



Monthly Operating REPORT

JULY 2015

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So. Sangamon

AUGUST 18, 2015



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EXECUTIVE SUMMARY

Woodard and Curran assumed responsibility for the operations of the South Sangamon Water Commission (SSWC) Plant on May 1, 2015. We continue to work through the transition plan in order to address project needs or action plans identified before assuming operation and maintenance oversight. Members from Woodard & Curran's safety, IT, and SCADA transition support teams have been and continue to be onsite in addition to other members supporting the operation, accounting, insurance, compliance, and administrative needs.

Safety is the #1 priority as part of the transition and daily operations. A safety audit was conducted the week of May 18th and we continue to address the items identified in the safety audit. There were no Lost Time accidents during the month of July 2015 and the required monthly safety training was completed.

All regulatory reporting and sampling requirements were performed for the month, and the water quality met all IEPA limits. The plant produced a total of 34.03 MG for the month. There was one disruption in the operation on July 17, 2015 which required a boil order to be issued. The disruption was due to a 20 minute interruption of the high service pump operation which allowed the pressure to momentarily drop below 20 psi in the transmission main from the plant to the Chatham ground water reservoir. Woodard and Curran technical support staff were on site the same day to trouble shoot the system and the SCADA programming to prevent this from happening in the future. In addition, they are evaluating the overall SCADA hardware and software programming to improve reliability and efficiency.

Daily test results for both plant influent and effluent Water Quality and Flow is included in this document.

The installation of the preventative computerized maintenance management system is an ongoing effort. We started some preventative maintenance activities and will continue to build the maintenance management system as part of the implementation of the preventative, predictive, and corrective maintenance programs. As of the end of July 2015, nearly all assets of the SSWC plant are loaded into the system and work orders are beginning to be generated.

Woodard and Curran is working with the SSWC and Mecco Engineering to prioritize and implement the Capital Improvement Plan. The plan is a 1-5 year plan summarizing potential projects required to address regulatory, safety, reliability, maintenance, or water quality issues. The current capital plan is a working document and will be continually updated as projects are completed and new projects are identified. The current projects are being addressed are the well modifications and sampling stations.

The first quarter financial summary is provided showing the costs are \$75,008 under budget for the year to date. We expect the over/under number to decrease significantly as maintenance work is completed in the well field, cleaning of the brine tanks is completed and work to be performed by WesTech Engineering scheduled for September is completed.



As part of the ongoing recruitment effort, Keith Sommers was hired and started on July 15, 2015. Keith is a graduate of the ERTC program and holds a Class D water license. A training and development program will be utilized for safety and as part of his onboarding.



1. SAFETY

1.1 SAFETY TRAINING

Joanna Wallace continues to provide Site specific training as well as guidance through the Pure Safety monthly training for WTP staff

1.2 LOST TIME ACCIDENTS

There were no lost time accidents for the month of July 2015

1.3 SAFETY AUDIT

During Joanna's visit to the site, a safety audit was performed. The current status of the findings of the audit are included in Appendix A of this report.

1.4 MISCELLANEOUS SAFETY

There are no miscellaneous safety items to report for July 2015

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2. COMPLIANCE, FLOWS, AND LOADINGS

2.1 COMPLIANCE

The effluent quality was within regulatory limits and all reporting and sampling requirements were met for July. We continue to experience a slight Free Chlorine exceedance of the NPDES discharge limit. Due to cleaning of Brine Tank #1, we exceeded the limit for chloride on the lagoon discharge. Since we emptied Brine Tank #1, the chloride level has been consistently dropping back to normal levels.

The annual Consumer Compliance Report (CCR) presented at the June 2015 South Sangamon Water Commission meeting was delivered to customers on July 10, 2015. However, July 1, 2015 is the distribution deadline for the CCR. Failure to meet the deadline has resulted in a CCR distribution violation. At this time, no further action is needed and the CCR distribution violation has been returned to compliance.

A Boil Order was declared for all customers from the South Sangamon Water Commission Plant to the Chatham Ground Reservoir on July 17, 2015 due to unexpected pressure loss. The pressure loss was due to a 20 minute interruption of the high service pump operation which allowed the pressure to momentarily drop below 20 psi in the transmission main from the plant to Chatham ground water reservoir. Woodard and Curran technical support staff were onsite the same day to provide support and review the SCADA programming to prevent this from happening in the future.



