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October 16, 2026

Mr. Mike Milburn  
Council Chair  
Montana Office  
30 W 14<sup>th</sup> Street #207  
Helena, Montana 59601

Dear Chair Milburn and Council Members,

Thank you for the opportunity to submit comments on the draft Ninth Northwest Power Plan. Developing a regional plan amid historic shifts in the energy landscape is a formidable undertaking, and I want to personally thank you and commend the rest of the Council and staff for the hard work and dedication reflected in this draft. I appreciate your consideration of Bonneville's input and recommendations to help strengthen the final plan.

Regarding the Council's proposed resource strategy, I welcome the flexibility embedded in the resource acquisition recommendations, which supports Bonneville's ability to pursue a cost-effective commercial approach to meet our firm obligations. The Council's approach will allow Bonneville to evaluate a full range of options of supply resources. I also welcome the plan's focus on increasing utilization of the existing supply stack through demand flexibility, and in these comments Bonneville offers recommendations on how the Council can help educate the region on Bonneville's post-2028 capacity-pricing signals to support these regional demand-response efforts. As supply chains have strained to keep pace with power-sector growth, the Council and Bonneville are aligned in an at least implicit acknowledgement that this market, like all others, has a supply side and a demand side, and that the latter cannot be merely passive in accepting escalating costs without trying to shape itself—and in doing so reduce costs to the customers for whom we bear responsibility.

Bonneville continues to have significant concerns regarding the proposed conservation framework, including the introduction of a bifurcated target, the overall magnitude of the target, and the Council's savings accounting methodology. I urge you and the other Council members to carefully weigh the feedback contained herein, alongside input from regional organizations and individual utilities. Together, we offer an essential, on-the-ground operational perspective that is necessary to establish an achievable resource strategy. To that end, I strongly encourage the Council to adopt the enclosed recommendations on the conservation program. The Council's draft plan recommendation, if adopted, will not achieve the policy goals its proponents have in mind, and it would add complexity to this landscape. Bonneville and regional utilities have worked to ensure that our customers receive a budget for energy conservation that is prorated to the costs public-power customers incur for conservation. This allows Bonneville's customer utilities, who are in a better position to know their customer base than you or me, to design

adoption strategies within the budget afforded to them. It also gives them the flexibility to choose from a broad and consistent set of measures and implement programs that have the greatest value for their communities. The Council's draft plan proposal is not consistent with that philosophy, which in my opinion has served the region well and has kept the peace on a potentially controversial topic.

Bonneville's comments also offer targeted input on the technical analysis underpinning the draft plan. While no power planning endeavor can ever perfectly capture and forecast a rapidly evolving energy landscape, we have identified a few areas that warrant consideration to better reflect operational realities. Most crucially, Bonneville offers comments addressing key technical assumptions regarding hydropower capabilities, operational constraints, and system flexibility, and urges the Council to ensure resulting recommendations regarding hydro system flexibility remain firmly anchored in operational reality. At the same time, Bonneville is committed to improving the value of our hydro system through an ongoing program of capital spending, and I welcome discussions with the Council about ways to do more in and around this critical source of power generation.

For the first time in decades, Bonneville intends to begin a resource acquisition process next year. You have my commitment that the Council's Ninth Power Plan will guide our thinking on this matter, as the Northwest Power Act of 1980 intended. Relevant to this intended course of activities, Bonneville in these comments offers proposals to more fully address planning risks of both overreliance on the market and overinvestment in resources. We also provide input from Bonneville's transmission experts on the Council's transmission modeling assumptions.

I value our longstanding relationship and shared dedication to maintaining an adequate, efficient, economical, and reliable power system. Bonneville submits these comments, along with an attached table of supplementary technical input, to constructively resolve these concerns as the Council finalizes the Ninth Power Plan. My staff and I look forward to continuing to engage with you on this important work.

Sincerely,

*Travis R. Kavulla*

Travis R. Kavulla  
Administrator and Chief Executive Officer  
Bonneville Power Administration

## Introduction

The Northwest Power Planning and Conservation Council (Council) begins its draft plan by drawing parallels between the energy demands in the early 1980s and the current increase in regional demand for electricity. The Council’s plan (and other regional planning studies) anticipates unprecedented load growth over the planning horizon, potentially the largest in a generation. To meet these load growth forecasts, the Council concludes that “the region has a significant need for new resources.”<sup>1</sup> Relevant to Bonneville, however, the Council acknowledges such load growth is not uniform across the region,<sup>2</sup> and it is not yet clear how much of the demand forecasted to materialize across the region will ultimately fall to Bonneville to serve. As Bonneville gains additional clarity on its contractual obligations and forecasted system capabilities moving forward, its needs may deviate from the pace of regional load growth that the Council forecasts in the plan.

The major source of forecast growth in demand in the region is from a single industry, which Bonneville expects will be served, to some extent, through self-supply arrangements enabled by utility tariffs. Bonneville and regional utilities may not need to “plan” and construct power generation to supply that load. But Bonneville and regional utilities do need to have regulatory policies for both supply and transmission that facilitate growth, while maintaining overarching rules for resource adequacy. The Council tacitly recognizes this dynamic—but should announce it more clearly—in its assignment of a relatively small share of regional load growth to Bonneville-directed acquisitions.

Early next year, Bonneville intends to begin a process to acquire power from generating resources on a long-term basis to serve the needs of customers who have indicated Bonneville as their desired supplier. The Northwest Power Act directs Bonneville to acquire “sufficient resources to meet [its] contractual obligations that remain after [accounting for conservation savings].” This obligation and authority is predicated on Bonneville’s determination that long-term resource acquisition of the type described in section 6 of the Northwest Power Act is necessary to meet its contractual obligations. In addition to leveraging the Council’s power plan analysis, Bonneville, in its internal planning processes, conducts regular evaluations of its obligations (including conservation savings) and committed resources to determine the scope of any such need for additional supply-side resources, and the appropriate tools (e.g., long-term acquisitions, market purchases, etc.) with which to meet our need(s). As Bonneville gains clarity as to its contractual obligations and committed resources and begins to define its needs, we will continue to refine a commercial strategy to acquire the resources necessary to cost-effectively meet Bonneville’s obligations. At present, based on our customers’ elections, we anticipate an incremental need for additional long-term resources.

Bonneville remains committed to investing in conservation to maximize the value of the Federal Columbia River Power System (FCRPS) and reduce Bonneville’s need to acquire other resources to supply firm power to our customers. For over 40 years, conservation has been a first priority resource, and it remains so today, consistent with the Northwest Power Act. This commitment is anchored in our statutory responsibilities. As Bonneville develops its next Energy Conservation Action Plan, it will consider the Council’s power plan alongside the needs of Bonneville, its customers, and program implementation realities to develop a balanced and effective strategy.

In addition to conservation, as the region experiences rapid load growth and emerging capacity constraints, our focus has grown to encompass more targeted demand flexibility resources as tools to help meet the region’s changing needs. With Bonneville’s next power sales contracts, we will more clearly signal the cost of demand and provide tangible value to those that provide demand-side flexibility.

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<sup>1</sup> Plan at 3.

<sup>2</sup> See Plan at 2 (“[N]ot all parts of the region are experiencing the same amount or type of load growth.”)

## Comment Structure

Bonneville appreciates the tremendous effort and dedication the Council and staff have invested throughout the development of the draft Ninth Power Plan. Bonneville submits these comments, which are intended to constructively address concerns that may arise over the term of the plan’s horizon. Bonneville offers detailed comments on the Council’s recommended resource strategy and on the modeling and analysis underpinning that resource strategy. In addition, we provide a table of supplementary comments for the Council’s consideration as it finalizes the Ninth Power Plan. The document is organized as follows:

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## Council’s Recommended Resource Strategy

In the section that follows, we reiterate our significant concerns regarding the core conservation resource strategy, specifically the overall magnitude of the proposed target, introduction of a bifurcated target, and how the Council is counting savings toward the target. Separately, we provide recommendations on the role the Council can play in supporting the development of demand response in the region. We conclude this section with commentary on the Council’s recommended approach to resource acquisition, provide context on the actions underway at Bonneville, and offer input on how the Council could improve its recommendations.

### Conservation

#### Conservation Target Structure

Bonneville appreciates the ongoing engagement with the Council on the critical issue of the conservation target structure. However, Bonneville maintains its objection to a split-target framework, as it cannot be practically or responsibly implemented.

Adopting a split target at this stage relies on an incomplete transmission and distribution analysis, threatens to disproportionately burden rural customers, jeopardizes regional market transformation, and conflicts with Bonneville's existing policy commitments. Furthermore, such an approach introduces significant cost and complexity without demonstrable benefits.

Bonneville cannot adopt the split-target structure on the following grounds:

- **SIMPLIFIED TRANSMISSION AND DISTRIBUTION ANALYSIS:** Bonneville disputes the Council’s split target resulting in two different avoided costs split along the Oregon/Washington and Idaho/Montana state line boundary. This is not how the regional grid works, and the Council’s proposal relies on flawed zonal modeling approximations rather than physical grid realities. To summarize the full comments that appear in the Transmission Modeling and Assumptions section, Bonneville’s hourly nodal production cost analysis shows substantially similar locational marginal prices across the Council’s proposed East versus West state line boundary (across eastern Washington, Idaho and Montana, in particular). The Council cannot justify a policy shift toward bifurcated

geographic targets using state boundaries. Doing so would politicize conservation as a resource and disproportionately impact one set of customers.

