

AGENDA
NORTH SHORE WATER COMMISSION

400 West Bender Road
Glendale, WI 53217
Thursday, January 13, 2011
7:30 A.M.

1. Call to order by the Chairman.
2. Pursuant to section 19.85(1)(c) Wisconsin Statutes, this Commission reserves the right to convene in closed session to deliberate and discuss the terms of its labor agreement with the Local 1486, and the Commission reserves the right to review the performance of the Plant Manager. The Commission will reconvene into open session to conduct business regarding this item and remaining items on the agenda.
3. Approval of the minutes of the meeting held Wednesday, December 1, 2010.
4. Monthly report of plant operations for November and December.
5. Discussion of annual operating budget.
6. Approval of monthly bills.
7. Report by Strand Associates regarding 2010 – 2011 capital improvement projects.
8. Discussion and approval to pay Strand Associates for engineering services rendered under Task Order Numbers: 10-04, 10-05, and 10-06.
9. Discussion and approval of the 2011 Control System Support and Preventative Maintenance Agreement with Starnet Technologies, Inc.
10. Discussion of Shorewood's proposal for becoming a member of the North Shore Water Commission and possible action to respond to the request.
11. Discussion of chromium and possible action regarding monitoring and reporting.
12. Discussion of the current state of the water treatment plant, operating goals, facility maintenance/replacement goals, and possible solutions for achieving those goals.
13. Manager's report for December 2010.
14. Date and time of February 2011 Commission Meeting.
15. Adjournment.

**NORTH SHORE WATER COMMISSION
MEETING OF December 1, 2010**

A meeting of the North Shore Water Commission was held at the Filtration Plant, 400 West Bender Road, Glendale, Wisconsin on Wednesday, December 1, 2010.

Meeting was called to order at 7:30 A.M.

Present: Daniel Naze, Chairman; Michael West, Secretary; Richard Maslowski, Member

Also present: Eric Kiefer, Plant Manager & Recording Secretary; Jonathan Lee, Computer Administrator

Absent: Richard Foster, Alternate for Whitefish Bay; Susan Robertson, Alternate for Fox Point; Dave Eastman, Alternate for Glendale

MINUTES

It was moved by Mr. Maslowski, seconded by Mr. West, and unanimously carried that the minutes for the meetings held Wednesday, November 10, 2010 and Thursday, November 11, 2010 be approved as drafted.

PRELIMINARY MONTHLY REPORT OF PLANT OPERATIONS

Because the Commission meeting was scheduled for the first of the month, significant portions of data could not be presented. A preliminary report was presented to show some data from November 1 through November 28.

ANNUAL OPERATING BUDGET

The monthly budget reports were placed on file without motion.

MONTHLY BILLS

It was moved by Mr. West, seconded by Mr. Maslowski and unanimously carried that the following bills for the month of November, 2010 be approved and authorization was given to the Fiscal Agent to make such payments:

Advanced Integrated Security Systems (1-yr single button personal alarm monitoring)	540.00
Badger Meter (maintain and test mag meter)	634.03
Butters-Fetting (HVAC maintenance)	1,092.00
Cintas (uniform and janitorial supplies)	229.38
Diversified Benefit Services (section 125 plan administration)	90.88
Eric Kiefer (postage)	11.22
Grainger (storage rack, fuses, ballast, painting supplies, saw blades, and gauge)	706.34
Hach (lab supplies)	1,427.73
Hydrite (treatment chemical: aqua ammonia)	425.00
KA Steel (treatment chemical: sodium hypochlorite)	1,206.83

McMaster-Carr (hardware and plumbing supplies)	324.17
Modular Piping Supply (sodium hypochlorite tank plumbing materials)	2,262.36
Pristine Water Solutions (treatment chemicals: phosphates)	2,052.60
Rotroff Jeanson (monthly accounting service)	875.00
Village Ace Hardware (paint and hardware)	164.37
Village of Fox Point (fuel)	62.17
Waste Management (waste disposal)	347.85
Wilkens-Anderson (lab supplies)	213.87
William Reid (instrument maintenance supplies)	644.16
Wisconsin State Lab of Hygiene (proficiency testing and fluoride analysis)	533.00
	SUB-TOTAL
	\$13,842.96
<u>Maintenance Reserve</u>	
Emerson (SCADA Upgrade Project: controller cards)	3,870.90
Swan Analytical (chlorine analyzer approved at November Commission Meeting)	7,437.25
	SUB-TOTAL
	\$11,308.15
	TOTAL
	\$25,151.11

DISCUSSION AND APPROVAL TO AUTHORIZE PLANT MANAGER AND COMMISSION'S ACCOUNTING FIRM TO PAY UTILITY AND SERVICES INVOICES

The Plant Manager explained that because of the timing of the meeting, more invoices would arrive and would be due before the next Commission Meeting. To avoid late fees and penalties, the Plant Manager suggests the Commission authorizes Plant Manager and accounting firm to pay reoccurring service and utility invoices.

After discussion, it was moved by Mr. Maslowski, seconded by Mr. West, and unanimously carried that the Commission authorize the Plant Manager and the Commission's accounting firm to pay reoccurring expenses for utilities and services that arrive in the month of December and are due before the next regular Commission Meeting.

DISCUSSION AND APPROVAL OF FIRST PAYMENT TO STRAND ASSOCIATES FOR ENGINEERING SERVICES RENDERED UNDER TASK ORDER NUMBERS: 10-04, 10-05, AND 10-06

After discussion, it was moved by Mr. West, seconded by Mr. Maslowski, and unanimously carried that the Commission approve payment to Strand Associates in the amount of \$14,300.00. Funding to come from each community based on current capital allocation percentages.

DISCUSSION OF ENGINEERING STUDY PERTAINING TO THE POTENTIAL SALE OF WATER TO SHOREWOOD

The Plant Manager discussed changes to the engineering proposal that were made since it was originally presented by the Village of Shorewood at the November meeting. The changes meet the requirements of the Commission for funding half of

Phase I of the project. The Village of Shorewood accepted the proposal and the engineering firm, Ruekert Mielke, has started its efforts.

PLANT MANAGER'S MONTHLY REPORT

1. Plant staff is plumbing the new sodium hypochlorite tanks to existing system.
2. The shelving units and supplies that were stored in the chemical feed room have been relocated into the motor room and other storage cabinets. Prior to moving shelving units into motor room, they were repaired and painted.
3. Reservoir level monitoring equipment has been assembled into units—one unit for each of the four reservoirs. In addition, four reservoir hatches have been modified to accommodate the new units. Depth probes and ultrasonic sensors have been tested as well as the radios they are connected to. The units will not be installed permanently until a new SCADA device is installed as a part of the 2011 Capital Improvement Plan.
4. The SWAN chlorine analyzer has been installed in the lab to replace the old HACH analyzer.
5. Plant staff started annual cleaning and the fountain was taken down for the year.

NEXT MEETING DATE AND ADJOURMENT

The meeting adjourned at 7:47 A.M. The next scheduled regular meeting will be on Wednesday, January 12, 2010 at 7:30 A.M.



Eric Kiefer, Plant Manager & Recording Secretary

NORTH SHORE WATER COMMISSION
 Monthly Summary of Operations
 Month of November, 2010

	WFB.	GLE.	FPT.	MEQ	Totals
M.G. Metered at Plant	32.065	43.011	25.707	0.000	100.783
M.G. Reverse Flow	0.000	0.000	0.000	0.000	0.000
M.G. Metered in System	-0.901	6.788	-9.676	3.789	0.000
M.G. Charged to Members	31.164	49.799	16.031	0.000	96.994
M.G. Charged to All Users	31.164	49.799	16.031	3.789	100.783
M.G. Same Month Last Year (Members)	34.123	50.193	16.334	0.000	100.650
M.G. Same Month Last Year (All)	32.935	46.081	15.796	3.398	98.210
Accumulated M.G.	402.773	602.137	199.657	47.850	1252.417
Accumulated M.G. Last Year	422.052	612.469	212.118	51.649	1298.288
Accumulated % of Total Pumped	32.16%	48.08%	15.94%	3.82%	100.00%
Monthly % of Total Pumped	30.92%	49.41%	15.91%	3.76%	100.00%
Accumulated % Pumped of Members	33.44%	49.99%	16.58%		100.00%
Monthly % Pumped of Members	32.13%	51.34%	16.53%		100.00%
Average Daily Pumpage in M.G.	1.039	1.660	0.534	0.126	3.359

Maximum Day Pumpage	3.521 M.G.
Date	15 th
Maximum Hour Pumpage	7.908 M.G.D.
Date	26 th
Hour	0700
Average Station Pressure	83.0 P.S.I.
Avg. Total Cl Residual (Tap)	2.49 mg/L
Raw Water Temperature (F)	Avg. 45 Max. 48 Min. 43
Tap Hardness (mg/L)	Avg. 138 Max. 141 Min. 135
Raw Water MPN Index	4.2

Electrical Calculations:

This Month (Billed)

Bender On-Peak Consumption	44,623 @ \$0.06985 / kWh	\$3,117	19.8%
Bender Off-Peak Consumption	132,160 @ \$0.04974 / kWh	\$6,574	41.8%
Klode On-Peak Consumption	15,326 @ \$0.07686 / kWh	\$1,133	7.2%
Klode Off-Peak Consumption	27,354 @ \$0.05600 / kWh	\$1,532	9.7%
Other & Energy Credits		\$3,381	21.5%
Electrical Charge / kWh	\$0.07171		
Total Consumption / M.G.	2,178 kWh / M.G.		
\$ / M.G.	\$156.14		

Chemicals Applied	mg/L	\$/M.G.
Ammonium Hydroxide	0.573	\$6.28
Sodium Hypochlorite	2.980	\$12.61
Fluoride	1.529	\$18.35
Alum	7.707	\$15.36
Carbon (PAC)	0.000	\$0.00
Potassium Permanganate	0.000	\$0.00
Phosphates	2.522	\$11.29
Cationic Polymer	0.517	\$3.70
Total Chemical Cost		\$67.59

Water Metering	M.G.	% Diff.
Corrected High Service (Filters)	103.868	3.1
Total High Service	113.016	12.1
Communities	100.783	0.0

NORTH SHORE WATER COMMISSION
 Monthly Summary of Operations
 Month of December, 2010

	WFB.	GLE.	FPT.	MEQ	Totals
M.G. Metered at Plant	32.307	43.155	26.377	0.000	101.839
M.G. Reverse Flow	0.000	0.000	0.000	0.000	0.000
M.G. Metered in System	0.198	5.766	-9.767	3.803	0.000
M.G. Charged to Members	32.505	48.921	16.610	0.000	98.036
M.G. Charged to All Users	32.505	48.921	16.610	3.803	101.839
M.G. Same Month Last Year (Members)	33.806	48.753	16.362	0.000	98.921
M.G. Same Month Last Year (All)	33.806	48.753	16.362	3.583	102.504
Accumulated M.G.	435.278	651.058	216.267	51.653	1354.256
Accumulated M.G. Last Year	455.858	661.222	228.480	55.232	1400.792
Accumulated % of Total Pumped	32.14%	48.07%	15.97%	3.81%	100.00%
Monthly % of Total Pumped	31.92%	48.04%	16.31%	3.73%	100.00%
Accumulated % Pumped of Members	33.42%	49.98%	16.60%		100.00%
Monthly % Pumped of Members	33.16%	49.90%	16.94%		100.00%
Average Daily Pumpage in M.G.	1.049	1.578	0.536	0.123	3.285

Maximum Day Pumpage	3.903 M.G.
Date	13 th
Maximum Hour Pumpage	7.979 M.G.D.
Date	13 th
Hour	2200
Average Station Pressure	82.7 P.S.I.
Avg. Total Cl Residual (Tap)	2.54 mg/L
Raw Water Temperature (F)	Avg. 36 Max. 42 Min. 33
Tap Hardness (mg/L)	Avg. 137 Max. 145 Min. 132
Raw Water MPN Index	4.2

Electrical Calculations:

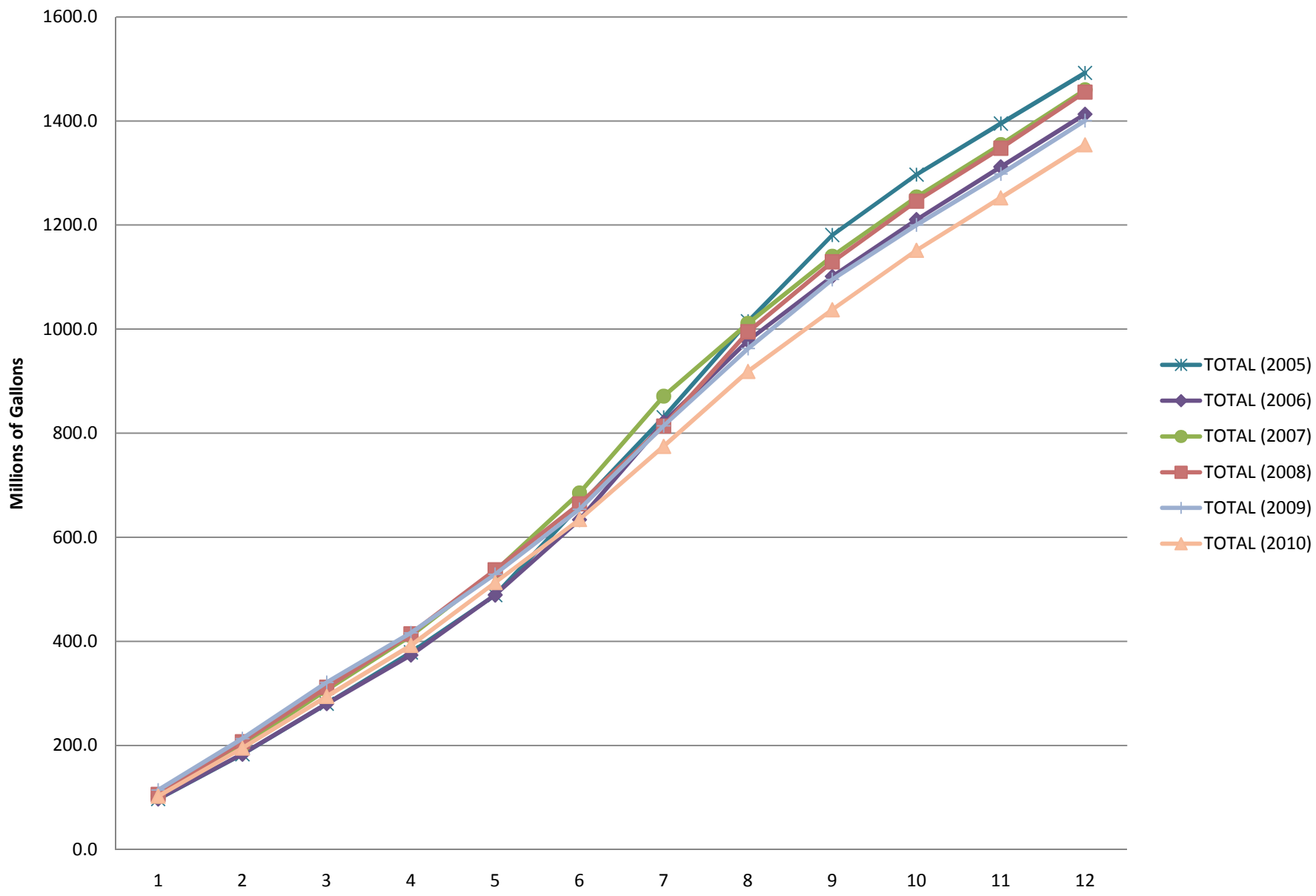
This Month (Billed)

Bender On-Peak Consumption	46,262 @ \$0.06985 / kWh	\$3,231	19.7%
Bender Off-Peak Consumption	124,790 @ \$0.04974 / kWh	\$6,207	37.9%
Klode On-Peak Consumption	16,878 @ \$0.07686 / kWh	\$1,133	6.9%
Klode Off-Peak Consumption	30,652 @ \$0.05600 / kWh	\$1,717	10.5%
Other & Energy Credits		\$3,426	20.9%
Electrical Charge / kWh	\$0.07280		
Total Consumption / M.G.	2,208 kWh / M.G.		
\$ / M.G.	\$160.73		

Chemicals Applied	mg/L	\$/M.G.
Ammonium Hydroxide	0.597	\$6.55
Sodium Hypochlorite	2.947	\$12.47
Fluoride	1.545	\$18.54
Alum	13.673	\$27.25
Carbon (PAC)	0.000	\$0.00
Potassium Permanganate	0.000	\$0.00
Phosphates	2.586	\$11.58
Cationic Polymer	0.544	\$3.90
Total Chemical Cost		\$80.29

Water Metering	M.G.	% Diff.
Corrected High Service (Filters)	103.917	2.0
Total High Service	119.073	16.9
Communities	101.839	0.0

NSWC Annual Pumpage (Jan 2005 - Dec 2010)



NORTH SHORE WATER COMMISSION
Income Statement
For the Eleven Months Ending November 30, 2010

