



Monthly Operating REPORT

October 2015



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So. Sangamon

November 17, 2015

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 in the month of October. Approximately 69 percent of the items identified in the safety audit performed in May 2015 have been completed.

The finished water quality was within regulatory limits and all reporting and sampling requirements were met for October. We continue to experience exceedance of Chlorine limits on the lagoon discharge. Woodard and Curran engineering staff are developing alternatives and estimated costs for a solution to this issue. Mr. Paul Juranek from Fife Chemical was on-site October 5, 2015 to do additional bench testing on the use of Sodium Permanganate prior to detention. The results of the bench test were favorable. The implementation of a pilot test to quantify the effectiveness, costs, and any potential issues associated with feeding sodium permanganate vs. sodium hypochlorite as an oxidant to remove Manganese and Iron is underway. Recent bench tests show the reaction time is 5-10 minutes for sodium permanganate vs. 30-120 minutes for sodium hypochlorite. Mecor Engineering is preparing a permit to allow implementation of the pilot test.

There was one emergency service call for the month of October. Filter Bank #3 was off-line for approximately four hours. There was no disruption of service and the filter was put back on-line around 10:00 pm. Well treatments have been completed on Wells 3, 4 and 8. The meter for the finished water has been calibrated. It was over 99 percent accurate prior to calibration. There was one customer inquiry for the month of October. A Chatham resident was interested in what is being done at the plant in response to Chatham resident's complaints. There were 58 work orders completed by Woodard and Curran's staff for the month of October 2015. These work orders consist of simple inspections to actual repair or maintenance to South Sangamon Water Commission equipment or facilities.

Woodard and Curran continues to provide corporate support for the South Sangamon Water Commission plant. Marc Thomas, Joe Hurley, Ray Giguere, Roger Blackman and Bob Gray were all on-site during the month of October.

A financial summary has been provided for the plant. To date, the project is \$45,050 under budget for the fiscal year. We anticipate receiving invoices for the well treatments performed by Brotcke Well and Pump in October. Once they are received, we expect the project to be nearly balanced.

Woodard and Curran is working with Mecor 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.

- Dan Held and Keith Sommers each completed Respirator Fit Tests on October 6, 2015.

In addition, 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 October 2015.

1.3 SAFETY AUDIT

On October 23, 2015, Marc Thomas, Dan Held and Keith Sommers participated in a conference call regarding the Safety Audit that was performed earlier in the year. To date, approximately 69 percent of the items identified have been addressed.

1.4 MISCELLANEOUS SAFETY

There are no miscellaneous safety issues for October 2015



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 October.

We continue to experience Chlorine exceedance allowed by the NPDES discharge permit.

Paul Juranek from Fife Chemical was on-site October 5, 2015 to do additional bench testing on the plant influent to evaluate whether Sodium Permanganate would be a better oxidizer of iron and manganese prior to the membranes. The preliminary results indicate that Sodium Permanganate would be an effective oxidizer for iron and manganese removal. Mecor Engineering has prepared a permit for the Illinois Environmental Protection Agency (IEPA). The permit will allow feeding of Sodium Permanganate to the detention tank while the plant is in operation. The IEPA estimates 30 to 45 days to process the permit. Pilot testing is anticipated to begin shortly after approval has been received.

