BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

LC 63

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In the Matter of	)
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IDAHO POWER COMPANY	)
	)
2015 Integrated Resource Plan	)

OPENING COMMENTS OF THE
CITIZENS' UTILITY BOARD OF OREGON

November 25, 2015

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I. Introduction

CUB hereby submits its Opening Comments related to Idaho Power Company's (the Company) 2015 Integrated Resource Plan (IRP). CUB will address three main points in its comments: first, concerns about the Company's energy efficiency (EE) projections; second, the selection of its portfolio; and third, to the best of CUB's knowledge, CUB was not invited to attend the first half of IRP workshops.

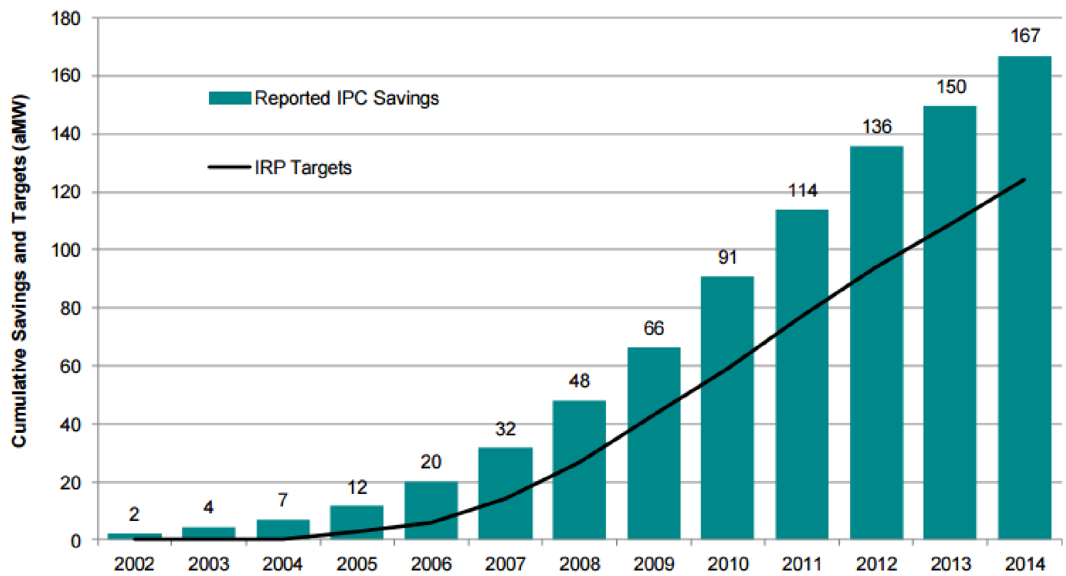
II. Idaho Power Consistently Under Forecasts its EE

In this IRP, Idaho Power enlisted a third-party consultant, Applied Energy Group, Inc. (AEG), to do an EE study.[1] While CUB appreciates that the Company hired a third party to analyze EE potential, and CUB finds the analysis to be helpful, there is no

[1] See AEG Report at https://www.idahopower.com/pdfs/EnergyEfficiency/Reports/2014_DemandSideManagementPotentialStudy.pdf.

indication that the study corrects or addresses Idaho Power's systematic under forecasting of its EE targets. As a demonstration of this, see the graph below:

Figure 1 – Idaho Power's EE Under Forecasting[2]



Cumulative energy efficiency savings, 2002–2014 (aMW)

Eyeballing the graph reveals that Idaho Power consistently overshoots its EE goals every year, and the gap between projected and actual EE only seems to increase over time. 2014 seems to carry the largest gap at roughly 47 aMW—about 411,720 MWh.[3] While CUB is pleased that the Company has managed to meet its EE targets so successfully, CUB wishes to flag these results as an important indicator of why the Company should reconsider its approach to EE assumptions in the IRP process. Ultimately, the less the Company relies on energy efficiency, the more it will rely on supply-side resources, and the more this will cost ratepayers.

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[2] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 42.
[3] 1 aMW = 8,760 MWh; 8760*47 = 411,720.

