



Monthly Operating Report

May 2017

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So. Sangamon

June 20, 2017

woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

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EXECUTIVE SUMMARY

Safety. 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. The safety topic for this month was “fall prevention”. There were no lost time accidents in the month of May 2017. Approximately 86 percent of the items identified in the combined list of safety items have been completed.

Compliance. The finished water quality was within regulatory limits and all reporting and sampling requirements were met for the month. A copy of the Operations Report submitted to the Illinois Environmental Protection Agency is included in this report as Attachment A. THM and HAA samples were pulled in May and the results are included in the compliance section of this report.

Flows: The total gallons pumped from the Well Field for the month was 39.8 million gallons. The facility filtered 37.1 million gallons. Approximately 32.6 million gallons was pumped from the plant to the distribution system.

Operations. There were 0 emergency call-outs for the month. There were one customer inquiries for the month.

Well 6. Rehabilitation of Well 6 was completed during the month of May at a cost of \$9,000.

Managed switch for the WesTech system. Woodard and Curran’s SCADA group replaced the existing Managed Switch with a new switch. If the existing switch failed, the plant would not be able to produce water. The cost of the switch was \$4,214 and was paid for by Woodard and Curran. It should be noted that this cost was included during the 2017-2018 budget exercise.

Maintenance and Repair. For the month of May 2017, there were 10 inspections, 14 preventative and 11 corrective maintenance activities completed.

Budget. As you may be aware, May 1, 2017 started the beginning of the third and final year of South Sangamon Water Commission’s contract with Woodard and Curran. Many of the invoices incurred during May have not been processed. This being the case, a budget table for this month is extremely skewed so it has been omitted from this report.

Capital Planning. Woodard and Curran is working with Mecro Engineering to update and prioritize the 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.

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 available to the plant, and safety videos are assigned to all employees and are required to be completed. The May 2017 safety training topic was “Fall Prevention”.

1.2 LOST TIME ACCIDENTS

There were no lost time accidents in the month of May, 2017.

1.3 SAFETY AUDIT

Since Woodard and Curran assumed operational responsibility for the SSWC plant, two safety audits have been completed. The first audit was conducted in May 2015 and identified 89 items needing to be addressed. Approximately 86 percent of those items identified had been addressed when a second audit occurred in November 2016.

The finding for these two audits were combined to produce a list of 42 items needing to be addressed. A safety audit conference call with Shannon Eyler was held on January 25, 2017. To date, 86 percent of the items have been addressed. Remaining items are being addressed at time permits and as funding becomes available.

1.4 MISCELLANEOUS SAFETY

Dan Held attended a class in Rantoul, Illinois covering plans, bids, contracts and how to read plans. These classes are required as part of the licensing requirements for water operators.

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 May, 2017. A copy of the Operations Report to the Illinois Environmental Protection Agency (IEPA) is included in Attachment A of this report

2.2 INFLUENT FLOWS AND LOADINGS

The total gallons pumped from the well field was 39.8 MG. The influent parameters were all within the normal range.

The influent flow and loadings are summarized below in Table 2.2

Table 2.2 Influent Concentrations and Flow								
	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Well Flow Gals (k)
Max.	7.78	14.6	1.69	0.202	-	400	296	1,685
Min.	7.26	13.5	0.81	0.163	-	362	286	738
Avg.	7.42	14.1	1.00	0.181	-	374	291	1,284
Total	-	-	-	-	-	-	-	39,793

2.3 EFFLUENT CONCENTRATIONS

The facility filtered 37.1 MG during the month with a daily average of 1.198 MG and a min/max of 0.686/1.58 MG.

Table 2.3 Finished Water Quality											
	Free CL2	Total CL2	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate	Flow Gals (k)s
Max.	1.4	1.5	8.00	14.7	0.01	0.015	0.92	120	284	1.73	1,582
Min.	1.1	1.4	7.40	13.5	0.00	0.006	0.46	86	270	0.84	686
Avg.	1.3	1.4	7.82	14.2	0.01	0.010	0.77	109	279	1.32	1,198
MCL	-	-	-	-	1.00	-	4.00	-	-	-	-
SMCL	-	-	-	-	0.30	0.050	2.00	-	-	-	-

2.4 LAGOON DISCHARGE CONCENTRATIONS

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)
05/26/2017	0.900	0.231	242	0.01	7.94	0.00
Minimum	-	-	-	-	-	-
Maximum	-	-	-	-	-	-
Average	-	-	-	-	-	-
Monthly Avg Limit	2.000	1.00	-	-	-	15
Daily Limit	4.000	2.000	500	0.05	6.0-9.0	30

The Chloride sample for the month of May 2017, performed by the Springfield Metropolitan Sanitary District, was 11,400 mg/L. The limit for chloride discharge to the sanitary district is 30,000 mg/L.