Acct.	Revenues	Current Month Actual	Current Month Budget	Year to Date Actual	Year to Date Budget	Variance
43310	Whitefish Bay-Operations	\$ 38,895.93	\$ 38,895.93	\$ 427,855.23	\$ 427,855.23	0.00
43320	Fox Point-Operations	19,493.89	19,493.89	214,432.79	214,432.79	0.00
43330	Glendale-Operations	56,415.18	56,415.18	620,566.98	620,566.98	0.00
45100	Interest Income	0.00	0.00	0.00	0.00	0.00
45200	Insurance Policy Dividend	0.00	0.00	1,626.00	0.00	1,626.00
45300	Wholesale Water Sales	3,376.00	0.00	41,966.65	0.00	41,966.65
45400	Mequon Facilities Charges	0.00	0.00	500.00	0.00	500.00
45900	Misc Income	462.00	0.00	1,362.00	0.00	1,362.00
45910	Lab Services Income	930.00	0.00	10,965.00	0.00	10,965.00
49500	Transfer From Maint Reserve	0.00	0.00	0.00	0.00	0.00
49900	Uncategorized Income	0.00	0.00	0.00	0.00	0.00
	Total Revenues	119,573.00	114,805.00	1,319,274.65	1,262,855.00	56,419.65
Acct.	Wholesale Water Expenses					
53300	Wholesale Water Expense	0.00	0.00	0.00	0.00	0.00
	Total Wholesale Water Sales	0.00	0.00	0.00	0.00	0.00
Acct.	Source of Supply Expenses					
60100	Labor & Super. of Intake Cri	0.00	0.00	0.00	0.00	0.00
60200	Intake Supplies	0.00	0.00	0.00	0.00	0.00
60500	Maint. of Crib & Wet Well	0.00	750.00	5,230.00	8,250.00	(3,020.00)
60700	Standby Service - Milwaukee	0.00	291.67	2,700.00	3,208.33	(508.33)
	Total Source of Supply Expe	0.00	1,041.67	7,930.00	11,458.33	(3,528.33)
Acct.	Pumping Expenses					
62100	Labor & Super. Klode	8,928.45	9,750.00	111,673.79	107,250.00	4,423.79
62200	Electricity	15,736.62	20,666.67	184,954.02	227,333.33	(42,379.31)
62300	Normal Supplies, Klode	405.10	550.00	5,458.13	6,050.00	(591.87)
62400	Unusual Maint., Klode Pump	0.00	0.00	57.33	0.00	57.33
62510	Unusual Maint., Klode Suppl	0.00	166.67	831.76	1,833.33	(1,001.57)
62520	Unusual Maint., Klode Labor	0.00	166.67	1,196.33	1,833.33	(637.00)
62600	Electricity Demand	0.00	0.00	0.00	0.00	0.00
62700	Unusual Maint., Bender Pum	0.00	333.33	3,857.52	3,666.67	190.85
62750	Care of Grounds	16.50	291.67	2,521.76	3,208.33	(686.57)
	Total Pumping Expenses	25,086.67	31,925.01	310,550.64	351,174.99	(40,624.35)
Acct.	Purification Expenses					
63100	Labor & Super., Bender	18,526.45	19,650.00	210,717.62	216,150.00	(5,432.38)
63200	Normal Supplies, Bender	2,428.46	2,841.67	30,037.29	31,258.33	(1,221.04)
63300	Heating at Bender	1,797.69	2,833.33	15,714.95	31,166.67	(15,451.72)
63400	Disposal of Sludge	0.00	583.33	4,120.52	6,416.67	(2,296.15)
63510	Unusual Maint., Bender Supp	2,262.36	1,333.33	19,793.55	14,666.67	5,126.88
63520	Unusual Maint., Bender Labo	691.74	1,583.33	20,257.35	17,416.67	2,840.68
63600	Laboratory	3,430.50	2,083.33	23,462.06	22,916.67	545.39
63700	Instrumentation	644.16	1,958.33	21,660.72	21,541.67	119.05
63750	Care of Grounds	16.50	291.67	2,521.74	3,208.33	(686.59)
63800	Treatment Chemicals	4,109.43	11,083.33	70,314.04	121,916.67	(51,602.63)
	Total Purification Expenses	33,907.29	44,241.65	418,599.84	486,658.35	(68,058.51)
Acct.	Transmission Main Expenses					
64100	Labor & Super., Trans. Main	0.00	0.00	0.00	0.00	0.00
64200	Trans. Mains- Supplies	0.00	0.00	0.00	0.00	0.00
64300	Meter Reading Supplies	0.00	0.00	0.00	0.00	0.00
64500	Maint. of Reservoir & Clear	0.00	500.00	3,474.10	5,500.00	(2,025.90)
64600	Maint of Trans Mains	0.00	0.00	0.00	0.00	0.00

NORTH SHORE WATER COMMISSION
Income Statement
For the Eleven Months Ending November 30, 2010

Acct.		Current Month Actual	Current Month Budget	Year to Date Actual	Year to Date Budget	Variance
64700	Revenues Maint. of Meters	634.03	208.33	5,534.65	2,291.67	3,242.98
	Total Trans. Mains Expenses	634.03	708.33	9,008.75	7,791.67	1,217.08
Acct.	Administration & General Expenses					
92000	Office & Admin. Salaries	6,408.08	7,083.33	76,776.77	77,916.67	(1,139.90)
92100	Office Expenses	583.86	1,180.83	9,184.70	12,989.17	(3,804.47)
92200	Engineering Services	0.00	1,666.67	16,608.89	18,333.33	(1,724.44)
92300	Professional Services	5,501.25	3,761.67	36,149.01	41,378.33	(5,229.32)
92400	Prop & P.L. Insurance	3,113.59	4,500.00	12,846.79	49,500.00	(36,653.21)
92500	Injuries & Damages	0.00	0.00	0.00	0.00	0.00
92600	WI Retirement Fund	3,680.90	4,000.00	45,598.37	44,000.00	1,598.37
92620	Other Employee Benefits	9,861.65	9,541.67	106,568.70	104,958.33	1,610.37
92700	Bond, Fiscal Agent	0.00	0.00	0.00	0.00	0.00
92800	NSWC Expense	0.00	250.00	1,035.00	2,750.00	(1,715.00)
92900	Employee Training Expense	0.00	762.50	3,329.88	8,387.50	(5,057.62)
93000	Misc. General Expense	91.67	166.67	1,382.32	1,833.33	(451.01)
93100	Recording Secretary	0.00	108.33	540.00	1,191.67	(651.67)
93300	Transportation Expense	67.07	133.33	1,429.07	1,466.67	(37.60)
93500	Maint-Office Equipment	0.00	0.00	0.00	0.00	0.00
93600	General Outdoor Expense	0.00	483.33	3,208.75	5,316.67	(2,107.92)
93700	Maint. of 516 W Bender	0.00	0.00	0.00	0.00	0.00
93800	Loss on Investments	0.00	0.00	0.00	0.00	0.00
94000	FICA Taxes	2,173.05	2,833.33	28,300.67	31,166.67	(2,866.00)
94100	Relocation Expense	0.00	0.00	0.00	0.00	0.00
94500	Contingency Expense	0.00	416.67	0.00	4,583.33	(4,583.33)
	Total Adm. & General Expen	31,481.12	36,888.33	342,958.92	405,771.67	(62,812.75)
	Total Expenses	91,109.11	114,804.99	1,089,048.15	1,262,855.01	(173,806.86)
	Net Income	\$ 28,463.89	\$ 0.01	\$ 230,226.50	\$ (0.01)	230,226.51

NORTH SHORE WATER COMMISSION
Income Statement (2 Year Comp.)
For the Eleven Months Ending November 30, 2010

Acct.	Revenues	Current Month Actual	Current Month Last year	Year to Date Actual	Year to Date Last year	Variance
43310	Whitefish Bay-Operations	\$ 38,895.93	\$ 38,697.76	\$ 427,855.23	\$ 425,675.36	2,179.87
43320	Fox Point-Operations	19,493.89	24,882.76	214,432.79	273,710.36	(59,277.57)
43330	Glendale-Operations	56,415.18	49,011.15	620,566.98	539,122.65	81,444.33
45100	Interest Income	0.00	103.35	0.00	3,948.05	(3,948.05)
45200	Insurance Policy Dividend	0.00	0.00	1,626.00	4,330.00	(2,704.00)
45300	Wholesale Water Sales	3,376.00	2,803.36	41,966.65	42,506.18	(539.53)
45400	Mequon Facilities Charges	0.00	0.00	500.00	0.00	500.00
45900	Misc Income	462.00	0.00	1,362.00	4,290.10	(2,928.10)
45910	Lab Services Income	930.00	1,479.66	10,965.00	7,947.92	3,017.08
49500	Transfer From Maint Reserve	0.00	0.00	0.00	0.00	0.00
49900	Uncategorized Income	0.00	0.00	0.00	0.00	0.00
	Total Revenues	119,573.00	116,978.04	1,319,274.65	1,301,530.62	17,744.03
Acct.	Wholesale Water Expenses					
53300	Wholesale Water Expense	0.00	0.00	0.00	(120.13)	120.13
	Total Wholesale Water Sales	0.00	0.00	0.00	(120.13)	120.13
Acct.	Source of Supply Expenses					
60100	Labor & Super. of Intake Cri	0.00	0.00	0.00	0.00	0.00
60200	Intake Supplies	0.00	0.00	0.00	0.00	0.00
60500	Maint. of Crib & Wet Well	0.00	0.00	5,230.00	8,335.00	(3,105.00)
60700	Standby Service - Milwaukee	0.00	0.00	2,700.00	2,700.00	0.00
	Total Source of Supply Expe	0.00	0.00	7,930.00	11,035.00	(3,105.00)
Acct.	Pumping Expenses					
62100	Labor & Super. Klode	8,928.45	8,055.53	111,673.79	104,458.91	7,214.88
62200	Electricity	15,736.62	15,758.08	184,954.02	193,196.16	(8,242.14)
62300	Normal Supplies, Klode	405.10	547.78	5,458.13	6,969.99	(1,511.86)
62400	Unusual Maint., Klode Pump	0.00	0.00	57.33	324.00	(266.67)
62510	Unusual Maint., Klode Suppl	0.00	0.00	831.76	0.00	831.76
62520	Unusual Maint., Klode Labor	0.00	0.00	1,196.33	0.00	1,196.33
62600	Electricity Demand	0.00	0.00	0.00	0.00	0.00
62700	Unusual Maint., Bender Pum	0.00	0.00	3,857.52	0.00	3,857.52
62750	Care of Grounds	16.50	115.50	2,521.76	2,059.74	462.02
	Total Pumping Expenses	25,086.67	24,476.89	310,550.64	307,008.80	3,541.84
Acct.	Purification Expenses					
63100	Labor & Super., Bender	18,526.45	17,729.82	210,717.62	204,751.54	5,966.08
63200	Normal Supplies, Bender	2,428.46	5,669.74	30,037.29	35,528.76	(5,491.47)
63300	Heating at Bender	1,797.69	1,044.43	15,714.95	20,636.82	(4,921.87)
63400	Disposal of Sludge	0.00	0.00	4,120.52	3,446.03	674.49
63510	Unusual Maint., Bender Supp	2,262.36	0.00	19,793.55	16,132.30	3,661.25
63520	Unusual Maint., Bender Labo	691.74	310.00	20,257.35	12,498.73	7,758.62
63600	Laboratory	3,430.50	3,992.07	23,462.06	25,719.91	(2,257.85)
63700	Instrumentation	644.16	0.00	21,660.72	20,296.96	1,363.76
63750	Care of Grounds	16.50	115.50	2,521.74	1,904.38	617.36
63800	Treatment Chemicals	4,109.43	14,583.47	70,314.04	121,584.57	(51,270.53)
	Total Purification Expenses	33,907.29	43,445.03	418,599.84	462,500.00	(43,900.16)
Acct.	Transmission Main Expenses					
64100	Labor & Super., Trans. Main	0.00	0.00	0.00	0.00	0.00
64200	Trans. Mains- Supplies	0.00	0.00	0.00	0.00	0.00
64300	Meter Reading Supplies	0.00	0.00	0.00	0.00	0.00
64500	Maint. of Reservoir & Clear	0.00	0.00	3,474.10	6,683.60	(3,209.50)
64600	Maint of Trans Mains	0.00	0.00	0.00	0.00	0.00

NORTH SHORE WATER COMMISSION
Income Statement (2 Year Comp.)
For the Eleven Months Ending November 30, 2010

Acct.		Current Month Actual	Current Month Last year	Year to Date Actual	Year to Date Last year	Variance
64700	Revenues Maint. of Meters	634.03	0.00	5,534.65	0.00	5,534.65
	Total Trans. Mains Expenses	634.03	0.00	9,008.75	6,683.60	2,325.15
Acct.	Administration & General Expenses					
92000	Office & Admin. Salaries	6,408.08	6,178.69	76,776.77	72,653.28	4,123.49
92100	Office Expenses	583.86	530.32	9,184.70	11,797.00	(2,612.30)
92200	Engineering Services	0.00	0.00	16,608.89	14,570.40	2,038.49
92300	Professional Services	5,501.25	2,241.00	36,149.01	31,945.21	4,203.80
92400	Prop & P.L. Insurance	3,113.59	(700.00)	12,846.79	44,670.00	(31,823.21)
92500	Injuries & Damages	0.00	0.00	0.00	0.00	0.00
92600	WI Retirement Fund	3,680.90	3,324.26	45,598.37	40,350.46	5,247.91
92620	Other Employee Benefits	9,861.65	8,355.30	106,568.70	92,324.58	14,244.12
92700	Bond, Fiscal Agent	0.00	0.00	0.00	0.00	0.00
92800	NSWC Expense	0.00	0.00	1,035.00	125.85	909.15
92900	Employee Training Expense	0.00	0.00	3,329.88	6,408.40	(3,078.52)
93000	Misc. General Expense	91.67	0.00	1,382.32	955.53	426.79
93100	Recording Secretary	0.00	0.00	540.00	900.00	(360.00)
93300	Transportation Expense	67.07	155.53	1,429.07	1,093.37	335.70
93500	Maint-Office Equipment	0.00	0.00	0.00	0.00	0.00
93600	General Outdoor Expense	0.00	282.89	3,208.75	3,197.78	10.97
93700	Maint. of 516 W Bender	0.00	0.00	0.00	0.00	0.00
93800	Loss on Investments	0.00	0.00	0.00	0.00	0.00
94000	FICA Taxes	2,173.05	2,363.55	28,300.67	28,759.08	(458.41)
94100	Relocation Expense	0.00	0.00	0.00	0.00	0.00
94500	Contingency Expense	0.00	0.00	0.00	0.00	0.00
	Total Adm. & General Expen	31,481.12	22,731.54	342,958.92	349,750.94	(6,792.02)
	Total Expenses	91,109.11	90,653.46	1,089,048.15	1,136,858.21	(47,810.06)
	Net Income	\$ 28,463.89	\$ 26,324.58	\$ 230,226.50	\$ 164,672.41	65,554.09

NORTH SHORE WATER COMMISSION
 Operating Fund Balance Sheet
 November 30, 2010 and 2009

	<u>Current Year</u>	<u>Prior Year</u>
ASSETS		
Cash		
Petty Cash	\$ 50.00	50.00
Checking	194,397.94	63,586.50
Temporary Investments	25,258.62	25,964.73
	219,706.56	89,601.23
Total Cash	219,706.56	89,601.23
Accounts Receivable	8,481.79	7,529.40
Prepaid Expenses	38,235.04	11,032.50
Due to/from Storm Sewer Fund	149.84	0.00
Due to/from Maint Reserve Fund	127,513.22	174,566.90
	394,086.45	282,730.03
Total Assets	\$ 394,086.45	282,730.03
 LIABILITIES AND FUND BALANCE		
Liabilities		
Accounts Payable	\$ 39,204.87	49,790.35
Payable to Municipalities	1,477.71	0.00
Payroll Liabilities	5,304.66	0.00
Federal & FICA Taxes Payable	0.00	4,150.63
Wisconsin State Payable	0.00	923.50
Flexible Spending Accounts	6,186.33	3.54
Deferred Compensation Payable	250.00	0.00
Water Sales Payable	0.00	2,855.96
Deferred Revenue	38,895.93	0.00
	91,319.50	57,723.98
Total Liabilities	91,319.50	57,723.98
Fund Balances:		
Operating Fund: Beginning of Year		
Whitefish Bay - Oper Fund	16,285.05	12,759.17
Fox Point - Oper Fund	8,584.16	5,942.35
Glendale - Oper Fund	22,671.24	16,632.12
	47,540.45	35,333.64
Total Operating Fund	47,540.45	35,333.64
Emergency Fund: Beginning of Year		
Whitefish Bay Emergency	8,127.50	8,127.50
Fox Point Emergency	5,372.50	5,372.50
Glendale Emergency	11,500.00	11,500.00
	25,000.00	25,000.00
Total Emergency Fund	25,000.00	25,000.00
Current Year Revenues Over (Under) Expenses	230,226.50	164,672.41
Total Fund Balances	302,766.95	225,006.05
Total Liabilities & Fund Balance	\$ 394,086.45	282,730.03

