Appendix C

Personal Correspondence Used In Preparation of Document

1. If Calpine's proposal is not selected, would Calpine offer the proposed expansion in response to other resource bidding processes?
    a. Yes.

2. Is it Calpine's intent at this time to continue to develop the proposed expansion on a speculative basis, independent of an impending power purchase agreement?
    a. No.

3. Appendix A of Calpine's proposal states that some permitting authorization to construct the second unit has expired. Please provide a list of permits that Calpine anticipates will be needed prior to construction or operation of the proposed facility.
    a. Please see attached table labeled Required Permits and Approvals.

4. The site permit issued for the Mankato Energy facility Site Permit is for a 665 MW natural-gas fired plant with fuel oil backup. The PCA Air Emission permit for the Mankato Energy Facility (NO. 01300098-001) allows the plant to burn distillate fuel oil up to 875 hours/year for each turbine.[1] Would the proposed expansion also be planned to use distillate fuel oil? If so, how would the fuel oil be delivered to the facility and where would it be stored?
    a. Calpine's bid for the Mankato Expansion is gas-only. Calpine indicated in its bid that it would be willing to incorporate oil backup capability for the additional combustion turbine if requested by Xcel. No conversations have occurred on that subject to date. However, if Calpine were to install oil backup for the expansion the delivery and storage would be similar if not identical to the oil backup operations for the existing plant.

5. Please explain the difference between Facility's contribution to predicted concentrations of SO2, NO2, and PM10 inclusive of operation for the 2nd combustion turbine and modeled total concentrations of these pollutants in Response D2 (p. 3). What other factors are considered in total concentrations?
    a. The first set of modeling results presented in Response D2 are based on Calpine emission sources <u>only</u>. This included operation of the 2nd combustion turbine in addition to the existing combustion turbine and all ancillary sources. The second set of modeling results includes the background concentration as well as Calpine emission sources.

6. Please provide the predicted contribution of only Unit 2 (without the operation of Unit 1) to 24-hour average ground level concentrations of SO2, NO2, and Particulates. Please specify assumptions of stack height and meteorological conditions in your response.
    a. The modeled concentrations for Unit 2 only are presented below. The modeling presented below is based on Unit 2 firing natural gas only. Please note the individual emission rates, contained in Appendix B of Calpine's Mankato Expansion Proposal, and

[1] MPCA Air Permit

associated stack parameters are based on preliminary data. Calpine is currently completing the Unit 2 modeling protocol and finalizing the individual emission rates and stack parameters, and as such, final emission rates and modeled concentrations may change. Calpine does not expect there to be large changes in the final emission rates or stack parameters. The meteorological data used for the analysis was from the Redwood Falls (station 14992) surface station and Minneapolis/St. Paul (station 94983) upper air station for the years 2006 through 2010 and assumes a stack height of 200 feet.

SO_2 (24-hour) = 0.75 µg/m^3
NO_2 (24-hour) = 4.29 µg/m^3
PM_{10} (24-hour) = 2.54 µg/m^3

The modeled concentrations are based on the 1st high concentration results.

Calpine Corporation
REQUIRED PERMITS AND APPROVALS
For
Mankato Energy Center Proposed Expansion Project

Unit of Government	Type of Approval	Regulated Activity	Status
Federal			
FAA	Notice of Proposed Stack Construction	Stack height greater than 200 feet above ground level	To be provided
U.S. EPA	Acid Rain	Title IV Acid Rain Certificate of Representation for the discharge of sulfur oxides	To be obtained – Part of the Major/PSD Modification
	Risk Management Plan/Process Safety Management (RMP/PSM)	Risk management plan is required for facilities possessing more than threshold quantizes of regulated chemicals (e.g., anhydrous ammonia)	To be modified – Plan exists for current facility - No approval required
U.S. Fish & Wildlife Services	Threatened and Endangered Species Review	Review of agency records for federally threatened and endangered species that may exist at or near the site and may be affected by the project	To be obtained – Previous letter from 2008 indicated no challenges
State of Minnesota			
PUC	Certificate of Need	Certification that electricity generated by the facility is needed	Incorporated into pending Competitive Resource Acquisition proceeding
PUC	Power Plant Siting Permit	Review of potential human and environmental impacts associated with the siting of a large electric power generating plant. Qualifies for alternative review process for facilities fueled by natural gas	To be obtained, if and as required. (Original site permit issued by EQB in 2004 was for 655 MW. *See* *http://www.eqb.state.mn.us/pdf/FileRegister/Calpine-Mankato/SitePermitSigned.pdf*
SHPO	Cultural Resources Review	Review of agency records for the presences of archeological, historical, or architectural resources at or near the site that may be affected by the project	To be obtained
MDNR	Minnesota Natural Heritage Database Review	Review of the Minnesota Natural Heritage Information System database for the presence of any rare plant communities or animal species,	To be obtained

Calpine Corporation
REQUIRED PERMITS AND APPROVALS
For
Mankato Energy Center Proposed Expansion Project

		unique resources, or other significant natural features at or near the site that may be affected by the project	
MPCA	NPDES/SDS General Stormwater Discharge Permit (MN R100001) for Construction Activities	Stormwater discharge associated with construction activities disturbing one or more acres of land	Not anticipated – Construction anticipated to be less than 5 acres
	NPDES/SDS General Stormwater Discharge Permit (MN G611000) for Industrial Activities	Stormwater discharge associated with industrial activities at the Facility. Coverage under the permit requires preparation of a stormwater Pollution Prevention Plan	To be modified – Courtesy Notification and modification of current facility plan- No approval required
	Major/PSD Modification (Combined Construction and Title V Operating)	Air – emissions – permitting requirements associated with federal PSD new source review and NSPS requirements, and other applicable state/federal requirements	To be submitted – Currently drafting application
	Section 401 Water Quality Certification	Review and certification of construction activities affecting wetlands requiring a USA COE permit	Not anticipated – Land not anticipated to disturb wetlands
	Hazardous Waste Generator License	Hazardous waste generation	Obtained
	Spill Prevention, Control and Countermeasure Plan	Aboveground storage of greater than 1,320 gallons of fuel oil; plan to be prepared and maintained at the facility	To be modified – Plan exists for current facility - No approval required
Local			
City of Mankato	Conditional Use Permit	Electric generating facility within areas zoned M-2, Heavy Industrial District	To be obtained, if required
	Building Permit	Site grading, development, construction, and occupancy approval	To be obtained
	Other	Applicable permits/approvals for connections to municipal sewer and water as well and gray	To be obtained if required

Calpine Corporation
REQUIRED PERMITS AND APPROVALS
For
Mankato Energy Center Proposed Expansion Project

		water from WWTP	
Other			
Utilities	Utility Connection Permits and approval	Installation of necessary utilities and related equipment (e.g.' water, wastewater, gas pipelines, transmission lines, telecommunications)	Responsibility of Supplier Gas pipeline permits listed in separate pipeline route permit application submitted to the PUC. Any network upgrades beyond point of interconnection resulting from facility interconnection will be the responsibility of applicable transmission owners.
MISO	Approval as a Network Resource for Xcel	Generator interconnection and transmission access	In process

EFP ER Questions for Xcel Competitive Bid (CN-12-1240) – Calpine question set 2

1. Calpine's June 14, 2013, Environmental Supplement described a total water use of 6.2 million gallons/day. Staff understands this to mean the total water use specified in the agreement with the city of Mankato. Would the expansion project require expansion of this number, or is the 6.2 million gallons inclusive of what a 720 MW facility would use?

Response: The 6.2 million gallons is inclusive of the Expansion. The current contract with the City of Mankato is for 6.2 million gallons/day of gray water for use in the cooling tower and will provide sufficient quantities of water to allow for the operation of the expanded cooling tower.

2. Please provide an average maximum daily water usage of the existing Mankato Energy Center.

Response: Approximately 1.5 million gallons/day during summer conditions.

3. What is the maximum wastewater daily discharge rate at the existing facility?

Response: The current discharge permit allows for the discharge of 1.55 million gallons/day. The permitted discharge is designed for the entire expanded facility. Maximum discharge for existing operations has been approximately 0.35 million gallons/day.

a. What would be the incremental change to that rate from the expansion?

Response: Actual incremental change is anticipated to be comparable to the current facility (0.35 million gallons/day).

b. What is the maximum flow rate of the pipes for the existing facility?

Response: The current wastewater discharge pipe is designed for 1.7 million gallons/day. This allows for discharge of the entire expanded facility.

c. Does Calpine anticipate that changes in amounts or concentrations of dissolved solids from the expansion would require any changes to Mankato's treatment system or to the discharge agreement with the city of Mankato?

Response: No. While the facility does not currently monitor concentrations of total dissolved solids, no additional treatment or modification to the City of Mankato's treatment process is anticipated. The City of Mankato's treatment was designed to accommodate the expansion.

4. Please identify and estimate quantities of hazardous air pollutants (HAPs) and

volatile organic compounds (VOCs) that would result from the Mankato Energy Center Expansion.

Response: Calpine anticipates a VOC emission rate of 55.1 TPY and a total combined HAP rate of 9.7 TPY.

5. Please provide a current estimate of property taxes or fees paid on the existing facility and an estimate of additional taxes and fees that would be paid on the proposed expansion. Please provide an estimate of taxes or fees accruing to local units of government vs. paid to the Department of Revenue.

Response: The plant's total tax bill for 2012 was approximately $149,500 ($39K to county, $39K to city, $45K to the state, the rest to the schools). Calpine does not expect any significant increase in tax liability due to the Expansion other than inflation adjustments. Note that the full plant (including the Expansion) is covered under a 2003 statutory personal property tax exemption on generation equipment.

From: John Flumerfelt
To: Steinhauer, Suzanne (COMM)
Cc: Meloy, Brian; Christopher Jones
Subject: FW: DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Calpine question set 3
Date: Wednesday, October 02, 2013 5:23:37 PM

Hi Suzanne: Here's the additional emissions data you requested.

Emission Rates (lb/hr/CT under normal operating conditions)			
CO2	**CO**	**VOC[a]**	**PM-2.5[b]**
337,201	25.9	12.6	22

a. Emission rate based on 0.004 lb/MMBtu (change from initial submittal). Initial submittal of 3.4 ppm and September submittal of 55.1 TPY are still accurate.
b. Emissions assume PM2.5 is equivalent to PM10 emission rates.

From: Steinhauer, Suzanne (COMM) [suzanne.steinhauer@state.mn.us]
Sent: Monday, September 30, 2013 4:27 PM
To: John Flumerfelt
Subject: DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Calpine question set 3

Hi John

Thank you for your response to my earlier set of questions. Following up on those responses as well as more close reviews of all of the proposals I have identified several follow-up questions.

Please provide estimated emissions levels at rated capacity in pounds per hour for the following emissions:

- PM 2.5
- CO
- CO_2
- Total VOC

I would greatly appreciate it if you could kindly coordinate responses and send them to me by return e-mail no later than October 4, 2013.

Information provided will be used to develop an environmental review document that will be published as a public document. Responses to these questions will be considered to be public information unless otherwise designated by the respondent as “nonpublic information” pursuant to Minnesota Stat. § 13.02, subd. 12.

As always, please don’t hesitate to contact me if you have questions or concerns.

