

Director of Compliance Report

May 17, 2017

Plant Loading and Operations Summary – April 2017

Plant Loading

Biochemical Oxygen Demand, 5-Day (Avg. 24918 lbs/day)	39 percent of design
Total Suspended Solids (Avg. 59635 lbs/day)	55 percent of design
Average Daily Flow (33.57 million gallons/day)	82 percent of design
Maximum Daily Flow (97.87 million gallons/day)	78 percent of design

	Permit Limits (avg./max.)	Reported Values	Violations
CBOD ₅ , mg/L	20/40	2/2	0
TSS, mg/L	25/45	5/6	0
NH ₃ -N, mg/L	1.5/3.0	0.12/0.12	0
Fecal coliform per 100 mL	400* (max)	NA	0
Chlorine Residual, mg/L	0.05* (max)	NA	0
Dissolved Oxygen, mg/L	6.0 (minimum)	8.04	0
Total Nickel, mg/L	0.015 (avg.)	0.017	1
Total Zinc, mg/L	0.075/0.416	0.017/0.044	0

*Effluent disinfection is required May 1 through October 31.

Operations Summary

During the month of April 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). The petition is based on an alternative model which takes into account actual site specific conditions when establishing the appropriate nickel water quality limitation. District staff (Tim Kluge and Steve Nightingale) and their consultants continue to work with USEPA and IEPA.

Updates on nickel related issues during April and early May include:

1. On April 28, 2017 Allison Cardwell of OSU indicated in an email that the draft report which will take into account the latest modeling results should be ready for submittal to the District within 30-days (By May 29, 2017).

2. As was stated during last month's District Board meeting, during an April 12, 2017 Illinois Pollution Control Board (IPCB) Board meeting the IPCB issued two new orders related to the District's existing nickel petitions:

First order-- the IPCB directed the District to update the recently converted time limited water quality standard (TLWQS) petition (originally a variance request that was pending) to show that it will meet the federal 40 CFR 131.14 requirements. Due date for submitting the update was set for May 12, 2017.

Second order – the next status report due dates to the IPCB for both the pending TLWQS petition and the site specific rule (SSR) petition have been moved from June 30, 2017 to May 12, 2017.

3. On April 20, 2017 District staff (Steve Nightingale and Greg Pyles) as well as HeplerBroom representatives attended the IEPA stakeholders meeting in Springfield on draft regulations for the TLWQS being developed.
4. On April 24, 2017, on behalf of the District, HeplerBroom filed a Motion for Extension of Time for submitting an updated TLWQS petition, currently due on May 12, 2017.
5. On April 27, 2017 HeplerBroom participated in a conference call with the IPCB hearing officer as directed by a April 25 "Hearing Officer Order". During the call the hearing officer was informed by the HeplerBroom staff that the District and HeplerBroom will need some time to review the OSU's draft report prior to sending it out to the IEPA and USEPA, and it was emphasized that there is no control over USEPA's schedule or decisions on getting a response from them, and that over the years, USEPA has taken a long time to review, provide comments, and make decisions on requests for input on issues.
6. On May 3, 2017, the IPCB Board issued an order in response to the District's April 24, 2017 Motion for Extension of time in the TLWQS proceeding. The IPCB granted an extension for filing a substantially compliant TLWQS petition, but only for an additional 60 days, i.e., until July 11, 2017. The order appears to contemplate that additional extensions may be needed.
7. The next status report due date to the IPCB to continue the stay on proceedings for the pending variance (automatically converted to a TLWQS (based on recent Illinois legislation), is due on **May 12, 2017**.

The next due date for submitting a status report and extension request to the IPCB for scheduling a hearing date for the pending site specific rulemaking is due on **May 12, 2017**.

