

PHIL STEGER Associate (612) 492-6853 steger.phil@dorsey.com

May 16, 2016

#### VIA ELECTRONIC FILING AND U.S. MAIL

Daniel P. Wolf Executive Secretary Minnesota Public Utilities Commission 121 Seventh Place East, Suite 350 St. Paul, MN 55101-2147

Re: In the Matter of the Further Investigation into Environmental and Socioeconomic Costs Under Minn. Stat. § 216B.2422, Subd. 3

Reply to Exceptions - Carbon Dioxide

MPUC Docket No. E999-CI-14-643 OAJ Docket No. 80-2500-31888

Dear Mr. Wolf:

In connection with the above-referenced docket, please find enclosed for filing, on behalf of Great River Energy, Minnesota Power, and Otter Tail Power Company ("GRE/MP/OTP"), the following documents:

- 1. GRE/MP/OTP Reply to Exceptions Carbon dioxide;
- 2. Affidavit of Service.

Thank you for your attention to this matter. Please feel free to contact me at (612) 492-6853 if you have any questions related to this filing or if additional information is required.

Very truly yours,

DORSEY & WHITNEY LLP

/s/ Phil Steger

Phil Steger Associate

Enclosures

cc: Service List

## STATE OF MINNNESOTA BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger Nancy Lange Dan Lipschultz Matthew Schuerger John Tuma Chair Commissioner Commissioner Commissioner

In the Matter of the Further Investigation into Environmental and Socioeconomic Costs Under Minn. Stat. § 216B.2422, Subd. 3 MPUC Docket No. E-999/CI-14-643

OAH Docket No. 80-2500-31888

# Great River Energy, Minnesota Power, and Otter Tail Power Company's Reply to Exceptions

**Carbon Dioxide** 

May 16, 2016

B. Andrew Brown Michael J. Ahern DORSEY & WHITNEY LLP 50 South Sixth Street, Suite 1500 Minneapolis, MN 55402-1498 Telephone: (612) 340-2600 Attorneys for Great River Energy, Minnesota Power, and Otter Tail Power Company

## I. INTRODUCTION

On April 15, 2016, the Administrative Law Judge ("ALJ") filed with the Minnesota Public Utilities Commission ("Commission") Findings of Fact, Conclusions, and Recommendations: Carbon Dioxide Values in *In the Matter of the Further Investigation into Environmental and Socioeconomic Costs Under Minn. Stat. § 216B.2422, Subd. 3*, Docket No. E-999/CI-14-643.

On April 20, 2016, the Commission issued its Notice of Schedule for Filing Exceptions to the Administrative Law Judge Report ("Notice"). The Notice established May 5, 2016 as the due date for exceptions and May 16, 2016 as the due date for replies to exceptions.

On May 5, 2016, the following parties filed exceptions:

- Minnesota Department of Commerce, Division of Energy Resources and Minnesota Pollution Control Agency (together, "the Agencies");
- Clean Energy Organizations ("CEOs");
- Great River Energy, Minnesota Power, and Otter Tail Power Company ("GRE/MP/OTP");
- Xcel Energy; and
- Minnesota Large Industrial Group ("MLIG").

In this reply, GRE/MP/OTP would like to respond:

- to the Agencies' claim that the time horizon should be set at 2300 on the grounds that "there is not an unreasonably greater scientific uncertainty" in the Interagency Working Group's ("IWG's") climate model after 2200 than there is in the model at 2100;
- (2) to the CEOs' claim that the 95<sup>th</sup> percentile value should be included because the Federal Social Cost of Carbon ("FSCC") likely underestimates the true damages of carbon dioxide ("CO<sub>2</sub>");
- (3) to the claims made by the Agencies and the CEOs that running the integrated assessment models ("IAMs") in order to make adjustments to the FSCC is too burdensome; and
- (4) in response to Xcel Energy, to clarify the recommendations made by GRE/MP/OTP's expert Dr. Anne Smith regarding how the Commission should account for leakage.

