Service Date: December 20, 2017

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

IN THE MATTER OF NorthWestern Energy's December 2015 Electricity Supply Resource Procurement Plan	)))	REGULATORY DIVISION DOCKET NO. N2015.11.91

MONTANA PUBLIC SERVICE COMMISSION SUPPLEMENTAL COMMENTS IN RESPONSE TO NORTHWESTERN ENERGY'S 2015 ELECTRICITY SUPPLY PROCUREMENT PLAN

APPLICANT:

NorthWestern Energy
11 East Park, Butte, Montana 59701

COMMENTERS:

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GB Energy Park
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Montana Environmental Information Center
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Renewable Northwest
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BEFORE:
Brad Johnson, Chairman
Travis Kavulla, Vice Chairman
Roger Koopman, Commissioner
Bob Lake, Commissioner
Tony O'Donnell, Commissioner

BACKGROUND

1. NorthWestern filed its 2015 Electricity Supply Resource Procurement Plan ("2015 Plan") with the Montana Public Service Commission ("Commission") on March 31, 2016, pursuant to Mont. Code Ann. §§ 69-8-419 to -420 and Mont. Admin. R. 38.5.8201, *et seq*.

2. The Commission noticed receipt of the 2015 Plan on April 21, 2016, and scheduled a public meeting for June 9, 2016, to allow interested parties an opportunity to comment on the plan. The Commission accepted written comments on the plan through August 19, 2016.

3. At the public meeting of June 9, 2016, oral comments were provided by the Montana Consumer Counsel ("MCC"), Absaroka Energy, Montana Environmental Information Center ("MEIC"), Northwest Energy Coalition, and Renewable Northwest. The Commission received written comments from MCC, Absaroka Energy, Montana Department of Environmental Quality ("DEQ"), Hotrock Energy Research Organization, MADA Power, LLC ("MADA"), MEIC, Montana Chapter of the Sierra Club ("Sierra Club"), and the general public.

4. On January 10, 2017, the Commission hosted an informational meeting with Accion Group, a consulting firm hired by NorthWestern to facilitate a request for proposal ("RFP") process. Accion provided information on various aspects of its role as an independent, third-party administrator of the RFP process.

5. On February 2, 2017, the Commission issued written comments identifying concerns with the 2015 Plan ("Commission Comments"). The Commission identified deficiencies in several areas of the 2015 Plan. In particular, the Commission expressed skepticism that the 2015 Plan adequately justifies the preferred resource additions identified in the plan. The Commission delayed the deadline for NorthWestern to file its next plan by one year and instructed NorthWestern to file written status reports every six months describing its efforts to improve its stakeholder process and validate the conclusions in the 2015 Plan.

6. On June 8, 2017, the Commission held a Technical Conference on Capacity Planning and Resource Adequacy ("Capacity Technical Conference"). The purpose of the Capacity Technical Conference was to allow the Commission and interested parties to develop a better understanding of resource adequacy and capacity analysis, evaluate regional resource availability and interconnection dynamics, learn about emerging technologies and practices in flexible resource management, and facilitate discussion of the concerns identified in the Commission Comments. Capacity Technical Conference attendees included representatives from NorthWestern, the Commission, MCC, Energy +Environmental Economics ("E3"), Absaroka Energy, Energy Keepers, Invenergy, MADA, Morgan Stanley Commodities, Northwest Power and Conservation Council ("NPCC"), Regulatory Assistance Project, and West Power.

7. On August 1, 2017, NorthWestern filed its first status report. On August 22, 2017, the Commission noticed receipt of the status report and provided an opportunity for interested persons to submit comments on the report. The Commission received written comments from 350 Montana, Absaroka Energy, Concerned Citizens of Montana, EnerNOC, Friends of 2 Rivers, Montana Renewable Energy Association, MEIC, DEQ, Sierra Club, NPCC, NaturEner, Northwest Energy Coalition, Renewable Northwest, Talen Montana, and several dozen comments from the general public. On November 15, 2017, the Commission accepted written comment from Rocky Mountain Power, LLC.