2.2 INFLUENT FLOWS AND LOADINGS

The total water produced for the month of July was 39.867 MG and the influent parameters were all within the normal range. The influent flow and loadings are summarized below in Table 2.2

Table 2.2

July 2015 - Influent Concentrations and Flow								
Day	pH	Temp	FE	Mn	Fluoride	Hardness	Alkalinity	Well Flow Gals (k)
1	7.88	15.90	0.65	0.211	0.27	368	282	1.282
2	7.58	14.80	0.60	0.209	0.16	368	284	1.264
3	7.63	14.90	0.65	0.197	0.27	364	286	1.161
4	7.74	16.50	0.70	0.208	0.19	364	282	1.408
5	7.73	15.30	0.87	0.196	0.17	362	284	1.297
6	7.76	15.60	0.93	0.199	0.31	368	286	1.276
7	7.59	16.10	1.26	0.201	0.22	372	284	1.387
8	7.82	14.10	1.20	0.197	0.22	368	286	1.149
9	7.60	14.30	0.78	0.198	0.18	364	284	1.200
10	7.77	15.30	0.90	0.211	0.25	366	282	1.147
11	8.11	15.50	0.79	0.198	0.31	368	288	1.273
12	7.92	15.20	0.74	0.206	0.18	364	282	1.212
13	7.81	16.70	0.93	0.202	0.11	366	280	1.391
14	8.13	15.50	1.11	0.200	0.23	366	278	1.292
15	8.53	18.20	0.67	0.197	0.31	364	280	1.156
16	8.42	18.40	0.90	0.208	0.38	360	270	1.397
17	7.38	15.30	0.86	0.201	0.27	368	270	1.273
18	6.91	19.00	1.03	0.202	0.48	348	280	1.047
19	7.30	14.60	0.81	0.196	0.30	360	274	0.833
20	6.94	14.90	0.85	0.207	0.35	360	290	1.741
21	7.80	17.30	0.81	0.203	0.28	366	288	1.717
22	7.73	16.70	0.97	0.199	0.49	370	280	1.086
23	6.62	14.80	0.71	0.187	0.45	364	272	1.357
24	6.77	14.30	0.93	0.206	0.30	360	280	1.233
25	7.59	16.20	0.91	0.206	0.23	362	284	1.294
26	7.63	19.60	0.53	0.176	0.23	366	286	1.342
27	6.82	14.80	0.77	0.211	0.11	342	278	1.173
28	6.86	15.60	1.01	0.201	0.03	246	276	1.416
29	7.55	17.00	1.01	0.203	0.00	348	284	1.302
30	7.00	15.30	0.98	0.208	0.33	364	270	1.338
31	7.01	16.00	0.77	0.212	0.31	378	280	1.423
Max.	8.53	19.60	1.26	0.212	0.49	378	290	1.741
Min.	6.62	14.10	0.53	0.176	0.00	246	270	0.833
Avg.	7.55	15.93	0.86	0.202	0.26	360	281	1.286
Total	-	-	-	-	-	-	-	39.867



2.3 EFFLUENT CONCENTRATIONS

The effluent water quality parameters were all within the normal range for average and peak concentrations. The effluent water quality concentrations are summarized below in Table 2.3.

The facility produced 34.03 MG during the month with a daily average of 1.10 MG and a min/max of 0.95/1.35 MG.

Table 2.3

Finished Water Quality										
Date	Free Cl ₂	Total Cl ₂	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
1	1.3	1.4	7.67	15.60	0.00	0.036	1.01	124	264	1.16
2	1.4	1.4	7.61	14.70	0.00	0.030	0.93	120	266	1.19
3	1.3	1.4	7.90	15.30	0.01	0.033	1.02	120	272	1.06
4	1.2	1.1	7.60	15.50	0.01	0.034	0.96	122	276	1.16
5	1.4	1.3	7.62	15.30	0.01	0.031	0.89	124	272	1.22
6	1.3	1.3	7.61	15.50	0.04	0.031	1.18	118	274	1.05
7	1.4	1.3	7.50	17.60	0.00	0.030	1.00	118	274	1.31
8	1.2	1.2	7.95	17.30	0.00	0.031	0.98	116	262	1.06
9	1.2	1.2	7.81	16.80	0.00	0.033	1.03	118	272	1.03
10	1.2	1.3	7.93	18.00	0.00	0.035	0.98	118	280	1.26
11	1.3	1.3	7.59	16.50	0.00	0.038	1.03	116	272	1.04
12	1.3	1.4	7.50	16.50	0.01	0.039	1.08	124	274	1.20
13	1.4	1.4	7.49	15.20	0.03	0.037	1.04	120	274	1.26
14	1.5	1.5	8.30	16.90	0.00	0.031	0.93	118	274	1.13
15	1.3	1.4	8.04	16.80	0.01	0.036	1.06	120	260	0.93
16	1.5	1.5	7.97	15.90	0.01	0.037	1.01	106	260	1.20
17	1.4	1.5	7.71	20.70	0.01	0.035	0.41	120	270	1.28
18	1.0	1.0	7.01	16.10	0.08	0.063	1.67	116	252	1.47
19	1.5	1.4	7.17	15.50	0.01	0.043	1.05	110	272	1.56
20	1.4	1.5	6.88	15.50	0.01	0.047	1.07	118	276	1.62
21	1.4	1.4	7.50	16.00	0.01	0.036	0.98	174	280	1.54
22	1.4	1.5	7.48	16.00	0.01	0.039	1.09	130	250	1.34
23	1.5	1.5	6.75	15.60	0.00	0.037	0.47	124	254	1.38
24	1.5	1.5	6.89	15.40	0.01	0.033	0.58	120	280	0.83
25	1.1	1.3	7.51	16.20	0.01	0.034	0.93	116	276	1.51
26	1.0	1.2	7.46	17.60	0.00	0.037	1.00	116	246	1.35
27	1.2	1.3	6.86	16.90	0.00	0.027	0.94	116	268	1.74
28	1.0	1.0	6.72	22.00	0.01	0.021	1.06	118	270	1.80
29	1.0	1.2	7.09	17.70	0.00	0.028	0.49	122	270	1.28
30	1.4	1.4	7.04	15.80	0.01	0.036	1.27	120	270	1.75
31	1.8	1.8	6.90	16.00	0.01	0.036	0.97	110	270	1.73
Max	1.8	1.8	8.30	14.70	0.08	0.063	1.67	174	280	1.80
Min	1.0	1.0	6.72	22.00	0.00	0.021	0.41	106	246	0.83
Avg	1.3	1.3	7.45	16.50	0.01	.0350	.971	120	269	1.31



