

# Technical Director's Report

October 15, 2014

## Plant Loading and Operations Summary – September 2014

|  |                      |
|--|----------------------|
| Biochemical Oxygen Demand, 5-Day (Avg. 16,800 lb./day) | 25 percent of design |
| Total Suspended Solids (Avg. 30,800 lb./day)           | 28 percent of design |
| Average Daily Flow (27.99 million gallons/day)         | 68 percent of design |
| Maximum Daily Flow (60.24 million gallons/day)         | 48 percent of design |

|                           | Permit Limits (avg./max.) | Reported Values | Violations |
|---------------------------|---------------------------|-----------------|------------|
| CBOD <sub>5</sub> , mg/L  | 20/40                     | 2/2             | 0          |
| TSS, mg/L                 | 25/45                     | 2/3             | 0          |
| NH <sub>3</sub> -N, mg/L  | 1.5/3.0                   | 0.32/0.48       | 0          |
| Fecal coliform per 100 mL | 400*                      | 10              | 0          |
| Chlorine Residual, mg/L   | 0.05*                     | <0.015          | 0          |
| Dissolved Oxygen, mg/L    | 6.0 (minimum)             | 7.60            | 0          |
| Total Nickel, mg/L        | 0.015                     | 0.020           | 1          |

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

The District's nickel variance expired at the end of June and due to opposition from U.S. EPA, was not extended. No other exceedences of NPDES permit limits occurred during September.

The total amount of stabilized sludge sent to storage at the Wyckles Road Land Application Facility last month was 288 tons. The land application contractor began hauling sludge for land application on September 29, although frequent rains since then have significantly slowed hauling.

### Activities

Black & Veatch has received additional nutrient loading information from ADM and Tate & Lyle personnel, and is accelerating their process modeling work to support the diffuser design project. We met with B & V and a diffuser manufacturer at WEFTEC to review a preliminary piping and diffuser layout, and participated in a conference call with B & V on October 10 to review the basis of design and piping layout information.

The state's draft Nutrient Loss Reduction Strategy had not been released for public comment as of October 10. We understand that the release will occur at the Illinois Water 2014 conference in Urbana on October 14.

On October 6, we received a violation notice letter from Illinois EPA regarding nickel permit limit exceedences in July and August. A response is due by November 20. We have a conference call scheduled with U.S. EPA and Illinois EPA on October 14 to discuss our responses to their questions on the model that is the basis for our proposed site-specific water

quality standard, and a meeting scheduled with ADM personnel on October 16 to discuss the violation notice response.

Following the July 22 workshop with Red Oak Consulting on the District's IT Strategic Plan we received technical memoranda from Red Oak documenting recommendations covering recommendations for an IT Project Roadmap, and for IT Staffing and Governance. We are reviewing these documents and providing final comments to Red Oak.

**CSO Summary**

| Location                      | Events | Discharge<br>(million gallons) | Estimated Total<br>Duration of Discharges |
|-------------------------------|--------|--------------------------------|---|
| Oakland Avenue (Outfall 003)  | 3      | 8.0                            | 27.0 hours                                |
| Lincoln Park (Outfall 004)    | 2      | 2.4                            | 1.8 hours                                 |
| McKinley Avenue (Outfall 007) | 2      | 4.8                            | 10.9 hours                                |
| Seventh Ward (Outfall 008)    | 2      | 10.1                           | 11.9 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](mailto:timk@sddcleanwater.org).