As an example of how much this could cost ratepayers, and also how the Company anticipates meeting this load, Idaho Power makes some staggering projections in response to expected load growth on page 25 of the IRP:

> The simple peak-hour load-growth calculation indicates Idaho Power would need to add peaking capacity equivalent to the 318-MW Langley Gulch CCCT plant every five years throughout the entire planning period.

In addition, the Company states the following:

> Based on the capital-cost estimates, each new residential customer requires over $1,700 of capital investment for 1.5 kW of baseload generation, plus an additional $4,400 for 5 to 6 kW of peak-hour capacity, leading to a total generation capital cost of over $6,100. Other capital expenditures for transmission, distribution, customer systems, and other administrative costs are not included in the $6,100 capital generation requirement. A residential customer growth rate of 9,800 new customers per year translates into almost $60 million of new generation plant capital each year to serve the baseload and peak energy requirements of new residential customers.[4]

Essentially, as a result of an alleged 9,800 additional customers per year throughout the planning period, the Company is saying that it may need to build equivalent to four additional CCCT plants just to meet peak load. Including baseload generation, the Company anticipates spending upwards of $60 million a year. This amounts to at least $1.2 billion over the course of 20 years. While CUB understands that this primarily applies to its Idaho Power service territory, it also affects Oregon customers. Because of the potential high cost of these resources, CUB recommends that the Company reexamine its approach to energy efficiency, either by adjusting its ramp rates to match outcomes consistent with historic patterns, increasing its marketing for EE programs, or some effort to incorporate additional EE.

[4] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 25.

As CUB understands the IRP process, there are three theoretical EE futures the Company considers in its analysis—theoretical, economic, and achievable. These three are used in the EE potential study completed by AEG for the 2015 IRP.[5] For its load forecast, the Company ultimately includes achievable EE, which is defined as taking into account "market maturity, customer preferences for energy-efficient technologies, and expected program participation."[6]

As CUB understands it, this achievable EE is applied throughout all of its selection portfolios so that a static level is assumed for every portfolio. In an Idaho Public Utility Commission document, IPUC Staff explains that the Company states that it approaches the modeling process this way because it "gives DSM resources preferential treatment."[7] While CUB was not at the Energy Efficiency Working Group meetings, if IPUC Staff is correct in stating the Company's opinion, then CUB shares IPUC Staff's concerns about how EE is treated in the IRP. The Company effectively treats "achievable" EE as a ceiling without any solid consideration of energy efficiency beyond what it consistently under forecasts.

To get an idea of how much EE (and ultimately ratepayer dollars) are at stake, consider a statement in the newest draft of the Northwest Power and Conservation Council's (NWPCC) Northwest Power Plan:

