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July 28, 2009

Darrell Nitschke  
Executive Secretary/Director of Administration  
North Dakota Public Service Commission  
State Capitol - 600 East Boulevard  
Bismarck, ND 58505-0480

RE: Otter Tail Power Company's Annual Report

Dear Mr. Nitschke:

Enclosed is Otter Tail Power Company's 2008 Annual Report for North Dakota. As in past years, I am also enclosing a copy of Otter Tail Corporation's 2008 Annual Report to Shareholders and FERC Form No. 1. I am also forwarding an electronic copy of the North Dakota Annual Report in pdf format by email to you at [dnitschk@nd.gov](mailto:dnitschk@nd.gov) and to [ndpsc@nd.gov](mailto:ndpsc@nd.gov).

If you have questions on the information provided, don't hesitate to contact me at (218) 739-8289 or [bbrutlag@otpco.com](mailto:bbrutlag@otpco.com).

Very truly yours,

A handwritten signature in blue ink that reads "Bernadeen Brutlag".

Bernadeen Brutlag  
Manager, Regulatory Services

Enclosures

ANNUAL REPORT  
OF  
**OTTER TAIL POWER COMPANY**  
TO THE  
PUBLIC SERVICE COMMISSION OF NORTH DAKOTA  
FOR THE  
YEAR ENDED DECEMBER 31, 2008

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## STATE RETURN ON EQUITY

## Operating Statement

LINE #	DESCRIPTION	(A)	(B)	(C)	(D)	(E)
		2008 TOTAL COMPANY	2008 NORTH DAKOTA	N. D. % (B / A)	2007 NORTH DAKOTA	ANNUAL CHANGE (B-D / D)
<b>Operating Revenues:</b>						
1	Residential	\$97,207,700	\$44,247,318	45.5%	\$40,378,684	9.6%
2	Small Commercial and Industrial	55,297,704	24,735,886	44.7%	22,950,265	7.8%
3	Large Commercial and Industrial	133,023,764	46,572,747	35.0%	42,976,699	8.4%
4	Other Retail	5,487,243	2,265,328	41.3%	2,166,763	4.5%
5	Total Retail Revenue	<u>\$291,016,411</u>	<u>\$117,821,280</u>	40.5%	<u>\$108,472,410</u>	8.6%
6	Other Electric Revenue (1)	37,501,750	14,287,747	38.1%	12,622,188	13.2%
7	Total Revenue	<u>\$328,518,161</u>	<u>\$132,109,027</u>	40.2%	<u>\$121,094,598</u>	9.1%
<b>Operating Expenses:</b>						
8	Production Expenses (1)	155,949,675	59,685,584	38.3%	62,106,875	-3.9%
9	Transmission Expenses	10,956,111	4,340,860	39.6%	4,108,094	5.7%
10	Distribution Expenses	14,781,079	6,580,346	44.5%	6,461,701	1.8%
11	Customer Accounting Expenses	11,014,685	4,776,101	43.4%	4,545,083	5.1%
12	Customer Service And Information Expenses	5,404,185	1,235,888	22.9%	1,153,127	7.2%
13	Sales Expenses	967,675	549,189	56.8%	628,984	-12.7%
14	Administration And General Expenses	34,468,578	12,968,983	37.6%	12,293,584	5.5%
15	Charitable Contributions	101,782	0	0.0%	-	N/A
16	Depreciation Expense	30,500,135	12,326,318	40.4%	10,157,335	21.4%
17	General Taxes	8,947,060	3,612,560	40.4%	3,710,634	-2.6%
18	Total Operating Expenses	<u>\$273,090,965</u>	<u>\$106,075,831</u>	38.8%	<u>\$105,165,417</u>	0.9%
19	Net Operating Income Before Income Taxes	\$55,427,196	\$26,033,196	47.0%	\$15,929,181	63.4%
Income Tax Expense:						
20	Investment Tax Credit	(4,359,562)	(1,758,657)	40.3%	(459,510)	282.7%
21	Deferred Income Taxes	34,472,104	14,529,948	42.1%	207,151	6914.2%
22	Income Taxes	(19,116,667)	(6,825,772)	35.7%	4,298,276	-258.8%
23	Total Income Tax Expense	<u>\$10,995,874</u>	<u>\$5,945,518</u>	54.1%	<u>\$4,045,918</u>	47.0%
24	Net Regulated Earnings	<u>\$44,431,322</u>	<u>\$20,087,678</u>	45.2%	<u>\$11,883,263</u>	69.0%

(1) Beginning in 2006, all non-asset based wholesale revenues and expenses are excluded from regulated earnings. A portion of these transactions were included in regulated earnings from 2001-2005 under terms of the PBR Plan, which expired on December 31, 2005. Overhead costs related to these transactions are also excluded from regulatory earnings to achieve fully allocated costing and prevent cross subsidies between regulated and unregulated activities.

