414 Nicollet Mall
Minneapolis, MN 55401

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June 21, 2019

—Via Electronic Filing—

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

RE: RESPONSES TO MPUC INFORMATION REQUEST NOS. 7 SUPPLEMENT 2 & 10 SUPPLEMENT PUBLIC
ACQUISITION OF THE MANKATO ENERGY CENTER (MEC)
DOCKET NO. IP6949, E002/PA-18-702

Dear Mr. Wolf:

At the request of Commission staff, we enclose our responses to the referenced Minnesota Public Utilities Commission information requests in the above-noted docket for e-filing.

Please contact me at (612) 337-2268 or amber.r.hedlund@xcelenergy.com if you have any questions regarding this submission.

Sincerely,

/s/

Amber Hedlund
Regulatory Case Specialist

Enclosures
c: Service List

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Xcel Energy		Information Request No.	7
Docket No.:	E002/PA-18-702		
Response To:	MN Public Utilities Commission		
Requestor:	Sean Stalpes		
Date Received:	June 11, 2019		

Question:
Request for Supplemental Information to PUC IR 7.g.
Xcel Energy's response to PUC IR 7.g. is incomplete because the IR requested the forecasted average monthly bill impact relative to both the Base (Continuation of PPAs, No Early Coal Retirement) and the Base with Early Coal Retirement. Staff intended to align the bill impacts of MEC ownership relative to the base case presented in the November 27, 2018 initial petition and the base case in Xcel's March 29, 2019 reply comments with the new, early retirement scenarios. In particular, staff is interested in the rate impacts resulting from MEC ownership and early retirement of King and Sherco 3.

i. Table 4 on page 24 of Xcel's reply comments presents a "Base (Continuation of PPAs)" scenario compared to a "Base with Early Coal Retirement" scenario and a "MEC Ownership with Early Coal Retirement" scenario. Do the King and Sherco 3 units have the same book life/retirement date in the "Base (Continuation of PPAs)" scenario as the "Base (Continuation of PPAs)" scenario in the the November 27, 2018 initial petition?

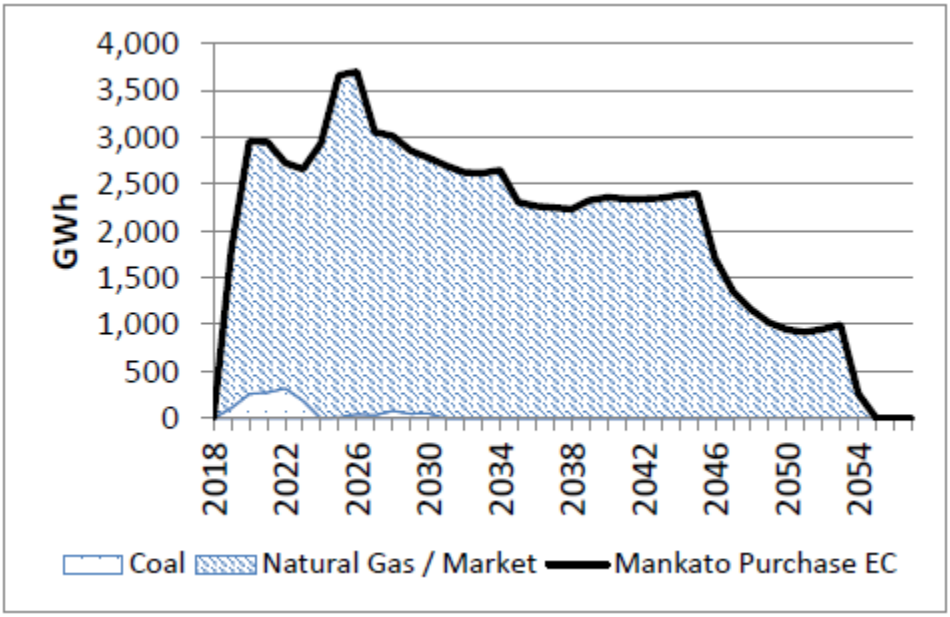
ii. Please supplement the bill impact analysis in Xcel's Response to PUC IR 7.g. to show the annual, average monthly bill impact, through 2034, of the MEC Ownership, Early Coal Retirement scenario relative to a base case where King and Sherco 3 are not retired early and MEC I and II remain PPAs.

