EXHIBIT
PSC-1

BEFORE THE

NORTH DAKOTA PUBLIC SERVICE COMMISSION

Northern States Power Company

Advance Determination of Prudence

200 MW Courtenay Wind Farm

Case Nos. PU-15-175 & PU-15-181

DIRECT TESTIMONY

OF

VICTOR SCHOCK

ON BEHALF OF THE

NORTH DAKOTA PUBLIC SERVICE COMMISSION

ADVOCACY STAFF

July 10, 2015

43 PU-15-183 Filed 07/23/2015 Pages: 20
Exhibit PSC-1
Public Service Commission Advocacy Staff

Q: Provide your name and qualifications.

A: My name is Victor Schock. I am a Public Utility Analyst for the North Dakota Public Service Commission (commission). I have 10 years of accounting experience and one year of utility regulatory experience.

I received a Bachelor of Science Degree in Accounting from Dickinson State University in 2007. I have testified before the commission on damage prevention cases. Prior to my work with the commission I completed hundreds of financial reviews of both public and private companies as well as government entities in my work as a Credit & Collections Manager.

Q: What is the purpose of your testimony?

A: The commission has appointed me to advocacy staff (staff) in this proceeding. As such, I will provide the commission with an analysis of Northern States Power Company's (NSP) application for Advance Determination of Prudence (ADP) for its proposed Courtenay Wind Farm (CWF).

Q: Please summarize your testimony.

A: Staff believes that ownership of the CWF represents the least cost option available to NSP to meet its future energy needs. NSP has met its rebuttable presumption of prudence for resources located in ND.[1] Staff recommends approval of both the ADP Application and the requested Certificate of Public Convenience and Necessity (CPCN).

Q: How did you determine that the CWF is a least cost resource?

A: Traditionally, the decision to expand generation resources is developed through an Integrated Resource Plan (IRP). NSP's 2011-2025 Resource Plan identified the need for additional wind resources. In February of 2013 NSP

[1] N.D.C.C. 49-05-16(7).

issued a request for proposal (RFP) for up to 200 MW of wind resources. As a result of the RFP, and the subsequent project review process, NSP identified several projects as least cost and proceeded to request an ADP from the Commission for a purchased power agreement (PPA) for the CWF in Case No. PU-13-706. The Commission granted the ADP on February 26, 2014 agreeing with Staff's position that the PPA for the CWF is a least cost resource.

The current ADP request for NSP to own the CWF is in fact at a lower net present value cost than the original PPA.

Q: Do you have any concerns with the price of the CWF?

A: No. The cost analysis provided by NSP shows that the CWF will result in savings of $97 million on a net present value basis for rate payers versus the alternative of abandoning the project. Their Strategist modeling showed a net savings using all sensitivity scenarios such as high gas costs, low gas costs, +/- 5% output from the CWF and +/- 25% ongoing ownership costs.

Q: Did NSP work to manage the costs of the CWF?

A: Yes. The original developer (Geronimo) of the CWF was unable to secure financing. NSP put Geronimo on notice of default, and took the necessary steps to terminate the original purchased power agreement (PPA). NSP then conducted an analysis of the project to assess the risks and benefits of project development and ownership. NSP concluded that the project is not viable under the terms of the original PPA due to Geronimo not being able to make use of the North Dakota Income Tax credit, or secure financing or outside investors to fund the CWF. NSP further concluded the project is viable and a least cost resource for ratepayers in an NSP ownership scenario.

Q: In the original application for Courtenay ADP (PU-13-706) NSP modeled a purchased power agreement, why should an ownership position be considered in this proceeding?

A: Ownership of the CWF results in a lower cost to ratepayers than the original PPA did. It is about $35 million cheaper on a net present value basis compared to the original PPA agreement with Geronimo.

A price discount for wind ownership was observed during proceedings for Otter Tail's three owned North Dakota wind farms and the same can be observed in this proceeding. Staff is generally supportive of ownership positions. Ownership is less expensive because it shifts much of the operational and financial risk to the utility company. In addition, utilities generally have access to lower cost of capital than developers. Staff believes the discounted price of ownership is worth the added risk and that NSP is capable of effectively managing the property.