NORTH SHORE WATER COMMISSION
Income Statement
For the Eleven Months Ending November 30, 2010

	Current Month This Year	Current Month Last Year	Year to Date This Year	Year to Date Last Year
Revenues				
Whitefish Bay-Maint Reserve	\$ 8,039.97	\$ 0.00	\$ 10,068.61	\$ 0.00
Fox Point-Maint Reserve	5,255.77	0.00	6,070.83	0.00
Glendale-Maint Reserve	9,587.16	0.00	11,326.69	0.00
Interest	102.76	0.00	829.93	0.00
Wholesale Water Sales	2,728.08	2,320.83	34,077.66	31,048.64
	<u>25,713.74</u>	<u>2,320.83</u>	<u>62,373.72</u>	<u>31,048.64</u>
Total Revenues				
Expenses				
Capital Outlays Maint Reserve	11,886.15	40,557.28	141,995.88	239,923.19
	<u>11,886.15</u>	<u>40,557.28</u>	<u>141,995.88</u>	<u>239,923.19</u>
Total Expenses				
	<u>13,827.59</u>	<u>(38,236.45)</u>	<u>(79,622.16)</u>	<u>(208,874.55)</u>
Net Income				

NORTH SHORE WATER COMMISSION
Storm Water Testing Income Statement
For the Eleven Months Ending November 30, 2010

	Current Month This Year	Year to Date This Year
Revenues		
Storm Water Analysis Revenue	\$ 0.00	\$ 330.00
	<u>0.00</u>	<u>330.00</u>
Total Revenues		
Expenses		
Storm Water Labor	0.00	221.08
Storm Water Testing Supplies	0.00	92.95
	<u>0.00</u>	<u>314.03</u>
Total Expenses		
	<u>0.00</u>	<u>15.97</u>
Net Income	\$ <u><u>0.00</u></u>	\$ <u><u>15.97</u></u>

American Red Croos (CPR, first aid, bloodborne pathogen training)	58
Buelow Vetter (legal services)	6,54
CDWG (replacement monitor)	14
Cintas (uniform and janitorial supplies)	58
Cintas Fire Protection (fire extinguisher inspection and service)	37
Diversified Benefit Services (section 125 plan administration)	9
Eric Kiefer (reimb: paper, paper cutting, meal, postage, sign, and printer ribbons)	18
FedEx Kinko's (copying and binding)	9
Fisher Scientific (lab supplies)	38
Fuchs & Boyle (legal services)	7
General Chemical (treatment chemicals: alum)	5,32
Glendale Water Utility (storm and environmental charges)	47
Grainger (filters, mats, gloves, tools, and tubing)	37
Great America (lease payment for office copier)	8
Hach Company (lab supplies)	8
Hawkins (treatment chemical: aqua ammonia)	16
Home Depot (shelving units and plywood)	36
Hydrite (treatment chemical: aqua ammonia)	24
Idexx (lab supplies)	3,53
KA Steel Chemicals (treatment chemical: sodium hypochlorite)	2,44
Nalco (treatment chemical: polymer)	71
Occupational Health Centers (respirator fit testing and services)	54
Paul Potvin (reimb: coursework for certification renewal)	22
Rotroff Jeanson (monthly accounting services)	87
Pristine Water Solutions (treatment chemicals: phosphate)	2,08
Superior Chemical (janitorial supplies)	8
Time Warner Cable (Klode phone)	3
Time Warner Cable (internet service)	76
Underwriters Laboratories (water sample testing)	7
UPS Store (shipping)	8
US Cellular (cellular phone service)	4
Village Ace Hardware (electrical supplies)	2
Village of Fox Point (fuel for truck)	6
Waste Management (garbage disposal)	36
We Energies (Bender electric)	12,06
We Energies (Henry Clay electric)	2
We Energies (Klode electric)	4,36
We Engeries (Bender gas)	3,34
We Energies (Klode gas)	7
Weimer Bearing (part for sludge pump)	23
Wilkens-Anderson (lab supplies and meter replacement)	1,17
Wisconsin state lab of hygiene (fluoride testing)	4

SUB-TOTAL \$49,1

Bills Paid Before Commission Meeting (authorization given at December Meeting)

AT&T (remaining phone bill at Klode park)	
Batteries Plus (battery replacement)	18
Fuchs & Boyle (legal service)	10
Great America (lease payment for office copier)	8
Office Copying Equipment (monthly maintenance agreement payment)	2
Time Warner Cable (Klode phone)	3
Time Warner Cable (internet service)	76
Underwriters Lab (monthly lab analysis)	7
US Cellular (cellular phone service)	2
We Energies (Bender electric)	12,08
We Energies (Klode electric)	3,62
We Energies (Bender gas)	1,78
We Energies (Klode gas)	
Wisconsin Department of Agr., Trade, and Cons. Protection (lab cert. renewal)	68
	<hr/>
	SUB-TOTAL \$19,5

Maintenance Reserve

Emerson (SCADA upgrade equipment)	4,68
	<hr/>
	SUB-TOTAL \$4,6

TOTAL \$73,3

12/31/2010 Checking account balance \$168,4

12/31/2010 Local Government Investment Pool \$565,90

North Shore Water Commission

Payment to Strand Associates

Task Order Numbers 10-04, 10-05, 10-06

January 13, 2011

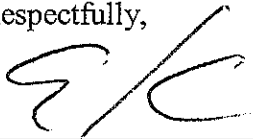
Invoices from Strand Associates for engineering services pertaining to Task Order Numbers 10-04, 10-05, and 10-06 has been reviewed and approved by the North Shore Water Commission. This includes invoices for work completed in November and December 2010.

The payment request is for \$21,862.00. The proportionate costs for the respective municipalities are as follows:

Whitefish Bay	35.44%	\$7,747.90
Fox Point	22.30%	\$4,875.22
Glendale	42.26%	\$9,238.88
		\$21,862.00

Please remember that the three municipalities must deposit these above amounts into the North Shore Water Commission Operating Account before payment can be made to Strand Associates. Your prompt attention to this matter is appreciated.

Respectfully,



Eric Kiefer



STRAND ASSOCIATES, INC.
910 West Wingra Drive
Madison, WI 53715
(608) 251-4843

Invoice

December 13, 2010
Project No: 3561.005
Invoice No: 0082905

Mr. Eric Kiefer
North Shore Water Commission
400 West Bender Road
Glendale WI 53217

Project: 3561.005 Bender WTP Fluoride Feed System Upgrade

Professional Services: November 1, 2010 through November 30, 2010

Total Earned	13,010.00
Previous Fee Billing	13,010.00
Current Fee Billing	0.00

Total this project \$0.00

Contract Amount 18,209.00

Total Billings to date 13,010.00

Project: 3561.006 Bender WTP Reservoir Monitoring System
Upgrade

Total Earned	7,010.00
Previous Fee Billing	4,660.00
Current Fee Billing	2,350.00

Total this project \$2,350.00

Contract Amount 15,553.00

Total Billings to date 7,010.00

Project: 3561.007 Klode Mussel Control System Upgrade

TERMS: Payment is due within 30 days of the date on this invoice.

		Total Earned	10,930.00
		Previous Fee Billing	5,320.00
		Current Fee Billing	5,610.00
		Total this project	\$5,610.00
Contract Amount	14,432.00		
Total Billings to date	10,930.00		
		Total this invoice	\$7,960.00

TERMS: Payment is due within 30 days of the date on this invoice.



STRAND ASSOCIATES, INC.
 910 West Wingra Drive
 Madison, WI 53715
 (608) 251-4843

Invoice

Mr. Eric Kiefer
 North Shore Water Commission
 400 West Bender Road
 Glendale WI 53217

January 13, 2011
 Project No: 3561.005
 Invoice No: 0083242

Project: 3561.005 Bender WTP Fluoride Feed System Upgrade

Professional Services: December 1, 2010 through December 31, 2010

Total Earned	17,970.00
Previous Fee Billing	13,010.00
Current Fee Billing	4,960.00

Total this project \$4,960.00

Contract Amount 18,209.00

Total Billings to date 17,970.00

Project: 3561.006 Bender WTP Reservoir Monitoring System
 Upgrade

Total Earned	12,450.00
Previous Fee Billing	7,010.00
Current Fee Billing	5,440.00

Total this project \$5,440.00

Outstanding Invoices

Number	Date	Balance
0082905	12/13/10	2,350.00
Total		2,350.00

Contract Amount 15,553.00

TERMS: Payment is due within 30 days of the date on this invoice.

Total Billings to date 12,450.00

Project: 3561.007 Klode Mussel Control System Upgrade

Total Earned 14,432.00
 Previous Fee Billing 10,930.00
 Current Fee Billing 3,502.00

Total this project \$3,502.00

Outstanding Invoices

Number	Date	Balance
0082905	12/13/10	5,610.00
Total		5,610.00

Contract Amount 14,432.00

Total Billings to date 14,432.00

Total this invoice \$13,902.00

TERMS: Payment is due within 30 days of the date on this invoice.



Suite 800
633 West Wisconsin Avenue
Milwaukee, WI 53203
Phone: 414-271-0771
Fax: 414-271-8312

January 11, 2011

Office Locations

Madison, WI
Joliet, IL
Louisville, KY
Lexington, KY
Mobile, AL
Columbus, IN
Columbus, OH
Indianapolis, IN
Milwaukee, WI
Cincinnati, OH
Phoenix, AZ

Mr. Eric Kiefer
North Shore Water Commission
400 West Bender Road
Glendale, WI 53217

Re: Facilities Improvements Projects—Progress Update

Dear Eric,

www.strand.com

Included in this letter is a brief summary of our progress to date on the Facility Improvements Projects for your report to the Commission.

As we near 100 percent design for all three improvement projects, our efforts, as of December 31, 2010, account for 93 percent of our total budget. Our earned value to date is higher than the anticipated 80 percent for the project.

In bringing the project to design completion, we noted two main issues during design that required additional effort:

1. Polymer Feed System Design—Initially, we discussed and received recommendations from the polymer chemical supplier, Nalco, on the proper storage and dosage system for the Klode Mussel Control System Upgrade project. Just after the 30 percent design point, we agreed on moving forward to design the recommended chemical storage and feed system. At the 90 percent design review, the recommendations were rescinded and a more basic chemical feed system was incorporated. The effort to redesign the polymer chemical feed system accounts for approximately 6 percent of the earned value presented above.
2. Structural Analyses—Upon observation of the facility at the 30 percent design point, additional structural effort was necessary to consider the filled-in sump and crack in the Bender WTP chemical room floor in the area of the planned fluoride feed system. A preliminary analysis was necessary to consider the impact of the fluoride system and the capacity of the room to support the existing and proposed chemical feed system modifications.

In addition, the condition of the Klode Park intake facility project was reviewed and analyzed in more detail to allow the Nalco-recommended polymer chemical feed system design.



Mr. Eric Kiefer
North Shore Water Commission
Page 2
January 11, 2011

The additional structural analyses accounted for approximately 7 percent of the earned value presented above.

The Bender WTP Reservoir Monitoring System project is within its anticipated earned value and continues to make progress as planned.

The following represents the anticipated current schedule for Facility Improvements Projects.

<u>Task</u>	<u>Anticipated Date of Completion</u>
Project Progress Meeting	January 13, 2011 (January Commission Meeting)
Final Plan Submittal to the Wisconsin Department of Natural Resources (WDNR)	January 17, 2011 (approx.)
WDNR Approval Period (up to 90 days)	April 7, 2011
Project Advertisement	April 21 and April 28, 2011
Prebid Conference	May 5, 2011
Bid Opening	May 12, 2011
Construction Award	June 8, 2011 (June Commission Meeting)
Construction	June 2011 to December 2011

We are working as efficiently as possible to finish these important improvement projects to stay on schedule and within our proposed budget. We look forward to continue working with the North Shore Water Commission.

Sincerely,

STRAND ASSOCIATES, INC.®

Virginia A. Wendt

Brian L. Hackman, P.E., BCEE



Control System Support and Preventative Maintenance Agreement North Shore Water Commission Water Production Facilities

The following is the scope of support and preventive maintenance to be performed by Starnet Technologies, Inc. for the North Shore Water Commission on their water production control system.

HARDWARE SUPPORT

Starnet Technologies will provide availability of 24-hour emergency on-site service for the control system. Parts that fail will be repaired or replaced as expeditiously as possible so as to minimize any down time. Our response time goal will be 4 hours. It is the customer's responsibility to stock spare parts for critical long lead-time items.

Labor provided by Starnet Technologies will be our standard rates minus 15%. Labor that would be at the 1.5 multiplier normally will be provided at 1.0 times our standard rates under this agreement. Labor that would be at the 2.0 multiplier normally will be provided at 1.5 times our standard rates under this agreement. See the attached rate schedule.

TELEPHONE SUPPORT

Up to (4) four hours per year of telephone support is included in this agreement.

PREVENTIVE MAINTENANCE

This agreement includes (8) eight 1-day (8 hour) trips per year for preventive maintenance of the control system hardware and software. These trips are intended to be on a non-emergency basis. Mileage for these trips is included.

These trips are intended for preventive maintenance and equipment calibration, but can also be used for upgrades, training, or other non-emergency support.

Starnet Technologies will maintain an off-site backup of the Commission’s software and configuration. During each preventive maintenance trip, Starnet Technologies will make a backup of Commission’s system software for off-site backup.

Software upgrades for the high service pump control touch screen are included at no charge.

Operation and Maintenance Improvements

Services provided for Operation and Maintenance projects will be performed on a time and materials basis. See Attachment A for a list of projects for 2011. Labor provided by Starnet Technologies will be at their standard rates. See attached rate schedule. This service will be scheduled by the Commission as needed and shall not exceed \$30,000.00.

Agreement price.....\$10,880.00

This agreement is for a term beginning on the date Starnet Technologies receives the Commission’s signed copy of this agreement as authorization, and ending on the same day of the following year. The agreement is automatically renewed for the next year by the parties at the stated amount plus CPI unless either party provides the other 30 days written notice to cancel the agreement or propose a change in the conditions.

NORTH SHORE WATER COMMISSION

STARNET TECHNOLOGIES, INC.

By: _____

By: _____

Date: _____

Date: _____

Attachment A

Overview

The Scope of Services for the North Shore Water Commission includes work scope items for operations and maintenance improvements. This work, as described below, includes ongoing and proposed future tasks.

Also under this General Services Agreement, Starnet Technologies will provide professional services for other tasks directed by the Commission.

Replacement of Network 3000 Series Equipment – Plant Wide

- Assist in wiring / installation of new equipment in time-sensitive installations
- Provide technical assistance in new chemical feed equipment installation
- Provide services for backup of Computer Administrator in case of emergency
- Drafting and engineering services



2011 Rate Schedule

Service Technician

Normal rate	\$130.00
Over-time rate	\$195.00
Double-time rate	\$260.00
Discount rate	\$110.50
Discount Double-time rate	\$165.75

Engineer 1

Normal rate	\$150.00
Over-time rate	\$225.00
Double-time rate	\$300.00
Discount rate	\$127.50
Discount Double-time rate	\$191.25

Engineer 2

Normal rate	\$160.00
Over-time rate	\$240.00
Double-time rate	\$320.00
Discount rate	\$136.00
Discount Double-time rate	\$204.00

Engineer 3

Normal rate	\$165.00
Over-time rate	\$247.50
Double-time rate	\$330.00
Discount rate	\$140.25
Discount Double-time rate	\$210.38

Travel

Overnight Lodging and Meals (Per Day)	\$ 230.00
Mileage (Per Mile)	\$ 0.65

Normal: Monday through Friday 7:00 am – 4:00 pm.

Overtime: Monday through Friday 4:00 pm – 7:00 am and all day Saturday.

Double-time: All day Sunday and Holidays.

Discount: A 15% discount from our normal rate is available for for service contract customers. There are no extra charges for over-time on this rate except Sundays and Holidays are billed at 1.5 times the discount rate.

Credit

Card

Payments: An additional charge of 5% will be added to all invoices paid by credit card.



AT THE EDGE OF THE CITY AND
THE HEART OF EVERYTHING

January 6, 2011

North Shore Water Commission and Commissioners
C/O: Dan Naze, Chairman
400 West Bender Rd
Glendale, WI 53217

Dear Commissioners:

Thank you for taking the time to meet with me on November 10th. It was good to meet each of you and to be able to introduce myself to those I have not met before. I truly believe that the Commission and the Village of Shorewood can benefit from working together to provide water to all of our residents.

As you know, we have conducted a study to determine the feasibility of Shorewood obtaining water from the Commission. The estimated cost for this connection is \$650,000. We are currently conducting a second study to determine whether water pressure would be adequate for our connection. The results of that study should be available later in January.