Regards,
Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

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From: Heidi Whidden
To: Steinhauer, Suzanne (COMM)
Cc: John Flumerfelt
Subject: RE: Mankato Energy Center Emissions Rates
Date: Wednesday, October 09, 2013 4:56:50 PM
Attachments: image001.png

Suzanne,

Thank you for speaking with us this afternoon. Based on our discussions, Calpine requests an update of Table 4 to the following:

Plant Output	345	MW

Pollutant	#/hr	#/kWh	TPY[1]
SO2	1.2	3.47826E-06	5.256
NOx	26.25	7.6087E-05	114.975
PM10	22	6.37681E-05	96.36
PM2.5	22	6.37681E-05	96.36
CO	25.9	7.50725E-05	113.442
CO2	337201	0.977394203	1476940.38

1. Tons per year (TPY) assumes 8,760 hours of operation a normal operating conditions.

If you have any questions, feel free to give me or John a call.

Thank you!

Heidi M Whidden
Director, Environmental Services-Southeast Region
CALPINE CORPORATION
717 Texas Avenue, Suite 100|Houston, TX 77002
Direct: (713) 570-4829|Mobile: (813) 727-1299
Email: hwhidden@calpine.com

-------- Original Message --------
Subject: Mankato Energy Center Emissions Rates
From: "Steinhauer, Suzanne (COMM)" <suzanne.steinhauer@state.mn.us>
To: John Flumerfelt <John.Flumerfelt@calpine.com>
CC:

John –

Could you please check my assumptions and calculations in conversion of the emissions in pounds/hour to pounds/kWh?

Please get back to me no later than the end of the day **Wednesday, October 9.**

To get the emissions in pounds/kWh I divided the hourly emissions rates you provided (pounds/375MW turbine) by 375,000. Emissions rates in pounds per hour are from Calpine, *Environmental Supplement of Calpine Corporation,* June 14, 2013, pp. 2-3 and your response to my question regarding CO2 emissions sent, October 2, 2013.

Potential Air emissions are adapted from Minnesota Environmental Quality Board, *Environmental Assessment: Calpine Mankato Energy Center Power Generating Plant*, 2004. http://www.eqb.state.mn.us/pdf/FileRegister/Calpine-Mankato/1111CalpineJune30.pdf, at Table 5-1. I divided the PTE for each pollutant by 2.

Mankato Energy Center Expansion

Calpine holds an air emissions permit for a 665 MW natural gas plant with fuel oil backup for the existing Mankato Energy Center. Calpine will seek to modify its existing air emissions permit from the PCA under federal PSD new source review. **Table x** estimates criteria and Carbon dioxide emissions for the proposed Mankato Energy Center Expansion.

Table 4: Mankato Energy Center Expansion Estimated Emissions[1]

Pollutant	#/hour at rated capacity	#/kWh at rated capacity	Potential Air Emissions (tons/year)
SO_2	1.2	0.01	57
NO_x	26.25	0.12	171
PM_{10}	22	0.10	150
$PM_{2.5}$	22	0.10	150
CO	25.9	0.12	125
CO_2	327,201	1,568	

As always, please let me know if you have questions or concerns.

Information provided will be used to develop an environmental review document that will be published as a public document. Responses to these questions will be considered to be public information unless otherwise designated by the respondent as “nonpublic information” pursuant to Minnesota Stat. § 13.02, subd. 12.

Thanks,
Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

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[1] Emissions rates in pounds per hour are from Calpine, *Environmental Supplement of Calpine Corporation,* June 14, 2013, pp. 2-3 and Calpine, personal communication, October 2, 2013 (Appendix C). Emissions in pounds per kilowatt hour are calculated using Calpine's estimated hourly emissions rate per turbine and dividing it by the size of the turbine in killowatts (375,000). Potential Air emissions are adapted from Minnesota Environmental Quality Board, *Environmental Assessment: Calpine Mankato Energy Center Power Generating Plant*, 2004. http://www.eqb.state.mn.us/pdf/FileRegister/Calpine-Mankato/1111CalpineJune30.pdf, at Table 5-1

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Docket Nos.:	E002/CN-12-1240	
Response To:	Suzanne Steinhauer	Information Request No. 1
Date Received:	July 30, 2013	Response Date: August 13, 2013

Request No.	
1	If Geronimo's proposal is not selected as part of this proceeding, please describe what Geronimo would do with the If Geronimo's proposal is not selected. For example, would Geronimo offer these sites in response to other resource bidding processes? **Response:** Geronimo understands this question to ask what Geronimo plans to do with the Distributed Energy Generation Zones ("DEZG") or "sites" if Geronimo's Distributed Solar Energy Proposal is not selected by the Commission in this docket. Geronimo specifically designed its proposal and selected these sites based on Xcel's load at nearby substations. **[TRADE SECRET DATA HAS BEEN EXCISED]**.

Response by: Nathan Franzen

Title: Director of Solar

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Docket Nos.:	E002/CN-12-1240		
Response To:	Suzanne Steinhauer	Information Request No.	2
Date Received:	July 30, 2013	Response Date: August 13, 2013	

Request No.	
2	Is it Geronimo's intent at this time to continue to develop some or all of the sites on a speculative basis, independent of selection through this competitive bidding process or another impending power purchase agreement? **Response:** Geronimo plans to continue to advance the development of these sites throughout the competitive resource acquisition process **[TRADE SECRET DATA HAS BEEN EXCISED]**.

Response by: Nathan Franzen

Title: Director of Solar

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Docket Nos.:	E002/CN-12-1240	
Response To:	Suzanne Steinhauer	Information Request No. 3
Date Received:	July 30, 2013	Response Date: August 13, 2013

Request No.	
3	Geronimo's proposal, at p. 25, refers to both "transmission facilities that are short" and "distribution voltage interconnection facilities." Please provide the anticipated voltage, or range of voltages, of interconnection to the grid. **Response:** Each interconnection will be made at the voltage of the existing distribution or transmission facilities at the point of interconnection. For the distribution interconnections, the voltages will typically be 4.16kV, 12.47kV, 13.8kV, 23.9kV, or 34.5kV. For the transmission interconnections, the voltages will typically be 69kV or 115kV. The expected voltages for each interconnection are shown in the table below: **[TRADE SECRET DATA HAS BEEN EXCISED]**

Response by: Glen Skarbakka

Title: Vice President of Transmission

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Docket Nos.:	E002/CN-12-1240		
Response To:	Suzanne Steinhauer	Information Request No.	4
Date Received:	July 30, 2013	Response Date: August 13, 2013	

Request No.	
4	Would each solar site have a separate interconnection to Xcel's grid? **Response:** Yes.

Response by: Glen Skarbakka

Title: Vice President of Transmission

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Docket Nos.:	E002/CN-12-1240		
Response To:	Suzanne Steinhauer	Information Request No.	5
Date Received:	July 30, 2013	Response Date: August 13, 2013	

Request No.	
5	Would O&M facilities require sanitary water and sewer? Please estimate the water usage for such a facility? **Response:** Water and sanitary sewer will be required at the O&M facility(ies). Currently Geronimo's plan is to designate one facility to serve multiple locations in a municipality with sanitary sewer and water. Water usage at the O&M location(s) will be driven by staff needs as well as supply of water to fill tanks for cleaning (see response to IR Question 6). In total the day to day needs of operation staff will be approximately 13 gallons per worker per day which is the median value for office workers in the U.S.[1]

[1] http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends_Water_20121002.pdf

Response by: Patrick Smith

Title: Director of Environmental Planning

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Docket Nos.:	E002/CN-12-1240		
Response To:	Suzanne Steinhauer	Information Request No.	6
Date Received:	July 30, 2013	Response Date: August 13, 2013	

Request No.	
6	Please describe how water will be made available at the disbursed sites to clean the panels. **Response:** Currently, solar plants in operation within Xcel Energy's Upper Midwest Service Region do not necessitate regular cleaning of the modules due to the cleaning effect of snow and rain fall. In the event that cleaning is required at a particular site and where municipal water is available and capable of supplying the project, we may elect to have a municipal tap at the project site. Where municipal water is not available at the site or where it is not efficient to use at that location we will deliver water to the site using a tank on the back of a truck.

Response by: Patrick Smith

Title: Director of Environmental Planning

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Docket Nos.:	E002/CN-12-1240		
Response To:	Suzanne Steinhauer	Information Request No.	7
Date Received:	July 30, 2013	Response Date: August 13, 2013	

Request No.	
7	Geronimo's proposal, at p. 27, anticipates local land use permits for each facility. Please provide a list of counties that currently have ordinances to permit such a facility. **Response:** Only Stearns, Dodge, Carver, and Olmstead Counties mention solar farms in their published ordinances. However, due to the siting authority of the Public Utilities Commission for projects greater than 50MW, the primary local landuse activities will be administrative lots splits, right of way permitting, wetland permitting associated with MN WCA, storm water permitting in jurisdictions where watershed districts have control, easement coordination, building permits and road entrance permits.

Response by: Patrick Smith

Title: Director of Environmental Planning

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Docket Nos.:	E002/CN-12-1240		
Response To:	Suzanne Steinhauer	Information Request No.	8
Date Received:	July 30, 2013	Response Date: August 13, 2013	

Request No.	
8	Please describe what is meant by "vacant land" (see proposal at pp. 21 and 23). **Response:** Vacant land refers to land not used for agricultural production that does not currently contain any man-made structures. Vacant land is best typified by the description in the USGS's NLCD 92 Land Cover Class Definition for Barren Type 33 (Transitional), which is described as "Areas of sparse vegetative cover (less than 25 percent of cover) that are dynamically changing from one land cover to another, often because of land use activities."[1] This land cover type is found in areas around city/farm edges typical of some of the proposed locations.

[1] http://landcover.usgs.gov/classes.php#barren

Response by: Patrick Smith

Title: Director of Environmental Planning

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Docket Nos.:	E002/CN-12-1240	
Response To:	Suzanne Steinhauer	Information Request No. 9
Date Received:	July 30, 2013	Response Date: August 13, 2013

Request No.	
9	Does Geronimo anticipate that land for the facilities would be purchased or leased from existing land owners? If leasing is anticipated, please does Geronimo anticipate that landowners would receive ongoing or one-time payments? **Response:** Geronimo will purchase or lease each of the sites where solar facilities will be located based on the preference of the landowner. Geronimo plans to enter into easement agreements for rights-of-way required for distribution and transmission facilities. Landowners will be compensated **[TRADE SECRET DATA HAS BEEN EXCISED]**.

Response by: Nathan Franzen

Title: Director of Solar

From: Brusven, Christina
To: Steinhauer, Suzanne (COMM)
Cc: Nathan@GeronimoEnergy.com; Betsy Engelking
Subject: RE: DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Geronimo question set 2
Date: Thursday, September 19, 2013 2:34:20 PM

Suzanne,

Here are Geronimo's responses to the follow-up questions you asked in your September 5th email:

1. **Does Geronimo anticipate that wastewater from panel cleaning would need to be treated? Would wastewater for the panel cleaning be addressed in the SWPPP?**

Response: Wastewater from panel cleaning will not need to be treated. Management of panel cleaning water will be addressed in the project's SWPPP.

