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May 1, 2013



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 ("Otter Tail's") 2012 Annual Report for North Dakota. As in past years, I am also enclosing a copy of Otter Tail Corporation's 2012 Annual Report to Shareholders and FERC Form 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 and to ndpsc@nd.gov.

Pages 1-3 of Otter Tail's report reflect the operating statement, rate base, and cost of capital values based on current rates from Otter Tail's most recent general rate case (Case No. PU-08-862). Pages 4-5 reflect operating statement and rate base values, including wind assets and those in the transmission cost recovery rider. The pages, which include wind and transmission recovery rider assets, are provided for reference purposes only, as the revenue requirements for wind and transmission cost recovery riders are determined through a separate cost recovery process that uses different periods for calculations and has a true-up mechanism for prior period under- and over-collections. The transmission cost recovery rider also reflects a current return on construction work in progress, which is generally not used for base rate recoveries.

As shown on page 2 of the attached report, Otter Tail earned 10.63 percent ROE in 2012 through base rates.

If you have questions on the information provided, don't hesitate to contact me at (218) 739-8607 or pbeithon@otpc.com.

Very truly yours,

/s/ *PETE BEITHON*
Pete Beithon
Manager, Regulatory Recovery

dm
Enclosures
By electronic service and First Class mail

An Equal Opportunity Employer

1 PU-13-201 Filed 05/01/2013 Pages: 19
2012 Annual Report for North Dakota
Otter Tail Power Company
Pete Beithon, Manager Reg. Recovery

ANNUAL REPORT
OF
OTTER TAIL POWER COMPANY
TO THE
PUBLIC SERVICE COMMISSION OF NORTH DAKOTA
FOR THE
YEAR ENDED DECEMBER 31, 2012

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Operating Statement - Base Rates

	(A)	(B)	(C)
Line No.	2012 Total Company	2012 North Dakota	N. D. % (B / A)
	Operating Revenues:		
1	101,857,755	44,529,954	43.72%
2	52,491,144	22,110,834	42.12%
3	135,181,136	50,385,189	37.27%
4	5,799,977	2,419,174	41.71%
5	<u>295,330,012</u>	<u>119,445,151</u>	40.44%
6	14,080,208	5,709,122	40.55%
7	<u>309,410,220</u>	<u>125,154,273</u>	40.45%
	Operating Expenses:		
8	132,356,449	54,611,192	41.26%
9	11,521,521	4,747,980	41.21%
10	15,868,156	7,129,087	44.93%
11	12,501,993	5,431,759	43.45%
12	7,818,294	1,193,407	15.26%
13	524,740	140,489	26.77%
14	32,439,663	13,235,472	40.80%
15	82,572	0	0.00%
16	33,353,967	14,140,853	42.40%
17	9,543,984	4,089,235	42.85%
18	<u>256,011,340</u>	<u>104,719,476</u>	40.90%
19	53,398,880	20,434,797	38.27%
	Income Tax Expense:		
20	(720,375)	(306,758)	42.58%
21	3,433,547	1,648,376	48.01%
22	10,283,746	3,120,830	30.35%
23	<u>12,996,919</u>	<u>4,462,448</u>	34.33%
24	<u>40,401,961</u>	<u>15,972,351</u>	39.53%