# II. DEGREE OF UNCERTAINTY AFTER 2100

In support of the use of a time horizon running to 2300, the Agencies make the extraordinary argument "... that there is not an unreasonably greater scientific uncertainty in the [IWG's climate] model after 2200 than there is in the model in 2100 ...."<sup>1</sup> This claim is not only counter-intuitive but it is not supported whatsoever by the evidence. As Xcel Energy's Mr. Nicholas Martin testified:

The SCC is inherently uncertain and speculative. Deriving the SCC relies on making assumptions – from now until the year 2300 – about population and GDP [gross domestic product] growth, the emissions that result from that growth, the temperature change that results from emissions, the damages that result from temperature change, and the appropriate discount rates to apply to those damages. Each of these assumptions is uncertain, and uncertainty builds from one step to the next.<sup>2</sup>

The uncertainty in each of these assumptions only increases as they are projected further into the future.<sup>3</sup> Modelers, as Dr. Smith stated in her report, "know that the uncertainty in any projections they can make expands as those projections go further in time, until at some point the projections are not useful or meaningful."<sup>4</sup> In this case, the ability to predict how impacts from climate change will be valued in the future "becomes purely speculative after about a century."<sup>5</sup>

Indeed, the Agencies admit that GDP—and therefore necessarily damages calculated as a percentage of GDP—is more uncertain in 2300 as opposed to 2100.<sup>6</sup> The Agencies' expert, Dr. Michael Hanemann, acknowledged that "[b]y the sheer nature of projections into the far future, they cannot be evidentiary or fact based," and that "our uncertainty over climate sensitivity has increased."<sup>7</sup> Dr. Hanemann also did not dispute Dr. Smith's statement that modelers know uncertainty in projections increases over time until the projections lose utility and meaning.<sup>8</sup>

<sup>&</sup>lt;sup>1</sup> Agencies Exceptions at 7.

 <sup>&</sup>lt;sup>2</sup> Ex. 600 at 3:11-17 (Martin Direct); *see also* ALJ Report at 84 (Finding 310), 85-86 (Findings 312, 314, 315, 317), 121 (Conclusion 41); Hearing Transcript, Vol. 1, 89:22-25, 90:9-11, 121:9-10 (Polasky); Ex. 230 at 111 (Bezdek Direct); Ex. 302 at 65, 69 (Smith Report); Ex. 401 at 12-13 (Gayer Surrebettal); Ex. 601 at 44:7-14 (Martin Rebuttal).
<sup>3</sup> See ALJ Report at 84 (Finding 310), 85-86 (Findings 312, 314, 315, 317), 121 (Conclusion 41);

<sup>&</sup>lt;sup>3</sup> *See* ALJ Report at 84 (Finding 310), 85-86 (Findings 312, 314, 315, 317), 121 (Conclusion 41); Hearing Transcript, Vol. 1, 89:22-25, 90:9-11, 121:9-10 (Polasky); Ex. 230 at 111 (Bezdek Direct); Ex. 302 at 65, 69 (Smith Report); Ex. 401 at 12-13 (Gayer Surrebettal); Ex. 601 at 44:7-14 (Martin Rebuttal).

<sup>&</sup>lt;sup>4</sup> Ex. 302 at 69 (Smith Report).

 $<sup>^{5}</sup>$  *Id.* at 65.

<sup>&</sup>lt;sup>6</sup> Agencies Exceptions at 4 ("There is greater uncertainty about the future level of GDP in 2300 versus 2100....").

<sup>&</sup>lt;sup>7</sup> Ex. 801 at 23:13-14, 31:6-7 (Hanemann Rebuttal).

<sup>&</sup>lt;sup>8</sup> *Id.* at 24:10-17.