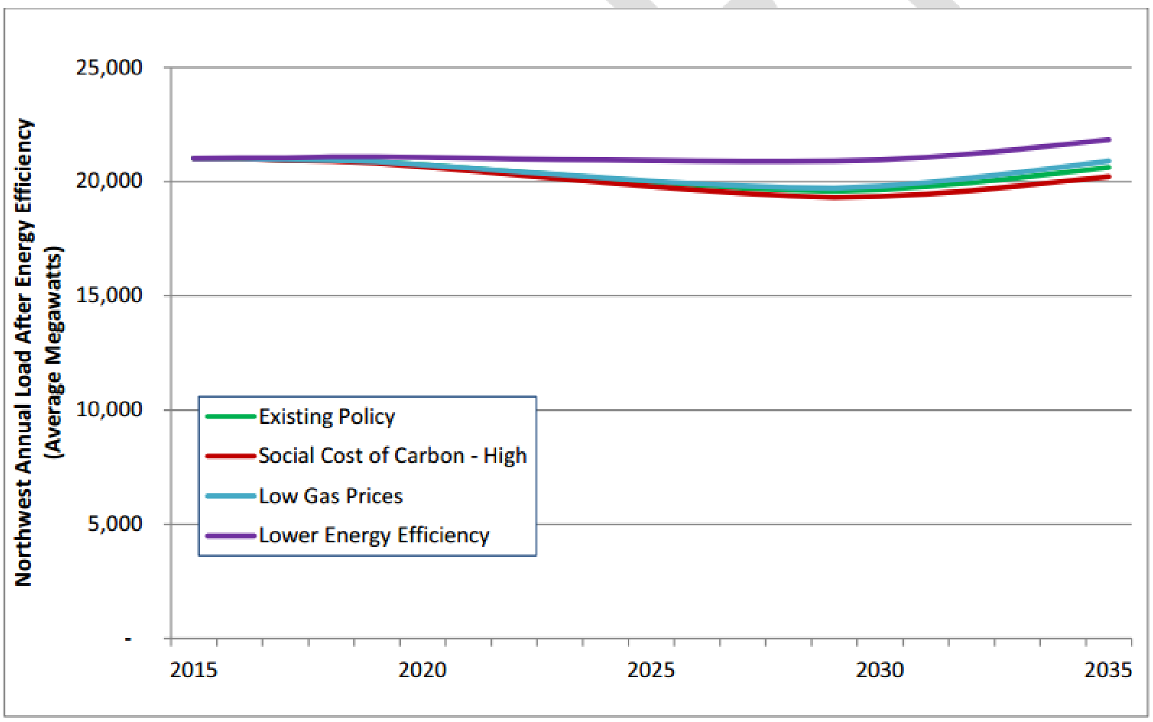
> In more than 90 percent of future conditions, cost-effective efficiency met all electricity load growth through 2035. It's not only the single largest contributor to meeting the region's future electricity needs, it's also the single largest source of new winter peaking capacity. If developed aggressively, in combination with past efficiency acquisition, the energy efficiency resource could approach the size of the region's hydroelectric

[5] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 44.
[6] *Ibid*.
[7] Case No. IPC-E-15-19, Comments of the Commission Staff. Accessible at http://www.puc.idaho.gov/fileroom/cases/elec/IPC/IPCE1519/staff/20151005COMMENTS.PDF.

> system's firm energy output, adding to the Northwest's heritage of clean and affordable power.[8]

The draft of the 7th Northwest Power Plan states that energy efficiency can potentially meet 90% of all electricity load growth through 2035. This incorporates the entire Northwest region, which includes Idaho Power's service territory. NWPCC's study considered 800 energy futures, and even with lower-than-expected gas and electric prices, and under low carbon risk scenarios, 90% of the cases modeled were still able to meet load growth through energy efficiency.[9] The graph below is from NWPCC's draft report:

Figure 2 – NWPCC EE Projections[10]



[8] Seventh Northwest Conservation and Electric Power Plan [Draft report], p 1-1 of Executive Summary. NWPCC. Accessed at https://www.nwcouncil.org/media/7149671/7thplandraft_chap01_execsummary_20151020.pdf.

[9] Seventh Northwest Conservation and Electric Power Plan [Draft report], pp. 1-7&1-8 of Executive Summary. NWPCC. Accessed at https://www.nwcouncil.org/media/7149671/7thplandraft_chap01_execsummary_20151020.pdf.

[10] *Ibid*.

The graph above accounts for cost-effective EE for average net regional load, and this includes a variety of scenarios, including low gas prices and low EE scenarios. Load throughout the planning period actually decreases at some point but initially stays flat and does not increase past 2015 levels for at least 20 years.

That Idaho Power is projecting a need for a new CCCT plant every five years is baffling to CUB. CUB understands that neither Idaho Power's nor NWPCC's projections will be 100% accurate. But surely, some middle ground can be reached between the Company's static, under forecasted "achievable" energy efficiency and NWPCC's projections about how EE can be used to meet 100% of load growth. A new approach to energy efficiency could save ratepayers hundreds of millions of dollars.