2.4 LAGOON DISCHARGE CONCENTRATIONS

The results for the NPDES lagoon discharge permit are summarized below. We continue to experience exceedances of the Cl concentration.

We exceeded the limit on Chloride due to the cleaning of Brine Tank #1. In the near future, we will be cleaning Brine Tank #2 and will likely exceed the daily limit again at that time.

Table 2.3 Weekly Grab Sample Analysis Results

Date	Fe (mg/l)	Mn (mg/l)	Chloride (mg/l)	Cl ² (mg/l)	pH (S.U.)	TSS (mg/l)
7/6/2015	0.182	.071	402	.157	7.90	0
7/13/2015	0.307	.945	865	.620	7.86	0
7/20/2015	0.279	1.57	644	1.22	8.13	0
7/30/2015	1.32	.342	528	.286	8.09	8.00
N/A	-	-	-	-	-	-
Minimum	0.182	.071	402	.157	7.86	0
Maximum	1.32	1.57	865	1.22	8.13	8.00
Average	0.522	0.732	610	0.57	7.99	2.00
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 July 2015, performed by the Springfield Metropolitan Sanitary District, was 11,500 mg/L. The limit for chloride discharge to the sanitary district is 30,000 mg/L.

3. OPERATIONS

3.1 EVENTS IMPACTING OPERATIONS

The filter on the CIP skid needed to be replaced because the pressure drop across the filter exceed the 5 psi limit recommended by WesTech. This filter was replaced on July 1, 2015 and there was no interruption in service.

On July 9, 2015, we drained Brine Tank #1 for cleaning. As noted earlier in this report, this causes the chloride level to exceed the limit set by the Illinois EPA on the lagoon effluent. We will be cleaning Brine Tank #2 in the latter half of August which will likely cause this limit to be exceeded again. There is no anticipated interruption of service while this maintenance work is being performed

Well 4 went into alarm on July 1, 2015. Upon inspection, it was found that the fusible link in the well field had “popped out” and there was no power to the well to run the pump or motor. The fuse was replaced and the well was placed back in service. The well was only off line for a couple of hours and there was no interruption in service.

Brotcke Well and Pump here on July 13, 2015 to treat Well 5, put in a new transducer on Well #6 and start work on well injection port extensions and donut rings. This work was completed on July 15, 2015 and there were no disruptions in service.

3.2 EMERGENCY & SERVICE CALLS

Service Calls:

- Henson Robinson here to look at the roof on July 23, 2015. Currently, we are still attempting to identify where the leak is in the roof and obtain an estimated cost for repairs.
- On July 6, 2015, Cummings Crosspoint was here to do maintenance on the generator. This is the first year of a three year proposal approved by the SSWC board to keep this critical equipment in good working condition. Work performed was changing of fuel filters, inspection of fuel lines and connections, visually checking for fuel leaks, inspection of electrical connections, inspection of the battery system, overall maintenance of the system and training on maintenance to be performed weekly on the generator.

3.2.1 Emergency Call-outs

There were no emergency call-outs for the month of July 2015



3.3 CUSTOMER COMPLAINTS

Laura VanProyen received a call from a customer on the distribution line between the Plant and the Chatham Reservoir. He/she said the pressure was low but he called Laura back shortly after and said everything was fine.