Rate Base and Return on Equity - Base Rates

		(A)	(B)	(C)
Line No.	Description	2012 Total Company	2012 North Dakota	N. D. % (B / A)
1	Plant in Service	1,110,175,069	472,747,835	42.58%
2	Net Capitalized Items - Big Stone Plant	0	0	0.00%
3	Accumulated Depreciation	<u>(540,613,341)</u>	<u>(228,712,207)</u>	42.31%
4	Net Plant in Service	569,561,728	244,035,627	42.85%
5	Plant Held for Future Use	29,657	13,092	44.14%
6	Construction Work in Progress	62,215,586	10,010,061	16.09%
7	Materials and Supplies	15,587,167	6,672,697	42.81%
8	Fuel Stocks	11,200,195	4,513,362	40.30%
9	Prepayments	<u>(33,418,291)</u>	<u>(14,318,472)</u>	42.85%
10	Customer Advances	<u>(493,106)</u>	<u>(211,277)</u>	42.85%
11	Cash Working Capital	11,531,979	3,309,888	28.70%
12	Accumulated Deferred Income Taxes	<u>(142,522,689)</u>	<u>(59,921,744)</u>	42.04%
13	Total Average Rate Base	<u><u>493,692,226</u></u>	<u><u>194,103,234</u></u>	39.32%
ACTUAL				
14	Rate of Return on Average Rate Base (page 1, Line 24 /line 13)	8.18%	8.23%	
15	Less: Weighted Cost of Ltd (Page 3, line 1 (D))	2.84%	2.84%	
16	Weighted Cost of Pref. Stock (Page 3 line 2 (D))	<u>0.00%</u>	<u>0.00%</u>	
17	Weighted Return on Equity	5.34%	5.39%	
18	% of Equity to Capital Structure (Page 3, line 3 (B))	<u>50.71%</u>	<u>50.71%</u>	
19	Return on Equity (Page 3, line 4 (D))	<u><u>10.53%</u></u>	<u><u>10.63%</u></u>	

Average Weighted Cost of Capital - Base Rates

		(A)	(B)	(C)	(D)
Line No.	Description	Average Balance	Ratio	Cost	Weighted Cost
1	Long Term Debt	335,170,526	49.29%	5.77%	2.84%
2	Preferred Equity	0	0.00%	0.00%	0.00%
3	Common Equity	<u>344,783,176</u>	<u>50.71%</u>	<u>10.63%</u>	<u>5.39%</u>
4	Total	679,953,701	100.00%		8.23%

Operating Statement - With Wind and Transmission Rider

	(A)	(B)	(C)	(D)	(E)	
Line No.	2012 Total Company	2012 North Dakota	N. D. % (B / A)	2011 North Dakota	Annual Change (B-D / D)	
	Operating Revenues:					
1	Residential	106,262,335	48,290,431	45.44%	47,126,291	2.47%
2	Small Commercial and Industrial	54,713,966	23,945,642	43.77%	23,277,108	2.87%
3	Large Commercial and Industrial	141,900,062	55,754,831	39.29%	56,638,367	-1.56%
4	Other Retail	6,024,622	2,607,775	43.29%	2,622,834	-0.57%
5	Total Retail Revenue	308,900,985	130,598,679	42.28%	129,664,600	0.72%
6	Other Electric Revenue	20,795,750	8,429,560	40.54%	7,464,720	12.93%
7	Total Revenue	329,696,736	139,028,240	42.17%	137,129,320	1.38%
	Operating Expenses:					
8	Production Expenses	134,556,150	55,522,399	41.26%	54,505,959	1.86%
9	Transmission Expenses	17,264,625	7,117,428	41.23%	5,496,394	29.49%
10	Distribution Expenses	15,868,156	7,129,087	44.93%	6,772,976	5.26%
11	Customer Accounting Expenses	12,501,993	5,431,759	43.45%	5,078,179	6.96%
12	Customer Service and Information Expenses	7,818,294	1,193,407	15.26%	1,101,687	8.33%
13	Sales Expenses	524,740	140,489	26.77%	167,108	-15.93%
14	Administration and General Expenses	32,874,999	13,409,755	40.79%	13,263,610	1.10%
15	Charitable Contributions	82,572	0	0.00%	0	N/A
16	Depreciation Expense	44,012,305	18,560,095	42.17%	17,906,784	3.65%
17	General Taxes	10,595,734	4,493,799	42.41%	4,331,185	3.75%
18	Total Operating Expenses	276,099,569	112,998,220	40.93%	108,623,881	4.03%
19	Net Operating Income Before Income Taxes	53,597,167	26,030,020	48.57%	28,505,440	-8.68%
	Income Tax Expense:					
20	Investment Tax Credit	(2,810,258)	(1,256,852)	44.72%	(362,633)	246.59%
21	Deferred Income Taxes	2,225,068	851,271	38.26%	6,809,516	-87.50%
22	Income Taxes	2,921,935	2,470,284	84.54%	(631,723)	-491.04%
23	Total Income Tax Expense	2,336,746	2,064,703	88.36%	5,815,160	-64.49%
24	Net Regulated Earnings	51,260,421	23,965,317	46.75%	22,690,280	5.62%