About achievable EE, the Company states the following:

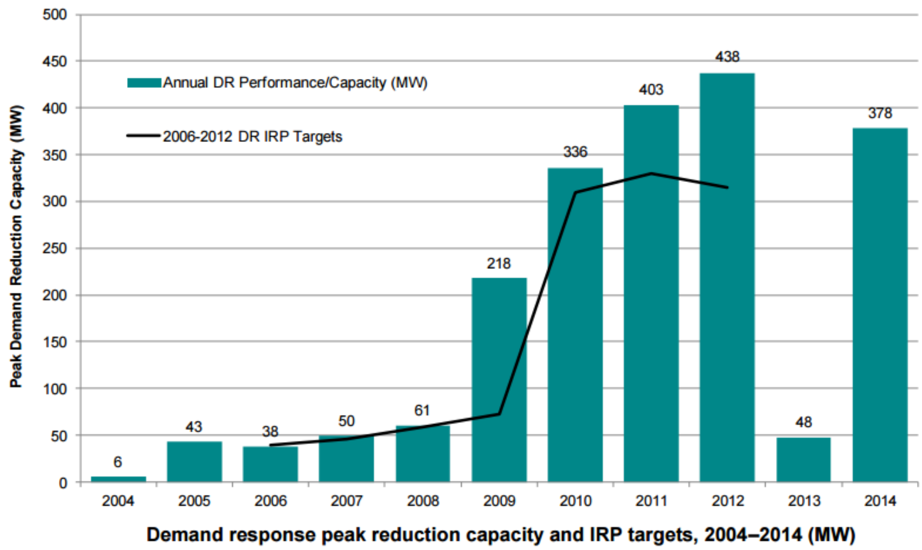
> Achievable potential establishes a realistic target for the energy efficiency savings a utility can achieve through its programs. It is determined by applying a series of annual market-adoption factors to the economic potential for each energy efficiency measure. These factors represent the ramp rates at which technologies will penetrate the market.[11]

How might the Company adjust its approach to EE? Market adoption and utility programs are two things over which the Company has control. It can increase its EE marketing, it can offer more programs, and it can implement more aggressive EE policy. Consistent low-balling of EE can lead to overestimating load growth, resulting in unneeded capacity at a very real cost to ratepayers.

As another example of how the Company under forecasts demand-side resources, consider its under forecasting of demand response programs:

[11] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 44.

Figure 3 – Idaho Power's DR Under forecasting[12]



While demand response is not directly comparable to energy efficiency, it is arguably a program over which the Company has even more control. As the graph demonstrates, peak demand reduction increases year by year, with the exception being in 2013 when some demand response was temporarily suspended "to address need and cost" of the Irrigation Peak Rewards program.[13] The Company notes in its IRP that 91% of the same participants from 2013 participated in the program after it was reinstated, despite the incentives in the program being reduced.[14]

CUB understands that the Company is required to pursue least-cost/least-risk programs, but if the Company is willing to put five more CCCT turbines on the table in the next 20 years, CUB asks that the Company lend more weight to demand-side resources so that both resource types (supply and demand side) are given equal treatment.

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[12] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 42.
[13] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 129.
[14] *Ibid*.

II. Idaho Power Did Not Choose a Least-Cost/Least-Risk Portfolio

CUB's second concern with the IRP involves the fact that Idaho Power chose the 8th least-cost portfolio[15] with a mid-risk profile over the 20-year planning horizon.[16] In the end, after all of the analysis, Idaho Power selected Portfolio 6(b), which includes a Boardman-to-Hemingway (B2H) transmission line coming online in 2025, a new 300 MW CCCT coming online in 2031, 60 MW of demand response, and 20 MW of ice-based thermal energy storage (TES). The portfolio also calls for retiring both North Valmy Unit 1 and Unit 2 in 2025. The portfolio's estimated cost is $4,595,171,000.[17]

CUB does not believe that there is an economic justification for selecting Portfolio 6(b). There are other portfolios in the Company's analysis that are not only lower cost, but also lower risk, and retire coal plants early. For example, apart from the base case scenario 1, Portfolio 9 is the least cost portfolio, with an estimated cost of $4,520,588,000, or over $74 million less than Portfolio 6(b).[18] Like 6(b), Portfolio 9 calls for 60 MW of demand response, a North Valmy retirement Unit 2 retirement in 2025, and B2H coming online in 2025. However, instead of adding a CCCT in 2031, the Company spreads out capacity additions by adding a total of 74 MW of reciprocating engines by 2031, adds a SCCT in 2032, and retires North Valmy Unit 1 early in 2019, not 2025.[19]

