



Monthly Operating Report

November 2016



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So. Sangamon

December 20, 2016

woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

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EXECUTIVE SUMMARY

Safety is the number one priority at Woodard and Curran. We continue to provide monthly training for employees at the plant, provide weekly safety updates, and safety videos are assigned to all employees. There were no lost time accidents for the month. Laura Bonk, Joanna Wallace's successor, continues to monitor the progress of the Safety Audit from Portland, Maine. Approximately 86 percent of the items identified in the safety audit performed in May 2015 have been completed. Laura Bonk was on-site in early November 2016 to review the audit and inspect the plant. A few minor issues were noted. Work orders will be developed for the minor issues and they will be completed as time allows.

The finished water quality was within regulatory limits and all reporting and sampling requirements were met for November.

On December 1, 2016, the SSWC received a letter from the Illinois Environmental Protection Agency (IEPA) regarding the Special Exception Permit (SEP). Every water supply is required to maintain and submit Monthly Operating Reports (MOR's) to the Springfield Regional Office. The SEP outlines what must be reported and how often on a monthly basis. As you may recall, as part of the Modified Comprehensive Plant Evaluation the commission was required to do additional testing for Chloride and Manganese monitoring. After meeting with IEPA last fall, the Chloride testing is no longer required. Other testing was also relaxed as a result of the finding here at the plant.

The plant filtered 33.6 million gallons of water for the month.

For the month of November 2016, there were 6 inspections, 9 preventative and 4 corrective maintenance activities completed. There was one alarm and a one main break on the transmission main that required personnel at the plant after normal operating hours. There was one customer inquiry for the month.

Through November 2016, the project is approximately \$20,096 over budget for the second year of the three-year contract.

Woodard and Curran is working with Mecor Engineering to update and prioritize the Capital Improvement Plan (CIP). The CIP is a planning document that includes all projects anticipated to exceed \$5,000 in cost over the next five years. The CIP is an ongoing process and will be refined from time to time as projects are completed and new issues are identified. As part of the rate study being conducted by Curry and Associates, work to update the CIP will begin soon.



1. SAFETY

1.1 SAFETY TRAINING

Woodard and Curran continues to provide safety training for personnel at the plant. This is accomplished by requiring daily safety meetings, weekly safety updates are emailed to the plant and safety videos are assigned to all employees and are required to be completed.

1.2 LOST TIME ACCIDENTS

There were no lost time accidents in the month of November, 2016.

1.3 SAFETY AUDIT

To date, approximately 86 percent of the items identified have been addressed.

1.4 MISCELLANEOUS SAFETY

On November 7, 2016, Laura Bonk, Health and Safety Manager for Woodard and Curran, was on-site to inspect the plant and grounds. A few minor issues were noted. Work orders will be developed for the minor issues and they will be completed as time allows.

2. COMPLIANCE, FLOWS AND LOADINGS

2.1 COMPLIANCE

The finished water quality was within regulatory limits and all reporting and sampling requirements were met for November. A copy of the MOR submitted to the IEPA is included in Attachment B of this report.

On December 1, 2016, the SSWC received a letter from the Illinois Environmental Protection Agency (IEPA) regarding the Special Exception Permit (SEP). Every water supply is required to maintain and submit Monthly Operating Reports (MOR's) to the Springfield Regional Office. The SEP outlines what must be reported and how often on a monthly basis. As you may recall, as part of the Modified Comprehensive Plant Evaluation the commission was required to do additional testing for Chloride and Manganese monitoring. After meeting with IEPA last fall, the Chloride testing is no longer required. Other testing was also relaxed as a result of the finding here at the plant.

A copy of the letter received from IEPA regarding the SEP is included at the end of this report in Attachment A.

2.2 INFLUENT FLOWS AND LOADINGS

The total water produced for the month of November, 2016 was 37.9 MG and the influent parameters were all within the normal range.