Nickel 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 April.
2. Disinfection season began on May 1. Equipment for chemical addition to disinfect and de-chlorinate are now in operation and operating properly. The disinfection season runs through October 31.
3. The District experienced a full power outage on Sunday, April 30th. The Ameren feed failed and the automatic switch failed to engage. The effluent pumps began running on back-up generator power. The flows were at or near peak capacity (125 mgd) and 3 pumps were not sufficient to keep up with the incoming flow. A fourth pump was started which caused the generator to overheat and shut down. Ameren was called and manually engaged the secondary feed to restore power before any adverse effects to the plant occurred. The generator is being load tested (I&C and Bodine Electric) on May 9 to assess the load it can handle. Discussions regarding upgrading the effluent station generator to meet full flow capacity and repurposing of the current are now underway.
4. On May 15, 2017 Jeff Holste of the IEPA field office is scheduled to meet with District staff at the Districts main plant to do a final inspection of the 1) digester complex modifications, 2) sludge thickening modifications, 3) odor control modifications, and 4) removal of south sludge lagoons #8 and #9. Inspections 1, 2, and 3 are tied to completion of the associated loan program projects. Inspection 4 is required to verify vegetative cover has been established in accordance with the IEPA general NPDES permit for construction activities greater than one acre.
5. During the week of April 24, 2017 some District staff attended the Annual Illinois Wastewater Professionals Conference hosted jointly by the Illinois Water Environment Association and the Illinois Association of Water Pollution Control Operators. Many professional development technical sessions were available for participants working in the water and wastewater fields.

Greg Pyles served as a judge for the safety portion of the Operator's Challenge.

6. As mentioned during the April Board meeting the District was informed by Advanced Disposal (local landfill) that District waste received by them for disposal which is classified as industrial or pollution control waste will now be subject to additional landfill reporting and transporting requirements. As a result the District was asked to:
 - a) Complete a "Waste Profile Sheet" form (including testing and certification).
 - b) Complete a "Generator's Certification of Non-Special Waste" form.
 - c) Begin using an Advanced Disposal manifest to send certain waste to the landfill.*

*It should be noted that this new manifesting requirement is based on landfill policy and not IEPA regulations. And because the District has certified its waste as non-special waste IEPA does not require the waste to be manifested or transported under an IEPA manifest or the use of an Illinois licensed special waste hauler.

The required forms were submitted for dewatered 1) screenings, 2) grit, and 3) sewer cleanings from the preliminary/primary treatment system and the north side dewatering facility (dewaterers screenings, grit, and sewer cleanings collected for the Districts service area).

On April 19, 2017 Advanced Disposal approved the waste profile sheet and a waste profile number has been issued. The waste profile number will be required when filling out the landfill manifests. Manifests were provided to the District.

Training was provided at the end of April to the Districts Operations Manager and the first shift operators on how, and when, to use the landfill manifests. A written procedure will eventually be drafted for District use.

7. As stated in last month's Board report, on March 8, 2017 the District received a violation notice (W-2017-50029) from the IEPA, Bureau of Water. The notification identified apparent violations for exceeding the current NPDES permit total residual chlorine effluent limitations at outfall 001 on two separate occasions, as reported by the District on the August and October 2016 Discharge Monitoring Reports (DMR). As part of the violation notice process the District was required to provide a response within 45-days. The District was given the opportunity to include a proposed Compliance Commitment Agreement (CCA) and a request for a meeting, if needed. On March 17, 2017 the District responded to the violation notice via certified mail. The response outlining the required corrective action and an indication that these actions have already been completed. And because of this the District did not seek to submit a Compliance Commitment Agreement or request a meeting.

On April 22, 2017 the District received a follow up letter from IEPA in regards to the District March 17, 2017 letter. The IEPA correspondence included a Compliance Commitment Agreement (CCA) which identified the completed activities identified and used by the District to correct the violations, along with an "Illinois EPA Compliance Statement" which certifies the District is now back in compliance with the Act with regards to the violations identified in the violation notice. Due date for returning the signed and dated forms were identified as 30-days of receipt of the letter. On April 27, 2017 both IEPA forms were signed, dated and returned to IEPA via certified mail.