Portfolio 11 is the second least cost portfolio (after the base case), coming in at $4,549,377,000, or about a $45 million less than the preferred portfolio 6(b).[20] Interestingly, this portfolio assumes that Jim Bridger Unit 1 will retire in 2023 and that

[15] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 117.
[16] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 139.
[17] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 117.
[18] *Ibid*.
[19] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 105.
[20] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 117.

Jim Bridger Unit 2 will retire in 2032. Because of this retired capacity, the portfolio also assumes an additional 155 MW of Utility-scale solar PV 1-axis capacity, 60 MW of ice-based thermal energy storage (TES), a total of 180 MW of reciprocating engine capacity by 2034, and a 45-MWcombined heat and power facility in 2033. Also interesting is that this portfolio assumes a heightened level of energy efficiency "beyond the cost-effective amount determined by the DSM potential study."[21] Somehow, Portfolio 11 manages to retire two coal units, add 889 MW of installed capacity, follows a similar loss of load expectation (LOLE) profile[22] compared to what the Company selected as its preferred portfolio,[23]and it is still less expensive than the preferred portfolio 6(b).

Portfolio 8 is similar to the previous two cases in that it is also lower cost than 6(b) and like Portfolios 9 and 11, Portfolio 8 also seems to perform well over the 20-year planning horizon with an LOLE under two hours per year.[24,25] The difference here is that Portfolio 8 costs a bit more than 9 and 11 – $4,574,450,000, but still $20.7 million less than preferred portfolio 6(b).[26] Portfolio 8 also assumes B2H comes online in 2025, 60 MW of ice-based TES, 70 MW of utility-scale, single-axis PV solar, a North Valmy Unit 1 retirement in 2019, Unit 2 retirement in 2025, higher DSM, reciprocating engines, and 45 MW of additional canal hydro.

In addition to these cost comparisons, Portfolio 6(b) does not seem to be very different from its lower-cost counterparts in terms of risk. Figure 9.10 in the IRP depicts LOLE probability analysis results, and portfolios 6(b), 8, 9, and 11 all fall under the 2-

[21] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 106.
[22] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 140.
[23] Portfolio 11 also assumes B2H comes online in 2025.
[24] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 140.
[25] Curiously, on page 139, the Company excludes Portfolio 9 from the list of portfolios that operate with an LOLE of less than two, but a close look at Figure 9.10 on page 140 clearly shows that Portfolio 9 also falls within this low-risk projection.
[26] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 117.

hour LOLE threshold.[27] Why is the Company choosing a Portfolio that does not meet least-cost/least-risk requirements?

The Company states that it chose Portfolio 6(b) because it "balances the cost, risk, and environmental concerns identified in this IRP."[28] But CUB disagrees. The risk analysis shows that 6(b) is roughly the same as the other portfolios in terms of risk, but it is not as cost-competitive as the Company suggests, or at least not as cost-competitive as other portfolios with similar risk profiles and earlier coal unit retirements.

To justify Portfolio 6(b), the Company introduces what it refers to as "qualitative risks."[29] The Company briefly discusses a number of these qualitative risks: water-supply, relicensing, new 111(d) regulation, NOx compliance (this is in relation to early Bridger Unit retirement, of which the Company states is "highly speculative"), general resource commitment, PURPA development, B2H completion challenges, Regional resource adequacy, and DSM implementation.[30]

Ironically, the Company lists NWPCC as a source for its resource adequacy risk, citing that it is a participant in NWPCC's Resource Adequacy Forum, which adopts adequacy standards.[31] Even more interesting, the Company cites DSM implementation as a qualitative risk because "there is always an implementation risk with a new program. The actual energy savings and peak reductions may vary significantly from the estimated amounts if customer participation rates are not achieved."[32] Yet, as CUB states earlier in

[27] See CUB Attachment A.
[28] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 130.
[29] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 125.
[30] LC 63 – Idaho Power 2015 Integrated Resource Plan, pp. 125-130.
[31] LC 63 – Idaho Power 2015 Integrated Resource Plan, p 129.
[32] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 130.

its comments, it is also NWPCC that is projecting that DSM (or energy efficiency) will suffice for at least 90% of load growth until 2035.