A summary of the influent flow characteristics is included below in Table 2.2

Table 2.2 Influent Concentrations and Flow								
	pH	Temp	FE	Mn	Fluoride	Hardness	Alkalinity	Well Flow Gals (k)
Max.	7.47	15.1	1.65	0.253	0.27	380	294	1.883
Min.	7.26	13.7	0.60	0.222	0.11	362	279	0.882
Avg.	7.34	14.4	0.89	0.235	0.18	372	287	1.265
Total	-	-	-	-	-	-	-	37.944

2.3 EFFLUENT CONCENTRATIONS

The facility filtered 33.6 MG during the month with a daily average of 1.12 MG and a min/max of 0.78/1.66 MG. A summary of the effluent flow characteristics is included below in Table 2.3

Table 2.3 Finished Water Quality										
	Free CL2	Total CL2	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
Max.	1.6	1.8	7.89	15.4	0.02	0.021	1.11	128	286	1.00
Min.	0.9	1.0	7.55	13.8	0.00	0.003	0.79	116	230	0.16
Avg.	1.4	1.6	7.67	14.6	0.01	0.014	0.88	121	268	0.77
MCL		-			1.00	-	4.00	-	-	-
SMCL		-			0.30	0.050	2.00	-	-	-

2.4 LAGOON DISCHARGE CONCENTRATIONS

On August 12, 2016, the Illinois Environmental Protection Agency issued the final NPDES Permit for discharge. The permit became effective August 12, 2016 and will expire on July 31, 2021.

The results for the NPDES lagoon discharge permit are summarized below.

Table 2.4 Weekly Grab Sample Analysis Results

Lagoon Effluent Results						
Date	Fe (mg/l)	Mn (mg/l)	Chloride (mg/l)	Cl ² (mg/l)	pH (S.U.)	TSS (mg/l)
November 3, 2016	0.420	0.596	325	0.02	7.60	0.00
Minimum						
Maximum						
Average						
Monthly Avg Limit	2.0	1.0	-	-	-	15
Daily Limit	4.0	2.0	500	0.05	6.0-9.0	30

The Chloride sample for the month of November 2016, performed by the Springfield Metropolitan Sanitary District, was 18,500 mg/L. The limit for chloride discharge to the sanitary district is 30,000 mg/L

Because the plant has been in operation for almost five years, we dropped the level of the East Lagoon to determine if cleaning would be needed next summer. The last estimate we have to clean the lagoon was \$45,000 per lagoon. Below is a picture of the east lagoon facing south.



3. OPERATIONS

3.1 EVENTS IMPACTING OPERATIONS

On November 3, 2016, we received an “Ion Exchange Common Alarm - Brine Pump #1” alarm. This event was likely the result of debris from the bottom of the tank when emptying Brine Tank #2 for cleaning. We installed the backup pump and parts have been ordered to repair the original pump.

On November 7, 2016, we received a “Low Chlorine” alarm on the finished water leaving the plant. Upon investigation we found the Y Strainer was partially clogged. We cleaned the strainer as well as the insertion quill. Once completed, the pump was put back in service.

On November 12, 2016, we received a “Well 9 Power Fail” alarm. Upon investigation, the battery in the UPS failed and the well lost power. The battery was replaced and Well 9 was placed back in service.

On November 15, 2016, foundations were poured for the Hydro-Pneumatic tanks to be installed by Prairie State Plumbing and Heating. Below are pictures of the forms set the previous day.



On November 16, 2016, we received a “Loss of Comms” alarm on the WesTech Filters. Upon investigation we found the breakers had tripped. Once reset, the effected banks were returned to service.

On November 19, 2016, we received a series of “Pre-Filter alarm” on Train 2. The filter has been removed, cleaned and put back in service on the same day.

3.2 EMERGENCY & SERVICE CALLS

3.2.1 Emergency Call-outs

- On November 13, 2016, the transmission main had a break just north of the bridge between New City Road and Rochester. The break occurred around mid-day. Repairs were completed around 9:30 pm. The line was flushed for approximately 6 six hours after the break. Samples were

obtained on Monday morning and the plant went back on line Tuesday mid-morning. Below are some of the pictures we took the day of the break.



3.3 CUSTOMER INQUIRIES

There was one customer inquiry for the month of November:

- A FOIA request from Laura VanProyen.

4. MAINTENANCE AND REPAIR

4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE

For the month of November 2016, there were 6 inspections, 9 preventative and 4 corrective maintenance activities for the month.

4.2 CORRECTIVE REPAIRS

There were four corrective repairs for the month of November, 2016

- On November 9, 2016, 8" upper manifold on Train 3 was replaced. The existing piece had developed a hairline crack due to stress on the end of the pipe under the groove lock clamp.



- One of the pumps previously used to pump Chlorine was moved to the Fluoride on November 21, 2016. The pump was installed, calibrated, tested and placed into service.
- Anderson Electric was on-site November 18, 2016 to replace the motor in the heater in the Caustic room.
- Anderson Electric was on-site November 21, 2016 to repair lighting on the perimeter of the building.