In the final analysis, the Agencies' ultimate argument is that the uncertainty associated with damage projections "is not a reasonable justification for truncating the time horizon chosen by the IWG."<sup>9</sup> For the Agencies, as well as the CEOs, no amount of uncertainty is too much.<sup>10</sup> They do not feel bound by the need to "quantify" damages with sufficient evidence. They are not bothered by the fact that the IAM-based FSCC creates an illusory and misleading appearance of precision regarding the damages resulting from  $CO_2$  emissions. They do not recognize or address the overwhelming evidence that IAMs are not well-suited for quantitative policy analysis.

# III. USE OF 95<sup>th</sup> PERCENTILE VALUE

The ALJ concluded that the use of the 95<sup>th</sup> percentile value of the FSCC distribution at the 3 percent discount rate was "not supported by specific evidence or reasoning to demonstrate that the number is a meaningful estimate of the uncertainties it represents."<sup>11</sup> The CEOs object to this conclusion.<sup>12</sup> But they do not point to any specific evidence or reasoning challenging the ALJ's conclusion. Instead, they simply assert that the 95<sup>th</sup> percentile value is necessary because the FSCC underestimates the true damages of  $CO_2$ .<sup>13</sup> Once again, the CEOs attempt to use a risk premium to push the FSCC as high as possible and beyond the point where environmental cost values ("ECVs") can be reasonably quantified. This approach does not satisfy the statutory standard and is inconsistent with the Commission's past practice.<sup>14</sup>

#### IV. RECALCULATING THE FSCC

The Agencies and the CEOs both suggest that running the IAMs with different framing assumptions will be too burdensome, although neither offers any evidence to support this point.<sup>15</sup> By contrast, Dr. Smith provided detailed testimony that set out a step-by-step explanation of how recalculations can be performed.<sup>16</sup> The methodology used by Dr. Smith to recalculate the FSCC with different framing assumptions than those used by the IWG was not challenged by any party.<sup>17</sup> This is not a serious issue. Moreover, assuming solely for purposes of argument that recalculations cannot be performed at a reasonable cost, then for this reason alone the Commission cannot reasonably rely on the FSCC to establish the CO<sub>2</sub> ECV.

<sup>11</sup> ALJ Report at 63, Finding 228.

<sup>&</sup>lt;sup>9</sup> *Id.* at 4.

<sup>&</sup>lt;sup>10</sup> See, e.g., Hearing Transcript, Vol. 1, 121:9-10, 124:7-12 (Dr. Polasky defending the FSCC despite the lack of empirical data to support its estimates, because it "is our best guess as to what would happen as you go forward").

 $<sup>^{12}</sup>$  CEO Exceptions at 18.

<sup>&</sup>lt;sup>13</sup> *Id.* at 19.

<sup>&</sup>lt;sup>14</sup> In addition, by recommending the inclusion of a low-probability, high-damage scenario (the 95<sup>th</sup> percentile of the 3% discount rate frequency distribution), while ignoring an equally improbable low-damage scenario (e.g., the corresponding 5<sup>th</sup> percentile of the 3% discount rate frequency distribution), the CEOs promote an inconsistent result that skews the FSCC values to an extreme, unbalanced, and uncertain high-damage range. *See* Ex. 600 at 29 (Martin Direct). <sup>15</sup> CEO Exceptions at 12; Agencies Exceptions at 9.

<sup>&</sup>lt;sup>16</sup> Ex. 302, App. A at 110-12 (Smith Report).

<sup>&</sup>lt;sup>17</sup> Ex. 300 at 29:13-30:9 (Smith Direct); Ex. 302 at 33-45 (Smith Report).

# V. ACCOUNTING FOR LEAKAGE

In its exceptions, Xcel Energy stated "it was Dr. Smith in Direct Testimony who first proposed the estimation of leakage in other proceedings."<sup>18</sup> We believe this statement is potentially confusing. We wish to clarify that Dr. Smith did not recommend a separate investigation addressing issues relating to leakage. Instead, she recommended that the Commission account for leakage in *this* proceeding, by expressing the  $CO_2$  ECV in *net* tons – that is, the value of tons of  $CO_2$  emissions actually avoided after accounting for increases in emissions occurring in other jurisdictions as a result of Minnesota's resource changes.