# SANITARY DISTRICT OF DECATUR

501 DIPPER LANE, DECATUR, IL 62522

## MEMORANDUM

**TO:** Tim Kluge

**DATE:** 09/02/14

**FROM:** Larry Arnold

**SUBJECT:** Laboratory activities for September 2014

### **Routine :**

Monitoring of treatment plant, industrial users, and receiving stream samples for compliance purposes and process monitoring continued. Laboratory personnel continued to perform additional background nutrient monitoring in preparation for anticipated permit limits to assist with process design. 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. Effluent NH<sub>3</sub>-N levels for the month were within expected range as related to the ammonia addition for disinfection enhancement.
- 2) Personnel have finished up their Personal Development Plans for 2014-2015 fiscal year and meetings to discuss these were held in the first week of June. Ongoing personnel shortage continuing during August prevented any activities related to these plans from being conducted. Two newly hired lab technicians, Alyssa Harper and Markesha Davis started work beginning September 2 and after they are adequately trained, we will resume catalytic coaching activities. As part of the transition process, Jeff Runyon and Latishia Greve were scheduled to begin leadership training with Mark Sturgell of PDN on September 30.
- 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 continued in house training for all interested laboratory personnel in some of the laboratory data handling functions. In-house Excel training commenced with the two lab manager succession candidates and involved the waste hauler manifest billing procedure. This included introduction to the Visual Basic for Applications (VBA) programming code developed by the lab manager to automate this function. Comprehensive documentation prepared to accompany this training included detailed procedure, explanation of formulas and command buttons included in the spreadsheet, and explanation of VBA code used to prepare report. This approach will continue in a similar manner for all key laboratory/pretreatment reports that have been developed to date in-house.
- 5) Bill Cunningham, laboratory chemist, delivered a lecture and demonstration relating to wastewater treatment to the MacArthur High School advanced chemistry class on September 29 and will assist them in early October in a river sampling and monitoring project.

### **Pretreatment Activity during September 2014**

#### **Verbal Notices**

We issued a Verbal Notice to **Archer Daniels Midland Company, Inc. (ADM)** on September 15, 2014 because they exceeded their monthly average permit limit for total nickel during August 2014.

#### **Warning Notice**

We issued a Warning Notice to **Stripmasters Services, Inc.** on September 16, 2014 because they exceeded their monthly average permit limit for total discharge flow during July and August 2014.

#### **Notice of Violation**

We did not issue any Notices of Violation during September 2014.

#### **Executive Orders**

We did not issue any Executive Orders during September 2014.

#### **Penalty Assessment**

We assessed the following industrial penalty for September 2014:

|            |            |
|------------|------------|
| <b>ADM</b> | \$1,000.00 |
|------------|------------|

#### **General Activity**

1. We monitored nine industrial users (IU) and we performed nine industrial user inspections during September 2014.
2. We issued a new wastewater discharge permit to **PPG Industries** during September 2014 because their existing permit was due to expire soon. **Fuyao Glass** purchased the **PPG** plant

on August 29, 2014 and **PPG** plans to continue operating the plant under lease from Fuyao for a while. We will most likely be receiving a new permit application from **Fuyao** soon.

3. We received a wastewater hauler permit application from **Berg Tanks** during September because **Berg Tanks** would like to be permitted to discharge at SDD when working in Decatur.
4. We issued wastewater hauler permits to **Kelley's Septic Tank Service, Bodine Services, Inc. K & M Portable Toilets, Decatur Municipal Services, Septic Specialist, Parks Sewer Service, and Midwest Pottyhouse** during September 2014 because their old permits were due to expire soon.

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

**TO:** Tim Kluge

**FROM:** J. D. Malone, I&C Manager

**DATE:** 10/10/2014

**SUBJECT:** I&C Shop Monthly Activity Report for September 2014

**Work Orders Completed:**

45 Corrective  
8 Improvement / New  
83 PM  
1 Process  
1 Project  
0 Safety  
0 Training  
0 Asset Management

**I&C Tech Monthly Activity:**

Obtaining bids for replacement dredge power cabling / HDPE conduit from 3 different suppliers. Kirby Risk was the low bidder and the spool has been ordered with an anticipated lead time of 4 weeks. Conduit and power cable are to be on site the week of 7/14. Installation of conduit and power cable is almost completed. Bodine Electric is working with Burdick plumbing to complete the work. Work is completed on the installation side. The fiber optic cable needs ends installed for testing.

Replacement motor control centers for Wyckles and 259 building are in the process of being quoted. Replacement expected Spring 2015.

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 installed Wallace & Tiernan residual chlorine analyzers in the effluent chlorine contact tank. A factory representative provided start up and maintenance training for available I&C and operations personnel. PMs have been created along with a trend in the SCADA system. Analyzers have been tracking well and the maintenance schedule is being worked out / optimized.

Work continues for the Ammonia Station. The lighting and power portion of the project is complete. Pumps are powered and operational. Additional automation and monitoring work to be completed prior to next disinfection season.

Attended WEFTEC 2014 9/28 to 10/1. The conference was very informative and I appreciated the opportunity to attend. Primary focus of the sessions I attended were asset management, energy conservation / independence, and management / personnel related topics. I look forward to applying the gained knowledge.