On May 2, 2017 the District received another letter from the IEPA, Bureau of Water, Compliance Section acknowledging receipt and approval of our April 27, 2017 response. A copy of the executed CCA was included with the letter.

At this point the District believes there should be no further action required with respect to this violation notice.

8. Activities related to land application of biosolids:

District staff continues to work on the specifications and contract to go out for bid on the 2017/2018/2019 biosolid land application seasons. The new specifications and contract are being developed with the goal of having the package out for bids sometime in May or June. (Existing contract expires this year before the fall application season begins).

CSO Summary:

Location	Events	Discharge (million gallons)	Estimated Total Duration of Discharges (hrs)
Oakland Avenue (Outfall 003)	3	9.8	12.8
Lincoln Park (Outfall 004)	1	2.6	3.0
McKinley Avenue (Outfall 007)	3	10.49	23.7
Seventh Ward (Outfall 008)	1	6.28	2.9

Laboratory Activities:

Laboratory Activities - Routine

A total of 1,947 analyses were performed in the laboratory during the month of April.

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) Water samples from the woodchip bioreactor were received for nitrate analysis weekly in April. The samples from the first two weeks showed a reduction in the amount of nitrate removed due to high flow through the bioreactor caused by heavy rainfall. The samples from the last two weeks returned to the typical high removal rates with elevated nitrate levels in the water entering the bioreactor and nearly undetectable levels in the water leaving the bioreactor.
- 3) The four-year river study with Eastern Illinois University continued in April. Water samples from all six field sites were analyzed for nickel content. The nickel levels were lower this month due to higher flow in the river.
- 4) Keith Richard and Markesha Davis helped conduct the BOD workshop at the Illinois Wastewater Professionals Conference (IWPC) in Springfield on April 24. The workshop was hosted by the IWEA Laboratory Committee and was designed to teach the BOD analytical procedure to operators and lab technicians.
- 5) Keith Richard helped conduct the laboratory portion of the “Operators Challenge” at the IWPC on April 25. The laboratory portion of the challenge involved calibrating a pipette, using the calibrated pipette to prepare a diluted chlorine standard, and then analyzing the standard with a chlorine analyzer to determine the accuracy of the standard preparation. The participants included operators, lab technicians, engineers, and

many people that had little, if any, laboratory experience. All of the participants had fun taking on the challenge.

- 6) Keith Richard assumed the position of Chair of the IWEA Laboratory Committee during the IWPC. The committee is comprised of laboratory managers and laboratory technicians from government and private laboratories from all across the state of Illinois.
- 7) Keith Richard served as a poster judge at the Millikin University “Celebrations of Scholarship and Poster Symposium” on April 28. The poster symposium was an opportunity for students to present the research projects they had worked on during the school year.

Pretreatment Activities:

Pretreatment - General Activities:

- 1) Pretreatment personnel monitored eleven industrial users (IU) and performed three industrial user inspections during April 2017.
- 2) Pretreatment personnel completed our annual pretreatment report and submitted copies to **IEPA** and **USEPA** during April 2017.
- 3) Pretreatment personnel worked on new permits for **Bulkmatic Transport** and **Decatur Correctional Center** during April 2017. The permit for **Bulkmatic Transport** is ready to issue.
- 4) A wastehauler permit application was received from **Portable Sanitation Systems** in April because their current permit is due to expire in June 2017.
- 5) A permit application package was sent to the **City of Decatur Water Department** because the permit for the wastewater from their nitrate removal plant is due to expire in November 2017.
- 6) As required by Executive Order 16-002, **ADM** supplied the SDD with an updated quarterly report of their sludge disposal during April 2017.
- 7) Despite a recent upgrade of their wastewater treatment system that went online in July-August 2016, **Tate & Lyle (T&L)** had problems with an overload of their pretreatment system that resulted in the loss of a significant volume of total suspended solids (TSS) to the sewer during April. Since **T&L** has been operating under the conditions of an Executive Order issued early in 2016, their penalties were increased above the amount we would have penalized them for a single discharge excursion.
- 8) Pretreatment personnel calculated significant non-compliance (SNC) for all of the district’s industrial users during April 2017 and we found that two significant industrial users (SIU’s) met the ordinance definition of SNC. The two SIU’s were Decatur Memorial Hospital (**DMH**) and **Kopetz Mfg.** **DMH** was in SNC because they exceeded their monthly average total suspended solids (TSS) limit during two of the three months in which we monitored at the hospital. When an industry exceeds their limits in more than 66% of the samples collected during the SNC period, then they are in SNC. **Kopetz** was in SNC because they exceeded the monthly average technical review criteria (TRC) limits for copper and zinc during February 2017. Even though **Kopetz** had only one discharge excursion for copper and zinc, the excursions were over the TRC limits and they occurred late in the SNC period. Since **Kopetz** only discharges process wastewater to the SDD intermittently, there was no opportunity to collect additional samples so **Kopetz** ended up in SNC.

- 9) A request was received from **Decatur Conference Center and Hotel (DCCH)** to reclassify their business to a low significance industrial user from a significant industrial user (SIU) because they reduced their water usage and no longer meet the ordinance definition of an SIU. After reviewing the monitoring and flow records for **DCCH**, we determined that they were no longer an SIU and therefore no longer subject to the requirements to have a wastewater discharge permit.

Pretreatment Ordinance - Verbal Notices:

1. A Verbal Notice was issued to **Prairie Farms Dairy, Inc.** on April 13, 2017 because they discharged wastewater on March 10, 2017 that exceeded their permit limit for total fats, oils, and grease.
2. A Verbal Notice was issued to **Archer Daniels Midland (ADM)** on April 27, 2017, because the **ADM West** plant discharged wastewater with a pH below 6.0 on April 26, 2017.

Pretreatment Ordinance - Warning Notices:

1. A Warning Notice was issued to **Tate and Lyle Ingredients Americas LLC (T&L)** on April 25, 2017 because they exceeded their daily maximum and ten day moving average limits for TSS on April 8 and 9 and April 12 through 22, 2017.

Pretreatment Ordinance - Notices of Violation:

1. A Notice of Violation was issued to **Decatur Memorial Hospital (DMH)** on April 21, 2017 because **DMH** exceeded their monthly average permit limit for TSS in February and March and their monthly average limit for BOD during March 2017, resulting in them being in significant non-compliance (SNC) during the latest SNC calculation period.

Pretreatment Ordinance - Executive Orders:

1. No Executive Orders were issued during April 2017.

Pretreatment Ordinance - Penalty Assessments:

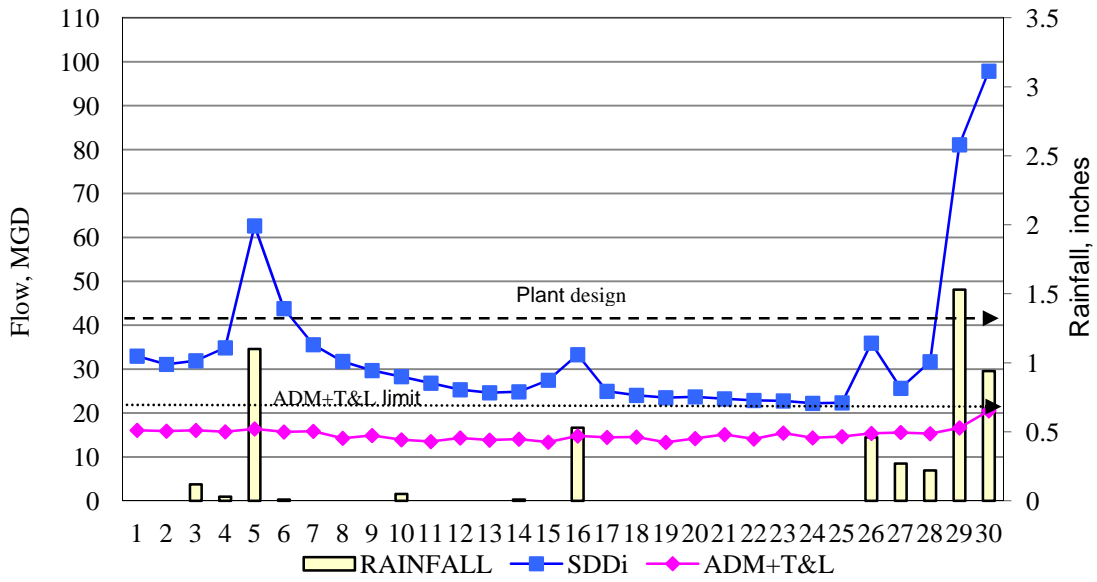
The following industrial penalties were assessed for April 2017:

ADM	\$1,000.00
T&L	\$89,500.00**

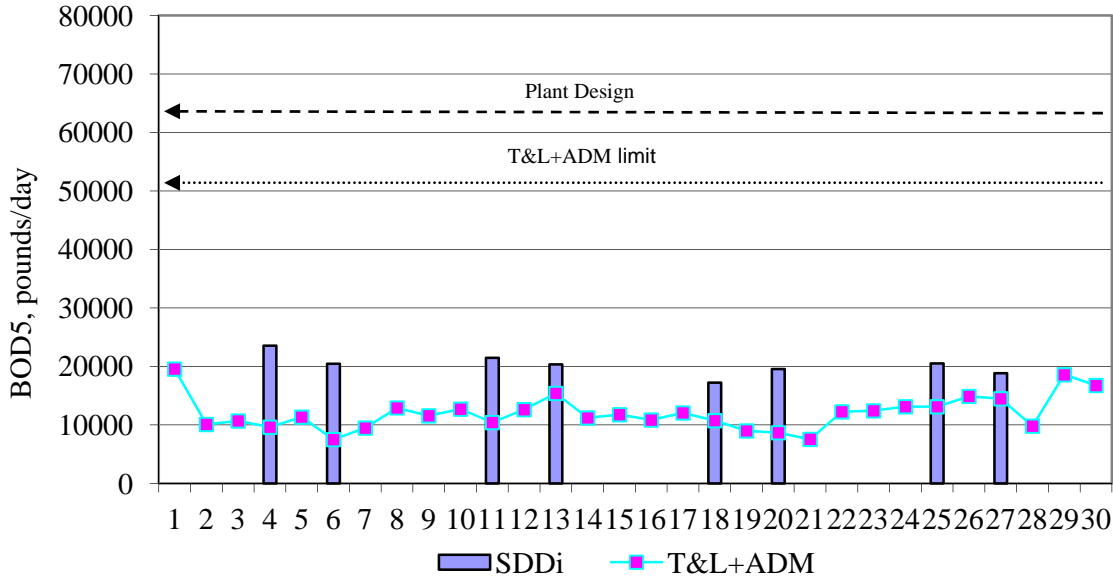
** See #7 above under Pretreatment-General Activities.