In her direct testimony, Dr. Smith testified that an estimate of the social cost of carbon should be based on carbon emissions *actually* removed or added to the total inventory of global carbon emissions:

An estimate of SCC in \$/ton is for a ton that is *actually* removed from or added to the total inventory of global carbon emissions. If a Minnesota entity reduces its emissions by 100 tons but another entity elsewhere reacts by increasing its emissions by 75 tons (a phenomenon called "leakage"), the *actual* change in global emissions is only 25 tons. In this case, the total environmental value of Minnesota's action would only be equal to the environmental value of the *net* reduction of 25 tons. That is, whatever value one might estimate for a SCC on a \$/ton basis, that \$/ton should only be multiplied by the *net* change in global tons, which may be lower than the number of tons that would be reduced directly as a result of a change in a Minnesota resource plan.<sup>19</sup>

Dr. Smith specifically recommended:

Any SCC estimate should be applied only to the net tons that Minnesota may reduce globally, which would be the direct reduction that Minnesotans would pay for minus potential increases in emissions that are projected to occur outside of Minnesota as a result of its own control efforts.<sup>20</sup>

Dr. Smith also testified about how leakage could be calculated:

To estimate leakage associated with resource planning actions taken by Minnesota, one can employ a detailed generation planning model of the Minnesota electricity system and power pools that connect to Minnesota. Such a model can be run with and without a specific change in generation resources in Minnesota (and hence a specific direct change in Minnesota's electricity sector  $CO_2$  emissions). The ratio of the change in emissions outside Minnesota to the

<sup>&</sup>lt;sup>18</sup> Xcel Energy Exceptions at 26-27 (citing Ex. 300 at 35 (Smith Direct); Ex. 302 at 100-02 (Smith Report).

<sup>&</sup>lt;sup>19</sup> Ex. 302 at 100 (Smith Report).

<sup>&</sup>lt;sup>20</sup> Id.

change in emissions within Minnesota would yield the amount of estimated leakage.<sup>21</sup>

Based on a preponderance of the evidence, we believe it would be unreasonable to apply the CO<sub>2</sub> ECV without recognition of the need to account for leakage. If leakage cannot be taken into account, then the CO<sub>2</sub> ECV should not be applied. Cross border leakage from Minnesota's CO<sub>2</sub> ECV decisions should also not be an afterthought. Delay or deferral of this issue to specific resource planning matters would create a significant risk of ad hoc and inconsistent treatment of leakage and ultimately of the applications of the CO<sub>2</sub> ECV. In this proceeding or, as the ALJ recommended, in a separate proceeding, we urge the Commission to address this critical issue, including the manner of calculating the amount of leakage.

#### VI. CONCLUSION

In view of the record, we recommend the Commission decline to change the methodology that it now uses to update the  $CO_2$  environmental cost value due to the excessive uncertainty and speculation associated with use of the FSCC. In the alternative, we recommend the Commission adopt a modified version of the FSCC based upon the same economic framing assumptions used by the Commission in setting the current  $CO_2$  value – a time horizon extending to 2100, use of an average cost approach to calculate marginal ton, 3.0 percent and 5.0 percent discount rates, and global damages.

Dated: May 16, 2016

#### DORSEY & WHITNEY LLP

By: <u>/s/ B. Andrew Brown</u>

B. Andrew Brown (#0205357) Michael J. Ahern (#0000668) Suite 1500, 50 South Sixth Street Minneapolis, MN 55402-1498 Telephone: (612) 340-2600 Facsimile: (612) 340-2868

ATTORNEYS FOR GREAT RIVER ENERGY, MINNESOTA POWER, AND OTTER TAIL POWER COMPANY

<sup>&</sup>lt;sup>21</sup> *Id.* at 102; *see also* ALJ Report at 79, Finding 291 ("The Utilities and MLIG described a method to estimate leakage...."), Finding 295 ("The Utilities and MLIG urged the Administrative Law Judge to recommend that the Commission adopt an estimate of the SCC net of leakage *in this proceeding....*).

