and more rapid improvement in production technologies” than the Reference Case.⁵ Specifically, this case includes 50% higher estimated ultimate recovery as well as recovery of additional unidentified resources, 50% higher rates of technological improvement, and 50% higher rates of technically recoverable undiscovered resources in Alaska and offshore.⁶ As illustrated in Figure 1 above, this case results in the lowest projected natural gas prices staying below \$5/MMBtu over the entire planning horizon.

On the other hand, the Low Oil and Gas Resource and Technology Case represents the other end of the spectrum. Specifically, this case includes 50% lower rates of technological improvement, and 50% lower rates of technically recoverable undiscovered resources in Alaska and offshore.⁷ Figure 1 illustrates that this case has the highest natural gas prices over the planning horizon with rates reaching nearly \$15/MMBtu.

² EIA, 2016 Annual Energy Outlook report, at MT-1 (available at: [https://www.eia.gov/outlooks/aeo/pdf/0383\(2016\).pdf](https://www.eia.gov/outlooks/aeo/pdf/0383(2016).pdf)) (hereafter referred to as 2016 AEO).

³ Attachment A (Idaho Power’s Response to REC’s Data Request No. 1.2).

⁴ See Idaho Power’s 2015 IRP at 85; see also Idaho Power’s 2013 IRP at 62.

⁵ 2016 AEO at ES-6.

⁶ 2016 AEO, at E-11.

⁷ 2016 AEO, at E-11.

Idaho Power recognizes that it has selected an extremely low natural gas price forecast because it only modeled possible higher natural gas prices in its sensitivity analysis and only adjusted prices upward in its stochastic risk analysis to capture the upward risk in natural gas prices.⁸ Idaho Power determined that “testing sensitivities lower than the [EIA High Oil and Gas Resource and Technology] Planning Case forecast was not informative.”⁹ It is not reasonable to use a natural gas price forecast that represents an extreme set of circumstances on one end of the spectrum. The forecast should be based on the EIA’s Reference Case as that is the most prudent projection, representing business-as-usual developments and accounting for both the possibilities of greater-than-average conditions and less-than-average conditions in the industry.

B. Downward Trends in Natural Gas Prices and Current Contracts for Future Natural Gas Prices Should Not be the Sole Basis for Projecting Long-Term Prices

Because natural gas prices have a historical tendency to fluctuate widely and current futures contracts are based on near-term expectations, they should not be the sole basis for projecting long-term natural gas prices. Idaho Power’s exclusive reliance upon low natural gas price forecast for its long-term plan is flawed because: 1) it is unrealistic to assume that there will not be large price swings over a long-term period; 2) Idaho Power’s graphs fail to accurately predict future conditions by using nominal dollars and overstating future price projections; and 3) recent low actual gas prices are neither reflective of the likely long-term gas prices nor the expected volatility in natural gas markets. In the end, if Idaho Power is allowed to use the High Oil and Gas Resource and Technology Case, then its IRP will not take into account the likely upward price volatility that has historically occurred and is very likely to occur again in the

⁸ See Idaho Power’s 2017 IRP, at 112 & 114 (hereafter referred to as 2017 IRP); See also Attachment A (Idaho Power’s Response to REC’s Data Request No. 6 & 8).

⁹ Attachment A (Idaho Power’s Response to REC’s Data Request No. 6).

natural gas industry. This is inconsistent with the IRP’s goal, which is to “adequately and reliably serve its customers at *the lowest system cost and least risk* over the next 20 years.”¹⁰

First, Idaho Power relies on recent downward trends in prices to conclude that prices will continue to be low in the future.¹¹ In Figure 7.4 in its 2017 IRP, Idaho Power illustrates the downward trend from 2009 to 2016, but ignores the much higher price points between 2000 and 2008.¹² Idaho Power’s Figure 7.4 illustrates that natural gas prices have historically seen large price swings.

In its 2016 Annual Energy Outlook, the EIA analyzed average annual Henry Hub natural gas spot prices in five cases as compared to historic natural gas prices.¹³ As shown below in the EIA’s Figure MT-42, the five projections offer a range of outcomes with the Reference Case in the middle, the High Oil and Gas Resource and Technology Case at the low-price end, and the Low Oil and Gas Resource and Technology Case close to the high prices seen in the 2000 to 2008 period. The EIA also examined the impact of various outcomes under the Clean Power Plan, including a scenario where there is no Clean Power Plan.¹⁴ Other uncertainties in the natural gas market include economic growth, demographics, demand, the price and demand of other resources (such as oil), advancements in technology, new discoveries of resources, and the effect of various policies.¹⁵ The highly uncertain price of natural gas tends towards using a more moderate price forecast taking into account some of the upward price potential, such as the EIA’s

¹⁰ Idaho Public Utility Commission Order 33441, Case No. IPC-E-15-19, 1. December 23, 2015 (emphasis added).

