

Board of Public Utilities

Regular Meeting Agenda

Monday, October 29, 2012
4:00 p.m., DPW Conference Room, 1199 8th Avenue



City of South Haven

1. Call to Order
2. Roll Call
3. Approval of Agenda
4. Acceptance of Minutes for the Record – September 24, 2012
5. Interested Citizens in the Audience Will be Heard on Items Not on the Agenda

REPORTS

6. **Cost of Energy from Indiana-Michigan Power Company (AEP)**
 - A. 2012 Billings – All Charges
 - B. 2011 Billings – All Charges
7. **Financial Reports**
 - A. Water Fund CuFt Comparisons
 - B. Water Fund Financial Statement
 - C. Sewer Fund Financial Statement
 - D. Electric Fund KWH Comparisons
 - E. Electric Fund Financial Statement
8. **Indian Grove Infrastructure Project**
 - A. Sewer Study Progress Report
9. **Unresolved Issues Report**
10. **Electric Outage Report, 3rd Quarter 2012**

NEW BUSINESS

11. Board will be requested to approve a recommendation to enter into a contract with GRP Engineering for preparation a Five-Year Electric System Improvement Plan.
12. Board will be requested to approve a recommendation to adjust the Energy Optimization Surcharge rate.

13. Next meeting is scheduled for Monday, November 26, 2012 at 4:00 pm in the DPW Conference Room, 1199 8th Avenue, South Haven, Michigan.

14. Director's Comments

15. Board Member Comments

16. Adjourn

RESPECTFULLY SUBMITTED,

Roger Huff, P.E.
Public Works Director

South Haven Department of Public Works is Barrier-free and the City of South Haven will provide the necessary reasonable auxiliary aids and services for persons with disabilities, such as signers for the hearing impaired and audio tapes of printed materials being considered at the meeting to individuals with disabilities at the meeting upon seven (7) days notice to the South Haven City Clerk. Individuals with disabilities requiring services should contact the City Clerk by writing or calling South Haven City Hall at (269) 637-0750.

Board of Public Utilities

Regular Meeting Minutes

Monday, September 24, 2012
4:00 p.m., DPW Conference Room, 1199 8th Avenue



1. Call to Order by Stickland at 4:00 p.m.

2. Roll Call

Present: Berry, Burr, Stein, Winkel, Stickland
Absent: Henry

3. Approval of Agenda

Motion by Burr, second by Winkel to approve the agenda as presented.

All in favor. Motion carried.

4. Acceptance of Minutes for the Record – July 30, 2012

Motion by Burr, second by Winkel to approve the July 30, 2012 Board of Public Utilities regular meeting minutes as written.

The board discussed the five-year plan and whether design is being done to accommodate anticipated development.

All in favor. Motion carried.

5. Interested Citizens in the Audience Will be Heard on Items Not on the Agenda

There were none.

REPORTS

6. Cost of Energy from Indiana-Michigan Power Company (AEP)

- A. 2012 Billings – All Charges
- B. 2011 Billings – All Charges

Stickland requested a different layout for the cost of power spreadsheets.

7. Financial Reports

A. August

1. Water Fund CuFt Comparisons
2. Water Fund Financial Statement
3. Sewer Fund Financial Statement
4. Electric Fund KWH Comparisons
5. Electric Fund Financial Statement

Hochstedler gave an overview of the financial reports for August. Stickland again requested the spreadsheet in a different format. The Board heard flushing is up due to the high temperatures; the chlorine dissipates so flushing is done more often.

Hochstedler compared last year and this year, noting that a new assessment was added; Park Avenue improvements. Hochstedler noted that last year at the end of June we estimated depreciation would have increased by \$575,000.

The board discussed the sale of the Ramada Inn and the payment of arrears due to a closing. Burr explained details of the settlement.

The board discussed the sewer fund and the water fund; Hochstedler said she is determining what amounts are due to personnel changes and why there was an increase.

Hochstedler referenced the rolling averages for the Electric Fund. Burr noted that September is usually the biggest month. The board discussed the huge demand in June, July and August this year due to high temperatures. Burr advised waiting to see the September numbers. Hochstedler will check with billing to determine whether there were any issues relating to the Electric Rolling Averages.

Burr questioned the Capital Outlay which was all billed to last year; there is no capital outlay charged to 2012.

B. Year-End (June UNAUDITED)

1. Water Fund Financial Statement
2. Sewer Fund Financial Statement
3. Electric Fund Financial Statement

Hochstedler noted that the June figures have no improvements; pointed out changes in the operating expenses and administrative expenses from one year to the other. Hochstedler will do an analysis to determine reasons why, such as what expenses are personnel and what are not. Hochstedler explained the Capital Outlay line item; the year-to-date month actual is the Kal-Haven and Dunkley projects, due to change-orders. The figure on the Transfers Out line represents the St. Joseph assessments. The debt for the Water Plant is included. St. Joe Special Assessments are about the same; transfers out increased due to the Water Plant debt. Hochstedler noted that there will be adjustments that will eliminate the shortfall.

Hochstedler suggested doing a 5-year analysis and with the net cash, too. The water and sewer funds will also need a 5-year analysis. Stickland predicted getting out of the red once that is done. Hochstedler questioned Administrative Expenses, noting that part

of it is to Abonmarche for a study, and we have not yet gotten a reimbursement. Not all capital outlay has been identified.

June Electric did have an analysis; the main substation and Phoenix Road regulator had transformers purchased so just the transformers and GRP Engineering have their portion in that figure. Hochstedler said under Contracting there was Advanced Underground and Kent Power which were part of other projects so that we have \$145,000 will be capitalized and \$88,000 too will be capitalized and moved from Operating Expenses and moved to the balance sheet. Personnel costs that show up in Other Operating has about a 6% increase so Hochstedler wants to find out what caused that. Hochstedler stressed that the whole increase is in personnel. Property and Fleet insurance went up by almost \$30,000. MNRMA costs were about \$36,000.

After an announcement by Hochstedler, the board also discussed the anticipated new financial software that will be installed next week and should go live by Thanksgiving.

8. Indian Grove Infrastructure Project

- A. Sewer Study Progress Report
- B. Metering Plan
- C. PowerPoint Presentation (June 25, 2012 BPU Meeting)

Huff noted that these three reports are all included for completeness. Regarding scheduling, the modeling will be done close to the end of the year, which is when preliminary planning will be done.

Burr asked what Fishbeck is doing, having observed them opening manholes; Huff said it is probably the region-wide e-coli sampling.

Stickland predicted that the highest level of infiltration will be at #2; that is where it was before. Huff noted that he will have Abonmarche back for another presentation in November. The board discussed lift station data, plant flow data and their rain gauge at the Waste Water Treatment plant.

9. Unresolved Issues Report

Huff updated two of the unresolved issues; tampering policies have been received from a number of utilities. Huff expects to get some information from the Billing Department.

Information regarding the American Electric Power (AEP) outage contacts; new contact information has been received and distributed. Stickland requested a check every six months or so for current information.

The board discussed the brief power outage that occurred Saturday morning which took down the power for a large portion of the city.

Burr asked questions about the transformer replacement for Clementine's and wondered if the transformer was overheated or if the circuit was overloaded.

NEW BUSINESS

10. Board will be presented information on tree trimming by City Arborist Aaron Priebe.

Priebe gave an overview of the information; budgets, where tree work money is spent, the last three (3) years of information he invoices from. The first two (2) pages are strictly utilities work. Routine maintenance is time and material removal. Priebe noted that although his primary tree priority is utility he included charts to show how often he gets pulled off that to do other things, City requests. 90% to 107% should be utility work.

Burr says trees have gone from 20% to 25% of outages caused by trees. Priebe gets quarterly reports from Ryan Bosscher; when we have an outage Priebe looks the area over and sometimes he clears it right away if he can get all the permissions from homeowners. Priebe surveys the street trees and determines which ones can not be saved and must be replaced. Usually about forty (40) to seventy (70) trees all together are replaced or dead wooded. Stump grinding is even included in the budget.

Winkel asked what trees are planted. Priebe noted that where there are overhead lines he puts in an ornamental and when there are not overhead lines, he puts in a shade tree. Burr asked whether there is any way to tell how many trees we replaced. Burr said our tree ordinance calls for 2" trees; how are you planting 1"; Priebe explained to the board that younger trees respond better to transplanting but noted that perhaps that number should be changed. Priebe said he did not realize it called for 2" trees; last year's tree ordinance update was focused on the tree species list.

Burr asked if Priebe visits each circuit every year. Priebe said not at present but once he gets through the industrial park project and Phoenix West he will be visiting each circuit every year. The board discussed that the money is being spent but the tree-caused outages are increasing. Burr suggested plotting out the outages by circuit so the board can see if the outages are localized. Burr questioned what circuit the township is on; Stickland said they are spread throughout the circuits, but the majority are on two circuits. Burr would like to see specific circuits and what streets they are on to see if a trend can be identified.

Priebe pointed out that there is a lot of public relations involved when working with people to help them understand the reason for taking out the trees that keep growing into the overhead lines. Priebe explained the maps that he uses to lay out the work and then to update it to show the work completed.

Stickland explained the concern of the board that money is being spent but the outages are increasing and not decreasing. Priebe would like to see whether it is true what he believes that there are certain areas that are problem areas and also that he is trying to get through and get everything done but no matter what, he has a certain amount of money to stretch through the rest of the year.

The board discussed some options in working to get the utilities work done without breaking Priebe's budget.

The quarterly outage report will be next month and Huff will tie the report Burr requested to the outage report.

11. Next meeting is scheduled for Monday, October 29, 2012 at 4:00 pm in the DPW Conference Room, 1199 8th Avenue, South Haven, Michigan.

12. Director's Comments

There were none.

13. Board Member Comments

Stein: Could we speed up the message board on the water filtration plant?

The board discussed the difficulty boats going up the channel and cars driving through the parking lot have because the message board stays so long on each part of the message.

Berry: We endorsed the fiber optic and now they are done installing it, so what comes next? Burr responded that we were pulled off the grant and we are asking to put something on the two water towers, and sell service. There is supposed to be some sort of rate plan in May.

Winkel: Enjoying the meetings.

Burr asked why we employ Priebe when we could hire a couple of local contractors to do the City work. After discussion Stickland pointed out that the City could use a different contractor for the non-utility work, allowing Priebe to concentrate on the work he is contracted to do.

Stickland; Does not think the report on outages will show what you want it to.

14. Adjourn

Motion by Winkel, second by Berry to adjourn at 6:00 p.m.

All in favor. Motion carried.

RESPECTFULLY SUBMITTED,

Marsha Ransom
Recording Secretary

CITY OF SOUTH HAVEN
 Cost of Electric Energy from Indiana-Michigan Power Company (AEP)
 2012

Date	ACTUAL				BILLING			COST				PJM Open Access Transmission Tariff						Total Cost	cts/ KWH	
	KW Demand	KVAR Demand	KVA	Power Factor	KW Demand	KVAR Demand	KWHR	\$ Demand	\$ KWH	\$ Fuel Charge	\$ Fuel Adjust	Actual Fuel True-up	\$ KWHR	\$ Network	RTO Start-up \$	Other	Credits			Total PJM
Main	11,992	1,726	12,116	0.9898	11,992	1,726	7,258,601	\$175,538.81	\$88,450.41											
Welder	309	328	451	0.6861	309	328	153,255	\$4,526.07	\$1,867.50											
Phoenix	7,708	874	7,757	0.9936	7,707	874	4,477,882	\$112,822.34	\$54,565.67											
Welder	38	62	73	0.5264	38	62	23,707	\$559.17	\$288.88											
Jan-12	20,047	2,990	20,269	0.9891	20,047	2,990	11,913,444	\$293,446.39	\$145,172.46	\$195,737.44	(\$1,504.66)	\$18,840.08	\$1,130.95	\$81,705.56	\$274.86	\$7,764.31	(\$1,605.84)	\$89,269.84	\$740,961.55	6.220
Main	11,246	1,489	11,344	0.9913	11,246	1,489	6,660,702	\$164,619.02	\$81,164.65											
Welder	356	420	550	0.6466	356	420	170,777	\$5,208.20	\$2,081.02											
Phoenix	7,083	787	7,127	0.9939	7,083	787	4,106,471	\$103,685.35	\$50,039.81											
Welder	10	30	31	0.3085	10	30	6,689	\$140.52	\$81.51											
Feb-12	18,695	2,726	18,892	0.9895	18,695	2,726	10,944,640	\$273,653.09	\$133,367.00	\$179,820.02	(\$35,803.12)	(\$36,698.09)	\$1,038.98	\$76,434.23	\$257.13	\$7,764.54	(\$1,303.19)	\$84,191.69	\$598,530.59	5.469
Main	11,229	2,433	11,490	0.9773	11,229	2,433	6,659,854	\$164,369.52	\$81,154.32											
Welder	245	291	380	0.6442	245	291	180,979	\$3,581.92	\$2,205.34											
Phoenix	7,798	2,001	8,050	0.9686	7,798	2,001	4,202,080	\$114,142.73	\$51,204.86											
Welder	11	34	36	0.2995	11	34	7,398	\$158.09	\$90.15											
Mar-12	19,282	4,759	19,861	0.9709	19,282	4,759	11,050,311	\$282,252.26	\$134,654.67	\$181,556.19	(\$16,811.90)	\$3,379.59	\$1,049.01	\$81,705.56	\$274.86	\$7,768.31	(\$1,217.13)	\$89,580.61	\$674,611.42	6.105
Main	10,627	1,593	10,746	0.9890	10,627	1,593	6,305,565	\$155,559.49	\$76,837.09											
Welder	332	293	443	0.7501	332	293	147,837	\$4,859.82	\$1,801.48											
Phoenix	6,679	902	6,739	0.9910	6,679	902	3,935,313	\$97,765.55	\$47,954.14											
Welder	9	32	34	0.2802	9	32	7,231	\$137.60	\$88.11											
Apr-12	17,647	2,820	17,871	0.9875	17,647	2,820	10,395,945	\$258,322.45	\$126,680.83	\$170,804.99	(\$14,733.10)	\$40,292.41	\$986.89	\$79,069.90	\$265.99	\$8,032.02	(\$1,177.43)	\$87,177.37	\$668,544.95	6.431
Main	14,868	3,529	15,281	0.9730	14,868	3,529	6,982,457	\$217,637.42	\$85,085.43											
Welder	9	22	23	0.3633	9	22	161,210	\$124.42	\$1,964.44											
Phoenix	11,010	3,754	11,633	0.9465	11,010	3,754	4,593,576	\$161,166.94	\$55,975.48											
Welder	9	23	25	0.3638	9	23	7,021	\$133.21	\$85.56											
May-12	25,896	7,328	26,913	0.9622	25,896	7,328	11,744,265	\$379,061.99	\$143,110.91	\$192,957.82	\$12,775.38	\$48,832.40	\$1,114.88	\$81,705.56	\$274.86	\$7,731.13	(\$1,641.24)	\$89,185.19	\$865,923.69	7.373
Main	16,941	5,210	17,724	0.9558	16,941	5,210	7,846,934	\$238,261.81	\$95,175.47											
Welder	295	108	314	0.9388	295	108	153,300	\$4,148.88	\$1,859.38											
Phoenix	12,351	4,745	13,231	0.9335	12,351	4,745	5,260,728	\$173,700.24	\$63,807.37											
Welder	9	24	25	0.3571	9	24	6,972	\$127.98	\$84.56											
Jun-12	29,596	10,087	31,268	0.9465	29,596	10,087	13,267,935	\$416,238.92	\$160,926.78	\$201,108.72	\$48,449.19	(\$309,170.24)	\$1,259.53	\$79,069.90	\$265.99	\$9,839.06	(\$1,359.24)	\$89,075.24	\$606,628.61	4.572
Main	20,496	6,532	21,512	0.9528	20,496	6,532	10,295,162	\$288,255.60	\$124,870.02											
Welder	8	22	23	0.3253	8	22	128,982	\$105.48	\$1,564.42											
Phoenix	15,340	6,482	16,653	0.9212	15,340	6,482	7,035,099	\$215,745.84	\$85,328.72											
Welder	9	19	21	0.4242	9	19	6,927	\$125.17	\$84.01											
Jul-12	35,853	13,054	38,155	0.9396	35,853	13,054	17,466,170	\$504,232.09	\$211,847.17	\$264,743.47	(\$19,193.57)	(\$40,623.32)	\$1,161.37	\$78,298.01	\$274.86	\$10,546.62	(\$1,585.43)	\$88,695.43	\$1,009,701.27	5.781
Main	18,275	5,807	19,175	0.9530	18,275	5,807	8,491,292	\$257,020.09	\$102,990.88											
Welder	396	292	492	0.8050	396	292	177,889	\$5,572.16	\$2,157.62											
Phoenix	13,609	5,565	14,703	0.9256	13,609	5,565	5,682,143	\$191,397.47	\$68,918.72											
Welder	9	22	23	0.3831	9	22	7,129	\$126.58	\$86.46											
Aug-12	32,289	11,686	34,339	0.9403	32,289	11,686	14,358,453	\$454,116.29	\$174,153.68	\$217,638.25	(\$35,392.15)	(\$81,153.32)	\$954.73	\$78,298.01	\$274.86	\$11,047.37	(\$1,692.02)	\$88,882.95	\$818,245.70	5.699
Main	14,899	4,209	15,482	0.9623	14,899	4,209	6,811,660	\$209,539.40	\$82,618.62											
Welder	168	282	328	0.5108	168	282	133,197	\$2,355.72	\$1,615.54											
Phoenix	10,722	3,804	11,377	0.9424	10,722	3,804	4,529,165	\$150,796.94	\$54,934.24											
Welder	9	28	30	0.3142	9	28	7,124	\$132.20	\$86.40											
Sep-12	25,798	8,323	27,108	0.9517	25,798	8,323	11,481,145	\$362,824.25	\$139,254.81	\$174,025.46	\$9,809.49	\$50,997.46	\$763.41	\$75,772.27	\$265.99	\$10,863.70	(\$1,487.44)	\$86,177.93	\$823,089.40	7.169