2.2 INFLUENT FLOWS AND LOADINGS

The total water produced for the month of October 2015 was 42.087 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 Influent Concentrations and Flow								
Day	pH	Temp	FE	Mn	Fluoride	Hardness	Alkalinity	Well Flow Gals (k)
1	7.78	14.80	0.77	0.204	0.25	368	280	1.310
2	7.75	14.80	0.79	0.225	0.20	364	266	1.391
3	7.78	14.90	0.70	0.216	0.31	368	280	1.360
4	7.80	14.80	0.65	0.218	0.24	366	280	1.447
5	7.82	14.80	0.70	0.208	0.22	368	280	1.599
6	7.77	15.30	0.50	0.209	0.28	364	280	1.403
7	7.76	15.30	0.56	0.217	0.26	364	276	1.497
8	7.78	15.50	2.56	0.254	0.30	366	276	1.316
9	7.82	14.90	0.57	0.218	0.23	366	282	1.490
10	7.84	14.40	0.48	0.218	0.24	366	284	1.231
11	7.80	14.80	0.50	0.213	0.24	366	280	1.461
12	7.82	14.60	0.51	0.221	0.17	360	280	1.587
13	7.85	14.90	0.64	0.208	0.23	366	278	1.754
14	7.81	14.40	0.53	0.207	0.24	366	280	1.490
15	7.81	14.90	0.91	0.221	0.24	364	280	1.506
16	7.77	14.40	0.54	0.213	0.24	370	280	1.299
17	7.85	14.60	0.60	0.218	0.25	366	280	1.407
18	7.81	14.60	0.80	0.208	0.25	366	278	1.344
19	7.85	15.10	0.82	0.220	0.21	370	280	1.400
20	7.85	14.80	0.84	0.214	0.29	362	280	1.353
21	7.82	14.70	0.77	0.208	0.25	366	284	1.551
22	7.90	14.70	0.71	0.214	0.25	364	376	1.214
23	7.80	14.90	0.64	0.203	0.26	366	280	1.208
24	7.92	15.20	0.85	0.209	0.22	366	282	1.310
25	7.86	14.90	0.63	0.212	0.21	364	280	1.303
26	7.90	14.40	0.54	0.201	0.21	366	264	1.292
27	7.85	15.20	0.59	0.210	0.28	368	284	1.133
28	7.85	14.50	0.89	0.218	0.23	368	276	1.154
29	7.83	14.30	0.81	0.221	0.28	368	282	1.081
30	7.83	14.50	0.74	0.218	0.23	364	280	1.056
31	7.87	14.10	0.65	0.193	0.20	366	280	1.140
Max.	7.87	14.10	0.65	0.193	0.20	366	280	1.754
Min.	7.75	14.10	0.48	0.193	0.17	360	264	1.056
Avg.	7.82	14.77	0.74	0.214	0.24	366	282	1.358
Total	-	-	-	-	-	-	-	42.087

2.3 EFFLUENT CONCENTRATIONS

The facility produced 35.6 MG during the month with a daily average of 1.15 MG and a min/max of 0.88/1.39 MG.

Date	Free Cl ₂	Total Cl ₂	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
1	1.3	1.3	7.92	15.00	0.01	0.037	1.07	120	260	1.06
2	1.2	1.3	7.81	14.50	0.01	0.038	1.03	116	256	1.01
3	1.3	1.3	7.84	14.50	0.01	0.037	1.09	120	260	0.94
4	1.3	1.3	7.86	14.60	0.01	0.040	1.09	116	266	0.79
5	1.2	1.3	7.82	14.60	0.00	0.042	1.04	120	260	1.23
6	1.2	1.2	7.82	15.10	0.01	0.037	1.13	120	274	0.95
7	1.2	1.3	7.82	14.90	0.01	0.038	1.06	120	268	1.09
8	1.2	1.3	7.80	15.00	0.01	0.042	1.08	120	260	0.96
9	1.2	1.3	7.87	14.70	0.01	0.045	1.05	120	270	1.09
10	1.2	1.2	7.73	14.60	0.01	0.040	1.17	120	270	0.45
11	1.3	1.3	7.82	14.60	0.01	0.042	1.17	130	262	0.97
12	1.2	1.3	7.93	14.50	0.01	0.040	0.41	120	268	1.09
13	1.3	1.4	7.83	14.50	0.01	0.036	1.20	120	266	1.14
14	1.3	1.3	7.84	14.40	0.01	0.039	1.07	120	276	1.18
15	1.3	1.3	7.83	14.50	0.01	0.038	1.07	120	250	1.09
16	1.2	1.3	7.81	14.30	0.01	0.041	0.78	120	252	1.22
17	1.2	1.2	7.88	14.30	0.01	0.041	1.20	126	250	1.18
18	1.2	1.2	7.85	14.30	0.01	0.038	0.96	120	256	1.08
19	1.2	1.2	7.83	14.70	0.01	0.040	1.17	120	250	1.21
20	1.2	1.3	7.92	14.40	0.00	0.042	1.16	116	252	1.27
21	1.3	1.3	7.84	14.60	0.01	0.038	1.12	120	256	1.14
22	1.3	1.3	7.85	15.40	0.01	0.039	1.08	120	248	0.83
23	1.3	1.3	7.92	14.70	0.01	0.042	0.96	124	270	0.43
24	1.2	1.3	7.93	15.00	0.01	0.037	1.01	120	274	0.70
25	1.2	1.3	7.88	14.70	0.01	0.041	1.23	122	264	0.84
26	1.2	1.4	7.91	14.40	0.00	0.036	0.99	118	274	0.72
27	1.2	1.3	7.89	14.80	0.00	0.037	1.19	122	276	0.49
28	1.2	1.2	7.90	14.50	0.01	0.037	1.04	130	256	0.48
29	1.3	1.3	7.94	14.00	0.01	0.042	1.14	124	264	0.68
30	1.2	1.3	7.88	14.20	0.01	0.037	1.12	120	260	0.78
31	1.2	1.2	7.91	14.00	0.01	0.037	0.85	124	276	0.70
Max	1.3	1.4	7.94	15.40	0.01	0.045	1.23	130	276	1.27
Min	1.2	1.2	7.73	14.00	0.00	0.036	0.41	116	248	0.43
Avg	1.2	1.3	7.86	14.59	0.01	0.039	1.06	121	263	0.93

