

Technical Director's Report

July 17, 2013

Plant Loading and Operations Summary – June 2013

Biochemical Oxygen Demand, 5-Day (Avg. 20,850 lb./day)	30 percent of design
Total Suspended Solids (Avg. 26,063 lb./day)	23 percent of design
Average Daily Flow (32.6 million gallons/day)	80 percent of design
Maximum Daily Flow (81.5 million gallons/day)	65 percent of design

	Permit Limits (avg./max.)	Reported Values	Violations
CBOD ₅ , mg/L	20/40	3/4	0
TSS, mg/L	25/45	6/9	0
NH ₃ -N, mg/L	1.3/3.0	0.44/0.82	0
Fecal coliform per 100 mL	400*	89	0
Chlorine Residual, mg/L	0.05*	<0.015	0
Dissolved Oxygen, mg/L	6.0 (minimum)	7.8	0

*Effluent disinfection is required May 1 through October 31.

No exceedences of NPDES permit limits occurred during June.

The total amount of stabilized sludge sent to storage at the Wyckles Road Land Application Facility last month was 443 tons. The digester gas engine generator was not available during June.

Activities

The bid date for the digester improvements project was extended until July 2 because numerous questions being received by Donohue & Associated from general contractors indicated some confusion existed. Five bids were received, as follows:

Leander Construction, Inc.	\$6,687,359.03
Korte & Luitjohan	\$6,799,446.00
River City Construction	\$7,140,999.39
Mid-States	\$7,740,679.00
Christy-Foltz	\$9,448,786.00

The bids are being reviewed and a recommendation for contract award will be made to the Board in August.

A kickoff meeting with Donohue & Associated for the waste activated sludge thickening upgrade is scheduled for July 16.

After well over a year of review, U.S. EPA staff has raised questions about two aspects of research studies that have been done supporting the model we are proposing to use for our site-specific nickel standard. Our consultant is evaluating the questions and possible responses.

Flow and rainfall data are being compiled for an IAWA consultant member preparing a paper for WEFTEC 2014 examining rainfall extremes. Predicted aspects of climate change include larger precipitation events, more extreme events, and more intense and widespread periods of drought. Data from 2010, a wet year, and from the drought year of 2012 will be provided.

Carbon has been replaced in all of the Calgon odor control units and all but one of the units are operational. Calgon has ordered a replacement fan for the remaining unit. An email was received from a West End resident expressing satisfaction with infrequent odors so far this year.

Other activities during the past month included completion of the annual plant site storm water report and semi-annual nickel and zinc report for submission to Illinois EPA, and participation in an IWEA Board meeting.

CSO ACTIVITY SUMMARY

Location	Events	Discharge (million gallons)	Estimated Total Duration of Discharges
Oakland Avenue (Outfall 003)	4	3.3	10.2 hours
Lincoln Park (Outfall 004)	2	6.7	2.0 hours
McKinley Avenue (Outfall 007)	5	1.55	5.4 hours
Seventh Ward (Outfall 008)	1	0.41	0.7 hours

If there are any questions or comments concerning this report, please contact me at 217/422-6931 x214 or by email at timk@sddcleanwater.org.

SANITARY DISTRICT OF DECATUR

501 DIPPER LANE, DECATUR, IL 62522

MEMORANDUM

TO: Tim Kluge

DATE: 07/01/13

FROM: Larry Arnold

SUBJECT: Laboratory activities for June 2013

Routine:

Monitoring of treatment plant, industrial users, and receiving stream samples for compliance purposes and process monitoring continued. Laboratory personnel continued monitoring H₂S and other odor causing chemicals within the covered areas of the activated carbon treatment units. Laboratory personnel continued to perform additional ammonia and nitrate analysis to monitor the effect of changes made by ADM in their wastewater treatment to help prevent the floating solids problem here at the plant. Analysis was continued to confirm water quality of plant groundwater and groundwater near the 7th Ward CSO facility in conjunction with the district's dissolved solids strategy. Chloride analysis of industrial users continued in support of this strategy, as well. Safety meetings have continued and there was no first report of injury in the laboratory during this period.