COMMISSION SUPPLEMENTAL COMMENTS

8. Based on additional information obtained through its Capacity Technical Conference, public comments received following NorthWestern's first status report, and Commission decisions in several contested cases that litigated issues related to NorthWestern's price forecasts for electricity and natural gas and its modeling of dispatchable resources, which are relevant to the resource planning process, the Commission makes the following supplemental comments on the 2015 Plan.

Capacity Planning – Assessing Resource Needs

9. The Commission's electricity supply resource procurement rules state that, before acquiring multi-year resources, NorthWestern should analyze and evaluate its existing resources and future resource needs. Admin. R. Mont. 38.5.8210. The assessment of resource needs should include an analysis of future load requirements and the various types of resources available to

supply the load requirements, including both supply-side and demand-side resources, the latter of which includes demand response, distributed resources, and pricing improvements, i.e., rate design. *Id*, *see also* Mont. Code Ann. § 69-8-419(2)(b).

10. The Commission Comments of February 2017 stated that NorthWestern's resource adequacy should be measured by evaluating its retail load requirements in relation to regional peak demand. Commission Comments, ¶ 24 (Feb. 2, 2017). NorthWestern's need for capacity is a regionally oriented need. The Commission reiterates that NorthWestern should consider its overall resource capacity needs within a regional framework. For example, NPCC estimates that by 2021 the Pacific Northwest region will face a capacity deficit of 400 MWs. John Fazio and Ben Kujala, Northwest Power and Conservation Council, *Resource Capacity Values and Power Supply Adequacy* (presentation at Capacity Technical Conference, Slide 6; Meanwhile, in its 2015 Plan, NorthWestern suggested that it has a *current* capacity deficit of about 340 MW, which equals 85% of NPCC's projection of the entire regional capacity need in 2021. 2015 Plan, p. 12-2. Other utilities' integrated resource plans ("IRPs") also anticipate capacity acquisitions. PNUCC (Pacific Northwest Utilities Conference Committee), *Northwest Regional Forecast of Power Loads and Resources, 2017 through 2026*, Table 8 ("Planned Resources"), p. 17 (Apr. 2016).

11. If each of the utilities in the region were to acquire all the capacity resources identified in its IRP, the region would risk over-investing in capacity resources, which would result in economic inefficiency and unnecessary rate increases for customers. Such an outcome would result from each utility evaluating its own needs in isolation, without regard for the regional diversity of load and existing resources. A utility may not truly need capacity if its load at a particular time can be supplied by the wholesale market—in other words, from the regionally adequate, existing capacity available from other utilities' resources. If an RTO existed in the Pacific Northwest, it would be easier for utilities to demonstrate their capacity needs because there would be clearer standards defining system capacity requirements and the respective resource capacity obligations of each utility. MISO (Mid-Continent Independent System Operator), FERC Electric Tariff, Module E-1 ("Resource Adequacy") (Effective Nov. 19, 2013); *In re Montana-Dakota Utilities' 2017 IRP*, Dkt. N2017.9.73, Volume IV, Attachment C ("Supply-Side and Integration Analysis Documentation"), pp. 1-3 ((Jul. 1, 2017); MISO, 2017 LOLE Study Results (Nov. 9, 2016); CAISO (California Independent System Operator),

Business Practice Manual for Reliability Requirements, Version 33 (see Chapters 2, "Overview," and 3, "Information Requirements") (Jul. 1, 2017). Absent an RTO, it is more difficult to measure the available capacity latent in the existing bilateral wholesale market, which is not to say that such capacity does not exist and should not be considered available. Given that NorthWestern clearly relies on the regional market for its capacity today, and that it is not realistic to simply assume NorthWestern must own or have under long-term contract all capacity resources necessary to meet its peak, NorthWestern should evaluate its system capacity requirements in the context of the broader regional system and its evolving market structure.

12. To the degree that the bilateral wholesale market is not projected to have sufficient capacity for the region's needs, in its 2018 Plan NorthWestern should consider whether a better way of understanding its capacity need would be to assume responsibility for a certain portion of the incremental regional capacity need NPCC identifies as necessary to achieve regional resource adequacy.