- **DISPROPORTIONATE IMPACT ON RURAL CUSTOMERS:** The lower Idaho and Montana avoided cost threshold contemplated in the dual target framework would threaten to eliminate critical residential and agricultural programs for rural utilities in Idaho and Montana, even while the Council assesses that the residential sector holds the highest conservation potential of all sectors in power plan supply curves. While the Council notes that the total cost of these savings to the end user is comparatively lower, this analysis masks the cost and complexity associated with acquiring more complex industrial and commercial savings for program implementers. Achieving these savings requires specialized expertise and access to a contractor network not typically available in smaller and more rural customer communities. The Council's approach would effectively eliminate conservation opportunities for many utilities in Idaho and Montana and increase costs for all others.

While the Council notes a single target would increase targets for utilities in Idaho and Montana, Bonneville's program sets no individual targets for individual customers and relies on all customers within its territory to achieve the Council's targets collectively. No customer will be required to increase conservation acquisitions disproportionately. Bonneville customer utility conservation funding, and thus acquisitions, will continue to follow load share, which mirrors the split being considered by the Council without unnecessary cost and complexity while preserving an equitable portfolio of measures for all customers.

- **RISKS TO REGIONAL MARKET TRANSFORMATION:** Establishing a dual target could create rigid structures that disrupt the market signals needed to distribute emerging technologies throughout the entire region, across both the East and the West. Ultimately, this threatens three decades of regional investment in the Northwest Energy Efficiency Alliance's market transformation infrastructure along with the long-term energy savings that rely on it.
- **CONFLICTS WITH EXISTING POLICY COMMITMENTS:** Bonneville's current Energy Efficiency Incentive (EEI) structure aligns with longstanding Tier 1 cost-allocation principles. The cost of Bonneville's conservation acquisition is recovered through its Priority Firm (PF) rates. By making those funds available to all its PF customers, proportionate to their Tier 1 load, Bonneville has avoided historical controversy regarding a subset of customers subsidizing others and incentivized customers of all sizes and geographic diversity to contribute to Bonneville's conservation acquisition. This successful rate structure was reaffirmed in recent Provider of Choice contracts and the Provider of Choice Policy Record of Decision. Bonneville will not change its successful and agreed-upon rate structure without clear justification.
- **UNNECESSARY COMPLEXITY:** As articulated in Bonneville's 2026 memoranda to the Council sent on June 10 and July 13, 2026, transitioning to bifurcated East and West programs would impose substantial administrative friction, necessitate an IT overhaul, and create ongoing operational burdens without delivering incremental energy savings. Because Bonneville's existing framework already achieves 92% of its savings in Oregon and Washington (where the Council calls for 90%), restructuring proven regional programs into a more complex operational model is a needless distraction.
- **UNNECESSARY COST:** While the Council asserts that a split target is the least-cost approach, its own data in Appendix Q demonstrates that bifurcation is in fact non-trivially more expensive, noting a single target structure would cost roughly \$14 million less annually, even before accounting for Bonneville's significant operational impacts. Implementing bifurcated programs would require Bonneville to invest roughly \$1 million in up-front IT overhaul costs and approximately \$10.4 million in recurring rate-period operational costs. Spending millions of ratepayer dollars to transition to a less economic

model directly conflicts with Bonneville’s commitment to delivering affordable service to its customers.

## Conservation Target Size

Bonneville has concerns about the proposed size of the conservation target (435 aMW) for two reasons. First, it fails to reflect practical implementation realities and timelines on the ground. Second, it relies on overstated transmission and distribution (T&D) deferral values that inflate the amount of conservation selected by the Council’s models.

### Implementation Feasibility and Timelines

As articulated in Bonneville’s June 10, 2026, memorandum, the Council’s proposed 2027–2032 Bonneville target of 435 aMW represents an aggressive 45% increase over Bonneville’s current 300 aMW goal. From a practical standpoint, we do not believe this is achievable. The remaining potential for cost-effective conservation relies heavily on complex systems-based measures and industrial sectors prone to economic boom and bust cycles (e.g., timber, pulp, and paper). Furthermore, systems-based conservation requires significantly more technical and implementation expertise to implement. As such, ramping up would be challenging for most of Bonneville’s utility customers without adding significant local technical and implementation resources. By contrast, we believe that load flexibility programs that reshape the peak demand and drives substantial system costs are relatively untapped in the region for many Bonneville customers, which we more extensively comment upon below.

Achieving the Council’s proposed conservation increase would require considerable planning, programmatic infrastructure, procurement, and a corresponding increase in Bonneville staffing to manage programs, which would not be achievable in the 2027–2032 timeframe. Furthermore, because Bonneville’s rates are already set through 2028, based on recovering costs forecast in 2025 that do not include the Council’s proposed new target, Bonneville would have only four years (2029–2032) to plan, procure, and ramp up delivery.

While such an increase may be possible over a longer timeframe, it would not be practical to implement a programmatic infrastructure expansion of this magnitude in time to achieve the six-year target proposed in the plan. Bonneville believes that the Council’s conservation resource strategy should better account for implementation realities and barriers as conveyed by regional implementation experts to avoid compromising resource reliability.

### Inflated T&D Deferral Assumptions

The proposed transmission and distribution (T&D) deferral values rely on an inconsistent array of incompatible methodologies. The result is volatile and highly varied deferral assumptions that overstate and distort the amount of proposed conservation that is cost-effective. While Bonneville appreciates the Council’s efforts to gather data on T&D deferral amounts from diverse regional utilities, these values all rely on fundamentally disparate methodologies which mix forward-looking planning estimates with backward-looking historical accounting.

This methodological inconsistency is evident in historical utility filings. For example, Puget Sound Energy’s (PSE) T&D deferral value surged from \$12.61/kW-year in its 2021 IRP to \$74.70/kW-year in its 2023 IRP, and it now reaches \$92.59/kW-year in the Council’s draft plan.

Furthermore, these divergent assumptions produce severe regional discrepancies. Most notably, surveyed investor-owned utilities (IOUs) assume transmission deferral values of approximately \$25–\$30/kW-year, whereas Bonneville’s operational data indicates an actual value closer to \$2/kW-year. Overestimating these figures based on outlier data from Portland General Electric and Puget Sound Energy disproportionately inflates the value of West-side conservation relative to the East.

Rather than relying on volatile, self-reported survey data, the Council should revisit this analysis and adopt a uniform, consistent methodology to quantify T&D deferral values across the region.

As stated in the introduction to Bonneville’s comments, Bonneville differs from the region at large with respect to resources, load growth, and needs. Bonneville plans to prepare its Energy

Conservation Action Plan in 2027 where it will assess its needs alongside the Council’s Ninth Power Plan and present a conservation goal that is tailored to Bonneville and its customers and incorporates the program implementation realities that Bonneville faces.

Conservation Savings Reporting and Cost Effectiveness

The Council should not exclude reported conservation that is cost effective on a portfolio basis. Excluding reliable, verified savings from the conservation target achievements lacks supporting analytical justification, understates the region's actual conservation achievements and disregards the critical investments and accomplishments of public power utilities.

Bonneville Recommendations

Bonneville recommends the Council make the following changes to its conservation strategy in the Ninth Power Plan:

- **Establish an adequate single target:** Bonneville supports using a single target for the Ninth Power Plan resource strategy. To establish this target, the Council should present a transparent and well-documented proposal for incremental resource additions that address the slight adequacy gap noted in Appendix Q.
- **Propose a target that reflects implementation realities and more accurate T&D deferral values:** Bonneville recommends that the Council reassess the magnitude of its energy conservation target and adopt one that reflects the implementation realities communicated to the Council by implementation experts. Ultimately, the Council should consider adopting a more reasonable pace of program acceleration so that the region is not relying on a resource it cannot realistically acquire. Additionally, the Council should consider revisiting its T&D deferral analysis to better reflect the inconsistencies noted above.
- **Adopt a portfolio level view of conservation cost effectiveness regardless of target structure:** Bonneville recommends the Council count all verified conservation savings toward the savings target. These energy savings are real, verified by Bonneville, and result in a measurable reduction in electric power consumption. Not counting all reported savings accomplishments toward the target misrepresents the true size of the conservation resource and undermines the hard-won accomplishments of its utility customers.

Demand Response and Rate Design

Bonneville appreciates the attention to demand response included in the Council’s draft plan; in particular, technical Appendix I. Bonneville's post-2028 rate design directly aligns with these objectives by establishing a strengthened and simplified long-run marginal cost (LRMC) capacity price signal compared to Bonneville's previous structure.

Ongoing educational efforts by organizations like the Council can work in tandem with Bonneville’s updated rate design to motivate Bonneville's load-following customers to develop demand response. Under Bonneville’s rate structure, utilities can significantly lower costs for end-use consumers through investments in the demand response initiatives outlined in the Council's draft plan. For reference, the following table lists the LRMC price signals included in Bonneville’s BP-26 rate schedule, which will be refreshed and combined with a simplified billing determinant for the BP-29 rate period.

| Month     | Rate in \$/kW |
|-----------|---------------|
| October   | 13.81         |
| November  | 10.78         |
| December  | 12.99         |
| January   | 11.88         |
| February  | 12.39         |
| March     | 7.97          |
| April     | 6.09          |
| May       | 2.35          |
| June      | 4.12          |
| July      | 13.91         |
| August    | 14.67         |
| September | 16.51         |

Key mechanisms of the Post-2028 Rate Design that encourage investment in demand response include:

- **Monthly-Shaped Capacity Price Signal:** Bonneville's post-2028 rate structure conveys a monthly-shaped LPMC of capacity. This rewards customers that make investments that reduce their non-coincidental peak load placed on Bonneville, up to the point where the net load remains completely flat across the month.
- **Capacity Rate Credits Option:** A new Bonneville rate provision offers customers capacity rate credits in exchange for granting Bonneville operational control over demand response assets. This approach provides two major benefits:
  1. Enables Bonneville to dispatch demand response resources efficiently from a holistic system perspective.
  2. Eliminates investment payback uncertainty for customers who might otherwise miss the precise timing of the peak load placed on Bonneville.