Q: Can a common sense analysis be done to make sure the CWF is a good investment?

A: A simple and conservative approach is to compare the all-in-cost of the CWF to only the fuel costs of the other supply side resources. In this case, the net present value of the all-in-cost of the CWF is less expensive than just the fuel per MWh to run the most efficient simple or combined cycle gas turbines. This is true for the forecasted natural gas prices over the life of the CWF.

While it is true that the average cost of natural gas for 2015 year to date is only $2.83 per Million British Thermal Units (MBtu), historical price trends support a much higher forecast for the future. From 2003 to 2008 natural gas prices averaged over $5 per MBtu[2]. There are a few reasons why natural gas prices have remained below $5 since then including a long running recession

[2] U.S. Energy Information Administration website, Henry Hub Spot Price.

since 2008. In that regard, it is unlikely that the United States economy will remain in a recession indefinitely and the eventual turnaround will add to the demand for natural gas resulting in upward pressure on prices.

Increased production through horizontal drilling and fracking has also driven prices lower. Fracking will likely remain as long as the industry can continue to stave off the environmentalists' concerns and government interference.

A very significant factor in the long-term availability and price of natural gas will be the implementation of the U.S. Environmental Protection Agency's (EPA) Clean Power Plan. If EPA is successful in forcing early shut downs of existing useful coal fired generating stations and if most of the nation's new capacity needs continue to be met by natural gas fired generating stations, upward pressure on the price of natural gas will certainly occur.

Given the multitude of significant factors that will impact the future price of natural gas and the volatility of natural gas prices in the past, staff believes that locking down low cost energy prices that compare favorably to just the fuel cost of alternative resources is a good value for ratepayers. It is all the more valuable when adding in the additional cost of capital, depreciation, operation and maintenance expenses, taxes etc. of the other alternative energy resources beyond just the cost of fuel.

Q: How does the CWF compare to market priced energy?

A: The actual average Locational Marginal Price for the OTP.NSP node for market energy in 2014 ranged between -$9.64 and $314.81 per MWh with a full year average of $33.42 per MWh.[3] NSP's levelized cost analysis shows

[3] NSP's Data Response No. 1.4, Attachment A.

that the per MWh revenue requirement for the CWF is a lower cost than the average market price in 2014.

Q: How exposed is NSP to the market price of energy?

A: In 2014, NSP purchased about 7% of its energy needs or about 2,914,321 MWh.[4] If the CWF produces at its estimated capacity factor of 46.1%, it will generate about 808,000 MWh's of energy per year, or less than a third of NSP's 2014 purchased energy levels. The CWF will lock down low energy costs for the next 25 years and remove a good bit of exposure to market priced energy.

Q: What if NSP's forecasted sales fall flat?

A: As evidenced in the last paragraph, the CWF energy will satisfy less than one-third the energy needs currently being purchased.

Q: What is NSP's reason for adding the CWF to their generation mix?

A: NSP has provided compelling reasons for adding the CWF. The two main points NSP made that are of particular importance are cost and supporting development of North Dakota based generation.

NSP's Strategist analysis shows that the CWF will provide a net cost savings on a present value revenue requirement basis to customers of $97 million. If we look at the worst case scenario provided by Strategist, there would still be a net cost savings of $20 million in the event that the CWF only has a 20 year life. In the best case scenario from Strategist, the net cost savings is $159 million in the event that the growth rate of natural gas prices is 50% higher than the 2014 Ventura gas price forecast.

[4] Calculated from NSP Data Response 1.5, Attachment A.

By placing the generation resource in North Dakota, the state, the ratepayers and NSP can all enjoy a benefit. The state will benefit from the additional economic and employment opportunity, the ratepayers will benefit from the cost savings, and NSP will benefit by having a more reliable and geographically diverse generation fleet.

Q: Are there any downsides to the CWF?