#### AFFIDAVIT OF SERVICE

In the Matter of the Further Investigation into Environmental and Socioeconomic Costs Under Minnesota Statute Section 216B.2422, Subdivision 3

STATE OF MINNESOTA)) ss.COUNTY OF HENNEPIN)

I, Phil Steger, hereby certify that on the 16<sup>th</sup> day of May 2016, on behalf of Great River Energy, Minnesota Power, and Otter Tail Power Company, I electronically filed true and correct copies of the following documents with the Minnesota Public Utilities Commission ("PUC"):

1. Reply to Exceptions - Carbon Dioxide

2. Affidavit of Service.

The documents were filed through the PUC's eFiling system, and that eFiling system will provide service to those on the attached list who have selected electronic service.

<u>/s/ Phil Steger</u> Phil Steger

Subscribed and sworn to before me this 16<sup>th</sup> day of May 2016:

Notary Public, State of Minnesota My Commission Expires: 1/31/2020



First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
David	Aafedt	daafedt@winthrop.com	Winthrop & Weinstine, P.A.	Suite 3500, 225 South Sixth Street Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Michael	Ahern	ahern.michael@dorsey.co m	Dorsey & Whitney, LLP	50 S 6th St Ste 1500 Minneapolis, MN 554021498	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Marc	AI	marc.al@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Hugh	Brown	N/A	Dorsey & Whitney LLP	Suite 1500 50 South Sixth Street Minneapolis, Minnesota 55402	Paper Service	No	OFF_SL_14-643_Official CC Service List
B. Andrew	Brown	brown.andrew@dorsey.co m	Dorsey & Whitney LLP	Suite 1500 50 South Sixth Street Minneapolis, MN 554021498	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Carl	Cronin	carl.cronin@xcelenergy.co m	Xcel Energy	414 Nicollet Mall Minneapolis, Minnesota 55401	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Leigh	Currie	lcurrie@mncenter.org	Minnesota Center for Environmental Advocacy	26 E. Exchange St., Suite 206 St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Patricia	DeBleeckere	tricia.debleeckere@state.m n.us	Public Utilities Commission	Suite 350 121 Seventh Place East St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
James	Denniston	james.r.denniston@xcelen ergy.com	Xcel Energy Services, Inc.	414 Nicollet Mall, Fifth Floor Minneapolis, MN 55401	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Jessica	Dexter	jdexter@elpc.org	Environmental Law & Policy Center	394 Lake Avenue, Ste. 309 Duluth, MN 55802	Electronic Service	No	OFF_SL_14-643_Official CC Service List

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Brian	Draxten	bhdraxten@otpco.com	Otter Tail Power Company	P.O. Box 496 215 South Cascade S Fergus Falls, MN 565380498	Electronic Service treet	No	OFF_SL_14-643_Official CC Service List
Tristan	Duncan	tlduncan@shb.com	Shook Hardy & Bacon, L.L.P.	2555 Grand Blvd. Kansas City, MO 64108	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Bret	Eknes	bret.eknes@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Jim	Erickson	jim.g.erickson@xcelenergy. com	Xcel Energy	414 Nicollet mall 7th Flr Minneapolis, MN 55401	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Bruce	Gerhardson	bgerhardson@otpco.com	Otter Tail Power Company	PO Box 496 215 S Cascade St Fergus Falls, MN 565380496	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Emerald	Gratz	emerald.gratz@state.mn.us	Office of Administrative Hearings	PO Box 64620 Saint Paul, Minnesota 55164-0620	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Thomas J.	Grever	tgrever@shb.com	Shook, Hardy &Bacon L.L.P.	2555 Grand Blvd. Kansas City, MO 64108	Electronic Service	No	OFF_SL_14-643_Official CC Service List
J Drake	Hamilton	hamilton@fresh-energy.org	Fresh Energy	408 St Peter St Saint Paul, MN 55101	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Linda	Jensen	linda.s.jensen@ag.state.m n.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota Street St. Paul, MN 551012134	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Kevin D.	Johnson	kdjohnson@stoel.com	Stoel Rives LLP	Suite 4200 33 South Sixth Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-643_Official CC Service List