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)	Cl² (mg/l)	pH (S.U.)	TSS (mg/l)
10/05/2015	2.15	0.764	339	0.000	7.81	10.00
10/12/2015	2.65	1.020	344	0.340	7.74	0.00
10/19/2015	0.70	0.165	311	0.135	7.73	0.00
10/26/2015	3.62	1.340	360	1.490	7.87	16.50
N/A	-	-	-	-	-	-
Minimum	0.70	0.165	311	0.000	7.73	0.00
Maximum	3.62	1.340	360	1.490	7.87	16.5
Average	2.28	0.820	339	0.490	7.79	6.63
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 October 2015, performed by the Springfield Metropolitan Sanitary District, was 8,270 mg/L. The limit for chloride discharge to the sanitary district is 30,000 mg/L.

3. OPERATIONS

3.1 EVENTS IMPACTING OPERATIONS

Brotcke Well and Pump arrived on October 5, 2015 to do scheduled treatment to Well 3. The result of the cleaning was excellent as the specific capacity of the well is much improved.

Brotcke Well and Pump began treatment on October 7, 2015 on Well 4. The result of the treatment was not good. The Specific Capacity of the well actually following treatment. Brotcke Well and Pump requested we run the well to waste for 10 days. Brotcke Well and Pump will return in early November to complete a follow-up treatment. Once treatment is complete, the Specific Capacity of the well will be retested.

Ben Morman was here on October 20, 2015 to calibrate and check the accuracy of the meter on the finished water leaving the plant. The meter was found to be 99-percent accurate.

On October 27, 2015, the Springfield Fire Department and Chatham Fire Department did a control burn of a house located about eight miles from the plant just off New City Road for training purposes. The Springfield Fire Department utilized water from the South Sangamon Water Commission transmission line. The picture below is the structure they used for training purposes.

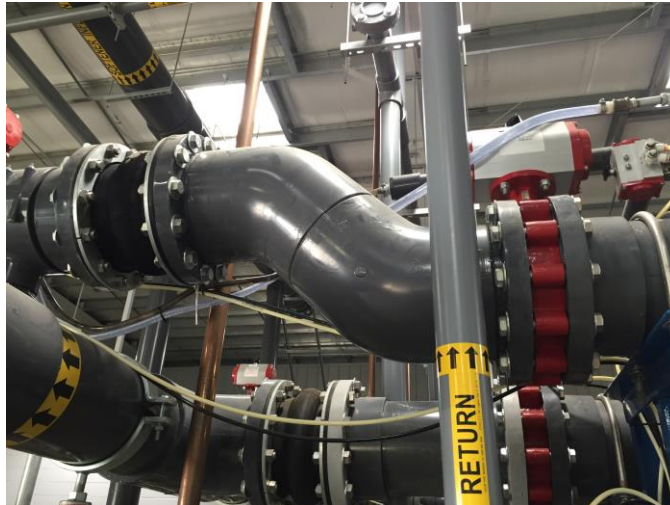


3.2 EMERGENCY & SERVICE CALLS

Service Calls:

- Henson Robinson was here to repair the 10" line on Filter Bank #1. The replacement parts were assembled and glued prior to installation. Once construction was completed, Bank #1 was taken off line for approximately 30 minutes. Once repaired, the Bank was put back in service and there was no disruption of service.

Pictured below is the original piece that was leaking. Henson Robinson constructed an exact duplicate of the two elbows, removed the original in inserted the new piece.



3.2.1 Emergency Call-outs

There was one emergency call-out during the month of October 2015. During a CIP on Bank #3, the process shut down during the last flush of the CIP lines. The filter was off line for approximately 4 hours and repairs were made. The bank was put back on-line and there was no interruption in service.

3.3 CUSTOMER INQUIRIES

We received one Customer Inquiry for the month of October 2015. Mr. Bob Starkoven, who resides in the Hurstborne Subdivision, wanted to know what is being done to address water quality in Chatham. I gave him the current status while on the phone with him.