13. NorthWestern's 2018 Plan also should evaluate and describe the precise attributes of the capacity resources it needs and the methodologies it used to make that determination. Commission Comments, ¶ 23. NorthWestern has explained, at various forums, that it needs "capacity," but it has gone on to describe this need in terms of "heavy-load-hour energy," "flexibility," "ramping," and "ancillary services." The Commission is conscious that capacity, once a concept that focused on adequate resources to meet a peak load, is increasingly also a function of the operational need to integrate traditional resources and growing amounts of weather-dependent intermittent resources like wind and solar.

14. The evolving concept of capacity in the context of resource planning and system operations requires NorthWestern to be more precise in the language it uses to describe particular capacity needs and the methods used to assess those needs. In its 2018 Plan NorthWestern should avoid evaluating its capacity needs and resource options based on narrow, overly prescriptive definitions of capacity. The Company should thoroughly consider resources, whether existing or new, whose dispatch could be modified to provide "capacity." For example, the way Colstrip and other coal units in the West are dispatched has changed considerably, challenging conventional assumptions of the products those resources can provide. Benjamin Lim and Max Vilgalys, *The*

Role of Coal in the West (Stanford University and the Western Interstate Energy Board).[1] Thomas A. Carr, Western Interstate Energy Board, Integration of Renewable Variable Energy Resources, pp. 27-30 ("Thermal Fleet and Institutional Flexibility") (Feb. 28, 2017); NREL (National Renewable Energy Laboratory) and E3, *Western Interconnection Flexibility Assessment* (Dec. 2015).

15. With respect to an assessment of the need for ancillary services, NorthWestern's 2018 Plan should include an evaluation of the respective needs and cost responsibility of both wholesale and retail service. Before soliciting or procuring resources to provide ancillary services, NorthWestern should first undertake a study, as directed by the Commission in docket D2008.8.95, to assess the need for those services by retail and wholesale loads, respectively, as well as generating resources that require such services. *In re NorthWestern's Application for Approval to Construct Dave Gates Generating Station*, Dkt. 2008.8.95, Or. 6943e, ¶¶ 93-94 (Mar. 20, 2012); Joe Schwartzenberger, *NorthWestern Energy, Docket2008.8.95—Plan and Associated Timeline to Complete a Study of Within-hour Load Fluctuations That Drive Regulation Capacity Needs in Compliance with Order No. 6943e,* letter to Commission (May 23, 2012).

Planning and Procurement - Existing Resources

16. The Commission's rules establish competitive solicitations as the preferred method of procuring needed resources. Admin R. Mont. 38.5.8212. Competitive solicitations should be fair and transparent, and should reflect clearly defined resource needs, i.e., products and services, as determined in the process of assessing resource needs. *Id*. Competitive solicitations should enable an evaluation of the economic costs, risks, and benefits of a wide variety of resource options.

17. Before NorthWestern procures new resources, it should comprehensively test the market in a way that identifies all potential resource options that could provide NorthWestern with needed capacity services. In that regard, the Commission notes that a planning approach that forecasts a shortfall in capacity that may result from existing resources exiting the market,

[1] A full slidedeck-based presentation is available online at: http://westernenergyboard.org/wp-content/uploads/2017/09/08-18-17-Coal-Dispatch-West.pdf (last accessed Dec. 15, 2017).

but fails to evaluate the feasibility of using or repurposing those resources to provide capacity, would not be considered reasonable.