Non-Routine:

- 1) The laboratory continues to investigate the potential role of amounts of incoming Total Kjeldahl Nitrogen (Ammonia plus forms of Organic Nitrogen) in affecting the plant's nitrification ability. No significant levels of Ammonia-Nitrogen (other than that added to aid the disinfection process) were detected in the plant effluent during the month.
- 2) The laboratory continued additional analyses of the supernatant returned from Wyckle's sludge lagoons. This study was at the request of Black and Veatch and is related to the reclaimed water study and potential future EPA plant performance requirements.
- 3) Work continues on a laboratory manager position standard operating procedure. A generic calendar was setup indicating at what time of year certain actions need to be taken in relation to infrequent events and also indicates primary daily activities. This effort is related to transition planning for the laboratory. During 2013, this calendar will be reviewed on a daily basis to ensure that no activities are overlooked. Transition documents prepared to date are stored on the laboratory intranet. At least two individuals currently on the laboratory staff have indicated an interest in this position after the current laboratory manager's retirement in 2015. These individuals will soon be sent to the Finn group for career advancement evaluation and participate in the catalytic coaching program being developed for individuals in the career advancement program.
- 4) Laboratory management continued updating the district lab data handling manual as part of the transition effort and we anticipate beginning in house training for all interested

laboratory personnel sometime in 2013. This may commence with some outside Microsoft Excel training prior to specific in-house training.

- 5) Work has been completed on the 2013 US EPA DMR-QA performance evaluation samples. All data is due on and will be reported by July 5, 2013.
- 6) Laboratory management prepared a manual that introduces plant operators to district laboratory operations and how it relates to the operators' activities. In-lab exposure for the operators began during mid May and is continuing through early July.
- 7) Due to problems with plant water chlorine dosing, the laboratory staff began a study evaluating fecal coliform populations both immediately before and after the dechlorination process. Bisulfite solution used for dechlorination is diluted with plant water and past studies have indicated that there is some fecal coliform carryover in this process to the effluent discharged to the river. Fecal coliform re-growth in the water tower was considered to be the source of this which can result in fecal coliform populations greater in the effluent after dechlorination than before.

Pretreatment Activity during June 2013

Verbal Notices

We issued a Verbal Notice to **Mason Manufacturing, Inc.** on June 4, 2013 because they did not submit their semiannual self-monitoring report by the June 1 due date.

We issued a Verbal Notice to **Prairie Farms Dairy** on June 4, 2013 because they discharged wastewater with a pH below the minimum permit limit for pH on June 4, 2013.

We issued a Verbal Notice to **Carry Transit** on June 10, 2013 because they had failed to submit the required self-monitoring form or zero process wastewater discharge certification form by the due date.

Warning Notices

We issued a Warning Notices to **Prairie Farms Dairy** on June 10, 2013 because they discharged wastewater with a pH below the allowed minimum on four of the five days we were monitoring their wastewater during the week of June 2-8, 2013.

Other Enforcement

We did not issue any Notices of Violation or Executive Orders during June 2013.

Penalty Assessment

We assessed the following industrial penalties for June 2013:

Prairie Farms Dairy, Inc.	\$9,000.00
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General Activity

1. We monitored eleven commercial and industrial users (IU) and we performed two industrial user inspections during June 2013.

2. We received a wastewater hauler permit application from **Gulliford Septic Service** during June 2013 because their current permit is due to expire in July. We also received an application for a new wastewater discharge permit from **Industrial and Custom Powder Coating (ICPC)** during June because their current permit is due to expire soon.
3. We issued new wastewater hauler discharge permits to **Gulliford Septic Services, St. Claire Services of Illinois**, and **Zeschke Septic Cleaning, LLC**, during June 2013.
4. I visited **Prairie Farms Dairy** on June 11, 2013 to see their new grease interceptors. **PFD** is counting on the new interceptors to keep their effluent compliant.
5. I visited the **T&L** pilot plant on June 26, 2013 to evaluate the waste they would like to send to our anaerobic digesters by truck.

SANITARY DISTRICT OF DECATUR
501 Dipper Lane Decatur, Illinois (217) 422-6931

TO: Tim Kluge
FROM: J. D. Malone, I&C Manager
DATE: 7/8/2013
SUBJECT: I&C Shop Monthly Activity Report for June 2013

Work Orders Completed:

39 Corrective
1 Improvement / New
92 PM
1 Process
1 Project
1 Safety

I&C Tech Monthly Activity:

Repair work on effluent Pump #1 was completed and the pump reinstalled. The unit is fully operational (end June 2013). Effluent pump #2 is still on target for late July / early August installation.

