MONTANA-DAKOTA
UTILITIES CO.
A Division of MDU Resources Group, Inc.

400 North Fourth Street
Bismarck, ND 58501
(701) 222-7900

December 31, 2014

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
Office of the Secretary
888 First St., NE
Washington, D.C. 20426

RE: Montana-Dakota Utilities Co.
Triennial Review
Docket Nos. ER10-3199-___

Dear Secretary Bose:

Montana-Dakota Utilities Co. (Montana-Dakota), a Division of MDU Resources Group, Inc., herewith electronically files its Updated Market Power Analysis. Montana-Dakota's updated market analysis filed pursuant to the Commission's Order granting authority to sell electric energy and capacity at market based rates, was accepted by the Commission in its Order issued on November 18, 2005 in Docket Nos. ER98-4289-003, ER98-4289-004 and ER98-4289-005. The study period for this filing includes the period of December 2012 through November 2013.

Sincerely,

/s/ Tamie A. Aberle

Tamie A. Aberle
Director of Regulatory Affairs
Montana-Dakota Utilities Co.
400 North 4th St.
Bismarck, ND 58501
Ph: 701-222-7856
tamie.aberle@mdu.com

Enclosure
Cc: Service List

Montana-Dakota Utilities Co.
Docket No. ER10-3199-___
Updated Market Analysis

Service List

Robert Nelson
Montana Consumer Counsel
111 North Last Chance Gulch, Suite 1B
P.O. Box 201703
Helena, MT 59620-1703

Ms. Kate Whitney, Administrator
Utility Division
Montana Public Service Commission
1701 Prospect Avenue
P.O. Box 202601
Helena, MT 59620-2601

Executive Secretary
North Dakota Public Service Commission
State Capitol Building
Bismarck, ND 58505-0480

Ms. Patricia Van Gerpen
Executive Director
South Dakota Public Utilities Commission
State Capitol Building
500 East Capitol
Pierre, SD 57501

Secretary & Chief Counsel
Wyoming Public Service Commission
Hansen Building, Suite 300
2515 Warren Avenue
Cheyenne, WY 82002

UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

Montana-Dakota Utilities Co. Docket No. ER10-3199-___

UPDATED MARKET POWER ANALYSIS

Pursuant to section 205 of the Federal Power Act (FPA), 16 U.S.C. §824d (2000), Rules 205 and 207 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (Commission), 18 C.F.R. § 385.205 (2007) and 18 C.F.R § 385.207 (2007), and Part 35 of the Commission's regulations, 18 C.F.R Part 35 (2007), Montana-Dakota Utilities Co., a Division of MDU Resources Group Inc. (Montana-Dakota) hereby submits for filing its updated market power analysis in support of its continued authority to sell energy, capacity and ancillary services under its FERC Electric Tariff, Original Volume No. 2.

I. Communications

All communications and service related to this application should be directed to the following:

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II. Description of Applicant

Montana-Dakota Utilities Co. (Montana-Dakota), a Division of MDU Resources Group, Inc. is a public utility engaged inter alia, in the production, transmission, distribution and sale of electricity in the states of Montana, North Dakota, South Dakota and Wyoming. Montana-Dakota provides retail electric service to approximately 138,500 customers located in 176 communities within this four-state region. Montana-Dakota's operations in the State of Wyoming

constitute a separate system. Montana-Dakota operates an integrated electric system in Montana, North and South Dakota.

Montana-Dakota owns 561 MW of generating capacity, and also purchases 115 MW of capacity to supply its integrated system. This generation is located in the Central region as identified in Appendix D of Order No. 697-A. Montana-Dakota is a transmission owning member of the Midcontinent Independent System Operator (MISO). MISO is a FERC approved Regional Transmission Organization that currently administers region-wide day-ahead and real-time energy markets. See Attachment A, page 1, for Montana-Dakota's market based rate authority and a description of its generation assets and Attachment A, page 2, for a description of its electric transmission assets.

The Commission initially granted market-based rate authority to Montana Dakota on October 16, 1998 in Docket No. ER98-4289-000. Montana-Dakota's most recent power analysis was filed with the Commission on December 28, 2011, as amended on March 20, 2012 in Docket No. ER10-3199-001 and was found to satisfy the Commission's requirements for market-based rate authority.[1]

III. Updated Market Power Analysis

The Commission allows power sales at market-based rates if the seller and its affiliates do not have, or have adequately mitigated, horizontal and vertical market power. The Commission has also codified affiliate restrictions in its regulations which must be satisfied on an ongoing basis.

A. Horizontal Market Power

In Order No. 697 the Commission codified two indicative screens for assessing horizontal market power and stated that there is a rebuttable presumption of market power if a seller fails either.

Montana-Dakota has prepared the indicative screens for assessing horizontal market power; the Pivotal Supplier screen and the Wholesale Market Share screen as shown on Attachment B. Montana-Dakota passed both indicative screen tests. On the Pivotal Supplier screen, Montana-Dakota's uncommitted capacity is 318 MW compared to the net uncommitted capacity of 36,066 MW in MISO's Balancing Authority area. The results of the Market Share Analysis screen for Montana-Dakota for each of the four seasonal period shows a total uncommitted capacity of less than 1.0% of total uncommitted capacity, which is well below the 20% threshold requirement of the screen test. As noted, Montana-Dakota used integrated hourly data plus losses for the Average Peak Native Load in the Season as the "needle peak" or instantaneous peak demand, is not available. Included in this filing as Attachment C are workpapers containing data used to perform the two screen tests. Attachment C, pages 40-

[1] *Montana-Dakota Utilities Co.*, Docket No. ER10-3199-001 (July 17, 2012) (delegated letter order).

57 are the data/analysis and description of information provided by MISO for the aggregate MISO data for the two indicative screens.

B. Vertical Market Power

In January 2002, the FERC authorized Montana-Dakota to transfer operational control of its transmission facilities that operate at 100 kV or above in the states of Montana, North Dakota and South Dakota to MISO, Montana-Dakota Utilities Co., 98 FERC ¶62,049 (2002). MISO assumed responsibility as Transmission Provider over the systems of its member utilities, including Montana-Dakota, on February 1, 2002. The rates, terms and conditions of transmission service being provided by MISO are prescribed in the MISO OATT. In early January 2009, when the MISO Ancillary Services Market becomes operational, Montana-Dakota became a Local Balancing Authority (LBA) within the MISO Balancing Authority (BA).

C. Barriers to Entry

Montana-Dakota is a Division of MDU Resources Group Inc., (MDU Resources), a natural resources company. WBI Energy, a subsidiary of MDU Resources provides interstate natural gas transmission, storage and production in the same territory as Montana-Dakota. Great Plains Natural Gas Co., a Division of MDU Resources distributes natural gas in western Minnesota and southeastern North Dakota. Cascade Natural Gas Corporation and Intermountain Gas Company are also public utilities and are subsidiaries of MDU Resources distributing natural gas to 260,000 natural gas customers in portions of Washington and Oregon and 320,000 natural gas customers in southern Idaho respectively. While Montana-Dakota is affiliated with natural gas pipelines and local distribution companies, the Commission has established a presumption that such affiliation does not create barriers to entry. Neither Montana-Dakota nor MDU Resources Group Inc.'s subsidiaries own or control any sites for generation capacity development that can be used to erect barriers to entry in MISO. Neither Montana-Dakota nor MDU Resources Group Inc.'s subsidiaries own or control physical sources of coal supplies or have control over who may access transportation of coal. Neither Montana-Dakota nor MDU Resources Group Inc.'s subsidiaries have erected barriers to entry into the relevant market and will not erect barriers to entry into the relevant market. Accordingly, Montana-Dakota satisfies the Commission's standards with regard to vertical market power.

IV. Seller Category

Montana-Dakota's available generating capacity of 676 MW is located in FERC's Central Geographic Region and Montana-Dakota owns transmission facilities located in the same region, which are in the MISO control area. Pursuant to the definition of Category 1 and 2 sellers in 18 CFR 35.36 (a), Montana-Dakota submits it is a Category 2 seller.

V. Conclusion

Based on the foregoing facts and the attached analysis, Montana-Dakota requests that the Commission issue an order accepting its updated market power analysis as satisfying the Commission's requirements for continued market-based rate authorization.

Dated this 31st day of December 2014.

Montana-Dakota Utilities Co.
A Division of MDU Resources Group, Inc.

/s/ Tamie A. Aberle

Tamie A. Aberle
Director of Regulatory Affairs
400 North 4th Street
Bismarck, ND 58501
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Attachment A

MONTANA-DAKOTA UTILITIES CO.
MARKET-BASED RATE AUTHORITY AND GENERATION ASSETS
AS OF NOVEMBER 30, 2013

Filing Entity and its Energy Affiliates	Docket # where MBR authority was granted	Generation Name	Owned By	Controlled By	Date Control Transferred	Location: Balancing Authority Area	Location: Geographic Region (per Appendix D Order 697-A	In-Service Date	Nameplate Rating-MW
Montana-Dakota Utilities Co.	ER98-4289-000	RM Heskett Station	Montana-Dakota	Montana-Dakota	2/1/2002	MISO	Central	Nov. 1954	115.0
		Glendive Combustion Turbine	Montana-Dakota	Montana-Dakota	2/1/2002	MISO	Central	Jun. 1979	85.5
		Lewis & Clark Station	Montana-Dakota	Montana-Dakota	2/1/2002	MISO	Central	Oct. 1958	50.0
		Diamond Willow	Montana-Dakota	Montana-Dakota	2/13/2008 & 6/28/2010	MISO	Central	Dec. 2007	30.0
		Miles City Combustion Turbine	Montana-Dakota	Montana-Dakota	2/1/2002	MISO	Central	Jun. 1972	23.3
		Cedar Hills	Montana-Dakota	Montana-Dakota	6/6/2010	MISO	Central	Jun. 2010	19.5
		Williston Combustion Turbine	Montana-Dakota	Montana-Dakota	2/1/2002	MISO	Central	Nov. 1953	10.0
		Glen Ullin Station 6	Montana-Dakota	Montana-Dakota	2/1/2002	MISO	Central	Jul. 2009	5.3
		Big Stone I	Montana-Dakota 1/	Partners	2/1/2002	MISO	Central	May 1975	103.7
		Coyote Station	Montana-Dakota 2/	Partners	2/1/2002	MISO	Central	May 1981	112.5
		Portable Generator 1	Montana-Dakota	Montana-Dakota	2/1/2005	MISO	Central	May 2005	1.8
		Portable Generator 2	Montana-Dakota	Montana-Dakota	1/1/2012	MISO	Central	Jan. 2012	2.0
		Portable Generator 3	Montana-Dakota	Montana-Dakota	1/1/2012	MISO	Central	Jun 2012	2.0

1/ Montana-Dakota owns 22.7% share of the Big Stone Plant's 457 MW of Capacity, Otter Tail Power Co. owns 53.9% and Northwestern Energy owns 23.4%.
2/ Montana-Dakota owns 25.0% share of the Coyote Station's 450 MW of Capacity, Otter Tail Power Co. owns 35%, and Minnkota owns 30% and Northwestern Energy owns 10%.

MONTANA-DAKOTA UTILITIES CO.
ELECTRIC TRANSMISSION ASSETS and/or
NATURAL GAS INTRASTATE PIPELINES
and/or GAS STORAGE FACILITIES

Filing Entity and its Energy Affiliates	Asset Name and Use	Owned By	Controlled By	Date Control Transferred	Balancing Authority Area	Location Geographic Region (per Appendix D Order 697-A	Size	
Montana-Dakota Utilities Co.	345 KV lines	Montana-Dakota Utilities Co.	Western Area Power Administration (WAPA)	N/A	WAPA	Central	26.57	combined miles
Montana-Dakota Utilities Co.	345 KV lines	Montana-Dakota Utilities Co.	Under Midwest Independent System Operator OATT	2/1/2002	MISO	Central	23.16	combined miles
Montana-Dakota Utilities Co.	230 KV lines	Montana-Dakota Utilities Co.	Under Midwest Independent System Operator OATT	2/1/2002	MISO	Central	297.47	combined miles
Montana-Dakota Utilities Co.	115 KV lines	Montana-Dakota Utilities Co.	Under Midwest Independent System Operator OATT	2/1/2002	MISO	Central	584.13	combined miles
Montana-Dakota Utilities Co.	69 KV lines	Montana-Dakota Utilities Co.	Under Midwest Independent System Operator OATT	2/1/2002	MISO	Central	86.57	combined miles
Montana-Dakota Utilities Co.	57 KV lines	Montana-Dakota Utilities Co.	Under Midwest Independent System Operator OATT	2/1/2002	MISO	Central	874.96	combined miles
Montana-Dakota Utilities Co.	41.60 KV lines	Montana-Dakota Utilities Co.	Under Midwest Independent System Operator OATT	2/1/2002	MISO	Central	1,166.49	combined miles
Montana-Dakota Utilities Co.	33 KV lines	Montana-Dakota Utilities Co.	Under Midwest Independent System Operator OATT	2/1/2002	MISO	Central	28.99	combined miles

Attachment B

MONTANA-DAKOTA UTILITIES CO.
PIVOTAL SUPPLIER ANALYSIS
HISTORICAL DATA DECEMBER 2012-NOVEMBER 2013

Part I - Pivotal Supplier Analysis

		MW	Reference
	Seller and Affiliate Capacity		
A	Installed Capacity	561	Attachment C, Page 1
B	Long-Term Firm Purchases	115	Attachment C, Page 1
C	Long-Term Firm Sales	0	
D	Imported Power	0	
	Non-Affiliate Capacity		
E	Installed Capacity	143,916	Attachment C, Page 57 less Row A
F	Long-Term Firm Purchases	3,042	Attachment C, Page 57 less Row B
G	Long-Term Firm Sales	(1,134)	Attachment C, Page 57 less Row C
H	Imported Power	13,128	Attachment C, Page 57 less Row D
I	Balancing Authority Area Reserve Requirement	(2,438)	Attachment C, Page 57
J	Amount of Line I Attributable to Seller, if any		
K	Total Uncommitted Supply (Sum A,B,C,D,E,F,G,H,I,M)	60,204	
	Load		
L	Balancing Authority Area Annual Peak Load	121,124	Attachment C, Page 57
M	Average Daily Peak Native Load in Peak Month	(96,986)	Attachment C, Page 57
N	Amount of Line M Attributable to Seller, if any	(358)	Attachment C, Page 14
O	Wholesale Load (Sum L,M)	24,138	
P	Net Uncommitted Capacity (K-O)	36,066	
Q	Seller's Uncommitted Capacity (Sum A,B,C,D,J,N)	318	
	Result of Pivotal Supplier Screen (Pass if Line Q < Line P) (Fail if Line Q > Line P)	PASS	

