

Director of Compliance Report

August 16, 2017

Plant Loading and Operations Summary – July 2017

Plant Loading

Biochemical Oxygen Demand, 5-Day (Avg. 22009 lbs/day)	35 percent of design
Total Suspended Solids (Avg. 56731 lbs/day)	52 percent of design
Average Daily Flow (22.75 million gallons/day)	55 percent of design
Maximum Daily Flow (36.80 million gallons/day)	29 percent of design

	Permit Limits (avg./max.)	Reported Values	Violations
CBOD ₅ , mg/L	20/40	2/2	0
TSS, mg/L	25/45	4/5	0
NH ₃ -N, mg/L	1.3/3.0	0.40/0.67	0
Fecal coliform per 100 mL	400* (max)	350	0
Chlorine Residual, mg/L	0.05* (max)	0.011	0
Dissolved Oxygen, mg/L	6.0 (minimum)	7.46	0
Total Nickel, mg/L	0.015 (avg.)	0.020	1
Total Zinc, mg/L	0.075/0.416	0.015/0.030	0

*Effluent disinfection is required May 1 through October 31.

Operations Summary

During the month of July there was one NPDES permit exceedance, which was for nickel.

Nickel Issues:

The District continues to work towards getting the existing NPDES permit nickel water quality effluent limitation updated by pursuing a site specific water quality standard through the Illinois Pollution Control Board (IPCB). District staff (Tim Kluge and Steve Nightingale) and consultants continue to work with USEPA and IEPA.

As suggested by USEPA the site specific rule petition is being revised and will now be based on the reduction in toxicity as a result of the effects of Dissolved Organic Carbon (DOC) in the effluent rather than the Biotic Ligand Model (BLM). It is however anticipated that the BLM will still be used, but only to the extent needed to verify the DOC toxicity reduction effects. The BLM is based on an alternative model which takes into account actual site specific conditions when establishing the appropriate nickel water quality limitation, so it will continue to be a good verification tool.

Updates on nickel related issues during July and early August include:

1. On July 18th a conference call with USEPA and IEPA took place as a follow up call to the June 15, 2017 conference call. The purpose of the call was supposed to give USEPA the opportunity to comment on information previously provided to them by District consultants during the June 15 call.

Actual discussions during the call focused more on a request by the USEPA seeking the District revise its site specific rule petition supporting information. More specifically they appeared to be more receptive to the District's petition showing that the reduction in nickel toxicity is a result of the available Dissolve Organic Carbon (DOC) in the effluent/stream, instead of using the BLM. The District agreed to revise the supporting information to reflect the change.

As a result of the July 18, 2017 conference call additional conference calls with USEPA and IEPA have been scheduled for August 3, September 11, and September 21.

2. The August 3 call took place as scheduled and was used to allow Bob Santore (Windward Environmental – Modeler) and Allison Cardwell (Oregon State University – toxicity testing) to provide a presentation to the group on efforts to revise the District's proposal to reflect using the toxicity mitigating effects of the Dissolved Organic Carbon (DOC) in the effluent and stream, rather than using the Biotic Ligand Model (BLM), as the basis of the petition. BLM will still be used, but only as an additional support mechanism to help verify the DOC's ability to reduce toxicity. Overall the response to the proposal was positive.

The group was made aware during the August 3 call that, although the IPCB granted another extension to continue working with IEPA and USEPA, the order conveys that the IPCB expects the District to be prepared to provide the required supporting documents and be ready to proceed with the Site Specific Rule petition on the next status due date (November 30, 2017). During the call the group was also made aware of the fact that the District intends to work towards meeting this deadline, while still providing USEPA and IEPA with any required information.

The next scheduled conference call is September 11 and will be used to discuss any unresolved issues as we prepare to file the petition. We also have another conference call scheduled for September 21 to continue with discussions on any additional outstanding issues as well.

3. On July 25, 2017 Roger Callaway of the IEPA, Bureau of Water Compliance Section called the District to schedule a meeting to discuss the existing nickel Violation Notice and pending Compliance Commitment Agreement (CCA) process that had been put on hold while the District pursues a revision to the nickel water quality limit through a site specific rule petition. A meeting with IEPA is scheduled to take place on August 31, 2017.
4. On August 1 the District signed a Testing Service Agreement with the Oregon State University Aquatic Toxicology Lab for up to an additional forty hours of technical support work to assist in the development of the IPCB's site specific rule petition. Total cost for the additional support work is estimated to be \$2,916.