Bonneville Recommendations

To enhance the Council’s power plan, Bonneville recommends adding an educational section that illustrates the potential financial benefits of these mechanisms. Specifically, the plan would benefit from:

1. **Avoided Cost Examples:** Practical scenarios demonstrating potential utility and consumer savings under a monthly-shaped avoided cost price signal (e.g., using the reciprocating engine benchmark and, potentially, other avoided cost benchmarks).
2. **Technology Mapping:** Comprehensive mapping of avoided costs against the draft plan's targeted demand response actions—highlighting low-cost technologies and key cost-crossover points under varying avoided cost assumptions.

Bonneville welcomes the opportunity to work with the Council on these educational efforts and can provide information on Bonneville’s rate design and how customers can use demand response asset investments.

Resource Acquisition

Bonneville appreciates what it understands to be the Council’s recommended approach to resource acquisition. Those include:

- Recommendation to the region and Bonneville to acquire a portfolio of resources, including conservation, demand response, voltage regulation, renewables, storage and natural gas (RES-1);
- Recommendation to Bonneville to acquire renewables to meet energy needs (BPA-5);

- Recommendation to Bonneville to assess, in each instance in which it identifies a capacity need, whether storage (including renewable-plus-storage) or natural gas is more cost-effective (BPA-6);
- Encouragement to the region to invest in emerging technology development (R&D-1); and
- Recommendation to the region to continue to explore conventional geothermal (RES-8).

Cumulatively, these recommendations allow Bonneville to pursue a cost-effective and appropriately flexible path to acquire necessary resources.

Bonneville also appreciates and agrees with the Council’s perspective that there are low-risk steps Bonneville (and others) can take to accelerate resource development and prepare for resource acquisition. These include streamlining resource permitting and interconnection and planning further into the future to accommodate generation needs (RES-3); developing already identified transmission projects in a timely manner (BPA-7); and reviewing Bonneville policies and procedures to prepare for resource acquisition (BPA-8).

## Bonneville Recommendations

While, overall, Bonneville supports the Council’s recommended approach to supply-side resource acquisition, we offer some additional context on Bonneville’s preparation for resource acquisition and propose two changes to the draft plan.

- **Replace “Rapid” with “Efficient” in BPA-8 Description:** In BPA-8, the Council recommends that Bonneville “prepare for rapid resource acquisition.”<sup>3</sup> Bonneville is taking preparatory actions so that it can acquire generation resources as quickly and efficiently as possible upon a determination of need, but Bonneville must comply with its statutory obligations when acquiring resources, including procedural requirements with their own intrinsic timelines. While Bonneville will endeavor to conduct those processes as efficiently as possible, the term “rapid” may create unrealistic expectations about the speed at which Bonneville can move in those decision processes.
- **Strike Section 6(c) Guidelines Language in BPA-8:** Bonneville has committed to increased transparency with its customers and other stakeholders on its commercial activities strategy and roundly supports this statement in BPA-8: “The Council recommends that Bonneville, working with the Council and regional entities, put into place a clear and ready-to-deploy resource acquisition process in advance of when the need arises.” However, Bonneville is asking the Council to strike the immediately following sentence from the Council’s draft plan in BPA-8 that says, “This includes establishing clear guidelines around when and how to trigger a 6(c) process under the Northwest Power Act if necessary.” Under the current 6(c) Policy, Bonneville has discretion to determine when to trigger a 6(c) process based on a consideration of factors including whether it has “sufficient information concerning a proposed future resource action such that the proposal's compliance with statutory requirements and its consistency with the Council's Power Plan can be adequately assessed.”<sup>4</sup> Bonneville and the Council are currently engaged in discussions to identify opportunities to modernize the 6(c) policy and major resource acquisition processes, however, on the topic of when and how to trigger a 6(c) process, Bonneville believes that the existing 6(c) Policy language strikes the appropriate balance between describing the basis on which Bonneville will determine that a 6(c) proposal exists and encouraging efficiency by avoiding the creation of new guidelines that may result in procedural confusion and transactional delays without improving accountability.

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<sup>3</sup> Plan at 108.

<sup>4</sup> Policy for Section 6(c) of the Pacific Northwest Electric Power Planning and Conservation Act, 58 Fed. Reg. 35925, July 2, 1993.

## Ninth Power Plan Modeling and Analysis

While we recognize the Council must navigate significant uncertainty as it models a rapidly changing power system, Bonneville believes key modeling areas in the draft Ninth Power Plan warrant reconsideration. In this section, we highlight technical areas where analytical adjustments would better align the plan’s foundational modeling with real-world operating environments. Beyond refining the technical analysis, we urge the Council to ensure that resulting recommendations—particularly regarding hydropower system flexibility—remain firmly anchored in operational reality. Recognizing that not all analytical challenges can be solved prior to final publication, we also suggest practical alternatives and collaborative venues, both within the plan and through ongoing regional and R&D processes, to address these critical issues over time.

### Hydro Operations Modeling

The following comments focus specifically on the characterization and modeling of the Columbia River System in the Northwest Power and Conservation Council’s draft Ninth Power Plan. These comments address key technical assumptions regarding hydropower capabilities, operational constraints, and system flexibility to ensure the final plan accurately reflects on-the-ground operational realities.

### Operational and Technical Concerns

#### *Limitations of GENESYS Modeling*

Regarding Regional Resource Recommendation RES-4, the Council states that “the Council’s GENESYS model shows more daily flexibility in the existing hydropower system (even within the existing constraints) than is used today,” and directs the region to “explore where flexibility exists, and seek to maximize that flexibility.”<sup>5</sup> Bonneville’s understanding is that GENESYS identifies a cost-minimizing or optimized dispatch solution under the constraints programmed into it, rather than reflecting the full set of operational constraints on actual dispatch. To the extent GENESYS’s dispatch results do not reflect the full set of binding constraints under which Bonneville and other hydropower operators must operate, unused “flexibility” identified by the model is not evidence of unused operational capacity—it instead largely reflects that the model does not fully or correctly represent the extent to which constraints currently bind actual operations.

This distinction matters and Bonneville itself has used previous versions of GENESYS for scenario-level, comparative modeling, such as evaluating relative Loss of Load Probability across defined operational scenarios. When Bonneville needs to evaluate how the system will perform under real operating constraints, it instead uses a river and reservoir simulation model (e.g., RiverWare) that captures hourly, project-specific operational constraints, including forebay elevation, minimum generation restrictions, tailwater constraints, and reserve-carrying capacity.

It would be useful for the Council, either in the plan or in a subsequent publication, to present the difference from modeled results of GENESYS and the model that Bonneville uses for operations, decomposing to the extent possible the drivers of differences by qualitative explanations. Bonneville staff are available to provide input on this comparison as appropriate. This would help those managing river operations to understand the marginal losses on power that certain actions have, which today is highly opaque.

#### *Systemwide Aggregate Modeling vs. Project-Level Cascading Impacts*

While RES-4 relies on GENESYS results that show flexibility at a systemwide level, the draft plan itself acknowledges that “actual flexibility is more limited at specific projects.” Bonneville agrees and thinks this point deserves more weight than RES-4 gives it. Moreover, Bonneville reiterates the reality that many of the operational measures in the Council’s 2026 Fish and Wildlife Program would, if implemented, further constrain the actual operational flexibility that currently exists in the system.<sup>6</sup>

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<sup>5</sup> Plan at 102

<sup>6</sup> See *generally* Comments on Northwest Power and Conservation Council’s Draft 2026 Columbia River Basin Fish and Wildlife Program (March 2, 2026) at [projects.nwccouncil.org/program/comment\\_on\\_draft?id=4664](https://projects.nwccouncil.org/program/comment_on_draft?id=4664).)

The 14 mainstem dams that make up the Columbia River System are operated as a coordinated system. For some federal dams, water released from one dam becomes inflow to the next dam downstream, usually within an hour or two. That means an action taken at one project can impact conditions at the next project. A real example from Bonneville’s operations illustrates this risk: On April 27, 2025, Lower Monumental Dam temporarily reduced its outflow for a routine navigation-safety reason. About an hour later, that change caused the reservoir at the next dam downstream, Ice Harbor Dam, to swing 1.2 feet in 30 minutes and drop below the minimum water level necessary for safe project operations.

This matters because it demonstrates that even a routine adjustment, made at one project within the operational constraints, can cascade into an unsafe operation elsewhere in the system. Expanding that simple example in routine operations, Bonneville is concerned that deliberately using more “flexibility” at one project, as RES-4 encourages, creates a real risk of cascading downstream issues. A result that the system has flexibility in the aggregate does not take into account whether any individual dam can safely use more of its perceived flexibility without affecting other dams in the system.

### *Shifts in Regional Coordination*

With respect to regional coordination, Bonneville acknowledges the region’s history of collaboration and the long-standing relationship between the entities that have been the backbone for previous coordination agreements. RES-4 points to the fact that “regional entities have historically had coordination agreements that allowed for more efficient use of the regional hydro system” as an example of “one approach for increasing flexibility overall.”<sup>7</sup> Bonneville sees the regional relationships as key to defining a future state that could include coordination agreements to leverage new resources in the region.

The prior coordination framework, the Pacific Northwest Coordination Agreement (PNCA), worked well for participants for a period of time. The hydropower system had meaningful flexibility available to coordinate around and parties could shape and shift generation with fewer competing demands on that flexibility. That context has shifted. The growth of variable energy resources in the region has substantially increased the demand on the hydropower system to hold balancing and contingency reserves, alongside its full range of evolving obligations—power generation, flood risk management, navigation, irrigation, recreation, and fish and wildlife requirements. As available flexibility has been absorbed by these growing demands, the type of coordination the PNCA provided became significantly less beneficial to operations, which is part of what led to its expiration in 2024.