CITY OF SOUTH HAVEN
WATER FUND
CuFt COMPARISONS
ROLLING TWELVE MONTHS

		GALLONS PUMPED TO MAINS	CuFt PUMPED TO MAINS	CuFt PLANT TAP UNBILLED	CuFt WATER QUALITY FLUSHING	CuFt BILLED	PERCENTAGE BILLED PLUS PLANT TAP TO PUMPED TO MAINS (ROLLING 12 MOS)	PERCENTAGE BILLED PLUS PLANT TAP TO PUMPED TO MAINS CURRENT MONTH
FISCAL 2011								
July	2010	71,789,000	9,597,460	76,067	26,738	7,160,179	89.90%	75.40%
August	2010	70,411,000	9,413,235	79,151	17,647	8,560,179	89.47%	91.78%
September	2010	53,052,000	7,092,513	82,706	246,830	7,497,785	88.65%	106.88%
October	2010	40,104,000	5,361,497	75,128	213,904	5,242,069	87.99%	99.17%
November	2010	30,513,000	4,079,278	82,706	213,904	3,856,631	88.94%	96.57%
December	2010	34,709,000	4,640,241	76,248	213,904	3,452,281	88.54%	76.04%
January	2011	32,649,000	4,364,840	70,210	213,904	3,232,165	88.34%	75.66%
February	2011	33,847,000	4,525,000	66,376	213,904	3,209,045	87.74%	72.38%
March	2011	35,054,000	4,686,364	74,020	213,904	3,124,071	87.00%	68.24%
April	2011	30,789,000	4,116,176	76,855	213,904	2,952,560	87.03%	73.60%
May	2011	42,942,000	5,740,909	54,069	202,504	3,571,271	86.49%	62.21%
June	2011	54,884,000	7,337,433	77,139	119,736	5,758,969	85.43%	78.49%
		<u>530,743,000</u>	<u>70,954,947</u>	<u>890,676</u>	<u>2,110,782</u>	<u>57,617,205</u>		
FISCAL 2012								
July	2011	68,313,000	9,132,754	0	190,312	7,441,256	85.55%	81.48%
August	2011	59,907,000	8,008,957	103,610	244,928	7,402,180	84.90%	93.72%
September	2011	50,823,000	6,794,519	19,658	231,936	6,658,175	85.02%	98.28%
October	2011	38,457,000	5,141,310	23,888	231,936	4,862,072	85.07%	95.03%
November	2011	30,875,000	4,127,674	4,273	231,936	3,573,435	85.44%	86.68%
December	2011	30,441,000	4,069,652	17,174	231,936	3,191,493	85.57%	78.84%
January	2012	32,467,000	4,340,508	14,319	68,972	3,074,589	85.44%	71.16%
February	2012	29,495,000	3,943,182	23,262	68,972	3,219,167	85.84%	82.23%
March	2012	30,150,000	4,030,749	38,320	65,764	3,450,952	86.13%	86.57%
April	2012	32,927,000	4,402,005	31,678	68,972	3,378,738	86.74%	77.47%
May	2012	50,646,000	6,770,856	37,087	78,956	4,537,251	86.12%	67.01%
June	2012	72,150,000	9,645,722	41,402	144,360	6,461,594	84.46%	66.99%
		<u>526,651,000</u>	<u>70,407,888</u>	<u>354,672</u>	<u>1,858,980</u>	<u>57,250,902</u>		
FISCAL 2013								
July	2012	97,223,000	12,997,727	42,043	149,172	9,601,173	81.95%	74.19%
August	2012	73,095,000	9,772,059	40,244	227,566	10,549,444	83.36%	108.37%
September	2012	51,928,000	6,942,246	36,348	218,946	7,875,634	84.80%	113.97%
		<u>222,246,000</u>	<u>29,712,032</u>	<u>118,634</u>	<u>595,684</u>	<u>28,026,251</u>		
Prior Year-to-Date		179,043,000	23,936,230	123,268	667,176	21,501,611		
Two Years Prior		195,252,000	26,103,209	237,924	291,215	23,218,143		

City of South Haven
Sewer Fund - Fund 592
For the period ended September 30, 2012

compares
Col 6 & 7

<i>Revenues:</i>	<i>Month Actual</i>	<i>Monthly Budget</i>	<i>Prior year MTD</i>	<i>MTD Variance to Budget</i>	<i>MTD Variance to Prior Year</i>	<i>YTD Actual</i>	<i>YTD Budget</i>	<i>Prior YTD Actual</i>	<i>Variance to Budget</i>	<i>Variance to Prior Year</i>	<i>2012-13 Adpoted Budget</i>	<i>% of Budget</i>
Sales	\$ 193,227	\$ 180,119	\$ 190,008	\$ 13,108	\$ 3,219	\$ 608,970	\$ 540,356	\$ 579,142	\$ 68,614	\$ 29,828	\$ 2,161,423	113%
IPP Revenues	5,578	7,319	8,182	(1,740)	(2,603)	22,137	21,956	18,122	181	4,015	87,824	101%
Interest Income	44	625	34	(581)	10	1,699	1,875	1,105	(176)	594	7,500	91%
Special Assessment Revenue	4,964	1,423	1,982	3,541	2,982	6,349	4,268	28,628	2,081	(22,279)	17,071	149%
Other Revenue	200	292	50	(92)	150	29,066	875	2,504	28,191	26,562	3,500	3322%
Total Revenues	\$ 204,012	\$ 189,777	\$ 200,255	\$ 14,236	\$ 3,757	\$ 668,221	\$ 569,330	\$ 629,500	\$ 98,891	\$ 38,720	\$ 2,277,318	

<i>Expenses</i>	<i>Month Actual</i>	<i>Monthly Budget</i>	<i>Prior year MTD</i>	<i>MTD Variance to Budget</i>	<i>MTD Variance to Prior Year</i>	<i>YTD Actual</i>	<i>YTD Budget</i>	<i>Prior YTD Actual</i>	<i>Variance to Budget</i>	<i>Variance to Prior Year</i>	<i>2012-13 Adpoted Budget</i>	<i>% of Budget</i>
Operating Expenses	\$ 170,008	\$ 104,590	\$ 116,442	\$ 65,418	\$ 53,566	\$ 357,143	\$ 313,769	\$ 241,634	\$ 43,373	\$ 115,508	\$ 1,255,077	114%
Property Tax Equivalents	7,317	7,317	7,317	0	-	21,950	21,950	21,950	(0)	-	87,800	100%
Capital Outlay	-	21,717	-	(21,717)	-	-	65,150	7,034	(65,150)	(7,034)	260,600	0%
Transfers Out	1,360	20,542	1,587	(19,182)	(227)	2,720	61,625	17,102	(58,905)	(14,382)	246,500	4%
Depreciation	22,083	22,083	20,379	-	1,705	66,250	66,250	61,136	-	5,114	265,000	100%
Administrative Expenses	27,943	24,591	20,753	3,353	7,191	83,070	73,772	70,931	9,298	12,139	295,089	113%
Total Expenses	\$ 228,711	\$ 200,839	\$ 166,477	\$ 27,872	\$ 62,235	\$ 531,132	\$ 602,517	\$ 419,787	\$ (71,384)	\$ 111,345	\$ 2,410,066	

Net Fund Change	\$ (24,699)	\$ (11,062)	\$ 33,779	\$ (13,637)	\$ (58,478)	\$ 137,089	\$ (33,187)	\$ 209,714	\$ 170,276	\$ (72,625)	\$ (132,748)	
						\$ 203,339	no depr			\$ 132,252	no depr	

CITY OF SOUTH HAVEN
ELECTRIC FUND
KWH COMPARISONS
ROLLING TWELVE MONTHS

		KWH PURCHASED	KWH BILLED	KWH STREET LTS	STREET LTS 12 MO AVE.	TOTAL KWH BILLED AND STREET LTS	PERCENTAGE BILLED AND STREET LTS TO PURCHASED (ROLLING 12 MOS)	PERCENTAGE BILLED AND STREET LTS TO PURCHASED CURRENT MONTH
FISCAL 2011								
July	2010	16,257,328	13,438,394	37,192	49,323	13,475,586	92.44%	82.89%
August	2010	15,694,344	14,821,889	41,506	49,424	14,863,395	93.19%	94.71%
September	2010	11,066,633	12,074,098	47,613	49,507	12,121,711	93.30%	109.53%
October	2010	10,969,854	10,132,196	54,196	49,608	10,186,392	93.13%	92.86%
November	2010	10,510,315	10,391,582	61,923	50,014	10,453,505	93.96%	99.46%
December	2010	10,683,209	10,002,716	67,037	50,217	10,069,753	94.60%	94.26%
January	2011	11,953,507	11,068,303	64,924	50,660	11,133,227	94.10%	93.14%
February	2011	10,550,180	11,250,292	61,029	51,221	11,311,321	94.78%	107.21%
March	2011	11,124,090	9,519,380	57,044	51,539	9,576,424	94.28%	86.09%
April	2011	10,242,312	10,338,916	48,737	51,775	10,387,653	94.20%	101.42%
May	2011	11,028,132	9,957,130	44,762	51,986	10,001,892	94.81%	90.69%
June	2011	12,229,714	12,173,212	38,326	52,024	12,211,538	95.42%	99.85%
		<u>142,309,618</u>	<u>135,168,108</u>	<u>624,289</u>		<u>135,792,397</u>		
FISCAL 2012								
July	2011	15,964,582	12,755,514	37,013	52,009	12,792,527	95.31%	80.13%
August	2011	14,632,086	15,136,722	42,500	52,092	15,179,222	95.19%	103.74%
September	2011	11,307,801	12,319,850	47,553	52,087	12,367,403	95.87%	109.37%
October	2011	10,969,854	9,722,952	56,849	52,308	9,779,801	95.46%	89.15%
November	2011	10,739,972	10,221,480	61,585	52,280	10,283,065	95.52%	95.75%
December	2011	11,617,747	9,798,051	68,085	52,367	9,866,136	95.17%	84.92%
January	2012	11,913,417	11,146,773	65,812	52,441	11,212,585	94.66%	94.12%
February	2012	10,944,615	10,940,177	58,568	52,236	10,998,745	95.24%	100.49%
March	2012	11,050,285	10,825,582	58,568	52,363	10,884,150	95.14%	98.50%
April	2012	10,395,921	10,227,215	47,347	52,247	10,274,562	95.46%	98.83%
May	2012	11,744,237	10,681,872	44,415	52,218	10,726,287	95.09%	91.33%
June	2012	13,267,935	10,895,095	38,072	52,197	10,933,167	93.60%	82.40%
		<u>144,548,453</u>	<u>134,671,283</u>	<u>626,367</u>		<u>135,297,650</u>		
FISCAL 2013								
July	2012	17,466,170	14,702,549	38,276	52,303	14,740,825	93.26%	84.40%
August	2012	14,358,453	15,845,089	43,385	52,376	15,888,474	93.50%	110.66%
September	2012	11,481,145	12,211,557	48,595	52,463	12,260,152	94.22%	106.79%
		<u>43,305,768</u>	<u>42,759,195</u>	<u>130,256</u>		<u>42,889,451</u>		
Prior Year-to-date		41,904,469	40,212,086	127,066		40,339,152		
Two Years Prior		43,018,305	40,334,381	126,311		40,460,692		