Plant Effluent Flow Totals since Start-up							
	Average	17 -18	16-17	15-16	14-15	13-14	12-13
May	32,944,085	32,620,836	33,248,127	33,376,051	37,669,726	31,157,411	29,592,356
June	38,949,616		41,541,321	31,092,539	38,462,951	36,530,691	47,120,577
July	41,173,249		35,378,396	33,123,375	38,674,894	40,908,704	57,780,876
August	38,531,367		35,401,490	38,109,033	33,748,543	42,999,243	43,398,528
September	34,548,430		36,325,215	36,546,171	29,763,075	37,597,085	32,510,603
October	32,431,337		34,374,820	34,783,455	28,803,052	33,916,594	30,278,765
November	28,970,424		30,478,309	27,217,293	28,426,579	31,615,459	27,114,479
December	30,136,524		32,525,530	27,788,637	28,656,869	32,697,551	29,014,035
January	29,962,583		30,449,215	28,510,121	30,346,721	32,499,427	28,007,432
February	26,862,744		27,272,232	26,095,228	26,336,077	28,745,378	25,763,807
March	29,199,554		30,068,363	27,851,811	28,729,919	31,217,486	28,130,190
April	29,574,054		29,625,797	29,292,618	29,270,184	31,690,073	27,991,597
Total	393,283,967	32,620,836	396,789,815	373,786,332	378,888,590	411,575,102	405,703,245
Average	32,773,664		1,087,095	1,022,702	1,038,051	1,127,603	1,111,516
Maximum	41,173,249		2,061,098	2,177,926	1,837,344	2,010,587	2,546,901
Minimum	26,862,744		275,315	0	349,690	363,767	142,411

On May 25, 2017, THM/HAA samples and pulled delivered them to PDC Laboratories for analysis. These tests are required yearly by the IEPA. The results for these tests are included below.



PDC Laboratories,
2231 West Altorfer
Peoria, IL 61614
(800) 752-1111

ANALYTICAL RESULTS

Sample: 7054734-01 Name: S2HB1 - #3 LAKESIDE DRIVE Reg ID: IL1670080					Sampled: 05/25/17 15:00 Received: 05/26/17 09:40 Matrix: Drinking Water - Regular Sample			
Parameter	Result	Unit	Qual	MCL	Prepared	Analyzed	Analyst	Method
<u>Haloacetic Acids (HAAs) - PIA</u>								
Dibromoacetic Acid	1.91	ug/L			06/05/17 06:46	06/06/17 21:43	JMT	EPA 552.2
Dichloroacetic Acid	< 5.00	ug/L			06/05/17 06:46	06/06/17 21:43	JMT	EPA 552.2
Monobromoacetic Acid	< 3.00	ug/L			06/05/17 06:46	06/06/17 21:43	JMT	EPA 552.2
Monochloroacetic Acid	< 3.00	ug/L			06/05/17 06:46	06/06/17 21:43	JMT	EPA 552.2
Trichloroacetic Acid	< 2.00	ug/L			06/05/17 06:46	06/06/17 21:43	JMT	EPA 552.2
<u>Haloacetic Acids (HAAs) - PIA Total</u>								
HAAs-Total	1.91	ug/L		80 ug/L	05/26/17 20:46	06/06/17 21:43	JMT	[CALC]
<u>THMs - PIA</u>								
Bromodichloromethane	5.61	ug/L			05/26/17 20:46	05/27/17 05:54	JJI	EPA 524.2
Bromoform	1.32	ug/L			05/26/17 20:46	05/27/17 05:54	JJI	EPA 524.2
Chloroform	5.69	ug/L			05/26/17 20:46	05/27/17 05:54	JJI	EPA 524.2
Dibromochloromethane	5.36	ug/L			05/26/17 20:46	05/27/17 05:54	JJI	EPA 524.2
<u>Volatile Organics - PIA Total</u>								
THMs-Total	18.0	ug/L		80 ug/L	05/26/17 20:46	05/27/17 05:54	JJI	[CALC]

3. OPERATIONS

3.1 EVENTS IMPACTING OPERATIONS

Low Chlorine Levels in Chatham Ground Storage Reservoir. On May 2, 2017, a telephone call from the village of Chatham was received regarding Chlorine in the ground storage tank. After the call, plant operational staff checked the chlorine leaving the plant to verify the CL 17 which monitors the plant effluent's chlorine level was functioning correctly; it was. Chlorine residuals were checked from the plant all the way to the ground storage tank and found to be at the desired residual. It was later discovered that CWLP was pumping water into the Chatham Reservoir. Because CWLP utilizes Chloramines for disinfection while SSWC utilizes Free Chlorine, the Chlorine residual were low because Chloramines cancel Free Chlorine. Once the flow from CWLP was stopped, the Ground Reservoir Chlorine residuals returned to normal.