Looking ahead, Bonneville notes that as the region moves toward organized energy markets, voluntary market-based mechanisms can facilitate energy exchanges across the broader market footprint. Organized markets allow independent resource owners and operators to optimize their own resource decisions in response to market signals, while remaining informed by and responsive to the physical and operational constraints described above.

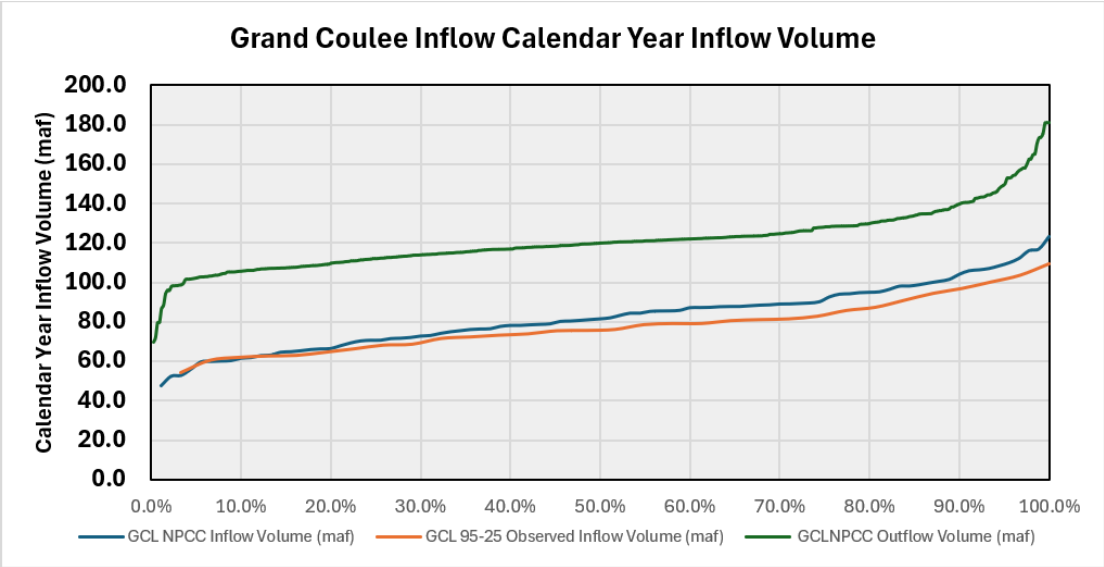
### *Specific Modeling Concerns*

Bonneville reviewed the Council’s project-level modeling data for Grand Coulee and McNary dams to evaluate the assertion that unused flexibility is available on the system today. As shown in Figure 1, Bonneville’s review identified that GENESYS’s modeled annual outflow at Grand Coulee exceeds the inflow by roughly 40 MAF. Modeled McNary outflow volumes show a gap of similar magnitude compared to the observed record. Bonneville shared these results with Council staff on September 23, 2026, and met with Council staff on October 1, 2026, to discuss the discrepancy. Council staff acknowledged that the outflow and inflow data discrepancy is an error and indicated that they intend to correct it. Bonneville appreciates Council staff’s responsiveness in investigating this error and reviewing these results. Bonneville looks forward to commenting on revised results when they are available.

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<sup>7</sup> Plan at 102

Figure 1. Grand Coulee Calendar Year Inflow Volume



Bonneville’s review also identified the following modeled operations that exceed physical and regulatory limits. Some of these issues may be resolved once the streamflow volumes are corrected in the model:

- **Physical Ramping and Dam Safety Violations:** At McNary Dam, the model flexes pool elevations across the full operating range hourly and depicts rapid winter spill swings of up to 300 kcfs outside of fish passage season—not physically prudent nor permissible under U.S. Army Corps of Engineers (USACE) or Bureau of Reclamation (Reclamation) operational constraints. The same is evident in the GENESYS result for each of the headwater projects where the changes in outflow exceed ramp rates which would result in substantial impacts to resident fish and human health and safety for river users downstream.
- **Flood Risk Management (FRM) Conflicts:** At Grand Coulee Dam, the model shows outflow spikes exceeding 500-700 kcfs and rapid single-day drafts during flood risk management and drum-gate maintenance windows—flows that would in practice be flattened, not spiked, to protect downstream bank stability and spillway infrastructure.
- **Water Quality and Infrastructure Limits:** The spill modeled at Grand Coulee and McNary dams to enable generation flexibility would risk the following: total dissolved gas (TDG) water quality violations; inability to meet chum flow requirements below Bonneville Dam; exceedances of tailwater rate-of-change constraints, jeopardizing the safety of navigation; and damaging spill gates and stilling basins.

These findings indicate that the modeled "flexibility" relies on hydro-regulation patterns that exceed dam safety constraints, reduce flood risk management capability, imperil species listed under the Endangered Species Act, violate Clean Water Act requirements, and exceed physical project constraints. Bonneville will continue its technical evaluation and reserves the right to submit complete quantitative findings as corrected data becomes available.

Lastly, regarding Research and Development Recommendation R&D-2, Bonneville notes that regional focus on researching, designing, and installing improved fish passage turbines is not waning. Rather, Bonneville and the USACE maintain an active mandate and clear commitment under the Columbia River System Operations Environmental Impact Statement Record of Decision to install improved fish passage turbines when replacements are justified.

Bonneville Recommendation

Based on the operational and technical realities detailed above, Bonneville recommends that the Council remove Regional Resource Recommendation RES-4 from the Ninth Power Plan. RES-4’s conclusion that the existing hydro system has more flexibility than is used today rests on GENESYS results that do not fully account for the constraints the projects must adhere to for safe and reliable operation. In addition, the modeling underlying RES-4 contains an error that Council staff have

indicated they intend to correct. Bonneville remains available to work with Council staff on modeling refinements, and any future consideration of hydropower flexibility should be based on corrected results that reflect these operating constraints.

## Stranded Asset/Overinvestment Risk

The White House’s Ratepayer Protection Pledge (Pledge) calls on “hyperscalers and AI companies to build, bring, or buy all of the energy needed for building and operating data centers, paying the full cost of their energy and infrastructure, no matter what<sup>8</sup>.” This means that load growth from hyperscalers must be addressed separately from traditional load growth.

Acknowledging that these hyperscalers need to bring their own generation and “pay to play,” allocating overall load growth based on historical pro rata shares is inappropriate and inconsistent with the Pledge. The Council should instead decompose the growth between traditional load and hyperscaler load. While the traditional load can be allocated by historical approaches, the hyperscaler load needs to be assigned to those entities. In this way, the traditional load escalation is quarantined from the costs associated with the highly uncertain and potentially volatile large loads.

The current draft plan, on the contrary, includes a recommended strategy for the region and Bonneville that satisfies (or nearly satisfies) the highest load growth trajectory, and incorporates economic valuations equally weighted across all the load trajectories. The Council-recommended method of selecting one portfolio that effectively meets all load trajectories may substantially overestimate levels of investment needed to assure an adequate and reliable system, resulting in a recommended resource strategy that could once again impose significant costs on the region if the higher levels of regional load growth do not materialize. This can easily result in overinvestment and stranded costs, borne by ratepayers.

Despite the Council’s acknowledgement in the introduction of the draft plan that over-forecasting load growth led to costly mistakes in the region in the past, it does little to actually address this risk of stranded assets and overinvestment.<sup>9</sup> Bonneville urges the Council to re-evaluate the use of load growth in its plan. Resource adequacy is critically important to Bonneville and the region, and it is important that the obligations are appropriately assigned.

The risk of stranded assets not only impacts the generation resources to serve load, but also the transmission necessary to deliver it. To address this, BPA is developing an Open Season process for access to firm transmission service with an associated rate structure to assist in identifying the highest value projects and better align cost allocation with cost causation. We encourage the Council to endorse similar policies.

## Bonneville Recommendations

Comparing the recommended resource strategy to the resource strategy that would be necessary to meet the low-load growth pathway would provide a helpful indicator of the financial risks involved as Bonneville and the region balance tradeoffs between affordability and reliability. The low-load growth pathway has annual load growth rate of about 1.5% over the 20-year horizon, which is low relative to other future pathways, but is not low in historical context.

Recognizing that limited resources may not allow for additional analysis in the Ninth Power Plan, alternatives could include:

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<sup>8</sup> [Ratepayer Protection Pledge – The White House](#)

<sup>9</sup> Appendix N: Scenario Modeling and Results p51-52 contains a sensitivity that removes the highest two load trajectories. Figure 3-11 in the draft plan suggests a range of annual average load uncertainty (the difference between the highest and lowest load trajectories) of about 7,000 aMW in 2032, and roughly 14,000 aMW in 2046. By removing the highest two trajectories, the sensitivity appears to have reduced that range to about 5,000 aMW in 2032 and 9,000 aMW in 2046. The resulting portfolio meets needs of all remaining trajectories and applies equal economic weight to each possibility, so selections in this sensitivity may still be overestimating resource additions by as much as 5,000 aMW in 2032 relative to what would be needed in the low-load growth trajectory.

- **Provide Tradeoff Analysis on Over-Procurement vs. Adequacy:** Provide additional analysis that shows how the Council chose to balance the tradeoffs between recommendations that could result in over-procuring resources versus recommendations that could fail to achieve adequacy in the highest load growth trajectories.
- **Add Conditions for Lower Investment Levels:** Add additional conditions on recommendations that allow for lower levels of new resource investments, including lower levels of conservation, if needs do not arise in the manner projected.
- **Incorporate an R&D Recommendation for Pathway Sensitivities:** Add a research and development recommendation to explore load growth pathway sensitivities that could specifically target the highest and lowest trajectories, creating ranges of recommendations and better informing tradeoffs between affordability and reliability.