Rate Base - With Wind and Transmission Rider

Line No.	Description	(A)	(B)	(C)	(D)	(E)
		2012 Total Company	2012 North Dakota	N. D. % (B / A)	2011 North Dakota	Annual Change
1	Plant in Service	1,390,720,906	589,050,857	42.36%	573,589,877	2.70%
1(a)	CWIP - TCR	17,171,554	7,084,515			
2	Net Capitalized Items - Big Stone Plant	0	0	0.00%	0	0.00%
3	Accumulated Depreciation	<u>(578,202,135)</u>	<u>(244,287,891)</u>	42.25%	<u>(233,021,736)</u>	4.83%
4	Net Plant in Service	829,690,325	351,847,481	42.41%	340,568,141	3.31%
5	Plant Held for Future Use	29,657	13,092	44.14%	13,048	0.34%
6	Construction Work in Progress	62,215,586	10,014,087	16.10%	3,904,156	156.50%
7	Materials and Supplies	16,507,152	7,065,808	42.80%	7,060,806	0.07%
8	Fuel Stocks	11,200,195	4,513,362	40.30%	4,388,157	2.85%
9	Prepayments	(33,418,291)	(14,184,479)	42.45%	(11,860,963)	19.59%
10	Customer Advances	(493,106)	(209,300)	42.45%	(217,408)	-3.73%
11	Cash Working Capital	10,433,667	3,164,188	30.33%	1,822,885	73.58%
12	Accumulated Deferred Income Taxes	<u>(205,301,273)</u>	<u>(89,832,782)</u>	43.76%	<u>(85,843,174)</u>	4.65%
13	Total Average Rate Base	<u>690,863,912</u>	<u>272,391,455</u>	39.43%	<u>259,835,647</u>	4.83%

Miscellaneous

		(A)	(B)	(C)	(D)	(E)	(F)
Line No.	Description	2012	2011	2010	2009	2008	2007
	Customer Related (ND):						
	Year End # of Customers						
1	Residential	44,951	44,554	44,424	44,340	44,222	44,319
2	Commercial	11,188	11,152	11,170	11,194	11,277	11,271
3	Industrial	952	918	896	878	843	826
4	Other	504	506	509	532	536	520
5	Total	57,595	57,130	56,999	56,944	56,878	56,936
	KWH's Sold						
6	Residential	583,154,678	620,333,270	588,526,166	600,554,154	568,278,543	553,508,219
7	Commercial	281,752,844	300,862,002	301,965,143	318,238,797	301,585,437	298,698,198
8	Industrial	841,489,786	849,256,868	823,343,090	751,574,603	709,550,579	709,886,478
9	Other	29,084,463	32,138,905	31,276,297	31,552,451	30,499,320	30,727,584
10	Subtotal	1,735,481,771	1,802,591,045	1,745,110,696	1,701,920,005	1,609,913,879	1,592,820,479
11	Unbilled sales	11,804,152	(6,735,687)	1,283,596	4,072,195	9,168,347	4,191,000
12	Total	1,747,285,923	1,795,855,358	1,746,394,292	1,705,992,200	1,619,082,226	1,597,011,479
13	Reliability Indices (1)						
14	SAIDI (total minutes)	84.1	105.6	92.9	62.1	68.1	65.8
15	SAIFI (frequency)	1.5	1.6	1.6	1.1	1.2	1.2
16	CAIDI (duration)	57.7	67.9	57.0	56.9	58.4	54.4

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

Otter Tail Power Company May 2013 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."

References to smart grid and smart metering have been used interchangeably as the utility industry moves to adopt changes that make sense for each of the utilities service areas. Otter Tail's response to this Commission's order in May 2008 and May 2009 has been to review the status of technology available for smart metering. Since then the Company has annually filed an update on our smart grid applications as our response to this requirement.