MONTANA-DAKOTA UTILITIES CO.
MARKET SHARE ANALYSIS
HISTORICAL DATA DECEMBER 2012-NOVEMBER 2013

	Part II - Market Share Analysis Seller and Affiliate Capacity	Dec 12-Feb 13 Winter (MW)	Mar 13-May 13 Spring (MW)	Jun 13-Aug 13 Summer (MW)	Sep 13-Nov 13 Fall (MW)	Reference
A	Installed Capacity	561	561	561	561	Attachment C, Page 1
B	Long-Term Firm Purchases	110	110	115	115	Attachment C, Page 1
C	Long-Term Firm Sales	0	0	0	0	
D	Seasonal Average Planned Outages	0	(89)	(33)	(28)	Attachment C, Pages 27-35
E	Imported Power	0	0	0	0	
	Capacity Deductions					
F	Average Peak Native Load in the Season 1/	(83,507)	(78,036)	(96,986)	(82,497)	Attachment C, Page 45
G	Amount of Line F Attributable to Seller, if any 1/	(392)	(328)	(341)	(342)	Attachment C, Pages 11-26
H	Amount of Line F Attributable to Others, if any	(83,115)	(77,708)	(96,645)	(82,155)	
I	Balancing Authority Area Reserve Requirement	(2,440)	(2,439)	(2,438)	(2,440)	Attachment C, Page 45
J	Amount of Line I Attributable to Seller, if any					
K	Amount of Line I Attributable to Others, if any	(2,440)	(2,439)	(2,438)	(2,440)	
	Non-Affiliate Capacity					
L	Installed Capacity	143,916	143,916	143,916	143,916	Attachment C, Page 54 less Row A
M	Long-Term Firm Purchases	3,047	3,047	3,042	3,042	Attachment C, Page 54 less Row B
N	Long-Term Firm Sales	(1,134)	(1,134)	(1,134)	(1,134)	Attachment C, Page 54 less Row C
O	Local Seasonal Average Planned Outages	(7,444)	(20,909)	(3,824)	(15,906)	Attachment C, Page 54 less Row D
P	Uncommitted Capacity Imports	15,373	20,446	13,128	18,027	Attachment C, Page 54 less Row E
	Supply Calculation					
Q	Total Competing Supply (Sum L,M,N,O,P,H,K)	68,203	65,219	56,045	63,350	
R	Seller's Uncommitted Capacity (Sum A,B,C,D,E,G,J)	279	254	302	306	
S	Total Seasonal Uncommitted Capacity (Sum Q,R)	68,482	65,473	56,347	63,656	
T	**Seller's Market Share (R/S)**	Pass	Pass	Pass	Pass	
	Result's (Pass if < 20%) (Fail if >= 20%)	0.4%	0.4%	0.5%	0.5%	

1/ Integrated Hourly + Losses

Attachment C

US Department of Energy Energy Information Administration Form EIA-860 2013	*ANNUAL ELECTRIC GENERATOR REPORT*	Form Approval OMB No. 1905-0129 Approval Expires 05/31/2017

NOTICE: This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). Failure to comply may result in criminal fines, civil penalties and other sanctions as provided by law. For further information concerning sanctions and data protections see the provision on sanctions and the provision concerning confidentiality of information in the instructions. **Title 18 USC 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

SCHEDULE 1. IDENTIFICATION

Survey Contact

Contact Person: Brian Giggee
Title: Electrical Systems Engineer
Address: 400 N 4th St
City/State/Zip: Bismarck ND 58501
Email: brian.giggee@mdu.com
Telephone: (701) 222-7907 Fax: cell

Supervisor for Contact Person for Survey

Contact Person: Darcy Neigum
Title: System Ops. and Planning Mngr
Address: 400 N 4th St
City/State/Zip: Bismarck ND 58501
Email: darcy.neigum@mdu.com
Telephone: (701) 222-7757 Fax: (701) 222-7806 Cell

REPORT FOR: Operator Montana-Dakota Utilities Co 12199

Reporting as of December 31 2013

Name and Address of reporting Entity

Operator Legal Name: Montana-Dakota Utilities Co
Address: 400 North Fourth Street
City/State/Zip: Bismarck ND 58501

What is the reporting entity's relationship to the power plants reported on Schedule 2?
- check all that apply.

- [X] **Owner**
- [ ] **Operator**
- [ ] **Asset Manager**
- [ ] **Other - Explain**

What type of entity is the principal owner and/or operator for the power plants reported on this form ?
- check one.

- [ ] **Cooperative**
- [X] **Investor-Owned Utility(IOU)**
- [ ] **Independent Power Producer(IPP)**
- [ ] **Municipally-Owned Utility**
- [ ] **Political Subdivision**
- [ ] **Federally-Owned Utility**
- [ ] **State-Owned Utility**
- [ ] **Industrial (principal business is not electricity generation)**
- [ ] **Commerical (principal business is not electricity generation)**

US Department of Energy Energy Information Administration Form EIA-860 2013	*ANNUAL ELECTRIC GENERATOR REPORT*	Form Approval OMB No. 1905-0129 Approval Expires 05/31/2017

SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Glendive GT

EIA Plant Code 2176

		Generator ID	GT-2	GT1
1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**		43.0	40.7
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**		0.85	0.90
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peak net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.				
Net summer capacity	**(Megawatts)**		40.1	34.8
Net winter capacity	**(Megawatts)**		43.2	40.9
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.			10.0	9.0
4a. Was an uprate or derate project completed on this generator during the reporting year?		**Yes - Continue to Question 4b**	Yes ☐	Yes ☐
		No - Continue to Question 5	No ☒	No ☒
4b. When was this uprate or derate project completed?			/	/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.			OP	OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.			Yes ☐ No ☐	Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**		5/2003	6/1979
7. When was this generator retired?	**(MM-YYYY)**		/	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**		/	/
9. Is this generator associated with a combined heat and power system?		**Yes - Continue to Question 10**	Yes ☐	Yes ☐
		No - Continue to Question 11	No ☒	No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.			Topping ☐ Bottoming ☐	Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.			NG	NG
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.			a. b. c. d.	a. b. c. d.

US Department of Energy Energy Information Administration Form EIA-860 2013	*ANNUAL ELECTRIC GENERATOR REPORT*	Form Approval OMB No. 1905-0129 Approval Expires 05/31/2017

SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Miles City GT **Generator ID** 1

EIA Plant Code 2177

1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**	23.3
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**	0.90
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.		
Net summer capacity	**(Megawatts)**	23.6
Net winter capacity	**(Megawatts)**	27.5
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.		7.0
4a. Was an uprate or derate project completed on this generator during the reporting year?		
Yes - Continue to Question 4b		Yes [ ]
No - Continue to Question 5		No [x]
4b. When was this uprate or derate project completed?		/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.		OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.		Yes [ ] No [ ]
6. When did this generator begin commercial operation?	**(MM-YYYY)**	5/1972
7. When was this generator retired?	**(MM-YYYY)**	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**	/
9. Is this generator associated with a combined heat and power system?		
Yes - Continue to Question 10		Yes [ ]
No - Continue to Question 11		No [x]
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.		Topping [ ] Bottoming [ ]
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		NG
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		a. b. c. d.

US Department of Energy Energy Information Administration Form EIA-860 2013	*ANNUAL ELECTRIC GENERATOR REPORT*	Form Approval OMB No. 1905-0129 Approval Expires 05/31/2017

SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name R M Heskett

EIA Plant Code 2790

		Generator ID	1	2
1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**		40.0	75.0
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**		1.00	0.85
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.				
Net summer capacity	**(Megawatts)**		29.5	74.8
Net winter capacity	**(Megawatts)**		29.5	74.8
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.			6.5	29.3
4a. Was an uprate or derate project completed on this generator during the reporting year?		**Yes - Continue to Question 4b**	Yes ☐	Yes ☐
		No - Continue to Question 5	No ☒	No ☒
4b. When was this uprate or derate project completed?			/	/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.			OP	OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.			Yes ☐ No ☐	Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**		11/1954	11/1963
7. When was this generator retired?	**(MM-YYYY)**		/	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**		/	/
9. Is this generator associated with a combined heat and power system?		**Yes - Continue to Question 10**	Yes ☐	Yes ☐
		No - Continue to Question 11	No ☒	No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.			Topping ☐ Bottoming ☐	Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.			LIG	LIG
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.			a. b. c. d.	a. b. c. d.

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SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name R M Heskett **Generator ID** 3

EIA Plant Code 2790

1a. What is this generator's nameplate capacity? **(Megawatts)**
-Report the highest value in megawatts as measured in alternating current.
-If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions.
-Round nameplate capacity to the nearest tenth.

1b. What is this generator's nameplate power factor? **(Megawatts)**
-Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a.
-Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.

2. What is this generator's net capacity?
-Report net summer capacity and net winter capacity for primary fuel source.
-Report in megawatts as measured in alternating current.
-Round capacity to the nearest tenth.
-If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7.
-For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.

Net summer capacity **(Megawatts)**

Net winter capacity **(Megawatts)**

3. What minimum load can this generator operate at continuously?
-Solar generators may skip this question
-For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.

4a. Was an uprate or derate project completed on this generator during the reporting year?
Yes - Continue to Question 4b Yes ☐
No - Continue to Question 5 No ☐

4b. When was this uprate or derate project completed?

5a. What was the status of this generator as of December 31 of the reporting year?
-Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions.
-If Status code is SB, go to Question 5b.
-For all other status codes, go to Question 6.

5b. Is this generator equipped to be synchronized to the grid? Yes ☐ No ☐
-Answer only if the status code reported in question 5a is SB.

6. When did this generator begin commercial operation? **(MM-YYYY)**

7. When was this generator retired? **(MM-YYYY)**

8. If this generator will be retired in the next ten years, what is its estimated retirement date? **(MM-YYYY)**

9. Is this generator associated with a combined heat and power system?
Yes - Continue to Question 10 Yes ☐
No - Continue to Question 11 No ☐

10. Is this generator part of a topping or bottoming cycle? Topping ☐
-In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. Bottoming ☐
-In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.

11. What is this generator's predominant energy source?
-Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus.
-Select this energy source code from Table 28 in the instructions.

12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? a. b. c. d.
-Answer only for generators whose prime mover code was ST (Steam turbine.)
-Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus.
-Select this energy source code from Table 28 in the instructions.

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SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Williston

EIA Plant Code 2791

		Generator ID	2	3
1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**		5.0	5.0
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**			
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.				
Net summer capacity	**(Megawatts)**		4.7	4.9
Net winter capacity	**(Megawatts)**		5.2	5.4
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.				
4a. Was an uprate or derate project completed on this generator during the reporting year?	**Yes - Continue to Question 4b**		Yes ☐	Yes ☐
	No - Continue to Question 5		No ☐	No ☐
4b. When was this uprate or derate project completed?			/	/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.			RE	RE
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.			Yes ☐ No ☐	Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**		11/1953	12/1953
7. When was this generator retired?	**(MM-YYYY)**		1/2012	1/2012
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**		/	/
9. Is this generator associated with a combined heat and power system?	**Yes - Continue to Question 10**		Yes ☐	Yes ☐
	No - Continue to Question 11		No ☒	No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.			Topping ☐ Bottoming ☐	Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.			NG	NG
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.			a. b. c. d.	a. b. c. d.

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SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Lewis & Clark **Generator ID** 1

EIA Plant Code 6089

1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**	50.0
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**	0.98
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.		
Net summer capacity	**(Megawatts)**	53.1
Net winter capacity	**(Megawatts)**	44.0
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.		19.0
4a. Was an uprate or derate project completed on this generator during the reporting year?		
Yes - Continue to Question 4b		Yes [ ]
No - Continue to Question 5		No [x]
4b. When was this uprate or derate project completed?		/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.		OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.		Yes [ ] No [ ]
6. When did this generator begin commercial operation?	**(MM-YYYY)**	10/1958
7. When was this generator retired?	**(MM-YYYY)**	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**	/
9. Is this generator associated with a combined heat and power system?		
Yes - Continue to Question 10		Yes [ ]
No - Continue to Question 11		No [x]
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.		Topping [ ] Bottoming [ ]
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		LIG
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		a. b. c. d.

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SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Diamond Willow Wind Facility **Generator ID** DIAW

EIA Plant Code 56782

1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**	30.0
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**	
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.		
Net summer capacity	**(Megawatts)**	30.0
Net winter capacity	**(Megawatts)**	30.0
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.		0.1
4a. Was an uprate or derate project completed on this generator during the reporting year?		
Yes - Continue to Question 4b		Yes ☐
No - Continue to Question 5		No ☒
4b. When was this uprate or derate project completed?		/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.		OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.		Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**	12/2007
7. When was this generator retired?	**(MM-YYYY)**	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**	/
9. Is this generator associated with a combined heat and power system?		
Yes - Continue to Question 10		Yes ☐
No - Continue to Question 11		No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.		Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		WND
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		a. b. c. d.

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SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Cedar Hills **Generator ID** 1

EIA Plant Code 57171

1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**	19.5
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**	
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peak net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.		
Net summer capacity	**(Megawatts)**	19.5
Net winter capacity	**(Megawatts)**	19.5
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.		0.1
4a. Was an uprate or derate project completed on this generator during the reporting year?		
Yes - Continue to Question 4b		Yes ☐
No - Continue to Question 5		No ☒
4b. When was this uprate or derate project completed?		/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.		OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.		Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**	6/2010
7. When was this generator retired?	**(MM-YYYY)**	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**	/
9. Is this generator associated with a combined heat and power system?		
Yes - Continue to Question 10		Yes ☐
No - Continue to Question 11		No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.		Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		WND
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		a. b. c. d.

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SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Glen Ullin Station 6 **Generator ID** 1

EIA Plant Code 57172

1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**	5.3
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**	0.80
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.		
Net summer capacity	**(Megawatts)**	5.3
Net winter capacity	**(Megawatts)**	5.3
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.		0.5
4a. Was an uprate or derate project completed on this generator during the reporting year?		
Yes - Continue to Question 4b		Yes ☐
No - Continue to Question 5		No ☒
4b. When was this uprate or derate project completed?		/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.		OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.		Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**	7/2009
7. When was this generator retired?	**(MM-YYYY)**	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**	/
9. Is this generator associated with a combined heat and power system?		
Yes - Continue to Question 10		Yes ☐
No - Continue to Question 11		No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.		Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		WH
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		a. b. c. d.

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SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Portable Generator 2 **Generator ID** IC1

EIA Plant Code 59194

1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**	2.0
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**	0.90
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.		
Net summer capacity	**(Megawatts)**	2.0
Net winter capacity	**(Megawatts)**	2.0
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.		0.1
4a. Was an uprate or derate project completed on this generator during the reporting year?		
	Yes - Continue to Question 4b	Yes ☐
	No - Continue to Question 5	No ☒
4b. When was this uprate or derate project completed?		/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.		OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.		Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**	1/2012
7. When was this generator retired?	**(MM-YYYY)**	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**	/
9. Is this generator associated with a combined heat and power system?		
	Yes - Continue to Question 10	Yes ☐
	No - Continue to Question 11	No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.		Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		DFO
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		a. b. c. d.

US Department of Energy Energy Information Administration Form EIA-860 2013	*ANNUAL ELECTRIC GENERATOR REPORT*	Form Approval OMB No. 1905-0129 Approval Expires 05/31/2017

SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Portable Generator 3 **Generator ID** IC2

EIA Plant Code 59195

1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**	2.0
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**	0.90
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.		
Net summer capacity	**(Megawatts)**	2.0
Net winter capacity	**(Megawatts)**	2.0
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.		0.1
4a. Was an uprate or derate project completed on this generator during the reporting year?		
Yes - Continue to Question 4b		Yes ☐
No - Continue to Question 5		No ☒
4b. When was this uprate or derate project completed?		/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.		OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.		Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**	1/2012
7. When was this generator retired?	**(MM-YYYY)**	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**	/
9. Is this generator associated with a combined heat and power system?		
Yes - Continue to Question 10		Yes ☐
No - Continue to Question 11		No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.		Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		DFO
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		a. b. c. d.

SCHEDULE 3. PART B. GENERATOR INFORMATION - OPERABLE GENERATORS

Complete one SCHEDULE 3, Part B for each generator at this plant that is in commercial operation or capable of commercial operation.