The Wyckles dredge pump motor has been repaired and returned. A replacement soft start has been installed. Additional protection measures for the pump have been added and are being programmed / tested to verify proper operation. (In progress)

Updates to SCADA and process control are under way. We are working in conjunction with operations to improve operational efficiency and verify accuracy of data displayed on the screens. (Ongoing project)

We have been continually working with Farnsworth and with Hammer Enterprises to complete the 2012 Energy Efficiency Project. SCADA / Automation work is moving along well and should be fully completed July 2013.

We are working with Kirby Risk to get the final set up / spec work done for the replacement MCC section in the 259 building. The design work should be completed by July 2013.

Attended Pre-bid and bid opening meetings for the Digester complex improvement projects. Doug Gist and Vincent McCauley attended ONSSI administrator camera system training June 2013. This will help in the set up and maintenance of our camera system.

Work continues for the Ammonia Station. We have parts on order and will begin automation / set up when materials are received.

MIS Monthly Activity Report:

1. Ongoing SDD Server Virtualization Project
2. Ongoing CMMS Upgrade
3. Proficy Historian and Workflow research
4. Network Administration, Helpdesk, Troubleshooting and Repair

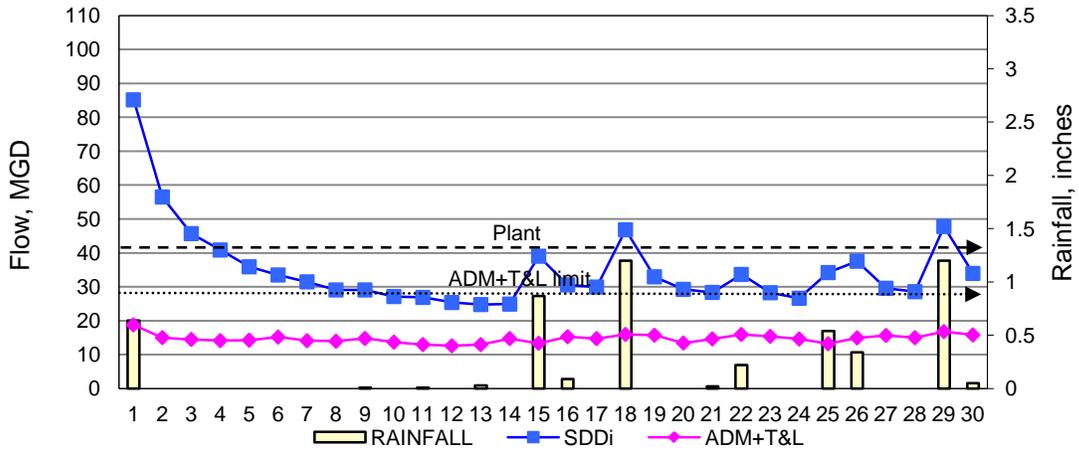
Planning and Scheduling:

Whole plant switchgear cleaning and protective relay testing is due in 2013.