Otter Tail has used technology to improve employee productivity and customer service for many years. Smart grid investments occur in many aspects of our work and our mission, which is to produce and deliver electricity as reliably, economically, and environmentally responsibly as possible to the balanced benefit of customers, shareholders, and employees and to improve the quality of life in the area in which we do business.

The following list identifies some of the smart grid type applications that are in use at Otter Tail and are further described in the following sections.

- Peak-Shaving Technologies
- Energy Storage Systems
- Time-varying Rates
- Electricity Metering
- Protective Relaying
- Power Profiler
- Interruption Monitoring System
- Mobile Data Pilot Project
- Bill Analyzer
- Opower Energy Reporting
- Fleet Tracking
- Geographic Information System (GIS)

Peak-Shaving Technologies

Otter Tail has a long history of installing peak-shaving technologies at customer premises. This legacy started with electric water heaters back in the 1940s that were controlled with time-clocks set to avoid energy usage during the morning and evening highest load periods each day. In the 1980's this legacy system was updated with a radio control system. Beginning in 2003, Otter Tail began to replace the radio control system with an updated radio control system. This update was completed in 2007. The updated system allows Otter Tail to send a signal out to groups of customers during periods of high demand which includes capacity constraints or high energy prices. When the signal is received by a radio typically near the customer's meter socket, the customer's system automatically reduces their controllable load.

Several peak-shaving tariff options are available to work with various technologies installed by customers and controlled by Otter Tail. Technologies include: electric storage water heaters, dual fuel heating systems, thermal storage systems, heat pumps, air conditioning systems, and whole-house residential demand controllers, commercial demand control, and irrigation systems.

The system and supporting tariff that allows the most flexibility for the customer is the Residential Demand Controller ("RDC"). A radio receiver mounted near the customer meter socket receives the signal when system demand is high. A demand controller installed in the home reacts to this signal by reducing the customer demand to a level preselected by the customer. A set station installed in the living area identifies that the customer is being controlled, shows the demand level that is being maintained by the demand controller, and in cases where the connected load does not reduce home demand to the preselected level, the set station signals to the customer that further action is required to reduce non-controlled load. At this point the customer has the choice to either increase their preselected demand or reduce demand by turning off lights, electric appliances, or any heating equipment that may not be connected to the demand controller. Customers are billed based on their highest winter-season demand level measured during a control event. Because it was originally designed to reduce winter capacity needs and Otter Tail is now participating in MISO, which is summer peaking the RDC rate is under evaluation.

Otter Tail has nearly 40,700 meters installed associated with demand response tariffs and has demonstrated over 100 MW of control during the coldest days in the winter, or approximately 12-15 percent of the Company's on peak capacity needs. Winter demand response total capacity is based on the load management system tests and varies by month and season. Otter Tail accredited through MISO 90 MW of demand response capacity for January and 15 MW of demand response capacity for the 2012 summer season, June through September. Otter Tail's internal costs directly related to marketing and sales to grow demand response participation are approximately \$1 million each year.

Energy Storage Systems

As noted above, Otter Tail's Peak-Shaving Technologies include Energy Storage Systems which are most commonly known as "Thermal Storage" or "Deferred Load" systems. These include water heating, under floor heating, brick storage furnaces, and brick room heaters. Customers and contractors are advised to size storage systems to heat or cool adequately during the maximum control period allowed by the tariff on which it is installed (14-16 continuous hours depending on the tariff used). These systems store energy by charging during off-peak periods

and heat is available for discharge into the home or business as needed. Otter Tail continues to explore opportunities associated with distributed energy storage systems.

Time-varying rates

Otter Tail’s definition of time-varying rates includes any tariff that charges a customer based on when electricity is used and or controlled. Table 1 below presents the rates, tariff sections, and average number of customers by state currently provided by Otter Tail. As shown, there are on average 1,135 customers on Time of Use Rates and 335 of these are North Dakota customers.

