

Service Date: September 6, 2016

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

IN THE MATTER OF NorthWestern Energy's
Application for Interim and Final Approval of
Revised Tariff No. QF-1, Qualifying Facility
Power Purchase

REGULATORY DIVISION
Docket No. D2016.5.39

**DATA REQUESTS VS-013 TO 023
OF VOTE SOLAR AND MONTANA ENVIRONMENTAL INFORMATION CENTER**

Vote Solar and Montana Environmental Information Center, by and through their legal counsel, hereby submit their data requests 013 through 023 to NorthWestern Energy. Within fourteen (14) days, please forward responses to the data requests below to the undersigned counsel.

GENERAL INSTRUCTIONS

- 1) **Definitions:** For the purposes of these data requests, the following definitions shall apply:
- a) The terms "NorthWestern Energy" and "NWE" mean NorthWestern Energy, its parent company or companies, and any and all affiliates and/or subsidiaries, successors, predecessors, agents, consultants, and witnesses in this proceeding, and any and all of their affiliates, subsidiaries, or predecessors.
 - b) The term "Company" means and includes NorthWestern Energy, its parent company or companies and any and all affiliates and/or subsidiaries, successors, predecessors, agents, consultants, and witnesses in this proceeding, and any and all of their affiliates, subsidiaries, or predecessors.
 - c) "Document" means all written, recorded or graphic matters, however produced or reproduced, pertaining in any manner to the subject of this proceeding, whether or not now in existence, without limiting the generality of the foregoing, all originals, copies and drafts of all writings, correspondence, telegrams, notes or sound recordings of any type of personal or telephone communication, or of meetings or conferences, minutes of directors or committee meetings, memoranda, inter-office communications, studies, analyses, reports, results of investigations, reviews, contracts, agreements, working papers, statistical records, ledgers, books of account, vouchers, bank checks, x-ray prints, photographs, films, videotapes, invoices, receipts, computer printouts or other products of computers, computer files, stenographer's notebooks, desk calendars,

appointment books, diaries, or other papers or objects similar to any of the foregoing, however denominated. If a document has been prepared in several copies, or additional copies have been made, and the copies are not identical (or which, by reasons of subsequent modification of a copy by the addition of notations, or other modifications, are no longer identical) each non-identical copy is a separate “document.”

- d) “And” or “or” shall be construed conjunctively or disjunctively as necessary to make the requests inclusive rather than exclusive.
- e) The term “you” and “your” refer to “NorthWestern Energy.”
- f) The term “person” means any natural person, corporation, corporate division, partnership, limited liability company, other unincorporated association, trust, government agency, or entity.
- g) The term “regarding” means consisting of, containing, mentioning, suggesting, reflecting, concerning, regarding, summarizing, analyzing, discussing, involving, dealing with, emanating from, directed at, pertaining to in any way, or in any way logically or factually connected or associated with the matter discussed.
- h) The singular as used herein shall include the plural and the masculine gender shall include the feminine and the neuter.
- i) “Identify” or “identifying” or “identification” when used in reference to a person that is a natural person means to state: the full name of the person and any names under which he conducts business; the current employer of the person, the person’s job title and classification, the present or last known work address of the person; and, the present or last known telephone number of the person.
- j) “Identify” or “identifying” or “identification” when used in reference to a document means to provide with respect to each document requested to be identified by these discovery requests a description of the document that is sufficient for purposes of a request to produce or a subpoena duces tecum, including the following:
 - (a) the type of document (e.g., letter, memorandum, etc.);
 - (b) the date of the document;
 - (c) the title or label of the document;
 - (d) the Bates stamp number or other identifier used to number the document for use in litigation;
 - (e) the identity of the originator;
 - (f) the identity of each person to whom it was sent;

- (g) the identity of each person to whom a copy or copies were sent;
 - (h) a summary of the contents of the document;
 - (i) the name and last known address of each person who presently has possession, custody or control of the document; and,
 - (j) if any such document was, but is no longer, in your possession, custody or control or is no longer in existence, state whether it: (1) is missing or lost; (2) has been destroyed; or (3) has been transferred voluntarily or involuntarily, and if so, state the circumstances surrounding the authorization for each such disposition and the date of such disposition.
- k) “Identify” or “identifying” or “identification” when used in reference to communications means to state the date of the communication, whether the communication was written or oral, the identity of all parties and witnesses to the communication, the substance of what was said and/or transpired and, if written, identify the document(s) containing or referring to the communication.
- l) “Current” when used in reference to time means in the present time of this data request.
- m) “Customer” means a person who buys retail electricity on a regular and ongoing basis.
- n) “Workpapers” are defined as original, electronic, machine-readable, unlocked, Excel format (where possible) with formulas in-tact.