iii. Please explain whether the updated Table 9 filed on June 7, 2019 corresponds to Attachment A or Attachment B of Xcel's Response to PUC IR 7, which provides total costs/savings estimates, expansion plans, and so forth.

Request for Supplemental Information to PUC IR 7.e.

In PUC IR 7.e., staff requested that Xcel provide a table showing the displaced energy by fuel source under the Owned MEC with Early Retirement scenario relative to the Continuation of PPAs with Early Coal Retirement scenario.

i. Is the figure below, provided in Response No. 7.e., the total displaced energy of the MEC facility, or the incremental displaced energy in the MEC ownership scenario relative to the MEC PPA scenario?



ii. If the figure shows displaced energy relative to the Continuation of PPAs with Early Coal Retirement scenario, please explain why there is roughly 3,000-3,500 GWh of displaced energy through 2026 when MEC I and II are in operation under both scenarios. Alternatively, if the figure simply shows total displaced energy from MEC I and II, then please supplement the response to show only the incremental displaced energy, by fuel type, of the Ownership, Early Coal Retirement scenario relative to the Continuation of PPAs with Early Coal Retirement scenario (which should be zero until the MEC I PPA expires, unless Xcel explains otherwise).

Response:

7.g.i In both cases, King was assumed to cease operation at the end of 2037 and Sherco 3 ceases operation at the end of 2040. To match the current MISO planning year cycle, additional O&M was included for both units to make them "available" for capacity planning purposes through the end of May of the year following cessation of operations. In the original filing, the book life was adjusted to reflect this additional 5

months and in the reply comments modeling it was set at the end of operations. As an example, the book life for King was set as 20.4 years in the original filing and 20 years in the reply comments, measured as starting from 2018.

7.g.ii Please see below for the estimated bill impact.

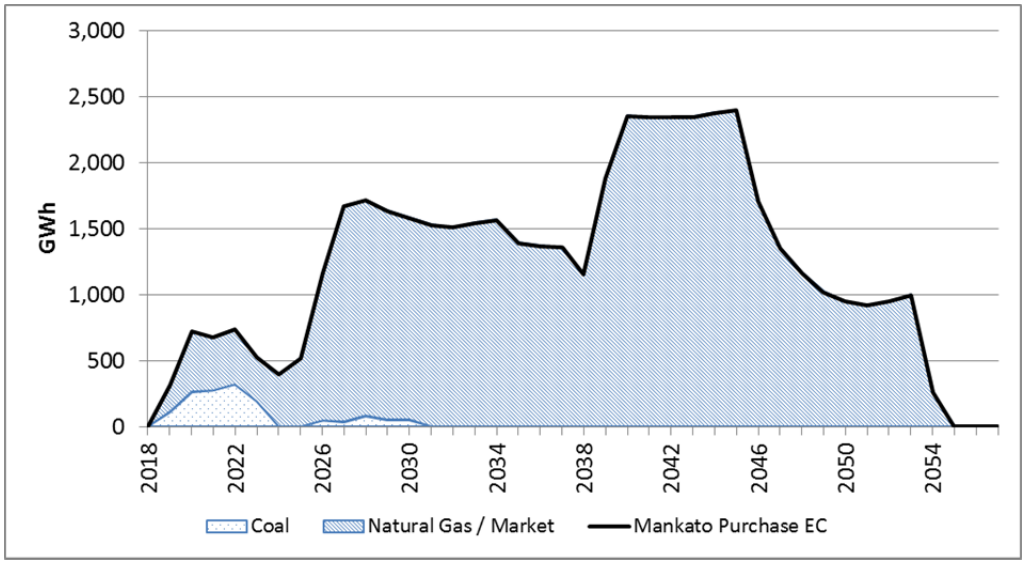
Table 9: MN Forecasted Incremental Impact on Average Monthly Bills
UPDATED