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. Bodine Electric is the lowest bidder for the project. The temporary power panel has been constructed and the curb has been poured for the new MCC structure. MCC received July 2014. Program conversion / debugging is underway. Jamey Oliver is working with Mike Taylor from the Farnsworth Group to make sure when we do the changeover we have a smooth transition. Installation is under way. All work should be completed by 10/17/2014. Updates to follow next month.

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. We are working with Kirby Risk on this project. Work to be completed by the end of the fiscal year.

Working with Bodine Electric to relocate conduits in 009 basement so structural repairs can be completed. Conduits have been relocated and the work can now be performed with better access. When the structural repairs have been completed Bodine will come back and re-support conduits in a permanent fashion. Structural repairs have been completed and Bodine Electric has been contacted to come finish the project. Expected completion by the end of October 2014.

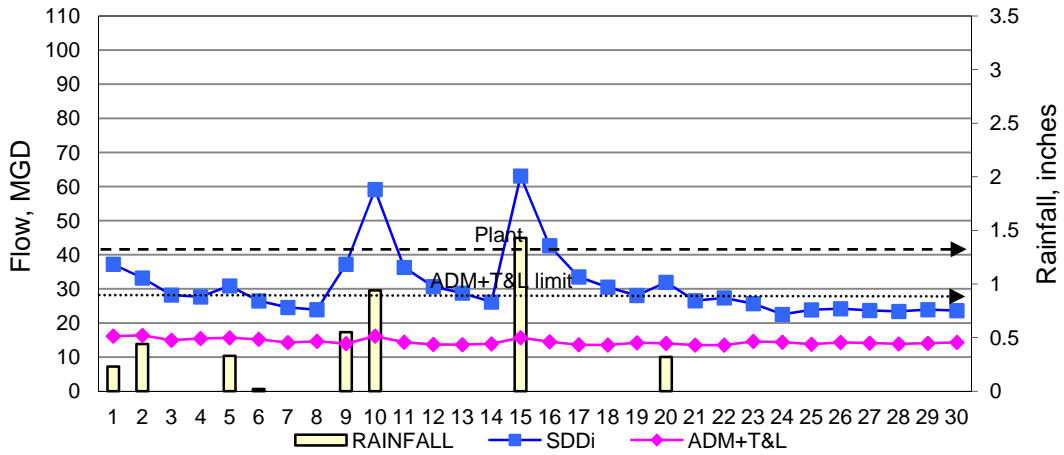
Installation of camera conduit has been completed and camera installation has begun. We are in the process of upgrading our ONSSI software to enable easier web viewing of the cameras. Storage is also being increased.

**MIS Monthly Activity Report:**

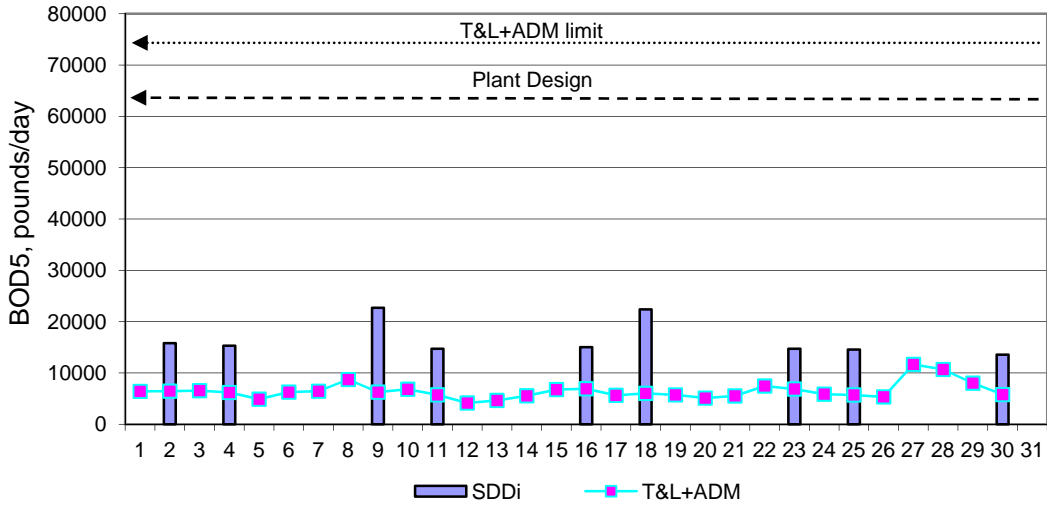
1. Ongoing SDD Server Virtualization Project
2. Network Administration, Helpdesk, Troubleshooting and Repair
3. Working on JSA archive retrieval
4. Supplying data for Red Oak Study