4. MAINTENANCE AND REPAIR

4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE

For the month of October, 2015, there were 58 preventative, predicted and corrective work orders completed. These work orders range from simple inspections to actual repair or maintenance of South Sangamon Water Commission equipment or facilities. The items in Section 4 are highlights of these activities.

Keith Sommers and Dan Held changed the 8-inch Stainless Steel clamp on Filter Bank #1 on October 9, 2015. Bank 1 was off-line for about 20 minutes. There was no interruption of service and Bank 1 was put back on-line.



On October 20, 2015, maintenance work was performed on the Aerator and the two (2) air compressors. Aerator work included the visual inspection of the aerator, cleaning of both the upper and lower screens and greasing the motors. Air Compressor maintenance included changing the oil and filters, general cleaning of the equipment and checking the belts. A float valve was found to be broken on compressor #2. The part was ordered and Keith Sommers installed the part on November 10, 2015.

4.2 CORRECTIVE REPAIRS

Anderson Electric was here to repair the overhead light in the plant near the CIP skid and the emergency light on October 2, 2015.

We took Brine Tank #2 down for cleaning in late September 2015. After cleaning, Keith Sommers did an inspection of the tank and found a broken tee on the water line in the tank. Keith ordered a new tee and repaired the water line. Once repairs were completed, the tank was placed back in service.

On October 6, 2015, Keith Sommers and Dan Held replaced the valve on the air scour system on Filter Bank #1. The Bank was off-line for approximately 30 minutes. Once repairs were completed, the Bank was placed back in service and there was no interruption in service.



5. PROJECT MANAGEMENT & SUPPORT

5.1 STAFFING & TRAINING

- Dan Held and Keith Sommers are scheduled to attend Confined Space Training in mid-November, 2015

5.2 CORPORATE SUPPORT

- Joe Hurley and Ray Giguere were on-site on October 7, 2015. Mr. Giguere is with the SCADA group and has intentions of relocating to St Charles in the near future. Mr. Hurley and Mr. Giguere were here to view some of the ongoing and upcoming projects at the plant.
- Dan Held, Marc Thomas and met with Terry Burke to discuss the response required to the Illinois Environmental Protection Agency for the Plant Evaluation Report and the Capital Improvement Program list.
- Roger Blackman and Bob Gray were on-site October 20 and October 21, 2015 to assist in maintenance on the aerator and compressors.
- Dan Held participated in the Midwest Conference Call on October 22, 2015.

5.3 BUDGET

The first six months financial summary is provided below in Table 4.1 showing the costs are \$45,050 under budget for the year to date.

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	\$27,274	\$115,122	\$109,166	\$230,244	(\$5,956)	47%
Utilities	\$8,320	\$17,208	\$49,920	\$47,663	\$99,840	(\$2,257)	48%
Chemicals	\$16,388	\$21,009	\$98,328	\$91,284	\$196,655	(\$7,044)	46%
Maintenance & Repair	\$8,299	\$25,519	\$49,793	\$36,946	\$99,585	(\$12,847)	37%
Sludge	\$13,813	\$13,787	\$82,880	\$60,509	\$165,760	(\$22,371)	37%
Lab Supplies and Equipment	\$1,530	\$1,842	\$9,178	\$9,072	\$18,355	(\$106)	49%
Office Supplies	\$188	\$397	\$1,125	\$3,258	\$2,250	\$2,133	145%
Miscellaneous Expenses	\$1,213	\$1,600	\$7,275	\$10,918	\$14,550	\$3,643	75%
Other Operating Costs	\$278	\$313	\$1,670	\$1,423	\$3,339	(\$247)	43%
Subtotal of Costs for Contract Year 2	\$69,215	\$108,949	\$415,289	\$370,239	\$830,578	(\$45,050)	45%
Fixed Fee for Contract Year 2	\$6,922	\$6,922	\$41,530	\$41,530	\$83,059	\$0	50%
Year One Transition	\$1,365	\$1,365	\$8,193	\$8,192	\$16,385	(\$0)	50%
Total	\$77,502	\$117,235	\$465,011	\$419,961	\$930,022	(\$45,050)	45%



6. CAPITAL PLANNING

6.1 APPROVED CIP PROJECTS CURRENT STATUS

Brotcke Well and Pump completed well treatments scheduled to take place in calendar year 2015. Donut Rings and Well Injection Port Extensions on all ten (10) wells have also been completed. Well Sampling Stations have been installed and are being used to pull samples.

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.