Fences in the Well Field. Pictured on the left is Well 9. Pictured on the right is Well 6. Operational staff at the plant would like to remove the fencing around Wells 8, 9 and 10 for ease of maintenance. This would leave only Well 7 with fencing. The purpose for that is on occasion it is advantageous to store materials and/or equipment in the well field. Well 7 is located near the middle of the well field.



New Managed Switch for the WesTech System. On May 3, 2017, Ray Giguere was on-site to install the new Managed Switch on the WesTech Control Panel. If the existing switch failed, all communications will be lost between the plant systems and will not have the capability to monitor for alarms. Consequently, the plant would not be able to produce water. The replacement switch will also monitor the traffic through the switch and enable monitoring for trouble shooting purposes. By contract,

the cost of the switch was under \$5,000.00. As a result, the cost of the switch at \$4,214.00 is being paid for by the plant's Maintenance and Repair budget.

Well Six Rehabilitation. Rehabilitation of Well 6 began on May 15, 2017 by Brotcke Well and Pump at an estimated cost of \$9,000. Rehabilitation was completed May 18, 2017. Bac-T samples were drawn following rehabilitation and two consecutive clean samples have been obtained. Well 6 was placed back in service on May 26, 2017.

3.2 EMERGENCY & SERVICE CALLS

Service Calls:

- Anderson Electric was on-site May 16, 2017 relocate the Brine Pump controls from below the water line shown in the picture on the left to its new location as pictured on the right. Woodard and Curran Health and Safety staff identified motor controls directly below these water lines as a safety issue.



3.2.1 Emergency Call-outs

- There were no emergency call-outs for the month of May 2016.

3.3 CUSTOMER INQUIRIES

There was one customer inquiries for the month of May 2017:

- On May 9, 2017, Operational Staff received an email from Bill Brown at Crawford, Murphy and Tilly regarding the plant switching to Chloramines. Woodard and Curran forwarded the email to Joel Sander for his review.

4. MAINTENANCE AND REPAIR

4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE

For the month of May 2017, there were 10 inspections, 14 preventative and 11 corrective maintenance activities completed.

4.2 CORRECTIVE REPAIRS

- **Air Release Valve on IEX #1.** The air release valve on IEX #1 was leaking and needing to be replaced. Parts were ordered for the inside of the air release. The unit was taken out of service on May 9, 2017 for approximately 30 minutes to replace the inside components and then reassembled.

Below is a picture of the air release on IEX #4. The air release valves on the four Tonka IEX units are identical.



- Pinning of Modules on the WesTech Membrane System. Aside from verifying the membrane system is operating correctly, Pressure Decay Testing (PDT) now required as part of the Modified Comprehensive Plant Evaluation (MCPE) also gives operational staff an indication of when maintenance needs to be done on individual membrane modules. On May 9, 2017 pinning was done on a portion of the modules on Bank #2. This involves taking the individual filter off-line, supplying air to the unit to identify leaking modules. Next small pins are placed in the hole and super glued to close that individual strand. There are approximately 64,000 holes per module.

Pictured below is a module where pins were placed in the damaged membranes.



5. PROJECT MANAGEMENT & SUPPORT

5.1 STAFFING & TRAINING

- Woodard and Curran continues to train and provide staffing to the plant as needed.
- Woodard and Curran IT staff are working with plant personnel on Hach Wims. Hach Wims is the programmed utilized by Woodard and Curran for developing IEPA Monthly Operating Reports and storage of test data. We are working through the issues discovered with the reporting earlier in the year as time allows.

5.2 CORPORATE SUPPORT

The following individuals, either on-site or remotely, provided assistance in operation and/or maintenance of the plant in May, 2017.

- | | |
|----------------|------------------|
| • Marc Thomas | • Shannon Eyler |
| • Joe Hurley | • Celina McManus |
| • Ray Giguere | • Wendy Foreman |
| • Brian Ravens | • Paul Roux |

5.3 BUDGET

As you may be aware, May 1, 2017 started the beginning of the third and final year of South Sangamon Water Commission's contract with Woodard and Curran. Many of the invoices incurred during May have not been processed. This being the case, a budget table for this month is extremely skewed so it has been omitted from this report.

6. CAPITAL PLANNING

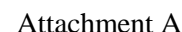
6.1 APPROVED CIP PROJECTS CURRENT STATUS

No Capital Projects are currently under way.

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.

A meeting was held on February 17, 2017 to begin update of the Capital list. Those in attendance were Marc Thomas, Dan Held and Keith Sommers from Woodard and Curran as well as Max Middendorf from Mecor Engineering.

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Woodard & Curran
June 20, 2017