## Market Reliance Limit

The draft Ninth Power Plan relies on evaluations that depict a broad range of potential future conditions, however, all cases assume fixed amounts of market reliance from outside of the Northwest (2,500 MW in winter and 1,250 MW in summer).<sup>10</sup> Given significant investments in transmission and efforts to form more integrated markets throughout the Western Interconnection, Bonneville supports the R&D recommendation to revisit these assumed levels (R&D-17).

## Bonneville Recommendations

- **Condition Resource Acquisitions on Market Availability:** This power plan could be improved by conditioning recommended acquisition levels on the availability of additional low-cost energy from the market, relative to what the draft plan assumes. With appropriate design and structure, market solutions are likely to continue to provide Bonneville and other utilities with low-cost solutions to serving load and maintaining adequacy.
- **Evaluate Impacts of Lower Market Reliance Limits:** Conversely, while significant efforts are underway to increase the availability and adequacy of the bulk power system, reducing reliance on market purchases may be the more prudent approach in the near term. This could result in lower levels of market reliance than what the power plan assumes, and higher levels of investment in other components of a portfolio. Including any relevant evaluations (new or available from existing work) that show how much of an impact the market reliance limits have on portfolios could better inform these choices for Bonneville and the region.

## Transmission Modeling and Assumptions

As discussed in the Conservation section above, the Council's "BPA-1" recommendation likely significantly overstates the relative locational value of conservation in the Washington and Oregon portion of Bonneville's service territory relative to the Idaho and Montana portion. The primary reasons appear to be modeling artifacts related to zonal topology and state emissions constraint approximations that overestimate the costs of moving energy across the borders into Washington and Oregon. Energy savings in Idaho and Montana would actually free up non-emitting supply that could be delivered to Washington and Oregon loads in most hours of the year. Therefore, the expected transmission congestion relief benefits resulting from the proposed split target would be less than the incremental costs to implement.

Important technical differences between the models that Bonneville uses for long-term transmission planning and the model used by the Council in the plan can significantly impact outputs. In the Western Electricity Coordinating Council (WECC) power flow "Area 40" definition of the Northwest,<sup>11</sup> the balancing authority area boundaries generally do not align neatly with the most

<sup>10</sup> Plan at 118 and Appendix M page 6.

<sup>11</sup> This includes the Bonneville, Portland General Electric, PacifiCorp West, Avista, Puget Sound Energy, Seattle City Light, Grant County PUD, Chelan County PUD, and Douglas County PUD control areas. It does not include the Northwestern Energy, Idaho Power, or PacifiCorp East control areas.

significant transmission constraints or with state borders. Many monitored transmission paths in the Northwest involve a combination of ownership by multiple utilities and allocation of associated capacity. While Bonneville recognizes that tradeoffs in zonal model topology are necessary, the Council's current zonal topology introduces distortions that may misrepresent physical realities of regional power flows and existing grid constraints, including:

- **Misalignment with Physical Constraints:** The most significant existing east-to-west transmission constraints impacting western Montana, northern Idaho, and northeastern Washington are Montana–Northwest (MT-NW) (WECC Path 8<sup>12</sup>) and West of Hatwai (WECC Path 6). There is not an existing transmission constraint that corresponds directly to the Washington–Idaho border. MT-NW has higher observed and forecasted congestion than West of Hatwai. The Northwestern Energy balancing authority area is electrically east of MT-NW. The Bonneville and Avista balancing authority areas are electrically west of MT-NW. They include facilities that are effectively parallel. However, Figure 4-2 suggests that the Bonneville Idaho-Montana zone has been approximated as in series with the Avista zone in the draft Ninth Power Plan.
- **Overstatement of Marginal Price Differences:** All the Bonneville public power loads in northern Idaho and most of the Bonneville public power loads in western Montana are located electrically west of the MT-NW transmission constraint. Therefore, Bonneville expects a more granular hourly nodal production cost modeling analysis would project much more similar locational marginal prices for loads on opposite sides of the Washington/Idaho border. There are also substantial amounts of non-emitting resources that could be delivered across the borders to Washington and Oregon loads.

The impact of these distortions is to inflate the difference between the modeled value of conservation in Washington and Oregon relative to conservation opportunities in Idaho and Montana.

Furthermore, treating this geographic disparity as static overlooks how upcoming regional grid reinforcements will reshape power flows and relieve west-side congestion over the multi-decade life of these conservation measures. This effect is visible in Figure 4-2,<sup>13</sup> where planned transmission reinforcements interact with load and resource changes. Additional major transmission reinforcements are planned in the Pacific Northwest, which will mitigate transmission constraints in the future. However, the Council's modeling does not include all of these projects. While Table 3-5<sup>14</sup> includes one of Bonneville's planned reinforcements, the Cross Cascades North upgrade from Bonneville's Grid Expansion and Reinforcement Portfolio (GERP) 1.0, it does not appear to include the GERP 2.0 projects. Bonneville's additional GERP 2.0 projects would add significant capacity increases between central and western Washington with target energization in the mid-2030s. This includes replacing the existing line between Grand Coulee, Schultz, and Olympia with a much higher capacity 500-kV line.<sup>15</sup>

There may be opportunities to explore co-optimization of transmission reinforcement and targeting conservation, but that should include nodal transmission analysis and more precise locations than state level.

Additional points targeted to assumptions:

1. **Alignment with WestTEC's 10-Year Expansion Plans<sup>16</sup>:** While WestTEC served as a reasonable, readily available source of information for the Council's analysis at the time, its reliance on external assumptions means the Council's model depends on inputs outside its direct analytical control. Moving forward, a key opportunity for planning would be to better align the zonal model links in the Council's model with the expected transmission

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<sup>12</sup> [wecc.org/sites/default/files/documents/progress\\_report/2026/2026\\_Path\\_Rating\\_Catalog\\_Public\\_V3.pdf](https://wecc.org/sites/default/files/documents/progress_report/2026/2026_Path_Rating_Catalog_Public_V3.pdf)

<sup>13</sup> Plan at 94

<sup>14</sup> Plan at 88

<sup>15</sup> [GERP-2.0-Project-Summaries.pdf](#)

<sup>16</sup> [westernpowerpool.org/private-media/documents/WestTEC\\_10-year\\_Full\\_Report.pdf](https://westernpowerpool.org/private-media/documents/WestTEC_10-year_Full_Report.pdf)

capacities from WestTEC’s 10-year cases. These 10-year cases generally account for significant regional expansions, including Bonneville’s GERP and proposed developments from other utilities, providing a more reliable baseline for regional transmission capabilities.

- 2. **Advanced Transmission Technologies and Technical Limitations:** The Council notes that advanced reconductoring, dynamic line ratings (DLR), topology optimization, and advanced power flow controls were not explicitly modeled in the draft Ninth Power Plan, assuming instead that they are embedded in WestTEC’s figures. In practice, utilities like Bonneville evaluate advanced conductors on a case-by-case basis, including potential application on select GERP reconductoring projects, rather than relying on generalized assumptions. Furthermore, while advanced conductors and DLR offer capacity benefits (DLRs can also decrease capacity benefits based on geographical topology and system configuration), they do not resolve fundamental system stability limits (such as West of Cascades North in winter or Montana–Northwest stability constraints) and can inadvertently shift congestion to underlying parallel infrastructure if not paired with asset-level planning.
- 3. **Scenario Flexibility and Last-Mile Integration:** The Council relies on three discrete buildout scenarios: Existing System, Transmission Plus, and Transmission Max. While this framework offers a useful high-level comparison, it does not fully reflect non-linear transmission dynamics, partial project implementation, staggered delays, or localized bottlenecks when individual lines are delayed. Additionally, ensuring power moves from generation sources to ultimate sinks requires last-mile infrastructure alongside regional high-voltage transmission. Recognizing that the Council is not a transmission planning entity, regional transmission providers remain interested in collaborating to help identify realistic, pragmatic ways to incorporate these granular operational and delivery considerations into future modeling

## Additional Comments

In the table below, Bonneville offers supplemental targeted commentary on specific content within the draft plan that we ask the Council to consider as it finalizes the Ninth Power Plan.