CUB understands that there may be legitimate qualitative risks that influence Portfolio decisions, but the Company does not approach these qualitative risks with the same rigor that it approaches the quantitative risk. Ultimately, the Company states that Portfolio 6(b) was selected because "[t]he retirement of the North Valmy plant and the completion of B2H in 2025 balances the risks of CAA Section 111(d), increases in unplanned intermittent and variable generation, and is shown to be cost competitive."[33] But energy efficiency can also be used to mitigate 111(d) risk, as can shutting down North Valmy Unit 1 in 2019.

The issue of North Valmy was one CUB also raised in its 2013 IRP Comments in LC 58. In LC 58, the Company stated:

> In April 2013, NV Energy announced a schedule to retire the North Valmy Coal Plant. Idaho Power is a one-half owner of the North Valmy coal plant, and NV Energy is the operating partner. Idaho Power has not agreed to the North Valmy plant retirement schedule announced by NV Energy.[34]

The April announcement in 2013 was recent at the time CUB had written its 2013 IRP Comments. The Company has now had two years to negotiate a least-cost/least-risk retirement. Idaho Power owns 50% of the North Valmy plant, or 284 MW, [35] and with the co-owner interested in retirement, the Company is in a good position to negotiate an early shut down, especially if this will result in lower 111(d) risk and a lower-cost portfolio for customers.

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[33] *Ibid*.
[34] LC 58 – Idaho Power 2013 Integrated Resource Plan, p. 95.
[35] LC 63 – Idaho Power 2015 Integrated Resource Plan, p. 32.

III. To the Best of Our Knowledge, CUB Did Not Receive Notification of IRP Workshops for First Half of the IRP Process

CUB's final concern deals primarily with the IRP process. CUB has reviewed its records to the best of its ability and is not aware of having been notified of any IRP stakeholder meetings until January of this year. CUB received its first e-mail being notified of IRP stakeholder meetings January 15, 2015. This announced the January 28, 2015 meeting. Though CUB is usually only able to attend Idaho Power meetings remotely, it is important that CUB be involved in the IRP process from the beginning. CUB understands that most of Idaho Power's service territory is not in Oregon, but Idaho Power's resource decisions impact Oregon customers just the same. More EE in Idaho means less of a possibility that Oregon ratepayers will need to pay for resources far away.

IV. Conclusion

CUB appreciates the opportunity to be able to comment on Idaho Power's 2015 IRP. The first area with which CUB is concerned is the Company's approach to EE modeling. The Company can stand to be more aggressive in its EE, especially if it is anticipating adding capacity equivalent to a gas plant every five years, spending upwards of $1.4 billion over the course of 20 years.

Second, CUB is not convinced that Portfolio 6(b) is the least-cost/least-risk portfolio and is not convinced that the Commission should acknowledge the Action Plan as a result. CUB believes that in addition to more EE, there are other portfolios that demonstrate a lower-cost, and at least a similar risk profile as Portfolio 6(b). In addition, CUB is not convinced that the qualitative risks the Company cites are strong enough of a justification for selecting the Portfolio it did.

Third, CUB is disappointed that it did not have the opportunity to participate in the first half of Idaho Power's IRP stakeholder meetings. Stakeholder participation is an important element of the IRP process, and in the future, CUB expects to be involved in the planning cycle.