Table 1						
Time of Use Rate	Tariff Section	MN Average Customer Count	ND Average Customer Count	SD Average Customer Count	Total Average Customer Count	Program Started
General Service Time-of-Use	10.03 MN, SD; 10.04 ND	41	1	0	42	3rd revision dated 1974
Large General Service - Time of Day	10.05	27	1	3	31	1981
Standby Service - Option A Firm	11.01	0	1	0	1	1993
Irrigation Service	11.02	198	34	11	243	1994
Real Time Pricing Rider	14.02	0	1	0	1	1978
Fixed Time of Delivery Service	14.07	447	297	73	817	1996
Total Time of Use		713	335	87	1,135	NA

Demand response tariffs require the customers to limit or stop usage during peaking periods in response to an automated control system signal provided by Otter Tail. Otter Tail may require a control period in response to capacity, economic, or reliability conditions. Table 2 below presents tariffs that are part of Otter Tail’s accredited demand response and the average number of customers by state that are participating for each tariff. Otter Tail’s direct control demand response consists of 40,679 average customers across the Company’s service territory, of which 17,908 are in North Dakota.

The Company received approval of the commercial air conditioning cycling option associated with the Air Conditioning Control Rider in Minnesota and began rollout in 2012. The Company has also contracted with National Economic Research Associates (NERA) to conduct an

evaluation of our existing interruptible portfolio and to recommend new rates measured from the perspective of measured load relief in the context of the change from a winter peak to a summer peak focus. Results of the study are anticipated in second quarter 2013.

Table 2						
Direct Control Rate	Tariff Section	MN Average Customer Count	ND Average Customer Count	SD Average Customer Count	Total Average Customer Count	Program Started
Water Heating - Controlled Service (Off-Peak)	14.01	8,646	6,539	2,276	17,461	Before 1970 – with subsequent revisions
Controlled Service, Interruptible Load, CT Metering Rider (“Large Dual Fuel”)	14.04	196	274	30	500	1980s – with subsequent revisions
Controlled Service, Interruptible Load, Self Contained Metering Rider (“Small Dual Fuel”)	14.05	5,959	6,780	920	13,659	
Controlled Service Deferred Load Rider (“Thermal Storage”)	14.06	834	702	180	1,716	
Residential Service-Controlled Demand	9.02	2,409	3,496	429	6,334	
Air Conditioning Control Rider	14.08	825	117	67	1,009	2006
Total Direct Control		18,869	17,908	3,902	40,679	NA

Electricity Meters

As of December 31, 2012, Otter Tail had 169,827 active retail electricity meters across a three state area that includes Minnesota, North Dakota and South Dakota. Nearly all of the meter readings are collected by Otter Tail employees or contracted meter readers by entering meter readings into a handheld meter reading processor. The handheld processor also has a probe which allows the meter reader to collect time of day meter readings electronically by attaching the probe to a port on the face of the meter.

Otter Tail has installed 60 meters with an encoder receiver transmitter (“ERT”) register which allows the handhelds with a special transmitter receiver module to read meters as the meter reader walks by the area, which is an example of a mobile Automated Meter Reading (“AMR”) application. These special meters have been installed in areas where access to the customers meter was difficult and time consuming.

Over several years, Otter Tail has developed a group of AMR type meters that can be read remotely using cell phones or land lines to collect interval kWh and demand meter information. These meter installations allow Otter Tail to contact the meter and download meter interval data on a daily, weekly or monthly basis. There are 450 meters that are read remotely and, of these, 103 meters are used for billing data. The remaining meters are for measuring other loads such as generation, substation, and tie metering. The data is used for calculating and reporting Otter Tail’s load to MISO, as well as tracking voltage data at Company substations, observing anomalies in load behavior, and forecasting day-ahead loads. The cost to support these AMR devices in 2012 was \$101,965 for equipment, software, and labor.

Approximately 0.30 percent of Otter Tail electricity metering is operating in a way that Otter Tail would describe as AMR. Table 3 below presents the category of meters based on how they are read, the number of meters in each category, and the corresponding percentage that each category is of the total meters. Otter Tail has no Advanced Metering Infrastructure (“AMI”) or two-way capable meters. The Company has been actively investigating AMR/AMI technology and evaluating the potential costs and benefits of a system wide investment.