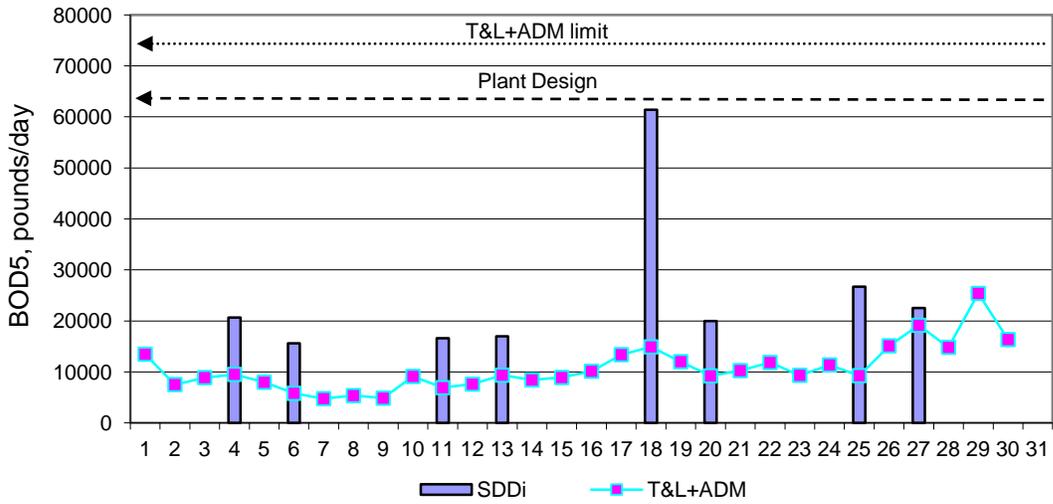
Respectfully,

J. D. Malone

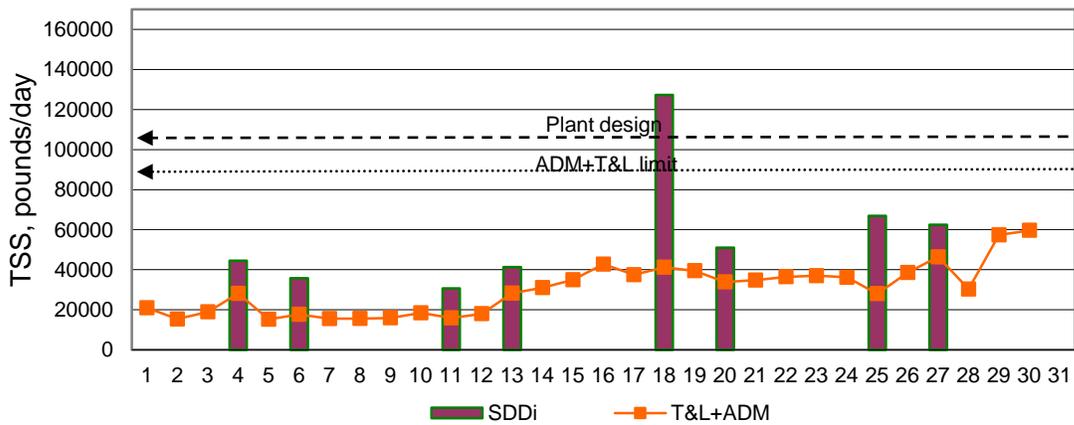
Flow Comparison: SDD vs. ADM + T&L Discharges and Rainfall

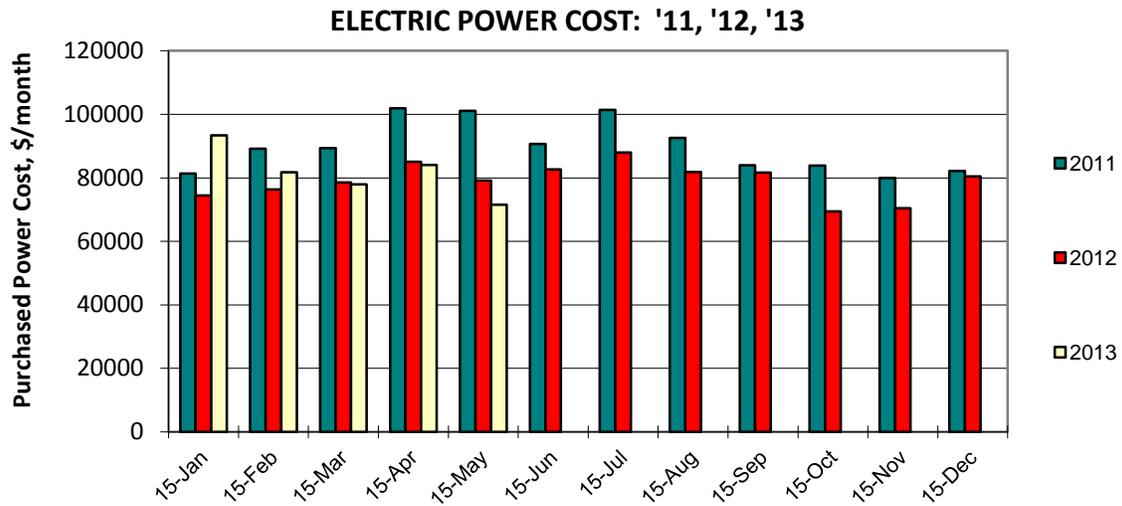


BOD Comparison: BOD Inf vs. T&L + ADM Discharges



TSS Comparison: SDD Inf T&L+ADM Discharges





(No power bill received for June 2013)