Illinois Electric Works was on-site on November 8, 2016 to disassemble High Service Pump #5. As you may recall, we had this same work done in 2015 for High Service Pump #3. New wear rings were installed in the pump. Once installation was complete, a Bac-T was pulled off the pump and it passed. The pump is now back on-line and is running. Below are the pictures while the pump was disassembled:





5. PROJECT MANAGEMENT & SUPPORT

5.1 STAFFING & TRAINING

Woodard and Curran continues to train and provide staffing to the plant as needed.

- The safety video assigned for the month of November was the “what if mentality”.

5.2 CORPORATE SUPPORT

The following individuals, either on-site or remotely, provided assistance in operation and/or maintenance of the plant in September 2016

- Marc Thomas
- Joe Hurley
- Celina McManus
- Ray Giguere
- Laura Bonk
- Alan Fabiano

5.3 BUDGET

The table below illustrates the current status of the budget as of November 28, 2016

Table 5.3 Budget Table

Budget Category	Month Budget	Month Actual	YTD Budget	YTD Actual	Annual Budget	Over (under)	% of budget
Labor (D.L. + OH)	\$22,926	\$24,116	\$160,484	\$175,768	\$275,115	\$15,285	64%
Utilities	\$8,113	\$9,700	\$56,788	\$53,756	\$97,350	(\$3,032)	55%
Chemicals	\$14,875	\$6,282	\$104,125	\$90,240	\$178,500	(\$13,885)	51%
Maintenance & Repair	\$7,925	\$3,843	\$55,475	\$64,544	\$95,100	\$9,069	68%
Chloride	\$11,688	\$13,785	\$81,818	\$86,360	\$140,260	\$4,542	62%
Lab Supplies and Equipment	\$1,946	\$602	\$13,624	\$13,052	\$23,355	(\$572)	56%
Office Supplies	\$267	\$159	\$1,867	\$2,106	\$3,200	\$239	66%
Miscellaneous Expenses	\$1,243	\$811	\$8,700	\$10,481	\$14,914	\$1,781	70%
Other Operating Costs	\$339	\$1,388	\$2,375	\$9,044	\$4,072	\$6,668	222%
Subtotal of Costs for Contract Year 2	\$69,322	\$60,686	\$485,255	\$505,351	\$831,866	\$20,096	61%
Fixed Fee for Contract Year 2	\$6,932	\$6,932	\$48,526	\$48,526	\$83,187	\$0	58%
Year One Transition	\$1,366	\$1,366	\$9,560	\$9,560	\$16,389	\$0	58%
Total	\$77,620	\$68,984	\$543,341	\$563,437	\$931,442	\$20,096	60%

6. CAPITAL PLANNING

6.1 APPROVED CAPITAL IMPROVEMENT PROJECTS

Construction has begun on one of the Priority #1 Projects (Projects E, F and G on the Capital Improvements Cost Matrix 2016). The scope of this project is installation of two new Sodium Permanganate pumps, relocation of the existing Sodium Hypochlorite pumps to Fluoride and installation of two new Sodium Hypochlorite pumps. The estimated cost of this project is \$42,000 and completion is anticipated in early 2017.

6.2 DRAFT CAPITAL IMPROVEMENT PLAN

The CIP is a planning document that includes all projects anticipated to exceed \$5,000 in cost over the next five years.

The CIP is an ongoing process and will be refined from time to time as projects are completed and new issues are identified. As part of the rate study being conducted by Curry and Associates, work to update the CIP will begin soon.



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
BRUCE RAUNER, GOVERNOR ALEC MESSINA, ACTING DIRECTOR

Special Exception Permit (SEP) – Monthly Operational Report (MOR) Per 35 Administrative Code Section 611.110

November 30, 2016

Mr. Joel Sander, Chairman
South Sangamon Water Commission
P.O. Box 83
New Berlin, Illinois 62670-0083

Re: South Sangamon Water Commission (Sangamon County - IL1670080)
Special Exception Permit (SEP) – Monthly Operational Report (MOR)

Dear Mr. Sander:

Your Community Water Supply (CWS) is required to maintain and submit Monthly Operating Reports (MORs) to the Springfield Regional Office at the end of each month. These reports are to contain information regarding water usage, quantity of each chemical used in the treatment process, distribution system residual results and analytical test results for various water quality parameters. To insure the MORs submitted are complete, this SEP details the minimum information that is required to be recorded by your MORs.