2) OTHER INSTRUCTIONS

- a) Please provide responses with fourteen (14) days of the date of these requests.
- b) Responses are to be provided in electronic format (e.g., text documents should be in the original word processor file format or PDF, data files should be in Excel).
- c) If you contend that any response to any data request may be withheld under the attorney-client privilege, the attorney work product doctrine or any other privilege or basis, please state the following with respect to each such response in order to explain the basis for the claim of privilege and to permit adjudication of the propriety of that claim:
 - (a) The privilege asserted and its basis;
 - (b) The nature of the information withheld; and,
 - (c) The subject matter of the document, except to the extent that you claim it is privileged.

- d) For any document or set of documents NorthWestern Energy objects to providing on the grounds it is burdensome or voluminous, please identify the specific document.
- e) These data requests are to be answered with reference to all information in your possession, custody or control or reasonably available to you. These data requests are intended to include requests for information, which is physically within your possession, custody or control as well as in the possession, custody or control of your agents, attorneys, or other third parties from which such documents may be obtained.
- f) If any data request cannot be responded to or answered in full, answer to the extent possible and specify the reasons for your inability to answer fully.
- g) These data requests are continuing in nature and require supplemental responses should information unknown to you at the time you serve your responses to these data requests subsequently become known.
- h) For each response, identify all persons (see instruction 1(j)) that were involved in the preparation of the answers to the interrogatories below and/or are responsible for compiling and providing the information contained in each answer.
- i) Identify which witness(es) at the hearing(s) is competent to adopt and/or discuss the response.
- j) Please produce the requested documents in electronic format to the following individuals:

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- k) Wherever the response to an interrogatory or request consists of a statement that the requested information is already available to Vote Solar and MEIC, provide a detailed citation to the document that contains the information. This citation shall include the title of the document, relevant page number(s), and to the extent possible paragraph number(s) and/or chart/table/figure number(s).
- l) In the event that any document referred to in response to any request for information has been destroyed, specify the date and the manner of such

destruction, the reason for such destruction, the person authorizing the destruction and the custodian of the document at the time of its destruction.

- m) Vote Solar and MEIC reserve the right to serve supplemental, revised, or additional data requests as permitted in this proceeding.

Data Requests VS-013-023

VS-013 Subject: Interconnection (Hines Testimony)

Mr. Hines' testimony, at page JDH-7, states that "In the decade between the establishment of the interconnection queue and November 30, 2014, NorthWestern received a total of 144 requests for proposed interconnection of generation facilities." Please answer the following:

- a. Please update the number of interconnection requests received through August 1, 2016.
- b. Of these interconnection requests received from 2004 through August 1, 2016, how many have resulted in signed interconnection agreements?
- c. Of these interconnection requests received from 2004 through August 1, 2016, how many have resulted in signed power purchase agreements?
- d. Of these interconnection requests received from 2004 through August 1, 2016, how many have resulted in on-line generation projects providing power on the NWE system? Please list each of these successful QF projects and the date they came on-line.
- e. Please provide the most up-to-date version of Exhibit AMM-1 (the NWE interconnection queue). Please provide this document in its native Excel format.

VS-014

Subject: Natural Gas Transportation Cost Assumptions

In the workpapers for Mr. Hansen's testimony, there are files with the outputs of his runs – Hydro Worksheet.xls, Solar spreadsheet.xls, and Wind Worksheet.xls. Each of these spreadsheets have a tab with "Iteration Prices." Row 38 of this tab appears to show that NWE has added just a flat \$0.15 per Dth to the AECO gas price as the "transport" cost in all years from 2018 through 2042.

- a. Is this the assumed gas transportation cost from AECO to NWE's gas-fired power plants in all years in NWE's PowerSimm modeling in this case?
- b. Please justify the reasonableness of this cost, and show how it was derived from current tariffed rates on the NWE gas system and the TransCanada system in Canada.
- c. If this \$0.15 per Dth transport cost is just the variable cost of transportation, please explain why new renewable generation resources on NWE's system that displace long-term gas-fired resources do not also avoid firm transportation reservation costs on the NWE and TransCanada gas pipeline systems.
- d. Why does this rate not escalate over time as natural gas prices escalate?

VS-015

Subject: Natural Gas Transportation Cost Assumptions

In the workpapers for Mr. Hansen's testimony, there is an input file "Prices.xls" which lists "PRB" as an input price to the PowerSimm modeling (see lines 6 and 15). Please explain what this price is, how it was derived, and what the units are. Is it the Powder River Basin coal price, or the coal transport price?

