

# Technical Director's Report

January 15, 2014

## Plant Loading and Operations Summary – December 2013

Biochemical Oxygen Demand, 5-Day (Avg. 23,960 lb./day)	35 percent of design
Total Suspended Solids (Avg. 31,950 lb./day)	29 percent of design
Average Daily Flow (22.3 million gallons/day)	54 percent of design
Maximum Daily Flow (48.1 million gallons/day)	38 percent of design

	Permit Limits (avg./max.)	Reported Values	Violations
CBOD <sub>5</sub> , mg/L	20/40	3/4	0
TSS, mg/L	25/45	5/6	0
NH <sub>3</sub> -N, mg/L	1.5/3.0	<0.13/0.20	0
Fecal coliform per 100 mL	400*		0
Chlorine Residual, mg/L	0.05*		0
Dissolved Oxygen, mg/L	6.0 (minimum)	8.6	0

\*Effluent disinfection is required May 1 through October 31.

No exceedences of NPDES permit limits occurred during December.

The total amount of stabilized sludge sent to storage at the Wyckles Road Land Application Facility last month was 319 tons.

### Activities

A project kickoff meeting for the Black & Veatch nutrient study is scheduled for January 17. Also, a kickoff meeting on the sludge thickening project design is being scheduled with Donohue & Associates during the week of January 20. A meeting was held with representatives of Donohue on December 19 to discuss possible approaches to an operations training initiative.

U.S. EPA is requiring one round of effluent toxicity testing as part of the nickel standard documentation. A study plan for the testing has been prepared and the testing should occur shortly. The semi-annual nickel status report for Illinois EPA was completed and submitted in December.

Three proposals were received to complete an information technology assessment and strategic plan for the District. The budget for this plan is \$95,000 and the proposals are within the budget. A recommendation for approval will be presented at the Board meeting.

Other activities during the past month included attending the IWEA Government Affairs seminar and a meeting with ADM to discuss permitting for their research laboratory facilities. An Illinois EPA Nutrient Reduction Strategy Working Group meeting is scheduled for January 15 in Bloomington.

## CSO Summary

Location	Events	Discharge (million gallons)	Estimated Total Duration of Discharges
Oakland Avenue (Outfall 003)	1	0.05	1 hour
Lincoln Park (Outfall 004)	0		
McKinley Avenue (Outfall 007)	1	0.45	2.5 hours
Seventh Ward (Outfall 008)	0		

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](mailto:timk@sddcleanwater.org).

# SANITARY DISTRICT OF DECATUR

501 DIPPER LANE, DECATUR, IL 62522

## MEMORANDUM

**TO:** Tim Kluge

**DATE:** 01/02/14

**FROM:** Larry Arnold

**SUBJECT:** Laboratory activities for December 2013

### **Routine :**

Monitoring of treatment plant, industrial users, and receiving stream samples for compliance purposes and process monitoring continued. Laboratory personnel continued monitoring H<sub>2</sub>S 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. Chloride analysis of industrial users continued in support of the dissolved solids 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. All December's Effluent Ammonia results were well beneath permit limits.
- 2) Personnel are now working on their Personal Development Plans.
- 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 2014, this calendar will be reviewed again on a daily basis to ensure that no activities are overlooked or new ones have been added. Transition documents prepared to date are stored on the laboratory intranet.

As part of the laboratory manager's personal development plan, a document has been prepared and submitted for review indicating general characteristics needed for to fill the Laboratory Manager position.

- 4) Laboratory management continued updating the district lab data handling manual as part of the transition effort and we began in house training for all interested laboratory personnel in advanced Microsoft Excel techniques. As part of this process, an Excel application

correlating sample oxygen demand index (ODI) to Biochemical Oxygen Demand (BOD<sub>5</sub>) was updated.