At our meeting I indicated that I would put together a proposal on how we might operate together in the future. I hope that this letter can serve as a starting point for discussions and your consideration. I would welcome any comments or questions you might have on this information and look forward to speaking with you again soon.

We would ask as part of this proposal that we be considered to become a member of the North Shore Water Commission. The other piece of our proposal consists of three parts, a capital buy-in, on-going operating cost share and on-going capital cost share.

Capital Buy-In

We would propose to pay the Commission for a share of the net plant assets based on the ratio of Shorewood's maximum day water usage to the maximum day water usage of a combined entity. Based on the 2009 amounts, we would estimate this to be approximately \$850,000. This would be paid upfront to the Commission.

Based on our estimates and the 2009 capital allocation method, this would result in payments to the member communities as follows:

Community	Construction Cost Share	Capital Buy-In Received
Whitefish Bay	35.44%	\$ 301,240
Fox Point	22.30%	189,550
Glendale	<u>42.26%</u>	<u>359,210</u>
Total	100.00%	<u>\$ 850,000</u>

We selected this method as we believe the maximum day water usage ratio is an appropriate way to determine the excess capacity that would be used up by Shorewood. The Village of Shorewood's Water Utility would complete a bond issuance to finance this purchase.

Ongoing Operating Cost Share

We would propose that after a buy-in that Shorewood share in the operating costs in the same method and manner as the other member communities, which is based on the gallons pumped during the year. After speaking with the North Shore Water Commission (NSWC) superintendent we estimated that annual operating costs for an expanded Commission would increase by approximately \$115,000, for additional purchases such as electricity and chemicals. Although the Commission's total costs would increase, Shorewood's operating contribution would more than offset this increase so other members would see decreased annual costs. The table below shows the operating costs paid in by each member in 2009 and the estimated savings if Shorewood was part of an expanded Commission.

Summary of Operating Cost Savings With an Expanded Commission - Shown with 2009 Base year

Community	Existing Agreement		Expanded Commission		2009 Estimated Savings	% Savings
	Operating Cost Share	Net Operating Costs	Operating Cost Share	Net Operating Costs		
Whitefish Bay	33.88%	\$ 442,203	25.39%	\$ 354,750	\$ 87,453	19.78%
Fox Point	16.98%	287,483	12.73%	177,803	109,680	38.15%
Glendale	49.14%	555,981	36.82%	514,500	41,481	7.46%
Shorewood	0.00%	-	25.06%	350,159	na	na
Total	<u>100.00%</u>	<u>\$ 1,285,667</u>	<u>100.00%</u>	<u>\$ 1,397,212</u>	<u>\$ 238,614</u>	

Ongoing Capital Cost Share

Similar to the operating costs, we would propose that Shorewood share in capital costs in the same manner as the other member communities, after a re-allocation of the capital ownership, as determined above. The table below shows estimated savings that other members would achieve if Shorewood was part of an expanded Commission.

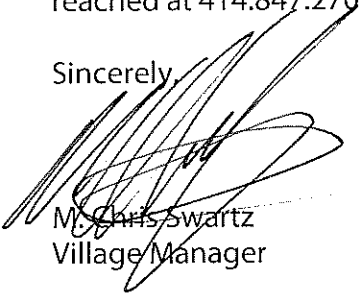
Summary of Capital Cost Savings With an Expanded Commission - Shown with 2009 Base Year

Community	Existing Agreement		Expanded Commission		2009 Estimated Savings	% Savings
	Current Capital Allocation	Net Capital Costs	Revised Capital Allocation	Net Operating Costs		
Whitefish Bay	35.44%	\$ 30,048	30.34%	\$ 25,724	\$ 4,324	14.39%
Fox Point	22.30%	18,907	19.09%	16,187	2,720	14.39%
Glendale	42.26%	35,832	36.18%	30,674	5,158	14.39%
Shorewood	0.00%	-	14.39%	12,203	na	na
Total	100.00%	\$ 84,787	100.00%	\$ 84,788	\$ 12,202	

As you can see from the tables above, the member communities would achieve substantial annual cost savings as well as a fair up-front payment to compensate each member for the purchase of plant assets. We believe this would be a benefit to both the Commission and the Village of Shorewood ratepayers and we are interested in working with you to determine if it is possible for Shorewood to become a member of the North Shore Water Commission.

I would welcome the chance to discuss any questions or comments you may have on this proposal. I can be reached at 414.847.2701. Thank you for your time and consideration.

Sincerely,



M. Chris Swartz
Village Manager

Cc: Eric Kiefer, Plant Manager

North Shore Water Commission
Strategies for Chromium Monitoring

Eric Kiefer

January 13, 2011

Introduction

In December 2010, a report was released by the Environmental Working Group (EWG) regarding the results of water tests conducted in 35 major US cities. Although utilities served by the North Shore Water Commission were not tested, Milwaukee Water Works was selected. EWG found 0.18 ppb of chromium-6. Water in Chicago, IL was also found to have the same concentration of chromium-6 in their utility.

At the present time, chromium-6 is not regulated as an individual contaminant. Instead, it is indirectly tested in a group of contaminants referred to as total chromium which includes all of the different oxidation states of this element. Chromium-0, -3, and -6 are the three prevalent oxidation states in the environment; chromium-3 is typically present because it is naturally occurring (and is considered an essential nutrient for humans) whereas chromium-0 and chromium-6 are usually introduced into the environment by anthropogenic means.

Although EWG found low-levels of chromium-6 in Lake Michigan water, it is unclear as to how we should proceed primarily because the USEPA and WDNR have not required us to monitor for this form of chromium. Furthermore, we do not know what “safe” levels are for this chemical. As a group, total chromium must be below 100 ppb, which the NSWC has no problem achieving— for the last 3 years we have not been able to detect total chromium in our water (using a 2 ppb detection limit).

The USEPA is in the process of reviewing chromium-6 as a contaminant. After reading the draft documents available from their website, it is likely this contaminant will be regulated in the near future.

Regardless, our water customers have been persistent in getting more information about chromium-6 in our drinking water.

Proposed Strategy

At the present time, we haven't seen any chromium in our plant for 3 years (with a 2 ppb detection limit). Our initial response is to first get a better handle of chromium as it moves through our treatment plant using a more sensitive method (with a 0.5 ppb detection limit). We recently completed testing of total chromium at 3 locations: (1) raw water, (2) filtered water, post-UV, and (3) tap water. Samples were run in duplicate. Each sample, without shipping, was quoted to be \$9 per analysis.

Test results from the initial testing round will determine how round 2 will be conducted. If the majority of the results are below 0.5 ppb (not detected), a more sensitive will be used at the same sites (with a detection limit of 0.009 ppb--\$60 per sample). If 0.5 ppb is determined to be an adequate detection limit, round 2 and two additional rounds will be conducted on a quarterly basis.

At the end of 2011, we'll have quarterly data regarding total chromium. Having multiple data points over several periods will improve our understanding of total chromium. Hopefully, we will be able answer critical questions by the end of this monitoring such as: (1) Does total chromium fluctuate over time? (2) Is chromium removed by our treatment process? (3) Are there any biases detected in sampler? (4) What is the repeatability of lab results at the lower detection limits?

To answer questions posed by the public regarding chromium-6, I believe we should follow the newly published recommendations by the USEPA. They recommend testing at the following locations: (1) intake, (2) entry point into the distribution system, and (3) within the distribution—preferably at the maximum residence time. It should be noted that sampling within the distribution system probably should include 3 separate tests for us—one for each member community. This effort could cost up to \$1200 per event.

These two sampling efforts should be ran at the same time to ascertain if there is a relationship between total chromium levels and chromium-6 levels. If there is a relationship, we may be able to make sound assumptions about how much chromium-6 is in the water from a \$9 total chromium analysis. The testing may also help us understand if our current treatment system removes both total chromium and chromium-6. We may also determine if total chromium is being converted to chromium-6 in the distribution system.

According to EPA recommendations, this testing should be conducted every quarter. Because Milwaukee has recently confirmed the presence of chromium-6 in its water system, the public is very concerned about the health effects of this contaminant and expects its water suppliers to do everything in their means to keep them informed and protected. At this point, the Commission's first step would be to analyze the water for chromium-6 and inform the public of its findings.

NORTH SHORE WATER COMMISSION

Total Chromium Test Results

Eric Kiefer

1/6/2011

Samples collected at entry point to distribution system.

<u>Year</u>	<u>Result</u>	<u>MDL</u>	<u>MCL</u>	<u>Compliance</u>	<u>Units</u>
2010	ND	2	100	yes	ppb
2009	ND	2	100	yes	ppb
2008	ND	2	100	yes	ppb
2007	9.4	2	100	yes	ppb
2006	ND	0.55	100	yes	ppb
2005	0.48*	0.45	100	yes	ppb
2004	10	2	100	yes	ppb
2003	ND	2	100	yes	ppb
2002	5	2	100	yes	ppb
2001	1.6	0.2	100	yes	ppb
2000	7.4	0.2	100	yes	ppb
1999	1.7	0.2	100	yes	ppb
1998	2.9	0.2	100	yes	ppb
1997			no records found		
1996			no records found		
1995	1.4	0.2	100	yes	ppb
1994	0.49	0.05	100	yes	ppb
1993	ND	2	100	yes	ppb
1992	3	2	100	yes	ppb

ND = Not Detected

MDL = Maximum Detection Limit

MCL = Maximum Contaminant Level

ppb = parts per billion

*Marked as "less-certain quantitation" on lab report



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 11 2011

MEMORANDUM

SUBJECT: Guidance for Public Water Systems on Enhanced Monitoring for Chromium-6 ^{OFFICE OF WATER}
(Hexavalent Chromium) in Drinking Water

FROM: Peter S. Silva
Assistant Administrator

A handwritten signature in black ink that reads "Pet Silva".

TO: State Drinking Water Agencies
PWS Owners and Managers
Drinking Water Program Managers, Region I-X

EPA appreciates and acknowledges your continued efforts to ensure that all Americans have safe drinking water. Chromium is one of over 90 regulated drinking water contaminants that we have worked together to address. However, recent studies indicate the potential for greater human health risks from chromium-6 (the more toxic form of chromium) than was previously thought. We are peer reviewing our assessment of the new health data, and will evaluate the final assessment in accordance with the Safe Drinking Water Act to determine if new standards need to be set.

Given this emerging public health information, EPA is providing this guidance to all public water systems to see how a system could enhance chromium monitoring through additional sampling and analysis specifically for chromium-6. The Agency strongly encourages water systems to consider the recommendations provided on our website (<http://water.epa.gov/drink/info/chromium/index.cfm>) and to determine how your system might enhance drinking water monitoring for chromium-6.

National primary drinking water regulations set the maximum contaminant level (MCL) of 0.1 mg/L for total chromium, which includes chromium-6, and requires community and non-transient non-community water systems to test for chromium at the entry point to the distribution system. The chromium standard was established in 1991 based on the best available science. EPA regularly re-evaluates drinking water standards; a rigorous and comprehensive review of chromium-6 health effects began following the release of the toxicity studies by the National Toxicology Program in 2008. In September, 2010, EPA released a draft of the scientific assessment (Toxicological Review of Hexavalent Chromium http://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=221433) for public comment and external peer review. When this human health assessment is finalized in 2011, EPA will carefully review the conclusions and consider all relevant information to determine if a new standard needs to be set.

In the interim period, EPA is providing guidance to water systems on how they may monitor for chromium-6 in addition to the monitoring they are required to perform for total chromium. EPA believes that the enhanced monitoring will enable public water systems to: better inform their consumers about the levels of chromium-6 in their drinking water, evaluate the degree to which other forms of chromium are transformed into chromium-6 in their drinking water and assess the degree to which existing treatment affects the levels of chromium-6 in drinking water. We appreciate your support and look forward to working with you through an increased dialogue between EPA, states, public water systems and the public on issues related to chromium-6.



Chromium in Drinking Water

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EPA's recommendations for enhanced monitoring for Hexavalent Chromium (Chromium-6) in Drinking Water

Ensuring safe drinking water for all is a top priority for EPA, state drinking water agencies, and drinking water systems across the country. National primary drinking water regulations set the maximum contaminant level (MCL) of 0.1 mg/L for total chromium, which includes chromium-6 (hexavalent chromium), and requires community and non-transient non-community water systems to test for chromium at the entry point to the distribution system. The chromium standard was established in 1991 based on the best available science.

EPA regularly re-evaluates drinking water standards; a rigorous and comprehensive review of chromium-6 health effects began following the release of the toxicity studies by the National Toxicology Program in 2008. In September, 2010, EPA released a draft of the scientific assessment ([Toxicological Review of Hexavalent Chromium](#)) for public comment and external peer review. When this human health assessment is finalized in 2011, EPA will carefully review the conclusions and consider all relevant information to determine if a new standard needs to be set.

In the interim period, EPA is providing the following guidance to water systems on how they may monitor for chromium-6 in addition to the monitoring they are required to perform for total chromium. EPA believes that the enhanced monitoring will enable public water systems (PWSs) to: better inform their consumers about the levels of chromium-6 in their drinking water, evaluate the degree to which other forms of chromium are transformed into chromium-6 in their drinking water and assess the degree to which existing treatment is affecting the levels of chromium-6.

- [Pete Silva's Memo to Drinking Water Systems PDF](#) (2pp, 28K) **New!**
- [EPA Press Release](#)

Should my water system conduct enhanced monitoring for Chromium-6?

Given the emerging public health information, EPA is providing this guidance to all public water systems to show how a system could enhance chromium monitoring through additional sampling and analysis specifically for chromium-6. The Agency strongly encourages water systems to consider the following recommendations and to determine how your system might enhance drinking water monitoring for chromium-6.

Where should water systems collect samples?

Chromium is complex in its behavior in drinking water systems as it may occur in water systems in both the chromium-3 (trivalent chromium) and chromium-6 forms. Under distribution system conditions, e.g., in the presence of an oxidant such as chlorine, chromium-3 can be transformed into the more toxic chromium-6 form. Existing treatment processes such as conventional treatment may be effective in removing chromium-3, but not chromium-6. To understand the fate of incoming chromium-6 in raw water supplies or transformed chromium-6 from chromium-3 following conventional treatment and disinfection, EPA recommends that systems collect samples at the locations listed below.

Intake/well locations: *EPA recommends that water systems collect samples of untreated water at the intake/well. Systems with multiple intakes/wells should identify sampling points that result in a representative sample of the utilized source waters to account for the multiple sources, seasonal variation in sources and historical measured total chromium concentrations at entry points to the distribution system. Chromium data at entry points can serve as a guide for identifying the corresponding source water intakes/wells, which should preferably be targeted for monitoring.*

Entry points to the distribution system: *EPA recommends that systems with drinking water treatment processes also collect samples at the point that treated water enters the distribution system. Systems with multiple entry points should collect samples from representative entry points to the distribution system. The actual number of entry points may depend on the number of treatment plants and historical total chromium concentrations in the treated water.*

Distribution System: *EPA recommends that systems collect representative samples from locations within the distribution systems. Since chromium-3 can transform into chromium-6 in the distribution system due to the presence of an oxidant such as chlorine, it is desirable that systems monitor for chromium-6 at locations considered to represent the maximum residence time, which is consistent with the monitoring goals for disinfection byproducts. The number of locations to consider for sampling within the distribution system will depend on the number of entry points, the relational proximity of entry points and the overall size of the distribution system. EPA also recommends that systems collect samples at a subset of 10 or fewer distribution system locations where they currently sample under the Disinfection By-products Rule (DBP) Stage 1 and 2, and that systems not disinfecting consider collecting samples from a subset of 10 or fewer locations where they typically sample under the Total Coliform Rule (TCR).*

How frequently should samples be collected?

EPA recommends that water systems with surface water sources collect samples quarterly to capture the variation that may occur in the levels of chromium-6 in source waters. EPA recommends that ground water systems be sampled semi-annually. EPA recommends that systems collect samples from each of the locations listed above on the same day.

How can I find a laboratory to measure chromium-6?

EPA recommends the following steps for monitoring specifically for chromium-6. Public water systems should contact a drinking water laboratory they typically use for compliance monitoring and request sample analysis using a modified version of EPA Method 218.6, "Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater and Industrial Wastewater Effluents by Ion Chromatography" (Rev. 3.3, 1994; www.nemi.gov). These modifications allow for improved low concentration measurement and are outlined in Dionex Corp. Application Update 144 "Determination of Hexavalent Chromium in Drinking Water by Ion Chromatography" found at www.dionex.com/en-us/webdocs/4242-AU144_V18.pdf. With these modifications, laboratories are capable of attaining a detection limit as low as 0.02 µg/L (ppb) and can support a reporting limit of 0.06 µg/L (ppb). Any equivalent ion chromatographic system from any manufacturer with comparable hardware that can generate this performance and meet the quality control requirements of EPA Method 218.6 may also be used. Links to non-EPA sites do not imply any official EPA endorsement of, or responsibility for, the opinions, ideas, data or products presented at those locations, or guarantee the validity of the information provided. Links to non-EPA servers are provided solely as a

pointer to information on topics related to environmental protection that may be useful to EPA staff and the public.