City of South Haven
Electric Fund - Fund 582
For the period ended September 30, 2012

compares
Col 6 & 7

Revenues:	Month Actual	Monthly Budget	Prior year MTD	MTD Variance to	MTD Variance to	YTD Actual	YTD Budget	Prior YTD Actual	Variance to Budget	Variance to Prior	2012-13	% of Budget
				Budget	Prior Year					Year	Adpoted Budget	
Electric Sales	\$ 1,286,352	\$ 1,130,689	\$ 1,230,895	\$ 155,663	\$ 55,457	\$ 4,477,634	\$ 3,392,066	\$ 4,080,448	\$ 1,085,568	\$ 397,186	\$ 13,568,265	132%
Charges for Service	\$ 22,674	\$ 6,250	\$ 22,871	\$ 16,424	\$ (198)	\$ 27,221	\$ 18,750	\$ 67,492	\$ 8,471	\$ (40,270)	\$ 75,000	145%
Interest Income	\$ 797	\$ 2,500	\$ 991	\$ (1,703)	\$ (194)	\$ 2,520	\$ 7,500	\$ 1,255	\$ (4,980)	\$ 1,265	\$ 30,000	34%
Other Revenue	\$ 2,840	\$ 2,083	\$ 4,322	\$ 757	\$ (1,482)	\$ 12,197	\$ 6,250	\$ 16,467	\$ 5,947	\$ (4,269)	\$ 25,000	195%
Transfers In	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
Total Revenues	\$ 1,312,662	\$ 1,141,522	\$ 1,259,079	\$ 171,140	\$ 53,583	\$ 4,519,574	\$ 3,424,566	\$ 4,165,662	\$ 1,095,007	\$ 353,912	\$ 13,698,265	
	1	2	3	4	5	6	7	8	9	10	11	
Expenses	Month Actual	Monthly Budget	Prior year MTD	MTD Variance to Budget	MTD Variance to Prior Year	YTD Actual	YTD Budget	Prior YTD Actual	Variance to Budget	Variance to Prior Year	2012-13 Adpoted Budget	% of Budget
Purchased Power	\$ 823,089	\$ 796,250	\$ 853,932	\$ 26,839	\$ (30,843)	\$ 2,651,036	\$ 2,388,750	\$ 2,781,263	\$ 262,286	\$ (130,226)	\$ 9,555,000	111%
Other Operating Expenses	\$ 145,391	\$ 136,370	\$ 133,316	\$ 9,021	\$ 12,075	\$ 374,429	\$ 409,109	\$ 368,361	\$ (34,680)	\$ 6,068	\$ 1,636,436	92%
Property Tax Equivalents	\$ 54,821	\$ 54,821	\$ 52,312	\$ -	\$ 2,508	\$ 164,462	\$ 164,462	\$ 156,937	\$ -	\$ 7,525	\$ 657,849	100%
Capital Outlay	\$ 68,341	\$ 26,500	\$ 14,309	\$ 41,841	\$ 54,033	\$ 75,872	\$ 79,500	\$ 26,839	\$ (3,628)	\$ 49,033	\$ 318,000	95%
Transfer Out	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 41,755	\$ -	\$ (41,755)	\$ -	\$ 167,018	0%
Depreciation	\$ 40,500	\$ 40,500	\$ 39,510	\$ -	\$ 990	\$ 121,500	\$ 121,500	\$ 118,531	\$ -	\$ 2,969	\$ 486,000	100%
Administrative Expenses	\$ 83,534	\$ 77,269	\$ 54,570	\$ 6,265	\$ 28,964	\$ 251,627	\$ 231,808	\$ 183,560	\$ 19,819	\$ 68,066	\$ 927,232	109%
Total Expenses	\$ 1,215,677	\$ 1,131,710	\$ 1,147,950	\$ 83,967	\$ 67,727	\$ 3,638,927	\$ 3,436,884	\$ 3,635,492	\$ 202,043	\$ 3,435	\$ 13,747,535	
Net Fund Change	\$ 96,986	\$ 9,812	\$ 111,129	\$ 87,173	\$ (14,143)	\$ 880,647	\$ (12,318)	\$ 530,170	\$ 892,964	\$ 350,477	\$ (49,270)	

MEMORANDUM

DATE: October 4, 2012

TO: Brian Dissette, City of South Haven
Roger Huff, City of South Haven

FROM: Christopher J. Cook, PE

CC: Cindy Clendenon, MDEQ
Marcus Tironi, MDEQ
Timothy R. Drews, P.E., PTOE, Abonmarche
Tony McGhee, Abonmarche
Daniel A. Dombos, PE, Abonmarche

RE: **City of South Haven – Sewer Study Progress Report**

The following will summarize our progress to-date on the City of South Haven Sewer Study:

UTILITY MAPPING

This task has entailed compiling City record drawings, maps and field data into a comprehensive sanitary sewer system map. We have converted city GIS information into AutoCAD for presentation, modeling, field investigation and study purposes. Progress to-date has been good, and we estimate that we are 95% complete with this task. We have been using the map to determine the best general locations for field investigation and metering through discussions with City staff.

On July 6 preliminary system maps were sent to the City for review. Since then, the City has sent new information which has been imported into the drawing. The map is essentially the base for the attached Flow Meter Locations.

We are nearing completion of the schematic layout of township sewers to identify input points into the City system.

Final completion is not expected until after field work is complete but the maps are available for use in their current state at this time.

FIELD INVESTIGATION AND DATA REVIEW

Recently, we have been collecting information from the WWTP consisting primarily of Monthly Operating Reports (MORs). These reports quantify the total flows being delivered to the Plant on a daily basis. Additionally, we are reviewing available SCADA information from lift stations to break down where the flows are being generated.

We estimate that we are approximately 90% complete with this task.

Upcoming work for this task will include continuing to gather historical data on water and sanitary system usage and information from the WWTP, Dave Mulac. We will also conduct further investigation and data collection as issues arise.

COMPUTER MODELING AND FLOW MONITORING

This task includes flow meters at strategic locations in the system to be used for identifying infiltration and inflow and for calibration of the sewer model. As the study has progressed, we have been able to better determine the optimal locations for flow monitoring. The attached plan identifies the latest decision on locations for metering.

Key locations have been determined for the monitoring exercise in addition to monitoring flow meters at each lift station. Three (3) meters remained deployed in the major interceptor areas for six months and we will retain two of them through November 2012. Five (5) meters in sub-areas were placed through the month of May. Those meters were relocated to other areas of the system in June (at the major township input points) to gather information through August. We will share the results of Phase 2 of the metering when available. We have now relocated those meters to the Phase 3 locations, which should be the final metering exercise. Two of the meters had to be pulled temporarily due to construction projects in the vicinity.

Upcoming work includes monitoring the next round of flow meter information. At this time, we are roughly 75% complete with the task of metering and computer modeling has been setup with preliminary data with the bulk of work to come after metering is complete.

SMOKE TESTING

We completed smoke testing of several key areas in the south-central portion of the City in June and presented the results to the BPU on June 25. Additional smoke testing is



expected following Phase 3 metering. At this point we are roughly 60% complete with smoke testing.

SEWER TELEVISIONING

No progress to date as this work will be determined based upon the flow monitoring and smoke testing.

SRF PROJECT PLAN

We continue to work on the sections of the Plan that we can address, before all of the data is received. We are roughly 30% complete with this task with the bulk of work expected to be completed this winter.

OVERALL SCHEDULE

The schedule going forward is expected to proceed as follows:

Flow Monitoring Complete	November, 2012
Smoke Testing Complete	December, 2012
Televisioning	December 2012 – January 2013
Computer Modeling	December 2012 – January 2013
Project Plan Complete	April 2013
Public Hearings Conducted	May 2013
Final Plan Adopted	June 2013
Plan Submitted to DNRE	July 2013





City of South Haven

Agenda Item # 9

Unresolved Issues

New items shown in **bold** text.

Completed items shown with single ~~strike through~~ text for one meeting, then double ~~strike through~~ text for the next meeting, then removed from the list.

ACTION ITEMS

- 6/2/10 – Security light costs (material, labor, O & M). File located, under review.
- 5/23/11 – Welder transformer. Addressed under agenda item 11 at the July meeting. GRP Engineering has been requested to perform an analysis of the cost of the “no load losses” associated with these transformers, and to evaluate alternatives. City staff has compiled data and forwarded to GRP. GRP is proceeding with the analysis.
- 2/27/12 – October 31, 2011 meeting requested staff pursue possible contract language change not limiting liability to the amount of the contractor’s insurance; and remove statement that the contractor is not liable for making sure the sub-contractors do the work properly.
- 3/26/12 – Stickland requested that staff provide the utility policy concerning tampering fees for review at the next meeting. Addressed under agenda item 15 at the April 30, 2012 meeting. MMEA was contacted requesting their assistance in contacting fellow members for their policies regarding meter tampering, disconnection or tampering with service feeders/pipes, theft of service, and unsealed meter showing consumption. No response has been received from MMEA. City staff is contacting fellow IMMUDA members plus Holland, Lowell, and Coldwater. Policies have been received from Bluffton, IN; Coldwater, MI; Holland BPW; Lowell Light & Power; Niles, MI; Sturgis, MI; Zeeland BPW. These policies will be compiled and summarized and distributed to staff and the BPU for review and comment.
- 2/26/12 - Stickland requested that staff provide a list of the AEP contacts attempted during the March 7, 2012 outages. Stickland had discussions with our AEP representation at the IMMUDA Annual Meeting April 27, 2012. A meeting is to be scheduled with the City and AEP. AEP has requested a description of events be provided prior to scheduling the meeting. City staff is preparing the requested information. Met with AEP on September 4, 2012. Updated contact information has been distributed. **City staff will perform test calls periodically to confirm contact with the AEP Transmission Operations Center.**
- 4/30/12 – As a result of the tamper fee discussion with a resident, staff was requested to compile a list of electrical and plumbing contractors licensed to work in South Haven for

the purpose of sending notification letters concerning the tamper policy. City staff contacted the State of Michigan and Michigan Township services, but they could not provide specific information. City of South Haven Building Services has a bulletin board available for posting notices. Suggestion was made to add it to the building permit form or instructions. Start with the City and then work with the townships.

- **Board requested information about a power outage (10 second “blip”) that occurred at approximately 5:00 a.m. Saturday, September 23, 2012. Per Kim Hasty, AEP had an operation on the 69 Kva line from the Bangor side. It caused a blink at the Phoenix Substation and a blink on two circuits at the Main Substation. Also, a circuit breaker at the main Substation had one operation. This is something that happens when we have an operation on that 69 Kva circuit. This blink was not system wide.**
- **Burr questioned the transformer replacement for Clementine’s and wondered if the transformer was overheated or if the circuit was overloaded. The two transformers that failed were 50KVA line transformers that were installed inside a metal enclosure. Line pots are designed for open air cooling with no cooling fins; so inside an enclosure even though the enclosure has provisions for external cooling, on a hot day at 100 + degree F., the thermal rating can be exceeded with phase loads of less than 50Kva.**

Both transformers come from the same 3-phase bank and are connected in delta on the low side. When the cutout blew on one of the transformers, the other two transformers were single-phasing for several hours leading to the second transformer’s failure. Kim said that transformer oil was extremely hot inside the failed units.

The crews replaced the two transformers with larger 75KVA units that have radiator fins. So the concern that larger transformers may be needed has been addressed.

City of South Haven, MI



Electric Outage Report 3rd Quarter 2012

General Information				Cause		Time & Duration				Customers	
#	Date	S/U	Address/Location	Description	#	Ints	T off	T on	Mins	# Out	Cust Min
1	7/1/2012	U	409 St. Joseph St	Down sec. lines, connections, trees	5	1	7/1/12 5:55 PM	7/1/12 9:30 PM	215	16	3440
2	7/2/2012	U	76th St S. of 14th Ave	Center fuse, limb on line	5	1	7/2/12 7:00 AM	7/2/12 10:40 AM	220	62	13640
3	7/2/2012	U	77060 Winding Circle	Primary line down, tree limb	5	1	7/2/12 9:45 AM	7/2/12 2:35 PM	290	74	21460
4	7/2/2012	U	Spencer Ave & Kalamazoo St	Linefuse, squirrel	4	1	7/2/12 9:40 AM	7/2/12 11:15 AM	95	34	3230
5	7/3/2012	U	67058 CR 388	Linefuse, squirrel	4	1	7/3/12 7:50 AM	7/3/12 8:45 AM	55	63	3465
6	7/3/2012	U	319 Hubbard St	Linefuse, squirrel	4	1	7/3/12 8:35 AM	7/3/12 9:25 AM	50	14	700
7	7/4/2012	U	391 North Shore Dr	Bad secondary U.R.D.	2	1	7/4/12 2:35 PM	7/4/12 5:30 PM	175	31	5425
8	7/3/2012	U	Erie St & Kalamazoo St	Fuse, tree limb	5	1	7/3/12 11:15 AM	7/3/12 1:50 PM	155	16	2480
9	7/4/2012	U	750 North shore Dr	Bad transformer	10	1	7/4/12 11:10 AM	7/4/12 2:50 PM	220	27	5940
10	7/5/2012	U	721 Aylworth Ave	Bad connection	10	1	7/5/12 9:05 AM	7/5/12 10:25 AM	80	20	1600
11	7/5/2012	U	16th Ave & 73rd St	Linefuse & line down, tree limb	5	1	7/5/12 10:10 AM	7/5/12 1:55 PM	225	41	9225
12	7/5/2012	U	425 Phoenix St	Bad connection	10	1	7/5/12 3:05 PM	7/5/12 5:10 PM	125	5	625
13	7/6/2012	U	614 Superior St	Bad connection	10	1	7/6/12 3:10 PM	7/6/12 5:20 PM	130	1	130
14	7/7/2012	U	41 66th St	Fuse, squirrel	4	1	7/7/12 7:15 AM	7/7/12 9:05 AM	110	11	1210
15	7/7/2012	U	429 Michigan Ave	Bad connection & jumper	10	1	7/7/12 6:45 PM	7/7/12 8:20 PM	95	1	95
16	7/8/2012	U	87 Clinton St	Linefuse, tree	5	1	7/8/12 8:20 AM	7/8/12 10:30 AM	130	44	5720
17	7/8/2012	U	539 Huron St	2 bad transformers	10	1	7/8/12 1:10 PM	7/8/12 6:35 PM	325	21	6825
18	7/8/2012	U	North Shore Dr N & 74th St	Bad connection	10	1	7/8/12 8:55 PM	7/8/12 10:15 PM	80	1	80
19	7/9/2012	U	77702 20th Ave	Line down, tree limb	5	1	7/9/12 1:45 PM	7/9/12 2:35 PM	50	51	2550
20	7/9/2012	U	72 South Haven St	Bad underground service	2	1	7/9/12 2:45 PM	7/9/12 5:25 PM	160	1	160
21	7/12/2012	U	237 Broadway Ave	Linefuse, tree limb	5	1	7/12/12 8:00 AM	7/12/12 10:20 AM	140	31	4340
22	7/14/2012	U	325 Hubbard St	Linefuse, squirrel	4	1	7/14/12 7:40 AM	7/14/12 8:50 AM	70	47	3290
23	7/14/2012	U	Baseline Rd & North Shore Dr	Linefuse, squirrel	4	1	7/14/12 11:35 AM	7/14/12 12:40 PM	65	36	2340
24	7/15/2012	U	06760 CR 689	Bad connection	10	1	7/15/12 11:10 AM	7/15/12 1:20 PM	130	1	130
25	7/16/2012	U	227 Prospect St	Service down, tree limb	5	1	7/16/12 2:05 PM	7/16/12 4:00 PM	115	1	115
26	7/18/2012	U	73840 8th Ave	Bad connection	10	1	7/18/12 3:10 PM	7/18/12 4:25 PM	75	1	75
27	7/18/2012	U	20539 Blue Star Mem Hwy	Linefuse, tree limb	5	1	7/18/12 1:05 PM	7/18/12 3:35 PM	150	29	4350
28	7/19/2012	U	230 Baseline Rd	Linefuse, tree limb on primary line	5	1	7/19/12 8:20 AM	7/19/12 10:50 AM	150	87	13050
29	7/19/2012	U	52 Cass St	Fuse, tree limb	5	1	7/19/12 8:27 AM	7/19/12 10:20 AM	113	13	1469
30	7/19/2012	U	603 Indiana Ave	Fuse, squirrel	4	1	7/19/12 8:55 AM	7/19/12 10:10 AM	75	16	1200
31	7/19/2012	U	66970 8th Ave	Fuse, squirrel	4	1	7/19/12 9:35 AM	7/19/12 11:20 AM	105	14	1470
32	7/21/2012	U	19487 72nd St	Car/pole, broken pole & down service	7	1	7/21/12 4:15 AM	7/21/12 7:20 AM	185	1	185
33	7/21/2012	U	72773 8th Ave	Fuse, squirrel	4	1	7/21/12 7:15 AM	7/21/12 8:55 AM	100	9	900
34	7/24/2012	U	63600 CR 388	Fuse, lightning	3	1	7/24/12 10:20 AM	7/24/12 11:50 AM	90	11	990
35	7/24/2012	U	73860 M-43 Hwy	Bad connection	10	1	7/24/12 2:45 PM	7/24/12 5:00 PM	135	1	135
36	7/25/2012	U	Baseline Rd & 72nd St	Primary line down, tree limb	5	1	7/25/12 10:25 PM	7/26/12 1:45 AM	200	23	4600
37	7/26/2012	U	04325 CR 687	Broken pole, down service	1	1	7/26/12 3:10 PM	7/26/12 6:35 PM	205	3	615
38	7/27/2012	U	1028 Phoenix St	Down service tree limb	5	1	7/27/12 1:45 PM	7/27/12 3:30 PM	105	1	105
39	7/27/2012	U	1437 Clarke Pl	Bad connections	10	1	7/27/12 2:20 PM	7/27/12 4:15 PM	115	1	115
40	7/28/2012	U	68633 CR 388	Underground line fuse, squirrel	4	1	7/28/12 10:10 AM	7/28/12 11:15 AM	65	64	4160
41	7/31/2012	U	04915 Cecelia Dr	Bad connection	10	1	7/31/12 3:35 PM	7/31/12 4:45 PM	70	1	70