5. On June 30, 2017, through its attorney HeplerBroom LLC, a motion for an additional **90-day extension** from a July 11, 2017 due date for submitting an updated Time Limited Water Quality Standard (TLWQS) petition showing compliance with 40 CFR 131.14 was filed with the IPCB. The District motion indicated that additional time is required to continue discussions with USEPA/IEPA and to update the TLWQS petition.

On July 5, 2017 the IPCB granted an extension for submitting the updated TLWQS petition. **The new due date is now October 9, 2017.**

6. Due date for submitting the IPCB status report for the pending variance (automatically converted to a TLWQS based on recent Illinois legislation), was May 12, 2017. The status report was filed on May 12, 2017. **On July 27, 2017 the IPCB granted an extension until November 31, 2017.** At that time the IPCB has asked the District to provide with its report an explanation on how the site specific rulemaking is impacted by 1) the newly-adopted Section 38.5 (TLWQS) of the Environmental Protection Act (45 ILCS 5/3805 (2016), and 2) the conversion of the District's variance petition to a time limited water quality standard under the section.
7. Due date for submitting the IPCB status report and seeking any needed time extension for scheduling a hearing on the pending site specific rule petition was May 12, 2017. Status report was filed on May 12, 2017. **On July 27, 2017 the IPCB granted an extension until November 31, 2017.** At that time the IPCB is requiring the District provide all documentation necessary to support the District's petition for a site specific rule.

Along with the submittals in 5 and 6 above the IPCB has asked the District also to explain its position on how the two related dockets should proceed, including its position as to any potential conflicts in proceedings with both dockets and obtaining the sought relief in both dockets.

Nickel Site Specific Rule Petition and Variance Petition background information:

Initially the District obtained a variance from the IPCB for the nickel permit limitation which allows an exemption from compliance with the numeric standard while the district evaluates procedures, equipment, or other avenues with the goal of eventual compliance. The variance expired at the end of June 2014, and due to opposition from USEPA, the IEPA has not granted an extension. While pending, the variance petition has been automatically converted to a Time Limited Water Quality petition, due to recent state legislation. In addition to the variance request the District has filed for a site specific rule with the IPCB for an updated and more accurate site specific nickel permit limit. Both the variance and the site specific rule petition currently before the IPCB have been on hold while the District works with USEPA and IEPA to address their concerns.

General Activities:

1. Normal operational activities took place for plant operators during July.
2. The new Lagoon Crawler is now being used to mix sludge in the Wyckles lagoons in preparation for the upcoming fall land application.

3. On July 11, 2017 Steve Nightingale attended the Illinois Environmental Regulatory Group/ Illinois EPA (IERG/IEPA) 14th Annual Title V (Air) seminar. The purpose of the seminar was to allow IEPA the opportunity to provide a comprehensive review on Title V air permitting and updates to regulations as they relate to air pollution control activities.
4. On July 20, 2017 the District submitted the NPDES permit required “Semi-Annual Sludge Management Report” to the IEPA.
5. On July 28, 2017 the last drum of plant waste located in the lay-down area near the plant entrance was removed by Safety Kleen.
6. Activities related to land application of the District biosolids:

The motion to award the 3-year contract (with 2 optional years at the Director’s discretion) to Oros & Busch for land application of District biosolids to area farmland was approved during the July Board meeting. Since approval the following activities have taken place:

- a. On July 24 Oros and Busch Application Technologies, Inc. provided the District with a list of proposed sites to be used during the fall land application season. The District staff has begun the process of identifying the owners, neighboring property owners, as well as the associated township and county officials, so that the District can provide written notice to the neighboring property owners of our plans for land application prior to the fall land application season, as required under the Illinois Environmental Protection Act.
- b. On July 26 the “Notice of Award” was finalized and has been signed by the District and Oros and Busch Application Technologies, Inc.
- c. On July 26 the “Form of Agreement” (Contract) was finalized and has been signed by the District and Oros and Busch Application Technologies, Inc.

CSO Summary:

Location	Events	Discharge (million gallons)	Estimated Total Duration of Discharges (hrs)
Oakland Ave. (Outfall 003)	5	11.99	8.1
Lincoln Park (Outfall 004)	2	6.60	3.8
McKinley Ave. (Outfall 007)	4	6.51	14.5
Seventh Ward (Outfall 008)	3	3.38	8.3

Laboratory Activities:

Laboratory Activities - Routine

A total of 2,033 analyses were performed in the laboratory during the month of July.

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 to help fully characterize the nutrient loading on the plant.