The analytical instrumentation required for EPA Method 218.6 is not uncommon in drinking water laboratories: however, many laboratories may not be "set-up" to offer this analysis. Laboratories that have the necessary equipment and are certified by an accrediting authority to conduct an approved ion chromatography method (e.g., EPA Method 300.0, SM 4110B, ASTM D4327) should be given preferential consideration to provide this analytical support. If your PWS is having difficulty finding a laboratory that offers this analysis, there are several state certified labs in California to support the State's chromium-6 drinking water monitoring requirement and these are posted at www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx. [See the Procedures and Lists heading.] Those laboratories in the downloaded spreadsheet that are marked under "FOT 103" (field of testing 103) can be contacted and asked if they are certified for CA CDPH subgroup code 103.310, which is specific to EPA Method 218.6 for chromium-6. EPA is in the process of contacting drinking water laboratories across the country in an effort to further establish national drinking water laboratory capacity.

If your laboratory has interest in providing the analytical support for this enhanced monitoring, EPA encourages the lab organization to review the requirements of modified Method 218.6. To address concerns regarding the sample holding time of 24 hours specified in EPA Method 218.6, EPA reviewed published literature and recent laboratory sample holding time studies for drinking waters. The holding time of 24 hours prescribed in Method 218.6 was based upon the most conservative holding times for wastewater and sludge extracts, also covered by the method, and not the stability of chromium-6 in drinking water matrices. Consequently, EPA is temporarily recommending an extension of the maximum holding time for properly collected and buffered drinking water samples from 24 hours to 5 days following sample collection.

Who should I call if I have questions about EPA's recommended enhanced monitoring for chromium-6?

Contact EPA via email at the [Safe Drinking Water Hotline website](#) or call the Safe Drinking Water Hotline at 1-800-426-4791 (Monday through Friday, 10:00 am to 4:00 pm eastern time)

Last updated on Tuesday, January 11, 2011.

North Shore Water Commission
Current State and Vision for Water Treatment Operations

Eric Kiefer
January 13, 2011

Introduction

The water treatment plant is serving its member communities with ample water pressure and with excellent water quality. With a steady decline in demand over the past 3 decades, the plant has more than enough capacity in the foreseeable future to serve its members during emergencies such as fires and massive main breaks without any disruption to normal service.

Despite these positive attributes, the original structure and many elements inside that are approaching 50 years old. Although there is no impending threat of a disrupting breakdown, there are a number of future concerns that the Commission will face in not so distant future. While it is may be acceptable to replace defunct equipment with comparable equipment—and possibly the best strategy—the Commission may want to consider its alternatives and develop an overarching strategy based on long-term goals.

There are factors that need to be taken into consideration besides cost of capital improvements including desired plant capacity, level of security, level of service, and emergency preparedness. By looking at all of these aspects together, future planning could better serve the Commission and the member utilities.

Current State - Infrastructure

Functionally, the water treatment plant is working without any major problems. We are currently meeting all water quality requirements, and all major equipment works without problem. However, there are 5 areas of our water treatment facilities that we have recently identified as requiring attention in the near future.

Low Production

Water demand has dropped to an all time low in 2010. Although we do not have any problem addressing low demand this year, we may be in jeopardy of running into a problem within the next 2-5 years (assuming we do not gain more wholesale water business or gain another member). We will eventually see that pumps cannot be turned down low enough to provide constant flow to the plant. Because the filtration part of our operations is not designed to cycle on and off, we simply cannot turn the pumps on and off; this may cause our filters to release too much turbidity when valves are cycled.

As an attempt to solve this problem and reduce energy consumption, we ran an experiment in 2010 where we attempted to start and stop production for a period of time. Unfortunately, it appears our filters will not be able to perform according to regulation

without retrofitting a filter-to-waste system (for on/off operation) or without installing a VFD on our smallest pump at Klode Park (for slower continuous operation).

Bulk Chemical Storage

When one of the bulk storage tanks for sodium hypochlorite broke in 2010, we had to be very creative in replacing it. After 6 long months, we completed the replacement. Considering all of the other 6 fiberglass bulk tanks are as old or older as the one that broke in 2010, we should plan the replacement of the others and move them altogether to a new location which is more accessible and has improved air exchange. Limited access in the basement limited dimensions of replacement tank; consequently, replacement tanks will not provide same volume of storage as the originals.

Pneumatic and Hydraulic Valve Actuators

There are over a hundred valves and associated actuators that operate on pneumatic or hydraulic principles—and most of them are original. Because the actuators do not open and close adequately on a number of valves, we are unable to operate some processes reliably such as our filters (backwashing only) and high service pumps. Because of redundancy, we are able to use redundant equipment until qualified staff or contractors can service the equipment. As this equipment ages, we will experience more valve operation problems.

Electrical and SCADA Equipment

The bulk of the electrical system was built around 2400 volt electric motors. Redundancy was built around this voltage with 2 substations and 2 electrical busses; however, now there are only 3 pumps that actually operate on 2400 volts at Bender. Although there is equipment redundancy, we have lost much of our electrical (transformer and buss) redundancy through many of the recent upgrades. Either portions of the old system should be maintained and upgraded, or the entire system should be upgraded to run off of 480 volts instead.

In short, this potential problem can be described in the following scenario. The 2400 volt system runs high service pumps #2, #3, and #5. When there are problems with the generator or electrical buss sourcing power to lead pumps #1 and #4—which occurred recently in 2006, 2007, and 2010—we had to run #2, #3, and #5 to pressurize the distribution system. However, being constant speed pumps, we could not regulate pressure with these pumps—we could put approximately 2.5 MGD, 7 MGD, and 11 MGD from the plant with a pressure between 80 and 85 psi for an equally matched demand. Assuming high service #2 is down for maintenance, we run the risk of not having an appropriately-sized pump ready for our members and wholesale water customer.

Our SCADA equipment is a part of our electrical equipment by extension. As we can see from the current SCADA upgrade project, this type of equipment lasts about 15 years,

and it takes a great deal of time to upgrade. To avoid a massive upgrade in the future, the system should be effectively maintained. Replacement of devices should be spread throughout the course of 15 years. Our SCADA servers—which run on a Microsoft® Windows operating system—should be replaced every 5 to 7 years. The servers are due for replacement in 2012 or 2013. The Computer Administrator also has ideas for future projects as well.

Basins

Being underground structures that are normally flooded with non-potable water, these assets are difficult to maintain. It is typical to have at least one basin out of service at any given time due to a mechanical problem. With our redundancy, this is not a short-term problem—we can wait until a qualified employee or contractor can fix the problem. However, the frequency at which we discover problems pertaining to the basins appears to be increasing. At some point, the motors, drives, gears, bearings, and related equipment will have to be replaced.

Current State – Operations

The North Shore Water Commission is responsible for operating and maintaining the water treatment facilities owned by its member utilities. In short, the purpose of the Commission is to provide each member and wholesale customer with as much water volume and pressure necessary to meet all state requirements and any other requirements imposed by the utilities. The water being delivered must also meet or exceed all regulatory standards.

Accomplishing these tasks requires a staff of employees and contractors who are competent in water treatment operations and related business functions, instrumentation, and oversight. Together, the Commission is able to accomplish the following:

- (1) Provide 24 hour, 7 days a week service. This is accomplished by staffing the Bender facility with at least one person at all times with people who are capable of:
 - a. Operating and controlling equipment to meet water quality and delivery goals
 - b. Monitoring alarms and observing conditions at plant and at remote facilities
 - c. Testing water quality in plant and in distribution system to ensure water is meeting regulatory standards
 - d. Responding to phone calls and personal visits from the public regarding water concerns
 - e. Troubleshooting problems and making corrective actions
 - f. Notifying member communities or wholesale water customer when unusual activity is occurring in the system such as main break
 - g. Providing public services such as well tests and storm water tests.

- h. Collecting, analyzing, and reporting meter data in facilities and in distribution system.
 - i. Collecting, analyzing, and reporting all other operational data.
- (2) Maintain equipment and systems. If necessary, this also includes making recommendations for replacement. This includes:
- a. Preventative maintenance which includes tasks such as motor oil and filter changes
 - b. Breakdown maintenance which includes tasks such as replacement of bulk chemical tank and chemical feed pump repair.
 - c. Upkeep and installation of new computer and SCADA equipment.
 - d. Calibration and maintenance of instrumentation.
- (3) Perform all business functions pertaining to the operations of the water treatment facilities. This includes:
- a. Overseeing the activities of employees and general management.
 - b. Prepare budget reports, forecasts, and other financial documents.
 - c. Perform analysis of treatment options.
 - d. Control and general oversight of fiscal activity.
 - e. Hire, monitor, and fire employees as needed.
 - f. Develop and respond to proposals pertaining to contracted labor and services.
 - g. Develop procedures and controls to ensure operations conform to Commission's requirements.
- (4) Provide security functions. This is accomplished by:
- a. Staffing the Bender facility at all times.
 - b. Monitoring cameras at plant and at the water storage facilities of our member utilities.
 - c. Monitoring and responding to entry alarms.
 - d. Observing the condition of all rooms during observation rounds.
 - e. Observing the status of locks, gates, and hatches when performing tasks outside.

Staff

Currently there are 7 full-time employees that are employed by the Commission: one (1) Plant Manager, one (1) Working Foreman, one (1) Computer Administrator, one (1) Relief Operator Technician, and one (3) Operator Technicians. It is also worth mentioning that there are also vacant positions which include the Assistant Manager and Technician Mechanic.

At the current service level, there is enough capacity handle the sudden loss of one employee—on a temporary basis. This assessment is the conclusion of the following simulation of scenarios.

Constraints: 1 certified surface water operator at the plant at all times (requires an absolute minimum of 4 people on a 40 hours per week basis, with no

allowed vacations or sick leave, to cover all shifts excluding one 8-hr shift)

Scenario 1 – Loss of Operator Technician

Workforce drops from 7 to 6 with 3 employees now in “operations”. As a consequence, the Relief Operator Technician fills in for the Operator Technician and the Working Foreman fills the Relief Operator Technician shifts (Monday – Friday). The Plant Manager fills one shift per week until position is filled.

Eventually, employees will take vacations and sick leave which will require the Working Foreman to work more off-shifts and the Plant Manager to work more day shifts as an operator.

Prolonged vacancy is not a long-term solution due to less required maintenance being performed by the Working Foreman—some of which requires both the Relief Operator Technician, Working Foreman, and an Operator Technician that has volunteered to assist on an overtime basis.

Scenario 2 – Loss of Relief Operator Technician

Workforce drops from 7 to 6 with 3 employees now in “operations”. As a consequence, the Working Foreman fills the Relief Operator Technician shifts (Monday – Friday). The Plant Manager fills one shift per week until position is filled.

Eventually, employees will take vacations and sick leave which will require the Working Foreman to work more off-shifts and the Plant Manager to work more day shifts as an operator.

Prolonged vacancy is not a long-term solution due to less required maintenance being performed by the Working Foreman—some of which requires both the Relief Operator Technician, Working Foreman, and an Operator Technician that has volunteered to assist on an overtime basis.

Scenario 3 – Loss of Computer Administrator

Although this position is not expected to operate and is limited in the time that can be applied to non-project work, this employee is responsible for a critical function: maintaining and upgrading our SCADA system. The SCADA system is integrated into all aspects of operations.

This is currently a full-time position; however, after completion of the SCADA upgrade project, it is unclear how long the position could be kept at that status. At some point, the position will have to be reduced to part-time status or the job duties will have to be integrated into the job description of an existing position. Alternatively, a contractor could

assume the responsibilities of this position. Until that point, however, this position should remain filled.

If the position of Computer Administrator goes vacant, another staff member or a contractor must be trained and get actively involved in maintaining our system—this person would be in addition to the Plant Manager. In the interim, the Plant Manager would take care of immediate concerns. Eventually another person should be hired or retained to perform this function. It should be noted that it is atypical for the Plant Manager to have a working knowledge of the SCADA system.

Scenario 4 – Loss of Working Foreman

The Working Foreman has day-to-day responsibilities that must be performed by the Plant Manager in his absence. Duties include scheduling, monitoring plant operations, ordering inventory, maintaining equipment, troubleshooting advanced problems, emergency staff support, and fixing mechanical problems. The Plant Manager would be required to staff one shift per week and would not be able to share on-call duties until the position is filled.

Contractors would have to be retained to assist in repairs and replacements until the position gets filled. Furthermore, large maintenance projects, such as basin cleaning, would be put on hold unless repairs were absolutely necessary.

This position should be filled as quickly as possible because of the need to ensure stable operations on a day-to-day basis.

Scenario 5 – Loss of Plant Manager

The Plant Manager has critical responsibilities; however, operations will not be affected if the above positions are filled. The Working Foreman, Operator Technicians, and Relief Operator Technician have the resources to staff the plant 24 x 7 and meet all regulations and requirements of the Commission. The Computer Administrator will keep the SCADA system in good working order so the plant can operate.

The administration and business aspects of the position could be temporarily handled by the Working Foreman, Computer Administrator, our contracted accounting firm, and other professionals contacted by the Commission.

It should be noted that the Working Foreman serves as a backup to the Plant Manager in the day-to-day operations of the plant and that the Computer Administrator is able to extract files from the SCADA system to perform monthly reports and can administer other computer/IT related tasks in the Plant Manager absence. Although lab tasks could be

performed by staff, nobody else is immediately qualified, according to state requirements, to take over as lab director without receiving a BS degree in the life sciences or engineering. This is not a problem so long as somebody is eventually hired with the appropriate credentials.

This position should be filled as quickly as possible due to the critical nature of this position.

Statistics and Other Information

The following figure summarizes current plant capacity and its utilization. It is very noticeable that the plant is pumping less water year after year (ave day) with a diminishing demand (max day). The max flow, however, has remained fairly constant throughout the last five years of production. This relationship could indicate an improvement in distribution hydraulics resulting from the opening of the interconnections in 2008. Nevertheless, the magnitude of the average day, max day, and max flow indicate the plant is performing significantly under design conditions.

North Shore Water Commission Statistics*

Year	Ave Day (MG)	Max Day (MG)	Max Flow (MGD)	Max Day to Ave Day Ratio	Max Flow to Ave Day Ratio	Max Flow to Max Day Ratio
2006	3.871	8.946	12.0	2.311	3.100	1.341
2007	3.999	8.032	11.1	2.008	2.776	1.382
2008	3.977	7.323	10.5	1.842	2.641	1.434
2009	3.838	6.418	11.5	1.672	2.996	1.792
2010	3.712	5.632	10.2	1.517	2.748	1.811
5-Year Ave	3.879	7.270	11.1	1.870	2.852	1.552

Average Day (5-Year Ave): 3.879 MG
 Max Day (5-Year Ave): 7.270 MG
 NSWC Maximum Daily Production: 18.000 MG

Max Flow (5-Year Ave): 12.0 MGD
 NSWC Pumping Capacity: 33.0 MGD

* Data from monthly operating reports

Development of Long-Term Goals

There are a number of interrelated factors that have to be kept in balance as we plan for the future. While controlling the cost of production is always germane in setting goals, so is determining a level of service, security, preparedness (loss of employee or response to plant emergency), staffing for operations, and staffing for maintenance. On the infrastructure side of the equation, we need to be concerned with issues such as capital requirements for asset replacement, projected obsolescence of equipment and facilities, and future design capacity.

Operations versus Infrastructure

In general, more effort will be required to maintain the water treatment facilities as infrastructure ages. In this case, either contractors or another employee will be required to refurbish the majority of the original valve actuators, replace bulk chemical tanks when they break, and make repairs in the basins. This additional effort will increase the unit cost of production, but will minimally increase the capital requirements.

A new facility with membrane filtration will require less operator oversight and will initially require less maintenance. As a result, it will decrease the unit cost of production, but at a high, upfront capital cost.

Although extremes, the two cases show there are two distinct ways to plan for the future—with many alternatives that fall in between.

Perhaps it is worthwhile to study the alternatives or determine when a study would be performed to calculate when it is cheaper in the long-term to make capital improvements over increasing our effort to operate and maintain the current infrastructure.

Level of Service

As a 24 x 7 operations, there are staffing limitations which require a certified operator to be present at all times. While it is possible to change this requirement with infrastructure improvements and DNR approval, uptime may be affected. Vulnerabilities in our system may prevent us from relying solely on the SCADA system to run pumping (and ammonia feed) by itself; we probably could not guarantee continuous pressurization of the distribution system without an operator present. There are multiple events every year when operators are required to take quick action to ensure there is a high service pump always running. Often this has required bypassing automatic controls, using hand tools, or doing something that could not be “programmed” to keep the pumps running.

Security

Security is currently handled by employees. As a secure building, doors are locked and access at the Bender facility is limited to certain times of the day. With an employee in the building at all times, he or she monitors the inside of the building through observation rounds. Cameras are also used to inspect areas of the plant and remote facilities.

Infrastructure improvements are most likely required to make our facilities secure if employees are not present. Some improvements may include window break detection devices (or window replacements), motion detection devices, and lock replacements that use personal identification devices to record/notify when entry has been detected.