Report For Operator: Montana-Dakota Utilities Co 12199

Reporting as of December 31, 2013

Plant Name Portable Generator 1 **Generator ID** IC1

EIA Plant Code 59196

1a. What is this generator's nameplate capacity? -Report the highest value in megawatts as measured in alternating current. -If capacity is expressed in kilovolt amperes, convert to megswatts using formula in SCHEDULE 3, Part B instructions. -Round nameplate capacity to the nearest tenth.	**(Megawatts)**	1.8
1b. What is this generator's nameplate power factor? -Use the same power factor as the one used to convert the generator's kilovolt ampere measure to megawatts in Question 1a. -Solar photovoltaic systems, wind turbine, batteries, fuel cells, and flywheels may skip this question.	**(Megawatts)**	0.90
2. What is this generator's net capacity? -Report net summer capacity and net winter capacity for primary fuel source. -Report in megawatts as measured in alternating current. -Round capacity to the nearest tenth. -If the net summer capacity exceeds the nameplate capacity reported for Question 1A, explain in SCHEDULE 7. -For solar photovoltaic generators report the peark net capacity during the day for the generator assuming clear sky conditions for summer capacity and on December 21 for winter capacity.		
Net summer capacity	**(Megawatts)**	2.0
Net winter capacity	**(Megawatts)**	2.0
3. What minimum load can this generator operate at continuously? -Solar generators may skip this question -For generators that entered a unit code on SCHEDULE 3, Part A report load when all generators are operating at minimum load.		0.1
4a. Was an uprate or derate project completed on this generator during the reporting year?	**Yes - Continue to Question 4b**	Yes ☐
	No - Continue to Question 5	No ☒
4b. When was this uprate or derate project completed?		/
5a. What was the status of this generator as of December 31 of the reporting year? -Select the status code from Table 4 in SCHEDULE 3, Part B of the instructions. -If Status code is SB, go to Question 5b. -For all other status codes, go to Question 6.		OP
5b. Is this generator equipped to be synchronized to the grid? -Answer only if the status code reported in question 5a is SB.		Yes ☐ No ☐
6. When did this generator begin commercial operation?	**(MM-YYYY)**	2/2005
7. When was this generator retired?	**(MM-YYYY)**	/
8. If this generator will be retired in the next ten years, what is its estimated retirement date?	**(MM-YYYY)**	/
9. Is this generator associated with a combined heat and power system?	**Yes - Continue to Question 10**	Yes ☐
	No - Continue to Question 11	No ☒
10. Is this generator part of a topping or bottoming cycle? -In a topping cycle, electricity is produced first and any waste heat from that production is used in a manufacturing or commercial application. -In a bottoming cycle, thermal output is used in a process other than electricity production and any waste heat is then used to produce electricity.		Topping ☐ Bottoming ☐
11. What is this generator's predominant energy source? -Enter the energy source code for the fuel used by this generator in the greatest quantity during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		DFO
12. What are the energy sources used by this generator's combustion units for start-up and flame sazilization? -Answer only for generators whose prime mover code was ST (Steam turbine.) -Enter the energy source code for the fuel used by this generator for start-up and flame stabilization during the reporting year, as measured in Btus. -Select this energy source code from Table 28 in the instructions.		a. b. c. d.

MONTANA-DAKOTA UTILITIES CO.
AVERAGE DAILY PEAK NATIVE
LOAD IN PEAK MONTH - AUGUST 2013

1	337	17	353
2	316	18	347
3	308	19	408
4	298	20	414
5	343	21	377
6	331	22	370
7	317	23	401
8	322	24	399
9	315	25	392
10	296	26	415
11	305	27	412
12	341	28	427
13	334	29	425
14	335	30	409
15	349	31	340
16	360		

Pivotal Supplier Analysis Screen
Average Daily Peak for August **358**

Market Share Analysis Screen
Average Daily Peak Load within Season:

Winter (Dec -Feb)	392
Spring (Mar-May)	328
Summer (Jun-Aug)	341
Fall (Sep-Nov)	342

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2012

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
1201121	322	318	312	304	307	307	322	337	350	363	367	359
1201122	364	349	348	344	349	381	394	384	382	380	367	340
1202121	322	312	310	308	304	307	317	324	335	344	352	344
1202122	346	341	338	339	342	386	390	387	378	366	341	317
1203121	301	290	283	282	285	301	323	361	382	374	371	375
1203122	374	373	369	368	363	398	413	411	396	384	363	338
1204121	319	313	308	310	311	327	346	393	404	405	395	395
1204122	395	398	392	389	395	420	435	429	418	409	384	359
1205121	334	330	325	321	326	335	361	393	405	407	400	393
1205122	387	385	383	372	380	417	415	410	402	388	366	336
1206121	318	308	309	305	311	316	351	386	403	399	393	398
1206122	396	388	380	370	378	415	418	418	405	395	372	357
1207121	336	326	319	324	326	330	367	404	421	421	428	424
1207122	413	415	409	403	404	429	430	420	417	410	388	366
1208121	347	335	327	329	328	336	342	360	378	385	396	405
1208122	403	395	396	392	404	436	444	432	438	422	408	391
1209121	373	365	361	355	358	357	368	387	396	405	415	411
1209122	408	408	400	393	399	448	466	460	462	448	427	397
1210121	383	374	364	366	367	377	398	437	445	443	439	434
1210122	425	429	419	419	425	460	462	449	442	432	394	367
1211121	349	338	328	338	338	344	380	414	426	422	426	414
1211122	417	414	410	408	413	448	455	445	435	426	392	357
1212121	340	329	326	321	324	336	361	403	424	414	409	408
1212122	399	392	397	395	407	439	448	442	431	421	394	368
1212131	342	334	332	329	338	346	372	414	430	421	428	429
1212122	421	410	410	403	401	431	442	436	428	414	390	360
1214121	338	331	326	323	336	337	365	406	420	430	418	418
1214122	405	398	395	389	382	422	434	422	413	407	398	370
1215121	361	348	346	336	342	343	353	376	387	398	392	400
1215122	387	379	370	364	373	409	419	416	406	400	384	370
1216121	349	336	338	329	335	336	352	363	378	384	399	395
1216122	387	394	386	385	390	424	434	431	432	414	392	372
1217121	345	335	334	333	338	349	374	420	443	430	436	429
1217122	420	414	411	409	417	446	457	448	442	426	400	375
1218121	348	341	332	338	330	347	376	406	432	427	423	416
1218122	413	403	400	395	407	433	446	434	429	420	400	366
1219121	349	336	340	345	341	356	390	429	444	441	433	434
1219122	427	424	421	414	413	455	469	456	456	441	422	387
1220121	376	368	359	364	369	376	410	457	471	466	455	449
1220122	428	420	412	404	404	441	460	454	454	447	419	392
1221121	376	364	360	358	354	367	393	429	445	442	439	427
1221122	419	399	396	379	392	425	432	426	422	408	394	371
1222121	359	347	343	338	340	353	359	380	400	406	406	402
1222122	397	388	381	386	388	424	440	435	438	419	415	392
1223121	380	361	364	357	358	367	369	386	395	404	414	414
1223122	420	405	406	399	408	441	446	442	439	430	419	395
1224121	381	367	367	367	368	375	394	411	433	438	445	437
1224122	429	415	401	395	402	427	436	426	421	419	408	396
1225121	386	376	371	362	367	368	375	384	397	405	410	408
1225122	403	388	381	380	375	407	420	426	422	425	409	387
1226121	378	362	360	362	369	379	398	420	446	445	454	449
1226122	445	440	431	434	442	468	480	473	468	449	427	401
1227121	379	374	367	365	365	378	400	425	439	445	452	444
1227122	437	431	424	415	423	449	466	460	460	442	419	403
1228121	385	373	375	367	376	382	405	431	451	450	453	451
1228122	441	432	427	417	418	445	460	450	450	440	417	401
1229121	386	378	367	370	368	374	386	396	406	412	417	406
1229122	398	387	372	366	371	412	424	427	416	405	392	373
1230121	364	345	346	344	341	351	354	364	380	380	386	381
1230122	383	378	375	361	382	410	421	421	425	402	394	369
1231121	353	347	341	348	342	358	371	400	412	428	430	439
1231122	424	424	417	408	412	435	440	431	424	412	396	378

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
101131	372	356	356	351	355	354	373	381	390	400	403	400
101132	403	395	387	378	389	417	439	436	422	413	391	370
102131	349	340	332	336	332	344	372	404	421	420	425	416
102132	427	415	414	412	417	444	456	449	438	427	398	372
103131	351	346	342	346	347	355	385	421	441	440	427	423
103132	414	404	394	392	391	423	441	439	430	424	394	375
104131	354	339	346	342	344	359	383	418	437	432	431	415
104132	408	395	396	387	384	407	431	424	422	404	393	366
105131	360	344	347	337	348	351	357	376	392	403	410	406
105132	407	393	386	381	376	407	430	426	420	412	402	374
106131	359	354	346	344	343	352	357	375	389	397	400	399
106132	394	383	383	376	380	413	432	424	415	401	379	356
107131	335	332	321	326	328	341	364	411	420	427	411	414
107132	409	394	388	381	383	407	435	429	422	409	384	367
108131	347	336	327	336	331	339	362	400	413	401	407	389
108132	389	380	381	375	386	404	423	419	410	403	377	351
109131	336	324	327	329	326	343	363	412	423	417	416	414
109132	398	395	389	389	382	411	426	419	411	389	370	345
110131	326	319	312	309	323	317	350	390	401	400	399	397
110132	384	390	386	385	390	409	417	420	407	398	379	357
111131	335	338	324	332	333	347	366	413	436	428	437	449
111132	444	445	443	444	445	462	469	459	456	442	431	402
112131	395	382	380	378	381	383	398	405	429	435	445	453
112132	440	435	426	428	432	443	475	472	452	448	433	414
113131	398	390	381	382	379	383	390	403	409	417	423	429
113132	431	425	418	410	423	447	471	469	460	448	431	402
114131	390	381	376	379	373	395	417	465	484	483	472	465
114132	457	445	436	435	440	458	476	476	460	445	427	396
115131	378	378	367	367	366	379	407	440	455	445	446	443
115132	429	423	426	420	416	429	444	438	422	413	382	353
116131	337	326	322	318	323	329	359	398	409	405	407	402
116132	406	393	393	389	404	424	438	432	424	408	386	355
117131	341	332	328	327	327	342	366	405	425	412	416	418
117132	413	403	402	398	397	418	430	432	414	404	383	350
118131	338	331	318	322	327	331	357	394	407	405	392	387
118132	380	370	370	366	366	384	396	392	381	372	355	334
119131	321	312	309	304	311	321	328	352	370	383	397	403
119132	408	397	406	397	399	423	452	447	436	428	415	392
120131	378	368	363	363	366	367	377	392	405	418	427	430
120132	432	431	426	424	434	456	492	488	484	475	455	427
121131	416	407	406	407	402	413	437	465	475	473	478	479
121132	478	466	467	455	458	470	499	490	485	470	436	412
122131	393	390	381	385	387	395	421	465	478	471	464	462
122132	452	440	435	430	430	438	471	462	458	440	412	398
123131	383	379	370	375	377	390	417	457	473	470	470	460
123132	452	443	448	442	449	462	494	487	473	472	448	422
124131	403	395	400	396	392	413	433	480	486	485	480	482
124132	467	458	445	443	440	436	468	461	452	439	411	386

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
125131	375	364	363	356	360	375	400	438	458	447	450	445
125132	433	426	417	409	409	422	451	444	436	422	415	388
126131	377	365	358	354	354	361	362	379	388	397	407	395
126132	399	380	365	363	360	368	407	409	400	396	376	363
127131	360	351	342	342	346	347	354	368	378	381	392	381
127132	386	376	367	369	369	386	418	417	412	391	380	355
128131	339	328	330	319	323	340	363	401	422	422	418	412
128132	403	400	397	391	389	400	427	426	422	410	381	363
129131	342	340	333	332	344	348	381	423	442	438	437	430
129132	425	423	415	428	429	438	471	475	462	453	436	407
130131	387	388	385	382	391	393	430	474	482	480	480	475
130132	468	464	455	460	460	470	506	503	492	488	464	441
131131	426	422	422	415	426	438	459	509	514	516	510	507
131132	499	491	485	477	480	488	511	513	505	483	463	433
201131	414	406	400	400	399	400	427	465	466	464	466	448
201132	444	432	427	424	426	412	442	437	428	415	396	383
202131	364	360	353	351	357	357	371	382	390	404	410	410
202132	400	406	384	394	387	399	427	431	420	401	395	367
203131	354	344	338	337	330	333	349	360	374	375	386	387
203132	384	383	385	377	379	382	408	409	403	392	391	365
204131	353	344	343	337	345	353	381	416	434	423	425	421
204132	418	408	402	395	386	393	412	422	408	397	363	350
205131	324	319	325	318	321	336	363	398	409	405	402	404
205132	391	389	381	378	379	379	411	419	410	400	386	356
206131	336	324	322	323	325	334	361	400	414	405	398	396
206132	391	378	376	374	367	378	408	412	410	400	379	356
207131	339	334	332	336	334	346	371	409	425	427	425	423
207132	414	404	403	398	394	403	419	424	416	406	376	357
208131	334	331	324	328	322	340	367	408	420	418	418	414
208132	408	399	389	388	380	384	401	400	392	388	364	350
209131	338	324	329	327	325	332	343	367	377	393	391	384
209132	379	373	361	359	345	358	389	399	389	374	374	350
210131	336	328	323	315	328	323	332	347	355	368	376	388
210132	390	391	391	392	401	405	435	435	420	417	389	372
211131	341	339	340	339	335	355	371	413	425	422	429	422
211132	414	408	401	398	395	394	419	428	423	408	383	360
212131	345	333	339	328	336	349	365	409	413	406	399	392
212132	390	372	375	366	370	371	393	410	402	384	365	343
213131	325	313	309	309	319	319	350	391	400	398	392	390
213132	385	378	375	378	375	380	407	403	407	386	363	339
214131	325	321	319	319	324	336	363	401	419	412	419	420
214132	409	405	396	397	396	397	417	423	419	395	391	362
215131	342	341	331	338	330	340	371	408	421	420	407	409
215132	393	388	380	375	370	374	403	402	397	388	371	353
216131	334	323	326	315	322	319	331	344	358	358	367	355
216132	348	345	330	324	320	329	343	366	369	359	343	330
217131	319	313	309	309	300	310	316	321	336	342	339	346
217132	342	335	343	339	344	355	384	393	389	381	360	341