Laboratory Activities - Non-Routine

- 1) The quarterly sampling of the groundwater monitoring wells was conducted at the South Sludge Lagoons and Wyckles Lagoons.
- 2) The expired/unused chemicals in the laboratory were removed by Clean Harbors environmental on July 11. Going forward, the lab will have a policy of waste minimization which will be achieved by purchasing the minimum amount of chemicals and materials needed, rotating chemical stock to prevent expiration prior to use, and using up the current chemical inventory prior to purchasing additional stock. This policy should prevent the need for a similar expired/unused chemical clean out in the future.
- 3) Keith Richard attended the quarterly meeting of the Heart of the Sangamon River Ecosystem Partnership in Monticello. The partnership is a consortium of local government agencies and non-profit organizations that are working together to ensure the ongoing well-being of the Upper Sangamon River watershed.
- 4) The four-year river study with Eastern Illinois University continued in July. Water samples from all six field sites were analyzed for nickel content. The nickel levels were slightly higher than last month due to low flow in the river.
- 5) The graded results for our annual USEPA required DMR-QA proficiency testing were received. We obtained “acceptable” results for all twenty-five analytes that were tested. This marks our 24th year in a row with acceptable DMR-QA results for every analyte, which is a testament to the quality of the work performed by the SDD lab staff. The DMR-QA is a program of the USEPA to ensure the integrity of data submitted by NPDES permittees for DMR reporting requirements and to evaluate the performance of each laboratory to analyze wastewater samples. NPDES permittees are required to participate in the DMR-QA annually and test all analytes that are listed in their NPDES permit. An “acceptable” rating for an analyte means the laboratory can accurately test that analyte and the USEPA will accept data from that laboratory for that analyte. An “unacceptable” rating for an analyte means the laboratory did not obtain an accurate result for that analyte so corrective action must be taken and an “acceptable” rating must be achieved before the USEPA will accept data from that laboratory for that analyte.

Pretreatment Activities:

Pretreatment - General Activities:

- 1) Pretreatment personnel monitored ten industrial users (IU) and performed five industrial user inspections during July 2017.

- 2) SDD personnel met with representatives of **Kopetz Mfg. LLC** during July to discuss why they were in significant non-compliance during the first half of 2017 and to find out what they planned to do about it. **Kopetz** has indicated they believe they can take care of the non-compliance issues with some basic operational changes.
- 3) A permit application was received from the **Canadian National/Illinois Central Railroad** during July 2017. We are working on a new permit for issue to **CN/IC RR** because their current permit will expire soon.
- 4) A letter was sent to all wastewater haulers to remind them that they are required to fill out their manifests completely before hauling loads to the SDD for disposal. Too many manifests had been coming in with only partial information concerning the source of the wastewater.
- 5) On June 14, 2017 the USEPA promulgated new regulations at 40 CFR Part 441 that regulate dental offices effective July 14, 2017. These new regulations require dental offices to install and properly operate pretreatment equipment and certify that they have done so and that they comply with certain best management practices and record keeping requirements. The SDD will have to identify and regulate all dental offices within our jurisdiction.
- 6) Pretreatment personnel made the necessary calculations to determine which industrial users (IU) were in significant non-compliance (SNC) during the first six months of 2017. We determined that **Kopetz Mfg. LLC** was the only IU that was in SNC during the first half of 2017.
- 7) SDD personnel met with **Transport Service Company** during July because they wanted to discuss hauling their sweet-water to the SDD. They have been having a hog farmer haul it away for years and they had heard that we will be installing cogeneration equipment and wanted to help us make more biogas. We agreed to accept a couple of loads of sweet-water per week for a month at the usual waste haulers rate so that we can determine how much extra biogas the sweet-water will cause us to produce.

Pretreatment Ordinance - Verbal Notices:

- 1) A Verbal Notice was issued to **Stripmasters Services, Inc.** on July 12, 2017 because they had not notified the SDD before dumping wastewater tanks as required in their permit.
- 2) A Verbal Notice was issued to **Prairie Farms Dairy** on July 19, 2017 because SDD monitoring showed that they discharged wastewater that exceeded their limit for total fats, oils, and grease (FOG-T) on July 7, 2017.

Pretreatment Ordinance - Warning Notices:

A Warning Notice was issued to **ADM** on July 6, 2017 because they discharged wastewater at the west plant with a pH below their permit limit on July 5, 2017.

Pretreatment Ordinance - Notices of Violation:

No Notices of Violation were issued during July 2017.

Pretreatment Ordinance - Executive Orders:

No Executive Orders were issued during July 2017.