| Chapter                                                   | Page # | Line #      | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------|--------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Introduction                                              | 4      | 6-9         | BPA proposes changing the sentence to: "Should the need arise for Bonneville to acquire <b>generating</b> resources beyond conservation to meet its <b>long-term contractual</b> obligations, the Ninth Plan provides recommendations that Bonneville pursue <b>a portfolio approach, prioritizing</b> renewables to support energy needs and <b>assessing</b> the cost-effectiveness between storage and natural gas in meeting capacity needs." This edit more closely aligns with the recommendations to Bonneville contained in RES-1, BPA-5, and BPA-6. It also more closely aligns with the Northwest Power Act, which authorizes BPA to acquire resources to meet (not exceed) its contractual obligations.                                                                                                                                                                                                        |
| CH 1: Northwest Power Act Requirements                    | 11     | Footnote 13 | Bonneville has some discretion when implementing the Council Plan Conservation program. Section 6a1 says, "BPA shall acquire [such conservation resources] as the Administrator determines are consistent with the Plan." Section 6(b)(1) says "The acquisition of resources under this Act shall be consistent with the Plan as determined by the Administrator." Section 6(b)(2) says "the Administrator may acquire resources under this Act which are not consistent with the Plan but which the Administrator determines to be consistent with the section 4(e)(1) priorities and considerations of section 4(e)(2) - the general scheme for implementing conservation measures and developing resources in the Plan." We understand the Council is abridging statutory text here and elsewhere in the plan. We note the role for BPA Administrator determinations, e.g., in Sections 6(a)(1), 6(b)(1), and 6(b)(2). |
| CH 1: Northwest Power Act Requirements                    | 14     | 5-7, 14-15  | BPA suggests the following changes to account for 1) BPA's short-term purchase authority under the Transmission System Act S. 11(b)(6), and 2) the distinction that a resource acquisition authorized under S. 6(d) of the Northwest Power Act is not tied to need or the Council's Power Plan:<br><b>Lines 5-7</b> - " <b>In general, as</b> Bonneville acquires resources <b>on a long-term basis</b> , it must do so in a manner consistent with the Council's current plan, as determined by Bonneville, and with several exceptions that still tie Bonneville to the power plan standards."<br><b>Line 15</b> - "...Bonneville must <b>generally</b> acquire <b>long-term resources</b> , including conservation, consistent with the Council's plan."                                                                                                                                                               |
| CH 3: Future Electricity Needs and New Resource Portfolio | 40     | 3-7         | Market purchases may be the most cost-effective option to serve load, particularly in organized markets and resource adequacy programs that will help eliminate friction and reduce risk of overreliance on the market. As such, Bonneville suggests adding the following: "This recent exposure to increased market prices, and particularly the increased volatility of market prices, is changing utility resource decisions. <b>While wholesale market-based price volatility can be mitigated with industry-standard risk tools</b> , utilities have been planning for the development of more resources and reducing their reliance on the market. The extreme weather events experienced in the last five years have further heightened utility interest in reducing market reliance. The Council was mindful of this risk when developing the resource strategy included in Chapter 4 of this Plan."              |
| CH 3: Future Electricity Needs and New Resource Portfolio | 57     | Figure 3-6  | Bonneville recommends adding a note that this forecast is applicable to the portion of the region not served by Bonneville. Today, Bonneville serves about 100 aMW of large data center load, mostly in Seattle and Umatilla Electric Co-op service areas. Figure 3-6 does not represent the Bonneville data center load obligations in the region.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CH 3: Future Electricity Needs and New Resource Portfolio | 62     | Figure 3-11 | To enhance clarity and provide a more holistic view of regional load dynamics, Bonneville recommends integrating the individual forecast components into a unified summary that displays projected demand growth broken out by sector. While data center expansion has understandably received significant focus, contextualizing this growth alongside broader trends—such as building and transportation electrification—would provide valuable perspective. Because similar sectoral breakdowns already appear in the technical appendices, elevating these visuals into the main narrative would make the forecast significantly more accessible and cohesive.                                                                                                                                                                                                                                                        |

| Chapter                                                      | Page # | Line #               | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| CH 3: Future Electricity Needs and New Resource Portfolio    | 71     | 3-7                  | <p>The Council optimizes its model utilizing forecasted loads and resources and resource availability in 2046, 20 years in the future. Any forecast error on resource cost distributions will introduce error to the Council's final optimized price and avoided cost of conservation. The difficulty in forecasting decades into the future is exacerbated by the fact that uncertain emerging technology comprises a large proportion of available conservation supply in 2046.</p> <p>The Council states that the “the Ninth Plan identifies over 6,700 aMW of potential new conservation...” including “1,900 aMW of emerging technologies.” Bonneville recommends the Council carefully consider the amount of emerging conservation technology resources modeled by the Council that end up as part of the full 20-year resource strategy given the model-specified avoided cost. Specifically, if a large amount of emerging technology resources is selected when the avoided cost is applied over 20 years, this indicates uncertainty in the final avoided cost of conservation being identified by the Council through modeling efforts. It suggests the Council should be prudent regarding the final avoided cost it selects and the degree to which that avoided cost deviates from the modeled avoided costs. Notably, the avoided costs selected by the Council are very different from the model results, which runs contrary to this suggestion.</p> |
| CH 3: Future Electricity Needs and New Resource Portfolio    | 71     | 7-10                 | <p>These values could be more aptly described as lifetime levelized cost values. A lay reader could interpret what is written as first-year installed costs. Please confirm the Council's intent.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 90-91  | p.90, 26-<br>p.91, 2 | <p>While the Council's analysis and process indicate that a broad range of resources are likely needed by 2032, the modeling showed a wide range of selected resource amounts based on the sensitivity and conditions modeled. We recommend revisions to the text below to more clearly articulate that the regional strategy the Council included in the plan is ultimately a decision the Council members make and not a direct result of any modeling results or engagement with regional SMEs.</p> <p>"The Council used the analysis from the 13 sensitivities, as well as insight from the Council's advisory committees and other regional experts, to develop the Ninth Plan resource strategy. The results of this analysis and process <del>show indicate</del> that the region needs a broad range of resources by 2032,<del>including-</del> Based on these insights, the Council recommends a regional strategy that comprises 1,060 average megawatts of conservation, 590 megawatts of demand response, 220 megawatts of voltage regulation, 9,000 megawatts of renewables, 5,200 megawatts of storage, and 2,100 megawatts of natural gas."</p>                                                                                                                                                                                                                                                                                                         |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 92     | 1<br>(Figure 4-1)    | <p>The model ran with 10 futures but displays results for the 13 sensitivities. Please provide an explanation as to how the results for the 10 futures were translated into resource builds across 13 sensitivities. An explanation or visual might better communicate the Monte Carlo(ish) features of this analysis as it can be difficult to understand 1) the combinations and permutations of scenario characteristics run by the Council and 2) how well the scope of those scenarios reflects the underlying uncertainty in input metrics such as elements of the load forecast, climate, etc.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CH 4: Action Plan: Resource Strategy &                       | 94     | 1<br>(Figure 4-2)    | <p>Figure 4-2 shows a notable increase in the levelized cost bin for PAC West by 2046. Please explain what specific modeling factors drive this result. Is the increase primarily attributable to transmission constraints, renewable siting limitations, clean-energy policy requirements, load growth</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Chapter                                                      | Page # | Line #                     | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------|--------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other Recommendations                                        |        |                            | assumptions, depletion of lower-cost conservation potential, or another factor? Given the notable spike for PAC West, additional explanation may help readers understand what cause is compared to the other zones.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 98     | 1-17                       | The Plan indicates that two tests were run to ascertain the sensitivity of the model to data center load additions. One test was interested in data centers 'bringing their own generation' and one test looked at reduction of data center load entirely. The primary finding noted here is that conservation selection was relatively unchanged and that storage was more heavily impacted by these two modifications to the model runs. First, data centers represent only one of three sources of highly speculative load growth and so their removal from the forecast is not a sufficient proxy for a scenario without speculative load growth. Second, while this section references the analysis performed and includes high-level takeaways, it does not present the results or discussion of how the Council integrated the results of this analysis with other model results to produce a resource strategy. Showing the results of this analysis as well as the consequent logic regarding the impact of these "sensitivities" on final selected avoided costs in the resource strategy would be a valuable discussion for a reader of the plan. |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 98-99  | p.98, 24 – p.99, 10(RES-1) | None of the OR/WA modeling zones show purchases of conservation at \$150/MWh in 2032 in Figure 4-2, and none of the ID/MT zones show such purchases at \$70/MWh. Same comment for Idaho and Montana. The Council should explain the origins of these numbers selected by the Council in order to clarify intent and how the Council is weighing the risks resulting from model runs and consequent study results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 99     | 7-8                        | The plan states that “The Council developed this dual target approach to represent the cost-effective differences between the west and east sides of the region.” These regional differences are driven largely by the Council's analysis of T&D deferral values which are based on highly divergent T&D deferral values from across the region. This text would be more accurate if it discussed the methodology for establishing the T&D deferral values and what values were considered or not considered when calculating the East-of- and West-of-Cascades T&D deferral values. This was discussed during a Demand Response Advisory Committee (DRAC) over a year ago, but detailed discussion of this approach has not been included in the draft plan. Discussion of the origin of one of the primary drivers for the novel findings of the Ninth Power Plan (the dual conservation target) would be helpful in providing support for the dual target proposed by the Council.                                                                                                                                                                        |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 99     | 8-10                       | The plan states that “accounting for these differences ensures regional resource adequacy with a lower cost portfolio than otherwise required through the historical single target approach.” This assertion is not supported by analysis. The power plan conservation supply curves do not accurately account for all impacts and costs of implementation of a dual target. The plan does not include additional incremental costs for implementing the dual target, which should be considered in discussions and analysis of the target's net cost reduction. The Council should delete this sentence from the plan as it is not accurate based on the Council's analysis in Appendix Q.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 99     | 8-10                       | In Appendix Q, the Council states "Under a single target, this amount is less"(Appendix Q, page 12). This is inconsistent with the Council's quoted statement on page 99 of the plan (“Accounting for these differences ensures regional resource adequacy with a lower cost portfolio than otherwise required through the historical single target approach”). The plan does not present or discuss analysis to support a retroactive understanding of the relative value of a single or dual target in the current plan or past plans. In the draft Ninth Power Plan, the Council presented an inadequate version of a single target as analogous to the dual target with the exception that the Council's articulated single target does not pass all adequacy criterion.                                                                                                                                                                                                                                                                                                                                                                                 |