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
218131	338	321	328	335	333	344	374	396	405	420	426	434
218132	425	421	422	415	415	424	444	461	454	441	428	402
219131	381	384	376	382	386	395	420	454	469	466	460	452
219132	447	437	428	431	430	438	466	477	478	463	438	421
220131	397	399	396	396	399	403	430	475	473	481	468	470
220132	465	453	454	447	441	440	456	471	460	447	417	391
221131	376	371	358	361	367	366	399	433	435	440	436	431
221132	422	417	408	404	407	403	417	439	428	415	394	371
222131	350	342	345	341	350	354	390	411	425	414	412	404
222132	390	385	379	364	368	366	373	398	394	386	372	351
223131	343	330	335	333	333	340	354	365	370	383	377	372
223132	355	355	343	335	343	345	365	379	374	365	350	337
224131	326	309	309	309	310	314	325	335	342	357	359	354
224132	355	350	339	344	332	343	367	388	387	380	361	340
225131	327	316	321	318	324	331	366	396	408	401	385	393
225132	372	368	362	359	353	343	370	386	388	374	349	332
226131	322	310	312	311	314	319	352	396	396	392	387	375
226132	379	365	369	367	367	371	385	411	396	386	358	337
227131	321	313	316	312	320	330	348	392	398	405	408	400
227132	395	393	387	385	403	389	406	412	415	396	377	353
228131	331	326	329	318	330	337	367	394	414	410	409	404
228132	393	388	377	376	376	377	389	409	401	394	375	344
301131	312	320	313	321	323	334	362	390	408	404	420	401
301132	395	383	379	367	359	365	371	393	383	372	360	334
302131	319	320	307	310	307	312	326	328	344	351	350	350
302132	336	334	314	310	314	329	338	362	357	353	335	321
303131	315	296	295	293	294	297	305	313	327	333	341	344
303132	342	340	344	333	340	358	376	387	373	349	342	310
304131	307	300	293	298	302	317	334	368	381	394	393	400
304132	401	399	394	393	390	405	408	429	421	407	380	354
305131	340	332	330	338	336	341	373	395	416	416	411	407
305132	404	400	387	389	383	384	399	425	425	410	389	370
306131	352	353	347	344	358	364	385	427	434	432	418	413
306132	406	403	391	395	392	402	413	433	429	419	394	376
307131	358	345	340	337	342	352	377	403	417	424	417	407
307132	395	393	380	380	375	379	376	405	400	391	365	346
308131	320	325	312	314	332	337	362	387	401	401	405	393
308132	388	376	377	363	369	370	374	395	391	378	363	341
309131	329	316	320	312	323	322	332	340	352	371	378	373
309132	374	362	354	350	354	353	367	385	394	387	379	352
310131	350	-3	343	331	335	343	342	353	368	367	368	370
310132	359	360	347	345	337	339	342	356	385	389	369	345
311131	329	315	320	316	326	325	360	399	411	416	408	399
311132	399	387	383	379	369	377	369	385	411	400	379	364
312131	342	332	330	332	333	343	371	411	427	427	415	412
312132	408	402	389	382	375	370	364	369	404	395	380	350
313131	334	329	327	331	334	342	362	408	414	407	408	397
313132	387	373	366	366	353	345	344	337	369	364	343	314

Average Daily Peak Load within Season Winter (Dec 2012 - Feb 2013)
392

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
314131	300	293	285	284	293	301	322	373	387	376	374	365
314132	354	352	345	340	338	339	329	339	365	359	343	325
315131	304	292	295	301	302	312	337	384	405	405	415	413
315132	404	416	399	393	387	390	382	384	401	401	382	363
316131	355	337	339	343	338	348	356	375	384	390	399	400
316132	391	382	373	368	369	365	376	383	401	395	387	374
317131	350	353	346	341	345	346	348	367	372	383	396	401
317132	401	404	400	392	390	390	390	397	404	411	393	371
318131	355	348	354	360	358	373	393	437	449	451	451	444
318132	442	429	424	413	407	401	392	388	416	417	394	370
319131	360	344	343	341	339	354	388	427	434	426	436	420
319132	415	406	406	400	397	393	389	391	418	427	401	373
320131	368	357	353	353	355	365	402	442	439	442	426	414
320132	409	405	392	396	382	386	385	382	414	408	399	362
321131	351	349	344	341	352	363	381	429	432	443	432	429
321132	423	416	403	416	396	396	396	392	420	407	390	365
322131	348	341	339	327	337	351	371	407	420	426	422	417
322132	409	390	383	377	379	373	370	371	386	392	369	362
323131	344	340	338	329	341	339	351	370	385	390	385	385
323132	374	373	356	358	354	358	364	364	382	382	379	367
324131	341	334	333	331	328	333	346	354	358	371	376	372
324132	369	365	354	350	355	365	364	368	393	402	379	354
325131	341	342	332	335	342	344	374	412	433	442	424	422
325132	410	399	386	382	368	374	366	362	381	395	379	353
326131	344	342	340	336	345	353	384	416	429	425	412	403
326132	393	380	377	371	357	358	347	348	378	382	368	341
327131	329	320	322	312	323	345	363	403	415	403	396	397
327132	380	365	366	355	351	342	339	337	357	369	351	327
328131	311	308	305	302	319	328	358	393	415	407	403	392
328132	377	370	356	345	338	337	323	323	348	350	343	313
329131	303	301	288	294	299	304	328	350	365	372	382	370
329132	355	347	338	328	322	319	309	307	321	334	319	301
330131	294	288	276	280	279	284	302	309	328	334	339	339
330132	331	315	312	298	308	297	306	301	319	333	319	313
331131	295	294	288	282	284	292	303	311	321	340	338	337
331132	331	327	316	304	311	307	316	316	343	357	346	331
401131	314	309	306	313	310	328	346	373	380	387	381	381
401132	368	366	353	355	345	342	336	333	352	359	344	327
402131	303	303	298	295	308	314	348	377	389	395	381	378
402132	367	359	349	353	338	340	334	332	344	366	342	322
403131	299	299	286	291	294	298	337	355	375	375	367	360
403132	353	351	345	338	346	335	327	325	344	348	335	309
404131	293	284	288	284	287	305	330	370	378	379	377	371
404132	366	365	358	343	342	335	327	324	351	359	335	322
405131	301	292	289	291	295	307	331	365	379	388	390	388
405132	374	362	355	347	340	325	320	318	330	338	320	307
406131	283	277	267	266	268	276	287	297	315	324	336	338
406132	330	320	314	313	309	309	309	307	326	326	320	304

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
407131	282	288	275	272	278	282	285	295	309	318	333	336
407132	326	318	324	303	302	310	308	311	323	336	330	292
408131	279	276	281	276	282	294	326	360	385	392	402	406
408132	404	401	392	392	399	382	384	388	392	400	384	359
409131	338	331	323	330	334	344	374	399	415	425	413	416
409132	388	394	385	381	373	373	374	360	377	388	373	339
410131	321	313	318	308	316	334	353	384	396	403	396	390
410132	380	378	370	360	351	348	337	343	354	369	349	318
411131	303	304	291	293	304	311	338	373	389	388	385	380
411132	380	371	362	359	357	349	351	346	362	360	345	323
412131	306	300	293	290	299	310	332	362	375	384	383	383
412132	377	368	362	353	354	351	348	339	350	355	342	322
413131	303	297	290	297	294	301	322	314	345	348	354	352
413132	345	337	331	334	323	333	335	335	348	360	346	332
414131	316	309	305	307	304	304	320	317	328	343	366	368
414132	371	371	358	366	356	366	366	362	371	381	366	339
415131	320	311	302	300	308	311	330	341	361	365	372	368
415132	367	353	347	346	348	349	347	348	352	367	355	316
416131	308	304	293	292	304	307	340	365	379	380	381	376
416132	370	358	364	357	353	354	357	353	358	370	351	328
417131	299	298	295	301	305	314	342	364	398	395	384	381
417132	369	354	362	340	360	354	351	352	360	371	356	325
418131	309	301	301	305	314	318	352	382	392	389	386	380
418132	377	367	359	356	346	342	340	332	341	360	346	318
419131	307	289	290	288	301	304	335	361	378	372	374	370
419132	359	351	348	335	330	325	311	310	320	338	332	318
420131	300	298	302	295	301	300	316	315	338	353	362	359
420132	365	345	351	338	332	331	339	330	339	353	333	316
421131	301	291	282	283	284	280	295	294	313	324	340	340
421132	339	338	331	318	326	324	327	330	336	353	336	321
422131	295	299	293	287	301	305	338	366	385	381	382	376
422132	372	368	360	361	356	352	345	339	339	368	348	322
423131	307	298	297	302	305	315	342	369	377	377	374	372
423132	365	353	344	344	335	334	321	318	321	359	315	300
424131	290	279	277	280	283	294	322	352	367	384	382	379
424132	375	382	373	366	361	357	344	341	341	366	333	324
425131	300	299	295	297	306	314	330	367	369	369	370	361
425132	355	351	337	332	331	320	320	304	301	328	306	288
426131	263	265	254	260	266	269	305	322	344	340	338	336
426132	333	327	327	327	312	308	302	290	287	306	303	277
427131	259	249	238	239	244	251	249	254	276	286	294	302
427132	297	301	290	300	287	294	294	287	286	293	293	274
428131	249	243	230	237	239	238	239	237	259	280	297	284
428132	297	295	293	281	290	288	291	291	282	307	299	272
429131	253	235	240	236	242	256	276	302	327	341	341	334
429132	334	324	326	319	317	316	315	303	307	317	302	273
430131	251	245	245	245	248	254	289	318	332	346	341	344
430132	352	352	356	342	344	343	338	349	337	362	319	302

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
501131	291	280	285	279	279	293	322	349	362	362	361	357
501132	360	345	344	330	324	323	318	306	311	333	317	289
502131	272	270	268	274	278	286	308	339	354	346	352	343
502132	332	335	329	325	318	315	302	295	297	320	310	280
503131	268	257	254	255	262	277	291	327	351	345	340	336
503132	332	323	327	318	308	298	294	282	285	299	294	280
504131	263	259	238	249	254	254	261	272	293	298	307	300
504132	302	289	286	287	287	278	284	280	281	291	293	277
505131	260	247	250	245	246	259	254	261	272	286	291	291
505132	293	281	284	280	284	285	283	287	288	308	297	271
506131	252	246	236	238	241	253	275	299	327	331	328	331
506132	339	325	329	330	333	321	318	310	304	312	304	276
507131	252	232	232	231	231	244	254	287	303	315	317	316
507132	328	323	332	333	335	334	321	324	303	312	311	269
508131	249	234	225	225	222	241	256	276	317	320	330	321
508132	329	327	330	329	332	322	318	306	309	311	302	270
509131	253	242	238	232	240	253	260	294	323	317	327	321
509132	318	317	319	315	316	316	301	292	292	302	299	272
510131	248	240	235	230	240	249	262	293	319	327	334	331
510132	333	328	324	323	314	311	300	293	282	286	302	269
511131	259	243	240	239	240	246	249	264	280	288	294	290
511132	287	280	283	263	276	277	277	272	265	279	290	267
512131	253	248	243	243	241	250	243	249	260	276	288	285
512132	284	285	280	284	280	290	294	290	295	308	307	277
513131	248	244	233	229	229	244	254	282	317	332	344	364
513132	366	368	388	383	392	398	397	388	375	369	355	307
514131	278	259	250	243	240	250	255	293	323	335	348	348
514132	361	359	358	360	360	358	353	344	330	331	308	280
515131	249	243	230	229	229	247	255	283	315	325	330	338
515132	346	348	355	357	353	364	347	340	331	332	324	285
516131	253	252	233	228	227	248	256	291	314	321	329	339
516132	337	330	336	336	328	320	309	299	297	300	292	260
517131	247	233	228	227	226	230	249	273	308	312	320	314
517132	328	327	330	336	332	333	314	310	297	311	301	280
518131	263	244	244	236	234	239	233	235	260	285	300	312
518132	316	317	316	327	314	319	313	303	304	306	298	275
519131	261	247	230	235	229	225	236	232	246	264	281	300
519132	300	294	299	293	297	303	300	305	298	310	307	270
520131	256	246	235	236	234	250	268	297	321	332	345	338
520132	343	333	327	329	332	333	327	319	313	312	309	281
521131	253	242	241	234	246	243	269	297	323	329	327	334
521132	331	324	329	318	314	319	307	305	294	306	290	275
522131	249	244	220	233	234	249	257	284	302	310	317	316
522132	315	314	316	311	311	311	305	297	290	289	299	273
523131	243	235	230	226	229	232	249	281	300	310	322	324
523132	319	316	320	315	324	306	309	299	290	294	298	273
524131	245	232	228	229	225	234	245	268	303	309	321	319
524132	325	322	312	308	310	297	299	290	281	279	283	265

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
525131	248	230	228	223	222	226	223	232	254	267	282	291
525132	290	289	290	302	295	290	298	294	287	295	313	241
526131	249	229	221	218	214	220	226	222	242	260	264	279
526132	290	291	293	295	298	303	301	291	286	287	297	275
527131	253	239	232	231	229	224	226	233	242	276	286	293
527132	295	290	300	292	294	302	303	297	300	307	290	262
528131	245	235	227	226	228	234	247	273	294	325	323	332
528132	339	333	337	344	337	341	332	327	322	317	313	288
529131	258	244	231	230	220	236	243	270	304	306	327	332
529132	329	334	336	343	344	343	331	329	307	316	308	278
530131	258	248	242	231	231	246	257	281	308	319	331	338
530132	339	344	339	351	343	346	334	331	316	316	317	287
531131	260	244	240	240	229	251	248	283	307	311	336	330
531132	336	329	331	323	322	312	309	293	297	286	294	269
601131	256	241	237	230	230	239	236	243	257	274	280	292
601132	282	290	276	279	280	279	276	274	265	273	280	261
602131	250	231	232	221	227	227	222	225	250	251	271	273
602132	279	280	277	282	280	284	288	279	279	282	293	263
603131	250	231	227	221	219	231	243	274	292	308	325	333
603132	335	332	333	329	326	327	323	324	315	310	304	273
604131	264	249	239	239	238	250	253	287	305	316	332	329
604132	333	331	325	324	320	325	311	316	303	302	303	272
605131	250	243	239	236	233	242	264	277	305	312	320	319
605132	319	321	308	309	309	305	301	290	289	282	290	269
606131	247	238	227	229	223	239	243	272	294	302	316	322
606132	328	327	329	333	332	329	318	313	301	303	308	285
607131	263	244	230	232	234	230	243	265	294	308	320	324
607132	334	342	340	340	340	329	321	302	297	301	296	282
608131	258	250	236	225	225	233	224	237	257	279	288	304
608132	305	304	300	299	293	297	296	293	288	284	287	271
609131	256	248	227	228	221	223	216	219	240	255	275	284
609132	289	290	299	292	303	319	315	320	314	312	320	291
610131	258	246	237	231	239	237	244	274	303	321	334	343
610132	358	364	370	371	383	375	371	362	341	324	333	297
611131	272	250	242	238	234	241	246	277	304	314	333	343
611132	358	353	372	376	384	379	365	344	337	331	327	292
612131	274	244	246	227	233	246	258	276	304	318	333	331
612132	335	348	342	343	350	352	339	335	320	314	321	293
613131	265	249	240	229	238	238	245	275	303	323	336	341
613132	355	350	351	368	360	355	343	340	329	323	317	293
614131	270	249	240	239	231	248	246	273	298	314	329	346
614132	346	358	354	353	355	349	338	325	317	294	293	282
615131	256	239	238	225	222	222	214	226	253	268	292	297
615132	294	301	307	300	310	319	315	311	301	285	293	276
616131	258	243	226	229	221	218	207	220	234	261	278	290
616132	298	309	310	316	320	325	325	321	312	307	303	282
617131	257	243	238	227	228	236	241	269	291	315	320	327
617132	327	343	344	356	350	364	353	341	337	320	319	291