The items listed on Attachment A of this SEP must be recorded daily each month, unless otherwise noted. For purposes of this MORs SEP, "daily" means seven days a week including weekends and holidays. It is recommended that data be collected at approximately the same time each day.

Each chemical used in the treatment process must be included in the MORs. In addition, the quantity of each chemical used (in pounds or gallons) and the calculated dosage, calculated in units of milligrams per liter (mg/L), must be included in the MORs. The calculated dosage of each chemical in the finished water is determined using the amount of water pumped, quantity of actual chemical solution used and the concentration of the chemical solution fed.

The data collected and recorded for each month must be reported on MOR forms provided or approved by the Illinois EPA and submitted to the Springfield Regional Office within 30 days following the last day of each month as required by Section 18 of the Illinois Environmental Protection Act, (415 ILCS 5/18), 35 Ill. Adm. Code 611.831. The first MORs required under this SEP must include operational data for the month of July 2016. Subsequent MORs are due 30 days following the last day of each month.



Special Exception Permit (SEP) – Monthly Operational Report (MOR)
South Sangamon Water Commission (Sangamon County - IL1670080)
Attachment A, Page 1
November 30, 2016

Attachment A

The items listed below must be recorded daily, unless otherwise noted, and included on the MOR:

- Facility Name, ID number (IL1670080), Month and Year.
- Time Meter Read and Meter Reading number.
- Total number of hours plant in operation per day.
- Quantity of Raw Water and Finished Water pumped. At the end of the month the minimum, maximum and average daily water usage is determined and reported.
- Quantity (lbs. or gallons), concentration fed (%) and calculated dosage (mg/L) of each chemical used in the treatment process.
- Raw water test results, in mg/l, for temperature, pH, alkalinity, hardness, Iron and Manganese.
- Soluble Manganese testing at membrane influent to verify proper sodium permanganate dosage and manganese removal is being accomplished by the membranes. **Minimum of one time per week.**
- Total Manganese at membrane effluent.
- Softeners: gallons of water softened, gallons bypassed, hours since previous regeneration, pounds of salt used and gallons of wash water used.
- Finished Water test results, in mg/l, for Chlorine (Total and Free), pH, Hardness (Total), Alkalinity, Iron, Manganese (Total), Orthophosphate and Fluoride.
- Turbidity of Membrane Effluent.
- Perform Integrity Testing (Pressure Decay Test) on the Membrane Filters every two weeks minimum. **Passing test is greater than 3 log removal.**
- Information for filtration including: filter run times (hours) per filter since previous backwash and gallons of wash water used.
- Finished Water Stability testing for Temperature, Total Dissolved Solids, pH, Alkalinity, Calcium Hardness, Chloride and Sulfate in the **distribution system once a month.**
- Remarks when necessary

MORs are due 30 days following the last day of each month. Please mail your reports to:

Illinois Environmental Protection Agency
Springfield Field Office – MC#10
1021 North Grand Avenue East
Springfield, Illinois 62794

The data collected and recorded for each month must be included on MOR forms provided or approved by the Illinois EPA. Please refer to our standard operating report forms on our website for reference on what is required. Website location: <http://www.epa.state.il.us/water/field-ops/drinking-water/daily-perating.html>.

If you need further assistance completing your MOR, please call John Bartolomucci at the number provided.



Attachment A

Special Exception Permit (SEP) – Monthly Operational Report (MOR)
South Sangamon Water Commission (Sangamon County - IL1670080)
Page 2

Should you have any questions regarding this SEP, please contact this office. The mailing address and phone number are: Illinois Environmental Protection Agency, Springfield Field Office - MC #10, 1021 North Grand Avenue East, Springfield, Illinois 62794-9276, phone (217) 557-8761.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Cook".

David C. Cook, P.E.
Springfield Region Manager
Field Operations Section
Division of Public Water Supplies

D:\C:\T\B\w\N\REG\Springfield\MSE_BOW\SEP_BOW_SHARE\DPWS\MOR SEP\South Sangamon Water Commission.docx

Enclosures

- cc: DPWS/FOS - Springfield Region
DPWS/Division File 01

- cc: Marc Thomas, Woodard-Curran Consultants
Daniel L. Held, Certified Operator