2. **Please provide a description of site preparation prior to installation of PV facilities. Is it necessary for the entire site to be graded to ensure the same level, or plant design able to accommodate some slopes or rolling topography?**

Response: Site preparations will be technology specific with different site preparation needed for different racking systems. For the purposes of the environmental assessment and permitting, Geronimo is making the conservative assumption that the racking systems proposed cannot tolerate more than a 5% grade. Flexibility in racking selection is critical to allowing Geronimo to competitively bid the proposal. In some cases, Geronimo may use a terrace design rather than a completely flat grade.

3. **Please provide an estimated range of property taxes paid on the distributed solar sites. Please provide an estimate of taxes or fees accruing to local units of government vs. paid to the Department of Revenue.**

Response: Photovoltaic devices are exempt from Minnesota property taxes under Minn. Stat. § 272.02, subd. 24. Geronimo will continue to pay property taxes on the underlying parcels in amounts consistent with existing property tax payments on those parcels. Therefore, Geronimo does not anticipate a significant change in tax revenue to the state or local units of government as a result of the installation of the solar facilities.

4. **Geronimo indicated in its proposal, at p. 10, that locations of the proposed distributed sites were designated trade at the time of the proposal pending ongoing land negotiations. Geronimo stated that it would provide a public filing of locations once negotiations are final, and anticipated that site control would be complete in the summer of 2013. Please provide a public filing of the locations, or an update on when such a filing can be anticipated.**

Response: On September 10, 2013, Geronimo efiled its Distributed Energy Generation Zones Update and Public Filing (eDockets ID: 20139-91155-01) providing public information regarding the locations and sizes of the proposed DEGZs.

5. **Is Geronimo aware of any changes to the potential permits and approvals that may be**

required for the permit from those identified in Table 16 of the Application?

Response: After additional review of Minn. Stat. Ch. 216E and Minn. R. Ch. 7850 and a discussion with Minnesota Department of Commerce, Energy Facility Permitting Staff , Geronimo intends to seek a site permit from the Minnesota Public Utilities Commission for the solar facilities included within its Proposal. Accordingly, a site permit should be listed as an additional state approval on Table 16.

Please let me know if you have any additional questions.

Regards,

Christy Brusven
Attorney at Law
Fredrikson & Byron, P.A.
200 South Sixth Street, Suite 4000
Minneapolis, MN 55402-1425
Direct Dial: 612.492.7412
Main Phone: 612.492.7000
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From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Thursday, September 05, 2013 2:58 PM
To: Brusven, Christina
Cc: Nathan@GeronimoEnergy.com; Betsy Engelking
Subject: DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Geronimo question set 2

Christy –

Thank you for your response to my earlier set of questions. Following up on those responses as well as more close reviews of all of the proposals I have identified several follow-up questions.

1. Does Geronimo anticipate that wastewater from panel cleaning would need to be treated? Would wastewater for the panel cleaning be addressed in the SWPPP?
2. Please provide a description of site preparation prior to installation of PV facilities. Is it necessary for the entire site to be graded to ensure the same level, or plant design able to accommodate some slopes or rolling topography?
3. Please provide an estimated range of property taxes paid on the distributed solar sites. Please provide an estimate of taxes or fees accruing to local units of government vs. paid to the Department of Revenue.
4. Geronimo indicated in its proposal, at p. 10, that locations of the proposed distributed sites were designated trade at the time of the proposal pending ongoing land negotiations. Geronimo stated that it would provide a public filing of locations once negotiations are final, and anticipated that site control would be complete in the summer of 2013. Please provide a public filing of the locations, or an update on when such a filing can be anticipated.
5. Is Geronimo aware of any changes to the potential permits and approvals that may be

required for the permit from those identified in Table 16 of the Application?

I would greatly appreciate it if you could kindly coordinate responses and send them to me by return e-mail no later than September 19, 2013.

Information provided will be used to develop an environmental review document that will be published as a public document. Responses to these questions will be considered to be public information unless otherwise designated by the respondent as "nonpublic information" pursuant to Minnesota Stat. § 13.02, subd. 12.

Please do not hesitate to contact me if you have any questions or would like to discuss the request.

Regards,
Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

From: Steinhauer, Suzanne (COMM)
To: Steinhauer, Suzanne (COMM)
Subject: Ger_Resp_QS-3_10-1-13
Date: Tuesday, October 01, 2013 5:07:31 PM

From: Brusven, Christina [mailto:CBrusven@fredlaw.com]
Sent: Tuesday, October 01, 2013 4:59 PM
To: Steinhauer, Suzanne (COMM)
Cc: Nathan@GeronimoEnergy.com; Betsy Engelking
Subject: RE: DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Geronimo question set 3 - CONTAINS TRADE SECRET INFORMATION

Suzanne,

Here are Geronimo's responses to EFP IR set 3. Please note that due to the need to include Trade Secret Information in response to Question #3, Geronimo has attached both a public and non-public version of that response.

1. Please provide a verbal description of site preparation, construction, and site restoration. In particular, please address:

- **a. the extent of vegetation clearing prior to installation of solar arrays (e.g. is the entire developed site cleared of vegetation prior to installation of PV panels, or is the area cleared of only woody vegetation?);**
- **b. depth of support posts;**
- **c. vegetation restoration; and**
- **d. vegetation control during operation of the facilities (e.g. does Geronimo anticipate manual or chemical vegetation control, or both, or some other option).**

Response:
Prior to installation of the solar arrays, the project area where facilities will be located will be cleared and grubbed of all trees and brush. Once grubbing is complete, the site will be graded if required by the project design. Support posts will be installed to a depth of approximately 10 feet, depending on area soil conditions. After construction, the site will be seeded and soils will be stabilized pursuant to the project's SWPPP. The area under the panels will typically be seeded with lower growing grasses. During operations, mowing will be the primary weed control method utilized on the sites.

2. Is there any required setback from tall trees or buildings required for optimal operation of the solar facilities?

Response:
No, there is no required or optimal setback distance from tall trees or structures. On and off-site shading is taken into consideration through production modeling and design accommodations. Geronimo assumes a 50 foot setback from the end of the panel rows to the fence to allow flexibility for turning radius for operations and maintenance equipment, etc., but that distance is not required for all sites.

Please let me know if you have any questions regarding these responses.

Regards,

Christy Brusven
Attorney at Law
Fredrikson & Byron, P.A.
200 South Sixth Street, Suite 4000
Minneapolis, MN 55402-1425
Direct Dial: 612.492.7412
Main Phone: 612.492.7000
Fax: 612.492.7077

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From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Tuesday, September 24, 2013 3:55 PM
To: Brusven, Christina
Cc: Nathan@GeronimoEnergy.com; Betsy Engelking
Subject: DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Geronimo question set 3

Christy –

I greatly appreciate your timely responses to earlier questions. The information provided has been of great assistance in preparation of the ER. Working through the material provided so far I have identified several additional follow-up questions.

1. Please provide a verbal description of site preparation, construction, and site restoration. In particular, please address:
    a. the extent of vegetation clearing prior to installation of solar arrays (e.g. is the entire developed site cleared of vegetation prior to installation of PV panels, or is the area cleared of only woody vegetation?); ,
    b. depth of support posts;
    c. vegetation restoration; and
    d. vegetation control during operation of the facilities (e.g. does Geronimo anticipate manual or chemical vegetation control, or both, or some other option).
2. Is there any required setback from tall trees or buildings required for optimal operation of the solar facilities?
3. The proposal, at p. 9, describes each site (Distributed Energy Generation Zone) as ranging in size between 20 and 70 acres, approximately 7 to 10 acres per MW. Geronimo's Distributed Energy Generation Zones filing on September 10, 2013, identified 23 sites ranging in size from 16 to 294 acres, or approximately 8 to 29 acres per MW.
    a. Please provide some indication as to the whether Geronimo anticipates a permanent land conversion of the entire site (16 to 294 acres), or some smaller portion of each site.
    b. Is there a rule of thumb on acres per MW that Geronimo uses?

I would greatly appreciate it if you could kindly coordinate responses and send them to me by return

e-mail no later than October 3, 2013.

Information provided will be used to develop an environmental review document that will be published as a public document. Responses to these questions will be considered to be public information unless otherwise designated by the respondent as "nonpublic information" pursuant to Minnesota Stat. § 13.02, subd. 12.

Please do not hesitate to contact me if you have any questions or would like to discuss the request.

Regards,
Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

☐ **Non Public Document – Contains Trade Secret Data**
☒ **Public Document – Trade Secret Data Excised**
☐ **Public Document**

Docket Nos.:	E002/CN-12-1240	
Response To:	Suzanne Steinhauer	Information Request No. 3
Date Received:	September 24, 2013	Response Date: October 1, 2013

Request No.	
3	The proposal, at p. 9, describes each site (Distributed Energy Generation Zone) as ranging in size between 20 and 70 acres, approximately 7 to 10 acres per MW. Geronimo's Distributed Energy Generation Zones filing on September 10, 2013, identified 23 sites ranging in size from 16 to 294 acres, or approximately 8 to 29 acres per MW. a. Please provide some indication as to the whether Geronimo anticipates a permanent land conversion of the entire site (16 to 294 acres), or some smaller portion of each site. **Response:** The area converted will be determined by the project size. The project size will be finalized through the interconnection review process. Several of the parcels include area that will not be utilized for the project. This stems from underlying parcel size, wetlands and landowner negotiations. Unutilized areas will be rented as crop land, held in reserve, used as buffer, or sold off. b. Is there a rule of thumb on acres per MW that Geronimo uses? **Response:** No. The number of acres per MW varies by site conditions, technology and the design of the system. It can range from 4-10 acres per MW. Our base technology assumption **[TRADE SECRET DATA HAS BEEN EXCISED]**.

Please note that portions of this response are marked "Non-Public" as it contains information the Company considers to be trade secret as defined by Minn. Stat. § 13.37(1)(b). This information has independent economic value from not being generally known to, and not being readily ascertainable by other parties, who could obtain economic value from its disclosure or use. Thus, Geronimo maintains this information as trade secret.

Responses to Suzanne Steinhauer's July 30, 2013 questions in Docket CN-12-1240

1. Please provide the range of capacity (e.g. 50 to 500 MW) that the GRE proposal would provide to meet Xcel Energy's need.

   Response: GRE offered Xcel either [**TRADE SECRET BEGINS** - **TRADE SECRET ENDS**] of capacity in our proposal.

2. Please provide the timeframe in which GRE's proposal would be able to meet Xcel Energy's identified need.

   Response: GRE's proposal covers 3 MISO resource adequacy planning years: 2016, 2017 and 2018. On a calendar basis this covers from June 1, 2016 through May 31, 2019

GRE's June 11, 2013, letter to the Commission states, in part:
"As a result, there is no environmental data to be supplied relative to new construction. Since no energy is included in our proposal, there is no environmental data to be supplied regarding the operation of existing resources since the operation of these existing resources will not change as a result of our proposal in this proceeding."

3. Does the term "existing resources" in the above statement refer to only generation resources? If not, please clarify what other types of resources are considered as existing resources.

   Response: The statement refers to both owned generation resources and purchased power agreements.

4. Please clarify the timeframe (e.g. April 2013, January 2015) used to describe "existing resources" in the above statement.

   Response: The resources exist today and are expected to remain in existence during the time period identified in the proposal. The point of describing the resources behind the proposal is to make the point that no new or additional resources are needed in order to support the proposal.