Plant Operating Graphs:

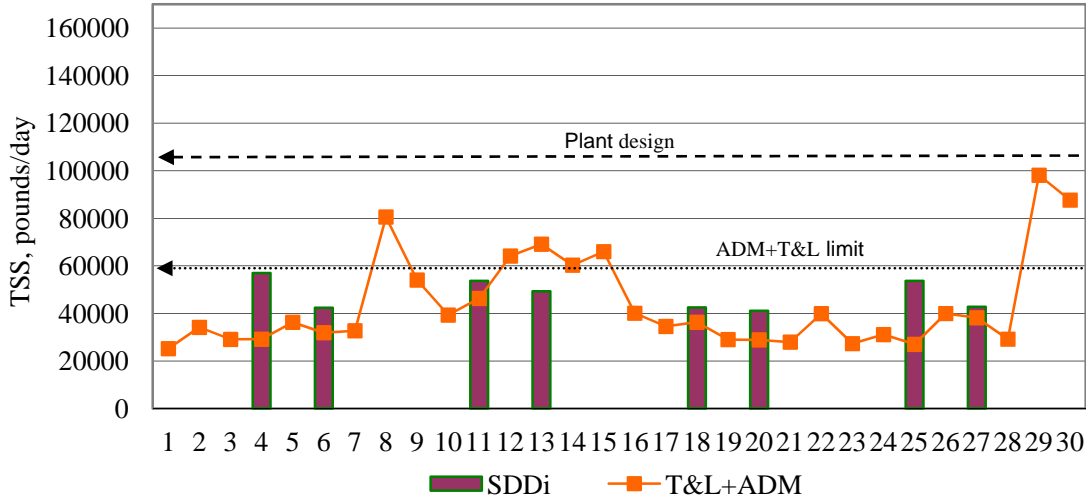
Flow Comparison: SDD vs. ADM + T&L Discharges and Rainfall



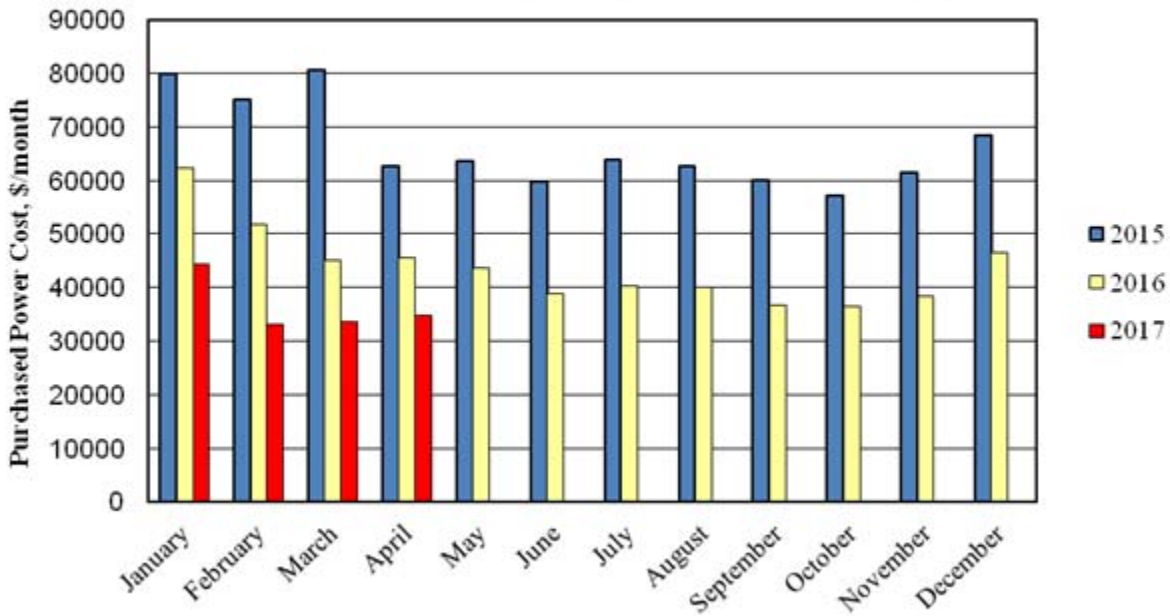
BOD Comparison: BOD Inf vs. T&L + ADM Discharges



TSS Comparison: SDD Inf T&L+ADM Discharges



ELECTRIC POWER COST: 2014, 2015, 2016



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.