Average Daily Peak Load within Season
Spring (Mar-May)
328

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
618131	260	250	237	226	234	233	244	266	297	319	338	352
618132	362	371	382	392	389	402	396	382	378	354	353	320
619131	290	271	253	248	248	248	260	288	312	344	363	402
619132	417	410	427	442	442	443	433	424	405	387	382	344
620131	309	287	275	268	268	266	284	303	329	328	386	374
620132	382	389	405	396	430	423	411	404	389	375	361	326
621131	295	273	270	249	255	264	268	291	319	342	355	357
621132	355	363	358	360	350	357	343	330	329	315	325	297
622131	272	261	249	244	237	242	237	245	275	292	311	330
622132	341	346	347	351	352	354	358	338	333	318	307	288
623131	264	254	238	234	233	226	219	227	245	274	280	295
623132	310	311	311	316	327	322	341	337	338	326	329	297
624131	274	259	242	237	243	239	248	279	310	336	354	373
624132	397	405	428	439	455	450	446	440	424	403	392	358
625131	322	288	282	271	268	267	289	304	340	368	395	414
625132	440	446	449	456	454	451	438	427	414	388	378	341
626131	291	285	272	261	263	263	278	300	340	362	388	406
626132	416	446	443	455	454	452	440	435	415	383	381	351
627131	313	290	272	261	264	267	269	305	336	370	389	408
627132	418	428	434	442	440	451	436	421	411	385	373	336
628131	307	279	259	255	256	261	261	292	333	356	374	397
628132	413	424	431	432	442	436	428	413	393	363	355	327
629131	296	275	269	249	246	244	242	249	277	311	330	351
629132	358	366	376	384	384	391	393	383	362	355	342	320
630131	301	272	265	248	250	249	233	245	268	300	325	344
630132	366	375	374	390	391	404	406	402	391	371	370	327
701131	303	277	262	260	259	257	267	293	325	364	378	405
701132	424	441	451	458	467	469	461	452	431	411	400	357
702131	322	290	280	273	262	267	272	303	335	366	392	412
702132	433	446	456	473	485	480	476	463	445	424	405	369
703131	328	303	280	274	268	271	274	305	339	370	389	421
703132	441	462	471	484	485	489	481	468	454	420	408	383
704131	342	322	300	286	281	280	270	275	299	333	347	374
704132	385	404	411	420	433	420	427	417	396	368	357	329
705131	318	295	282	271	265	266	259	283	323	353	384	409
705132	431	444	453	460	458	438	425	401	375	372	359	330
706131	305	286	275	264	262	262	255	262	286	320	348	379
706132	397	412	416	426	436	440	437	424	418	391	378	352
707131	328	298	285	268	262	259	246	257	274	297	314	334
707132	349	354	371	381	397	405	414	416	399	381	385	342
708131	308	293	276	268	275	268	279	310	352	385	409	430
708132	450	466	484	494	497	500	495	456	439	397	373	332
709131	305	266	257	252	258	264	270	287	318	341	365	369
709132	386	412	410	423	417	424	408	390	373	354	341	321
710131	283	259	250	249	249	253	261	287	324	337	364	373
710132	394	405	419	440	450	446	461	444	430	412	393	372
711131	317	300	284	269	272	274	277	308	346	378	409	448
711132	419	421	514	530	538	539	523	498	480	457	445	407

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
712131	368	341	319	315	309	315	327	348	373	408	417	439
712132	445	450	460	469	481	480	474	463	448	426	408	373
713131	339	318	296	283	278	282	273	290	315	352	390	416
713132	437	455	467	473	481	478	466	445	423	396	384	354
714131	323	301	283	279	272	267	265	265	281	294	308	314
714132	333	332	340	348	349	352	354	356	342	340	338	316
715131	282	276	266	257	264	273	288	318	342	364	379	404
715132	420	433	442	455	464	464	472	465	450	434	423	380
716131	343	318	298	289	283	287	293	317	360	387	408	426
716132	439	461	456	474	474	470	466	436	425	399	387	351
717131	316	292	280	268	271	274	285	314	344	378	386	412
717132	430	452	464	474	478	481	476	461	455	425	414	379
718131	342	309	301	289	288	291	295	325	367	394	427	455
718132	476	495	509	515	530	524	514	494	477	449	428	383
719131	336	310	290	273	273	287	275	309	342	364	397	419
719132	434	450	459	468	483	476	470	453	432	403	389	350
720131	317	292	285	271	262	266	256	266	287	306	332	339
720132	353	357	366	360	374	371	379	358	360	339	340	322
721131	296	265	286	257	254	252	241	251	268	289	316	346
721132	365	396	408	426	443	443	437	425	401	386	384	340
722131	307	288	277	264	259	268	274	288	332	355	367	388
722132	398	401	408	420	421	435	418	411	391	371	369	325
723131	294	271	266	258	255	265	271	293	325	338	365	376
723132	381	396	399	410	414	431	401	399	379	373	365	323
724131	297	277	266	261	252	261	276	289	323	350	379	395
724132	423	429	448	451	462	460	446	431	407	387	383	337
725131	306	284	269	256	261	265	269	291	320	344	359	381
725132	382	389	399	392	405	391	385	372	351	328	326	295
726131	264	255	239	241	237	248	248	275	300	313	326	336
726132	339	342	342	349	351	346	339	328	316	299	308	277
727131	249	248	231	235	229	228	231	237	256	278	284	306
727132	300	310	314	316	321	331	340	325	319	300	306	291
728131	267	258	239	239	237	233	230	227	252	269	289	299
728132	308	313	325	325	339	347	344	339	332	327	324	298
729131	269	253	247	236	243	254	260	291	310	333	348	366
729132	374	366	374	377	376	382	370	373	349	348	338	306
730131	279	262	251	250	248	255	256	272	303	321	339	343
730132	358	365	369	371	379	381	376	369	353	353	339	310
731131	279	257	254	243	254	253	262	284	309	330	345	366
731132	378	388	396	407	416	418	410	390	382	359	349	318
801131	288	266	257	250	247	253	264	280	308	337	345	369
801132	384	392	403	412	419	415	401	390	368	367	350	321
802131	282	271	257	248	248	258	269	280	304	324	341	351
802132	355	367	370	374	367	362	352	337	328	323	322	291
803131	276	265	245	248	242	246	242	248	272	288	314	329
803132	334	351	350	363	367	380	365	361	346	334	326	303
804131	280	258	254	251	239	241	242	235	251	272	288	305
804132	304	313	321	332	348	357	362	357	347	345	340	307

Average Daily Peak Load within Season Summer (Jun-Aug)
341

Average Daily Peak
337
316
308
298

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12	
Date	13	14	15	16	17	18	19	20	21	22	23	24	
805131	270	257	251	246	248	251	261	286	315	335	346	371	
805132	385	405	412	431	437	433	425	403	386	373	361	321	343
806131	288	264	259	251	251	255	261	287	312	344	355	369	
806132	383	391	396	403	399	392	384	370	349	347	339	297	331
807131	274	254	253	240	246	252	262	285	303	324	334	344	
807132	353	357	367	379	387	377	370	349	339	340	323	295	317
808131	266	249	245	238	239	238	264	276	308	322	343	346	
808132	367	375	384	389	395	383	391	374	352	348	330	300	322
809131	280	254	239	245	237	246	256	275	298	321	339	340	
809132	364	369	371	375	380	376	370	360	336	329	317	292	315
810131	267	247	242	241	234	235	241	239	255	283	306	315	
810132	321	333	338	352	355	352	352	338	322	320	310	294	296
811131	285	258	244	234	238	238	232	229	249	275	287	313	
811132	321	338	351	356	364	379	382	372	365	361	346	306	305
812131	276	253	255	241	248	246	268	286	311	330	345	369	
812132	381	391	408	410	432	429	431	408	386	389	359	314	341
813131	291	267	255	248	248	254	265	289	315	318	341	355	
813132	365	379	394	401	414	418	401	390	369	364	349	307	334
814131	280	266	254	250	248	252	273	294	307	331	340	356	
814132	376	378	399	396	408	408	402	393	377	368	353	318	335
815131	280	266	258	253	245	257	276	291	315	340	354	371	
815132	386	395	410	422	435	441	432	425	399	390	370	330	349
816131	296	280	266	253	256	259	272	295	323	351	377	389	
816132	408	421	441	443	453	462	446	427	400	397	364	338	360
817131	302	285	270	261	261	255	265	259	282	307	332	354	
817132	371	399	419	431	454	456	452	441	419	411	395	353	353
818131	324	302	288	275	266	263	267	260	278	302	334	359	
818132	377	381	393	404	421	431	433	428	416	405	381	340	347
819131	304	285	275	264	272	265	290	307	337	373	403	442	
819132	468	496	511	536	532	543	538	523	486	478	433	387	408
820131	337	318	301	286	278	280	297	322	352	380	409	445	
820132	479	507	523	538	540	541	522	508	482	466	428	377	414
821131	334	308	290	281	271	286	293	312	339	365	381	408	
821132	424	444	457	463	474	474	460	440	419	403	376	339	377
822131	299	285	261	263	263	268	289	312	342	364	376	390	
822132	408	429	439	455	474	472	462	443	417	421	383	340	370
823131	308	294	279	273	269	280	297	317	350	375	395	428	
823132	449	475	495	510	514	520	506	490	463	461	430	391	401
824131	358	337	312	299	308	304	307	305	341	371	396	427	
824132	437	462	471	486	488	493	487	461	458	459	413	384	399
825131	340	323	311	296	285	287	286	276	305	335	371	408	
825132	437	460	471	478	491	494	501	483	466	467	433	389	392
826131	348	323	309	302	298	301	330	349	385	404	423	450	
826132	469	484	497	506	517	513	511	491	472	466	428	373	415
827131	342	317	300	293	288	299	312	337	368	394	412	439	
827132	465	490	507	533	523	526	511	490	462	467	419	379	412
828131	336	316	310	294	296	294	329	349	378	401	425	460	
828132	465	501	515	533	542	547	544	517	504	484	459	393	427

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12	
Date	13	14	15	16	17	18	19	20	21	22	23	24	
829131	362	330	311	311	297	308	322	349	382	412	439	462	
829132	488	502	523	522	543	535	520	505	479	475	435	382	425
830131	343	321	304	296	287	300	313	334	364	394	417	456	
830132	470	493	514	525	527	529	503	482	454	434	397	352	409
831131	326	307	297	283	288	279	279	286	303	333	354	362	
831132	385	398	390	400	403	406	397	373	354	356	330	311	340
901131	282	263	259	248	249	248	250	247	255	279	295	309	
901132	322	331	331	347	350	359	364	361	336	341	322	295	
902131	270	259	250	246	244	248	250	247	258	289	311	333	
902132	351	374	389	405	433	442	447	443	428	417	384	336	
903131	306	294	279	273	270	272	298	323	350	370	379	395	
903132	418	440	455	490	489	506	494	482	461	450	407	358	
904131	326	292	287	279	278	277	307	322	349	356	382	396	
904132	418	427	448	460	460	463	457	440	434	429	390	340	
905131	310	291	275	273	259	274	299	321	349	377	399	428	
905132	460	479	499	524	533	534	522	513	498	484	446	396	
906131	356	330	312	307	302	304	328	352	380	407	423	450	
906132	463	490	507	527	532	541	530	502	481	470	428	391	
907131	364	338	324	300	306	305	309	307	322	351	360	383	
907132	389	392	393	390	389	395	372	368	371	356	348	319	
908131	297	277	276	259	261	258	260	273	276	297	314	333	
908132	344	359	377	376	383	392	395	389	391	392	352	327	
909131	294	278	270	267	265	264	299	321	353	364	382	390	
909132	397	406	419	421	423	421	409	390	392	384	348	304	
910131	278	262	253	245	256	254	283	304	328	340	357	380	
910132	387	400	414	430	425	433	425	405	400	396	349	314	
911131	284	267	254	252	248	253	287	305	334	335	357	367	
911132	375	390	397	408	419	411	405	386	381	373	332	300	
912131	263	253	248	240	239	244	277	293	312	326	332	359	
912132	363	370	371	390	393	393	388	371	372	357	330	293	
913131	270	254	247	244	245	250	271	299	315	334	344	361	
913132	372	401	400	414	416	418	400	374	376	363	336	313	
914131	291	265	256	250	249	249	263	271	282	306	314	321	
914132	329	331	335	333	332	336	332	331	330	329	305	286	
915131	267	249	241	234	235	232	234	237	247	265	280	293	
915132	293	299	304	303	311	324	317	319	334	328	303	282	
916131	249	243	246	240	238	243	282	299	313	327	339	343	
916132	356	360	359	372	371	374	362	356	367	360	324	291	
917131	270	257	249	241	248	255	287	301	327	337	352	365	
917132	376	395	402	423	423	429	416	400	410	383	350	295	
918131	279	267	251	252	252	255	286	325	323	350	354	364	
918132	368	383	397	409	412	418	402	390	392	372	338	295	
919131	273	267	249	248	242	256	280	307	321	326	338	341	
919132	344	343	335	341	329	332	321	321	334	328	301	275	
920131	261	242	243	239	245	251	281	298	316	317	330	329	
920132	331	333	327	331	326	327	305	300	323	305	294	275	
921131	258	244	239	230	235	233	245	254	259	281	289	290	
921132	304	296	305	303	309	318	315	312	327	317	300	267	

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
922131	256	245	238	225	232	233	243	242	251	267	281	299
922132	307	315	317	330	331	348	337	347	356	347	321	287
923131	267	257	242	244	243	251	277	317	319	338	347	354
923132	358	359	350	352	353	344	334	334	345	330	296	274
924131	251	243	237	237	228	248	268	311	314	327	328	333
924132	343	347	353	358	364	349	357	337	353	336	313	277
925131	257	241	241	235	242	246	267	314	324	325	341	338
925132	355	347	366	354	355	354	343	341	360	347	312	285
926131	263	247	237	248	242	250	282	312	324	335	328	345
926132	347	350	345	342	349	340	336	336	351	336	305	277
927131	259	246	245	240	244	249	275	313	334	331	337	341
927132	342	338	328	336	330	325	326	325	332	323	302	282
928131	265	249	253	247	243	249	257	277	279	298	305	310
928132	301	311	302	301	300	306	294	302	317	312	297	280
929131	262	251	249	247	239	246	248	261	262	278	294	298
929132	303	305	306	306	306	314	307	322	342	319	299	268
930131	252	245	236	233	236	247	271	311	314	326	341	339
930132	344	355	354	356	360	351	345	354	352	338	306	279
1001131	259	244	243	242	243	254	279	317	324	332	333	333
1001132	341	328	336	337	332	330	332	326	336	324	303	268
1002131	249	244	241	241	235	247	268	309	326	322	330	328
1002132	333	332	338	333	325	326	320	328	335	327	301	280
1003131	255	248	248	249	246	254	274	318	333	338	343	340
1003132	342	343	336	331	336	330	331	343	348	336	319	290
1004131	281	256	262	255	260	261	296	326	355	350	352	367
1004132	366	368	362	349	349	331	338	343	340	327	319	293
1005131	282	272	265	270	263	271	282	300	312	323	331	336
1005132	335	320	318	310	309	303	311	313	322	320	300	286
1006131	275	259	265	258	257	264	270	285	291	300	305	303
1006132	300	295	294	293	281	299	296	313	330	310	295	269
1007131	254	240	243	238	244	252	282	318	331	337	336	332
1007132	330	335	332	338	329	337	321	338	342	328	300	277
1008131	258	249	243	243	244	249	280	308	329	331	333	328
1008132	337	326	333	330	325	325	316	328	340	324	335	269
1009131	252	250	239	245	249	260	281	315	332	334	338	331
1009132	334	332	331	327	331	315	320	334	338	328	300	276
1010131	263	250	245	242	246	258	283	321	333	332	327	337
1010132	328	331	333	320	320	319	315	334	333	321	300	279
1011131	254	251	244	239	243	258	265	309	326	337	342	346
1011132	346	346	348	343	337	332	344	351	340	334	314	295
1012131	285	260	261	259	270	256	277	293	300	309	313	314
1012132	316	300	306	293	296	298	298	320	325	318	300	283
1013131	276	264	260	250	261	263	266	283	290	303	305	305
1013132	306	297	298	294	292	303	310	333	325	329	301	278
1014131	263	255	256	252	261	257	288	321	345	357	355	364
1014132	363	362	364	354	352	363	363	377	366	354	327	308
1015131	281	278	276	272	273	280	316	345	360	361	357	350
1015132	348	352	334	328	335	331	314	345	349	336	319	291