## STATE RETURN ON EQUITY (CONTINUED)

## Rate Base and Return on Equity

LINE #	DESCRIPTION	(A)	(B)	(C)	(D)	(E)
		2008 TOTAL COMPANY	2008 NORTH DAKOTA	N. D. % (B / A)	2007 NORTH DAKOTA	ANNUAL CHANGE (B-D / D)
1	Plant in Service	1,117,252,272	450,702,162	40.34%	382,741,667	17.76%
2	Net Capitalized Items - Big Stone Plant	85,001	77,960	91.72%	118,635	-34.29%
3	Accumulated Depreciation	<u>(470,152,666)</u>	<u>(189,465,997)</u>	40.30%	<u>(188,378,692)</u>	0.58%
4	Net Plant in Service	647,184,607	261,314,126	40.38%	194,481,610	34.36%
5	Plant Held for Future Use	29,656	12,856	43.35%	12,674	1.44%
6	Construction Work in Progress	29,438,432	1,081,966	3.68%	2,215,710	-51.17%
7	Material and Supplies	15,148,401	6,285,142	41.49%	5,554,248	13.16%
8	Fuel Stocks	8,254,508	3,091,368	37.45%	2,887,084	7.08%
9	Prepayments	<u>(33,752,175)</u>	<u>(13,628,136)</u>	40.38%	<u>(14,003,394)</u>	-2.68%
10	Customer Advances	<u>(242,589)</u>	<u>(97,950)</u>	40.38%	<u>(50,899)</u>	92.44%
11	Cash Working Capital	9,976,657	5,794,569	58.08%	4,811,395	20.43%
12	Accumulated Deferred Income Taxes	<u>(98,047,552)</u>	<u>(39,234,571)</u>	40.02%	<u>(30,837,636)</u>	27.23%
13	Total Average Rate Base	<u>577,989,944</u>	<u>224,619,369</u>	38.86%	<u>165,070,791</u>	36.07%

ACTUAL						
14	Rate of Return on Average Rate Base (page 1, Line 24 /line 13)	7.69%	8.94%		7.20%	
15	Less: Weighted Cost of Ltd (Page 3, line 1 (D))	2.63%	2.63%		2.72%	
16	Weighted Cost of Pref. Stock (Page 3 line 2 (D))	<u>0.14%</u>	<u>0.14%</u>		<u>0.17%</u>	
17	Weighted Return on Equity	4.92%	6.17%		4.31%	
18	% of Equity to Capital Structure (Page 3, line 3 (B))	<u>53.03%</u>	<u>53.03%</u>		<u>53.30%</u>	
19	Return on Equity (Page 3, line 4 (D))	<u>9.28%</u>	<u>11.64%</u>		<u>8.08%</u>	

NORMALIZED (1)						
20	Rate of Return on Average Rate Base	7.42%	7.92%			
21	Less: Weighted Cost of Ltd (Page 3, line 5 (D))	2.63%	2.63%			
22	Weighted Cost of Pref. Stock (Page 3 line 6 (D))	<u>0.14%</u>	<u>0.14%</u>			
23	Weighted Return on Equity	4.65%	5.15%			
24	% of Equity to Capital Structure (Page 3, line 7 (B))	<u>53.03%</u>	<u>53.03%</u>			
25	Return on Equity (Page 3, line 8 (D))	<u>8.77%</u>	<u>9.71%</u>			

(1) Includes an adjustment for weather normalization and an adjustment to normalize the Big Stone Plant outage from 2007 as proposed in the current rate case filing, Case No. PU-08-862.

