WOODARD &CURRAN

Monthly Operating REPORT

November 2015

0217327.00

So. Sangamon

December 15, 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 November. Approximately 72 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 November. A boil order was issued on November 3, 2015. The Master PLC failed which stopped the plant from operating. With the high service pumps not operating, the pressure on the main between the plant and ground storage reservoir fell below 20 psi. The Illinois Environmental Protection Agency (IEPA) mandates a boil order be issued anytime this event occurs. The ground reservoir influent valve was shut to limit the boil order for those customers between the plant and the ground storage reservoir. Samples were collected and analyzed and the boil order ended at 11:00 a.m. on November 5, 2015.

We continue to experience a slight exceedance of the maximum allowable Chlorine residual allowed by the NPDES discharge permit.

The plant produced 27.2 million gallons of water for the month of November.

Treatment has been completed on Wells 3, 4 and 8 as planned. For the month of November 2015, there were 18 inspections, 17 preventative and 3 corrective and 19 other maintenance activities completed. There were three alarms that required personnel at the plant after normal operating hours. There were three customer inquiries for the month.

Joe Hurley, Bobby Nichols, Marc Thomas were on-site during the month of November. Joanna Wallace continues to monitor the progress of the Safety Audit from Portland, Maine.

The seven months financial summary indicates costs are $34,559 under budget for the year to date.

Woodard and Curran is working with Meco 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 attended Confined Space training on November 19, 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 November 2015.

1.3 SAFETY AUDIT

On November 23, 2015, Marc Thomas, Dan Held, Keith Sommers and Joanne Wallace participated in a conference call regarding the Safety Audit that was performed earlier in the year. To date, approximately 72 percent of the items identified have been addressed.

1.4 MISCELLANEOUS SAFETY

There are no miscellaneous safety issues for November 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 November.

At approximately 6:30 p.m. on November 3, 2015, the Master PLC failed which stopped the plant from operating. With the high service pumps not operating, the pressure on the main between the plant and ground storage reservoir fell below 20 psi. The Illinois Environmental Protection Agency (IEPA) mandates a boil order be issued anytime this event occurs. The ground reservoir influent valve was shut to limit the boil order for those customers between the plant and the ground storage reservoir. Samples were collected and analyzed and the boil order ended at 11:00 a.m. on November 5, 2015.

We continue to experience a slight exceedance of the maximum allowable Chlorine residual allowed by the NPDES discharge permit.

The monthly required Pre-Aeration sample for November came back positive on November 24, 2015. A second sample was pulled and analyzed and the results were negative. Because the second sample was negative, no further action is required.

The construction permit required for the sodium permanganate pilot study was received by the IEPA on November 10, 2015. There is a minimum 40 day wait time before IEPA can be contracted regarding the status of the permit application.

2.2 INFLUENT FLOWS AND LOADINGS

The total water produced for the month of November 2015 was 31.03 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	7.83	14.8	0.72	0.212	0.25	364	280	0.986
2	7.82	15.1	0.64	0.208	0.23	366	280	1.261
3	7.85	14.9	0.81	0.224	0.24	364	280	0.000
4								0.086
5	7.84	15.1	1.57	0.251	0.18	368	282	0.973
6	7.83	14.8	0.84	0.225	0.27	360	280	1.597
7	7.84	14.7	0.86	0.228	0.24	366	282	1.405
8	7.80	14.4	0.95	0.233	0.32	364	280	1.142
9	7.83	14.6	0.78	0.237	0.25	360	282	1.156
10	7.80	14.6	1.00	0.244	0.27	366	282	1.037
11	7.78	14.3	0.95	0.228	0.18	366	280	1.127
12	7.84	14.4	0.81	0.234	0.21	366	280	0.987
13	7.89	14.0	0.81	0.220	0.28	368	280	1.158
14	7.87	14.4	0.89	0.232	0.22	364	280	0.978
15	7.87	14.7	0.79	0.224	0.28	368	280	1.028
16	7.89	14.2	0.78	0.225	0.27	366	280	1.123
17	7.85	14.6	0.80	0.229	0.28	368	276	1.074
18	7.86	14.6	0.83	0.231	0.24	364	280	0.987
19	7.81	14.0	0.77	0.233	0.15	358	264	1.030
20	7.93	13.9	0.72	0.235	0.21	368	280	1.028
21	7.92	13.9	0.81	0.232	0.21	364	270	1.077
22	7.88	13.9	0.76	0.234	0.19	370	278	1.031
23	7.77	13.7	0.69	0.229	0.23	368	280	1.174
24	7.87	14.4	0.75	0.240	0.19	362	280	1.082
25	7.89	14.0	0.70	0.229	0.25	368	284	1.189
26	7.82	16.1	0.73	0.227	0.15	366	288	1.040
27	7.82	14.1	0.70	0.239	0.28	364	280	1.072
28	7.89	14.2	0.81	0.232	0.28	364	280	1.010
29	7.84	14.1	0.70	0.229	0.21	362	282	1.067
30	7.83	14.1	0.67	0.230	0.24	366	282	1.122
31								
Max.	7.93	16.1	1.57	0.251	0.32	370	288	1.597
Min.	7.77	13.7	0.64	0.208	0.15	358	264	0.000
Avg.	7.85	14.4	0.82	0.230	0.23	365	280	1.034
Total	-	-	-	-	-	-	-	31.027