It may also be necessary to hire a contractor to perform some basic level of security service such as alarm monitoring.

Preparedness

In providing any essential service, it is important to ensure there are enough people in the organization to respond to a disruption or to an emergency. As described earlier, we have a delicately balanced system that is prepared for the loss of any one employee—on a temporary basis. We also feel there are enough people in the labor pool that are trained and could respond to a plant emergency. Consideration should be given to preparedness should there be a loss of an employee.

Staffing Level

Operation demands are being replaced by maintenance demands. While the operations staff is performing more light maintenance than in the past, there is a limitation to the job duties that can be assigned to a person working by him or herself (mostly operating shifts). On the other hand, medium and heavy maintenance requirements are increasing because of the need to repair/replace our aging equipment. There will be a time when we will have to fill the vacant Technician Mechanic position or retain more contractor assistance to help with maintenance duties.

Capital Requirements for Asset Replacement, Projected Obsolescence, Future Design Capacity

It is difficult to discuss these factors separately because they are related. It is very possible that major plant upgrades are not possible due to the lack of capital by the member communities. Therefore, it would make sense to project obsolescence as far in the future as possible. When upgrades are planned, it may make sense to design it for a smaller design capacity to limit the capital requirements. On the other hand, if capital is available and the appropriate engineering study shows that significant savings could be realized by investing in a capital project 10 years from now, it may make sense to start the planning process for that option right now.

This type of long-term capital improvement planning will help shape operational goals. For instance, if we plan on a major filter upgrade 5 to 10 years from now, it would make a lot of sense to continue maintenance of our pneumatic valve system instead of scheduling replacement with new electric valve actuators.

Recommendation

It is recommended that an engineering firm is solicited in 2012 to evaluate the current state of our infrastructure and develop an analysis that includes several alternatives. The evaluation should include: (1) identification of common water supply goals using input from the Commission or representative of the member utilities; (2) identification of future design capacity; (3) schedule of existing facilities and equipment with estimated retirement dates and replacement costs; (4) alternatives and their associated capital

requirement; and (5) estimation of operating costs with operating options (i.e. security, staffing level, and etc.) pertaining to each alternative.

The results of the study would help the Commission craft a vision for the water treatment facilities at Bender and Klode which should prepare each community for the upgrades to come in future.

In the short-term, we will be facing staffing issues that will require the Commission's attention. The Computer Administrator's position is set to terminate on December 31, 2011; however, I believe that SCADA/IT maintenance is an ongoing function of the Commission. At the same time, we have increasing medium and heavy maintenance requirements that should be addressed by hiring a Technician Mechanic or retaining more contractors on an as-needed basis. The Commission should contemplate the following options:

- (1) Draft new employment contract for a full-time computer administrator starting January 1, 2012 for a defined term. Responsibilities of this position could include advanced training of the SCADA system to employee or contractor. Retain contractor on as-needed basis or hire Technician Mechanic for other maintenance requirements.
- (2) Draft new employment contract for a part-time computer administrator starting January 1, 2012 without an end date. This position would complete smaller projects on an ongoing basis. Retain contractor on as-needed basis or hire Technician Mechanic for other maintenance requirements.
- (3) Hire a Technician Mechanic to perform maintenance and perform basic SCADA system maintenance. Retain additional SCADA/IT assistance as needed (situation before Computer Administrator was retained).

It is recommended that further discussion regarding this matter be put on the February agenda with a report from the Computer Administrator regarding potential projects in 2012.

January 13, 2011

**Manager's report of completed operational projects
December 1st – January 12th**

1. To improve filter performance, 4 of the 8 rapid sand filters were drained and taken out of service. At any time, these filters can be backwashed and put back into service should there be need an urgent need for immediate water production.
2. The sludge pump motors for pumps #1 and #2 in the lower basement have been removed. Plant staff is currently working on replacing the motors.
3. CPR, first aid, and bloodborne pathogen training was conducted in December.
4. Respirator fit tests and other required evaluations were conducted for all employees that are expected to handle chemicals.
5. Installation of the replacement bulk sodium hypochlorite tank was completed in December. The storage system has enough capacity to hold a maximum of 5,000 gallons, which is 1,000 gallons less than the original configuration, but is large enough to accept a full semi-tanker load.
6. Plant staff cleaned and organized the plant. A significant amount of scrap metal was found and recycled.

NORTH SHORE WATER COMMISSION
 WHOLESALE WATER SALES
 FOR YEAR: 2010

WHOLESALE INCOME BY COMPONENT
 (Top: JAN-MAR, Bottom: APR-DEC)

FACILITIES CHARGE

MONTH	CUSTOMER	KGAL PURCHASED	WHOLESALE RATE (\$/KGAL)	TOTAL VOLUME CHARGE	OPERATING \$			CONVEYANCE			FOR 2009 FACILITIES UPKEEP			AMOUNT BILLED
					\$0.683 / Kgal	\$0.825 / Kgal	\$0.390 / Kgal	\$0.720 / Kgal	\$0.891 / Kgal	\$0.390 / Kgal	DISTRIBUTION OF CONVEYANCE CHARGE			
								FOX PT: 0.60	GLEN: 0.20	WFB: 0.20				
JANUARY	Mequon Water	3,518	\$ 1.898	\$ 6,677.16	\$ 2,402.79	\$ 2,902.35	\$ 1,372.01	\$ 823.21	\$ 274.40	\$ 274.40	\$ -	\$ 5,305.15	\$ 6,677.16	
FEBRUARY	Mequon Water	3,108	\$ 1.898	\$ 5,898.98	\$ 2,122.76	\$ 2,564.10	\$ 1,212.11	\$ 727.27	\$ 242.42	\$ 242.42	\$ -	\$ 4,686.87	\$ 5,898.98	
MARCH	Mequon Water	3,491	\$ 1.898	\$ 6,625.92	\$ 2,384.35	\$ 2,880.08	\$ 1,361.49	\$ 816.89	\$ 272.30	\$ 272.30	\$ 500.00	\$ 5,764.43	\$ 7,125.92	
APRIL	Mequon Water	3,258	\$ 2.001	\$ 6,519.26	\$ 2,345.76	\$ 2,902.88	\$ 1,270.61	\$ 762.37	\$ 254.12	\$ 254.12	\$ -	\$ 5,248.65	\$ 6,519.26	
MAY	Mequon Water	4,835	\$ 2.001	\$ 9,674.84	\$ 3,481.20	\$ 4,307.99	\$ 1,885.65	\$ 1,131.39	\$ 377.13	\$ 377.13	\$ -	\$ 7,789.19	\$ 9,674.84	
JUNE	Mequon Water	4,394	\$ 2.001	\$ 8,792.39	\$ 3,163.68	\$ 3,915.05	\$ 1,713.66	\$ 1,028.20	\$ 342.73	\$ 342.73	\$ -	\$ 7,078.73	\$ 8,792.39	
JULY	Mequon Water	5,160	\$ 2.001	\$ 10,325.16	\$ 3,715.20	\$ 4,597.56	\$ 2,012.40	\$ 1,207.44	\$ 402.48	\$ 402.48	\$ -	\$ 8,312.76	\$ 10,325.16	
AUGUST	Mequon Water	6,001	\$ 2.001	\$ 12,008.00	\$ 4,320.72	\$ 5,346.89	\$ 2,340.39	\$ 1,404.23	\$ 468.08	\$ 468.08	\$ -	\$ 9,667.61	\$ 12,008.00	
SEPTEMBER	Mequon Water	6,122	\$ 2.001	\$ 12,250.12	\$ 4,407.84	\$ 5,454.70	\$ 2,387.59	\$ 1,432.55	\$ 477.52	\$ 477.52	\$ -	\$ 9,862.53	\$ 12,250.12	
OCTOBER	Mequon Water	4,174	\$ 2.001	\$ 8,352.17	\$ 3,005.28	\$ 3,719.03	\$ 1,627.86	\$ 976.72	\$ 325.57	\$ 325.57	\$ -	\$ 6,724.31	\$ 8,352.17	
NOVEMBER	Mequon Water	3,789	\$ 2.001	\$ 7,581.79	\$ 2,728.08	\$ 3,376.00	\$ 1,477.71	\$ 886.63	\$ 295.54	\$ 295.54	\$ -	\$ 6,104.08	\$ 7,581.79	
DECEMBER	Mequon Water	3,803	\$ 2.001	\$ 7,609.80	\$ 2,738.16	\$ 3,388.47	\$ 1,483.16	\$ 889.90	\$ 296.63	\$ 296.63	\$ -	\$ 6,126.64	\$ 7,609.80	
TOTALS		51,653		\$ 102,315.60	\$ 36,815.82	\$ 45,355.10	\$ 20,144.64	\$ 12,086.80	\$ 4,028.92	\$ 4,028.92	\$ 500.00	\$ 82,670.95	\$ 102,815.59	

North Shore Water Commission
Extended Monthly Report (Page 2) **November 2010**
Flows Uncorrected for Distribution Activity

Date	High Service PSI (Gauge #1)			High Service PSI (Gauge #2)			WFB Tower PSI			Glen Standpipe PSI			FPT Standpipe PSI			WFB Standpipe Level (ft)			Glen Standpipe Level (ft)			FPT Tower Level (ft)			Monthly Pumpage RANK	Sum Master Meters (MGD)			WFB Flow (MGD)			Glen Flow (MGD)			FPT Flow (MGD)			
	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min		Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max
11/1/2010	84.22	82.26	80.53	84.50	82.72	80.99	69.90	65.50	57.63	56.93	46.69	34.67	56.98	54.69	49.22	33.23	25.68	17.92	74.68	54.55	32.39	23.22	21.86	20.39	6	7.60	3.46	1.67	3.29	1.11	-0.11	2.78	1.45	0.70	2.19	0.90	0.34	
11/2/2010	85.01	82.39	79.66	85.28	82.87	80.25	69.66	65.72	57.65	56.69	46.80	34.08	57.73	54.76	49.14	33.30	25.92	17.89	76.00	54.75	32.42	23.22	21.93	20.36	11	7.58	3.49	1.65	3.29	1.09	-0.14	2.81	1.50	0.66	2.14	0.91	0.35	
11/3/2010	85.85	82.57	79.35	86.50	83.04	80.14	70.01	65.80	57.65	56.50	46.89	34.16	59.05	55.09	49.30	33.38	26.40	18.38	76.51	55.92	33.68	23.22	21.99	20.41	5	7.62	3.46	1.66	3.34	1.09	-0.03	2.82	1.51	0.70	2.15	0.86	0.20	
11/4/2010	84.94	82.66	80.24	85.47	83.14	80.79	69.47	65.88	57.89	56.26	47.02	33.94	57.47	55.18	49.38	33.33	26.87	19.22	77.26	57.57	36.55	23.22	22.16	20.70	10	7.74	3.42	1.69	3.38	1.10	-0.05	2.81	1.48	0.72	2.16	0.85	0.37	
11/5/2010	84.84	82.55	78.70	85.14	83.03	79.05	68.88	65.98	57.38	54.99	47.37	34.45	57.49	55.23	49.44	33.35	26.92	19.53	77.40	58.42	38.54	23.22	22.13	20.73	23	7.42	3.29	1.68	3.15	1.03	0.05	2.49	1.43	0.75	2.08	0.83	0.41	
11/6/2010	84.00	82.15	80.21	84.40	82.69	80.77	69.07	65.83	57.92	54.86	47.33	34.24	56.85	54.86	49.14	33.32	25.77	17.59	78.31	56.01	33.33	23.23	21.78	20.21	30	7.49	3.12	1.72	3.14	0.98	-0.05	2.54	1.35	0.71	2.05	0.79	0.46	
11/7/2010	84.67	82.42	78.92	85.05	82.97	79.87	69.25	66.09	57.71	54.81	47.54	34.16	57.87	55.18	49.41	33.30	26.12	17.39	78.47	56.06	30.16	23.25	21.77	20.00	4	7.57	3.17	1.68	3.29	1.03	-0.16	2.52	1.34	0.58	2.14	0.80	0.45	
11/8/2010	84.72	82.46	79.26	85.36	83.01	79.92	69.04	65.63	58.00	56.44	46.66	33.70	57.87	54.98	49.41	33.27	25.93	18.35	75.09	54.15	31.91	23.22	21.76	19.96	9	7.44	3.43	1.67	3.23	1.11	-0.05	2.91	1.47	0.69	2.06	0.85	0.41	
11/9/2010	84.63	82.42	79.73	85.22	82.97	80.29	69.60	65.75	58.08	56.61	46.73	33.78	57.17	54.92	48.95	33.31	26.10	18.16	75.68	54.82	31.83	23.22	21.75	19.88	16	7.37	3.38	1.68	3.14	1.06	-0.02	2.89	1.47	0.67	2.08	0.86	0.41	
11/10/2010	84.24	82.40	79.33	84.69	82.95	79.86	69.01	65.72	58.00	55.18	46.72	33.40	57.76	54.87	49.30	33.30	25.99	18.12	75.87	55.37	33.25	23.22	21.69	19.83	12	7.43	3.42	1.70	3.15	1.07	0.00	2.79	1.47	0.68	2.08	0.87	0.41	
11/11/2010	85.58	82.56	80.05	85.85	83.11	80.67	69.36	65.81	57.63	56.69	46.82	33.54	57.98	55.00	49.22	33.32	26.30	18.40	77.15	56.11	33.41	23.24	21.75	19.89	3	7.77	3.47	1.69	3.27	1.10	0.05	2.92	1.50	0.69	2.13	0.87	0.36	
11/12/2010	85.03	82.68	80.29	85.63	83.23	80.74	69.41	65.89	57.57	56.07	46.99	33.92	57.84	55.16	49.25	33.28	26.75	19.65	77.64	57.54	38.75	23.22	21.84	20.19	8	7.67	3.43	1.67	3.23	1.10	0.00	2.76	1.48	0.77	2.13	0.85	0.42	
11/13/2010	85.61	82.43	80.05	86.16	82.97	80.70	70.33	66.09	57.76	55.53	47.64	34.10	59.13	55.05	49.17	33.33	26.16	17.99	78.36	57.40	35.13	23.22	21.66	19.73	29	7.65	3.12	1.72	3.11	0.95	-0.11	2.50	1.35	0.65	2.24	0.83	0.41	
11/14/2010	83.52	82.04	80.38	83.95	82.59	80.90	68.96	65.60	57.92	54.86	47.09	33.67	56.61	54.45	49.36	33.34	25.43	17.09	78.23	55.48	30.51	23.22	21.46	19.46	15	7.29	3.39	1.68	3.11	1.03	0.04	2.47	1.36	0.63	2.14	0.99	0.49	
11/15/2010	83.95	82.47	80.55	84.51	83.02	81.19	69.66	65.52	57.55	56.28	46.82	34.45	57.04	54.82	49.36	33.27	26.26	19.10	75.33	55.46	34.27	23.22	21.95	20.58	1	7.54	3.52	1.59	3.27	1.15	0.00	2.98	1.44	0.58	2.18	0.92	0.45	
11/16/2010	84.77	82.62	79.16	85.34	83.17	81.07	69.47	66.00	57.76	55.02	47.19	34.45	58.14	55.22	49.17	33.32	26.68	18.97	77.72	56.97	35.51	23.22	22.05	20.60	24	7.61	3.28	1.62	3.35	1.03	0.00	2.73	1.40	0.62	2.15	0.85	0.45	
11/17/2010	84.48	82.55	79.50	85.04	83.09	80.29	69.17	65.98	57.52	55.37	47.12	34.34	57.98	55.13	49.49	33.34	26.57	18.42	77.72	56.60	33.81	23.22	22.01	20.44	20	7.56	3.34	1.65	3.30	1.03	-0.04	2.80	1.46	0.69	2.15	0.85	0.45	
11/18/2010	84.46	82.57	80.19	84.93	83.12	80.61	69.60	65.88	57.79	56.90	47.02	34.26	57.57	55.14	49.68	33.36	26.42	18.53	76.62	55.98	33.52	23.22	22.02	20.54	17	7.62	3.38	1.64	3.30	1.06	0.00	2.98	1.47	0.69	2.14	0.85	0.44	
11/19/2010	84.22	82.59	80.26	84.78	83.14	80.34	69.39	65.89	57.63	56.34	46.87	33.78	57.52	55.16	49.49	33.33	26.28	18.69	76.81	54.94	34.06	23.22	21.97	20.57	2	7.66	3.52	1.67	3.30	1.12	-0.11	3.50	1.52	0.70	2.14	0.87	0.41	
11/20/2010	85.85	82.51	80.60	86.19	83.08	81.28	70.33	65.97	57.71	54.89	47.06	33.24	58.92	55.18	49.38	33.28	26.27	18.37	78.47	55.69	32.79	23.24	21.84	20.29	27	7.69	3.22	1.68	3.29	1.02	0.00	2.57	1.39	0.66	2.16	0.81	0.39	
11/21/2010	86.06	82.43	79.23	86.59	83.00	81.05	70.76	65.92	57.63	54.67	47.22	33.86	59.77	55.04	49.38	33.35	26.13	17.64	78.50	55.65	30.86	23.26	21.80	20.08	28	7.67	3.21	1.68	3.21	1.03	-0.03	2.53	1.35	0.61	2.17	0.82	0.30	
11/22/2010	86.16	82.59	80.55	86.23	83.15	81.21	69.33	65.76	57.57	56.31	46.81	32.76	57.52	55.13	49.33	33.29	26.31	18.84	76.91	56.12	34.54	23.23	21.83	20.03	14	7.70	3.41	1.68	3.68	1.11	0.05	3.35	1.46	0.68	2.16	0.84	0.42	
11/23/2010	84.67	82.57	78.90	85.19	83.12	80.14	69.92	65.94	57.68	55.34	47.12	33.89	57.57	55.09	49.38	33.33	26.55	18.61	77.80	56.67	33.28	23.22	21.78	19.94	19	7.84	3.35	1.29	3.45	1.06	-0.21	2.74	1.44	0.64	2.23	0.85	0.29	
11/24/2010	85.82	82.51	79.64	86.15	83.07	80.39	69.71	65.90	57.65	55.16	47.04	33.43	58.49	55.01	49.33	33.38	26.29	18.38	77.91	55.31	31.77	23.22	21.70	19.88	18	7.79	3.36	1.66	3.30	1.07	-0.05	2.62	1.43	0.65	2.19	0.87	0.43	
11/25/2010	85.66	82.60	80.38	86.44	83.17	80.80	70.65	65.91	57.76	54.62	47.11	33.70	59.26	55.12	49.52	33.33	26.50	19.43	78.42	56.57	38.67	23.22	21.67	19.97	22	7.71	3.31	1.65	3.26	1.08	0.00	2.53	1.37	0.67	2.17	0.86	0.50	
11/26/2010	85.66	82.44	72.59	86.51	83.00	73.13	69.71	66.06	57.71	55.75	47.48	31.23	60.07	55.01	45.27	33.32	25.84	17.73	78.50	55.39	32.31	23.22	21.57	19.77	25	7.91	3.26	1.67	3.31	1.01	-0.22	4.34	1.44	0.70	2.16	0.82	0.23	
11/27/2010	84.24	82.53	80.53	84.78	83.10	81.05	69.12	65.79	57.68	55.16	47.18	33.92	57.63	55.06	49.33	33.35	26.18	18.79	78.42	56.06	35.37	23.22	21.67	19.89	21	7.87	3.31	1.67	3.27	1.08	0.07	2.65	1.39	0.66	2.17	0.84	0.46	
11/28/2010	84.39	82.42	80.21	84.85	83.00	80.85	69.63	65.97	57.63	54.81	47.29	33.94	57.68	54.98	49.54	33.30	26.14	17.71	78.50	55.98	30.78	23.25	21.59	19.57	26	7.63	3.22	1.66	3.27	1.04	0.06	2.55	1.33	0.60	2.20	0.85	0.39	
11/29/2010	84.79	82.58	79.61	85.32	83.14	80.46	69.28	65.75	57.84	55.29	46.78	34.10	58.16	54.96	49.36	33.28	26.36	18.76	76.51	55.93	34.00	23.22	21.96	20.56	7	7.65	3.43	1.64	3.25	1.10	-0.09	2.85	1.44	0.64	2.16	0.89	0.45	
11/30/2010	85.39	82.73	80.14	85.84	83.29	80.76	69.25	65.94	57.71	56.31	47.12	33.73	58.00	55.33	49.38	33.29	28.17	21.03	77.75	58.81	38.19	23.22	22.32	20.86	13	7.73	3.41	1.64	3.30	1.13	-0.06	2.77	1.43	0.67	2.14	0.85	0.36	
MAX	86.16	82.73	80.60	86.59	83.29	81.28	70.76	66.09	58.08	56.93	47.64	34.67	60.07	55.33	49.68	33.38	28.17	21.03	78.50	58.81	38.75	23.26	22.32	20.86		7.908	3.520	1.724	3.680	1.152	0.07	4.342	1.524	0.769	2.237	0.991	0.502	
AVE	84.91	82.49	79.62	85.40	83.03	80.32	69.56	65.85	57.72	55.69	47.05	33.83	57.97	55.03																								