5. In order to develop a no-build alternative if GRE's proposal is not selected as part of this proceeding, please describe what GRE would do with the capacity it offers to Xcel Energy as part of the proposal. For example, would GRE offer the capacity in response to other resource bidding processes? Would GRE use the capacity offered to meet its own needs?

   Response: The capacity offered in our proposal to Xcel Energy is not expected to be needed to serve our member needs. If our proposal is not accepted, we will likely offer the capacity to others in the market, or into MISO's annual capacity auction. GRE has engaged in and continues

to engage in discussions with potential counterparties to see if there are mutual benefits to a capacity sale.

From: Selander, Stan GRE-MG
To: Steinhauer, Suzanne (COMM)
Cc: Ross McCalib, Laureen GRE-MG; Stephenson, Donna GRE-MG
Subject: RE: GRE response: EFP ER Questions for Xcel Competitive Bid (CN-12-1240) - GRE question set 1
Date: Wednesday, August 14, 2013 1:24:22 PM

Here you go Suzanne……

The bid quantities were designated as trade secret pursuant to Minn. Stat. section 13.37, subd. 1(b) due to the fact that the bid quantities derive independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons (including certain representatives of the other Bidding Parties who are participating in the docket) who can obtain economic value from their disclosure or use. The designation of the bid quantities as trade secret is consistent with the July 17, 2013 First Prehearing Order (Protective Order), Section 3(c)(3), "the MW amount of the GRE bid will be shared with the other Bidding Parties on a Trade Secret Basis subject to the terms of the protective order.""

Stan

Stan Selander
Senior Resource Strategist
Great River Energy
12300 Elm Creek Boulevard
Maple Grove, MN 55369-4718
Direct:763 445 6124 | Fax: 763 445 6924 | Cell: 612 859 8208
www.GreatRiverEnergy.com

From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Wednesday, August 07, 2013 4:09 PM
To: Selander, Stan GRE-MG
Cc: Ross McCalib, Laureen GRE-MG; Stephenson, Donna GRE-MG
Subject: RE: GRE response: EFP ER Questions for Xcel Competitive Bid (CN-12-1240) - GRE question set 1

Stan –Thank you for the prompt response.

With respect to the trade secret portion of your response, could you please follow up with a justification for that information being classified as trade secret pursuant to MN Stat. 13.37, subd. 1(b).

Regards,
Suzanne

Suzanne Steinhauer
Energy Facilities Permitting
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101

651-539-1843
suzanne.steinhauer@state.mn.us

From: Selander, Stan GRE-MG [mailto:SSelander@GREnergy.com]
Sent: Friday, August 02, 2013 9:47 AM
To: Steinhauer, Suzanne (COMM)
Cc: Ross McCalib, Laureen GRE-MG; Stephenson, Donna GRE-MG
Subject: GRE response: EFP ER Questions for Xcel Competitive Bid (CN-12-1240) - GRE question set 1

Suzanne,

Our response to your questions is attached. You will notice that a small portion is declared trade secret.

Stan

Stan Selander
Senior Resource Strategist
Great River Energy
12300 Elm Creek Boulevard
Maple Grove, MN 55369-4718
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From: Gordon, Craig
To: Steinhauer, Suzanne (COMM)
Subject: RE: EFP ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 1
Date: Thursday, August 15, 2013 11:12:00 AM

Suzanne,

Please find our answers to your questions.

1. If Invenergy's proposal is not selected, would Invenergy offer either or both of these sites in response to other resource bidding processes?

   Yes, Invenergy has and will continue to offer these sites to other potential buyers.

2. Is it Invenergy's intent at this time to continue to develop either or both of the sites on a speculative basis, independent of an impending power purchase agreement?

   Invenergy will likely continue to develop one or both of these sites, but it is improbable that Invenergy would build either site on a speculative basis.

3. Please provide maps showing potential sites (Hampton site and Hampton Alternative Site).

   See attached files.

4. Please provide the anticipated voltage and approximate length of transmission interconnections to the Hampton site and Hampton Alternative Site:

   The Hampton Site is adjacent to the site of a new 345 kV substation (the Hampton Substation) that is being constructed as part of the CapX2020 transmission system upgrades. So, the length of the Hampton site transmission interconnection will be very short (less than 1000') and will cross only the project and interconnecting utility's property. The Hampton Alternative Site is less than one half mile from a 345 kV substation (the Chub Lake/Lake Marion Substation) that is undergoing significant upgrades as part of the CapX2020 transmission system upgrades. The less than one half mile

transmission interconnection line has not yet been routed, but we anticipate that it would need to cross the property of one to three third-party landowners.

5. Please describe how fuel will be supplied to the Hampton Alternative Site.

The Hampton Alternative Site is located along the Interstate 35 corridor in Scott County. The site area is bordered on the west by I-35, on the east by Dupont Avenue, on the south by 250th street and roughly to the north by 245th street. There are three large gas interstate pipelines (greater than 26" diameter) owned by Northern Natural Gas approximately 5 miles east of the site that run in a north south direction. Gas would be supplied to the project via construction of a new 12-16" lateral pipeline approximately 5 miles in length. The exact routing of this lateral has not been determined. The land in this area is used primarily in an agricultural capacity.

Please describe the current land use(s) at the Hampton Site and the Hampton Alternative Site.

The current land use of both the Hampton and the Hampton Alternative site is agricultural. We note that the Hampton Alternative Site is zoned "Urban Business Reserve" by Scott County.

My apologies again for missing the deadline. Please let me know if you need further clarification to the answers.

Regards,

Craig

Craig Gordon | Director, Energy Marketing and Origination
Invenergy LLC | One South Wacker Drive, Suite 1900, Chicago, IL 60606
cgordon@invenergyllc.com | 312-582-1467

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From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Thursday, August 15, 2013 9:31 AM
To: Gordon, Craig
Subject: RE: EFP ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 1

Craig –

Could you please let me know when I can expect Invenergy's response to my questions from July 30?

Regards,
Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

From: Gordon, Craig [mailto:CGordon@invenergyllc.com]
Sent: Wednesday, July 31, 2013 3:53 PM
To: Steinhauer, Suzanne (COMM)
Subject: RE: EFP ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 1

Confirmation of receipt.

Craig Gordon | Director, Energy Marketing and Origination
Invenergy LLC | One South Wacker Drive, Suite 1900, Chicago, IL 60606
cgordon@invenergyllc.com | 312-582-1467

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If you have received this electronic message in error, please notify the sender by reply e-mail and destroy the original message and all copies.

From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Wednesday, July 31, 2013 3:25 PM
To: Gordon, Craig
Subject: FW: EFP ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 1

Craig –

As you can see, I mistyped your address in the email I sent yesterday. Could you please confirm receipt of this e-mail.

Please accept my apologies for the oversight.

Regards,
Suzanne

Suzanne Steinhauer
Energy Facilities Permitting
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

From: Steinhauer, Suzanne (COMM)
Sent: Tuesday, July 30, 2013 4:22 PM
To: Craig Gordon (cgordon@invenergylic.com)
Subject: EFP ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 1

Mr. Gordon –

As you are aware, the Commission has requested that the Department prepare an Environmental Report (ER) in the Xcel Competitive Resource Acquisition Process docket (E-002/CN-12-1240). An ER scope was filed in the docket on July 18, 2013, and the Department plans to release it no later than October 14, 2013.

As I begin to prepare the Environmental Report, I've identified a number of questions about the information existing in the record to date. As the ER progresses, I anticipate that I will be contacting you, as well as the other bidders, by e-mail and by phone to request additional information and to make sure that I understand the information that has been provided. My goal is to ensure that the ER provides an accurate and useful comparison of the alternative proposals and is available by the scheduled date.

To that end, I have several initial questions about Invenergy's proposal, and the "no-build" alternative to that proposal:

1. If Invenergy's proposal is not selected, would Invenergy offer either or both of these sites in response to other resource bidding processes?

2. Is it Invenergy's intent at this time to continue to develop either or both of the sites on a speculative basis, independent of an impending power purchase agreement?

3. Please provide maps showing potential sites (Hampton site and Hampton Alternative Site)

4. Please provide the anticipated voltage and approximate length of transmission interconnections to the Hampton site and Hampton Alternative Site:

5. Please describe how fuel will be supplied to the Hampton Alternative Site.

Please describe the current land use(s) at the Hampton Site and the Hampton Alternative Site.

In an attempt to minimize confusion resulting from multiple responders and multiple responses, please coordinate the responses and send to me by return e-mail no later than August 13, 2013. If you would like to designate another primary contact person to whom these types of questions should be directed, please let me know.

Information provided will be used to develop an environmental review document that will be published as a public document. Responses to these questions will be considered to be public information unless otherwise designated by the respondent as "nonpublic information" pursuant to Minnesota Stat. § 13.02, subd. 12.

Please do not hesitate to contact me if you have any questions or would like to discuss the request.

Regards,
Suzanne

Suzanne Steinhauer
Energy Facilities Permitting
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85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 2

1. Does the Cannon Falls plant currently use any surface water? Does Invenergy anticipate that the Cannon Falls expansion would require surface water beyond what is currently used at the existing facility?

   No. Cannon Falls gets its water from the City of Cannon Falls. The City of Cannon Falls obtains its water from a groundwater source: three wells ranging from 393 to 400 feet deep, which draw water from the Jordan and Jordan-St. Lawrence aquifers.

2. Does Invenergy anticipate that the Cannon Falls expansion would require changes to the city's water system to provide the necessary process and sanitary water?

   No. Potable/sanitary water needs will not change and process water needs will not increase significantly. The Cannon Falls facility maintains an onsite inventory of water of approximately 75,000 gallons of raw water and approximately 750,000 gallons of demineralized water on site so that operational fluctuations of the facility will not impact the City's water system.

3. Does Invenergy anticipate using any surface water for the Hampton Energy Center? If so, has Invenergy identified a source for surface water at the alternative sites?

   No we do not anticipate the use of any surface water for the Hampton Energy Center. Invenergy anticipates that they will drill onsite wells to a groundwater source.

4. Please explain why estimated water usage for the Hampton alternative is the same as for the Cannon Falls expansion, given that the Hampton alternative anticipates installing two units compared to one unit with the Cannon Falls expansion.

   This presumption is most likely based on data from the Strategist Assumptions Documentation provided by Invenergy. In that spreadsheet, the data requested was the water required in gallons/MWh. Given this unit of measure, it makes no difference whether there are one, two or even three units. The actual water required during operation can vary based on fuel use and ambient air temperatures. Over the last four years, we have averaged a consumption of less than one half million gallons per year. We would expect that the expansion unit at Cannon Falls would increase the annual consumption at Cannon Falls by roughly 40% and we would expect the Hampton Energy Center to have a similar annual water usage as the existing Cannon Falls facility.

5. Is the wastewater from the Cannon Falls plant currently treated on site, or is it discharged into a municipal wastewater system?

Wastewater from the Cannon Falls Energy Center is discharged to the municipal wastewater system.

a. Does Invenergy anticipate that wastewater from the expansion would be treated differently?

Wastewater from the expansion would not be treated any differently.

b. If water is discharged to a municipal system, is Invenergy aware of any need to expand the treatment plant to accommodate the proposed expansion of the Cannon Falls facility?