S/U - Scheduled or Unscheduled

Ints - # of Interruptions

Long - >1 min; Short - <1 min

Cause # - see table on page 3

Total Customers this Month	8,151	Days of Month
Total Customer Minutes this Month	363,860,640	31

Outage Totals		
	This Month	This Month Last Year
Unscheduled Outages		
Long # Outages	41	43
# Customers Out	925	1333
# Minutes Out	5,443	7448
# Customer Minutes Out	131,704	311241
# Within City System	41	43
# Supply to City Minutes	0	0
Short # Outages (Blinks)	0	0
# Customers Affected	0	0
# Within City System	0	0
# Supply to City Minutes	0	0
Scheduled Outages		
Long # Outages	0	0
# Customers Out	0	0
# Minutes Out	0	0
# Customer Minutes Out	0	0
# Within City System	0	0
# Supply to City Minutes	0	0
Short # Outages (Blinks)	0	0
# Customers Affected	0	0
# Within City System	0	0
# Supply to City Minutes	0	0
Totals		
Total Long Outages	41	43
Total Short Outages (Blinks)	0	0
Total Customers Out (Long)	925	1333
Total Customers Affected (Short- Blinks)	0	0
Total Customer Minutes Out	131,704	311241
Total Outages Within City System	41	43
Total Outages in Supply to City	0	0

Number of Outages (by Cause)					
Cause #	Description	Total This Month	This Month Last Year	Rolling AT	% AT
0	Electric Supply Disruption to City	0	0	0	0%
1	Fallen Line / Rotted Pole	1	0	10	3%
2	Bad U/G Cable	2	1	21	6%
3	Lightning	1	10	12	3%
4	Animal Contact	10	6	62	18%
5	Tree Contact	14	16	93	26%
6	Contamination / Foreign Debris	0	0	0	0%
7	Human	1	1	19	5%
8	Other	0	0	0	0%
9	Undetermined	0	0	1	0%
10	Failed Device	12	9	135	38%
Total		41	43	353	

AT - Annual 12 Month Total

12 Month Outage Statistics		
Index	As of This Month	As of This Month Last Year
ASAI (%)	99.9501	99.9552
CAIDI (Long) (min)	192.71	242.66
SAIDI (Long) (min)	21.93	19.64
SAIFI (Long) (ints/tot cust)	0.11	0.08
SAIFI (Short) (ints/tot cust)	0.00	0.00

- ASAI - Average Service Availability Index
(customer minutes available/total customer minutes, as a %)
- CAIDI - Customer Average Interruption Duration Index
(average minutes interrupted per interrupted customer)
- SAIDI - System Average Interruption Duration Index
(average minutes interrupted per customer for all customers)
- SAIFI (Long) - System Average Interruption Frequency Index
(# of long interruptions per customer for all customers)
- SAIFI (Short) - System Average Interruption Frequency Index
(# of short interruptions per customer for all customers)

S/U - Scheduled or Unscheduled
 Ints - # of Interruptions
 Long - >1 min; Short - <1 min
 Cause # - see table on page 3

General Information				Cause		Time & Duration				Customers	
#	Date	S/U	Address/Location	Description	#	Ints	T off	T on	Mins	# Out	Cust Min
1	8/1/2012	U	63600 8th Ave	Fuse, bird in delta bank	4	1	8/1/12 6:10 AM	8/1/12 8:15 AM	125	4	500
2	8/1/2012	U	570 Kalamazoo St	Limb on service line	5	1	8/1/12 7:20 AM	8/1/12 9:05 AM	105	1	105
3	8/3/2012	U	66200 CR 388	Bad connection	10	1	8/3/12 2:55 PM	8/3/12 4:00 PM	65	1	65
4	8/4/2012	U	86 South Haven St	Bad connection	10	1	8/4/12 7:20 AM	8/4/12 8:55 AM	95	1	95
5	8/7/2012	U	63915 CR 388	Bad delta	10	1	8/7/12 1:35 PM	8/7/12 4:10 PM	155	17	2635
6	8/8/2012	U	415 Michigan Ave	Primary line down, linefuse, tree limb	5	1	8/8/12 10:35 AM	8/8/12 2:50 PM	255	34	8670
7	8/8/2012	U	2nd Ave	Bad underground, dig in	7	1	8/8/12 3:05 PM	8/8/12 7:05 PM	240	11	2640
8	8/9/2012	U	1000 6th Ave	Bad connection	10	1	8/9/12 5:10 PM	8/9/12 7:00 PM	110	1	110
9	8/10/2012	U	77702 20th Ave	Bad connection	10	1	8/10/12 3:40 PM	8/10/12 6:10 PM	150	1	150
10	8/10/2012	U	11230 Parmade	Bad connection	10	1	8/10/12 8:40 PM	8/10/12 10:05 PM	85	1	85
11	8/12/2012	U	CR 388 & 68th St	Bad connection	10	1	8/12/12 11:45 AM	8/12/12 2:10 PM	145	4	580
12	8/12/2012	U	71117 CR 384	Bad connection in meter base	10	1	8/12/12 4:22 PM	8/12/12 5:50 PM	88	1	88
13	8/13/2012	U	Dow Ln & Veterans Blvd	Primary URD, dig in	7	1	8/13/12 10:20 AM	8/13/12 2:50 PM	270	69	18630
14	8/14/2012	U	02112 CR 687	Broken pole, down service, tree limb	5	1	8/14/12 7:50 AM	8/14/12 10:50 AM	180	1	180
15	8/14/2012	U	90 Avery St	Bad connection	10	1	8/14/12 9:10 AM	8/14/12 11:40 AM	150	1	150
16	8/14/2012	U	256 Blue Star Hwy	Bad connection	10	1	8/14/12 1:05 PM	8/14/12 2:50 PM	105	1	105
17	8/14/2012	U	68322 Birch St	Fuse, squirrel	4	1	8/14/12 8:00 PM	8/14/12 9:55 PM	115	21	2415
18	8/15/2012	U	900 Aylworth Ave	Linefuse, tree limb	5	1	8/15/12 2:45 PM	8/15/12 4:00 PM	75	27	2025
19	8/16/2012	U	74 South Haven St	Bad connection	10	1	8/16/12 2:55 PM	8/16/12 4:30 PM	95	1	95
20	8/17/2012	U	129 Michigan Ave	Bad connection	10	1	8/17/12 2:40 PM	8/17/12 4:00 PM	80	4	320
21	8/18/2012	U	539 Huron St	Bad connection	10	1	8/18/12 7:05 AM	8/18/12 9:10 AM	125	1	125
22	8/19/2012	U	451 Hubbard St	Fuse, squirrel	4	1	8/19/12 9:40 AM	8/19/12 11:35 AM	115	19	2185
23	8/20/2012	U	726 Hiways Ave	Bad connection	10	1	8/20/12 7:50 AM	8/20/12 9:15 AM	85	1	85
24	8/20/2012	U	00401 CR 687	Bad connection	10	1	8/20/12 12:45 PM	8/20/12 2:10 PM	85	1	85
25	8/20/2012	U	21170 66th Ave	Bad connection	10	1	8/20/12 3:55 PM	8/20/12 5:25 PM	90	1	90
26	8/21/2012	U	20096 Elm Ave	Bad connection	10	1	8/21/12 9:40 AM	8/21/12 11:05 AM	85	1	85
27	8/21/2012	U	71117 CR 384	Down secondary line, tree limb	5	1	8/21/12 1:20 PM	8/21/12 3:15 PM	115	6	690
28	8/22/2012	U	901 Superior St	Bad connection	10	1	8/22/12 9:05 AM	8/22/12 10:50 AM	105	1	105
29	8/23/2012	U	No Location Provided	Fuse, squirrel	4	1	8/23/12 2:10 PM	8/23/12 3:35 PM	85	7	595
30	8/24/2012	U	355 Blue Star Hwy	Bad connection	10	1	8/24/12 8:15 AM	8/24/12 9:40 AM	85	1	85
31	8/24/2012	U	114 Superior St	Bad connection	10	1	8/24/12 10:05 PM	8/24/12 11:55 PM	110	1	110
32	8/27/2012	U	73655 Superior St	Bad connection	10	1	8/27/12 2:20 PM	8/27/12 4:00 PM	100	1	100
33	8/27/2012	U	15222 76th St	Bad connection	10	1	8/27/12 6:40 PM	8/27/12 8:15 PM	95	1	95
34	8/28/2012	U	524 Phoenix St	Bad underground service	2	1	8/28/12 10:35 AM	8/28/12 5:45 PM	430	5	2150
35	8/29/2012	U	07919 CR 689	Fuse, tree limb	5	1	8/29/12 12:05 PM	8/29/12 1:25 PM	80	9	720
36	8/30/2012	U	CR 388 & 71.5 St	Car/pole, broken pole & down service	7	1	8/30/12 1:40 PM	8/30/12 4:25 PM	165	3	495
37	8/30/2012	U	1441 Clarke Pl	Bad URD Secondary	2	1	8/30/12 4:00 PM	8/30/12 8:10 PM	250	3	750
38	8/31/2012	U	712 Indiana Ave	Bad connection	10	1	8/31/12 1:10 PM	8/31/12 3:20 PM	130	1	130
39	8/31/2012	U	315 Oak Way	Bad connection	10	1	8/31/12 9:05 PM	9/1/12 12:30 PM	925	1	925

S/U - Scheduled or Unscheduled
 Ints - # of Interruptions
 Long - >1 min; Short - <1 min
 Cause # - see table on page 3

Total Customers this Month	8,172	Days of Month
Total Customer Minutes this Month	364,798,080	31

Outage Totals			
	This Month	This Month Last Year	
Unscheduled Outages			
Long	# Outages	39	37
	# Customers Out	266	2678
	# Minutes Out	5,948	5185
	# Customer Minutes Out	49,248	696255
	# Within City System	39	37
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	0	0
	# Customers Affected	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
Scheduled Outages			
Long	# Outages	0	0
	# Customers Out	0	0
	# Minutes Out	0	0
	# Customer Minutes Out	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	0	0
	# Customers Affected	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
Totals			
	Total Long Outages	39	37
	Total Short Outages (Blinks)	0	0
	Total Customers Out (Long)	266	2678
	Total Customers Affected (Short- Blinks)	0	0
	Total Customer Minutes Out	49,248	696255
	Total Outages Within City System	39	37
	Total Outages in Supply to City	0	0

Number of Outages (by Cause)					
Cause #	Description	Total This Month	This Month Last Year	Rolling AT	% AT
0	Electric Supply Disruption to City	0	0	0	0%
1	Fallen Line / Rotted Pole	0	1	9	3%
2	Bad U/G Cable	2	0	23	6%
3	Lightning	0	4	8	2%
4	Animal Contact	4	6	60	17%
5	Tree Contact	6	9	90	25%
6	Contamination / Foreign Debris	0	0	0	0%
7	Human	3	1	21	6%
8	Other	0	0	0	0%
9	Undetermined	0	0	1	0%
10	Failed Device	24	16	143	40%
	Total	39	37	355	

AT - Annual 12 Month Total

12 Month Outage Statistics		
Index	As of This Month	As of This Month Last Year
ASAI (%)	99.9652	99.9415
CAIDI (Long) (min)	171.64	251.97
SAIDI (Long) (min)	15.26	25.63
SAIFI (Long) (ints/tot cust)	0.09	0.10
SAIFI (Short) (ints/tot cust)	0.00	0.00

- ASAI - Average Service Availability Index
(customer minutes available/total customer minutes, as a %)
- CAIDI - Customer Average Interruption Duration Index
(average minutes interrupted per interrupted customer)
- SAIDI - System Average Interruption Duration Index
(average minutes interrupted per customer for all customers)
- SAIFI (Long) - System Average Interruption Frequency Index
(# of long interruptions per customer for all customers)
- SAIFI (Short) - System Average Interruption Frequency Index
(# of short interruptions per customer for all customers)

S/U - Scheduled or Unscheduled
 Ints - # of Interruptions
 Long - >1 min; Short - <1 min
 Cause # - see table on page 3