A: Yes. The CWF will result in a temporary increase in rates. This increase is more than offset by the decrease in rates in later years, which is why staff is supporting this project. The rate increase for the average non-heating residential customer (750 KWhs per month) ranges from a high of 30 cents per month in 2017 to a rate decrease of 46.5 cents per month in 2026. The rate impact analysis provided by NSP shows an increase from 2015 through 2019 due to the initial rate base impact. As more depreciation is realized, the CWF provides a decrease from 2020 through 2026. Upon expiration of the 10 year production tax credits another increase happens from 2027 through 2030. And finally, as depreciation catches up, another decrease from 2031 through 2038.

Q: What does staff conclude?

A: Staff believes that the CWF is a very cost effective resource for meeting NSP's energy needs. The CWF will lock down low cost energy. The CWF is the lowest cost resource available to meet the needs of NSP's consumers.

Q: Does this conclude your testimony?

A: Yes it does.

Xcel Energy

414 Nicollet Mall
Minneapolis, Minnesota 55401

July 6, 2015

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Victor F. Schock
North Dakota Public Service Commission
State Capitol Building
600 East Boulevard, Dept. 408
Bismarck, ND 58505

—Via Electronic Mail—

RE: RESPONSE TO DATA REQUEST NOS. NDPSC-1.1-PUBLIC, 1.2, 1.3-PUBLIC, 1.4, 1.5 AND 1.6-PUBLIC
COURTENAY WIND ACQUISITION
CASE NO. PU-15-173, 174, 175 AND 181

Dear Mr. Schock:

Enclosed please find our PUBLIC responses to the above-referenced data requests in the noted case. The Non-Public responses to NDPSC-1.1, 1.3 and 1.6 are being sent under separate cover via Federal Express.

Please call me at (612) 330-5953 if you have any questions regarding this submission.

Sincerely,

/s/

CYNTHIA D. HARRINGTON
REGULATORY CASE SPECIALIST

Enclosures

cc: Dave Sederquist

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Xcel Energy			
Case No.:	PU-15-173, 174, 175 & 181		
Response To:	ND Public Service Commission	Data Request No.	1.1
Requestor:	Victor Schock		
Date Received:	June 25, 2015		

Question:

Provide a comparison of the fuel cost for a simple-cycle and combined-cycle combustion turbine per Mwh vs the levelized cost per Mwh for the Courtenay Wind Farm.

a. Provide the gas cost per MBtu that was used for the calculation.

Response:

The levelized cost comparison for the period 2017-2041 is shown in the table below:

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The assumptions used were consistent with the Strategist modeling conducted in support of the North Dakota ADP filing. Specifically, the specifications for the CT and CC are as used in the 2015 Upper Midwest Resource Plan ("IRP") as shown in Table 13 on page 26 of Appendix J of the January 2, 2015 filing, page provided as Attachment A to this response. Natural gas prices are also the same vintage as the IRP (see "IRP", Figure 6, page 13, Appendix J), provided as Attachment A to Data Response NDPSC-1.3, and is shown below:

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Portions of this response have been redacted and designated as "Non-Public." The redacted portions contain "trade secret" information that is proprietary financial information of the Company as it derives independent value from not being generally known, is not ascertainable by other persons, can be used by other for a variety of purposes, and is maintained as confidential by the Company. Thus, Xcel Energy maintains this information as a trade secret. This designation is made pursuant to the Company's Application for Trade Secret Protection dated April 30, 2015.

Preparer:	Jon Landrum
Title:	Manager, Resource Planning Analytics
Department:	Resource Planning
Telephone:	303.571.2765
Date:	July 6, 2015

Table 13: Thermal Generic Information (Costs in 2014 Dollars)