	A. Monthly Bill Impact Ownership WITH Early Coal Retirement vs. PPA WITH Early Coal Retirement				B. Monthly Bill Impact Ownership WITH Early Coal Retirement vs. PPA WITHOUT Early Coal Retirement				Monthly Bill Impact (B) MINUS Bill Impact (A)		
Year	Residential	Commercial Non Demand	C&I Demand Billed *		Residential	Commercial Non Demand	C&I Demand Billed *		Residential	Commercial Non Demand	C&I Demand Billed *
2020	$0.10	$0.19	$7.97		$0.88	$1.10	$27.76		-$0.78	-$0.90	-$19.79
2021	$0.03	$0.09	$4.79		$0.80	$0.99	$24.25		-$0.77	-$0.90	-$19.46
2022	-$0.02	$0.01	$2.46		$0.70	$0.86	$19.75		-$0.73	-$0.84	-$17.29
2023	-$0.10	-$0.10	-$0.90		$0.60	$0.71	$14.99		-$0.70	-$0.81	-$15.89
2024	-$0.17	-$0.21	-$4.60		$0.51	$0.59	$10.94		-$0.69	-$0.81	-$15.54
2025	-$0.28	-$0.38	-$9.88		$0.50	$0.58	$10.63		-$0.77	-$0.96	-$20.51
2026	-$0.16	-$0.25	-$8.09		$0.51	$0.61	$11.70		-$0.67	-$0.86	-$19.79
2027	-$0.14	-$0.18	-$3.97		$0.47	$0.55	$10.05		-$0.61	-$0.73	-$14.03
2028	-$0.12	-$0.16	-$3.94		$0.58	$0.71	$14.43		-$0.70	-$0.87	-$18.37
2029	-$0.26	-$0.36	-$9.80		$0.36	$0.40	$6.42		-$0.61	-$0.76	-$16.22
2030	-$0.53	-$0.66	-$14.74		-$0.79	-$1.44	-$56.02		$0.26	$0.78	$41.28
2031	-$0.48	-$0.58	-$11.24		-$0.34	-$0.64	-$25.84		-$0.15	$0.06	$14.60
2032	-$0.41	-$0.46	-$7.41		-$0.90	-$1.56	-$56.73		$0.49	$1.10	$49.32
2033	-$0.45	-$0.53	-$9.35		-$0.95	-$1.63	-$58.49		$0.50	$1.10	$49.14
2034	-$0.47	-$0.55	-$9.54		-$0.82	-$1.42	-$50.56		$0.36	$0.87	$41.02

7.g.iii. The table comes from Attachment A.

7.e.i. This figure is the total displaced energy of the Mankato facility under Company ownership.

7.e.ii. The revised figure below shows the incremental displaced energy, by fuel type, of the Ownership, Early Coal Retirement scenario relative to the Continuation of PPAs with Early Coal Retirement scenario. The incremental energy is small, but non-zero, prior to the expiration of the MEC 1 PPA, as the size of the actual facility is larger than the size of the combined MEC 1 & 2 PPAs, and under Company ownership, would be expected to produce more energy.