MONTANA-DAKOTA UTILITIES CO.
INTEGRATED HOURLY LOAD DATA
CALENDAR YEAR 2013

Hour	1	2	3	4	5	6	7	8	9	10	11	12
Date	13	14	15	16	17	18	19	20	21	22	23	24
1016131	284	269	262	269	268	280	308	349	360	369	361	354
1016132	348	339	338	331	332	329	331	353	352	339	315	302
1017131	277	275	270	267	271	278	307	337	350	364	361	364
1017132	351	347	341	333	344	334	335	361	356	354	328	305
1018131	289	279	275	279	276	288	310	339	360	362	366	367
1018132	363	365	348	349	348	334	338	352	352	345	325	303
1019131	283	274	267	267	262	281	281	301	314	328	336	330
1019132	327	317	319	306	311	313	327	343	335	325	317	291
1020131	281	267	267	266	264	271	277	296	307	319	330	342
1020132	348	341	336	328	332	337	343	360	363	355	335	303
1021131	287	276	277	274	277	287	314	359	376	374	381	377
1021132	377	377	364	367	367	367	373	390	386	372	344	316
1022131	292	285	283	289	282	302	318	356	380	381	376	382
1022132	381	376	369	367	366	360	364	385	385	367	337	322
1023131	296	287	291	284	289	308	324	373	383	385	381	390
1023132	390	383	378	375	371	372	369	392	394	374	350	326
1024131	314	301	302	301	302	312	341	383	404	388	393	391
1024132	378	376	367	366	359	352	351	385	386	384	352	335
1025131	307	299	298	298	298	309	338	382	384	385	373	373
1025132	364	357	350	350	333	339	337	355	359	354	337	320
1026131	305	296	295	291	292	301	314	336	349	360	359	360
1026132	343	344	335	329	330	324	329	356	367	348	335	316
1027131	308	298	291	284	282	289	292	312	328	332	336	339
1027132	339	335	338	337	346	353	372	395	392	378	360	336
1028131	323	322	308	310	315	328	359	395	424	413	422	425
1028132	418	415	410	404	395	405	411	431	417	414	382	357
1029131	336	327	326	321	322	330	360	403	420	414	419	419
1029132	408	405	400	392	391	399	400	422	408	402	369	343
1030131	326	317	308	313	311	330	348	392	413	408	403	400
1030132	400	387	386	378	377	374	384	399	397	390	366	339
1031131	323	319	307	310	304	334	353	397	418	411	406	395
1031132	397	385	376	375	368	367	365	379	376	357	352	326
1101131	304	298	293	288	300	310	335	363	392	393	393	399
1101132	392	386	379	370	366	354	357	378	376	366	345	333
1102131	314	304	304	299	302	307	321	333	355	358	362	347
1102132	348	334	326	319	324	334	337	368	349	345	337	315
1103131	297	283	283	281	281	292	301	315	327	335	337	339
1103132	330	332	328	317	333	349	382	374	370	346	342	308
1104131	303	294	295	293	304	313	343	389	396	403	395	398
1104132	396	386	383	378	381	391	417	419	407	394	369	350
1105131	332	327	320	325	328	345	363	408	414	414	409	400
1105132	393	382	381	374	368	388	409	409	398	394	363	338
1106131	329	318	314	315	314	325	364	393	400	401	394	393
1106132	382	363	381	360	367	389	411	411	412	398	370	341
1107131	327	318	319	317	329	330	365	405	397	402	395	390
1107132	375	369	359	355	359	380	406	401	395	389	359	330
1108131	320	303	304	302	303	312	337	378	382	387	389	387
1108132	386	374	368	361	362	377	390	380	381	354	350	316

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Hour	1	2	3	4	5	6	7	8	9	10	11	12	
Date	13	14	15	16	17	18	19	20	21	22	23	24	
1109131	315	303	297	294	301	304	318	332	344	359	371	374	
1109132	362	350	348	337	342	360	399	388	378	375	362	342	
1110131	330	321	323	312	317	311	316	328	338	343	361	358	
1110132	361	361	358	365	372	402	419	406	403	397	371	350	
1111131	342	327	333	328	336	346	374	404	413	419	418	408	
1111132	408	395	402	388	392	421	450	443	434	420	399	377	
1112131	353	348	342	344	344	361	393	430	437	432	424	416	
1112132	411	391	391	387	370	402	417	414	408	394	374	340	
1113131	319	317	310	310	316	325	352	385	398	394	391	384	
1113132	383	385	384	372	369	386	407	394	389	367	338	319	
1114131	302	292	284	297	292	307	352	377	385	397	395	385	
1114132	388	367	371	371	358	381	397	397	391	377	359	329	
1115131	325	317	313	311	316	325	363	397	404	401	392	384	
1115132	381	366	360	352	351	366	379	385	378	360	349	326	
1116131	311	304	298	298	306	308	316	338	343	360	376	365	
1116132	357	356	349	350	353	374	387	377	380	353	352	328	
1117131	317	302	306	293	305	308	322	327	343	361	367	371	
1117132	374	374	381	367	377	408	411	412	400	391	366	348	
1118131	327	323	320	319	329	338	376	421	426	419	420	416	
1118132	400	388	376	376	379	401	427	419	409	394	371	338	
1119131	317	320	319	315	319	324	356	396	403	404	411	405	
1119132	398	386	377	376	363	392	414	401	397	393	370	335	
1120131	329	315	319	321	326	338	370	405	419	433	428	430	
1120132	435	424	430	430	443	466	484	470	469	450	427	401	
1121131	375	377	378	381	380	401	422	464	485	476	479	475	
1121132	464	456	443	443	443	473	496	487	484	475	439	417	
1122131	395	390	378	374	386	389	422	459	465	464	467	465	
1122132	451	455	441	431	441	467	484	474	467	468	442	424	
1123131	405	395	398	387	395	406	418	436	439	452	452	448	
1123132	435	430	410	405	407	438	452	453	442	427	422	395	
1124131	371	378	361	365	360	363	377	388	388	387	388	389	
1124132	388	379	382	359	385	408	425	424	411	401	383	358	
1125131	330	336	328	326	336	344	381	423	430	429	435	433	
1125132	448	412	424	416	419	449	454	458	446	433	408	384	
1126131	362	356	357	353	361	369	402	448	453	452	452	438	
1126132	440	422	419	412	413	448	464	466	450	442	427	393	
1127131	374	364	363	356	365	365	399	426	446	440	438	432	
1127132	423	417	412	407	409	438	449	435	435	422	398	376	
1128131	359	346	343	339	339	343	361	368	386	398	413	421	
1128132	407	398	381	367	366	381	406	400	406	401	385	379	**Average Daily**
1129131	365	360	357	352	357	358	375	400	411	411	410	402	**Peak Load**
1129132	395	379	369	368	369	397	406	403	401	388	375	363	**within Season**
1130131	343	336	322	327	329	326	341	358	365	377	385	389	**Fall (Sep-Nov)**
1130132	381	366	367	362	364	400	398	405	399	392	380	358	342

0.25 Planned outage MW for entire season (MW-days/number of days in period)

December 1, 2012 Start of period
February 28, 2013 End of period
90 Number of days in period: Event Detail (Full) Report

22.70% % ownership in Big Stone Plant Unit #1
25.00% % ownership in Coyote Station Unit #1

Event Detail (Full) Report

FERC Filing:

Report Period: December 2012 to February 2013

Rollup Weighting: N/A

Glendive - Unit #02
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #02	57	MO	2/21/2013 14:00	2/21/2013 15:00	0	0	1.00	1.00	40.30	1	40.30	0.02	
		CAUSE CODE: 3850 - Instrument Air Compressors											
		DESCRIPTION: Instrument air compressor maintenance											
								1.000	40.300			0.02	0.02

Lewis & Clark Station - Unit #01
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	11	MO	12/19/2012 5:27	12/19/2012 15:01	0	0	9.57	9.57	500.34	1	52.30	0.23	
		CAUSE CODE: 8115 - Wet Scrubber - Disc Scrubber Throats											
		DESCRIPTION: Scrubber Disc Cleaning											
								9.567	500.337			0.23	0.23

88.83 Planned outage MW for entire season (MW-days/number of days in period)

March 1, 2013 Start of period
May 31, 2013 End of period
92 Number of days in period: Event Detail (Full) Report

22.70% % ownership in Big Stone Plant Unit #1
25.00% % ownership in Coyote Station Unit #1

Event Detail (Full) Report

FERC Filing

Report Period: March 2013 to May 2013

Rollup Weighting: N/A

Big Stone Plant - Unit #01
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	70	PO	5/8/2013 14:55	5/24/2013 3:03	0	0	372.13	372.13	176763.33	1	107.83	18.17	
		CAUSE CODE: 1801		Minor Boiler Overhaul (less than 720 Hours)									
		DESCRIPTION: Spring outage											
								372.133	176764.328			18.17	18.17

Coyote Station - Unit #01
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	16	PO	5/30/2013 22:04	5/31/2013 23:59	0	0	25.92	25.92	11066.42	1	106.75	1.25	
		CAUSE CODE: 1801		Minor Boiler Overhaul (less than 720 Hours)									
		DESCRIPTION: Spring Outage											
								25.917	11066.416			1.25	1.25

Glendive - Unit #02
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	

Unit #02	58	MO	4/17/2013 9:00	4/17/2013 17:15	0	0	8.25	8.25	332.48	1	40.30	0.15	
		CAUSE CODE: 3850		Instrument Air Compressors									
		DESCRIPTION: Instrument air compressor maintenance											
								8.250	332.475			0.15	0.15

Lewis & Clark Station - Unit #01

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	2	MO	4/11/2013 6:02	4/11/2013 15:29	0	0	9.45	9.45	494.24	1	52.30	0.22	
		CAUSE CODE: 8115		Wet Scrubber - Disc Scrubber Throats									
		DESCRIPTION: Scrubber Disc Cleaning											
Unit #01	3	MO	5/3/2013 22:29	5/20/2013 9:39	0	0	395.17	395.17	20667.22	1	52.30	9.36	
		CAUSE CODE: 1812		Boiler Inspections - Scheduled or Routine									
		DESCRIPTION: Scheduled Spring Maintenance And Cleaning Outage											
		CAUSE CODE:		Turbine Control Valves									
		DESCRIPTION:		Turbine throttle valve stem loose									
		CAUSE CODE:		Other Coal Processing System Problems									
		DESCRIPTION:		Replace coal system controls									
		CAUSE CODE:		Other High Pressure Heater Problems									
		DESCRIPTION:		Hole in drip cooler baffle									
		CAUSE CODE:		Turbine Main Stop Valves									
		DESCRIPTION:		Leak past main steam stop valve stem backseat									
								404.617	21161.452			9.58	9.58

Miles City - Unit #01

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	4	MO	4/23/2013 10:27	4/23/2013 17:45	0	0	7.30	7.30	164.98	1	22.60	0.07	
		CAUSE CODE: 5274		General Gas Turbine Unit Inspection									
		DESCRIPTION: Annual Maintenance											
Unit #01	5	MO	4/24/2013 8:55	4/24/2013 17:00	0	0	8.08	8.08	182.68	1	22.60	0.08	
		CAUSE CODE: 5274		General Gas Turbine Unit Inspection									
		DESCRIPTION: Annual Maintenance											
								15.383	347.663			0.16	0.16

R.M. Heskett Station - Unit #01

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	9	MO	4/16/2013 16:51	5/1/2013 7:00	0	0	350.15	350.15	9664.14	1	27.60	4.38	
		CAUSE CODE: 1812		Boiler Inspections - Scheduled or Routine									
		DESCRIPTION: Scheduled Maintenance Outage											
								350.150	9664.140			4.38	4.38

R.M. Heskett Station - Unit #02

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW Per	
Unit #02	8	PO	3/22/2013 22:28	4/1/2013 0:00	0	0	217.53	217.53	15749.41	1	72.40	7.13	
		CAUSE CODE: 4400		Major Turbine Overhaul (720 Hours Or Longer)									
		DESCRIPTION: Turbine Overhaul											
Unit #02	9	PO	4/1/2013 0:00	5/5/2013 7:00	0	0	823.00	823.00	59585.20	1	72.40	26.99	
		CAUSE CODE: 4400		Major Turbine Overhaul (720 Hours Or Longer)									
		DESCRIPTION: Turbine Overhaul											
Unit #02	10	PE	5/5/2013 7:00	6/5/2013 12:24	0	0	641.00	641.00	46408.40	1	72.40	21.02	
		CAUSE CODE: 4400		Major Turbine Overhaul (720 Hours Or Longer)									
		DESCRIPTION: Delay on Field Rewind											
								1681.533	121743.016			55.14	55.14

MicroGADS Event Detail (Full) Report

33.01 Planned outage MW for entire season (MW-days/number of days in period)

June 1, 2013 Start of period
August 31, 2013 End of period
92 Number of days in period: Event Detail (Full) Report

22.70% % ownership in Big Stone Plant Unit #1
25.00% % ownership in Coyote Station Unit #1

Event Detail (Full) Report

FERC Filing:

Report Period: June 2013 to August 2013

Rollup Weighting: N/A

Coyote Station - Unit #01
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	36	PO	6/1/2013 0:00	6/9/2013 2:10	0	0	194.17	194.17	82909.17	1	106.75	9.39	
		CAUSE CODE: 1801 - Minor Boiler Overhaul (less than 720 Hours)											
		DESCRIPTION: Spring Outage											
								194.167	82909.172			9.39	9.39

Glendive - Unit #01
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	4	MO	7/10/2013 8:00	7/10/2013 17:30	0	0	9.50	9.50	329.65	1	34.70	0.15	
		CAUSE CODE: 3869 - Other Fire Protection System Problems											
		DESCRIPTION: Testing of Fire Protection System											
Unit #01	5	MO	7/11/2013 9:00	7/11/2013 16:10	0	0	7.17	7.17	248.68	1	34.70	0.11	
		CAUSE CODE: 3869 - Other Fire Protection System Problems											
		DESCRIPTION: Testing of Fire Protection System											
Unit #01	6	MO	7/12/2013 7:00	7/12/2013 16:00	0	0	9.00	9.00	312.30	1	34.70	0.14	
		CAUSE CODE: 3869 - Other Fire Protection System Problems											
		DESCRIPTION: Testing of Fire Protection System											
Unit #01	7	MO	7/13/2013 7:00	7/13/2013 14:50	0	0	7.83	7.83	271.82	1			
		CAUSE CODE: 3869 - Other Fire Protection System Problems											

		DESCRIPTION: Testing of Fire Protection System												
Unit #01	8	MO 7/15/2013 8:00	7/16/2013 7:00	0	0	23.00	23.00	798.10	1	34.70	0.36			
		CAUSE CODE: 3869 - Other Fire Protection System Problems												
		DESCRIPTION: Testing of Fire Protection System												
Unit #01	15	PO 7/16/2013 7:00	8/13/2013 10:10	0	0	675.17	675.17	23428.28	1	34.70	10.61			
		CAUSE CODE: 3644 - Protection Devices												
		DESCRIPTION: Install New Substation Protective Relays												
							731.667	25388.833			11.38	11.38		