18. The Commission further observes that the capacity RFP NorthWestern issued on February 13, 2017, now suspended, fell short of establishing a clear standard for the product(s) it was seeking, and it established—unreasonably, in the Commission's view—a minimum service period of 20 years. NorthWestern Energy, *2017 Resource Request for Proposals* (Feb. 13, 2017). That approach failed to comprehensively test the market because it excluded existing resources that could potentially provide competitively priced capacity services in the near term, but that might not be willing or able to make long-term commitments. Such resources may include, but are not necessarily limited to:

> Uncommitted merchant generation at Colstrip and Hardin. NorthWestern should work to understand the operational abilities of these existing resources, whether a tolling arrangement is available for their output, what potential for fuel switching or repurposing exists at the facilities, and what alternative arrangements are available to keep the resources in place should they be valuable relative to alternatives, such as tribal ownership of the asset at Hardin. 2015 Plan, Letter of Comment, Dale Lebsack, Talen Montana, LLC (Sep. 18, 2017); 2015 Plan, Letter of Comment, Gary Arneson, Rocky Mountain Power, LLC (Oct. 5, 2017).
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> Hydroelectric resources in Montana and the Pacific Northwest. For example, as reported at the Commission's technical conference on capacity planning, Energy Keepers markets the output of the SKQ Dam and may be able to offer products that would meet certain of NorthWestern's capacity resource needs. Capacity Technical Conference, presentation from Travis Togo, Power Director, Energy Keepers (see Montana Public Service Commission video archive, Jun. 8, 2017). Likewise, other utilities in the region have purchased "slice" contracts that provide capacity from the public-power hydro facilities of the Columbia Basin.
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> Montana wind resources. For example, NaturEner commented that it has a large wind resource which, when combined with market transactions, could potentially provide energy supply products with a greater measure of certainty than typical wind resources. 2015 Plan, Letter of Comment, Candace Saffery Neufeld, Chief Operating Officer, NaturEner USA, LLC (Sep. 18, 2017).
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> Demand response resources that are latent in NorthWestern's system but have not been developed. For example, Montana-Dakota Utilities ("MDU") relies on demand response to meet a portion of its capacity obligations, and NPCC identifies demand response as a

significant source of capacity for the Pacific Northwest. 2015 Plan, Letter of Comment, Kenneth D. Schisler, EnerNOC, Inc. (Aug. 22, 2017).

19. NorthWestern should develop a comprehensive, transparent, and fair solicitation process that allows it to assess the portfolio costs and benefits of the above-listed, and other, potential resources. In its 2018 Plan, NorthWestern should describe the potential value of all of such resources based on a comprehensive foundation of information obtained through the solicitation process. For example, MDU, when it solicited capacity resources, assembled such information in a template, which is attached to these comments. Montana-Dakota Utilities, 2016 RFP Evaluation Matrix (Oct. 12, 2017).

20. The Commission's rules do not require NorthWestern to use a particular approach to obtain a comprehensive informational foundation for available resource options. However, the Commission suggests that some kind of request for information would be useful. For the purpose of valuing the resources, it may be useful to model their attributes in PowerSimm, in an exercise that would result in an understanding of how they would be dispatched and to calculate, on a differential revenue requirement basis, their value to the portfolio.

21. Utilities and regulators have struggled with how to value a shorter-lived resource when compared to longer-lived new resources. Fall 2017 Joint CREPC-WIRAB Meeting, Presentation by Steven Schleimer, Senior Vice President, Government and Regulatory Affairs, Calpine (Oct. 16, 2017). The Commission believes its 15-year limitation on resource-supply arrangements probably remedies that concern. However, to the degree that a resource is available only for a shorter period of time, it would be reasonable, at the conclusion of its life, to assume the availability of capacity through a projected forecast of on-peak energy prices, converted into a metric for capacity that is common to tolling arrangements for capacity resources or which can be derived as a value from owned-asset options, e.g., kw-mo.

New Technologies

22. NWE appears to be making progress in evaluating new technologies. The Commission appreciates NorthWestern's recent efforts to reach out to developers of new technologies and for hosting a meeting on November 29, 2017 largely dedicated to hearing from entrepreneurs pursuing such technologies, including natural gas, pumped hydro, battery storage,

geothermal, and renewables. The Commission is interested in seeing NorthWestern thoroughly evaluate those new technologies in its 2018 Plan.

23. The Commission acknowledges that the scale of certain potential resources, such as pumped hydro, may significantly exceed NorthWestern's resource need, which would form a practical barrier to their acquisition. PSC audio/video archives, June 9, 2016: 1156 Work Session video at 50:23. However, for purposes of modeling and resource evaluation, NorthWestern should assume that such resources can be procured in shares.