AVERAGE WEIGHTED COST OF CAPITAL - ACTUAL					
LINE #	DESCRIPTION	(A) AVERAGE BALANCE	(B) RATIO	(C) COST	(D) WEIGHTED COST
1	LONG TERM DEBT	240,526,224	44.13%	5.96%	2.63%
2	PREFERRED EQUITY	15,500,000	2.84%	4.75%	0.14%
3	COMMON EQUITY	<u>289,066,988</u>	53.03%	11.64%	<u>6.17%</u>
4	TOTAL	<u><u>545,093,212</u></u>	100.00%		<u><u>8.94%</u></u>

AVERAGE WEIGHTED COST OF CAPITAL - NORMALIZED (1)					
LINE #	DESCRIPTION	(A) AVERAGE BALANCE	(B) RATIO	(C) COST	(D) WEIGHTED COST
5	LONG TERM DEBT	240,526,224	44.13%	5.96%	2.63%
6	PREFERRED EQUITY	15,500,000	2.84%	4.75%	0.14%
7	COMMON EQUITY	<u>289,066,988</u>	53.03%	9.71%	<u>5.15%</u>
8	TOTAL	<u><u>545,093,212</u></u>	100.00%		<u><u>7.92%</u></u>

(1) Includes an adjustment for weather normalization and an adjustment to normalize the Big Stone Plant outage from 2007 as proposed in the current rate case filing, Case No. PU-08-862.

## MISCELLANEOUS

LINE #	DESCRIPTION	2008	2007	2006	2005	2004
	Customer Related (ND):					
	Year End # of Customers					
1	Residential	44,222	44,319	44,343	44,261	44,222
2	Commercial	11,277	11,271	11,211	11,195	11,186
3	Industrial	843	826	815	787	786
4	Other	536	520	525	517	517
5	Total	56,878	56,936	56,894	56,760	56,711
	KWH's Sold					
6	Residential	568,278,543	553,508,219	534,576,036	536,382,178	514,087,135
7	Commercial	301,585,437	298,698,198	285,337,128	288,908,102	286,858,200
8	Industrial	709,550,579	709,886,478	686,826,359	677,680,888	659,632,936
9	Other	30,499,320	30,727,584	30,850,754	31,231,684	31,094,696
10	Subtotal	1,609,913,879	1,592,820,479	1,537,590,277	1,534,202,852	1,491,672,967
11	Unbilled sales	9,168,347	4,191,000	1,872,000	(6,429,000)	1,951,000
12	Total	1,619,082,226	1,597,011,479	1,539,462,277	1,527,773,852	1,493,623,967
13	Reliability Indices (1)					
14	SAIDI (total minutes)	68.1	65.8	59.8	186.4	74.6
15	SAIFI (frequency)	1.2	1.2	1.4	20.9	14.5
16	CAIDI (duration)	58.4	54.4	43.2	8.9	5.2

(1) Beginning in 2006, Otter Tail began using a new interruption monitoring system. The new IMS allows use of the more common definition of a service interruption (longer than 5 minutes). With the changed definition, the frequency of measured interruptions decreases while the length of recorded interruptions increases. Total minutes of interruptions is generally comparable with historic measures.

## Otter Tail Power Company May 2009 Annual Report to North Dakota

### Report on Status of Smart Metering

In its Order dated August 8, 2007, Case No. PU-06-290, the North Dakota Public Service Commission, at ordering paragraph no. 2, required that:

"Each jurisdictional electric utility shall include in its annual reports to the Commission, beginning with reports filed for 2007, a discussion of progress towards the feasibility of making smart metering available for all customers."

The following discussion is Otter Tail Power Company's response to that requirement.

#### Industry information and background

Smart Grid along with Smart Metering has been the center of discussion of many trade magazine articles over the last year. Smart Metering replaced Advanced Metering Infrastructure (AMI) in the trade magazines, although we continue to see Smart Metering and AMI used interchangeably in the publications and discussions. The key word in metering before AMI was Automated Meter Reading (AMR). The manufacturers of metering equipment describe the Smart Metering as AMR with advanced two-way communications.

Included in Smart Metering definitions is the tie to time based and critical peak pricing (CPP) tariffs along with demand response. On-going communications between the utility and the Smart Meter on the home or business is a key part of the Smart Metering system in order to pass the pricing signal to the customer. This communication empowers customers to participate actively and frequently in understanding their energy consumption and to make choices about their contribution to energy costs. The main focus continues to be "how can utilities help their customers reduce energy usage".