Glendive - Unit #02

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #02	64	MO	6/3/2013 9:00	6/4/2013 14:30	0	0	29.50	29.50	1203.60	1	40.80	0.55	
		CAUSE CODE: 5274 - General Gas Turbine Unit Inspection											
		DESCRIPTION: Annual Maintenance											
Unit #02	70	MO	7/9/2013 8:00	7/9/2013 16:30	0	0	8.50	8.50	346.80	1	40.80	0.16	
		CAUSE CODE: 3869 - Other Fire Protection System Problems											
		DESCRIPTION: Testing of Fire Protection System											
Unit #02	71	MO	7/10/2013 8:00	7/10/2013 14:30	0	0	6.50	6.50	265.20	1	40.80	0.12	
		CAUSE CODE: 3869 - Other Fire Protection System Problems											
		DESCRIPTION: Testing of Fire Protection System											
Unit #02	72	MO	7/11/2013 7:45	7/16/2013 17:45	0	0	130.00	130.00	5304.00	1	40.80	2.40	
		CAUSE CODE: 3869 - Other Fire Protection System Problems											
		DESCRIPTION: Testing of Fire Protection System											
Unit #02	78	MO	8/13/2013 8:00	8/15/2013 10:05	0	0	50.08	50.08	2043.40	1	40.80	0.93	
		CAUSE CODE: 5042 - Gas Turbine - Fuel Nozzles/vanes											
		DESCRIPTION: Fuel Nozzle Inspection											
Unit #02	79	MO	8/22/2013 12:00	8/28/2013 10:45	0	0	142.75	142.75	5824.20	1	40.80	2.64	
		CAUSE CODE: 5048 - Gas Fuel System with controls and instruments											
		DESCRIPTION: Gas Fuel System Trouble											
Unit #02	90	MO	8/28/2013 11:21	8/30/2013 14:43	0	0	51.37	51.37	2095.76	1	40.80	0.95	
		CAUSE CODE: 5048 - Gas Fuel System with controls and instruments											
		DESCRIPTION: Gas Fuel System Trouble											
Unit #02	91	MO	8/30/2013 15:17	9/4/2013 9:40	0	0	32.72	32.72	1334.84	1	40.80	0.60	
		CAUSE CODE: 5048 - Gas Fuel System with controls and instruments											
		DESCRIPTION: Gas Fuel System Trouble											
							451.417	18417.800			8.34	8.34	

Lewis & Clark Station - Unit #01

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	4	MO	7/16/2013 2:55	7/16/2013 14:03	0	0	11.13	11.13	582.27	1	52.30	0.26	
		CAUSE CODE: 8115 - Wet Scrubber - Disc Scrubber Throats											
		DESCRIPTION: Scrubber disc cleaning											
							11.133	582.273			0.26	0.26	

R.M. Heskett Station - Unit #02

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	

Unit #02	10	PE 5/5/2013 7:00	6/5/2013 12:24	0	0	108.40	108.40	8043.28	1	74.20		3.64	
		CAUSE CODE: 4400 - Major Turbine Overhaul (720 Hours Or Longer)											
		DESCRIPTION: Delay on Field Rewind											
							108.400	8043.280				3.64	3.64

MicroGADS Event Detail (Full) Report

28.02 Planned outage MW for entire season (MW-days/number of days in period)

September 1, 2013 Start of period
November 30, 2013 End of period
91 Number of days in period: Event Detail (Full) Report

22.70% % ownership in Big Stone Plant Unit #1
25.00% % ownership in Coyote Station Unit #1

Event Detail (Full) Report

FERC Filing

Report Period: September 2013 to November 2013

Rollup Weighting: N/A

Big Stone Plant - Unit #01
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	196	MO	10/18/2013 22:54	10/22/2013 18:51	0	0	91.95	91.95	43676.25	1	107.83	4.54	
		CAUSE CODE: 3621 - Unit Auxiliaries Transformer											
		DESCRIPTION: Outage To Replace UAT											
								91.950	43676.250			4.54	4.54

Coyote Station - Unit #01
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	69	PO	9/2/2013 21:37	9/6/2013 14:12	0	0	88.58	88.58	37825.09	1	106.75	4.33	
		CAUSE CODE: 1801 - Minor Boiler Overhaul (less than 720 Hours)											
		DESCRIPTION: Fall wash outage											
								88.583	37825.086			4.33	4.33

Glendive - Unit #02
Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	

Unit #02	91	MO 8/30/2013 15:17	9/4/2013 9:40	0	0	81.67	81.67	3332.00	1	40.80	1.53		
		CAUSE CODE: 5048 - Gas Fuel System with controls and instruments											
		DESCRIPTION: Gas Fuel System Trouble											
Unit #02	80	MO 9/4/2013 19:13	9/5/2013 14:15	0	0	19.03	19.03	776.56	1	40.80	0.36		
		CAUSE CODE: 5048 - Gas Fuel System with controls and instruments											
		DESCRIPTION: Gas Fuel System Trouble											
Unit #02	81	MO 9/5/2013 15:28	9/5/2013 20:00	0	0	4.53	4.53	184.96	1	40.80	0.08		
		CAUSE CODE: 5048 - Gas Fuel System with controls and instruments											
		DESCRIPTION: Gas Fuel System Trouble											
Unit #02	82	MO 9/16/2013 11:00	9/16/2013 12:30	0	0	1.50	1.50	61.20	1	40.80	0.03		
		CAUSE CODE: 5042 - Gas Turbine - Fuel Nozzles/vanes											
		DESCRIPTION: Install Lockwire on Fuel Nozzle Bolts											
							106.733	4354.720			1.99	1.99	

Lewis & Clark Station - Unit #01

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	5	MO	9/6/2013 3:53	9/6/2013 13:47	0	0	9.90	9.90	517.77	1	52.30	0.24	
		CAUSE CODE: 8115 - Wet Scrubber - Disc Scrubber Throats											
		DESCRIPTION: Scrubber Disc Cleaning											
Unit #01	6	MO	10/4/2013 21:49	10/15/2013 10:15	0	0	252.43	252.43	13202.26	1	52.30	6.04	
		CAUSE CODE: 1812 - Boiler Inspections - Scheduled or Routine											
		DESCRIPTION: Scheduled fall maintenance and cleaning outage											
								262.333	13720.034			6.28	6.28

Miles City - Unit #01

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	9	MO	10/7/2013 9:30	10/8/2013 19:00	0	0	33.50	33.50	770.50	1	23	0.35	
		CAUSE CODE: 5041 - Gas Turbine - Fuel Piping And Valves											
		DESCRIPTION: Liquid Fuel Line Replacement											
								33.500	770.500			0.35	0.35

R.M. Heskett Station - Unit #01

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #01	12	MO	9/6/2013 23:33	9/13/2013 5:30	0	0	149.95	149.95	4228.59	1	28.2	1.94	
		CAUSE CODE: 1812 - Boiler Inspections - Scheduled or Routine											
		DESCRIPTION: Scheduled Maintenance Outage											
								149.950	4228.590			1.94	1.94

R.M. Heskett Station - Unit #02

Duration hours, Equiv. Hours and MWHr cover the full event lifetime

Unit	Event	Type	Start	End	GAC	NAC	Duration	Equiv Hrs	Equiv MWH	Cont	MDU Capacity	Calc MW-Per	
Unit #02	23	MO	10/25/2013 20:57	11/5/2013 8:31	0	0	252.57	252.57	18740.45	1	74.20	8.58	
		CAUSE CODE: 1812 - Boiler Inspections - Scheduled or Routine											
		DESCRIPTION: Scheduled Mantenance Outage											

Process Document and Data:

Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities

Midcontinent Independent System Operator, Inc.

11/18/2014

Revision History

Revision	Revision Location	Revision Date

Table of Figures

1. Background and Summary

At the request of member Transmission Owners, MISO conducted analysis consistent with Order No. 697A on a MISO Market aggregate basis. The two indicative horizontal market power screens requested include the Market Share Screen applied on a seasonal basis and the Pivotal Supplier Screen based on the annual peak demand for a December 2012 through November 2013 study period. Table 3 shows a summary of the results of this study.

Member Transmission Owners with Market Based Rates will each perform analysis consistent with Order No. 697A for their own areas. Entities (Local Balancing Authorities) included in the MISO Market includes:

Table 1: Study Area

207	Hoosier Energy Rural Electric Cooperative, Inc.	HE
208	Duke Energy Business Services	DEI
210	Southern Indiana Gas & Electric Company	SIGE
216	Indianapolis Power & Light Company	IPL
217	Northern Indiana Public Service Company	NIPSCO
218	Michigan Electric Transmission Company	METC
219	International Transmission Company (d/b/a ITC Transmission)	ITCT
295	Wisconsin Electric Co. (ATC)	WEC
296	Wisconsin Electric Co. (ATC) MI	MIUP
314	Big Rivers Electric Corporation	BREC
325	Brazos Electric	BRAZ
326	Entergy Mississippi	EES
327	Entergy Arkansas	EES-EAI
328	Plum Point Energy Associates, LLC.	PLUM
329	City of Osceola, AR	OMLP
331	Batesville, MS, LS Power	BCA
332	Louisiana Generating LLC	LAGN
333	City of Columbia, MO	CWLD
334	City of West Memphis	WMU
335	City of Conway	CWAY
336	City of Benton	BUBA
337	Union Power Partners	PUPP
338	City of Ruston	DERS
339	City of North Little Rock	NLR

Table 2: Study Area (cont'd)

349	South Mississippi Electric Power Association	SMEPA
351	Entergy	EES
356	Ameren Missouri	AMMO
357	Ameren Illinois	AMIL
360	City Water, Light & Power	CWLP
361	Southern Illinois Power Cooperative	SIPC
502	Central Louisiana Electric Company, Inc.	CLECO
503	Lafayette Utilities System	LAFA
504	Louisiana Energy and Power Authority	LEPA
600	Xcel Energy	XEL
608	Minnesota Power	MP
613	Southern Minnesota Power Agency	SMMPA
615	Great Rivers Energy	GRE
620	Otter Tail Power Company	OTP
627	Alliant West	ALTW
633	Muscatine Power and Water	MPW
635	MidAmerican Energy Company	MEC
661	Montana Dakota Utilities	MDU
680	Dairyland Power Cooperative	DPC
694	Alliant East	ALTE
696	Wisconsin Public Service Company	WPS
697	Madison Gas and Electric	MGE
698	Upper Peninsula Power Company	UPPC

Table 3: Summary of Market Share Screen and Pivotal Supplier Screen (MW)

Executive Summary Table	Market Share Screen				Pivotal Supplier Screen
	Winter	Spring	Summer	Fall	Annual
Internal Available Capacity	144,477	144,477	144,477	144,477	144,477
Planned Outages	-7,444	-20,998	-3,857	-15,934	-
Firm Purchases	3,157	3,157	3,157	3,157	3,157
Operating Reserves	-2,440	-2,439	-2,438	-2,440	-2,438
Load	-83,507	-78,036	-96,986	-82,497	-22,438
Firm Sales	-1,134	-1,134	-1,134	-1,134	-1,134
SIL	15,373	20,446	13,128	18,027	13,128
Total	68,481	65,472	56,347	63,657	134,751

2. Market Share Screen

The wholesale Market Share Screen measures, for each of the four seasons, whether a seller has a dominant position in the market based on the number of megawatts of uncommitted capacity owned or controlled by the seller as compared to the uncommitted capacity of the entire relevant market.[1] The following formula is utilized for calculating uncommitted capacity:

1. Internal available capacity
2. Plus long-term firm purchases
3. Less long-term firm sales
4. Less planned outages
5. Less estimated operating reserves
6. Less native load requirements[2]
7. Plus the simultaneous import capability

Utilities' uncommitted capacity must be less than 20% of MISO's total to pass this screen. Each of the numbered items' definitions, assumptions, and values are detailed in the following sections.

2.1. Internal Available Capacity

The first item of the Market Share Screen pertains to MISO's internal available resources. Generation assets within MISO are stored in the Commercial Model database assigned to Commercial Pricing Nodes (CPNodes). The Commercial Model is kept up to date with the Network Model following a quarterly schedule beginning March, June, September, and December of each year per the Network and Commercial Models Business Practice Manual (BPM) posted on MISO's webpage. MISO utilizes the Registered Maximum Output of each generation asset in the Commercial Model to calculate MISO's Installed capacity.

A majority of these MISO Installed capacity resources are designated as a Network Resource under Module E1 of the Energy Markets Tariff. Internal resources may be designated to the extent that they can be delivered to the load. The amount deliverable is defined through the MISO Generator Interconnection Deliverability Test. However; some of this capacity may be sold to entities outside of MISO through long-term contractual agreements. These Long-term Firm Sales are discussed in detail in section 2.3 of this report. The difference between the Installed capacity and internal available capacity is considered unavailable either because the unit performs at a lower level or simply because the capacity is not deliverable to load.

A historical study of MISO wind performance over the last five years was conducted and a capacity factor percentage was calculated for each individual wind unit. For the units that five year historic data was not available, EIA Region 4 capacity factor of 34 percent for year 2013 was used[3]. These capacity factors were applied to each Wind CPNodes Registered Maximum Output and reduced by the undeliverable amount to calculate the internal available capacity for

[1] FERC Order No. 697A P 8
[2] Native load requirement is the average of the daily native load peak demands for each season.
[3] EIA Renewable Energy Generation- Region 4-MROW

wind. Since MISO's Resource Adequacy construct is on an annual basis, the amount of the available capacity does not change by season. Also, since the integration of MISO South entities did not happen until December 2013, MISO had to use the internal available capacity as of summer 2014 for this study.

The MISO internal available capacity total used in this study is as follows:

Table 4: MISO Market Internal Available Capacity (MW)

Timeframe	Summer 2014
Internal Available Capacity	144,477

2.2. Long-term Firm Purchases

The second item of the Market Share Screen pertains to MISO's purchased resources. For the purposes of this study, MISO defines purchases as the amount of External Resources to MISO that Cleared in 2014 Planning Resource Auction (PRA). 2014 information were used since MISO South was not included in 2012 and 2013 studies. These purchases are non-recallable by the source Transmission Provider and have firm transmission service.

The MISO Long-term Firm Purchase totals used total used in this study is as follows:

Table 5: MISO Market Long-term Firm Purchases (MW)

Timeframe	Summer 2014
Purchases	3,157

2.3. Long-term Firm Sales

The third item of the Market Share Screen pertains to MISO's sold resources. For the purposes of this study, MISO defines sales as the amount of MISO internal available capacity that were committed to neighboring markets in 2014.These sales are non-recallable by the source Transmission Provider and have firm transmission service.

The MISO Long-term Firm Sales totals used total used in this study is as follows:

Table 6: MISO Market Long-term Firm Sales

Timeframe	Summer 2014
Sales	1,134

2.4. Planned Generation Outages

Planned generation outage totals for each season were obtained by querying the MISO Control Room Outage Window (CROW) Outage Scheduler. The amount of planned outages in a given season was defined as the total number of MW-hours of planned outages divided by the total number of hours in the season. Hourly granularity was used rather than daily to account for the numerous planned outages less than a day in duration that would otherwise be omitted. Capacity ratings were defined by the available capacity of the unit as of summer 2014.

Since MISO South integration didn't happen until late 2013, MISO South entities, with the exception of Entergy, did not start reporting their Planned Outages in CROW by winter 2012. However, all of the entities seem to have their Planned Outages reported since April 2013.

The MISO Planned Outage totals for each of the seasons are as follows:

Table 7: MISO Market Planned Outages (MW)

Timeframe	Winter 2012	Spring 2013	Summer 2013	Fall 2013
Planned Outages	7,444	20,998	3,857	15,934

2.5. Operating Reserves

The Operating Reserves value of about 2,440 MW is calculated using the 12 month average, Dec 2012 through Nov 2013, of the summation of each day's regulation, spinning reserve, and contingency reserve requirements. Requirements are the simple arithmetic averages of the daily requirements.