Resource	Coal	Coal w/ Seq	2x1 CC	1x1 CC	CT	Small CT	Biomass
Nameplate Capacity (MW)	511	511	778.3	291.1	229.9	103.4	50
Summer Peak Capacity with Ducts (MW)	NA	NA	766.3	NA	NA	NA	NA
Summer Peak Capacity without Ducts (MV	485	485	649.8	290.2	226.1	100.8	50
Cooling Type	Dry	Dry	Dry	Dry	NA	Wet	Wet
Capital Cost ($/kw)	3,621	5,287	926	1,167	602	1,515	4,558
Electric Transmission Delivery ($/kw)	NA	NA	406	NA	152	NA	NA
Gas Demand ($/kw-yr)	0	0	8.44	11.28	0	0	0
Book life	30	30	40	40	30	30	30
Fixed O&M Cost ($000/yr)	16,343	24,598	7,510	4,139	591	853	5,183
Variable O&M Cost ($/MWh)	2.80	10.56	3.08	1.75	2.27	1.81	4.68
Ongoing Capital Expenditures ($/kw-yr)	9.59	23.42	4.32	4.79	5.87	1.86	14.13
Heat Rate with Duct Firing (btu/kWh)	NA	NA	7725	NA	NA	NA	NA
Heat Rate 100% Loading (btu/kWh)	9,156	12,096	6,822	7,830	9,942	8,867	14,421
Heat Rate 75% Loading (btu/kWh)	9,190	12,565	6,905	8,010	11,048	9,688	14,580
Heat Rate 50% Loading (btu/kWh)	9,710	13,600	6,943	8,583	14,601	11,161	15,570
Heat Rate 25% Loading (btu/kWh)	11,245	17,140	7,583	9,798	NA	15,067	18,650
Forced Outage Rate	6%	7%	3%	3%	3%	2%	4%
Maintenance (weeks/year)	2	5	5	4	2	2	7
CO2 Emissions (lbs/MMBtu)	216	9	118	118	118	118	211
SO2 Emissions (lbs/MWh)	0.447	0.371	0.005	0.005	0.007	0.007	0.577
NOx Emissions (lbs/MWh)	0.45	0.62	0.06	0.05	0.30	0.08	1.01
PM10 Emissions (lbs/MWh)	0.14	0.14	0.01	0.01	0.01	0.01	0.43
Mercury Emissions (lbs/Million MWh)	0.00007	0.00010	0.00000	0.00000	0.00000	0.00000	0.00017

Table 14: Renewable Generic Information (Costs in 2014 Dollars)

Resource	PTC Wind	Non-PTC Wind	30% ITC Solar	10% ITC Solar
Nameplate Capacity (MW)	200	200	50	50
ELCC Capacity Credit (MW)	29.6	29.6	26.15	26.15
Capital Cost ($/kw)	$1,700	$1,700	$1,563	$1,140
Electric Transmission Delivery ($/kw)	$150	$150	$85	$62
Book life	25	25	25	25
Fixed O&M Cost ($000/yr)	$1,828	$1,828	$1,235	$1,235
Variable O&M Cost ($/MWh)	$0.63	$0.63	$0.00	$0.00
Ongoing Capital Expenditures ($000/yr)	$2,466	$2,466	$0	$0
Land Lease Payments ($000/yr)	$1,172	$1,172	$0	$0

Table 15: Renewable Generic ECC Costs

Year	PTC Wind	Non-PTC Wind	30% ITC Solar	10% ITC Solar
2014	25.71	45.46	75.00	95.00
2015	26.28	46.48	75.00	95.00
2016	26.87	47.52	75.00	95.00
2017	27.48	48.58	75.00	95.00
2018	28.09	49.67	75.00	95.00
2019	28.72	50.78	75.00	95.00
2020	29.36	51.92	75.00	95.00
2021	30.02	53.08	75.00	95.00
2022	30.69	54.27	75.00	95.00
2023	31.38	55.49	75.00	95.00
2024	32.08	56.73	75.00	95.00
2025	32.80	58.00	75.00	95.00
2026	33.54	59.30	75.00	95.00
2027	34.29	60.63	75.00	95.00
2028	35.06	61.99	75.00	95.00
2029	35.84	63.38	75.00	95.00
2030	36.65	64.80	75.00	95.00

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Xcel Energy			
Case No.:	PU-15-173, 174, 175 & 181		
Response To:	ND Public Service Commission	Data Request No.	1.2
Requestor:	Victor Schock		
Date Received:	June 25, 2015		

Question:

Provide the average gas cost per MBtu for the last 5 years.

Response:

Please see Attachment A to this response.

Preparer:	Craig Rozman
Title:	Manager
Department:	Gas Supply
Telephone:	303-571-2844
Date:	July 6, 2015

Northern States Power Company

NSP DELIVERED PRICE TO GAS PLANTS
Price includes commodity costs, transport/demand costs, customer fees, etc.