Preparer:	Jon Landrum / Mike Peppin
Title:	Manager, Resource Planning Analytics / Principal Pricing Analyst
Department:	Resource Planning /Regulatory Affairs
Telephone:	303.571.2765 / 612.337.2317
Date:	June 21, 2019

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Xcel Energy Information Request No. 10
Docket No.: E002/PA-18-702
Response To: MN Public Utilities Commission
Requestor: Sean Stalpes
Date Received: June 11, 2019

Question:
Request for Supplemental Information to PUC IR 10.b.
In Xcel's Response to PUC IR 10.b., Attachment A shows the Change in Market Sales compared to the Change in CC Generation.

i. Please provide MEC I hourly market sales data (MWh and LMP) for years 2016, 2017, and 2018.

ii. Please indicate whether the hourly sales were MISO wholesale sales or were used for NSP.

iii. Please provide NSP's marginal hourly LMP for years 2016, 2017, and 2018.

Response:
i. Please see Attachment A to this response.
ii. Please see Attachment A to this response.
iii. As provided in our June 15, 2019 email: "as participants in MISO, we think about our generation and load differently than we did when we operated in a traditional non-RTO market. Prior to MISO, we generally did view our generation as directly serving our load as we controlled our unit dispatch and were responsible for matching our resources with our load on a minute to minute and hour to hour basis. Upon joining the market, MISO took over control of the dispatch of our resources so we have now ceded that responsibility to them and consequently view our generation resources a bit differently. In MISO, we now buy our load from the market at the load node LMPs and sell our generation to the market at the gen node LMPs. Since we no longer control the dispatch of our resources, we can never directly match our gen output with our load but MISO is doing that for the larger footprint and always ensuring that the least cost resources are dispatched to serve all load regardless of who owns each resource. We are more interested in the "hedge

value" that our generation resources provide in that we expect that they will be dispatched by MISO when economic, earn margins (get dispatched when LMPs are above unit dispatch costs), and the gen margins can then be used to help offset the costs of our load purchases. MEC's low heat rate (~7 MMBtu/MWh) provides our customers with protection in the event that market prices rise as we would expect the unit to be running during higher LMP price periods such that any margins earned during the dispatch would mitigate the higher load costs during those hours. Therefore, generation margins become more important than whether or not the resource is serving our load or being sold into the market. To assess the "hedge value" of MEC, you can simply look at historical LMPs vs the dispatch cost to get a sense of the value it is providing to our customers.

With regard to your question on historical unit dispatch, MISO does publish files that it posts on its website with all of the daily cleared day ahead and real time offers. However, they post them with a 3 month lag and they do not specify unit names or any detail so are generally not that useful. As a result, I am not aware of any reports or tools that MISO provides that allows you to identify the marginal unit on a historical hourly basis. I have attached one of the files as an FYI and they are located at the following location on the website.

https://www.misoenergy.org/markets-and-operations/real-time--market-data/market-reports/#nt=%2FMarketReportType%3AOffers%2FMarketReportName%3ADay-Ahead%20Cleared%20Offers%20(zip)&t=10&p=0&s=MarketReportPublished&sd=desc

In Strategist, the model only includes our resources and the rest of the market is generically represented using the Minn Hub forward curve so we are generally able to assess the resources that are on the margin. Since we do not have access to the MISO model and they do not really provide any useful reporting on historical units on the margin, we do not have access to this information on a historical basis. Despite the lack of historical info, however, we do not necessarily feel that we need to calibrate Strategist as the simplified dispatch of our resources against the Minn Hub forward curve should generally provide a good proxy for what we expect to see in the future."

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In addition, Attachment B provides the LMP for the NSP.NSP load node for 2016-2018, which represents the marginal hourly cost to serve our load. NSP generation will be dispatched according to the generation node LMPs.

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Please note portions of Attachment A are marked as "Non-Public," as it contains information we consider to be trade secret data as defined by Minn. Stat. §13.37(1)(b). The information derives an independent economic value from not being generally known or readily ascertainable by others who could obtain a financial advantage from its use. Based on its economic value, the Company maintains this information as trade secret.

Preparer:	Carolyn Lee/PJ Martin
Title:	Trading Analyst/ Director
Department:	Power Operations/ Resource Planning
Telephone:	303.571.7505/ 612.321.3065
Date:	June 21, 2019