North Shore Water Commission
Extended Monthly Report (Page 2) **December 2010**
Flows Uncorrected for Distribution Activity

Date	High Service PSI (Gauge #1)			High Service PSI (Gauge #2)			WFB Tower PSI			Glen Standpipe PSI			FPT Standpipe PSI			WFB Standpipe Level (ft)			Glen Standpipe Level (ft)			FPT Tower Level (ft)			Monthly Pumpage RANK	Sum Master Meters (MGD)			WFB Flow (MGD)			Glen Flow (MGD)			FPT Flow (MGD)			
	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min		Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max
12/1/2010	85.30	82.44	79.38	85.95	83.00	80.00	69.33	66.28	57.81	55.37	47.29	33.83	57.73	55.19	49.65	33.27	26.75	18.24	78.17	59.65	38.38	23.22	22.02	20.45	22	7.34	3.14	1.69	3.16	0.94	-0.05	2.50	1.40	0.71	2.03	0.81	0.36	
12/2/2010	84.72	82.47	79.16	85.25	83.04	79.54	69.36	65.73	57.47	55.85	47.37	33.38	57.68	55.10	49.46	33.27	26.68	19.59	77.99	59.15	38.54	23.22	22.09	20.68	17	7.25	3.30	0.50	3.14	1.08	-0.04	2.46	1.38	0.46	2.05	0.83	0.07	
12/3/2010	84.70	82.30	79.47	85.48	82.86	80.45	69.07	65.81	58.08	55.05	47.27	33.81	57.44	54.99	49.36	33.28	26.92	19.60	77.72	59.01	39.48	23.23	22.17	20.84	20	7.35	3.25	1.66	3.16	1.04	-0.05	2.52	1.39	0.73	2.00	0.82	0.29	
12/4/2010	83.43	82.12	80.00	83.89	82.68	80.45	68.96	65.86	57.95	55.67	47.66	34.10	56.77	54.91	49.49	33.29	26.08	18.10	78.36	57.47	35.40	23.22	21.85	20.30	29	7.41	3.03	1.71	3.17	0.96	-0.08	2.49	1.29	0.68	2.07	0.79	0.35	
12/5/2010	83.76	81.98	78.90	84.46	82.58	79.48	68.93	65.60	57.79	54.86	47.19	34.72	57.28	54.68	49.36	33.35	25.50	17.02	78.28	55.51	31.56	23.22	21.73	19.97	24	7.40	3.13	1.67	3.01	1.02	0.00	2.45	1.29	0.61	1.99	0.82	0.42	
12/6/2010	83.81	82.27	79.61	84.29	82.86	80.24	69.15	65.42	58.00	55.99	46.78	34.02	57.33	54.84	49.46	33.25	26.35	19.25	74.58	55.17	34.57	23.22	21.91	20.11	2	7.39	3.46	1.66	3.16	1.15	0.00	2.77	1.44	0.69	2.02	0.87	0.39	
12/7/2010	84.29	82.46	78.61	84.85	83.05	79.10	68.99	65.76	57.49	56.34	46.96	34.16	57.41	55.02	49.44	33.30	28.19	21.33	76.38	58.44	39.29	23.22	22.06	20.39	5	7.72	3.45	1.67	3.31	1.15	0.02	2.83	1.45	0.71	2.14	0.84	0.39	
12/8/2010	84.41	82.14	75.97	84.81	82.74	76.67	69.09	66.12	57.44	55.05	47.15	34.56	56.71	53.79	49.76	33.31	26.70	18.48	77.61	59.14	37.55	23.21	21.11	19.91	21	7.19	3.16	1.65	2.89	0.94	-0.07	2.65	1.41	0.63	1.99	0.80	0.26	
12/9/2010	83.98	82.27	79.28	84.51	82.87	80.03	68.96	65.64	57.92	55.53	47.16	34.24	57.12	54.86	49.30	33.33	26.50	19.20	77.61	58.13	38.22	23.22	21.82	20.09	13	7.66	3.38	1.65	3.33	1.09	0.03	2.73	1.44	0.70	2.06	0.84	0.36	
12/10/2010	84.00	82.25	80.26	84.57	82.84	80.73	69.44	65.74	57.95	55.29	47.12	33.75	57.38	54.91	49.36	33.30	26.55	19.63	77.64	58.16	39.24	23.22	21.83	20.22	19	7.49	3.25	0.54	3.13	1.04	0.03	2.65	1.40	0.68	2.02	0.81	0.42	
12/11/2010	83.88	82.13	79.83	84.28	82.73	80.34	68.90	65.85	57.55	54.86	47.56	33.83	57.14	54.86	49.57	33.31	26.18	18.49	78.39	58.09	38.65	23.22	21.69	19.90	27	7.34	3.06	1.72	3.10	0.97	0.05	2.48	1.30	0.72	2.03	0.79	0.42	
12/12/2010	83.16	81.86	79.16	83.70	82.48	79.81	68.90	65.67	57.92	54.75	47.54	33.51	56.93	54.35	49.62	33.29	25.43	16.22	78.39	58.85	35.91	23.22	21.30	18.70	9	7.64	3.40	1.70	3.08	0.98	0.00	2.48	1.36	0.60	2.35	1.06	0.39	
12/13/2010	84.03	82.35	79.21	84.53	82.95	79.90	69.36	65.45	57.57	54.94	47.15	33.70	56.87	54.28	49.54	33.33	25.46	17.14	77.77	58.52	38.14	23.22	21.49	19.73	1	7.98	3.90	1.65	3.40	1.13	0.00	2.78	1.57	0.82	2.34	1.20	0.48	
12/14/2010	84.12	82.21	79.54	84.88	82.83	80.14	69.31	65.55	57.95	55.40	47.23	33.94	57.76	54.81	49.60	33.27	25.74	17.45	77.77	60.32	41.57	23.22	21.93	20.28	6	7.39	3.43	1.54	3.24	1.08	0.00	2.60	1.49	0.84	2.04	0.86	0.44	
12/15/2010	85.34	82.28	78.92	85.73	82.89	79.58	69.90	65.58	57.71	55.16	47.60	33.46	57.63	54.89	49.57	33.30	25.85	17.71	78.17	60.78	41.23	23.22	21.92	20.28	12	7.62	3.37	1.69	3.20	1.07	-0.13	2.57	1.45	0.83	2.11	0.84	0.41	
12/16/2010	84.79	82.24	79.71	85.95	82.86	80.25	69.33	65.69	58.16	54.91	47.70	34.32	57.95	54.92	49.49	33.31	25.66	17.16	78.34	60.46	40.53	23.22	21.89	20.21	16	7.30	3.32	1.67	3.19	1.04	-0.04	2.59	1.46	0.86	2.02	0.82	0.38	
12/17/2010	83.45	82.01	79.88	83.93	82.63	80.49	69.23	65.43	57.81	56.18	47.44	34.37	56.79	54.70	49.57	33.31	25.35	17.34	77.85	59.76	42.11	23.22	21.85	20.28	8	7.46	3.40	1.69	3.19	1.08	-0.05	2.53	1.49	0.85	2.02	0.84	0.42	
12/18/2010	83.50	81.94	79.78	84.09	82.55	80.22	68.93	65.52	57.89	54.91	47.73	34.26	57.09	54.66	49.65	33.31	25.17	16.70	78.42	59.76	41.12	23.22	21.68	19.91	18	7.44	3.28	1.74	3.17	1.04	0.00	2.55	1.41	0.77	2.05	0.83	0.46	
12/19/2010	83.81	81.90	79.09	84.47	82.51	80.11	68.77	65.41	57.01	54.73	47.66	34.05	57.33	54.55	49.62	33.34	24.92	16.31	78.36	58.97	36.69	23.25	21.64	19.83	14	7.54	3.33	1.73	3.51	1.07	0.00	2.79	1.40	0.76	2.08	0.86	0.45	
12/20/2010	83.79	82.01	79.23	84.43	82.62	79.90	69.15	65.31	57.84	55.29	47.01	33.57	57.04	54.64	49.70	33.27	25.18	17.27	77.61	57.90	36.31	23.21	21.63	19.66	3	7.47	3.46	1.67	3.25	1.12	-0.04	2.67	1.49	0.78	2.07	0.86	0.38	
12/21/2010	83.62	82.03	79.78	84.09	82.64	80.48	69.76	65.44	57.98	57.01	46.78	33.94	57.12	54.63	49.68	33.28	25.50	17.57	76.59	57.31	35.85	23.22	21.65	19.72	7	7.64	3.43	1.67	3.25	1.10	0.02	2.76	1.47	0.71	2.06	0.87	0.39	
12/22/2010	83.64	82.00	78.78	84.38	82.61	79.45	68.99	65.49	57.84	55.18	46.75	33.75	57.22	54.59	49.79	33.27	25.43	17.27	75.44	56.57	37.55	23.22	21.60	19.64	4	7.48	3.45	1.68	3.31	1.09	0.05	2.66	1.48	0.77	2.07	0.88	0.45	
12/23/2010	84.03	81.98	79.35	84.51	82.59	80.08	69.04	65.46	57.76	55.64	47.23	33.83	57.33	54.56	49.62	33.30	25.31	17.21	78.01	58.37	39.40	23.22	21.54	19.58	11	7.45	3.39	1.71	3.22	1.08	-0.07	2.54	1.42	0.75	2.06	0.90	0.47	
12/24/2010	83.57	82.06	79.28	84.21	82.67	79.97	68.77	65.48	57.25	54.75	47.53	34.13	57.09	54.65	49.68	33.28	25.39	18.05	78.36	59.23	42.25	23.22	21.53	19.72	15	7.48	3.32	1.70	3.14	1.09	0.03	2.52	1.35	0.72	2.10	0.89	0.52	
12/25/2010	83.62	82.20	80.19	84.17	82.81	80.68	68.77	65.62	57.52	54.86	48.00	34.59	56.90	54.83	49.60	33.33	26.15	19.30	78.50	61.78	46.49	23.22	21.71	20.05	28	7.16	3.05	1.60	2.98	1.01	0.05	2.32	1.21	0.58	2.03	0.82	0.38	
12/26/2010	84.22	82.15	79.78	84.85	82.76	80.63	69.15	65.83	57.57	54.86	48.32	36.06	57.71	54.85	49.60	33.28	26.33	18.49	78.50	61.91	44.18	23.22	21.71	19.86	30	7.37	3.01	1.51	3.19	0.97	0.00	2.50	1.23	0.56	2.01	0.81	0.33	
12/27/2010	83.35	81.80	79.71	83.87	82.41	80.43	68.90	65.63	57.73	55.13	47.93	35.37	56.58	54.47	49.84	33.30	25.02	16.05	78.39	58.89	37.04	23.21	21.55	19.79	23	7.41	3.14	1.74	3.15	0.96	0.00	2.43	1.34	0.77	2.04	0.84	0.48	
12/28/2010	83.47	81.98	78.99	84.21	82.60	80.56	68.77	65.30	57.76	55.16	47.23	34.56	56.79	54.59	49.62	33.32	24.99	17.14	77.96	58.12	39.94	23.24	21.75	20.13	10	7.29	3.39	1.67	3.24	1.09	0.00	2.49	1.44	0.77	2.00	0.86	0.46	
12/29/2010	83.81	81.58	79.81	84.42	82.19	80.39	69.20	65.46	57.55	55.21	47.51	34.69	57.47	54.39	49.62	33.31	24.01	14.15	78.28	55.74	29.81	23.17	21.26	19.18	31	7.34	2.94	1.15	3.14	0.89	-0.19	2.52	1.30	0.58	2.02	0.74	0.34	
12/30/2010	83.28	81.66	79.57	83.66	82.27	80.36	69.23	65.10	57.57	55.40	46.65	33.59	56.58	54.24	49.73	32.84	22.96	14.32	74.71	51.91	29.38	23.22	21.29	19.46	25	7.37	3.13	1.12	3.19	0.98	-0.23	2.50	1.33	0.47	2.03	0.81	0.35	
12/31/2010	83.93	81.32	79.38	84.37	81.93	80.14	69.39	64.49	57.33	55.61	46.28	33.94	57.17	54.02	49.81	33.02	24.16	16.65	76.35	51.07	25.38	23.25	20.99	18.45	26	7.21	3.09	0.52	2.94	1.07	-0.30	2.44	1.27	0.30	1.99	0.75	0.21	
MAX	85.34	82.47	80.26	85.95	83.05	80.73	69.90	66.28	58.16	57.01	48.32	36.06	57.95	55.19																								