There is a limited amount of process wastewater that is generated by the facility and this would be expected to increase. There would be no change to the quantity of sanitary wastewater. Invenergy does not believe that there would be any need to expand the treatment plant to accommodate the proposed expansion of the Cannon Falls facility.

6. Does Invenergy anticipate that wastewater from the Hampton alternative would be treated on site or discharged into a municipal wastewater system?

At this time, Invenergy does not anticipate interconnection to a municipal wastewater system for the Hampton Energy Center site. Invenergy anticipates that wastewater from the Hampton Energy Center would be either treated via a septic system on site or via holding system that would be periodically cleaned.

7. Please provide the anticipated voltage of the transmission interconnect associated with the Hampton Energy Center site (noting any difference between the preferred and alternate sites).

We anticipate that the Hampton Energy Center would be interconnected to the transmission system at 345 kV. The alternate site would interconnect at the Lake Marion substation at 345 kV.

8. Please provide some clarifications to transmission interconnections for the Cannon Falls expansion. Section 13.3 of Invenergy's Cannon Falls Expansion proposal states that its initial feasibility study submitted to MISO looked at three potential interconnection locations.

The referenced feasibility study looked at potential interconnection at the 115 kV level at Cannon Falls, at the 345 kV level at Hampton Corners and at the 345 kV level at Lake Marion.

a. The proposal discusses both the potential that the expansion may entail significant expansion of either or both the 115 and 161 transmission systems in the Cannon Falls area and a potential nine mile transmission line between the Cannon Falls site and the new Hampton Corners 345 kV Substation. Please clarify whether Invenergy views these interconnection alternatives as mutually exclusive, i.e. either connect in the Cannon Falls area at a lower voltage <u>OR</u> connect at the Hampton Corners Substation, or as potentially complimentary.

Invenergy is indifferent to connection at the 115 kV level at Cannon Falls or the 345 kV level at Hampton corners. We believe that a more thorough study of the alternatives would yield the lowest cost alternative of the two. Since the impact to existing lines could not be easily ascertained at the time of the proposal, Invenergy included an estimated cost for electrical interconnection and a cost adjustment mechanism to increase or decrease the proposed capacity payment based on changes to the electrical interconnection cost.

b. Is there an additional interconnection location that is being studied?

The initial feasibility study also evaluated a potential interconnect to the 345 kV transmission system at Lake Marion substation. Interconnection to the Lake Marion substation would require a 20 mile transmission line and does not appear to be the likely interconnection.

9. Please identify and estimate quantities of hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) that would result from the Cannon Falls Expansion.

The permit for the existing Cannon Falls facility indicates that the Potential to Emit is as follows:

Any single HAP	9.11 tons per year
All HAPs	11.65 tons per year
VOCs	13.00 tons per year

These estimates are based on a theoretical combination of startup and shutdown hours, operating hours while firing natural gas and operating hours while firing fuel oil. Each operating mode has a different number of equivalent operating hours and the facility is permitted to a maximum permitted equivalent operating hours. Actual emissions are significantly lower.

Assuming that the Cannon Falls Expansion is permitted with the same equivalent operating hours per unit, the Potential to Emit for the Cannon Falls Expansion is as follows;

Any single HAP	4.56 tons per year
All HAPs	5.83 tons per year
VOCs	6.50 tons per year

10. Please identify and estimate quantities of hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) that would result from the Hampton Energy Center.

The permit for the existing Cannon Falls facility indicates that the Potential to Emit is as follows:

Any single HAP	9.11 tons per year
All HAPs	11.65 tons per year
VOCs	13.00 tons per year

These estimates are based on a theoretical combination of startup and shutdown hours, operating hours while firing natural gas and operating hours while firing fuel oil. Each operating mode has a different number of equivalent operating hours and the facility is permitted to a maximum permitted equivalent operating hours. Actual emissions are significantly lower.

Assuming that the Hampton Energy Center is permitted with the same equivalent operating hours per unit, the Potential to Emit for the Hampton Energy Center is as follows;

Any single HAP	9.11 tons per year
All HAPs	11.65 tons per year
VOCs	13.00 tons per year

11. Please provide an estimated range of property taxes paid on the paid on the existing Cannon Falls facility and an estimate of additional taxes and fees that would be paid on the proposed expansion. Please provide an estimate of taxes or fees accruing to local units of government vs. paid to the Department of Revenue.

    Pursuant to Minn. Stat. §272.02, subd. 68, as enacted by 2005 Minnesota Session Laws, Chapter 151, Article 3, §4, the Minnesota Legislature has provided a personal property tax exemption for the existing Cannon Falls Energy Center. In lieu of personal property tax, Cannon Falls agreed to an Annual Fee to the City of Cannon Falls which escalates annually by the greater of 2% and the increase in the Consumer price index and amounted to approximately $875,000 in 2013. The City allocates 31% of the Annual Fee to Goodhue County and 11% of the Annual Fee to Independent School District (ISD) 252.

    In addition to the Annual Fee paid to the City of Cannon Falls, Cannon Falls Energy Center pays an annual fixed fee of $210,000 to ISD 252.

    Cannon Falls pays real property tax to Goodhue County in an approximate amount of $162,000 annually.

    The proposed expansion is approximately half the size of the existing facility and we would expect that a similar taxation/fee arrangement would be negotiated for the expansion at approximately half of the current amount.

12. Please provide an estimate of taxes and fees that would be paid on the proposed Hampton Energy Center. Please provide an estimate of taxes or fees accruing to local units of government vs. paid to the Department of Revenue.

    The proposed Hampton Energy Center is of similar size and design as the existing Cannon Falls Energy Center. Invenergy anticipates that a similar taxation/fee arrangement would be negotiated with Dakota County, Vermillion Township and Hastings Independent School District (ISD) #200.

DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 2

13. Please provide a list of anticipated permits required for construction and operation of the Cannon Falls expansion.

    Site Permit for Large Electric Generating Facility
    Modification to existing Air Quality Permit No. 04900088-01
    NPDES/SDS General Stormwater Permit for Construction Activity
    FAA Notice of Proposed Construction or Alteration
    Building Permit as required by local codes
    Exemption to allow burning of natural gas for Power production (10CFR503) DOE

    For any related transmission line:
    Routing Permit
    NPDES/SDS General Stormwater Permit for Construction Activity

14. Please provide a list of anticipated permits required for construction and operation of the Hampton Energy Center.

    Site Permit for Large Electric Generating Facility
    Air Quality Permit
    NPDES/SDS General Stormwater Permit for Construction Activity
    FAA Notice of Proposed Construction or Alteration
    Subsurface Sewage Treatment System (septic)
    Well Permit Preliminary well construction application approval
    Water Appropriations Permit
    General Permit for Temporary Water Appropriations
    Building Permit as required by local codes
    Exemption to allow burning of natural gas for Power production (10CFR503) DOE

    For any related natural gas line:
    Routing Permit
    NPDES/SDS General Stormwater Permit for Construction Activity

From: Ewan, Daniel
To: Steinhauer, Suzanne (COMM)
Cc: Gordon, Craig
Subject: RE: DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 3
Date: Friday, October 04, 2013 10:17:33 AM

Suzanne,

Please find the following response to your question set 3:

1. We are not actively developing the Lake Marion site at this time. However, we would like to remain on record that we have an alternative site that could be developed should a material issue surface with the Hampton site.
2. A conservative estimate of PM2.5 emissions for each CT constructed (at 100% operating load) is as follows:
   - When firing Natural Gas: 12.8 lbs/hr
   - When firing Fuel Oil: 20.4 lbs/hr
3. At this early development stage, we have not yet performed any air emission modeling for the proposed Cannon Falls Expansion or the Hampton Energy Center. We believe that the initial air modeling that was completed for the existing Cannon Falls project will provide a reasonable estimation:
   - Based on modeling performed in Cannon Falls' original air permit application (Table 4-3 dated 10/11/2004), the maximum predicted SO_2 contributions to 24-hour average ground level concentrations ranged from 28.8 to 71.3 ug/m^3 during the 1987-1991 evaluation period.
   - Based on modeling performed in Cannon Falls' original air permit application (Table 4-4 dated 8/20/2004), the maximum predicted PM/PM_{10} contributions to 24-hour average ground level concentrations ranged from 9.9 to 24.0 ug/m^3 during the 1987-1991 evaluation period.
   - 24-hour NOx data was not required for the original Cannon Falls application, and therefore existing data is not available at this early stage.

   Note that these values are based on a worst-case evaluation that included operation of the two simple-cycle systems' exhaust stacks, the water bath gas heater, and the fire water pump. Therefore, the numbers above would be more reflective of potential Hampton Energy Center emissions than they would be for the addition of a single simple-cycle combustion turbine addition at the existing Cannon Falls facility. We would expect the numbers for the Cannon Falls Expansion to be lower.

Dan Ewan | Vice President, Development
Invenergy LLC | One South Wacker Drive, Suite 1900, Chicago, IL 60606
dewan@invenergyllc.com | T 312-582-1504

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From: "Steinhauer, Suzanne (COMM)" <suzanne.steinhauer@state.mn.us>
Date: September 30, 2013 at 3:00:29 PM CDT
To: "Craig Gordon (cgordon@invenergyllc.com)" <cgordon@invenergyllc.com>
Subject: DOC ER Questions for Xcel Competitive Bid (CN-12-1240) - Invenergy question set 3

Craig –

Thank you for your response to my earlier set of questions. Following up on those responses as well as more close reviews of all of the proposals I have identified several follow-up questions.

1. Daniel Ewan's direct testimony, filed September 27, references only one location for the Hampton Energy Center, adjacent to the Hampton Substation currently under construction. Does Invenergy intend to pursue inclusion of the Lake Marion alternative site as an option?
2. For both the Cannon Falls Expansion and the Hampton Energy Center please provide an estimate of PM 2.5 emissions in pounds per hour.
3. For both the Cannon Falls Expansion and the Hampton Energy Center please provide an estimated range of maximum contributions to 24-hour average ground level concentrations, as specified in Minn. Rule 7849.0320.

I would greatly appreciate it if you could kindly coordinate responses and send them to me by return e-mail no later than October 4, 2013.

Information provided will be used to develop an environmental review document that will be published as a public document. Responses to these questions will be considered to be public information unless otherwise designated by the respondent as "nonpublic information" pursuant to Minnesota Stat. § 13.02, subd. 12.

Regards,
Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

From: Ewan, Daniel
To: Steinhauer, Suzanne (COMM)
Cc: Gordon, Craig
Subject: RE: Cannon Falls and Hampton Energy Center Emissions Rates
Date: Thursday, October 10, 2013 9:08:48 AM

Suzanne,

I found a couple of errors in our earlier submittal. Below is what I have calculated for the table that you provided. I expect the new facilities would have even more restrictive operating hours and I thus I would expect that the Potential Air Emissions that we have calculated based on operating hour limitations in the existing permit are conservatively high. I have this in Excel format if you would like that. Please let me know if you have any questions.