	JANUARY	FEBUARY	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
2010	$ 7.13	$ 7.52	$ 9.58	$ 8.65	$ 6.19	$ 6.70	$ 5.69	$ 5.21	$ 6.19	$ 5.30	$ 6.69	$ 6.97
2011	$ 6.11	$ 6.86	$ 6.83	$ 7.42	$ 10.10	$ 7.65	$ 5.45	$ 5.75	$ 7.91	$ 7.13	$ 11.30	$ 6.90
2012	$ 6.62	$ 5.35	$ 4.29	$ 3.33	$ 3.66	$ 3.50	$ 3.48	$ 4.35	$ 5.80	$ 7.71	$ 5.03	$ 4.17
2013	$ 4.62	$ 4.78	$ 4.80	$ 5.06	$ 5.52	$ 6.03	$ 4.82	$ 4.68	$ 4.89	$ 5.61	$ 5.59	$ 5.64
2014	$ 7.48	$ 8.44	$ 7.33	$ 8.13	$ 5.60	$ 6.58	$ 7.17	$ 5.51	$ 7.15	$ 5.03	$ 6.45	$ 5.40
2015	$ 5.65	$ 5.47	$ 4.12	$ 3.56	$ 5.68							

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Xcel Energy			
Case No.:	PU-15-173, 174, 175 & 181		
Response To:	ND Public Service Commission	Data Request No.	1.3
Requestor:	Victor Schock		
Date Received:	June 25, 2015		

Question:

Provide the forecasted gas cost per MBtu for 2016-2018.

Response:

The gas forecast used for the Strategist modeling in support of the North Dakota ADP filing is the same as used in the 2015 Upper Midwest Resource Plan ("IRP") as shown in Figure 6 on page 13 of Appendix J in the January 2, 2015 filing, page is provided as Attachment A to this response.

The specific Ventura hub gas prices forecasted for 2016-2018 are:

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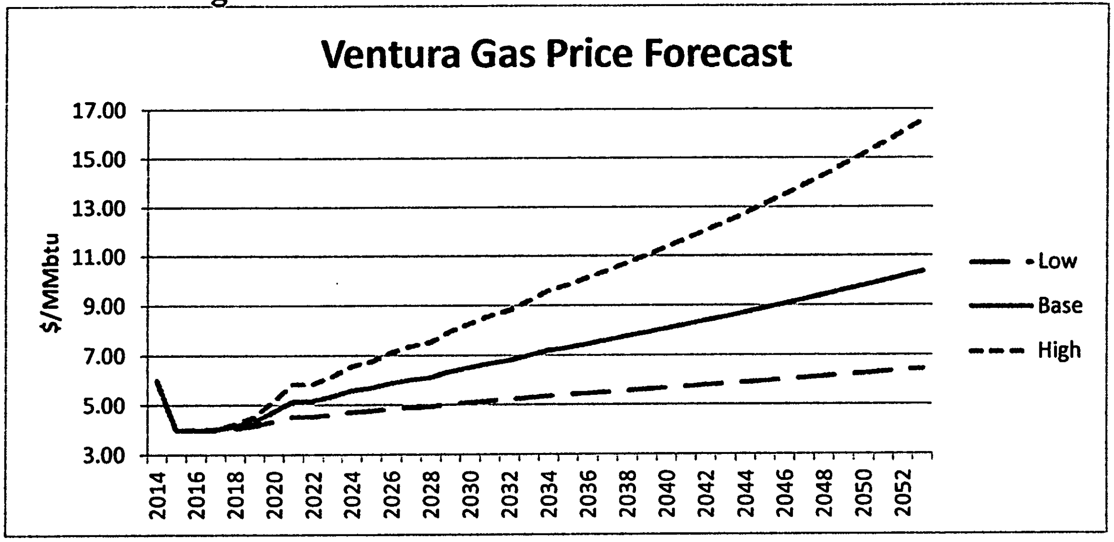
Preparer:	Jon Landrum
Title:	Manager, Resource Planning Analytics
Department:	Resource Planning
Telephone:	303.571.2765
Date:	July 6, 2015

Figure 6: Ventura Gas Price Forecast and Sensitivities



10. Gas Transportation Costs

Gas transportation variable costs include the gas transportation charges and the Fuel Lost & Unaccounted (FL&U) for all of the pipelines the gas flows through from the Ventura Hub to the generators facility. The FL&U charge is stated as a percentage of the gas expected to be consumed by the plant, effectively increasing the gas used to operate the plant, and is at the price of gas commodity being delivered to the plant. Table 13 contains gas transportation charges for generic thermal resources.