2010
NORTH SHORE WATER COMMISSION
ANNUAL REPORT

400 West Bender Road
Glendale, Wisconsin

Whitefish Bay - Glendale - Fox Point

NORTH SHORE WATER FILTRATION PLANT

WHITEFISH BAY - GLENDALE - FOX POINT, WISCONSIN

2010 PUMPAGE REPORT

All values are in units of MG unless noted otherwise

<i>METERING AT PLANT</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Whitefish Bay Master Meter	32.872	30.926	32.005	31.200	37.810	38.409	45.288	45.679	36.392	36.445	32.065	32.307	431.398
Backward Flow	-0.550	-0.281	-0.876	-0.544	-0.258	-0.058	-0.002	-0.010	-0.008	-0.001	0.000	0.000	-2.588
Glendale Master Meter	44.254	38.703	42.908	42.468	51.528	51.899	59.774	61.115	50.570	48.675	43.011	43.155	578.060
Backward Flow	0.000	0.000	0.000	0.000	0.000	-0.001	0.000	0.000	0.000	0.000	0.000	0.000	-0.001
Fox Point Master Meter	25.930	23.021	25.364	24.940	31.661	30.951	35.139	37.614	31.509	29.212	25.707	26.377	347.425
Backward Flow	0.000	0.000	0.000	0.000	0.000	-0.005	-0.010	-0.019	0.000	-0.004	0.000	0.000	-0.038
Total Pumpage	102.506	92.369	99.401	98.064	120.741	121.195	140.189	144.379	118.463	114.327	100.783	101.839	1354.256

<i>METERING IN DISTRIBUTION SYSTEM</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Henry Clay Meter - To WFB	2.088	2.457	1.883	1.196	0.957	1.112	0.567	0.389	0.174	0.315	0.238	0.707	12.083
Henry Clay Meter - To GLEN	0.035	0	0.012	0.143	0.282	0.046	0.075	1.506	1.724	1.198	1.224	0.599	6.844
Green Tree Meter - To FPT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Green Tree Meter - To GLEN	6.254	5.508	6.259	5.945	6.961	7.335	7.291	8.197	6.243	6.569	5.802	5.874	78.238
School Road Meter - To WFB	0.115	0.158	0.110	0.107	0.101	0.114	0.121	0.080	0.063	0.096	0.086	0.091	1.242
Adjustments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
School Road Meter - To FPT	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.001	0.004	0.001	0.001	0.001	0.013
Adjustments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Port Washington Rd Meter - To MEQ	2.862	2.542	2.871	2.663	4.064	3.702	4.396	5.173	4.150	3.577	3.137	3.099	42.236
Adjustments	0.000	0.000	-0.001	-0.001	0.002	-0.003	0.000	-0.001	0.997	-0.002	0.000	0.000	0.991
Greenville Meter - To MEQ	0.656	0.570	0.621	0.596	0.738	0.696	0.766	0.829	0.697	0.599	0.652	0.704	8.124
Adjustments	0.000	-0.004	0.000	0.000	0.031	-0.001	-0.002	0.000	0.278	0.000	0.000	0.000	0.302

<i>ALLOCATION OF WATER</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Whitefish Bay	34.490	33.260	33.110	31.816	38.328	39.526	45.899	44.631	34.893	35.656	31.164	32.505	435.278
Glendale	48.455	41.754	47.296	47.360	57.814	58.167	66.573	70.429	58.363	56.127	49.799	48.921	651.058
Fox Point	16.043	14.247	15.504	15.630	19.764	19.108	22.557	23.318	19.085	18.370	16.031	16.610	216.267
Member Total	98.988	89.261	95.910	94.806	115.906	116.801	135.029	138.378	112.341	110.153	96.994	98.036	1302.603
Mequon / We Energies	3.518	3.108	3.491	3.258	4.835	4.394	5.160	6.001	6.122	4.174	3.789	3.803	51.653
Pumpage Total	102.506	92.369	99.401	98.064	120.741	121.195	140.189	144.379	118.463	114.327	100.783	101.839	1354.256

<i>Statistics</i>	Comm. %	Total %	Max Instant Flow (MGD)			
			Max Day	Ave. Day	Med. Day	at Master Meters
Whitefish Bay	33.42%	32.14%	2.336	1.193	1.159	4.220
Glendale	49.98%	48.07%	3.041	1.784	1.764	4.342
Fox Point	16.60%	15.97%	1.285	0.593	0.556	3.177
Mequon / We Energies		3.81%	0.445	0.142	0.131	

NORTH SHORE WATER FILTRATION PLANT

WHITEFISH BAY - GLENDALE - FOX POINT, WISCONSIN

2010 SUMMARY OF OPERATIONS

<i>VARIABLE TREATMENT COSTS</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
Chemicals (\$/MG)	77.41	69.21	64.58	62.99	57.32	56.87	62.88	59.89	60.91	64.27	67.59	80.29	65.35
Power (KWH per MG)	2126	2204	2126	2246	2065	2120	2043	1957	1974	1960	2178	2208	2100.58
Power (\$/MG)	156.3	157.85	142.28	160.08	147.55	144.09	139.96	138.06	142.36	144.18	156.14	160.73	149.13
Power (\$/KWH)	0.07351	0.07161	0.06692	0.07129	0.07147	0.06798	0.06851	0.07056	0.07210	0.07355	0.07170	0.07280	0.071000

<i>PHYSICAL CHARACTERISTICS</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
Average Pressure (PSI)	82.2	82.2	82.0	82.0	82.0	82.0	82.7	82.8	82.6	82.6	83.0	82.7	82.4
Average Water Temperature (F)	33.0	32.0	36.0	43.0	47.0	55.0	50.0	55.0	49.0	54.0	45.0	36.0	44.6

<i>WATER QUALITY</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
Average Raw Turbidity (NTU)	11.5	7.9	3.2	3.1	2.5	1.4	1.1	1.0	0.9	1.8	3.1	12.6	4.2
Ave. Filter Effluent Turbidity (NTU)	0.07	0.08	0.05	0.06	0.07	0.08	0.07	0.08	0.05	0.06	0.04	0.04	0.06
Ave. Raw MPN Index (Total Coliform)	20.1	3.8	8.8	1.0	5.2	14.1	30.7	12.2	3.0	4.5	4.2	4.2	9.3
Average Raw pH	8.01	8.05	8.24	8.27	8.27	8.36	8.22	8.23	8.00	8.24	8.15	8.09	8.18
Average Tap pH	7.60	7.68	7.87	7.88	7.92	7.93	7.83	7.85	7.68	7.84	7.73	7.54	7.78
Average Tap Hardness (mg/L)	140	139	138	138	137	137	135	135	137	137	138	137	137
Average Tap Alkalinity (mg/L)	108	109	111	112	111	112	112	113	113	113	113	111	112
Average Tap Fluoride Residual (mg/L)	1.19	1.19	1.10	1.12	1.05	1.09	1.11	0.89	0.95	1.15	1.09	1.16	1.09
Ave. Tap Tot. Chlorine Residual (mg/L)	2.50	2.55	2.42	2.45	2.31	2.30	2.55	2.41	2.47	2.46	2.49	2.54	2.45

<i>CHEMICALS APPLIED-ACTIVE (PPM)</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
Sodium Hypochlorite	3.04	2.84	2.93	3.06	2.96	3.01	3.45	3.08	3.11	3.11	2.98	2.95	3.04
Aqua Ammonia	0.55	0.55	0.54	0.54	0.52	0.52	0.59	0.55	0.56	0.54	0.57	0.60	0.55
Carbon	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
Fluoride	1.30	1.33	1.27	1.25	1.15	1.24	1.28	1.10	1.26	1.45	1.53	1.55	1.31
Alum	11.71	8.73	6.11	5.90	5.13	4.56	5.30	5.24	6.04	6.48	7.71	13.67	7.22
Phosphates	2.63	2.21	2.49	2.25	2.02	1.83	1.87	2.28	2.33	2.43	2.52	2.59	2.29
Potassium Permanganate	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
Polymer	0.60	0.59	0.58	0.54	0.41	0.41	0.56	0.55	0.58	0.56	0.52	0.54	0.54

<i>CHEMICALS APPLIED (ACTIVE LBS)</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Sodium Hypochlorite	2597	2189	2427	2501	2973	3047	4026	3702	3066	2958	2503	2501	34490
Aqua Ammonia	466	420	449	439	518	526	685	658	548	514	481	507	6211
Carbon	0	0	0	0	0	0	0	0	0	0	0	0	0
Fluoride	1107	1027	1055	1022	1158	1253	1495	1324	1241	1383	1284	1311	14660
Alum	10004	6722	5060	4822	5164	4619	6188	6299	5961	6172	6473	11604	79088
Phosphates	2244	1703	2059	1837	2028	1854	2183	2747	2303	2318	2118	2195	25589
Potassium Permanganate	0	0	0	0	0	0	0	0	0	0	0	0	0
Polymer	515	450	478	440	412	410	659	666	568	530	434	462	6024

NORTH SHORE WATER COMMISSION
FIVE HIGHEST DELIVERY DAYS
2007--2009--2010
(2008 EXCLUDED BY RESOLUTION)

DATE	WHITEFISH BAY		GLENDALE		FOX POINT WE / MEQ		FOX POINT		TOTAL
	M.G.	PCT.	M.G.	PCT.	M.G.	M.G.	M.G.	PCT.	M.G.
<i>2007*</i>									
July 8	2.757	35.5%	3.254	41.9%	2.021	0.260	1.761	22.7%	7.772
July 7	2.532	34.3%	3.215	43.5%	1.897	0.260	1.637	22.2%	7.384
August 1	2.573	34.8%	3.325	44.9%	1.691	0.190	1.501	20.3%	7.399
July 31	2.573	35.3%	3.325	45.6%	1.659	0.260	1.399	19.2%	7.297
July 23	2.452	34.8%	3.199	45.4%	1.648	0.260	1.388	19.7%	7.039
<i>2009‡</i>									
July 8	2.310	36.0%	2.823	44.0%		0.432	1.285	20.0%	6.418
July 7	2.185	34.4%	2.983	47.0%		0.445	1.184	18.6%	6.352
August 1	2.109	33.7%	2.950	47.2%		0.247	1.191	19.1%	6.250
July 31	2.124	34.7%	3.041	49.7%		0.428	0.955	15.6%	6.120
July 23	2.053	33.6%	2.904	47.5%		0.278	1.153	18.9%	6.110
<i>2010‡</i>									
August 19	1.821	33.9%	2.680	49.9%		0.258	0.873	16.2%	5.374
July 6	1.796	34.4%	2.574	49.2%		0.195	0.859	16.4%	5.228
August 30	1.699	32.8%	2.562	49.4%		0.226	0.922	17.8%	5.183
August 27	1.509	29.4%	2.765	53.8%		0.221	0.865	16.8%	5.139
August 28	1.723	34.0%	2.459	48.6%		0.194	0.882	17.4%	5.064
TOTALS	32.216	34.23%	44.059	46.81%			17.855	18.97%	94.129

*Fox Point consumption excludes daily average consumption of We Energies.
‡Daily delivery volumes adjusted for distribution activity (see calculations below).

2009 Calculations

WHITEFISH BAY

DATE	Plant Meter	Henry Clay	Green Tree	School Rd	Port Wash.	Greenville	Ending Value
August 3	2.227	0.083	0.000	0.000	0.000	0.000	2.310
August 5	2.156	0.029	0.000	0.000	0.000	0.000	2.185
July 29	2.086	0.023	0.000	0.000	0.000	0.000	2.109
August 4	2.119	0.005	0.000	0.000	0.000	0.000	2.124
August 6	2.055	-0.002	0.000	0.000	0.000	0.000	2.053

GLENDALE

DATE	Plant Meter	Henry Clay	Green Tree	School Rd	Port Wash.	Greenville	Ending Value
August 3	2.906	-0.083	0.000	0.000	0.000	0.000	2.823
August 5	3.012	-0.029	0.000	0.000	0.000	0.000	2.983
July 29	2.973	-0.023	0.000	0.000	0.000	0.000	2.950
August 4	3.046	-0.005	0.000	0.000	0.000	0.000	3.041
August 6	2.902	0.002	0.000	0.000	0.000	0.000	2.904

FOX POINT

DATE	Plant Meter	Henry Clay	Green Tree	School Rd	Port Wash.	Greenville	Ending Value
August 3	1.717	0.000	0.000	0.000	0.395	0.037	1.285
August 5	1.629	0.000	0.000	0.000	0.405	0.040	1.184
July 29	1.438	0.000	0.000	0.000	0.207	0.040	1.191
August 4	1.383	0.000	0.000	0.000	0.377	0.051	0.955
August 6	1.431	0.000	0.000	0.000	0.251	0.027	1.153

2010 Calculations

WHITEFISH BAY

DATE	Plant Meter	Henry Clay	Green Tree	School Rd	Port Wash.	Greenvale	Ending Value
August 19	1.889	-0.072	0.000	0.004	0.000	0.000	1.821
July 6	1.784	0.004	0.000	0.008	0.000	0.000	1.796
August 30	1.709	-0.012	0.000	0.002	0.000	0.000	1.699
August 27	1.649	-0.142	0.000	0.002	0.000	0.000	1.509
August 28	1.697	0.024	0.000	0.002	0.000	0.000	1.723

GLENDALE

DATE	Plant Meter	Henry Clay	Green Tree	School Rd	Port Wash.	Greenvale	Ending Value
August 19	2.317	0.072	0.291	0.000	0.000	0.000	2.680
July 6	2.507	-0.004	0.071	0.000	0.000	0.000	2.574
August 30	2.261	0.012	0.289	0.000	0.000	0.000	2.562
August 27	2.309	0.142	0.314	0.000	0.000	0.000	2.765
August 28	2.206	-0.024	0.277	0.000	0.000	0.000	2.459

FOX POINT

DATE	Plant Meter	Henry Clay	Green Tree	School Rd	Port Wash.	Greenvale	Ending Value
August 19	1.426	0.000	-0.291	-0.004	0.227	0.031	0.873
July 6	1.132	0.000	-0.071	-0.008	0.162	0.033	0.859
August 30	1.439	0.000	-0.289	-0.002	0.198	0.028	0.922
August 27	1.402	0.000	-0.314	-0.002	0.191	0.030	0.865
August 28	1.355	0.000	-0.277	-0.002	0.162	0.032	0.882

NORTH SHORE WATER COMMISSION
Information for Public Service Commission Reports
1/7/2011
Eric Kiefer

ELECTRIC KWH CONSUMPTION FOR 2010 PSC REPORT

JANUARY	217943	KWH
FEBRUARY	203593	KWH
MARCH	211350	KWH
APRIL	220209	KWH
MAY	249279	KWH
JUNE	256889	KWH
JULY	286417	KWH
AUGUST	282491	KWH
SEPTEMBER	233902	KWH
OCTOBER	224117	KWH
NOVEMBER	219463	KWH
DECEMBER	224836	KWH
	<hr/>	
	2830489	KWH

WHITEFISH BAY TOTAL KWH	2830489	x 2010 WATER USE PERCENT 33.42% =	945949 KWH
GLENDALÉ TOTAL KWH	2830489	x 2010 WATER USE PERCENT 49.98% =	1414678 KWH
FOX POINT TOTAL KWH	2830489	x 2010 WATER USE PERCENT 16.6% =	469861 KWH
			<hr/>
			2830489 KWH

MAXIMUM & MINIMUM METERED WATER USAGE FOR 2010

	WHITEFISH BAY	GLENDALÉ	FOX POINT
DATE	8/29/2010	8/27/2010	8/25/2010
MAX	1.873 MGD	2.765 MGD	1.235 MGD
REASON	Hot weather	Hot weather	Hot weather
DATE	4/8/2010	12/26/2010	12/29/2010
MIN	0.558 MGD	1.281 MGD	0.412 MGD
REASON	Pumped down tower	Cold weather	Cold weather

January 7, 2011

NORTH SHORE WATER COMMISSION

Calculation of the 2011 payment schedule for the three municipalities pursuant to Sections 6.02 and 6.04 of the agreement has been completed.

Percentages of the total water consumed

Year	2010	2009	2008
Whitefish Bay	33.42%	33.88%	34.37%
Glendale	49.98%	49.14%	43.53%
Fox Point	16.60%	16.98%	22.10%

Payment Schedule for 2011

Whitefish Bay	33.42% of \$1,405,183.00 equals	\$469,612.16
	Monthly payment (rounded)	\$39,134.35
Glendale	49.98% of \$1,405,183.00 equals	\$702,310.46
	Monthly payment (rounded)	\$58,525.87
Fox Point	16.6% of \$1,405,183.00 equals	\$233,260.38
	Monthly payment (rounded)	\$19,438.37

North Shore Water Commission 2011 Approved Budget \$1,405,183.00

Please keep in mind that the 2010 financial audit may affect the total amount due from each municipality in 2011. Also keep in mind that this above payment schedule does not include any payments for Capital Improvements items which may be approved by this Commission and the municipalities during the year.

To improve our ability to track payments, please include a reference number on your check in the following format: (WFB/GLEN/FPT)_OPS_(MM)_(YYYY). For example:
Reference # for January 2011 payment from Glendale: GLEN OPS_01_2011
Reference # for October 2011 payment from Fox Point: FPT OPS_10_2011

Respectfully,

Eric Kiefer
Plant Manager