Table 3		
Category of Meters	Number of Meters	% of Total Meters
Automated Meter Reading (AMR) - read from general office using landline, cellular, or TCP/IP communications	450	.26%
AMR – drive or walk by (mobile)	60	.04%
Manually read meters	169,317	99.70%
Total Meters	169,827	100%

Protective Relaying

The first “smart” protective relays were developed and installed in the mid 1980’s. Otter Tail was involved with the first installation on high voltage transmission lines of the devices designed by Schweitzer Engineering Labs (“SEL”). These devices provided system data during faults, giving personnel information on fault location. The SEL relays also provide sub-cycle information about the fault that enables engineers to review the fault record and evaluate whether the relay tripped the breaker properly. This information is used by the Company’s System Operations department to isolate the faulted line section quickly and reduce outage duration on the Company’s transmission system.

Before the use of the SEL fault locating relays, each time a line tripped, it required a long process of switching and re-energizing the line section by section to determine which section of the transmission line experienced the fault.

The technology used for remote communication to protective relays in Otter Tail's substations has improved greatly since the mid 1980's, allowing advance monitoring of the transmission grid by Otter Tail and the Midwest Independent System Operator ("MISO").

Otter Tail has been participating in the North American SynchroPhasor initiative by installing special relays and related communications in one substation in 2010, two substations in 2011, and five substations in 2012. This reliability project is being coordinated by MISO for the region. Otter Tail incurred costs of \$208,000 in 2012 and will continue with the initiative in 2013 by installing equipment at six more substations. These costs were reimbursed to Otter Tail by the Department of Energy through MISO's coordination.

Synchrophasors are precise grid measurements now available from monitors called Phasor Measurement Units ("PMU"). PMU measurements are taken at high speed, typically 30 observations per second compared to one observation every four seconds using conventional technology. Each measurement is time-stamped according to a common time reference. Time stamping allows synchrophasors from different utilities to be time-aligned (or "synchronized") and combined together providing a precise and comprehensive view of the entire interconnection. Synchrophasors enable a better indication of grid stress and can be used to trigger corrective actions to maintain reliability.

Power Profiler

The Power Profiler is a fee-based on-line program offered to customers with interval metering. Commercial or industrial customers are the main users of this program.

The program allows "day after", "week after" or "month after" 15-minute interval energy and demand usage to be displayed in a variety of graphical formats. Otter Tail's larger customers have found this data to be valuable to identify and reduce demand peaks by fine-tuning equipment operation and altering work schedules.

The Power Profiler has nine detailed reports as bar graphs, line graph or data output.

- Peak day demand
- 24 hour profile
- kVA / power factor
- Daily peaks
- Detail profile
- Daily totals
- Peaks report
- Statistics report
- Comparison graph

Customers using Power Profiler are learning how to manage their energy and demand profiles based on information from this online tool. Otter Tail's ongoing charge by the software vendor for system maintenance and updating Power Profiler was \$9,500 for 2012.

Interruption Monitoring System

In order to monitor and improve the reliability of Otter Tail's electrical system, an Interruption Monitoring System ("IMS") was installed and commissioned in mid-2004. Voltage and interruption monitoring devices manufactured by Sensus have been installed on each of the 725 distribution feeders in the Otter Tail system. These intelligent field devices report interruptions, over and under voltage alarms and power reliability status using the commercial cellular networks (GPRS and 1XRTT).

Web based analysis and application tools allow reporting, alarm notifications and graphical status updates. As of 2012, all service representatives receive interruption alarms when feeders they are responsible for, experience an outage. Otter Tail's reliability engineer uses the IMS for reporting reliability indices and for further analysis as he works with the Company's Area Engineers to propose projects to improve reliability. These devices are also utilized for power quality analysis at some of Otter Tail's industrial and commercial customer locations to aid in the investigation of power quality issues and allow for alarm notifications to be sent directly to customers.

In 2009 Otter Tail added a graphical mapping tool which integrates IMS data with Google mapping on which each feeder is shown as a black dot. The dot changes to red when an interruption occurs, yellow for a momentary interruption that has been restored, and green for a sustained interruption that has been restored. This tool has provided an overall view of the status of the Otter Tail system in real time.

The Google mapping is available for use by front line customer service employees along with management and engineering employees who have found this information helpful in response to customer interruption questions and for restoration of service.