24. For resources that provide multiple services, NorthWestern should document the methodologies it uses to value each of them, and how the planning model defines and evaluates the trade-offs between using a resource for one service and not another (or, where possible, for both).

Forecast Horizon

25. As discussed above, the marketplace in the West is evolving, and the definition and value of certain products, such as capacity, are in flux. A good example of this is NorthWestern's Dave Gates Generating Station ("DGGS"), which no more than 10 years after being put into service to provide intra-hour regulation services, has seen significant changes to its operations and the definition of products and services it provides.

26. The Commission is skeptical of a utility resource procurement regime that imposes risk on current consumers for projected benefits that only appear well into the future. The owners of long-lived generating resources should bear some of the risk that the value in the outer years of these facilities will be less, or more, than is forecast at the time of acquisition.

27. In its 2018 Plan, NorthWestern should truncate its planning horizon to 15 years within PowerSimm. The capital requirements of new resources should be modeled to be recovered within this period, for the purpose of understanding whether they are economical compared to the market and other resource alternatives. The Commission expects this will be a more accurate demonstration of NorthWestern's need for capacity, which is greatest when the market forecast suggests scarcity in the form of higher prices that would justify new entry and capital recovery over a shorter period of time. In the alternative, a project developer or owner (including NorthWestern itself, for rate-base options) may be willing to commit to take a measure of risk associated with the project's value in outer years. If such a potential developer or

owner certifies that this is the case in the planning process—or if NorthWestern itself represents this in writing in its plan—then it would be reasonable to make an adjustment. It could be possible to remove from the model the amount of capital commensurate with the present-value benefits the project is forecast to deliver in the outer years, on the assumption that the recovery of such capital would be subject to conditions prevailing in the outer years of the project's life, and not to an up-front guarantee of its recovery more than 15 years beforehand.[2]

28. NorthWestern may run a scenario, of up to 25 years, if it wishes to demonstrate the effects of a longer, albeit more speculative, stream of benefits with a new resource's capital fully loaded over that time horizon.

29. Consistent with Commission Orders 7505b ¶ 84, 7505c ¶ 28, and 7535b ¶ 66, NorthWestern must include an adjustment to the value of any resource when it is projected to dispatch in Long-1 conditions. This will reflect the approach the Commission has taken to mitigate the risk to consumers of owned and long-term contracted resources, the value of which is partially tied to sales under long conditions.

Consultant

30. The Commission intends to exercise its authority pursuant to Mont. Code. Ann. § 69-8-421 to engage consulting services. After reviewing the caseload before the Commission, the Commission finds it would be useful to retain outside expertise to provide technical input to the planning process, consistent with these comments and the Commission's comments of February 2017, and on other topics which may arise. Capacity planning is a highly technical, somewhat novel topic, and neither NorthWestern nor its customers can afford to get it wrong. Additionally, the Commission is hopeful that any consultant it hires for this purpose will also assist the Commission in the review of the 2018 Plan and the preparation of Commission comments on that plan.

Interim Reporting

31. The Commission appreciates NorthWestern's willingness to make interim reports. In its next such report, NorthWestern should provide a work plan showing the timeline of the

[2] This same paradigm should apply to demand-side resources, pursuant to the Commission's long history of treating them equivalently with supply resources.

work it is undertaking as it approaches its deadline of December 2018 for submission of its 2018 Plan.

2016 RFP Evaluation Matrix

Bidders / Proposals	1 Located in MISO LRZ 1	2 Price	3 Term	4 Cost Adders/ Adjustment	5 Project Size	6 Resource Type	7 Interconnects to MDU *	8 Location	9 GIA Status	10 Met RFP Requirements	11 Confidence in Project Development	12 Risk of Curtailments	13 Interest in Proposal

* Interconnections to MDU's transmission system provide other benefits including
1. Local Reliability
2. SPP Membership Transferability (otherwise stranded MISO resource)