2.3 EFFLUENT CONCENTRATIONS

The facility produced 27.2 MG during the month with a daily average of 0.91 MG and a min/max of 0.05/1.32 MG.

Table 2.3 Finished Water Quality

Date	Free Cl2	Total Cl2	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
1	1.2	1.2	7.89	14.7	0.01	0.040	1.17	128	254	0.66
2	1.2	1.2	7.88	14.6	0.01	0.038	1.26	120	254	0.77
3	1.2	1.2	7.90	14.6	0.01	0.048	1.13	120	266	0.61
4										
5	1.5	1.5	7.90	15.2	0.01	0.061	1.00	120	266	0.71
6	1.6	1.7	7.91	14.6	0.01	0.054	1.07	120	266	0.86
7	1.6	1.6	7.94	14.4	0.01	0.038	1.00	126	256	0.88
8	1.6	1.6	7.74	14.5	0.01	0.050	0.99	120	276	0.90
9	1.6	1.6	7.90	14.2	0.01	0.047	0.95	118	264	0.77
10	1.5	1.5	7.69	14.2	0.01	0.043	1.18	120	256	0.83
11	1.3	1.3	7.86	15.6	0.00	0.036	1.02	122	254	0.88
12	1.5	1.5	7.91	14.2	0.01	0.046	0.91	120	268	0.91
13	1.5	1.5	7.90	13.9	0.01	0.047	0.96	120	272	0.86
14	1.4	1.4	7.93	13.9	0.01	0.042	1.00	120	274	0.88
15	1.5	1.6	8.00	14.4	0.01	0.042	0.42	124	280	0.85
16	1.5	1.5	7.95	14.0	0.01	0.044	1.00	120	264	0.87
17	1.5	1.5	7.95	14.2	0.01	0.041	1.03	122	270	0.86
18	1.5	1.5	7.93	14.6	0.01	0.038	1.03	120	274	0.77
19	1.4	1.6	7.82	14.5	0.01	0.042	0.88	114	270	0.84
20	1.5	1.5	8.04	13.6	0.01	0.041	0.71	126	264	0.81
21	1.5	1.5	7.99	13.6	0.01	0.043	1.02	122	260	0.89
22	1.5	1.6	7.92	13.5	0.01	0.041	1.12	124	270	0.87
23	1.4	1.5	7.82	13.8	0.00	0.040	1.15	122	264	0.83
24	1.5	1.5	7.90	14.3	0.01	0.044	1.02	116	258	0.91
25	1.5	1.5	7.98	13.8	0.01	0.040	0.95	120	270	0.90
26	1.1	1.1	7.99	15.1	0.00	0.036	0.99	122	268	0.86
27	1.0	1.0	7.95	14.1	0.01	0.044	1.02	124	266	0.78
28	1.6	1.6	7.96	13.8	0.01	0.040	1.09	120	282	0.84
29	1.5	1.5	7.95	13.8	0.02	0.042	0.91	120	264	0.83
30	1.7	1.7	7.92	13.8	0.01	0.042	1.00	116	280	0.85
31										
Max	1.7	1.7	8.04	15.6	0.02	0.061	1.26	128	282	0.91
Min	1.0	1.0	7.69	13.5	0.00	0.036	0.42	114	254	0.61
Avg	1.4	1.5	7.91	14.2	0.01	0.043	1.00	121	267	0.83