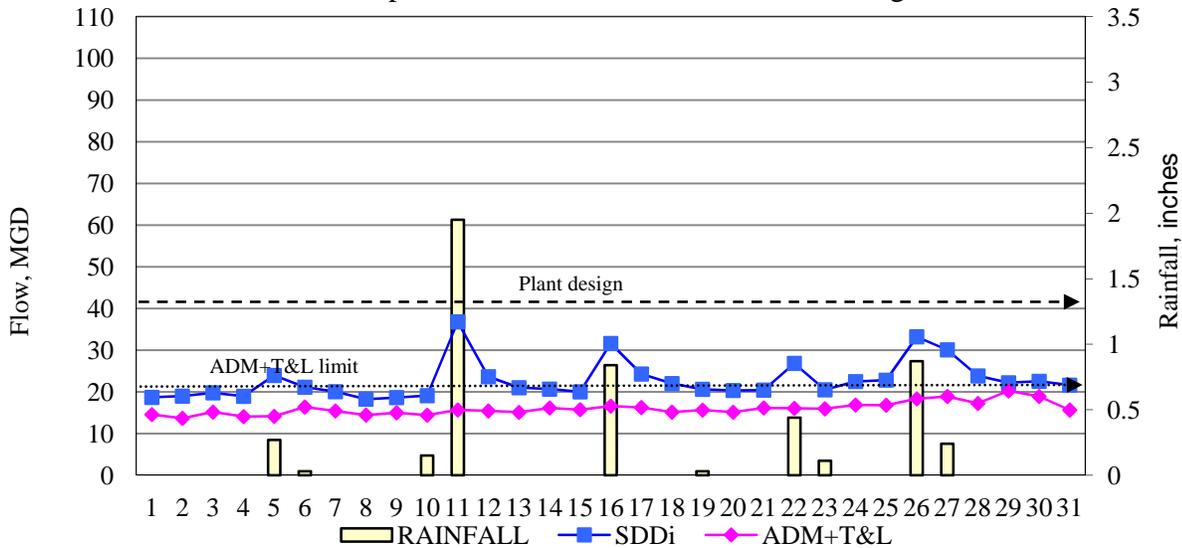
Pretreatment Ordinance - Penalty Assessments:

The following industrial penalties were assessed for July 2017:

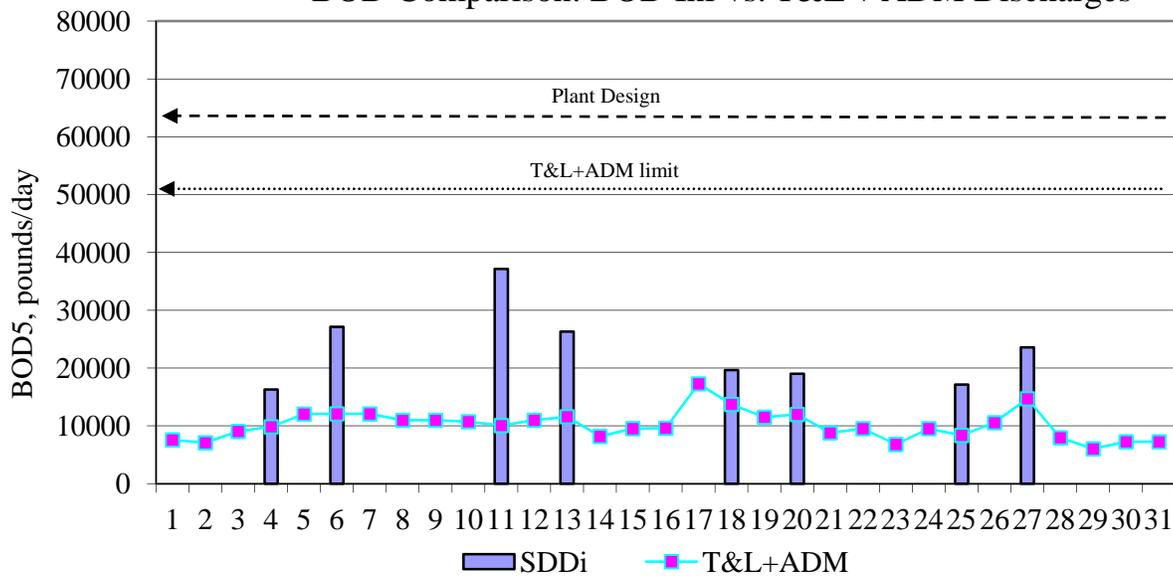
- 1) **ADM** \$1,000.00
- 2) **Prairie Farms Dairy** \$1,000.00
- 3) **Tate and Lyle Ingredients Americas** \$2,000.00

Plant Operating Graphs:

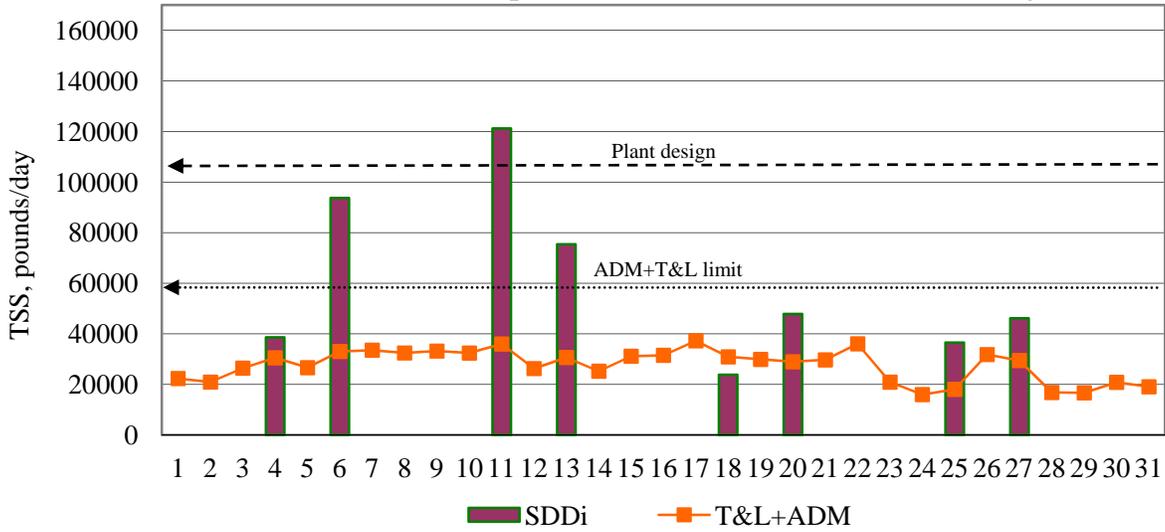
Flow Comparison: SDD vs. ADM + T&L Discharges and Rainfall



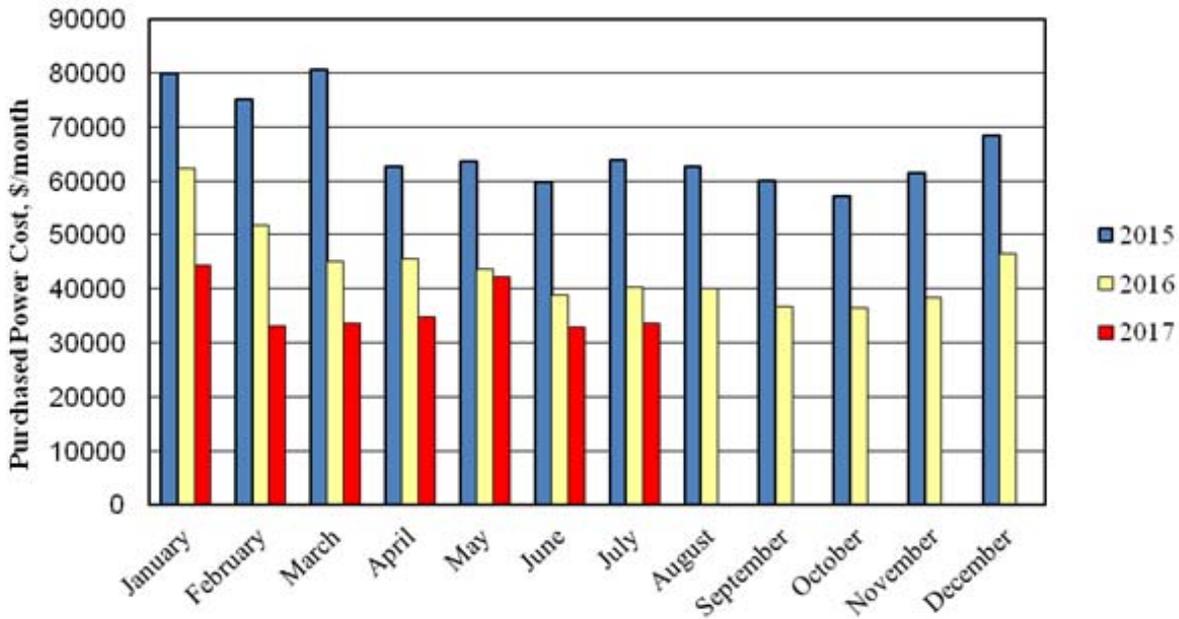
BOD Comparison: BOD Inf vs. T&L + ADM Discharges



TSS Comparison: SDD Inf T&L+ADM Discharges



ELECTRIC POWER COST: 2015, 2016, 2017



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