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Sarah	Johnson Phillips	sjphillips@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Hudson	Kingston	hkingston@mncenter.org	MN Center for Environmental Advocacy	26 East Exchange Street, Suite 206 St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Brad	Klein	bklein@elpc.org	Environmental Law & Policy Center	35 E. Wacker Drive, Suite 1600 Suite 1600 Chicago, IL 60601	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Kevin	Lee	kevin@kevinleelaw.com		400 S. 4th St. Suite 401-111 Minneapolis, MN 55415	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Jonathan	Massey	jmassey@masseygail.com	Massey & Gail LLP	1325 G Street NW Washington, DC 20005	Electronic Service	No	OFF_SL_14-643_Official CC Service List
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Andrew	Moratzka	andrew.moratzka@stoel.co m	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Jeff	Oxley	jeff.oxley@state.mn.us	Office of Administrative Hearings	600 North Robert Street St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Michelle	Rebholz	michelle.rebholz@state.mn .us	Public Utilities Commission	Suite 350121 Seventh Place East St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Kevin	Reuther	kreuther@mncenter.org	MN Center for Environmental Advocacy	26 E Exchange St, Ste 206 St. Paul, MN 551011667	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Laureen	Ross McCalib	Irossmccalib@grenergy.co m	Great River Energy	12300 Elm Creek Boulevard Maple Grove, MN 55369-4718	Electronic Service	No	OFF_SL_14-643_Official CC Service List
LauraSue	Schlatter	LauraSue.Schlatter@state. mn.us	Office of Administrative Hearings	PO Box 64620 St. Paul, MN 55164-0620	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Janet	Shaddix Elling	jshaddix@janetshaddix.co m	Shaddix And Associates	Ste 122 9100 W Bloomington F Bloomington, MN 55431	Electronic Service Frwy	Yes	OFF_SL_14-643_Official CC Service List
Sean	Stalpes	sean.stalpes@state.mn.us	Public Utilities Commission	121 E. 7th Place, Suite 350 Saint Paul, MN 55101-2147	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Donna	Stephenson	dstephenson@grenergy.co m	Great River Energy	12300 Elm Creek Boulevard Maple Grove, MN 55369	Electronic Service	No	OFF_SL_14-643_Official CC Service List
Eric	Swanson	eswanson@winthrop.com	Winthrop Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_14-643_Official CC Service List
SaGonna	Thompson	Regulatory.records@xcele nergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	Yes	OFF_SL_14-643_Official CC Service List
Erin	Vaughn	evaughn@shb.com	Shook, Hardy &Bacon L.L.P.	2555 Grand Blvd. Kansas City, MO 64108	Electronic Service	No	OFF_SL_14-643_Official CC Service List

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Colin	Wicker	wicker.colin@dorsey.com	Dorsey & Whitney LLP	50 6th Street South Suite 1500 Minneapolis, MN 55402	Electronic Service		OFF_SL_14-643_Official CC Service List
Alexis	Williams	williams@fresh-energy.org	Fresh Energy	408 St. Peter St Suite 220 St. Paul, MN 55102	Electronic Service		OFF_SL_14-643_Official CC Service List
Cam	Winton		Minnesota Chamber of Commerce	400 Robert Street North Suite 1500 St. Paul, Minnesota 55101	Electronic Service		OFF_SL_14-643_Official CC Service List
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service		OFF_SL_14-643_Official CC Service List