VS-016

Subject: Natural Gas Transportation Cost Assumptions

In the workpapers for the exhibits for Mr. Bushnell's testimony (Exhibit JBB-1), there is a tab labeled "D2012.1.3 Compliance Forecast" that shows the calculation of the burner-tip cost of natural gas used in the calculation of the current QF-1 rates. This forecast shows a transportation cost of \$0.605 per Dth in 2013, escalating at 2.101% per year.

- a. Please provide the derivation of this transportation cost, with reference to the tariffed rates on the NWE gas system and the TransCanada system in Canada that were used to compute this cost.
- b. Please provide a comparable calculation to the one in the tab labeled "D2012.1.3 Compliance Forecast" that uses today's rates and tariffs on the NWE gas system and the TransCanada system in Canada.

VS-017

Subject: Option 1(a) Price (Bushnell Testimony)

In the workpapers for the exhibits for Mr. Bushnell's testimony (Exhibit JBB-1), the tab labeled "CCCT AC Calc" shows the final calculation of the QF-1 rates in the D2012.1.3 Compliance Filing.

- a. Please explain why the Option 1(a) price for a 25-year contract is based on a 24-year levelized price (see cell J35) for 2013-2036.
- b. Does the calculation for the Option 1(a) price incorrectly drop one year from the calculation?
- c. Please provide any Commission authority for the use of the 24-year levelized cost for a 25-year contract.

VS-018

Subject: NWE Response to VS-008b

In response to Data Request VS-008b, NWE states that “For every hour NorthWestern's portfolio is long, the marginal cost/incremental cost would be the highest dispatchable resource used to serve load. Long-2 condition occurs during times that the market price is below the variable cost of any dispatchable generation resource. The avoided cost would be zero as there is no avoidable resource.” Please answer these questions:

- a. If the market price is “below the variable cost of any dispatchable generation resource” in Long-2 hours, then admit or deny that NWE could save money for ratepayers by backing off its own dispatchable generation to buy market power to serve its ratepayers. Why wouldn't NWE do so?
- b. In this Long-2 condition, please describe any and all transmission or operating constraints that would prevent NWE from buying lower-cost market power for the benefit of its ratepayers. Are such constraints present in every Long-2 hour?
- c. During Long-2 hours, please explain why the avoided cost is zero instead of “the variable cost of any dispatchable generation resource” on NWE's system. If NWE purchased an incremental MWh of QF power in a Long-2 hour but did not have access to the market, wouldn't NWE avoid “the variable cost of any dispatchable generation resource” on NWE's system?

VS-019

Subject: Revised Avoided Costs Calculations

In NWE response to Data Request PSC-013, NWE calculates its avoided costs “using market sale price as the value of production under all long conditions, and market purchase price when short.” Please re-calculate your avoided costs, both with and without carbon, under these conditions:

- a. Using market prices when short;
- b. Using market prices under Long-1 conditions; and
- c. Using the variable cost of the avoidable resource under Long-2 conditions.
- d. Please use natural gas burnertip costs which add to the AECO price the full cost of transportation to Montana (not just \$0.015 per Dth), as calculated in your response to VS-016(b) above.

VS-020

Please provide NWE's current forward price curve for the Mid-C market (HLH and LLH) in 2017-2018.

VS-021 Subject: NWE's Response to PSC-011c

Please provide NWE's response to PSC-011c.

VS-022 Subject: Loss of Load Analysis

Please provide the LOLR/LOLH analysis that Ascend performed for NWE for the 2015 Electric Supply Resource Procurement Plan (RPP), as discussed on pages 11-15 to 11-19 of that RPP. In particular, please provide for each hour in 2016 the LOLH/LOLP metric that Ascend calculated for NWE's current system, as referenced on pages 11-16 to 11-18 and Table 11-3.

VS-023 Subject: NWE Transmission System

NWE's 2015 RRP does not include detailed information on NWE's current transmission system, or its constraints.

- a. Please provide NWE's most recent transmission plan.
- b. Please explain generally where and when NWE's transmission system is constrained, in terms of providing NWE with access to the regional market to make sales or purchases.
- c. Would additional generation capacity internal to NWE's system reduce any of the constraints identified in response to Part (b) of this question?
- d. What is the current rate, in \$ per MW-month, for firm network and firm point-to-point transmission over NWE's transmission system?

CERTIFICATE OF SERVICE

I hereby certify that on the 6th day of September, 2016, I served the foregoing by first-class mail, postage prepaid, and electronic mail on the following:

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