General Information				Cause		Time & Duration				Customers	
#	Date	S/U	Address/Location	Description	#	Ints	T off	T on	Mins	# Out	Cust Min
1	9/1/2012	U	44 Apache Ct	Down secondary line, tree limb	5	1	9/1/12 12:05 PM	9/1/12 1:55 PM	110	11	1210
2	9/2/2012	U	North Shore Dr	Linefuses & Bad arrestors	10	1	9/2/12 9:10 AM	9/2/12 1:50 PM	280	214	59920
3	9/4/2012	U	Chamber St & School St	Broken pole & secondary line down	1	1	9/4/12 2:35 PM	9/4/12 5:30 PM	175	16	2800
4	9/5/2012	U	601 Kalamazoo St	Down service, tree limb	5	1	9/5/12 5:05 PM	9/5/12 6:45 PM	100	1	100
5	9/8/2012	U	77448 20th St	Bad connection	10	1	9/8/12 9:50 AM	9/8/12 11:05 AM	75	1	75
6	9/10/2012	U	73100 CR 388	Bad connection	10	1	9/10/12 2:55 PM	9/10/12 4:05 PM	70	1	70
7	9/11/2012	U	1012 Hazel St	Line & fuse, squirrel	4	1	9/11/12 8:50 AM	9/11/12 10:10 AM	80	43	3440
8	9/12/2012	U	62205 CR 388	Bad connection	10	1	9/12/12 9:15 AM	9/12/12 11:20 AM	125	1	125
9	9/13/2012	U	20096 76th St	Bad connection	10	1	9/13/12 1:35 PM	9/13/12 2:55 PM	80	1	80
10	9/14/2012	U	76241 14th Ave	Fuse, squirrel	4	1	9/14/12 8:15 AM	9/14/12 9:50 AM	95	3	285
11	9/16/2012	U	414 Jones Ave	Fuse, squirrel	4	1	9/16/12 7:55 AM	9/16/12 9:15 AM	80	13	1040
12	9/16/2012	U	75543 CR 384	Bad connection	10	1	9/16/12 12:10 PM	9/16/12 1:45 PM	95	1	95
13	9/17/2012	U	717 Lee St	Bad connection	10	1	9/17/12 10:15 AM	9/17/12 11:45 AM	90	1	90
14	9/17/2012	U	06278 CR 689	Rotted pole & down service	1	1	9/17/12 1:35 PM	9/17/12 4:30 PM	175	2	350
15	9/18/2012	U	70951 CR 388	Bad connection	10	1	9/18/12 8:50 AM	9/18/12 10:15 AM	85	1	85
16	9/18/2012	U	151 Dunkley Ave	Bad connection	10	1	9/18/12 3:05 PM	9/18/12 5:00 PM	115	1	115
17	9/21/2012	U	369 Hubbard St	Bad connection	10	1	9/21/12 11:20 AM	9/21/12 2:05 PM	165	1	165
18	9/21/2012	U	09427 CR 687	Down service, tree limb	5	1	9/21/12 12:40 PM	9/21/12 3:15 PM	155	1	155
19	9/23/2012	U	19217 76th St	Bad connection	10	1	9/23/12 3:55 PM	9/23/12 5:50 PM	115	1	115
20	9/26/2012	U	851 Monroe Blvd	Bad connection	10	1	9/26/12 5:10 PM	9/26/12 6:55 PM	105	1	105
21	9/27/2012	U	530 Humphrey St	Bad connection	10	1	9/27/12 5:15 PM	9/27/12 7:20 PM	125	1	125
22	9/27/2012	U	728 Center St	Bad connection	10	1	9/27/12 7:55 PM	9/27/12 9:35 PM	100	1	100
23	9/28/2012	U	413 Abell Ave	Bad connection	10	1	9/28/12 3:15 PM	9/28/12 4:25 PM	70	1	70

S/U - Scheduled or Unscheduled
 Ints - # of Interruptions
 Long - >1 min; Short - <1 min
 Cause # - see table on page 3

Total Customers this Month	8,151	Days of Month
Total Customer Minutes this Month	352,123,200	30

Outage Totals			
		This Month	This Month Last Year
Unscheduled Outages			
Long	# Outages	23	44
	# Customers Out	318	1344
	# Minutes Out	2,665	8633
	# Customer Minutes Out	70,715	337077
	# Within City System	23	44
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	0	1
	# Customers Affected	0	1
	# Within City System	0	1
	# Supply to City Minutes	0	0
Scheduled Outages			
Long	# Outages	0	0
	# Customers Out	0	0
	# Minutes Out	0	0
	# Customer Minutes Out	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
Short	# Outages (Blinks)	0	0
	# Customers Affected	0	0
	# Within City System	0	0
	# Supply to City Minutes	0	0
Totals			
Total Long Outages		23	44
Total Short Outages (Blinks)		0	1
Total Customers Out (Long)		318	1344
Total Customers Affected (Short- Blinks)		0	1
Total Customer Minutes Out		70,715	337077
Total Outages Within City System		23	44
Total Outages in Supply to City		0	0

Number of Outages (by Cause)					
Cause #	Description	Total This Month	This Month Last Year	Rolling AT	% AT
0	Electric Supply Disruption to City	0	0	0	0%
1	Fallen Line / Rotted Pole	2	4	7	2%
2	Bad U/G Cable	0	4	19	6%
3	Lightning	0	4	4	1%
4	Animal Contact	3	2	61	18%
5	Tree Contact	3	18	75	23%
6	Contamination / Foreign Debris	0	0	0	0%
7	Human	0	3	18	5%
8	Other	0	0	0	0%
9	Undetermined	0	0	1	0%
10	Failed Device	15	10	148	44%
Total		23	45	333	

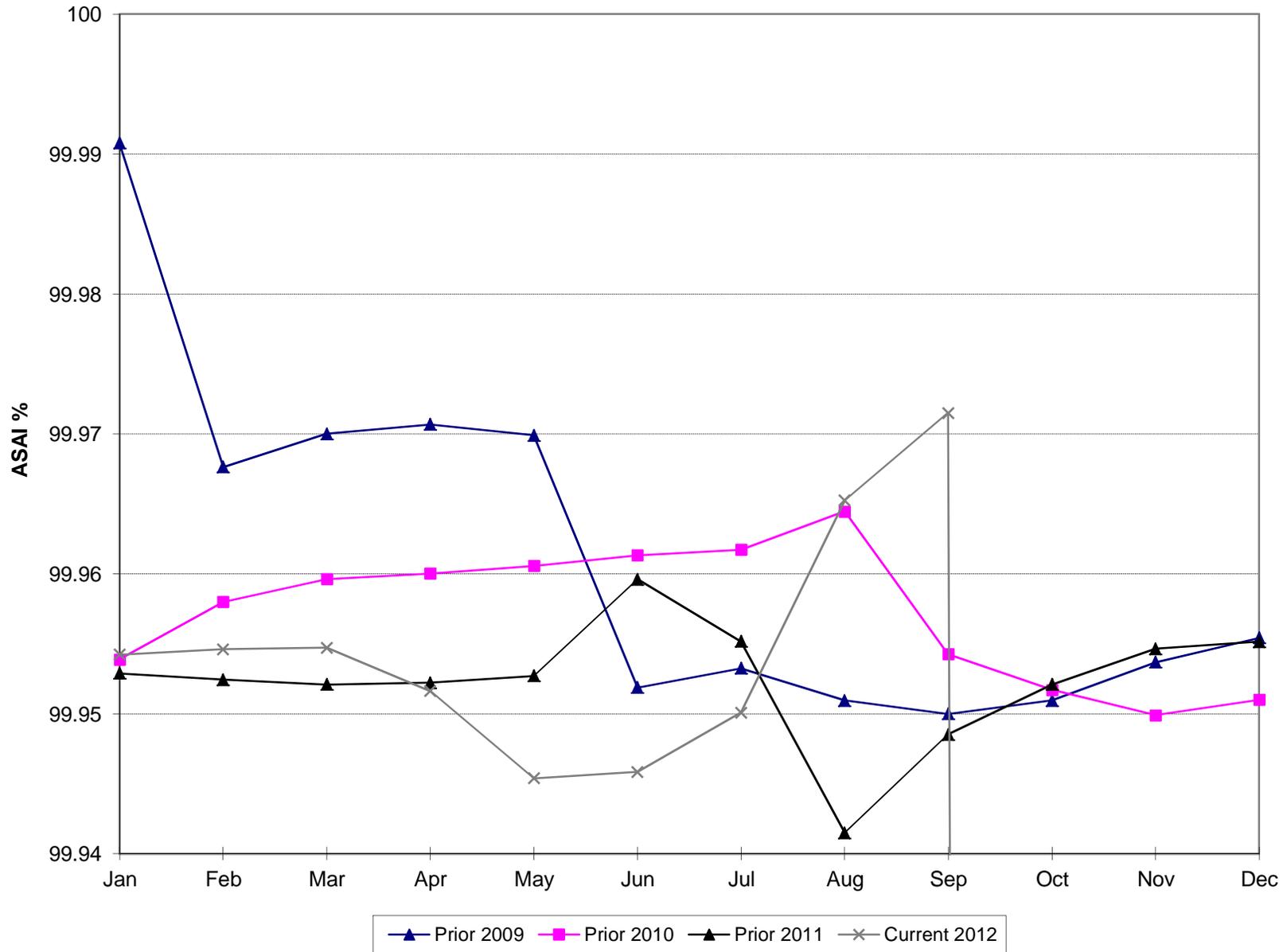
AT - Annual 12 Month Total

12 Month Outage Statistics		
Index	As of This Month	As of This Month Last Year
ASAI (%)	99.9715	99.9485
CAIDI (Long) (min)	159.80	227.39
SAIDI (Long) (min)	12.52	22.55
SAIFI (Long) (ints/tot cust)	0.08	0.10
SAIFI (Short) (ints/tot cust)	0.00	0.00

- ASAI - Average Service Availability Index
(customer minutes available/total customer minutes, as a %)
- CAIDI - Customer Average Interruption Duration Index
(average minutes interrupted per interrupted customer)
- SAIDI - System Average Interruption Duration Index
(average minutes interrupted per customer for all customers)
- SAIFI (Long) - System Average Interruption Frequency Index
(# of long interruptions per customer for all customers)
- SAIFI (Short) - System Average Interruption Frequency Index
(# of short interruptions per customer for all customers)

S/U - Scheduled or Unscheduled
 Ints - # of Interruptions
 Long - >1 min; Short - <1 min
 Cause # - see table on page 3

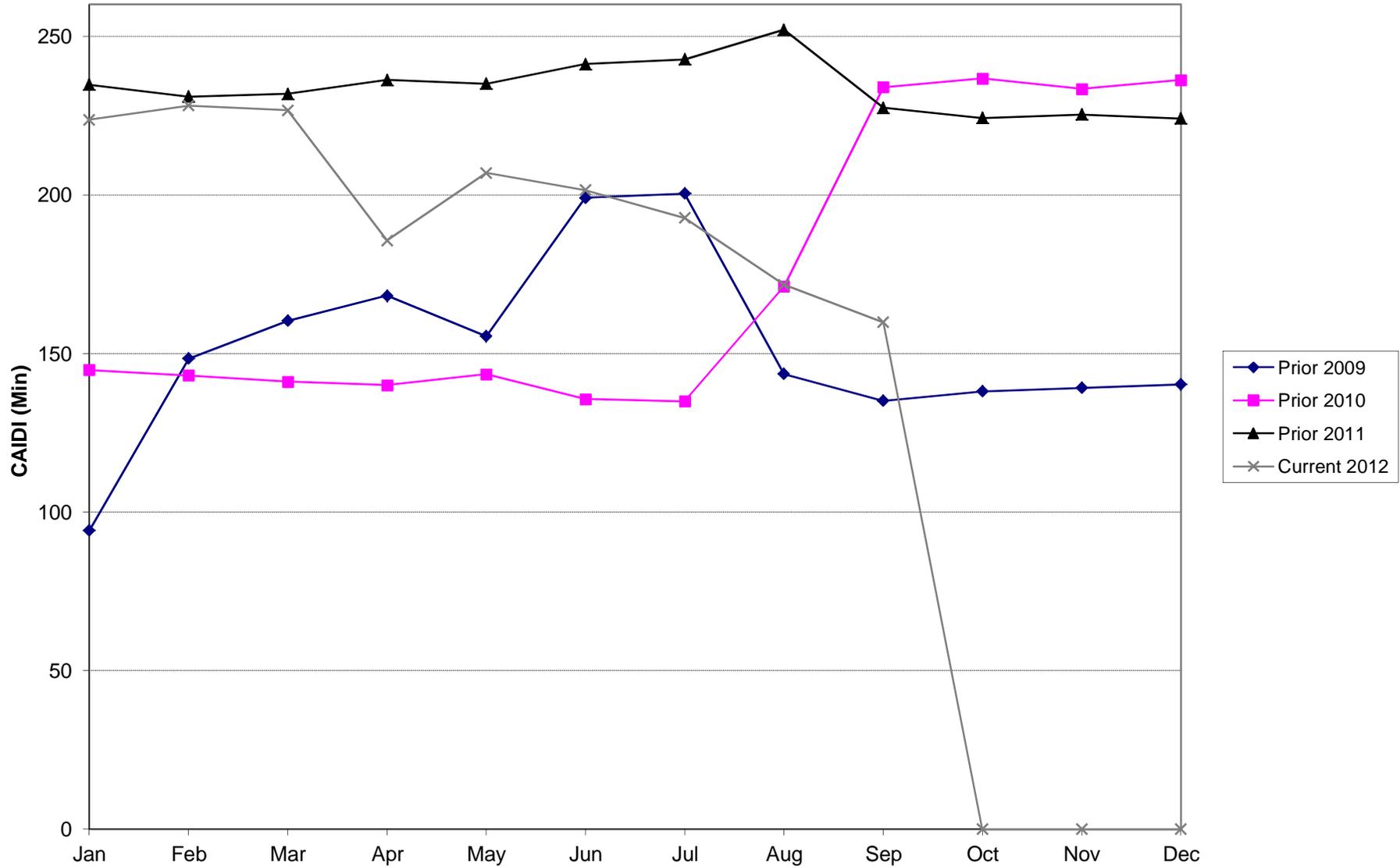
Month		Sep 11	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sep 12
Number of Customers		8,128	8,127	8,091	8,061	8,026	8,046	8,030	8,057	8,202	8,163	8,151	8,172	8,151
Unscheduled Outages														
Long Outages	# Outages	44	29	24	22	15	8	21	38	36	37	41	39	23
	# Customers Out	1,344	642	308	201	289	76	217	2,858	621	901	925	266	318
	# Minutes Out	8,633	3,775	2,770	3,091	2,615	1,200	3,145	5,785	20,855	5,600	5,443	5,948	2,665
	# Customer Mins	337,077	105,295	34,410	25,081	59,550	21,400	33,430	204,875	343,575	138,735	131,704	49,248	70,715
	# City System	44	29	24	22	15	8	21	38	36	37	41	39	23
	# Supply to City Minutes	0	0	0	0	0	0	0	0	0	0	0	0	0
Short Outages	# Outages (Blinks)	1	0	0	0	0	0	0	0	0	0	0	0	0
	# Customers Out	1	0	0	0	0	0	0	0	0	0	0	0	0
	# City System	1	0	0	0	0	0	0	0	0	0	0	0	0
	# Supply to City Minutes	0	0	0	0	0	0	0	0	0	0	0	0	0
Scheduled Outages														
Long Outages	# Outages	0	0	0	0	0	0	0	0	0	0	0	0	0
	# Customers Out	0	0	0	0	0	0	0	0	0	0	0	0	0
	# Minutes Out	0	0	0	0	0	0	0	0	0	0	0	0	0
	# Customer Mins	0	0	0	0	0	0	0	0	0	0	0	0	0
	# City System	0	0	0	0	0	0	0	0	0	0	0	0	0
	# Supply to City Minutes	0	0	0	0	0	0	0	0	0	0	0	0	0
Short Outages	# Outages (Blinks)	0	0	0	0	0	0	0	0	0	0	0	0	0
	# Customers Out	0	0	0	0	0	0	0	0	0	0	0	0	0
	# City System	0	0	0	0	0	0	0	0	0	0	0	0	0
	# Supply to City Minutes	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals														
	Total Long Outages	44	29	24	22	15	8	21	38	36	37	41	39	23
	Total Short Outages (Blinks)	1	0	0	0	0	0	0	0	0	0	0	0	0
	Total Custs Out (Long)	1,344	642	308	201	289	76	217	2,858	621	901	925	266	318
	Total Custs Out (Short Blinks)	1	0	0	0	0	0	0	0	0	0	0	0	0
	Total Cust Mins Out	337,077	105,295	34,410	25,081	59,550	21,400	33,430	204,875	343,575	138,735	131,704	49,248	70,715
	Total City System	44	29	24	22	15	8	21	38	36	37	41	39	23
	Total Supply to City	0	0	0	0	0	0	0	0	0	0	0	0	0
Indices														
	SAI (%)	99.95	99.95	99.95	99.96	99.95	99.95	99.95	99.95	99.95	99.95	99.95	99.97	99.97
	CAIDI (Long) (min)	227.39	224.19	225.26	224.02	223.63	228.09	226.60	185.59	206.90	201.51	192.71	171.64	159.80
	SAIDI (Long) (min)	22.55	20.99	19.87	19.65	20.05	19.93	19.89	21.25	23.98	23.78	21.93	15.26	12.52
	SAIFI (long int/cust)	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.11	0.12	0.12	0.11	0.09	0.08
	SAIFI (short int/cust)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