Otter Tail has since completed work on a project that provides interruption information to all customers on Otter Tail's web site. After working closely with the vendor to finalize details necessary to ensure the product operates as intended, Otter Tail made the interruption information available to customers in the first quarter of 2011.

Operating costs associated with the IMS for 2012 were for maintenance and communications. Maintenance dollars dealt with the replacement of defective devices. Costs totaled \$105,000 and are detailed below:

2012 IMS Maintenance:	\$40,000
2012 IMS Communications:	\$65,000

Mobile Data Pilot Project

In mid-2008, Otter Tail began a Mobile Data Pilot Project to a few field Service Representatives in the Milbank Customer Service area ("CSC") and in 2009 this pilot was expanded to a few Service Representatives in the Morris CSC. In 2010 Otter Tail completed the roll out of the Mobile Data System to the entire service territory to allow Service Representatives to directly access needed information in ways that they have not had the opportunity before.

The goal of this project is to improve productivity and efficiency while enhancing customer satisfaction by providing Service Representatives with “real time” information with the use of a mobile computer in Company vehicles.

In 2013, we’ll be looking for ways to enhance the technology (hardware) that our Service Representatives are using. We have been piloting the use of a Smartphone in one of our locations and will be reviewing the possibility of combining that technology with a tablet, essentially replacing the current laptop with these two technologies. The Smartphone would give our Service Representatives even quicker access to e-mail, which in turn allows them to better manage their workload by providing quicker access to their service orders. In addition to the quick access to e-mail, the Smartphones are providing other tools previously unavailable to the Service Representatives, such as voice recognition for completion of orders, GPS capability for the eventual roll-out of a geographic information system, and quick access to the internet, to name a few. The potential inclusion of a tablet would also give the Service Representatives an even more portable device than the laptops currently are, aiding with efficiency.

Data available from the Mobile Data System will include:

- Company email
- Customer Information Systems (the Company’s billing system)
- Customer Service Guide
- Load management real time control information
- Interruption monitoring system
- Ability to display and update maps and prints of Otter Tail’s electrical system
- Otter Tail Power Company website
- Bill Analyzer, and other on-line tools

Another potential step that may occur in the near future is a similar roll-out of our mobile data system to our field crews. We are currently piloting laptops in crew vehicles in our Bemidji Customer Service Center and those individuals have indicated some positive feedback, namely with the ability to quickly retrieve system mapping information online, giving them the most updated maps available.

Bill Analyzer

Bill Analyzer is a program that is available to residential customers through the Otter Tail website, which allows customers to analyze their energy usage and billing, input home profile data, and compare their usage with other comparable customers. The purpose of this tool is to help residential customers, who have the desire to better understand their energy bill, to understand what steps they could take to reduce energy use and manage cost.

After a simple registration process a customer can review 25 months of billing history, provide personal information about their home, appliances, and living habits, and review payment information. The analytic engine uses weather data and customer provided information to calculate probable reasons for changes in usage. By entering their home profile, the customer can

determine how their usage is broken out by applications and see how their usage compares to other customers with comparable size homes. Bill analyzer is an Aclara tool and features include:

Bill center - Customer account with amount due, due date, last payment, and graphs to compare energy use.

Bill highlights - Factors that may have contributed to a change in the electric bill. If customers need more details they can dig deeper with bill analysis.

Bill history and analysis - Provides 25 months of history and allows customers to compare statements from any two billing cycles.

Home energy center - Includes an energy audit for the home. After the audit is complete, customers can create a plan to save energy.

A counterpart to the Bill Analyzer web self-service tool is a version used by Customer Service employees to answer customer questions about energy use and billing.

In 2010 and again in 2012 Otter Tail contracted with Integral Analytics to conduct measurement and verification of energy savings associated with Bill Analyzer usage. The 2010 evaluation indicated that Bill Analyzer saved an average 296 kWh's per year per participant overall, or approximately 1.5 to 2 percent of their energy usage. The 2012 evaluation refined participation levels and indicates savings of 529 kWh's per participant or approximately 3 percent of their energy use.