- 5) Laboratory Management prepared an updated laboratory asset management plan as one of the catalytic coaching goals.
- 6) Laboratory Management began assessment of utilizing Visual Basic for Applications programming to combine SCADA data from the IHistorian application with laboratory data from the Laboratory Information Management System (LIMS) to allow ongoing calculation of key operational parameters used for plant control and by engineers for process design. Project looks feasible and will commence upon completion of remaining Personal Development Plan goals.

### **Pretreatment Activity during December 2013**

#### **Verbal Notices**

We issued Verbal Notices to **Akorn, Inc., Mason Mfg, LLC, and Stripmasters Services** during December 2013 because their self-monitoring reports that were due by December 1 were late.

We issued a Verbal Notice to **Kopetz Mfg. LLC** on December 5, 2013 because they discharged wastewater with a pH below 6.00 on December 4, 2013.

We issued a Verbal Notice to **Tate and Lyle (T&L)** on December 9, 2013, because they discharged wastewater with a low pH on December 8, 2013. We issued another Verbal Notice to **T&L** on December 17, 2013 because they exceeded their daily maximum BOD limit on December 6, 2013.

We issued another two Verbal Notices to **Kopetz Mfg, LLC** during December because they exceeded their FOG-T, FOG-N, and total zinc limits on December 4, 2013.

#### **Warning Notices**

We issued a Warning Notice to **Prairie Farms Dairy, Inc.** on December 26, 2013 because they exceeded their daily maximum permit limit for FOG-T on October 22 and December 11, 2013.

#### **Other Enforcement**

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

#### **Penalty Assessment**

We assessed the following industrial penalties for December 2013:

<b>Prairie Farms Dairy, Inc.</b>	\$4,000.00
<b>Tate and Lyle</b>	\$3,000.00

### **General Activity**

1. We monitored nine industrial users (IU) and we performed three industrial user inspections during December 2013.
2. I met with a representative of **Mason Mfg** during December to assist them in preparing for their industrial self-monitoring and to go over the permit application process.
3. We received a permit application from **Mason Mfg. LLC** during December because the business is under new ownership.
4. I developed new monitoring and inspection schedules for 2014 during December 2013.
5. We sent out reminder letters and annual report forms to all significant industrial users during December 2013.

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

**TO:** Tim Kluge  
**FROM:** J. D. Malone, I&C Manager  
**DATE:** 1/9/2014  
**SUBJECT:** I&C Shop Monthly Activity Report for December

**Work Orders Completed:**

28 Corrective  
5 Improvement / New  
153 PM  
0 Process  
1 Project  
0 Safety

**I&C Tech Monthly Activity:**

Effluent pump #2 has been installed and baseline vibration readings have been collected with good results. An automatic lubrication system was installed to lubricate the pump bushings. This pump is operational and vibration will be monitored quarterly.

Effluent pump #1 has been repaired / installed. The spare pump that failed in service is being repaired on a warranty basis by Bodine Electric. The unit had a seal failure that caused winding failure. The spare pump has been received and is in stock to be used as required. The motor feed cables to effluent pump #1 are defective and materials are being priced to replace them with new.

We have been working at the Wyckles facility to increase reliability and ease of use. LED lighting was added to the load out station to provide better light for the load out employees.

Material pricing and priorities being set for upgrades at the Wyckles facility that need to be completed prior to next application season.

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)

Work continues for the Ammonia Station. A new transformer, control panel, breaker panel, conduit, and lighting are now in house. Level transmitters for the ammonia tanks are being selected and we will obtain quotes for them in January 2014.

Chlorine Analyzer installation is under way and will be fully operational prior to next disinfection season.

St. Louis Bridge replacement MCC has been ordered with a lead time of 8-14 weeks. Bids have been received back from 2 of the 3 contractors that walked through the project. Bid process should be complete January 2014. Work will likely begin on this project in March 2014.

Received 2 out of 3 bids back for the lighting upgrade for the blower building, digester heat exchanger room, and WAS tank. DCEO paperwork will be filled out to see if grant money is available for this project.