3.4 MAINTENANCE & REPAIR

The installation of the preventative computerized maintenance management system is an ongoing effort. We started some preventative maintenance activities and will continue to build the maintenance management system as part of the implementation of the preventative, predictive, and corrective maintenance program. As of the end of July, nearly all of the assets at the South Sangamon Water Commission plant were loaded into the system and work orders are beginning to be generated. Mr. Keith Sommers is loading information into the system now.

3.5 PHOSPHATE BLEND PROPOSED CHANGE

Water Solutions Unlimited is recommending we change phosphate we're currently feeding. As you may recall, the steel corrosion rates are excellent. The copper corrosion rates could stand to be a little lower. The phosphate we were using is a 50/50 blend. We switched to a 75/25 blend. The cost for the chemical and the feed rate are identical to what we were feeding previously and there is no noticeable change to the consumer. We started feeding the new phosphate blend on July 17, 2015.



4. PROJECT MANAGEMENT & SUPPORT

4.1 STAFFING & TRAINING

- Keith Sommers started work on July 13, 2015
- Spoke with Alan Fabiano on Hach Wims stuff July 9, 2015

4.2 CORPORATE SUPPORT

- Joe Hurley and Bobby Nichols were here on July 17, 2015 to work on the high service pump issue.
- Alan Fabiano met with Dan Held and Keith Sommers on SEMS (maintenance program) on July 23, 2015.
- Participated in a conference call on July 14, 2015 on Capital Improvement Plan.



4.3 BUDGET

The first quarter's financial summary is provided below in Table 3.1 showing the costs are \$75,008 under budget for the year to date. As we move forward in the fiscal year, we expect this over/under amount to decrease significantly as maintenance work in the well field is completed, cleaning of the brine tanks is completed and work to be performed by WesTech Engineering scheduled for September takes place.

Table 4.1 Budget Table

Budget Category	Month Budget	Month Actual	YTD Budget	YTD Actual	Annual Budget	Over (under)	% of budget
Labor (D.L. + OH)	\$19,187	\$21,205	\$57,561	\$43,886	\$230,244	(\$13,675)	19%
Utilities	\$8,320	\$12,863	\$24,960	\$12,984	\$99,840	(\$11,976)	13%
Chemicals	\$16,388	\$24,372	\$49,164	\$38,822	\$196,655	(\$10,342)	20%
Maintenance & Repair	\$8,299	\$2,120	\$24,896	\$3,148	\$99,585	(\$21,748)	3%
Sludge	\$13,813	\$22,785	\$41,440	\$22,890	\$165,760	(\$18,550)	14%
Lab Supplies and Equipment	\$1,530	\$2,211	\$4,589	\$3,460	\$18,355	(\$1,129)	19%
Office Supplies	\$188	\$282	\$563	\$2,650	\$2,250	\$2,088	118%
Miscellaneous Expenses	\$1,213	\$1,684	\$3,638	\$4,298	\$14,550	\$661	30%
Other Operating Costs	\$278	\$382	\$835	\$499	\$3,339	(\$336)	15%
Subtotal of Costs for Contract Year 2	\$69,215	\$87,904	\$207,645	\$132,637	\$830,578	(\$75,008)	16%
Fixed Fee for Contract Year 2	\$6,922	\$6,922	\$20,765	\$20,765	\$83,059	\$0	25%
Total	\$76,136	\$94,826	\$228,409	\$153,402	\$913,637	(\$75,008)	17%



5. CAPITAL PLANNING

5.1 CURRENT PROJECTS STATUS

Sampling Stations in the Well Field: The well sample stations have been received by Woodard and Curran and are waiting to installation by the contractor now. Due to the amount of rainfall experienced in the area earlier this summer, installation of the sample stations has been delayed and has caused problems with contractor availability. We anticipate installation of the sample stations to begin at any time and should take about a week to complete.

5.2 DRAFT CAPITAL IMPROVEMENT PLAN

The South Sangamon Water Commission (SSWC) is doing a pilot test on a Green Sand Filtration with Tonka Water during the week of August 24, 2015 through the August 29, 2015. The pilot is being done free of charge by Tonka. Tonka will be testing the plant influent water just prior to filtration and, if possible, prior to aeration. The goal of the pilot study is to determine what quality of water can be achieved if a Green Sand Filter system is put in place by the Commission.

The Green Sand Filtration System is one element of the over Capital Improvement Plan (CIP) being developed by Woodard and Curran for the Commission. The CIP is a planning document that includes all projects anticipated to exceed \$5,000 in cost over the next five years. Woodard and Curran has performed a Mass Balance of the plant to further define treatment capabilities and treatment efficiencies. The technical support staff are working with on-site staff to use it as a tool to determine where the plant lacks redundancy, and what factors limit the capacity or water quality. Woodard and Curran and Mecco Engineering are working through all this information in an attempt to identify priorities over the five-year time frame to minimize financial impacts to the SSWC customers.

The CIP is an ongoing process and will be refined from time to time as projects are completed and new issues are identified.