The Bill Analyzer program was part of the Company's Minnesota Conservation Improvement Program Energy Feedback Pilot for 2011-2013. Bill Analyzer and Opower (discussed in section XI. below) are included in the Energy Feedback Program portfolio with a combined cost of \$322,019 for 2012 through CIP. The 2013 CIP budget for Bill Analyzer and Opower is \$391,400. Bill Analyzer is available to residential customers in North Dakota, but Opower is not.

Opower Energy Reporting

Otter Tail has contracted with Opower to procure its patented Home Energy Reporting System for use with Minnesota residential customers as a part of a pilot program included in the company's CIP portfolio. The Home Energy Reporting System is a vetted energy efficiency program that leverages large-scale consumer engagement to drive measurable, predictable, and sustainable demand reduction.

The Home Energy Reporting System is based on a software platform that combines energy usage data with customer demographic, housing, and geographic information data to benchmark energy use and develop specific, targeted recommendations that educate and motivate consumers to reduce their energy consumption.

Home Energy Reports are delivered through direct mail to selected residential customers. The reports provide specific, personalized, evaluative information and recommendations to motivate recipients to reduce their energy consumption.

Otter Tail sent out the first reports to customers in June of 2011. In 2012 a total of 28,286 Minnesota residential customers received reports. Results for 2012 showed energy savings of 163 kWh per participant household.

The Opower project is part of the Company's Minnesota Conservation Improvement Program for 2013. Bill Analyzer (see Bill Analyzer section above) and Opower are included in the Energy Feedback Pilot program with a combined budget of \$391,400 for 2013.

Fleet Tracking

Otter Tail owns many vehicles that are used by employees for the purposes of servicing our electrical system. A sample group of these vehicles have been equipped with a fleet tracking device as part of a three year pilot project to provide real time geospatial information on Company vehicles. Vehicles selected for the pilot included some vehicles that are assigned to Otter Tail field meter technicians, communications specialists, and electrical technicians. Overall, 27 vehicles (19 in Minnesota) have been upgraded with this capability for purposes of the pilot study.

The Company anticipates that fleet tracking will enhance reliability by assisting in dispatch decisions to optimize the Company's responses to service interruptions. Fleet tracking will also enhance safety by providing the ability to know the current location and identification of staff when they are in the field working on Otter Tail's electrical system. The ability to track Company vehicles is also an additional tool for managers to manage staff, decrease operation and maintenance expenses, and optimize work allocation. Otter Tail will continue to evaluate the benefits, challenges, and usefulness of the fleet tracking service over the course of the pilot project. Upon successful pilot completion, the Company will look to expand the implementation of fleet tracking throughout the system and integrate it with several key activities and systems at Otter Tail, specifically:

- System operations' dispatch activities,
- A potential outage management system,
- The evolving GIS, and
- Customer service applications for premise visits.

Geographic Information System (GIS)

Otter Tail is in the process of developing a Geographic Information System to track and manage Company assets. In 2012, the Company pursued converting nearly 4,000 maps from an AutoCAD format to GIS and the conversion of these maps was completed in January 2013. Also in 2012, Otter Tail developed applications in anticipation of a fully developed GIS for use in future ground line inspections, line patrols, and vegetation management activities. These GIS development activities in 2012 cost \$170,352. Mapping services from the GIS are expected to be published for Company use in the first half of 2013 and will displace the previous CAD mapping service.

The goal of the GIS is to enhance communication with employees and customers, leverage existing data systems to track and manage the Company's assets more efficiently, and provide geo-spatial information of the Company's assets along with related attributes and detail. The GIS will ultimately provide a single, interactive map for asset information thereby eliminating inefficiencies related to having information in disparate locations. Because maps will be electronic and linked to the GIS, data will be more current than the existing paper maps.

Spatial business intelligence through the GIS is expected to provide a platform for data management, strategic planning and analysis, and engineering and operational support. Longer-term, the Company envisions the GIS as a foundational tool for automating work flow management, distribution automation and outage management, and providing enhanced situational awareness.

For 2013, the new GIS will be improved to identify and track eligible units of property for every circuit for use in tax reporting.