Respectfully submitted,

Nadine Hanhan
Utility Analyst
Citizens' Utility Board of Oregon
610 SW Broadway, Suite 400
Portland, OR 97205
(503) 227-1984, x11
nadine@oregoncub.org

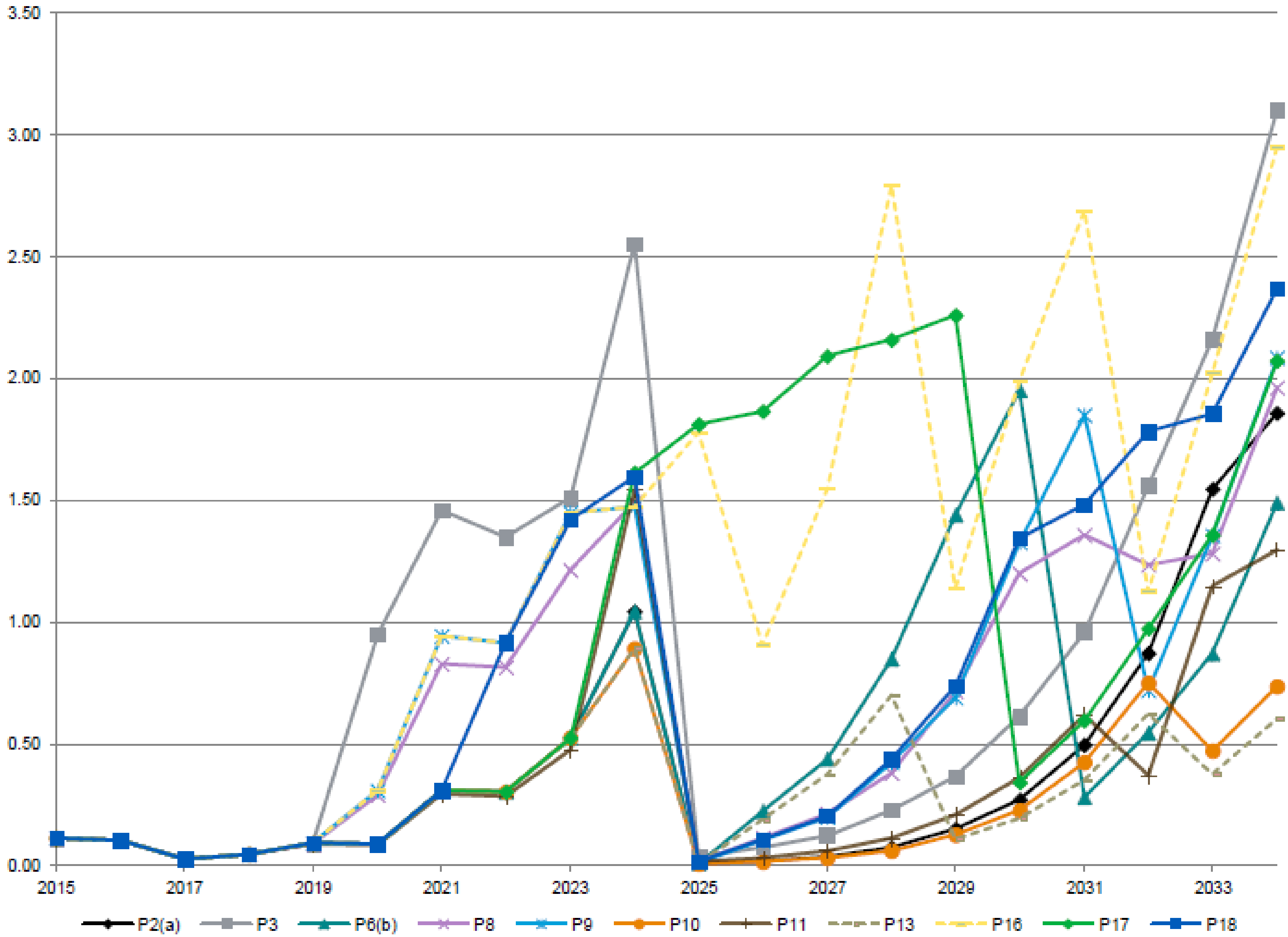

Figure 9.10 LOLE (hours per year)