| Chapter                                                      | Page #  | Line #                            | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                              |         |                                   | The Council has not assessed comparable costs between a resource strategy utilizing a dual and single target. As such, this statement should be amended to reflect the character of the analysis conducted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 105-106 | p.105, 11-<br>p.106, 2<br>(BPA-1) | The draft plan identifies cost effectiveness thresholds of \$150/MWh in OR and WA and \$70/MWh in ID and MT. These numbers are not reflective of the modeled findings displayed on page 94, which range mostly from \$40-\$70/MWh. We request that the Council clarify the analytical basis used to establish these higher thresholds, as this is not currently covered in the draft plan and was not presented during public meetings. Specifically, we recommend that the Council add an in-depth discussion in the main body of the plan document of how it arrived at these costs, especially given how much emphasis it has placed on these specific values.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 105-106 | p.105, 11-<br>p.106, 2<br>BPA-1   | The Council implicitly assumes load growth will follow existing load service obligations in a roughly proportional way in their assignment of conservation to Bonneville. Given the role of data centers, EVs, and hydrogen in driving regional growth (75% of all load growth in the region by the end of the Council's study) and Bonneville's rate structure, this assumption seems extremely speculative when considering obligations that Bonneville or its customers may encounter. Pro rata apportionment (the Council's current approach to calculating the Bonneville conservation target based on load share) of conservation seems anachronistic and inappropriate given load growth driven by these uneven and rate-tied drivers of growth. The Council should reconsider its approach to apportioning the region's conservation target and explore methodologies that more appropriately reflect load service obligations. Additionally, the Council should provide a full explanation of the methodology adopted and a rationale for why it was chosen.                                                                                                                                                                                                                                                                    |
| CH 5: Conservation Program                                   | 106     | 1-2                               | Bonneville utilizes a portfolio-level cost effectiveness test to determine whether its portfolio is meeting its cost effectiveness targets. This allows Bonneville the flexibility to maintain a diversity of measure offerings that our customers can leverage as they procure conservation across the region. This is beneficial because our >140 customers across 7 states vary in their load composition and potential distributions and so require a diversity of measures they can implement. This portfolio-level cost effectiveness approach to understanding the cost of a portfolio is not unique to Bonneville; indeed, other parts of the region like Oregon also utilize this approach to understand their own portfolio cost effectiveness. We maintain >140 customers across 7 states who all face different constraints and ability to invest in conservation and this approach allows us to offer a conservation program that serves everyone. We encourage the Council to consider the diversity of the utilities that the power plan impacts and the benefits of a portfolio-level approach to evaluating cost effectiveness moving forward. Further, Bonneville encourages the Council to make this reference to portfolio cost effectiveness more clear and direct, as its current wording could be easily misread. |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 106     | 3-7                               | Since 2022, the RCP has screened reported savings from Bonneville and its customers at the measure level for cost effectiveness, removing 16% of reported savings from the total savings counted toward the Council's target. Bonneville urges the Council to accurately reflect the regional conservation achievements and investments by not applying this cost-effectiveness screen at the measure level, and instead count the full scope of savings Bonneville has acquired towards the target. Bonneville's portfolio overall is cost effective and all savings should count toward the target so long as Bonneville's portfolio remains cost effective as a whole.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Chapter                                                                                    | Page # | Line #        | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| CH 4: Action Plan: Resource Strategy & Other Recommendations                               | 106    | 3-7           | Bonneville notes that previously, the 90% programmatic floor was intended to apply to programmatic and non-programmatic savings to address a potential excess in momentum savings. As written, this text refers directly to cost-effective savings but does not identify specifically whether those savings are screened at the measure level for cost effectiveness. This verbiage is vague and does not clarify the way in which the cost-effectiveness test will be applied. Bonneville recommends that the Council edit this text to read as follows: "The Council recommends that Bonneville plan to acquire at least 90% of the conservation target from programmatic savings. This includes savings currently funded through Bonneville's program (whether via the Energy Efficiency Incentive or self-funded utility contributions), as well as savings apportioned to Bonneville by NEEA." BPA appreciates the clarification from Council staff on its statement that, "Of the cost-effective conservation, the Council recommends that Bonneville plan to acquire at least 90% of it from cost-effective conservation programmatic savings," and welcomes the fact that the Council does not intend this statement to suggest it plans to apply an additional measure level screening process to the savings reported. BPA urges the Council not to apply any such screen regardless of the target structure it ultimately adopts. |
| CH 4: Action Plan: Resource Strategy & Other Recommendations                               | 106    | 15-40 (BPA-2) | <p>We appreciate the Council's interest in Bonneville's conservation program structure. However, we encourage the Council to reconsider recommendation BPA-2 regarding the modernization of Bonneville's conservation funding and administrative framework.</p> <p>Throughout extensive engagement—most notably the comprehensive Provider of Choice process—neither Bonneville nor its preference customers identified the existing funding and program delivery model as inadequate or in need of structural revision. On the contrary, the consensus across public power affirmed that the current framework is operating effectively and meets customer needs. Bonneville's final decision in the Provider of Choice Policy ROD aligns with this consensus.</p> <p>Decisions regarding Bonneville's operational structures, administrative allocations, and billing/funding mechanisms are business and contractual matters appropriately managed directly between Bonneville and its customer utilities. Any administrative alterations carry real impacts on utility capacity, funding predictability, and program continuity. Because the existing model is functioning well and enjoys broad regional support, external restructuring recommendations are unnecessary and risk diverting critical administrative capacity away from actual program delivery.</p>                                                                     |
| CH 4: Action Plan: Resource Strategy & Other Recommendations                               | 106    | 30-31         | BPA-2 recommends that Bonneville consider "changes to funding necessary to support this approach (i.e., avoid cross-subsidization)." Bonneville's program structure and rate integrated design was built in partnership with Bonneville customers and has been reaffirmed through the Provider of Choice ROD. Bonneville considers the current framework settled and appropriate for continuing operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CH 4: Action Plan: Resource Strategy & Other Recommendations for Bonneville and the Region | 106    | 34-37         | BPA-2 recommends that "Bonneville should use the first two years of the Action Plan to work with the Council and customer utilities to identify and develop necessary changes to support implementation of this dual target under the new ECAs starting FY29." Absent a compelling justification and reasonable analysis, Bonneville does not expect to alter its program structure at this time. The Action Plan and ECAs are Bonneville processes used to guide internal planning for what is feasible for Bonneville and its customers to accomplish. The Council conducts other processes such as the RCP and the power plan. Some of these processes are inter-reliant in terms of leveraging data or parameterizations produced by other analyses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|                                                              |         |                             | Bonneville intends to conduct ECA renewals and the Action Plan in partnership with its customers and stakeholders to ensure that the conservation program continues in a robust form that can support the region's energy needs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 107     | Footnote 113                | The region's IOUs chose not to sign the new Provider of Choice power sales contracts. Thus, through 2044 they will have no access to firm Bonneville power and energy. They cannot request any type of firm service from Bonneville. This was a one-time opportunity. The POC contracts do not provide second chances for the IOUs (and Chelan County PUD and Douglas County PUD). This footnote should be substantially revised and corrected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 107     | 1-14 (BPA-3)                | BPA offers clarifying edits “Bonneville will provide up to 7,250 average megawatts at a Tier 1 rate. Customer utilities <b>had</b> until late July 2026 to sign up for <b>service at</b> a Tier 2 <b>rate</b> . Investor-owned utilities and utilities with new large single loads also can request service from Bonneville, which it would provide at a New Resource rate. <b>As of this writing, Bonneville has not received any requests to serve an investor-owned utility or new large single load during the Provider of Choice period, so</b> the Council is unable to determine the full power sales obligation <b>that may exist during the Ninth Power Plan.</b> ”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 108     | 26                          | Bonneville requests to replace "rapid" with “efficient” so it reads: "Prepare for <b>efficient</b> resource acquisition." Bonneville will comply with its statutory obligations when acquiring resources, including procedural requirements with their own intrinsic timelines. The term "rapid" may create unrealistic expectations about the speed at which Bonneville can move in these decisions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 108     | 30-34                       | Bonneville requests to strike the second sentence that says, "This includes establishing clear guidelines around when and how to trigger a 6(c) process under the Northwest Power Act if necessary." Bonneville is fully supportive of working with the Council and regional entities to establish a resource acquisition process in advance of need and has committed to transparency of such. However, Bonneville is concerned with the second sentence. Bonneville interprets section 6(c) of the Northwest Power Act to provide flexibility to determine the existence of a “proposal to acquire a major resource.” Bonneville and the Council are undertaking a review of the 6(c) Policy, but the current language is consistent with how Bonneville envisions a 6(c) process triggering. The 6(c) Policy states: "The existence of a proposal, and when to initiate a section 6(c) hearing process on the proposal, will be determined by the Administrator. This determination will take into account, among other criteria, the existence of sufficient information concerning a proposed future resource action such that the proposal's compliance with statutory requirements and its consistency with the Council's Plan can be adequately assessed." |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 109-110 | p.109, 34 – p.110, 3 (DC-2) | Some utilities are claiming savings at data center facilities, but data centers are using those savings to add additional computation, resulting in no net energy savings. The Council should consider whether to comment on if and how energy savings should be evaluated in data centers. Given their growing prominence, the Council could consider a regional discussion of moral hazard with respect to data center power consumption and conservation investment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CH 4: Action Plan: Resource Strategy &                       | 114     | 33-42 (R&D-4)               | There is evidence that newer data centers have caused large swings in loads in very short time frames, potentially destabilizing the grid. While the Council acknowledges data centers as a major source of uncertainty (p. 107), super intelligence (SI) driven data centers are rapid, lumpy, and highly locational growth. Without having more specific knowledge about data centers' impacts to the system, growth is socialized on the broader                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| Other Recommendations                                        |         |                                    | regional system and ratepayers. Bonneville suggests that the Council consider the likelihood of more lumpy and variable loads (in contrast to block loads) from SI data centers in the region.                                                                                                                                                                                                                                                                                                                                                                                    |
| CH 4: Action Plan: Resource Strategy & Other Recommendations | 116     | 27-41 (R&D-10)                     | Bonneville's conservation acquisition program is governed by internal financial policies and requirements. Approaches to financing Bonneville's conservation program will be evaluated and determined as financially appropriate or not appropriate by Bonneville.                                                                                                                                                                                                                                                                                                                |
| CH 5: Conservation Program                                   | 122     | 17                                 | Recommend clarifying that these annual milestones are cumulative.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CH 5: Conservation Program                                   | 125     | p.125, 16-<br>p.126, 14<br>(CON-4) | Bonneville has limited ability to impact the supply chain for products incented within its conservation program. While there are certain spaces where Bonneville has control (the types of products incented, the amount of incentive, investment in emerging tech demonstration, etc.), Bonneville, in large part, is not able to influence consumer product or industrial markets. While Bonneville appreciates the need to reduce costs, this section could benefit from a discussion of the limitations of utilities in answering this question of how to reduce costs.       |
| CH 5: Conservation Program                                   | 129-130 | p.129, 27-<br>p.130, 9             | Bonneville supports the Council's intent in MCS-1. Presently, there is no evaluation of the cost effectiveness of any of the proposed elements of MCS-1. Instead, MCS-1 simply states it is "3% better than the 1.24 PUE voluntary ASHRAE 90.4 performance standard." As MCSs require a cost-effective test component in order to implement them, this MCS is at present not consistent with the Council's own definition of an MCS. While Bonneville supports the Council's intent in this MSC, MSC-1 should be converted to a recommendation for the entire region to consider. |
| CH 5: Conservation Program                                   | 130     | 10-23 (MCS-2)                      | This MCS should be reframed as a recommendation. The Council's supply curve workbooks contain no retrocomissioning measures, although they do note that heat pumps should be "properly sized" and that installation practices could be improved. Without a specific retrocomissioning measure, there is no evidence regarding this practice's cost effectiveness (particularly given the constrained nature of contractors in this space and the diversity of heat pump systems and their relative cost effectiveness).                                                           |
| Appendix A: Global Assumptions                               | 5-6     | Tables A-2, A-3, A-4, A-5          | It appears several items were mislabeled. Please confirm: row 7 in Table A-2 should be Commercial, not Residential; in Table A-3, Residential should be Industrial; in Table A-4, Residential should be Agricultural, and in Table A-5, Residential should be Utility.                                                                                                                                                                                                                                                                                                            |
| Appendix B: Existing Parameters/Policies                     | 7       | Table B-2                          | Please explain why the operating coal and converted coal nameplate capacity values in Table B-2 do not match the source data in Table B-1.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Appendix B: Existing Parameters/Policies                     | 10      | Geothermal Section                 | Consider noting that there are several geothermal-heated district heating systems in the region, e.g., downtown Boise and Klamath Falls. Further, there are several successful, efficient, and effective non-industrial co-generation/CHP district heating systems in the region. For example, at the UW and University of Oregon, downtown Seattle, Bremerton Naval Shipyard, Fort Lewis and elsewhere. Co-generation/CHP is not limited to industrial sites. While these are not electric generation systems, they do represent an efficient use of geothermal energy.          |