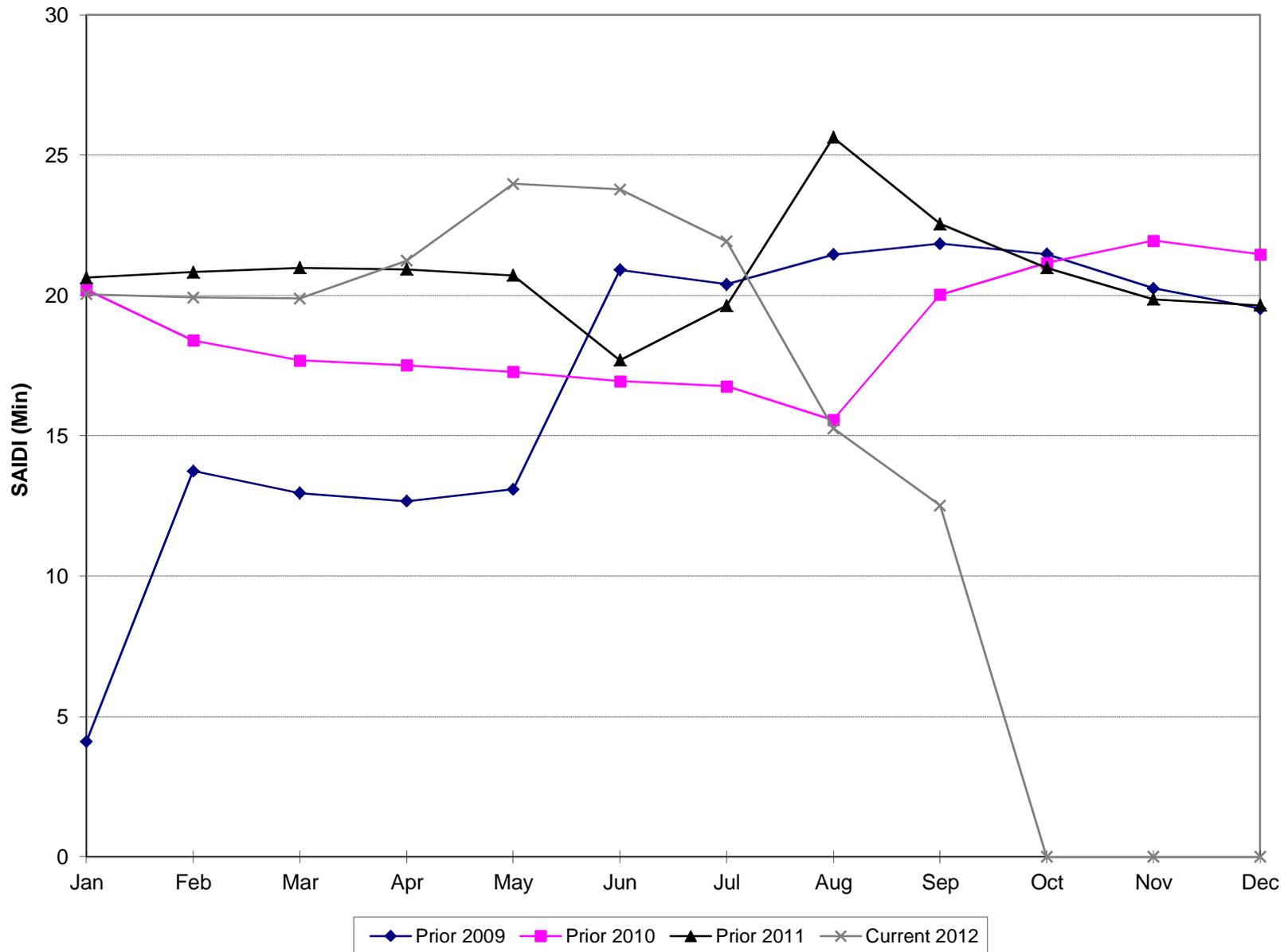
The ratio of the total customer minutes that service was available divided by the total customer minutes demanded (expected) in a time period. It is expressed as a percent.

CAIDI (Customer Average Interruption Duration Index)

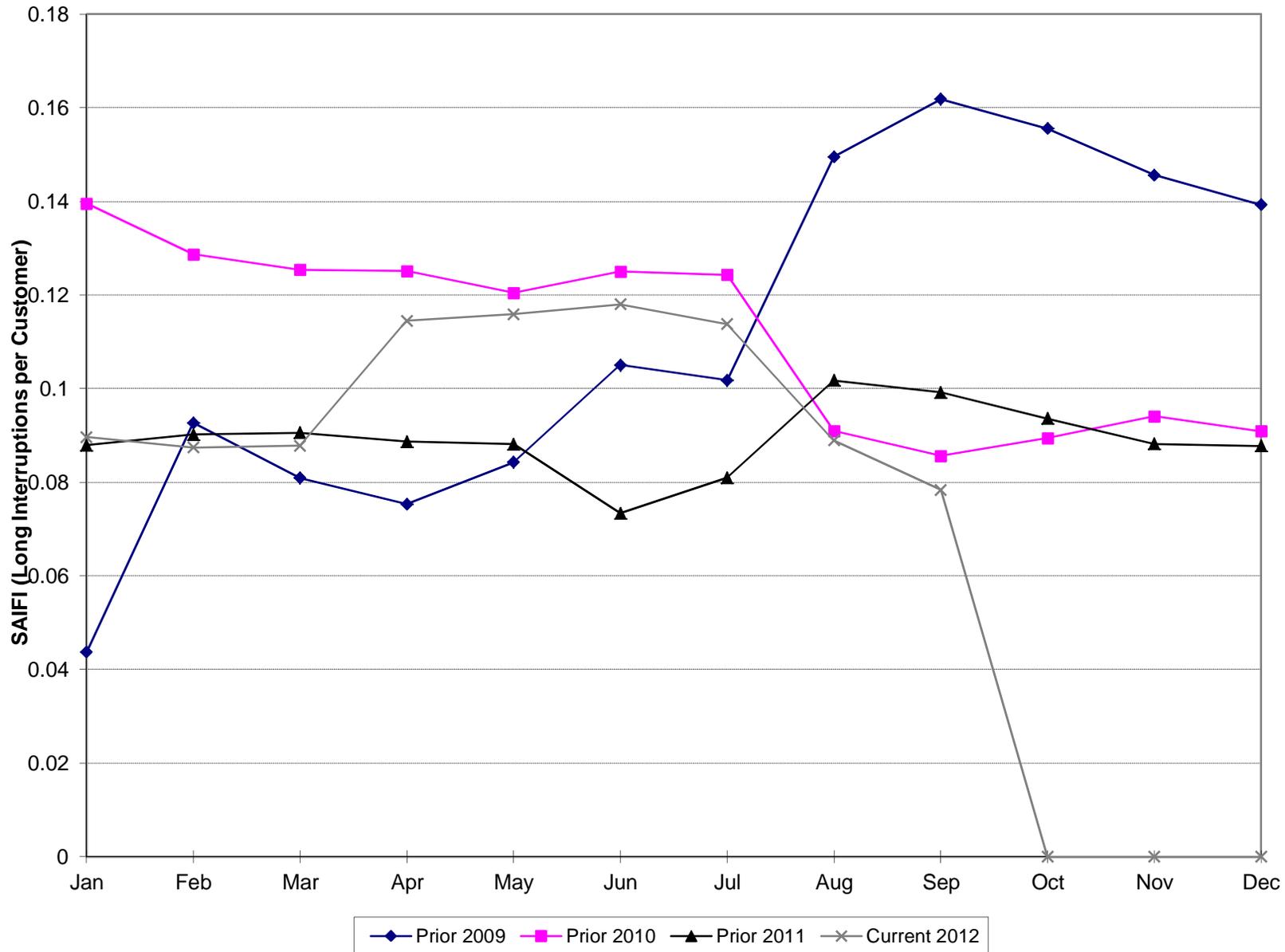
10/10/2012



This is the average duration of a customer outage, and is calculated by dividing the sum of the customer minutes off by the number of customers who experienced long interruptions.



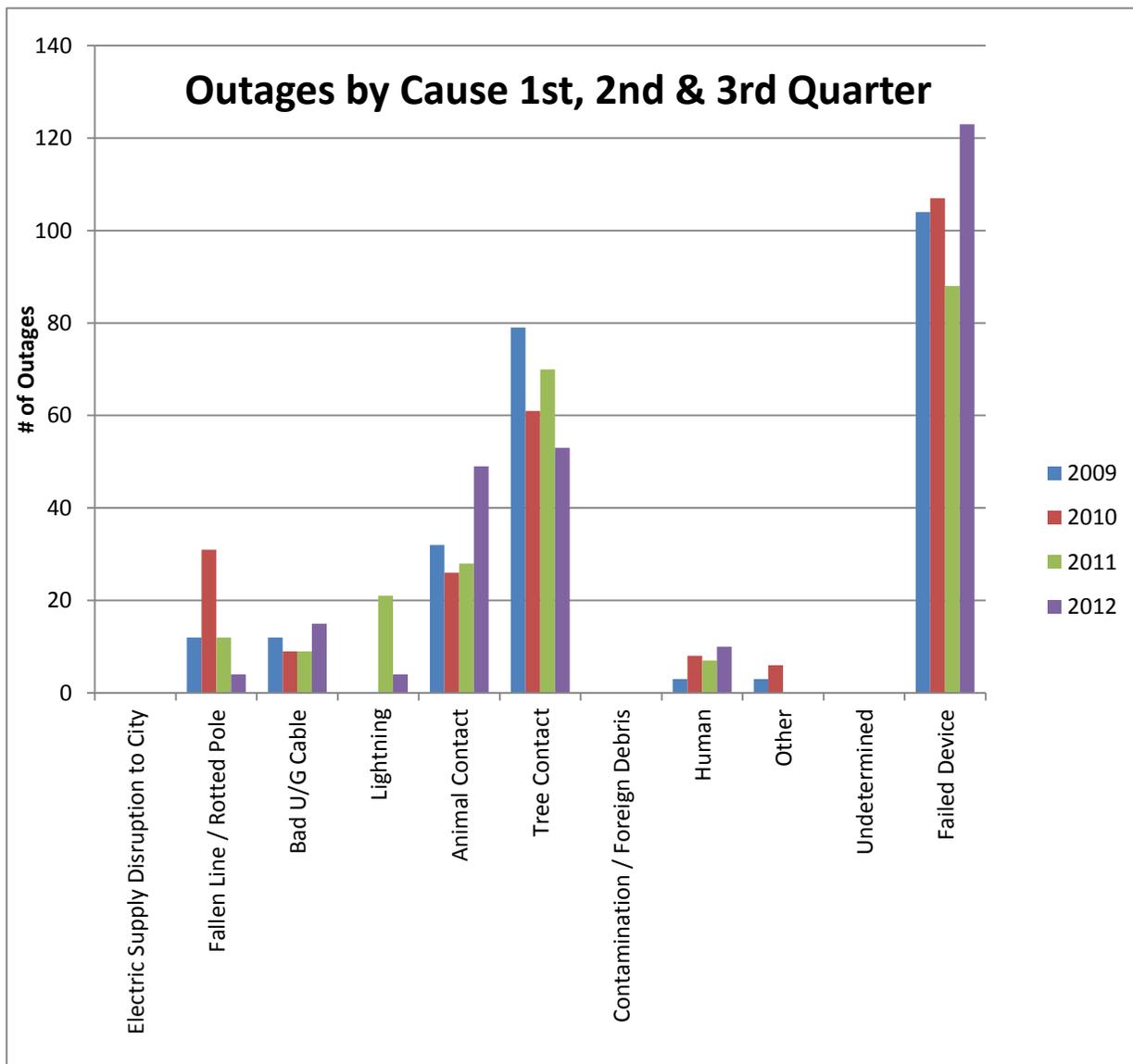
This is the avg interruption duration for all customers served, and is calculated by dividing the sum of the customer minutes off by the avg number of customers served.



The number of times a customer is interrupted (>1 minute), averaged over all customers. Divide total customer interruptions by an avg of total customers served.