Indication wiring is being run to primary clarifier 1 and 2 so this equipment can be monitored from SCADA. Wire has been pulled in and the work should be completed December / January.

Work has begun on the digester project. The I&C group has been working with Donohue and the contractors to make the project start smoothly. Relocation RFP information provided for moving fiber optic cable duct bank.

**MIS Monthly Activity Report:**

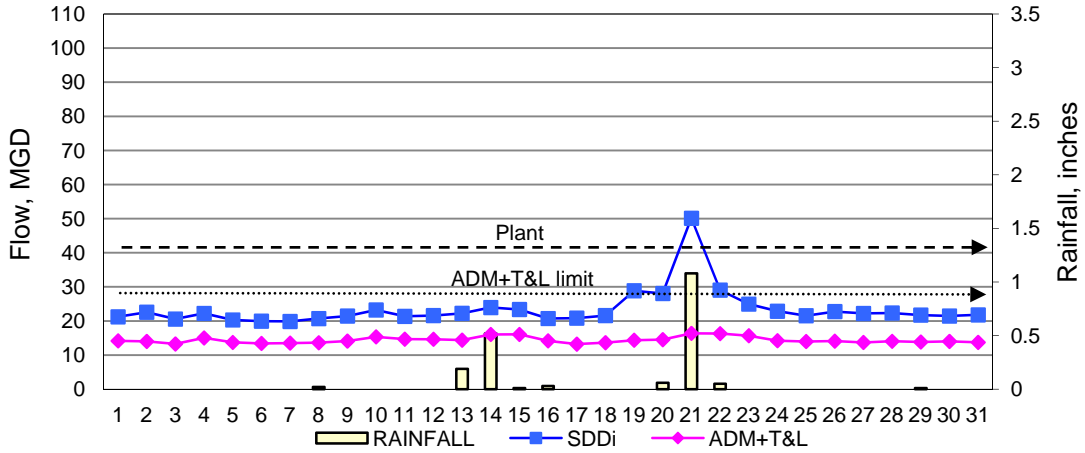
1. Ongoing SDD Server Virtualization Project
2. Network Administration, Helpdesk, Troubleshooting and Repair
3. Working on data integration project w/ MFS&W
4. Working on virus remediation and firewall upgrade

**Planning and Scheduling:**

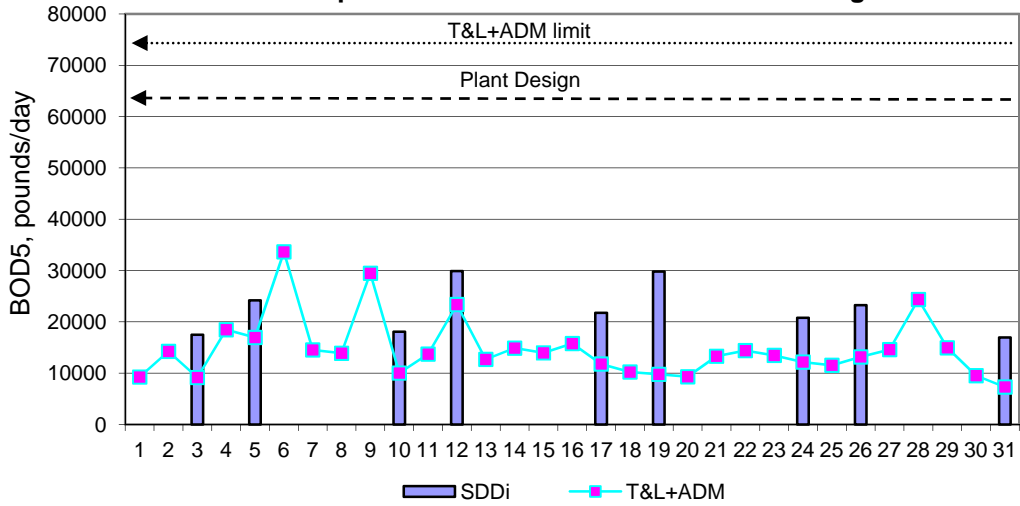
Protective relay testing is being bid now for completion by the end of April 2014.