11. Gas Demand Charges

Gas demand charges are fixed annual payments applied to resources to guarantee that natural gas will be available (normally called "firm gas"). Typically, firm gas is obtained to meet the needs of the winter peak as enough gas is normally available during the summer. Table 13 contains gas demand charges for generic thermal resources.

12. Market Prices

In addition to resources that exist within the NSP System, the Company has access to markets located outside its service territory. Market power prices are developed using a blend of market information from the Intercontinental Exchange for near-term prices and long-term fundamentally-based forecasts from Wood Mackenzie, CERA and PIRA. Figure 9 below shows the market prices under no CO_2 assumptions.

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Xcel Energy			
Case No.:	PU-15-173, 174, 175 & 181		
Response To:	ND Public Service Commission	Data Request No.	1.4
Requestor:	Victor Schock		
Date Received:	June 25, 2015		

Question:

Provide the average and low/high LMP price for the Fargo Hub for 2014.

Response:

The Fargo Hub is not specifically listed as a MISO commercial pricing (CP) node. The closest CP node located near Fargo, ND is known as "*OTP.NSP*" and the average price at this node during 2014 was $33.42 with a low of -$9.64 and a high of $314.81.

Preparer:	Matt Schmidt
Title:	Sr. Market Ops Financial Analyst
Department:	Market Operations Accounting
Telephone:	303-571-7519
Date:	June 6, 2015

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Xcel Energy			
Case No.:	PU-15-173, 174, 175 & 181		
Response To:	ND Public Service Commission	Data Request No.	1.5
Requestor:	Victor Schock		
Date Received:	June 25, 2015		

Question:

How many Mwhs and what percentage of overall electric sales did NSP purchase from the market in 2014?

Response:

NSP purchased 2,914,321 net MWh from the MISO market to serve its retail load during 2014. The total sales* were 41,860,729 MWh in 2014 and net purchases represent 6.96 percent of total sales.

*Includes North and South Dakota, Minnesota, Wisconsin and Michigan

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Preparer:	Matt Schmidt
Title:	Sr. Market Ops Financial Analyst
Department:	Market Operations Accounting
Telephone:	303-571-7519
Date:	July 6, 2015

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Xcel Energy			
Case No.:	PU-15-173, 174, 175 & 181		
Response To:	ND Public Service Commission	Data Request No.	1.6
Requestor:	Victor Schock		
Date Received:	June 25, 2015		

Question:

How many Mwhs and what percentage of overall electric sales does NSP forecast to purchase from the market in 2015 & 2016?

Response:

NSP forecasts to purchase **[BEGIN TRADE SECRET… …END TRADE SECRET]** MWh from the MISO market to serve its retail load during 2015. NSP forecasts to purchase **[BEGIN TRADE SECRET… …END TRADE SECRET]** MWh from the MISO market to serve its retail load during 2016. This represents **[BEGIN TRADE SECRET… …END TRADE SECRET]** of overall electric sales* for 2015 and 2016.

*Includes North and South Dakota, Minnesota, Wisconsin and Michigan

Portions of this response have been redacted and designated as "Non-Public." The redacted portions contain "trade secret" information that is proprietary financial information of the Company as it derives independent value from not being generally known, is not ascertainable by other persons, can be used by other for a variety of purposes, and is maintained as confidential by the Company. Thus, Xcel Energy maintains this information as a trade secret. This designation is made pursuant to the Company's Application for Trade Secret Protection dated April 30, 2015.

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Preparer:	David Horneck
Title:	Manager, Generation Modeling Services
Department:	Risk Management
Telephone:	303.571.2816
Date:	July 6, 2015