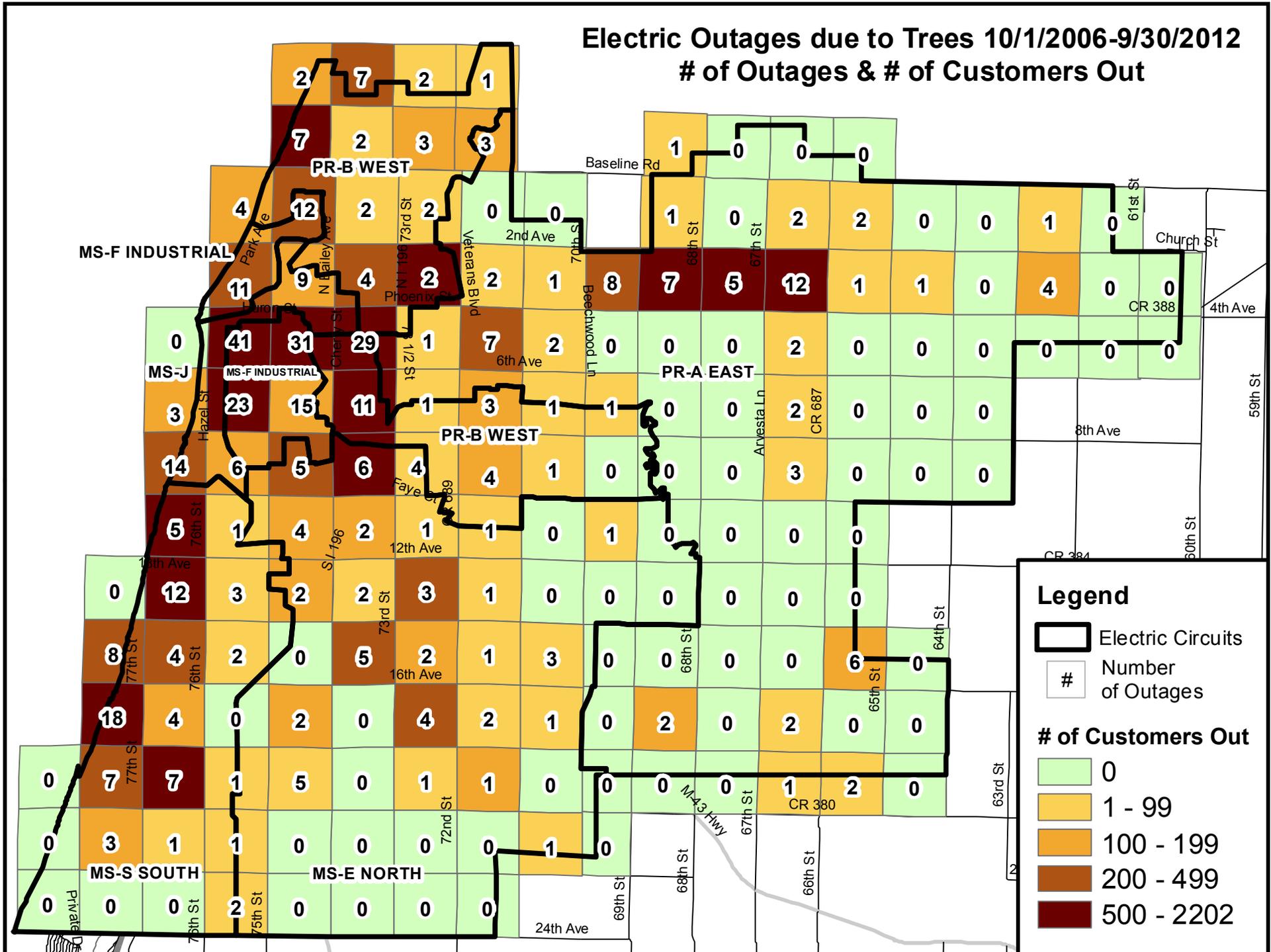
1st, 2nd & 3rd Quarter Electrical Outages by Category

Outage Categories	2009	2010	2011	2012
Electric Supply Disruption to City	0	0	0	0
Fallen Line / Rotted Pole	12	31	12	4
Bad U/G Cable	12	9	9	15
Lightning	0	0	21	4
Animal Contact	32	26	28	49
Tree Contact	79	61	70	53
Contamination / Foreign Debris	0	0	0	0
Human	3	8	7	10
Other	3	6	0	0
Undetermined	0	0	0	0
Failed Device	104	107	88	123
Total	245	248	235	258



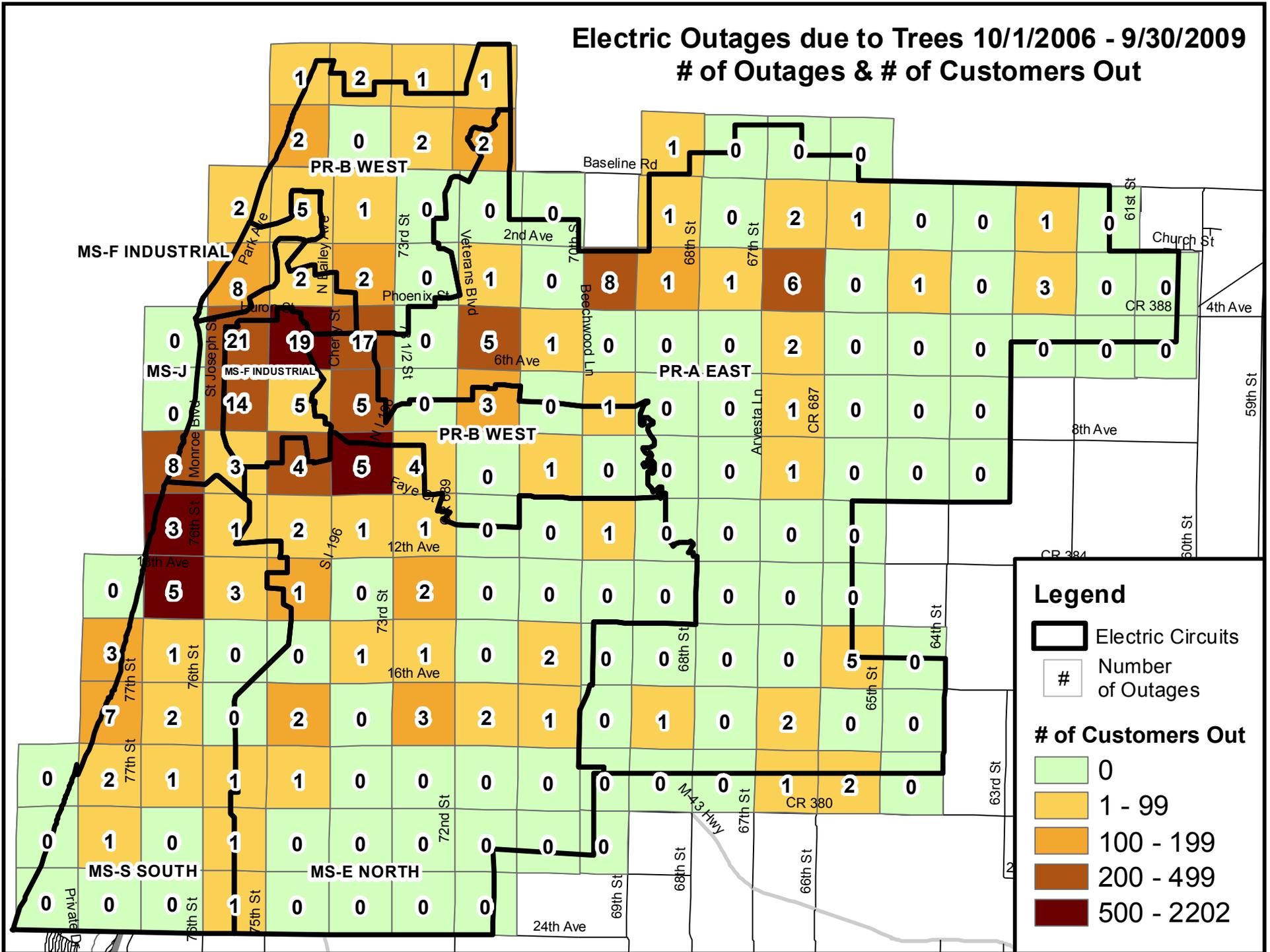
Electric Outages due to Trees 10/1/2006-9/30/2012

of Outages & # of Customers Out



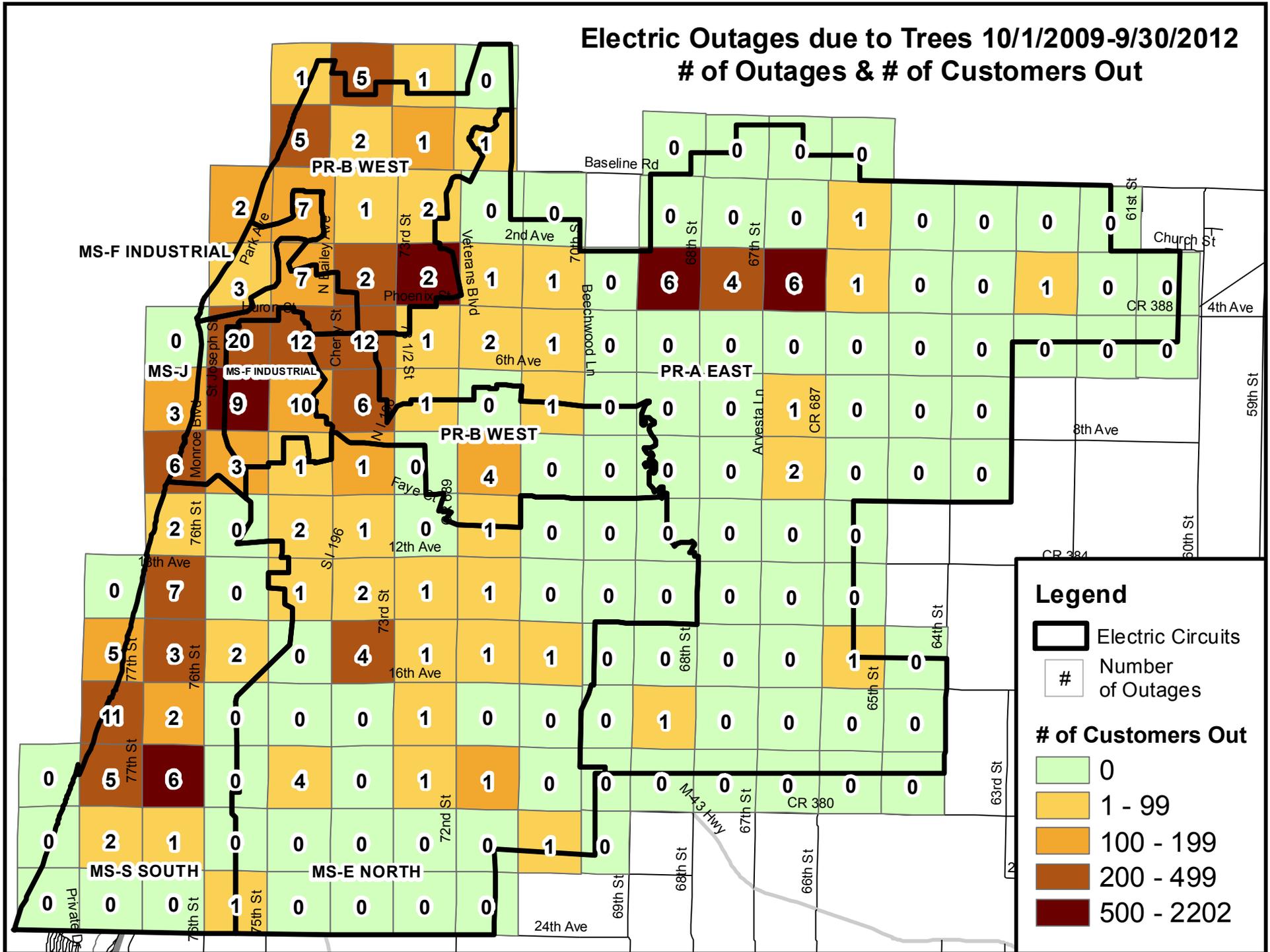
Electric Outages due to Trees 10/1/2006 - 9/30/2009

of Outages & # of Customers Out



Electric Outages due to Trees 10/1/2009-9/30/2012

of Outages & # of Customers Out



Legend

-  Electric Circuits
-  Number of Outages

of Customers Out

-  0
-  1 - 99
-  100 - 199
-  200 - 499
-  500 - 2202



City of South Haven

Agenda Item # 11

Electric System Study and 5-Year Plan

Background Information:

In 2008, Power System Engineering, Inc. (PSE) presented a 10-Year Plan to develop South Haven's Electric Distribution System. In 2009, PSE reviewed and updated the Plan. In 2012, the final planned project from the Plan was constructed. Currently, a new study is needed to maintain system capacity, improve reliability, and logically plan upgrades and improvements. A 5-year planning period will provide for more near-term system needs and development, while providing adequate time for future capital improvement budgeting.

The City of South Haven, Department of Public Works staff recommends that GRP Engineering Inc. be chosen to provide professional engineering services to complete an Electric System Study and 5-Year Plan. This recommendation is based on the following:

- Their extensive knowledge of our system will provide a thorough study, while greatly reducing the time and cost. They already maintain records of much of our system.
- They have demonstrated an outstanding record of achievements involving projects with the City of South Haven.
- There are few providers of these specialized services. They will provide these services from western Michigan.
- In-house electrical engineering staff does not have the time to perform this type of engineering service.

The attached proposal from GRP Engineering, Inc. fully details the scope of services and deliverables. Generally, the scope of this electric system study is to review the distribution system up to the transformer level for equipment and conductor capacity issues, plus voltage issues under several system scenarios for both current system loads and projected 5 and 10 year load growth. The study will be completed through the use of an electric system model. The results of the system analysis will be utilized to prepare a 5-year capital project plan. The plan will include drawings depicting system capacity issues, recommendations and cost estimates for system improvement projects, and recommend for changes in the overcurrent device protection philosophy.

GRP Engineering, Inc. proposes to complete the Electric System Study & 5-Year Plan engineering services for a lump sum fee of \$42,000.

Funds are included in the Fiscal Year 2012-13 Adopted Budget for this project.

Recommendation:

Approve a recommendation to City Council to approve a consulting contract with GRP Engineering, Inc. for engineering services to complete an Electric System Study and 5-Year Plan.

Support Material:

GRP Engineering Services Proposal

Respectfully submitted,

Roger Huff, P.E.
Director

October 23, 2012
06-0157.01

Mr. Bill Conklin
City of South Haven
1199 8th Ave.
South Haven, MI 49090

**RE: Engineering Services Proposal
Electric System Study & 5-Year Plan**

Dear Mr. Conklin:

GRP Engineering, Inc. is pleased to present this proposal to the City of South Haven for engineering services to complete an Electric System Study & 5-Year Plan. The study is being completed to insure system capacity is maintained, reliability is improved, and upgrades are completed in a logical fashion.

The scope of this electric system study is to review the distribution system up to the transformer level for equipment and conductor capacity issues, plus voltage issues under several system scenarios for both current system loads and projected 5 and 10 year load growth. The study will be completed through the use of the electric system model in Milsoft's WindMil Engineering Analysis Software. WindMil will be utilized to perform system load flow analysis under normal and 1st contingency conditions, including equipment and conductor loading, capacitor placement, and circuit load balancing. Additionally, the study will include a review of the system overcurrent protection philosophy, review of customer outage reports, and visual review of existing system construction through the secondary level will be included in this study.

Since the model only includes the substations and primary (15kV) electrical system, loading on secondaries and services will not be analyzed. Future creation of a detailed model (up to and including customer meters), plus the incorporation of AMR data will allow for a more comprehensive review including individual transformer loading, plus secondary and service analysis. Loads from all primary metered customers, plus spot load measurements will be incorporated into the model to provide better distribution of primary system circuit load in the model.

The results of the system analysis will be utilized to prepare a 5-year capital project plan. The plan will include drawings depicting system capacity issues, recommendations and cost estimates for system improvement projects, and recommend for changes in the overcurrent device protection philosophy.