¹¹ See 2017 IRP at 84.

¹² See 2017 IRP at 84, Figure 7.4.

¹³ 2016 AEO, at MT-23, Figure MT-42 (reproduced herein as Figure 2).

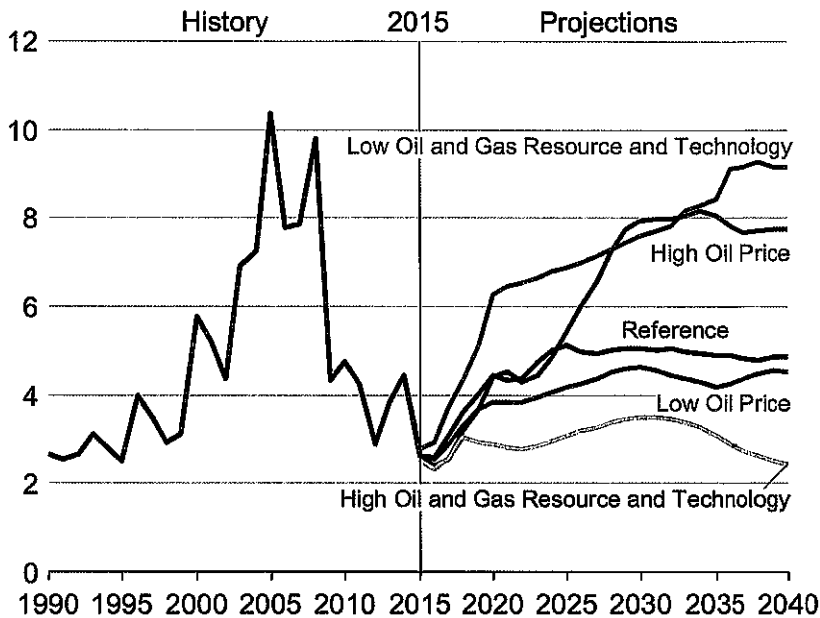
¹⁴ 2016 AEO at E-7, E-8, E-9, Table E1 “Summary of AEO2016 Cases”.

¹⁵ Id.

Reference Case. This is consistent with what the final IRP must include, which is an examination of the “effects of known or potential changes to existing resources.”¹⁶

Figure 2

Figure MT-42. Annual average Henry Hub natural gas spot market prices in five cases, 1990–2040 (2015 dollars per million Btu)



Second, Idaho Power’s graph produced in response to REC’s data request No. 3(d) (in addition to Figure 7.4 in the IRP) misleads the upward projections for the EIA’s Reference Case and the Low Oil and Gas Resource and Technology Case, and it makes the High Oil and Gas Resource and Technology Case appear more reasonable.¹⁷ Idaho Power’s graph uses nominal dollars, which overstates the future price projections. Compare Idaho Power’s graphs to the EIA’s Figure MT-42 (reproduced above as Figure 2). Idaho Power’s graph in response to REC’s

¹⁶ Order 33441 at 2.

¹⁷ Attachment A (Idaho Power’s Response to REC’s Data Request No. 3(d)).

data request No. 3(d) shows the Low Oil and Gas Resource and Technology Case as an extreme case going way beyond any historical Henry Hub spot price. Idaho Power's graphs show the Reference Case nearly reaching the historical peak prices and the High Oil and Gas Resource and Technology Case reaching a price above that of some of the lower peaks in 2000, 2010, and 2014. This is misleading because it does not account for future inflationary effects. The EIA's Figure MT-42 expresses everything in 2015 dollars, which offers a clearer picture of the price projections compared to historical process. The Low Oil and Gas Resource and Technology Case in 2015 dollars is actually below the historical price peaks, the Reference Case shows a mid-range price projection, and the High Oil and Gas Resource and Technology Case illustrates future prices well-below most of the historical prices.

Third, a long-term plan should not unduly rely upon current short-term natural gas prices. One reason Idaho Power gives for using the High Oil and Gas Resource and Technology Case is that it is more consistent with ICE settled futures contracts for natural gas sales.¹⁸ Specifically, in its response to REC's data request No. 3(d), Idaho Power shows how the ICE futures contracts "line up" with the High Oil and Gas Resource and Technology Case. This argument fails because ICE settled contracts for future energy sales are based on today's expectations of near-term natural gas prices, not future price estimates and does not include long-term price projections.