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)**
11/02/2015	0.451	0.129	359	0.000	7.74	4.0
11/09/2015	1.300	0.261	377	0.138	7.92	0.0
11/16/2015	0.518	0.116	301	0.000	7.90	0.0
11/23/2015	0.814	0.162	331	0.194	7.90	0.0
11/30/2015	0.718	0.127	335	0.116	7.82	0.0
Minimum	0.451	0.116	301	0.000	7.74	0.0
Maximum	1.300	0.261	377	0.194	7.92	4.0
Average	0.760	0.159	341	0.090	7.86	0.8
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 2015, performed by the Springfield Metropolitan Sanitary District, was 12,600 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 was on-site November 2, 2015 to do a follow-up treatment on Well 4. For your convenience, a copy of Brotcke's report is attached.

3.2 EMERGENCY & SERVICE CALLS

Service Calls:

- There were no service calls for the month of November 2015

3.2.1 Emergency Call-outs

At approximately 6:30 p.m. on November 3, 2015, the Master PLC failed which stopped the plant from operating. With the high service pumps not operating, the pressure on the main between the plant and ground storage reservoir fell below 20 psi. The Illinois Environmental Protection Agency (IEPA) mandates a boil order be issued anytime this event occurs. The ground reservoir influent valve was shut to limit the boil order for those customers between the plant and the ground storage reservoir. Samples were collected and analyzed and the boil order ended at 11:00 a.m. on November 5, 2015.

We received an alarm on November 23, 2015 due to a FRE limit switch that didn't open on Ion Exchange Unit #1. Keith Sommers exercised the valve and put the unit back in service. There was no interruption of service

We received an alarm on November 28, 2015 due to valve RWI limit switch on Ion Exchange Unit #4. The alarm was corrected and there was no disruption in service.

3.3 CUSTOMER INQUIRIES

We received three (3) customer inquiries during the month of November 2015.

- Corrina Dahl sent an email to the website on November 4, 2015 indicating what the quality of the water is at her residence and wanted to know when it would improve.

- Jewel Brandt emailed pictures of dark spots and pink slime to Dustin Patterson on November 17, 2015. Dustin Patterson forwarded the pictures to Marc Thomas.

- Tracy McCall contacted Woodard and Curran on November 18, 2015 regarding the sodium level in the water and its impact on the hydroponic plants she's growing.

4. MAINTENANCE AND REPAIR

4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE

For the month of November 2015, there were 18 inspections, 17 preventative and 3 corrective and 19 other maintenance activities completed.

Dan Held and Keith Sommers cleaned the insertion quill on the sodium hypochlorite feed to the detention tank on November 13, 2015. Only a slight build-up was found on the quill. Because the wells were not running at the time, there was no disruption of service and the quill was placed back into service.

Minor activities to complete maintenance on the Aerator was performed by Keith Sommers. This completes maintenance activities required for the aerator for the year.

Keith Sommers repaired the auto drain on WesTech Filter Bank #2 on November 13, 2015. Pictured below are the parts that were required to make the repairs. The Bank was off-line for approximately 30 minutes and there was no disruption of service.

On November 23, 2015 Keith Sommers removed and replaced the pump head on the finished chlorine pump. There was no interruption of service and the pump is working perfectly. Pictured below is the head on the finished chlorine pump.

4.2 CORRECTIVE REPAIRS

On November 18, 2015, Keith Sommers performed repairs to Ultra-Filtration Bank #2. The four-way air-line to the modules was leaking water. The repairs were completed in about 30 minutes and there was no interruption of service.

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5. PROJECT MANAGEMENT & SUPPORT

5.1 STAFFING & TRAINING

- Dan Held and Keith Sommers attended Confined Space Training on November 19, 2015

5.2 CORPORATE SUPPORT

- Joe Hurley was on-site on November 4, 2015 to determine the cause for the shut-down of the master PLC.
- Dan Held met with Mr. Kirk Mendenhall on behalf of South Sangamon Water Commission to discuss the location of the line to his new residence and where the water would be tapped.
- Bobby Nichols was here on November 16, 2015 for the monthly South Sangamon Water Commission Meeting.
- Joanna Wallace, Marc Thomas, Bobby Nichols, Dan Held and Keith Sommers participated in a conference call regarding the safety audit of May 2015.