Table 8: MISO Market Operating Reserves (MW)

Timeframe	Winter 2012	Spring 2013	Summer 2013	Fall 2013
Operating Reserves	2,440	2,439	2,438	2,440

2.6. Native Load Requirements

Native load requirement is defined as the average of daily market peaks for the season. MISO Real-Time Settlements data, for MISO North Central Region, and MISO Energy Management System (EMS) data, for MISO South, were added at an hourly level and utilized to obtain daily peak demands. Difference between the data sources selected was because MISO South integration happened in December 2013 and settlement data was not available for this study period. Order No. 697A states that a "needle peak" or instantaneous peak demand should be utilized for load requirements. An instantaneous peak is the highest value metered at any time.

An alternative to instantaneous maximum demand is integrated hourly totals which are used in the calculations of this study. The integrated hourly values represent the average demand experienced over an hour; hourly integrated totals are lower than the instantaneous total for the same period. To ultimately calculate uncommitted capacity, it is necessary to account for transmission losses - generation must be available to meet metered demand plus any losses.

For MISO North Central Region, integrated hourly Generation plus Net Actual Interchange (NAI) was used instead of the metered demand at the demand node to account for the transmission losses. Also, the integrated hourly EMS data used for MISO South has the transmission losses included. Losses will be included in all uncommitted capacity calculations.

Table 9: MISO Market Native Load Requirements (MW)

Timeframe	Winter 2012	Spring 2013	Summer 2013	Fall 2013
Hourly Load+ Losses	83,507	78,036	96,986	82,497

2.7. Simultaneous Import Capability

In order to provide accurate Simultaneous Transmission Import Limit (SIL) data to Transmission Owners for supporting documentation in their compliance filings under FERC Order 697A, MISO has consulted with stakeholders, and the Federal Energy Regulatory Commission (FERC). MISO believes it is following applicable guidelines when considering language from FERC Order 697A:

To determine the amount of transfer capability under the SIL study, the Commission stated that historical operating conditions and practices of the applicable transmission provider should be used and the analysis should reasonably reflect the transmission provider's OASIS operating practices.

The SIL study followed directions and required reporting format as specified in 135F.E.R.C¶61,254 (2011).

2.7.1. Study Data and Methodology

Power Flow Models

The following four MISO Model on Demand[4] (MOD) monthly peak power flow benchmark cases were used for the SIL analysis:

- Feb 2013 MOD Base Case to represent Winter 2012 Season (Dec 2012 – Feb 2013)
- May 2013 MOD Base Case to represent Spring 2013 Season (Mar 2013 – May 2013)
- Aug 2013 MOD Base Case to represent Summer 2013 Season (Jun 2013 – Aug 2013)
- Nov 2013 MOD Base Case to represent Fall 2013 Season (Sept 2013 – Nov 2013)

These power flow models give accurate representation of the MISO system and operating conditions on seasonal basis.

[4] MISO Model on Demand is the default powerflow database that contains generator data, transmission ratings and topology information. It is updated on a monthly basis.

These four MISO MOD monthly cases were originally developed from four seasonal Eastern Interconnection Reliability Assessment Group (ERAG) models:

- 2013FAL_2012Series_Final.sav
- 2013SPR_2012series_Final.sav
- 2013SUM_2012series_Final.sav
- 2012WIN_2011series _Final.sav (used as base case for Winter 2013 MOD cases)

The MOD base cases were developed through the following process (Figure 1).

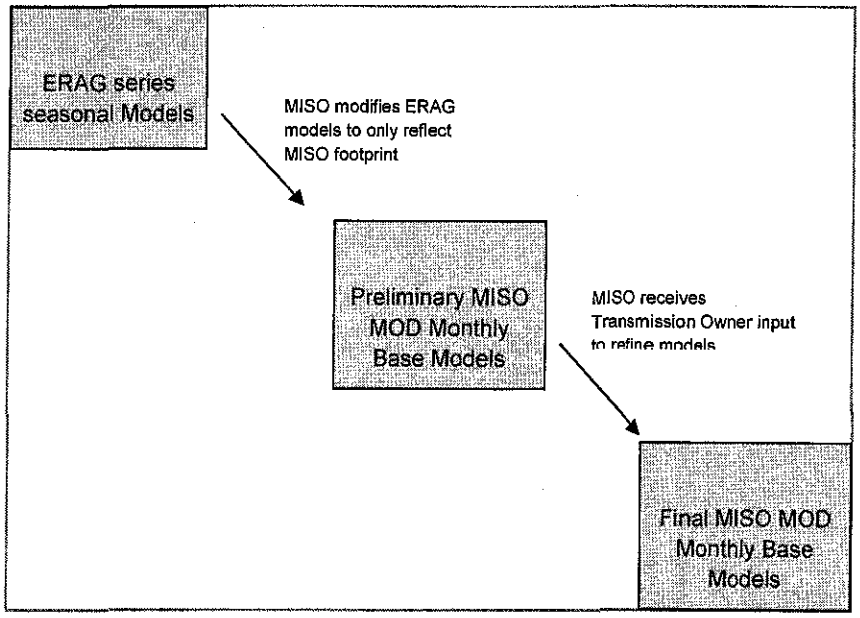

Figure 1: MISO MOD Monthly Base Model Development Process

Sink

All fully integrated MISO members during the study period were included in the study sink (import region). (Refer to Table 1. And Table 2) Generation in the sink area was simultaneously scaled down.

Source

First Tier Balancing Authorities directly inter-connected with MISO were study source (export region). The First Tier Balancing Authorities are shown in Table 10 below. Uncommitted generation in the First-Tier areas was scaled up simultaneously.

Subsystem File

MISO created subsystem files to specify export and import areas.

Monitoring File

The monitored elements file contains seasonal data pertaining to monitored flowgates, branches, ties, generation facilities in MISO and First-Tier areas, and is used in operational and planning studies within the MISO.

Contingency File

System intact condition and N-1 single contingencies in MISO and First-Tier areas (embedded operating guides) were simulated.

Study Methodology

Generation shift scaling methodology was used. Facilities were flagged as potential constraints when their loadings were at or above 100% of Rate A under system intact and 100% of Rate B under contingencies. Distribution factor cutoff was set at 3%.

Software

PTI PSS™MUST (version 11.1) was used to calculate the SIL values for each season.

Table 10: First Tier Areas

103	Independent Electricity System Operator	IESO
201	Allegheny Power	AP
202	American Transmission System Inc.	ATSI
205	American Electric Power	AEP
212	Duke Electric Ohio & Kentucky	DEO&K
222	Commonwealth Edison	CE
330	Associated Electric Company	AECI
346	Southern Company	SOCO
347	Tennessee Valley Authority	TVA
350	Power South	PS
362	Electric Energy Inc.	EEI
363	Louisiana Gas and Electric	LGEE
515	Southwestern Power Administration	SWPA
520	American Electric Power West	AEPW
524	Oklahoma Gas and Electric Company	OKGE
540	KCP&L Greater Missouri Operations	GMO
541	Kansas City Power & Light Company	KCPL
544	Empire Electric District	EMDE
640	Nebraska Public Power District	NPPD
645	Omaha Public Power District	OPPD
652	Western Area Power Administration	WAPA
667	Manitoba Hydro	MHEB

2.7.2. Simultaneous Import Limit (SIL) Calculations

The specific steps from 135F.E.R.C.¶61,254 (2011) were followed in calculating the SIL for each season as outlined below:

1. Use MUST to calculate First Contingency Incremental Transfer Capability (FCITC) for each season.

2. Obtain Net Area Interchange (NAI) from the power flow model. (This number includes the sum of long-term firm reservations.)

3. If the Study Area (MISO) NAI is positive, MISO is exporting power, and the calculated SIL value is:

$$SIL_1 = FCITC - Study\ Area\ NAI$$

   If the Study Area (MISO) NAI is negative, MISO is importing power, and the calculated SIL value is:

$$SIL_1 = FCITC + Study\ Area\ NAI$$

4. Subtract the long-term firm transmission reservations from the calculated SIL_1.

$$SIL_2 = SIL_1 - \text{long-term firm transmission reservations}$$

5. The final reported SIL_f should be the less of the three:
   - Study Area adjusted native load
     - Adjusted native load = seasonal historical peak load – long-term firm transmission reservations
   - First-Tier Area available uncommitted generation
   - The final calculated SIL value (SIL_2)

The obtained data are listed in Submittal 1: Summary Table of SIL Components.

Submittal 1 table was obtained from the market-based rate section of the FERC web site (http://www.ferc.gov/industries/electric/gen-info/mbr.asp)

Table 11: Submittal 1: Summary Table of Components Used to Calculate SIL Values

Row	Description of Component	Winter 2012 (MW)	Spring 2013 (MW)	Summer 2013 (MW)	Fall 2013 (MW)
1	Incremental transfer capability values (either the First Contingency Incremental Transfer Capability (FCITC), Normal Incremental Transfer Capability (NITC) or equivalent values).	22,960	23,524	17,611	22,081
2	Modeled Net Area Interchange (NAI) including the sum of long-term firm reservations.	473	969	564	368
3	Indicate whether the Study Area NAI is export or import.	Import	Import	Import	Import
4	(row 4 = row 1 +/- row 2).	23,433	24,493	18,175	22,449
5	Sum of the long-term firm transmission reservations. [5]	8,060	4,047	5,047	4,422
6	(row 6 = row 4 - row 5).	15,373	20,446	13,128	18,027
7	Seasonal historical peak load (Area load in the model was used as approximation).	108,089	98,919	126,817	104,628
8	Study area adjusted native load. (row 8 = row 7 - row 5).	100,029	94,872	121,770	100,206
9	Amount of uncommitted generation modeled in the first-tier area.	114,602	129,078	76,963	133,977
10	SIL f values (row 10 = the minimum of the values entered in rows 6, 8 and 9 for each season). Use these SIL values in the Market Share Screens.	15,373	20,446	13,128	18,027

[5] Long-term firm reservation was calculated using firm transaction data from ERAG 2012 series area interchange workbooks and also Midwest Reliability Organization (MRO) 2012 series transaction workbook. Details please see Submittal 2 Long-Term Firm Transmission Reservations. The 2012 WIN transaction data from ERAG and MRO 2012 workbooks was used for Winter 2012 study period. The 2013 SPR, 2013 SUM, and 2013 WIN data from ERAG 2013 workbook were used for Spring 2013, Summer 2013 and Fall 2013 study periods respectively.

It can be seen that a difference exists between Long-term Firm Transmission Service Reservations (TSRs) from the System Import Limit (SIL) calculation and the Long-term Firm Purchases used for Market Share Screen calculation, shown in Table 5. The difference is because the SIL calculation used the total available TSR value whereas table 4 shows the amount of resources committed through 2014 PRA.

2.8. Market Share Screen Uncommitted Capacity

Table 12: summarizes the totals from section 2.1 through 2.7. Instantaneous peak demand plus transmission losses data was used for each season.

Table 12: Market Share Screen Uncommitted Capacity (MW)

Timeframe	Winter 2012	Spring 2013	Summer 2013	Fall 2013
Internal Available Resources section 2.1 Table 4	144,477	144,477	144,477	144,477
Long-term Firm Purchases section 2.2 Table 5	3,157	3,157	3,157	3,157
Long-term Firm Sales section 2.3 Table 6	-1,134	-1,134	-1,134	-1,134
Planned Outages section 2.4 Table 7	-7,444	-20,998	-3,857	-15,934
Operating Reserves section 2.5 Table 8	-2,440	-2,439	-2,438	-2,440
Native Load Requirement section 2.6 Table 9	-83,507	-78,036	-96,986	-82,497
Simultaneous Import Capability section 2.7 Table 11	15,373	20,446	13,128	18,027
Totals	68,481	65,472	56,347	63,657

3. Pivotal Supplier Screen

The pivotal supplier analysis evaluates the potential of a seller to exercise market power based on uncommitted capacity at the time of the relevant market's annual peak demand, focusing on the seller's ability to exercise market power unilaterally.[6] It examines whether the market demand can be met absent the seller during peak times; a seller is determined to be pivotal if demand cannot be met without some contribution of supply by the seller or its affiliates. Uncommitted capacity for the Pivotal Supplier Screen is defined as follows:

1. Internal Available Capacity
2. Plus long-term firm purchases
3. Less long-term firm sales
4. Less estimated operating reserves
5. Less wholesale load (single hour's peak demand less the average of the daily peak native load demands during the peak month)
6. Plus the simultaneous import capability

Utilities' Pivotal Supplier Screen totals must be less than MISO's total to pass this screen. Each of the numbered items' definitions, assumptions, and values are detailed in the following sections.

3.1. Internal Available Capacity

See Section 2.1

Table 13: MISO Market Internal Available Capacity (MW)

Timeframe	Dec 2012 – Nov 2013
Peak month	July 2013
Internal Available Capacity	144,477

3.2. Long-term Firm Purchases

See Section 2.2

Table 14: MISO Market Peak Long-term Firm Purchases (MW)

Timeframe	Dec 2012 – Nov 2013
Long-term Firm Purchases	3,157

[6] FERC Order No. 697A P 9

3.3. Long-term Firm Sales

See Section 2.3

Table 15: MISO Market Peak Long-term Firm Sales (MW)

Timeframe	Dec 2012 – Nov 2013
Long-term Firm Sales	1,134

3.4. Operating Reserves

See Section 2.5

Table 16: MISO Market Peak Operating Reserves (MW)

Timeframe	Dec 2012 – Nov 2013
Operating Reserves	2,438

3.5. Wholesale Load

Wholesale Load is defined as the single hour's peak demand (instantaneous peak as clarified in Order No. 697A) less the average of the daily peak native load demands during the peak month. The peak during the study period occurred on July 18, 2013 at hour-ending 16 Eastern Standard Time.

MISO Real-Time Settlements data, for MISO North Central Region, and MISO EMS data, for MISO South Region, were added at an hourly level and utilized to obtain daily peak demands. As stated in Section 2.6 there are two metrics for capturing Real-Time peak demand totals, hourly integrated or instantaneous. The integrated hourly total is used in the Wholesale Load calculation. To ultimately calculate uncommitted capacity it is necessary to account for transmission losses - generation must be available to meet metered demand plus any losses. For MISO North Central Region, integrated hourly Generation plus Net Actual Interchange (NAI) was used instead of the metered demand at the demand node to account for the transmission losses. Also, the integrated hourly EMS data used for MISO South has the transmission losses included. Losses will be included in all uncommitted capacity calculations.

Table 17: MISO Market Wholesale Load- Includes Losses (MW)

Timeframe	Dec 2012 – Nov 2013 (August) Integrated Hourly
Peak Month	July
Single Hour Peak July 18 2013, HE 16 EST	121,124
Monthly Average (July 2013)	98,686
Wholesale Load	22,438

3.6. Simultaneous Import Capability

The Simultaneous Import Capability calculations performed for the Pivotal Supplier Screen were identical to the calculations performed for the Market Share Screen. Please refer to 2.7 for analysis and results.

3.7. Pivotal Supplier Screen Uncommitted Capacity

Table 18 summarizes the totals from Sections 3.1 through 3.6. Instantaneous peak demand data was used for the Wholesale Load totals.

Table 18: Pivotal Supplier Uncommitted Capacity (MW)

Timeframe	Dec 2012 – Nov 2013 Peak Month: July
Internal available capacity-Section 3.1 Table 13	144,477
Long-term Firm Purchases-Section 3.2 Table 14:	3,157
Long-term Firm Sales-Section 3.3 Table 15:	-1,134
Operating Reserves-Section 3.4 Table 16:	-2,438
Wholesale Load-Section 3.5 Table 17	-22,438
Simultaneous Import Capability-Section 2.7.2 Table 11	13,128
Totals	*134,751*