Estimated Emissions - Cannon Falls Expansion

	#/hour at rated capacity		#/kWh at rated capacity		Potential Air Emissions (Tons/Year)
	Nat Gas	Fuel Oil	Nat Gas	Fuel Oil	Nat Gas
SO2	3.2	91.0	0.00002	0.00051	30
NOx	58.5	320.0	0.00033	0.00179	108
PM10	18.0	34.0	0.00010	0.00019	33
PM2.5	12.8	20.4	0.00007	0.00011	24
CO	29.0	66.0	0.00016	0.00037	53
CO2	206,500	274,500	1.15686	1.53782	379,908

Potential Air Emissions (Tons/year) are based on the equivalent operating hour limits in the existing Cannon Falls Air Emission Permit No. 04900088-001.
The permit allows for a maximum of 3,679.5 hours on natural gas or maximum of 669 hours on fuel oil per unit.
The potential Air emissions are based on the maximum of these two scenarios.

Estimated Emissions - Hampton Energy Center

	#/hour at rated capacity		#/kWh at rated capacity		Potential Air Emissions (Tons/Year)
	Nat Gas	Fuel Oil	Nat Gas	Fuel Oil	Nat Gas
SO2	6.4	182.0	0.00002	0.00051	61
NOx	117.0	640.0	0.00033	0.00179	215
PM10	36.0	68.0	0.00010	0.00019	66
PM2.5	25.6	40.8	0.00007	0.00011	47
CO	58.0	132.0	0.00016	0.00037	107
CO2	413,000	549,000	1.15686	1.53782	759,817

Potential Air Emissions (Tons/year) are based on the equivalent operating hour limits in the existing

Cannon Falls Air Emission Permit No. 04900088-001.
The permit allows for a maximum of 3,679.5 hours on natural gas or maximum of 669 hours on fuel oil per unit.
The potential Air emissions are based on the maximum of these two scenarios.

Dan Ewan | Vice President, Development
Invenergy LLC | One South Wacker Drive, Suite 1900, Chicago, IL 60606
dewan@invenergyllc.com | T 312-582-1504

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From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Tuesday, October 08, 2013 2:15 PM
To: Ewan, Daniel
Subject: RE: Cannon Falls and Hampton Energy Center Emissions Rates

Hi Dan –

The tons per year figure is adapted from the EA prepared for the Cannon Falls site in 2004. I have made no assumptions about operating hours. I used the Potential Air Pollution Emissions in tons/year from Table 5 in that EA for the Hampton facility (2 turbines, 357 MW, same as exists now Cannon Falls) and took half of that for the Cannon Falls Expansion, using one turbine.

As I mentioned in my voicemail, I am happy to use more updated information. I have not made any assumptions about operating hours of fuel mix because, from what I understand, that would require use of Trade Secret information.

Please feel free to give me a call if you have further questions or would like to discuss further.

Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

From: Ewan, Daniel [mailto:DEwan@invenergyllc.com]
Sent: Tuesday, October 08, 2013 2:03 PM
To: Steinhauer, Suzanne (COMM)
Subject: RE: Cannon Falls and Hampton Energy Center Emissions Rates

How are you calculating your tons per year? Have you made certain assumptions around operating

hours?

Dan Ewan | Vice President, Development
Invenergy LLC | One South Wacker Drive, Suite 1900, Chicago, IL 60606
dewan@invenergyllc.com | T 312-582-1504

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From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Tuesday, October 08, 2013 12:33 PM
To: Ewan, Daniel; Gordon, Craig
Subject: Cannon Falls and Hampton Energy Center Emissions Rates

Dan and Craig

Could you please check my assumptions and calculations in conversion of the emissions in pounds/hour to pounds/kWh?

Please get back to me no later than the end of the day **Wednesday, October 9.**

To get the emissions in pounds/kWh I divided the hourly emissions rates you provided (pounds/178,5 MW turbine) by 178,500, or 357,000 for the Hampton Facility. Hourly Emissions from Invenergy Environmental Supplement, (Cannon Falls or Hampton, p. 5). Emissions per Kilowatt Hour are calculated by dividing the hourly emissions rate for each pollutant by 357,000. Potential air emissions adapted from Minnesota Environmental Quality Board, *Environmental Assessment: Cannon Falls Energy Center, Cannon Falls, Minnesota*. November 2004. Adapted from Table 5, http://www.eqb.state.mn.us/pdf/FileRegister/04-85-PPS-Cannon%20Falls%20EC/eatable.pdf

Cannon Falls Expansion

As a peaking plant, the Cannon Falls Energy Center Expansion will operate a limited number of hours annually. In addition to limiting the number of operating hours, Invenergy proposes to further limit the potential emissions through use of pipeline quality natural gas with dry low NOx burners for the majority of its operating time. Invenergy proposes to use a water injection system to minimize NOx emissions when fuel oil is used as an emergency back-up fuel.[1] Table x estimates criteria and carbon dioxide emissions for the Cannon Falls Expansion using information provided by Invenergy in this proceeding and adapted from 2004 Environmental Assessment prepared for the Cannon Falls Energy.

Table 5: Estimated Emissions –Cannon Falls Expansion[2]

Pollutant	**#/hour at rated capacity**		**#/kWh at rated capacity**		**Potential Air Emissions (tons/year)**
	Natural Gas	**Fuel Oil**	**Natural Gas**	**Fuel Oil**	
SO_2	3.2	76	0.01	0.35	30
NO_x	58.5	320	0.27	1.49	123

PM_{10}	18	34	0.08	0.16	38
$PM_{2.5}$	18	34	0.08	0.16	38
CO	29	366	0.13	1.70	69
CO_2	206,500	274,500	960	1,277	

Hampton Energy Center

As a peaking plant, the Hampton Energy Center Expansion will operate a limited number of hours annually. In addition to limiting the number of operating hours, Invenergy proposes to further limit the potential emissions through use of pipeline quality natural gas with dry low NOx burners for the majority of its operating time. Invenergy proposes to use a water injection system to minimize NOx emissions when fuel oil is used as an emergency back-up fuel.[3]

Table x estimates criteria and carbon dioxide emissions for the Hampton Energy Center using information provided by Invenergy in this proceeding and adapted from 2004 Environmental Assessment prepared for the Cannon Falls Energy.

Table 6: Invenergy – Hampton Energy Center[4]

Pollutant	#/hour at rated capacity		#/kWh at rated capacity		Potential Air Emissions (tons/year)
	Natural Gas	Fuel Oil	Natural Gas	Fuel Oil	
SO_2	6.4	152	0.01	0.35	60
NO_x	117	640	0.27	1.49	247
PM_{10}	36	68	0.08	0.16	76
$PM_{2.5}$	36	68	0.08	0.16	76
CO	58	732	0.13	1.70	139
CO_2	413,000	549,000	960	1,277	

As always, please let me know if you have questions or concerns.

Information provided will be used to develop an environmental review document that will be published as a public document. Responses to these questions will be considered to be public information unless otherwise designated by the respondent as “nonpublic information” pursuant to Minnesota Stat. § 13.02, subd. 12.

Thanks,
Suzanne

Suzanne Steinhauer
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Minnesota Department of Commerce
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Saint Paul, MN 55101
651-539-1843

suzanne.steinhauer@state.mn.us

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[1] Source…

[2] Hourly Emissions from Invenergy Environmental Supplement, Cannon Falls, p. 5. Emissions per Kilowatt Hour are calculated by dividing the hourly emissions rate for each pollutant by 178,500. Potential air emissions adapted from Minnesota Environmental Quality Board, *Environmental Assessment: Cannon Falls Energy Center, Cannon Falls, Minnesota*. November 2004. Adapted from Table 5, http://www.eqb.state.mn.us/pdf/FileRegister/04-85-PPS-Cannon%20Falls%20EC/eatable.pdf

[3] Source…

[4] Hourly Emissions from Invenergy Environmental Supplement, Hampton, p. 5. Emissions per Kilowatt Hour are calculated by dividing the hourly emissions rate for each pollutant by 357,000. Potential air emissions adapted from Minnesota Environmental Quality Board, *Environmental Assessment: Cannon Falls Energy Center, Cannon Falls, Minnesota*. November 2004. Adapted from Table 5, http://www.eqb.state.mn.us/pdf/FileRegister/04-85-PPS-Cannon%20Falls%20EC/eatable.pdf

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 1-1
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Is the retirement, or the timing of decommissioning, of Black Dog Units 3 & 4 related in any way to selection of Xcel's Black Dog Unit 6 or Red River Valley (RRV) Units 1 &2?

a. Would the units still be decommissioned and retired if either one or none of Xcel's proposals are not selected in this proceeding?

b. Xcel's proposal, at p. 4-5 says units 3& 4 would be retired in 2015, at p. 4-6 it says that Unit 4 would need to be taken out of service in 2014 to allow for construction of Unit 6 in time to meet the need. Would Unit 3 be decommissioned and removed at that time, or remain until its scheduled retirement in 2015?

Response:

a. Black Dog Units 3 and 4 will have to cease utilization of coal by April 2015 or undergo major retrofit to meet the EPA Mercury and Air Toxics (MATS) rules. While the units are capable of operation with natural gas significant modifications and potentially derates would be required to meet the MATS rules and the National Ambient Air Quality Standards (NAAQS). It is anticipated that the units will be retired in 2015, though no formal announcement has been made at this time. These decisions are not related to the selection process for Black Dog 6 or RRV 1 and 2 other than Unit 4 will have to be removed to allow for Unit 6 to be installed.
b. If Black Dog Unit 6 is selected for commercial operation in 2017 then Unit 4 will have to be retired no later than the Fall of 2014 in order to allow for removal of the steam turbine and boiler and then installation of the new combustion turbine on the existing steam turbine foundation. Unit 3 would not have to be retired until the Spring of 2015 as identified above.

Preparer: Greg Ford
Title: Director – Engineering, Design, and Document Services
Department: Engineering and Construction
Telephone: 612-330-5696
Date: September 13, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 1-2
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Please describe the potential for development of Black Dog Unit 6 if that proposal is not selected in this proceeding.

Response:

The current Black Dog site will continue to be an attractive site for the location of electric generation resources. The site has access to both existing transmission and existing natural gas supply. These attributes are important criteria when locating generation resources. As future generation needs are identified, the Black Dog site will continue to be considered for development.

Preparer: Mary Morrison
Title: Resource Planning Analyst II
Department: Resource Planning and Bidding
Telephone: 612.330.5862
Date: September 13, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 1-3
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Please describe the potential for development of RRV Units 1 & 2 if that proposal is not selected through this process.

Response:

Development of generation in the Hankinson area will continue to be considered for the siting of future electric generation resources. The location provides access to both transmission lines and natural gas supply. These attributes are important criteria when locating generation resources. As future generation needs are identified, the current RRV site and alternate sites within the region will be evaluated for development.

Preparer: Mary Morrison
Title: Resource Planning Analyst II
Department: Resource Planning and Bidding
Telephone: 612.330.5862
Date: September 13, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-002
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Please provide a diagram of Black Dog, location of Unit 6 relative to current layout.

Response:

Please see diagram that accompanies this e-mail transmittal.

Preparer: Tim Edman
Title: Regulatory Case Specialist
Department: Regulatory Affairs
Telephone: 612-330-2952
Date: September 20, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-003
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Xcel's proposal for the RRV units anticipates a transmission interconnect at 230 kV (proposal at Section 4.3). Does Xcel anticipate that the 230 kV voltage would change if only one unit is selected through this process?

Response:

The Red River Valley generating station will interconnect to the 230 kV Hankinson substation regardless of the number of units that are constructed.