Idaho Power admits that there is no ICE data beyond 2028, but it may actually be even more limited than that. The volume of contracts traded out past a couple years is slim to none.¹⁹

¹⁸ See Attachment A (Idaho Power's Response to REC's Data Request No. 3(a) and Idaho Power's Response REC's Data Request No. 3(d).).

¹⁹ See NYMEX Natural Gas Futures Contracts (available at https://www.barchart.com/futures/quotes/NG*0/all-futures?viewName=main).

Idaho Power is just using the ICE futures contracts as a crude justification for using a low natural gas price projection, but Idaho Power cannot justify that ICE futures contracts are a more accurate tool than the EIA's Reference Case. ICE futures contracts do not account for long-term changes in the industry. As discussed above, the EIA analyzes a variety of factors including variations in the rates of technological advances, and rates of ultimate discovery and recovery. The ICE futures contracts do not take into account these factors and it is not reasonable to rely on that data for long-term projections that are intended to account for market uncertainty. Therefore, Idaho Power should not be allowed to rely on consistency with the ICE futures contracts as justification for using the High Oil and Gas Resource and Technology Case.

C. Reliance Upon Extremely Low Natural Gas Prices Will Result in Under Investments in Conservation and Inaccurate Avoided Cost Rates

Idaho Power's reliance upon inaccurate natural gas price assumptions could result in distorted resource planning that harms customers. Idaho Power's near-term resource decisions will include installation of selective catalytic reduction investments, the Boardman to Hemmingway transmission line, market purchases, and modest investments in demand side management.²⁰ The near term practical impact of using the wrong natural gas price forecast may be underinvestment in conservation and entering into too few new and existing qualifying facility contracts, while the long-term impacts could be over reliance upon natural gas generation resources and short-term market purchases.

Idaho Power's third-party consultant estimated preliminary demand side management investments based on the EIA's 2016 AEO Reference Case; however, Idaho Power is using the

²⁰ See 2017 IRP at 6-8.

High Oil and Gas Resource and Technology Case in for its 2017 IRP cost effectiveness test.²¹

Thus, use of this low gas price forecast may have a practical impact on the amount of conservation that Idaho Power ultimately invests in or finds to be cost effective.

Planning conservation and other resource investments based on overly optimistic views of natural gas price forecasts could have extremely harmful long-term impacts on customers. In the late 1990s, California and Pacific Northwest utilities essentially stopped investing in conservation resources, which turned out to be disastrous when energy needs exceeded available resources. The Commission should not let Idaho Power make long-term resource decisions that ignore that the short-term low gas price forecasts are unlikely to endure for the next two decades and will likely experience greater volatility than we have recently experienced. Even if current gas prices were likely (but not guaranteed) to exist uninterrupted for the long-term, it would still not be the least risk strategy to assume that the high gas prices and greater price variation of less than a decade ago will not return.

III. CONCLUSION

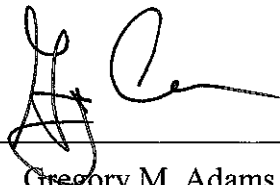
The practical effects of allowing Idaho Power to use a low natural gas price forecast is that it would disproportionately favor gas generation over other possible least cost least risk resources, would eventually result in too little conservation, and too little investment in other resources. Idaho Power may also attempt to use this inaccurate forecast to lower avoided cost rates and change the current SAR methodology. The High Oil and Gas Resource and Technology Case is based on extreme assumptions regarding future technological advancements, discovery of resources, and ultimate recovery of natural gas. The historic uncertainty in the

²¹ Attachment A (Idaho Power response to REC Data Request 11).

natural gas industry favors using a more mid-range projection. Further, settled futures contracts only represent actual trades of natural gas for a couple years do not account for future uncertainties in the market and industry. The EIA analyzed numerous price forecasts and settled on the Reference Case as its business-as-usual price projection. This projection should be used as it accounts for a range of possible outcomes.

Dated November 27, 2017.

By: _____



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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 27th day of November 2017, a true and correct copy of the within and foregoing COMMENTS OF RENEWABLE ENERGY COALITION in Case No. IPC-E-17-11 was served by United States Mail, postage prepaid, and electronic mail, to:

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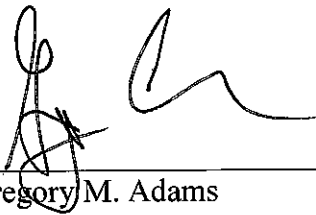
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A handwritten signature in black ink, appearing to read 'Gregory M. Adams', written over a horizontal line.

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