Scope of Services

The scope of services for the Electric System Study & 5-Year Plan includes the following:

- Conduct study review meeting with City of South Haven staff.
- Interview electrical department staff to document recent history of electrical distribution system operational issues, outages, and potential growth areas.
- Retrieval of system circuit loads.
- Determine critical spot load measurement locations (loads to be measured by South Haven.)
- Establish City of South Haven electric system operating philosophy including maximum conductor and equipment loading limits and voltage limits. Conductor thermal loading limits will be the basis for continuous and emergency conductor ampacity ratings.
- Analyze and review distribution system for capacity issues and voltage issues. Analysis will include conductor and equipment loading levels, voltage drop, capacitor placement, and load balancing.
- Perform load growth scenario for 5 & 10 years based on allocation of historical load data. Complete voltage drop and capacity analysis for each load growth case for several system scenarios including loss of a major circuit and loss of a substation transformer
- System analysis will include circuit review utilizing all major circuit ties.
- Review customer outage reports and field assess system in areas with high outage rates.
- Field review system construction through the secondary level. Review will not be exhaustive, but will be extensive enough to provide analysis of the general condition of the system.
- Review of the system over-current protection philosophy.
- Recommendation of system changes in protective device coordination.
- Preparation of drawings depicting conductor loading conditions under each load case and recommended conductor changes.
- Prepare construction cost estimates for recommended projects.
- Present preliminary electric system report including 5-year capital project plan, drawings, and proposed conductor and equipment changes to City of South Haven staff. Revise report as required by the City of South Haven.
- Conduct final presentation and review meeting with the City of South Haven.

Deliverables

Deliverables at the end of the study include the following:

- WindMil system model including 2012 loads.
- Report outlining system analysis and recommended upgrades over the next five years.
- Cost estimates for recommended projects.
- Drawings illustrating system capacities for various configurations at current and projected 5 year load growth.
- Drawings depicting locations of recommended projects to complete in the 5-year plan.

GRP Engineering, Inc. proposes to complete the Electric System Study & 5-Year Plan engineering services for a lump sum fee of \$42,000. All services performed for the City of South Haven within this scope will be billed on a monthly basis. Should additional services be required outside the scope of this proposal, we will complete those tasks on an hourly basis based on the attached rate sheet.

Should additional services be required outside the scope of this proposal, we will complete those tasks on an hourly basis based on the attached rate sheet.

We appreciate the opportunity to submit this proposal and look forward to being of service to you. Please contact me should you have any questions.

Sincerely,

GRP Engineering, Inc.



Michael P. McGeehan, P.E.
President

Enclosures

cc: City of South Haven
Mr. Roger Huff

GRP ENGINEERING, INC.
HOURLY BILLING RATES

Employee Title	Engineer Level	Hourly Rate Range
Senior Project Manager	5	\$120 - \$140
Project Manager	4	\$105 - \$120
Senior Engineer	3	\$85 - \$105
Engineer	2	\$70 - \$85
Entry Level Engineer	1	\$50 - \$70
Engineering Technician		\$39 - \$50
Engineering Support		\$25 - \$35
Administrative Support		\$25 - \$50

Expenses will be invoiced at cost including, but not limited to mileage, meals, lodging, printing and reproduction.

All subcontracted services will be invoiced at cost, with no additional markup.

Rates are valid through December 31, 2012.



City of South Haven

Dept. of Public Works

DPW Building • 1199 8th Ave. • South Haven, Michigan 49090
Telephone (269) 637-0737 • Fax (269) 637-4778

MEMORANDUM

To: Wendy Hochstedler, Finance Director

Cc: Roger Huff, PE, DPW Director
Brian Dissette, City Manager

From: Larry Halberstadt, PE, City Engineer

Date: October 8, 2012

RE: Energy Optimization Surcharges

Background Information

On October 6, 2008, the Clean, Renewable, and Efficient Energy Act, Public Act 295 of 2008 became effective. This act requires providers of electric service to establish renewable energy and energy optimization programs. PA 295 requires energy optimization programs to continue through the end of the 2015 calendar year. The Michigan Public Service Commission will review the success of the energy optimization programs at that time and determine if programs will continue past 2015.

Beginning in 2012, the City elected to participate in the state administered plan for delivery of energy optimization services. Services are provided to City electric customers by Efficiency United, the contractor hired by the Michigan Public Service Commission. Section 91 of PA 295 requires that the City make payments to Efficiency United that equal 2.0% of retail sales revenues for the 2 years preceding.

It is estimated that the following payments will be made to Efficiency United in the 2013-2015 calendar years:

Program Year	% Spending	Sales Year	Total Spending (\$)
2013	2.00	2011	263,001
2014	2.00	2012	264,316
2015	2.00	2013	265,637
Total 2013-2015			792,953

PA 295 permits electric providers to recover the amount of the alternative compliance payment through a rate surcharge. The City has been collecting an Energy Optimization Surcharge since January of 2010. This surcharge is set to expire at the end of December, 2012. It is recommended that the Board of Public Utilities and City Council be asked to adopt new surcharge rates to cover the 2013-2015 program years.

Memorandum

October 8, 2012

Energy Optimization Surcharges

Page 2 of 2

A levelized rate structure should be adopted so that rates do not need to be changed during the period of 2013-2015. PA 295 requires that separate programs are offered to Residential and Business Customers. As a result, the commodity surcharge for Residential and Commercial/Industrial customer classes is slightly different.

It is recommended that electric rates be adjusted to cover the cost of the energy optimization program in accordance with the following schedule:

- (1) *Residential customers.* Energy Optimization Surcharge: \$0.001612 per kWh
- (2) *Commercial customers.* Energy Optimization Surcharge: \$0.002126 per kWh
- (3) *Commercial power customers.* Energy Optimization Surcharge: \$0.002126 per kWh
- (4) *Industrial and municipal customers.* Energy Optimization Surcharge: \$0.002126 per kWh

The rates should appear as a separate line item on each electric customer bill labeled "Energy Optimization Surcharge". This surcharge should be set to expire on December 31, 2015.

The attached spreadsheet shows the average cost of the Energy Optimization Surcharge per customer per month. Residential customers of the City utilize approximately 589 kWh of electricity of month and would pay a surcharge of \$0.95 each month.

Recommendation:

Present the proposed rate adjustment to the Board of Public Utilities at their October 29, 2012 regular meeting for recommendation to City Council.

Upon approval by the Board of Public Utilities, introduce an Ordinance to Amend Rates for the City of South Haven Utilities at the regularly scheduled Council meeting on November 19, 2012.

Hold a public hearing and consider Ordinance Adoption at the regularly scheduled Council meeting on December 3, 2012.

Support Material:

- Proposed Levelized Surcharge Calculation Spreadsheet
- Average Cost per Customer Calculation Spreadsheet
- Percent Increase in Commodity Charge Spreadsheet
- Proposed Ordinance to Amend Rates

**City of South Haven Energy Optimization Plan
Proposed Levelized Surcharges**

	Avg # Cust 2011	Useage (kWh) 2011	% Total Program Cost	Program Cost			2013-2015 Total Cost	2013-2015 kWh Used	Levelized Cost per kWh
				2013	2014	2015			
Residential	6,858	48,451,796	30.00%	\$78,900	\$79,295	\$79,691	\$237,886	147,547,862	\$0.001612
Commercial & Industrial	1,196	85,728,106	70.00%	\$184,101	\$185,021	\$185,946	\$555,068	261,063,568	\$0.002126
TOTALS	8,054	134,179,902	100.00%	\$263,001	\$264,316	\$265,637	\$792,954		

CITY OF SOUTH HAVEN
Energy Optimization Surcharges
Average Cost per Customer Calculation

Customer Class	Average Number of Customers (2011)	Metered Sales (2011) (kWh)	Average Usage per Customer per Month (kWh)	Energy Optimization Surcharge	Average Cost of Energy Optimization Surcharge per Customer per Month
Residential	6,858	48,451,796	589	\$0.001612	\$0.95
Commercial	1,077	20,961,484	1,622	\$0.002126	\$3.45
Commercial Power	100	41,540,262	34,617	\$0.002126	\$73.60
Industrial Power	19	23,226,360	101,870	\$0.002126	\$216.58

	FY 2009-2010 Ord 971 & Ord 979			FY 2010-2011 Ord 982			FY 2011-2012 Ord 992			FY 2012-2013 Ord 996			Percent Increase in Commodity Charge
	Base Commodity Charge	EO Surcharge	Total	Base Commodity Charge	EO Surcharge	Total	Base Commodity Charge	EO Surcharge	Total	Base Commodity Charge	Proposed EO Surcharge	Total	
Residential	0.090000	0.000789	0.090789	0.100000	0.000789	0.100789	0.100000	0.000789	0.100789	0.100000	0.001612	0.101612	0.82%
Commercial	0.110000	0.001365	0.111365	0.115000	0.001365	0.116365	0.115000	0.001365	0.116365	0.115000	0.002126	0.117126	0.65%
Comm Power	0.053300	0.001365	0.054665	0.053300	0.001365	0.054665	0.056300	0.001365	0.057665	0.056300	0.002126	0.058426	1.32%
Industrial*	0.043800	0.001365	0.045165	0.046800	0.001365	0.048165	0.046800	0.001365	0.048165	0.046800	0.002126	0.048926	1.58%

* Industrial Rate Shown is for usage above 200 kWh

CITY OF SOUTH HAVEN
VAN BUREN AND ALLEGAN COUNTIES, MICHIGAN
ORDINANCE NO. 12 - __

AN ORDINANCE TO AMEND RATES FOR THE
CITY OF SOUTH HAVEN UTILITIES

THE City of South Haven Ordains:

SECTION 1

That Section 86-36 regarding electric rates of the Code of Ordinances for the City of South Haven is hereby amended to read as follows:

Sec. 86-36. Electric rate structure.

The following are the electrical charges and rates for electrical service customers:

- (1) *Residential customers.* Basic electric charge: \$5.50/month; power usage rate: \$0.100/kWH; energy optimization surcharge \$0.001612/kWH.
- (2) *Commercial customers.* Basic electric charge: \$6.80/month; power usage rate: \$0.115/kWH; energy optimization surcharge \$0.002126/kWH.
- (3) *Commercial power customers.* Power usage rate: .0563/kWH; demand charge: \$11.95/kw; minimum demand: 15 kw/month; energy optimization surcharge \$0.002126/kWH.
- (4) *Industrial and municipal customers.* First 200 kWH, each .0533/kWH; excess kWH each, .0468/kWH; demand charge: \$11.95/kw; minimum demand: 15 kw/month; primary metered customers: rebate of two percent of kWH usage; energy optimization surcharge \$0.002126/kWH.
- (5) *Unmetered Security/Street Lighting.* 150 Watt Lights - \$9.00/Month. 250 Watt Lights - \$15.00/Month.

The Energy Optimization Surcharge shall terminate on December 31, 2015.

SECTION 2

That subsections 86-71 and 86-72 regarding water rates of the Code of Ordinances for the City of South Haven are hereby amended to read as follows:

Section 86-71. Standby charge.

The water standby service fee is based on the size of the water meter used or installed, is the minimum charge, is payable in advance, and is additional to the charge for water use. Such charge is to include the cost of debt service, capital replacement funding, capital improvement and the readiness to serve costs. Such charge is made whether or not the water meter is turned off. Such charges shall be as follows:

	Meter Size (Inches)	Plant Debt Service	City Capital Improvement	Capital Replacement	Ready to Serve	Total
(1)	5/8" meter	\$16.60	\$ 3.51	\$ 1.67	\$ 5.88	\$ 27.66
(2)	3/4" meter	\$20.79	\$ 4.41	\$ 2.10	\$ 7.36	\$ 34.66
(3)	1" meter	\$24.96	\$ 5.28	\$ 2.52	\$ 8.82	\$ 41.58
(4)	1 1/4" meter	\$35.70	\$ 7.55	\$ 3.57	\$12.62	\$ 59.44
(5)	1 1/2" meter	\$46.48	\$ 9.83	\$ 4.67	\$16.42	\$ 77.39
(6)	2" meter	\$66.40	\$14.06	\$ 6.66	\$23.47	\$110.59
(7)	3" meter	\$116.40	\$24.59	\$11.67	\$41.08	\$193.53
(8)	4" meter	\$174.36	\$36.90	\$17.54	\$61.62	\$290.42
(9)	6" meter	\$273.94	\$57.96	\$27.54	\$96.82	\$456.26
(10)	8" meter	\$430.55	\$91.20	\$43.23	\$152.20	\$717.17

Section 86-72. Water usage rate.

In addition to the standby charge for water, a usage charge is levied which is based solely on the amount of water which is registered on the water meter each billing period. This rate shall be as follows:

- | | | |
|-----|-------------------------------------------|-----------------------------|
| (1) | 1st 2,500 cubic feet: | \$2.1300 per 100 cubic feet |
| (2) | Over 2,500 but not over 25,000 cubic feet | \$1.9300 per 100 cubic feet |
| (3) | Over 25,000 cubic feet | \$1.8700 per 100 cubic feet |

SECTION 3

That Sections 86-171 and 86-172 regarding sewer rates of the Code of Ordinances for the City of South Haven are hereby amended to read as follows:

Section 86-171. Sewer standby service fees.

The sewer standby service fee is based on the size of the water meter used or installed, is the minimum charge, is payable in advance, and is additional to the charge for sewer use. Such charge is to include the cost of debt service, capital replacement funding, capital improvement and the readiness to serve costs. Such charge is made whether or not the sewer is in use.

	Meter Size (Inches)	Debt Service	Capital Replacement	City Capital Improvement	Ready to Serve	Total
(1)	5/8" meter	\$ 4.80	\$ 1.68	\$5.13	\$ 7.03	\$ 18.64
(2)	3/4" meter	\$ 6.00	\$ 2.11	\$6.43	\$ 8.79	\$ 23.33
(3)	1" meter	\$ 7.20	\$ 2.53	\$7.71	\$10.57	\$ 28.01
(4)	1 1/4" meter	\$10.32	\$ 3.61	\$14.39	\$15.13	\$ 43.45
(5)	1 1/2" meter	\$13.44	\$ 4.70	\$20.56	\$19.74	\$ 58.44
(6)	2" meter	\$19.20	\$ 6.72	\$28.19	\$28.14	\$ 82.25
(7)	3" meter	\$33.60	\$11.77	\$35.99	\$49.24	\$130.60
(8)	4" meter	\$50.40	\$17.66	\$53.99	\$73.88	\$195.93
(9)	6" meter	\$79.20	\$27.74	\$84.83	\$116.09	\$307.86

Section 86-172. Sewer usage rate.

- (a) In addition to the standby service charge for sewer, a usage charge is levied which is based solely on the amount of water which is registered on the water meter each billing period. This rate is \$2.5300 per 100 cubic feet of water metered.
- (b) The sewer usage volume charge for single-family and duplex residential structures for utility bills dated June 1 through September 30 will be based on the average monthly water use billed for the five month period from the November water meter readings through the April water meter readings with a minimum volume charge of 1000 cubic feet per month. If a month's metered water use is less than the above referenced sewer usage volume calculation, that month's sewer usage volume charge will be based on the metered water use. For new connections with no history of usage, the minimum billing will apply.

SECTION 4.

If any portion of this ordinance is for any reason held invalid, such decision shall not affect the validity of the remaining provisions of this ordinance.

SECTION 5.

This ordinance shall be in full force and effect from and after its passage and publication as provided by law.

SECTION 6.

The effective date of this ordinance shall not be earlier than ten (10) days after enactment and not before publication in the South Haven Tribune.

Introduced by the City Council of the CITY OF SOUTH HAVEN, MICHIGAN on this _____ day of _____,2012.

Adopted by the City Council of the CITY OF SOUTH HAVEN, MICHIGAN on this _____ day of _____,2012.

Robert Burr, Mayor

Amanda Morgan, City Clerk