Preparer: Randall L. Oye
Title: Transmission Access Analyst
Department: Market Operations
Telephone: 612-330-2886
Date: September 20, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-004
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

For the RRV proposal, Xcel anticipates acquiring approximately 160 acres, within which up to 35 acres would be developed for the plant (proposal at p. 1-12). Assuming that the acquired land is agricultural, consistent with the predominant land cover within the larger study area, would land outside the disturbed area continue to be farmed, or does Xcel anticipate some type of conversion of land use?

Response:

Land not required for the plant operations would likely be retained in agricultural production.

Preparer: Greg Ford
Title: Director – Engineering, Design, and Document Services
Department: Engineering and Construction
Telephone: 612-330-5696
Date: September 20, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-005
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Regarding the estimates of surface water usage for the RRV facility in Table C4b:

a. Response to Minn Rule 7849.0250, E(1)notes that the surface water appropriation of the RRV Units 1 & 2 is "0 cf for Project, 633 cfs for Site." As the RRV proposal involves construction of up to 2 units at a new site, please explain the discrepancy in water usage between the "Project" and the "Site"

b. Response to Minn Rule 7849.0250, E(3)notes no surface water consumption. Please explain the discrepancy between this response and response to E(1).

Response:

a. The value for Minn. Rule 7829.0250, E(1) was erroneously copied from the Black Dog Unit 6 data and should read as "0 cfs for project, 0 cfs for site."

b. The value for Minn. Rule 7829.0250, E(3) is consistent with the corrected value for E(1) provided in response to a. above.

Preparer: Greg Ford
Title: Director – Engineering, Design, and Document Services
Department: Engineering and Construction
Telephone: 612-330-5696
Date: September 20, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-006
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Please explain why the "Estimated Annual Project Groundwater Appropriation" is the same in both Table C4a (Black Dog Unit 6) and Table C4b (RRV Units 1 & 2), when the RRV project involves 2 units and the Black Dog is for 1 unit.

Response:

The estimates for groundwater use at Black Dog include use for new unit 6 and existing units 5 and 2. The same values have been listed for RRV and are likely conservative. Detailed design will better define the necessary groundwater usage.

Preparer: Greg Ford
Title: Director – Engineering, Design, and Document Services
Department: Engineering and Construction
Telephone: 612-330-5696
Date: September 20, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-007
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Regarding estimates of water usage for the Black Dog Plant in Table C4(a):

a. Please describe the need for surface water consumption at the Black Dog Site as noted in, responses to M Rule 7849.0320, E (1 & 3). What is the source for the surface water?

b. Please explain Xcel's response to M Rule 7849.0320, E (3). It appears that Unit 6 does not require any surface water, but it is unclear what the relationship between Unit 6 and "215,100 acre-feet (50 % of site appropriation) for existing Units 2 and 5." The other responses in this table appear to refer only to the addition of Unit 6 and not to other units at the Black Dog site.

Response:

a. The primary need for surface water at the Black Dog plant is currently for the steam turbine condenser cooling systems for Units 2, 3, and 4. The water is taken from the Minnesota River and is part of an existing water appropriation.

b. The surface water consumption is entirely for Unit 2 cooling after Units 3 and 4 are retired. The intent was to indicate what the entire plant water usage would be after Unit 6 is placed in service. Unit 6 does not require any surface water.

Preparer: Greg Ford
Title: Director – Engineering, Design, and Document Services
Department: Engineering and Construction
Telephone: 612-330-5696
Date: September 20, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-008
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Please explain the differences in estimated settling pond accumulation between the Black Dog Unit 6 (~ 0 tons/year) and RRV Units 1 &2 (5 tons/year) shown in Tables 6-6 and 6-7.

Response:

Neither site will have significant settling pond accumulations resulting from operations of the proposed units. Both units could be characterized as ~0 tons/year. The RRV site was listed as 5 tons/year simply to indicate that there is likely to be a small, non-zero quantity of settling pond accumulation. The total quantity would be determined during detailed design. It should be noted that the Black Dog site is permitted for a small amount of wastewater discharge, where RRV would not be permitted to discharge wastewater to waters of the United States.

Preparer: Richard Rosvold
Title: Air Quality Manager
Department: Environmental Services
Telephone: 612-330-7879
Date: September 20, 2013

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Xcel Energy			
Docket No.:	E002/CN-12-1240		
Response To:	DOC ER	Information Request No.	2-9
Requestor:	Suzanne Steinhauer		
Date Received:	September 5, 2013		

Question:

The number of construction and operation jobs are classified as trade secret in Tables C3a, and C3b. Please provide a public version of estimated number of construction and operation jobs, as per Minn. Rule 7849.0320, subpart J. For the Black Dog portion of the proposal, please indicate any changes from the current number of operational jobs.

Response:

Public and non-public versions of Tables C3a and C3b were included in our initial filing. Please see the attached public versions of these tables. The expected number of construction and operational jobs is Trade Secret information; the information should not be made generally available prior to contractor and labor contract negotiations.

With regard to operations staffing, the Black Dog Plant will go through a significant reduction in overall staffing as Units 3 and 4 are retired. The remaining staff will be for the combined cycle facility consisting of Units 2 and 5. The additional staff requirements if Black Dog Unit 6 is constructed are anticipated to be very small.

Preparer:	Greg Ford
Title:	Director – Engineering, Design, and Document Services
Department:	Engineering and Construction
Telephone:	612-330-5696
Date:	September 20, 2013

Docket No. E002/CN-12-1240

Table C3a
Project Cost Summary – Black Dog

Item	Black Dog Unit 6		
Unit	6	6 (Option 1)	6 (Option 2)
In-Service Date	March 2017	March 2018	March 2019
	[TRADE SECRET DATA BEGINS…		
Project Base Capacity Cost			
Base Summer Capacity Costs in $/kW			
Transmission Cost			
Gas Cost			
Base Total Cost in $/kWh			
Annual Revenue Requirement in $/kWh (In-Service Year)			
Fuel Costs in $/kWh (In-Service Year)			
Variable O&M Costs in $/kWh ((In-Service Year)			
Estimated Effect on Rates $/kWh (MN & Total System)			
Sunk Costs if Canceled			
Estimated number of construction jobs			
Estimated amount of construction payroll to economy			
Estimated number of operations jobs			
	…TRADE SECRET DATA ENDS]		

Docket No. E002/CN-12-1240

Table C3b
Project Cost Summary – North Dakota

Item	North Dakota Units 1 and 2	
Unit	1	2
In-Service Date	March 2018	February 2019
	[TRADE SECRET DATA BEGINS…	
Project Base Capacity Cost		
Base Summer Capacity Costs in $/kW		
Transmission Cost		
Gas Cost		
Base Total Cost in $/kWh		
Annual Revenue Requirement in $/kWh (In-Service Year)		
Fuel Costs in $/kWh (In-Service Year)		
Variable O&M Costs in $/kWh ((In-Service Year)		
Estimated Effect on Rates $/kWh (MN & Total System)		
Sunk Costs if Canceled		
Estimated number of construction jobs		
Estimated amount of construction payroll to economy		
Estimated number of operations jobs		
	…TRADE SECRET DATA ENDS]	

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-10
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Please provide an estimate of property taxes or local government fees for the RRV plants. Please provide an estimate of taxes or fees accruing to local units of government vs. paid to the Department of Revenue.

Response:

Please see Attachment A.

Preparer: Leanna Chapman
Title: Team Lead
Department: Tax Service
Telephone: 612-330-5622
Date: September 26, 2013

Red River Units 1 & 2 Plant Property Tax Estimates

Estimated Taxes - Red River Valley Plant

	payable 2020	payable 2021
State levy	$ 3,000	$ 6,000
Richland County levy	$ 419,000	$ 789,000
School levy	$ 553,000	$ 1,040,000
Hankinson City & Other levies	$ 444,000	$ 835,000

Assumptions:

1. Taxes calculated using pay 2013 tax rates for Richland County
2. Taxes calculated using estimated projec cost based on current tax rules
3. For Red River Valley Plant, taxes payable in 2021 includes both proposed units

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 2-11
Requestor: Suzanne Steinhauer
Date Received: September 5, 2013

Question:

Please provide an estimate of the change in property taxes and fees paid on the installation of Black Dog Unit 6. Please provide an estimate of taxes or fees accruing to local units of government vs. paid to the Department of Revenue.

Response:

Please see Attachment A.

Preparer: Leanna Chapman
Title: Team Lead
Department: Tax Services
Telephone: 612-330-5622
Date: September 25, 2013

Black Dog Unit 6 Plant Property Tax Estimates

Estimated Taxes - Black Dog Unit 6 Plant

	Payable 2019
Dakota county	$ 199,000
Burnsville	$ 276,000
State	$ -
School District 0191	$ 294,000
Metropolitan Special Taxing Districts	$ 19,000
Other Special Taxing Districts	$ 19,000
Fiscal Disparity Tax	$ 550,000

Assumptions:
1. Taxes calculated using pay 2013 tax rates for Dakota County.
2. Taxes calculated using estimated project cost based on current tax rules

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 3-001
Requestor: Suzanne Steinhauer
Date Received: September 30, 2013

Question:

Dakota County referenced known soil and groundwater contamination at the Black = Dog plant. Please describe the potential for further groundwater contamination resulting from construction and operation of Unit 6 and mitigation measures that Xcel Energy anticipates employing to minimize the potential for further contamination.

Response:

As Black Dog Unit 6 is planned to be installed within the existing plant turbine building, we do not anticipate any groundwater contamination from construction or operation. Any accidental spills that do occur will be immediately addressed per Company policies and procedures. Existing groundwater contamination is from coal and ash handling outside the building and is being addressed through the State VIC program as a site remediation project that will commence after utilization of coal ceases in early 2015. This project is being developed in cooperation with the Minnesota Pollution Control Agency and will take place whether or not additional generation is built at Black Dog.

Preparer: Gregory Ford
Title: Director
Department: Energy Supply Engineering & Technical Services
Telephone: 612-330-5696
Date: October 4, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 3-002
Requestor: Suzanne Steinhauer
Date Received: September 30, 2013

Question:

Please provide the rationale the number of construction and operation jobs as trade secret pursuant to MN Stat. 13.37, subd. 1(b).

Response:

The planned construction and operating staff levels are trade secret in order to maintain our ability to negotiate construction and labor contracts with third parties without their prior knowledge of our expectations that could interfere with our ability to achieve the best pricing.

Preparer: Gregory Ford
Title: Director
Department: Energy Supply Engineering & Technical Services
Telephone: 612-330-5696
Date: October 4, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 3-003
Requestor: Suzanne Steinhauer
Date Received: September 30, 2013

Question:

EERA staff has been using the number of persons working at the site of all proposals both during construction and during operation to provide some indication of human impacts related to traffic and economic impacts. Please provide some indication of the level of traffic impacts during construction of the Black Dog Expansion and Red River Valley plants and an upward range of the number of operations jobs (e.g. fewer than 10, fewer than 50) anticipated once the Red River Valley Plant becomes operational.

Response:

The labor staffing during construction will vary during the installation period, but should not exceed a total of 60 at any one time. This would be true at both Black Dog and Red River unless both RRV units are built at the same time, in which case total labor should not exceed 100. The operating labor for Black Dog 6 and RRV1 and 2 would be less than 10. In the case of Black Dog, Units 3 and 4 will be retiring prior to Unit 6 going into service and the net result will be a reduction of plant operating staff from current levels.