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| Appendix E: Fuels Forecast                 | 6-7    | p. 6, 22 & p.7 8-9       | Page 7, lines 8 & 9, states that LNG Canada at 100 BCF/year is much larger than the Woodfibre LNG project. However, page 6, line 22, states that Woodfibre is 675 BCF/year. Please explain this inconsistency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Appendix F: Electricity Demand Forecast    | 5      | Figure F-3               | Please review the map of the load forecast zones; there appear to be errors (e.g., almost all of Okanogan County is in the DOCOPUD BA, not the BPA BA). Bonneville maintains a public GIS website with data on customer service territories that may be helpful.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Appendix F: Electricity Demand Forecast    | 34     | 3-4                      | Bonneville recognizes the Council conducts the power plan under the assumption that state level policies will be implemented with broad compliance. However, Bonneville notes that certain sources of load in the load forecast such as EVs are heavily impacted by these assumptions. While it is admirable to assume all policies are successfully implemented, the Council should consider leveraging its sensitivity/scenario approach to test the impact of some of these policies. This would position the plan with a more realistic approach to understanding the required resource build, which could result in fewer financial consequences should load dependent on state policies fail to materialize.                                                                                                                                                                                                                                                                                                                     |
| Appendix F: Electricity Demand Forecast    | 45     | 16                       | It appears the in-text reference to this figure is mislabeled. Please confirm that the text should refer to Figure F-33, not Figure F-32.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Appendix G: New Generating Resources       | 8      | 5                        | The Council should consider the applicability of a transmission capacity cost for batteries. Large batteries can require new high-voltage transmission lines and substations and dedicated transmission capacity. Some of the transmission service requests in the Bonneville queues are from developers of proposed large batteries. New transmission infrastructure is a regular requirement for interconnecting a large new battery to the grid. Excluding the cost of transmission capacity may result in batteries appearing artificially less costly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Appendix G: New Generating Resources       | 8      | 6-9                      | A discussion of the wheeling costs that the Council assumed would be helpful in this section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Appendix G: New Generating Resources       | 73     | 1<br>(Table G-29)        | It may be helpful to illustrate gas plant fuel costs here.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Appendix G: New Generating Resources       | 106    | 3-5                      | It could be helpful to readers to describe the recent annual pace of regional annual resource builds and compare that with the Constrained World resource builds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Appendix H: Conservation Methods/Potential | 8-9    | p. 8, 31-33<br>p. 9, 1-9 | The Council's transmission deferral value is applied zonally within the model, meaning that all conservation investments in a given zone receive the corresponding T&D deferral value regardless of their nodal position on the grid. Loads require load service and the lines that need to be built to serve load still need to be built. Incremental changes in load provided by conservation will not necessarily have incremental impact on T cost and would only serve to delay costs if costs were deferred at all. In a world where significant load growth is expected from block shaped sources (e.g., data centers), the incremental savings from conservation will have limited impact on T&D deferral savings as lines will still need to be sized for the approximately continuous draw of those block loads. As such, a discussion of the dimensionality of the T&D deferral value and the limits of its applicability to reality are necessary to help clarify and qualify some of the geographic findings in the plan. |

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| Appendix H: Conservation Methods/Potential                 | 17-18  | p.17, 25 – 30 – p.18, 1-5        | The Council is omitting Residential Behavior from the Ninth Power Plan, which can be a real and cost-effective resource. These savings should be studied and characterized similarly to other conservation resources.                                                                                                                                                                                                                                                                                                                                                                                                  |
| Appendix I: Demand Response Methods/Potential              | 9      | 1<br>(Table I-5)                 | Bonneville recommends a footnote that Bonneville has customers and loads in all 17 Modeling Zones.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Appendix I: Demand Response Methods/Potential              | 37     | 3                                | The Council should include some of this page 37 text on page 24. It would help the readers understand the surprisingly low ERWH DR potential and high HPWH DR potential in Table I-11 (page 24). Unlike the draft plan, Bonneville DR potential assessments do not assume that ERWHs will be replaced with HPWHs. Bonneville still expects strong ERWH DR potential in its service area.                                                                                                                                                                                                                               |
| Appendix J: Rooftop Solar Methods/Potential                | 9      | 10<br>(Table J-7)                | Please explain why the system sizes by state are so different in Table J-7 versus the derated system sizes in Table J-5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Appendix M: Needs Assessment Results                       | 5      | 4-18                             | It appears this unit was mislabeled. Please confirm it should be 9,600 MWh, not 9,600 MW.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Appendix M: Needs Assessment Results                       | 15     | 11<br>(Table M-6) and Footnote 8 | Please explain why the market resources in Table M-6 so greatly exceed the Ninth Power Plan market limits. A more robust discussion of how the values in the table relate to the Ninth Power Plan market limits would help contextualize this table for the reader.                                                                                                                                                                                                                                                                                                                                                    |
| Appendix M: Needs Assessment Results                       | 15     | 11<br>(Table M-6)                | Please add a discussion about why demand-side resources do not contribute to the resources in the Load Resource Balance. A discussion of this modeling choice would help the reader better understand the Load Resource Balance and how to interpret it in the context of the plan.                                                                                                                                                                                                                                                                                                                                    |
| Appendix M: Needs Assessment Results                       | 21     | 4-6                              | Please explain why the maximum monthly percentage applied to every month, including the months with no firm energy adjustment needs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Appendix O: Cost Effectiveness Conservation Method/Results | 5      | 1<br>(Figure O-1)                | Bonneville believes the Council's market price forecast is too low. Bonneville's current market-based Tier 2 product pricing is approximately \$70/MWh and current futures for MidC are between \$50 and \$60/MWh. The Council should either review and update these values or explain how it arrived at the quantities being used.                                                                                                                                                                                                                                                                                    |
| Appendix O: Cost Effectiveness Conservation Method/Results | 5      | 3-17                             | Bonneville recommends the Council examine this section to ensure it is consistent with industry approaches to calculating these metrics. The explanation for the calculation of the deferred resource capacity credit seems inconsistent with the definition of conservation avoiding costs and suggests costs and benefits are not considered on an apples-to-apples basis. When utilities use debt to acquire supply-side resources, as discussed in R&D-10, they do not "invest now." The described calculation methodology also seems to ignore the typical assumption that conservation measures are reinstalled. |

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| Appendix Q: Analysis of Dual vs Single Target for Conservation | 3      | 29-31  | The draft plan states “This analysis showed increased value for conservation to defer T&D on the west side of the region compared to the east side of the region.” This statement is not consistent with the Council's derivation of the T&D deferral values applied in modeling. T&D deferral values were calculated East-of- and West-of-Cascades (not along state lines as implied by this statement). Also, T&D deferral may be of limited actual value given the magnitude of the demand side resource compared to the magnitude of forecasted load growth. Incremental reductions (from conservation investments that may receive the T&D deferral value adjustment) have almost no value in the face of rapid flat load growth presented by data centers or similar loads. This analysis also presupposes load growth will be proportional in the East-of and West-of Cascades spaces. This has not proven to be the case with much of the data center growth forecasted on the east side of the cascades. Bonneville recommends removing or qualifying this statement to reflect the underlying drivers of any price differential to provide a more complete discussion of this topic for the reader. |