So how do the utility and customer communicate? The Smart Meter is proposed by the vendors as the gateway to the customer. How will the customer connect to the utility? Options proposed by vendors include:

- home area networks
- thermostats
- pricing orb
- in home displays
- appliances
- utility internet site

The vendors are continuing to move toward a standard method for any manufacturer's meter to talk to the customer beyond the meter. ZigBee wireless protocol is being pushed as the standard.

To make appliances smart, they would have a ZigBee compatible communication board as part of the appliance control panel. The communication board allows the customer to preset the response of the appliance to the price signal communicated by the utility. (note: only new appliances fitted with a ZigBee board would be able to be controlled, so it will take a few years of new purchases as appliances slowly wear out.) The customer access to set-up appliance would be from the appliance control panel, in-home display, PC, or internet connection.

Thus, the Smart Metering, Smart Appliance, Smart Home, etc., is moving forward but much of the hardware to make the system function is in development as those early-applied systems search for options with vendors to make this an integrated solution.

In an effort to move the country forward in developing standards and interoperability for Smart Grid, the Department of Energy will be providing grants to organizations (manufacturers partnered with utilities) in 2009, that are willing to install Smart Grid demonstration projects.

### Back Office Systems

Communicating near real time energy costs to customers is one step. Many back office systems will need major changes or be replaced completely in order to handle the large sums of data and make this data usable.

MDM (meter data management) system will be required to handle at minimum hourly data for each customer. Thus instead of collecting one meter reading every month, there will be a reading for every hour. For Otter Tail Power's 172,000 meters, this data collected each year would change from approximately 2 million readings to 1.5 trillion readings. The MDM is the utility data center for trillions of data points with uses including: for metered data, for pricing data, for billing system, for operations, for budgeting, for planning, for rate design, and more

VEE (validation estimation & editing) system will be a requirement. Our present methods to validate readings based on last month and season history will not be effective and too time consuming when dealing with hourly data. (likely 15 minute data for large users or special rates). Thus we will require an automated VEE.

CIS (customer information system) will need to change dramatically to deal with hourly data, hourly prices, and new tariffs. This will be a key to develop bills to customers that are understandable and succinct.

### Otter Tail Power Company metering – the present

Presently Otter Tail uses handheld PCs to walk by each meter monthly to collect billing quantities including kWh, peak kW and peak kVar for the majority of our customers. More frequent data is not required to bill under our existing tariffs.

For about 75 commercial customers, we have installed meters that record and store the kWh usage for each 15 minutes of each day. This data is brought back to Fergus Falls using telephone lines, Ethernet or digital cellular phones in order to calculate the billing each month.

Collecting 15 minute data allows actual calendar month billing for a few customers where is this critical to their operation, provides the ability to combine data from two or more meters to calculate the billed demand and energy, allows calculation of the billing for each hour of the month for real time pricing customers, and allows monitoring of consumption patterns of these large accounts.

### Load management

Otter Tail continues to be a leader in offering alternatives to customers to help them control the cost of energy use in their homes or businesses. Our load management system and associated tariffs have for over 25 years allowed this choice. This demand side management system is already accomplishing some aspects of the end product of Smart Metering – which is to give the customer choices to control energy costs.

Residential Demand Control tariff allows customers who are willing to modify usage during our peak periods a reduction in their total cost for water heating, lighting, and appliances, along with heating their home. Those that modify their use the most during our peak periods achieve the greatest cost savings.

Dual Fuel tariffs provide a lower cost energy rate in exchange for customers using their alternate fuel system during Otter Tail's peak periods.

Thermal Storage tariff is available for customers who installed under-floor heating or brick storage systems. These customers also receive a lower energy rate in exchange allowing Otter Tail to interrupt service to these storage systems during our peak periods.

Air Conditioning cycling is our newest offering. In return for a bill credit for each of the summer months customers allow Otter Tail to cycle their central air conditioner on/off every fifteen minutes. (Currently this tariff is only offered in Minnesota but Otter Tail included it in its current North Dakota general rate case and is also pending approval in our South Dakota rate case).

We also offer Commercial Time of Use, Commercial Demand Control, and Irrigation load control rates giving all classes of customer ways to control energy costs.

As we consider the movement toward Smart Metering, Otter Tail will have the challenge of integrating the load management system into the Smart Grid / Smart Metering / Smart Home technology.

If fully implemented, Smart Metering technology will change customer communications, meter reading, and data collection and management for billing and for operating the electric delivery system. Otter Tail will continue to investigate the Smart Metering developments and study the costs / benefits for both our customers and our company.