Respectfully,  
J. D. Malone

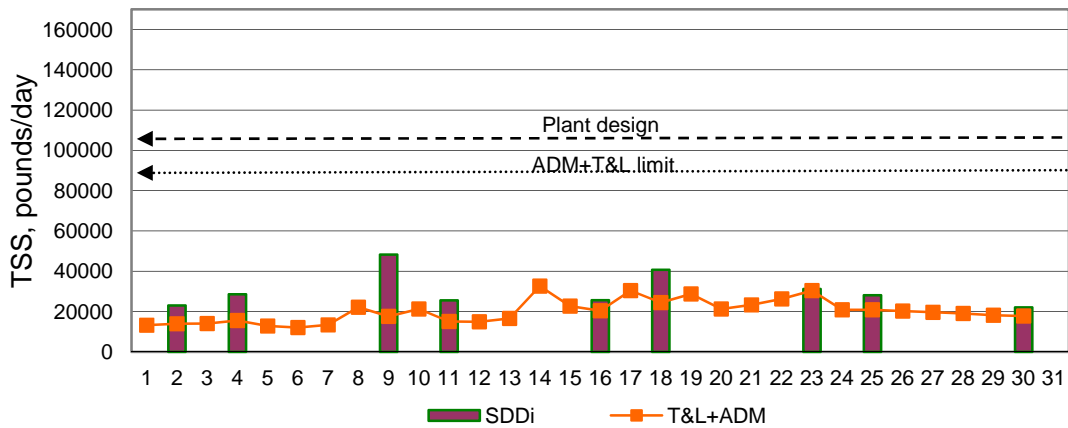
**Flow Comparison: SDD vs. ADM + T&L Discharges and Rainfall**



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

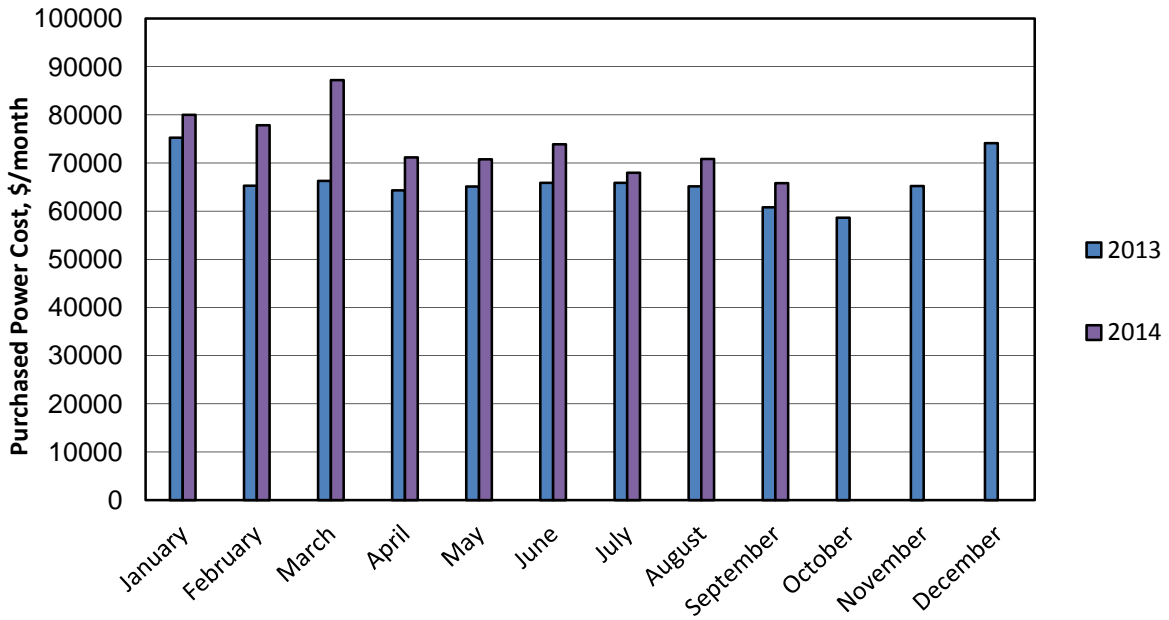


**TSS Comparison: SDD Inf T&L+ADM Discharges**





**ELECTRIC POWER COST: 2013, 2014**



**ELECTRIC POWER USE: 2012, 2013, 2014**