5.3 BUDGET

The seven months financial summary is provided below in Table 4.1 showing the costs are $34,559 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	$20,584	$134,309	$129,750	$230,244	($4,559)	56%
Utilities	$8,320	$32,665	$58,240	$80,328	$99,840	$22,088	80%
Chemicals	$16,388	$11,065	$114,715	$102,349	$196,655	($12,366)	52%
Maintenance & Repair	$8,299	$1,374	$58,091	$38,320	$99,585	($19,771)	38%
Sludge	$13,813	$11,865	$96,693	$72,374	$165,760	($24,319)	44%
Lab Supplies and Equipment	$1,530	$787	$10,707	$9,859	$18,355	($848)	54%
Office Supplies	$188	$156	$1,313	$3,414	$2,250	$2,102	152%
Miscellaneous Expenses	$1,213	$863	$8,488	$11,781	$14,550	$3,294	81%
Other Operating Costs	$278	$347	$1,948	$1,770	$3,339	($178)	53%
Subtotal of Costs for Contract Year 2	**$69,215**	**$79,706**	**$484,504**	**$449,945**	**$830,578**	($34,558)	54%
Fixed Fee for Contract Year 2	$6,922	$6,922	$48,451	$48,451	$83,059	$0	58%
Year One Transition	$1,365	$1,365	$9,558	$9,557	$16,385	($1)	58%
Total	**$77,502**	**$87,993**	**$542,513**	**$507,954**	**$930,022**	**($34,559)**	55%

6. CAPITAL PLANNING

6.1 APPROVED CIP PROJECTS CURRENT STATUS

At the October meeting, the South Sangamon Water Commission gave Woodard and Curran permission to begin engineering on the lagoon dechlorinating project. The project is estimated to cost $30,800 of which $18,800 is included for design and specification development, SCADA and controls design and integration.

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.

November 30, 2015

Mr. Dan Held
South Sangamon Water Commission
9199 Buckhart Rd
Rochester, IL 62563

RE: Well Treatment Results

Dear Dan:

We have completed the Well Treatment results on Wells No. 3, 4, and 8.

Presented below are the results.

Specific Capacity (GPM/Foot)

Well No.	Present	New	% Increase	Last Test	% Increase
3	23	16	44%	10	130%
4	11	9	22%	9	22%
8	37	23	61%	17	117%

Well No. 3 This well had never been treated since it was installed in 2012. The SC had dropped to a 10. The treatment brought the well up to an SC of 23.

Well No. 4 This well had never been treated since it was installed in 2012. The SC had dropped to a 9. The treatment brought the SC up to an 11.

Well No. 8 This well had never been treated since it was installed in 2012. The SC had dropped to a 17. The treatment brought the well up to an SC of 37.

Pump Condition (GPM)

Well No.	Present	Design	% Loss
3	250	250	0%
4	250	250	0%
8	220	250	12%

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Visit us at www.brotcke.com

Well No. 3 The pump for well 3 has design points of 250 gpm at 148' tdh. The pump is operating at 250 gpm at its design head which is at its pump capacity. The pump does not require any maintenance at this time.

Well No. 4 The pump for well 4 has design points of 250 gpm at 148' tdh. The pump is operating at 250 gpm at its design head which is at its pump capacity. The pump does not require any maintenance at this time.

Well No. 8 The pump for well 8 has design points of 250 gpm at 148' tdh. The pump is operating at 220 gpm at its design head which is an 12% drop in pump capacity. The pump does not require any maintenance at this time.

In summary, the treatment for wells 3, 4, and 8 was successful. The SC for all the wells has been increased from when they were new. This is not uncommon, and is likely due to developing drilling mud out of the wells. The pumps for the wells are operating near their design points as well. Pump test sheet and pump curves are attached for your files.

Additional note: We treated well 4 in October and then again in November. This well is not responding to treatments as well as the other wells. In the future, perhaps the spring of 2016, this well should have the pump pulled and be treated with a surge block to break up the fouling before the well SC is not able to be raised.

If you have any questions please feel free to contact me.

Sincerely,
BROTCKE WELL & PUMP INC.

Todd Thomas

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