Preparer: Gregory Ford
Title: Director
Department: Energy Supply Engineering & Technical Services
Telephone: 612-330-5696
Date: October 4, 2013

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Xcel Energy
Docket No.: E002/CN-12-1240
Response To: DOC ER Information Request No. 3-004
Requestor: Suzanne Steinhauer
Date Received: September 30, 2013

Question:

Please provide an estimated emissions level of CO2 at rated capacity in pounds per hour for both Black Dog Unit 6 and the Red River Valley Plant.

Response:

The CO2 emission rate is estimated to be less than 275,000 pounds CO2 per hour at rated capacity. This emission rate is for a single combustion turbine (CT) using data provided by one of our vendors.

Preparer: Rick Rosvold
Title: Manager
Department: Air Quality
Telephone: 612-330-7879
Date: October 4, 2013

From: Edman, Timothy J
To: Steinhauer, Suzanne (COMM)
Cc: Alders, James R
Subject: RE: Red River Valley Plant - wastewater discharge
Date: Tuesday, October 08, 2013 2:56:08 PM

Hi Suzanne,

After checking with environmental services and engineering, we offer the following clarification:

"If the facility does not have the ability to connect to a municipal wastewater system for disposal, then we would utilize a settling pond or tank to accumulate wastewater and contract for truck hauling to a location for disposal. Site storm water runoff would be run through settling and to local drainage."

Please let us know if we can be of any further assistance.

Timothy J. Edman
Xcel Energy | Regulatory Administration
414 Nicollet Mall, 7 Minneapolis, MN 55401
P: 612.330.2952 **C:** 612.207.2080 **F:** 612.215.7601
E: Timothy.J.Edman@xcelenergy.com

From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Friday, October 04, 2013 9:56 AM
To: Alders, James R; Edman, Timothy J
Subject: Red River Valley Plant - wastewater discharge

In reviewing the proposal, I see that that the disposition method for waste water identified in Table 6-7 is "Discharge to surface waters und NPDES permit or discharge to sanitary sewer." That table does reference maintenance cleaning of Settling Pond Accumulation, but I don't see any reference to settling or treatment ponds in the text and I'm not sure if they are shown in the artist rendering in Figure 4-11.

I'm not clear on where the waste water would be disposed if sanitary sewer is not available at the location selected or if the municipal system would be able to accommodate the discharge.

Would this be a fair statement?

> Xcel anticipates that both treated process water and service water will be discharged to an onsite settling pond or to a sanitary sewer. Discharge to sanitary sewer would be dependent upon the location of the facility in relation to the municipality's system and the capacity of the wastewater treatment system to accommodate the discharge, both of which are unknown at this time. Sanitary wastewater would be discharged to an on-site drain field.

Thanks,
Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis

Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

From: Alders, James R
To: Steinhauer, Suzanne (COMM)
Cc: Edman, Timothy J; Denniston, James R; Ford, Gregory L; Rosvold, Richard A
Subject: RE: Black Dog & Red River Valley air emissions rates
Date: Wednesday, October 09, 2013 3:10:25 PM

Suzanne, Rick checked your numbers and edited below. Call us if you have any questions.

Jim Alders
Xcel Energy
Strategy Consultant
414 Nicollet Mall, Minneapolis, Mn. 55401
W: 612 330 6732 F: 612 330 7601 C: 651 295 0019
E: james.r.alders@xcelenergy.com

From: Rosvold, Richard A
Sent: Wednesday, October 09, 2013 3:04 PM
To: Alders, James R; Ford, Gregory L
Cc: Edman, Timothy J; Denniston, James R
Subject: RE: Black Dog & Red River Valley air emissions rates

Jim,
My edits are shown in Red below. I added the CO2 emissions information and recalculated the pounds per kWh. I think these values were off by a factor of 1000. Let me know if you have questions.
Rick

From: Steinhauer, Suzanne (COMM) [mailto:suzanne.steinhauer@state.mn.us]
Sent: Tuesday, October 08, 2013 10:03 AM
To: Alders, James R; Edman, Timothy J
Subject: Black Dog & Red River Valley air emissions rates

Jim & Tim –

Could you please check my assumptions and calculations in conversion of the emissions in pounds/hour to pounds/kWh?

Please get back to me no later than the end of the day **Wednesday, October 9.**

To get the emissions in pounds/kWh I divided the hourly emissions rates you provided (pounds/215 MW turbine) by 215,000. Emissions rates were taken from the proposal, at Tables 6-1 & 6-3, and from your response to my question on CO2 rates provided on October 4. [Note: The data for the emissions tables represents the case described as 59'F – 100% Load. According to that case, the gross MW value is 223.5 MW/turbine. I have used this value to calculate the lb/kWh]

Black Dog Expansion

Xcel anticipates filing an air emissions permit application with the PCA in mid-2014. Consistent with its intent to operate Black Dog Unit 6 as a peaking unit, Xcel intends to request an air quality permit that will limit the total number of hours the combustion turbine will be allowed to operate. Xcel intends to net the emissions from Unit 6 against the current emissions from the coal-fired units. Using this "netting" approach Xcel anticipates that the expansion will not be subject to the federal

Prevention of Significant Deterioration (PSD) program for any emissions, except possibly for Carbon.[1]

Table x provides estimates of criteria pollutants and Carbon dioxide emissions at rated capacity.

Table 2: Black Dog Expansion Emissions[2]

Pollutant	Pounds/hour at rated capacity	Pounds/kWh at rated capacity	Annual Emissions (tons/year)
SO_2	3	~~0.01~~ 0,000013	1
NO_x	77	~~0.36~~ 0.00034	43
PM_{10}	23	~~0.11~~ 0,00010	9
$PM_{2.5}$	23	~~0.11~~ 0.00010	9
CO	47	~~0.22~~ 0.00021	83
CO_2	275,000	~~1,279~~ 1.230	108,400

[Note: The data for the emissions tables represents the case described as 59'F – 100% Load. According to that case, the gross MW value is 223.5 MW/turbine. I have used this value to calculate the lb/kWh. To get the emissions in pounds/kWh, I divided the Pounds/hour by 223,500 kW]

Red River Valley Plant

In their application, Xcel Energy anticipates filing an air emissions permit application with the North Dakota Department of Health in late 2014 or early 2015. Consistent with the plant's use as a peaking plant, Xcel intends to request an air quality permit that will limit the total number of hours the combustion turbine will be allowed to operate.[3]

Table x provides estimates of criteria pollutants and Carbon dioxide emissions at rated capacity.

Table 3: Red River Valley Plant Emissions

	Pounds/hour at rated capacity		Pounds/kWh at rated capacity		Annual Emissions (tons/year)	
Pollutant	1 unit	2 units	1 unit	2 units	1 unit	2 units
SO_2	3	6	~~0.01~~ 0,000013	~~0.03~~ 0,000013	1	2
NO_x	77	154	~~0.36~~ 0.00034	~~0.72~~ 0.00034	43	86
PM_{10}	23	46	~~0.11~~ 0,00010	~~0.21~~ 0,00010	9	18
$PM_{2.5}$	23	46	~~0.11~~ 0.00010	~~0.21~~ 0.00010	9	18
CO	47	47	~~0.22~~ 0.00021	~~0.44~~ 0.00021	83	166
CO_2	275,000	550,000	~~1,279~~ 1.230	~~2,558~~ 1.230	108,400	216,800

[Note: The data for the emissions tables represents the case described as 59'F – 100% Load. According to that case, the gross MW value is 223.5 MW/turbine. I have used this value to calculate the lb/kWh. To get the emissions in pounds/kWh, I divided the Pounds/hour by 223,500 kW. Also note that the pounds/kWh rates should be unchanged by going from one unit to two units.]

As always, please let me know if you have questions or concerns.

Information provided will be used to develop an environmental review document that will be published as a public document. Responses to these questions will be considered to be public information unless otherwise designated by the respondent as "nonpublic information" pursuant to Minnesota Stat. § 13.02, subd. 12.

Thanks,
Suzanne

Suzanne Steinhauer
Energy Environmental Review and Analysis
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1843
suzanne.steinhauer@state.mn.us

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[1] Xcel Application, p. 6-1

[2] Emissions rates in pounds/hour and estimated annual emissions are taken from Xcel Application at p. 6-2; personal communication, October 4, 2013 (Appendix C). Emissions in pounds per kilowatt hour are calculated using Xcel's estimated hourly emissions rate per turbine and dividing it by the size of the turbine in killowatts (215,000)

[3] Xcel Application, p. 6-3

From: Schrenzel, Jamie (DNR)
To: Steinhauer, Suzanne (COMM)
Subject: Re: Geronimo Solar Proposal
Date: Friday, September 20, 2013 5:12:49 PM

Suzanne,

Reviewers at the DNR considered possible impacts from commercial scale solar energy. Generally, the DNR would suggest conducting a review similar to any standard construction project involving the conversion of land use. Some examples of this type of review are included below:

-Habitat impacts – are there Minnesota County Biological Survey (MBS) Sites of Biodiversity Significance? Would blocks of habitat be affected such as a wooded area, grassland, prairie, or wetlands?
-Proximity to public lands and possible conflicts.
-Proximity to public waters or public water wetlands.
-Rare species presence.
-Possible avoidance by wildlife.
-Stormwater management and water use.
-Visual impacts.
-Typical construction impacts and considerations such as erosion control, invasive species management, possible machinery spills, hazardous materials management.

The DNR would suggest avoiding the destruction of native plant communities or blocks of habitat. Building in sites that would fragment habitat is discouraged.

Some specific considerations for solar projects that might be different, or more emphasized, than from a comparable project such as a building would be the following:

-Vegetation management and herbicide use.
-Consideration of wildfire prevention or compatibility with nearby prairie burning.
-Very localized grassland bird avoidance.
-Compatibility with hunting activities (stray bullet) if located adjacent to Wildlife Management Area or other similar area.
-As with any newer scale/type of technology in a new location, there may be unknown impacts at this time or site-specific unique impacts.

Regarding practical considerations of local and statewide siting review options, generally, DNR reviewers appreciate the consistency of the statewide siting process for larger energy projects. Comment periods and noticing can be easier to track at times with the statewide process and cumulative impacts would be more apparent if a project included multiple locations. The local review process may be more appropriate for smaller projects.

Thank you for requesting DNR input regarding possible natural resource impacts of commercial solar energy projects.

-Jamie Schrenzel
Principal Planner
Environmental Review Unit

(651) 259-5115

From: Steinhauer, Suzanne (COMM)
Sent: Thursday, September 12, 2013 2:23 PM
To: Schrenzel, Jamie (DNR)
Subject: Geronimo Solar Proposal

Hi Jamie –

Following up on yesterday's phone conversation, here are the links to the original Geronimo proposal (compiled in a more user friendly fashion on our website: http://mn.gov/commerce/energyfacilities/documents/33228/Geronimo_Public-compiled_4-15-13.pdf) and the location information filed yesterday (eDocket ID: 20139-91155-01).

As we discussed, I would be grateful to have DNR's thoughts on potential impacts of large solar facilities generally and, if possible, concerns related to certain ecological regions or land uses.

I would appreciate any feedback you have by September 20, 2013.

Thanks,
Suzanne

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