Respectfully,  
J. D. Malone

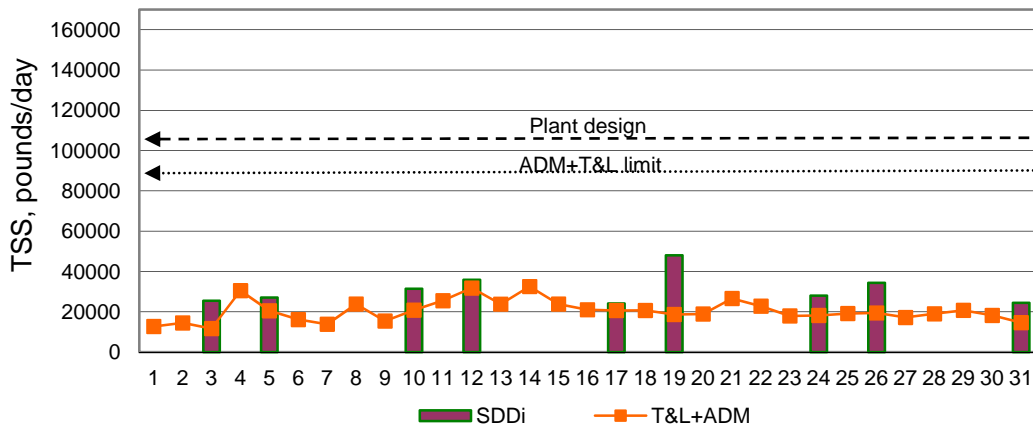
**Flow Comparison: SDD vs. ADM + T&L Discharges and Rainfall**



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

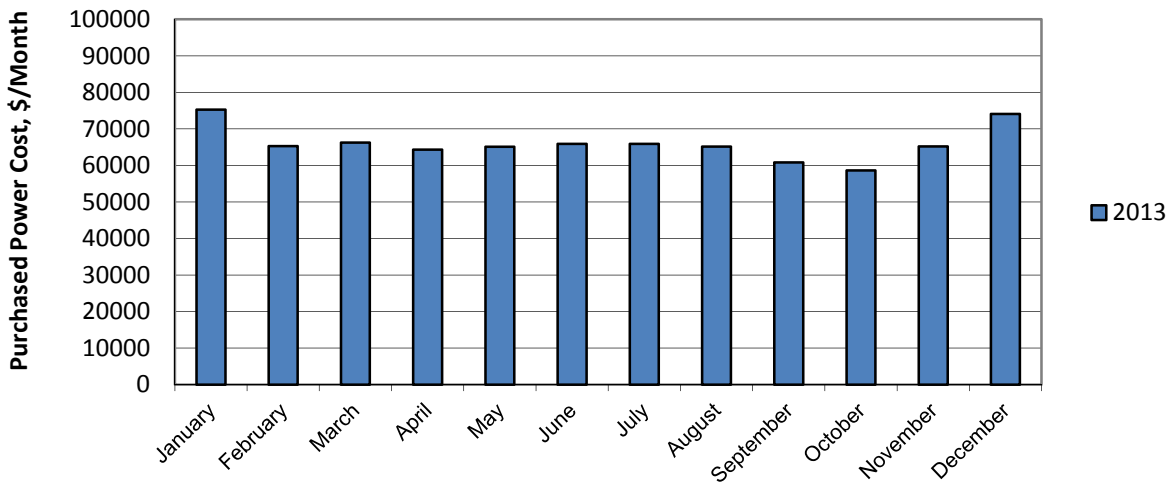


**TSS Comparison: SDD Inf T&L+ADM Discharges**





### ELECTRIC POWER COST: 2013



### ELECTRIC POWER USE: 2011, 2012, 2013

