

Director of Operations and Compliance Report

August 18, 2021

Plant Loading, CSO Report, and Director's Notes

Plant Influent Report

Biochemical Oxygen Demand, 5-Day (Avg. 25414 lbs/day)	40 percent of design
Total Suspended Solids (Avg. 41415 lbs/day)	38 percent of design
Average Daily Flow (37.62 million gallons/day)	92 percent of design
Maximum Daily Flow (64.17 million gallons/day)	51 percent of design

Plant Effluent Report

<u>Parameter</u>	<u>Report Frequency</u>	<u>Permit Limits</u>	<u>Reported Values</u>	<u>Violations</u>
CBOD ₅ , mg/L	Mo. Avg/Wk. Avg	20/40	2/2	0
TSS, mg/L	Mo. Avg/Wk. Avg	25/45	2/4	0
NH ₃ -N, mg/L	Wk. Avg/Daily Max	1.5/3.0	0.26/0.32	0
DO, mg/L	Daily Min	6.0	7.42	0
pH, S.U.	Daily Min/Max	6.0/9.0	7.87/8.15	0
Total Nickel, mg/L	Mo. Avg	0.015	0.024	1
Total Zinc, mg/L	Mo. Avg	0.075/0.416	0.011/0.02	0
CL ₂ Residual, mg/L	Daily Max	0.05*	0.011	0
Fecal Coliform CFU/100mL	Daily Max	400*	250	0

*Effluent disinfection is required May 1 through October 31.

CSO Report

Location	Events	Est. Total Duration of Discharges (hrs.)	Discharge (million gallons)
Oakland Avenue (Outfall 003)	2	6.4	3.16
Lincoln Park (Outfall 004)	1	3.68	7.6
McKinley Avenue (Outfall 007)	3	9.6	7.39
Seventh Ward (Outfall 008)	2	5.3	13.06

Director's Notes:

NPDES Permit:

There has been no change since last month's report; the District is currently awaiting further communication from the Agency on this matter or for a new NPDES Permit to be issued.

ADM Pretreatment Permit Violation:

The ADM discharge violation updates can be found below in the Pretreatment Section of this report. The violation of the monthly average for nickel discharges is still on-going and caused a violation of the Permit Limit for July 2021 due to nickel pass-through issues in the plant.

Wyckles Facility East Lagoon Project:

Christy-Foltz (CF) has completed the work on the discharge chutes on the East Lagoon.

Work on the dewatering upgrades for the East Lagoon will begin at the earliest opportunity. SDD Engineering staff are currently working on finalizing the specifications for construction bids.

The District has notified J. Oros Environmental Inc. that they may remove the remainder of the sludge material from the East Lagoon at their earliest availability and as weather permits. It is expected that this work will be completed prior to the construction phase of the dewatering equipment and therefore will not cause conflicts with the two projects.

Operations, Laboratory, and Pretreatment Activity Reports – July/August 2021

Operations Activities:

Normal operational activities were conducted as prescribed by standard procedures or in response to conditions within the plant related to the new measures being employed due to Covid-19.

- 1) The Operators continue to maintain a close watch over the disinfection systems and there were no exceedances during the month of July. There also currently appears to be a reduction in the incidence of bacterial confluent growth which has been discussed in previous Board Meetings.
- 2) The Operators continue to work with Christy-Foltz staff to facilitate the construction project at the anaerobic digester facility. Currently digester operations are down to two operational units.
- 3) Operators also continue to give extra attention to the revised primary sludge operations in regards to maintaining effective wasting on those units, and drum thickening units which uses are highly variable due to changes in plant waste activated sludge needs.
- 4) Donnie Reynolds began work in operations on July 26th to fill a vacant OIT position.
- 5) Operations staff continue to actively address PMs as time, workload, and staff levels allow.

Laboratory Activities:

Routine:

A total of 1,877 analyses were performed in the laboratory during the month of July 2021.

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.

Non-Routine:

- 1) The SDD continued to send samples of raw influent twice a week throughout the month of July 2021 for the "COVID-19 in wastewater" study funded by the Illinois Department of Public Health.

The data is being collected by researchers at the University of Illinois at Urbana-Champaign and will be shared with the study participants at a later date.

- 2) Keith Richard attended the quarterly meeting of the Heart of the Sangamon River Ecosystem Partnership on July 8, 2021. The partnership is a consortium of local governmental agencies and non-governmental organizations that are working together to ensure the continued well-being of the Upper Sangamon River watershed.
- 3) The quarterly sampling of the groundwater monitoring wells was conducted at the South Sludge Lagoons and Wyckles Lagoons during the second week of July 2021.

Pretreatment Activities:

General Activities:

- 1) Pretreatment personnel monitored nine commercial and industrial users (IU) during July 2021 and conducted one industrial site inspection.
- 2) The draft Pretreatment Ordinance was public noticed in the Decatur Herald and Review on July 16, 2021. So far, we have not received any comments from the public, 208 planning agencies or other stakeholders.
- 3) There are no updates to the USEPA desk audit.
- 4) Matt Nihiser, Dave Collard and Kyle Stewart attended the CIPWO summer meeting in Fairbury, Illinois on July 28, 2021. The speakers at this year's meeting were Mike Lutz, P.E., from Farnsworth Group, who presented on upgrades at the Fairbury WWTP, and Greg Schwartz of Aquafix, who presented on redworm infestations.
- 5) The SDD's new Monitoring Technician, Victor Escalante, started with the District in early July. Victor's training is progressing remarkably well, and we are very happy to have him in the Pretreatment Department.

Pretreatment Ordinance - Verbal Notices:

- 1) A Verbal Notice was issued to **Tate and Lyle** on July 14, 2021, for exceeding their daily maximum dry weather flow limit.
- 2) A Verbal Notice was issued to **Prairie Farms Dairy** on July 26, 2021, for exceeding their daily maximum TSS limit. Subsequent samples have shown that Prairie Farms is back into compliance, although a cause for the exceedance has not been identified.

Pretreatment Ordinance - Warning Notices:

The SDD issued Warning Notice 21-006 to **Tate and Lyle** on August 2, 2021, for exceeding their maximum dry weather flow limit on July 10th, July 20th and July 24th. The high flows were a result of cooling tower issues, which forced Tate and Lyle to use once-through cooling water. Each tower was inspected, repaired and cleaned. The cooling towers are now back in service. At this time, the SDD has not received the 15-day response from Tate and Lyle.

Pretreatment Ordinance - Notices of Violation (NOV):

No Notices of Violation were issued during July 2021.

Pretreatment Ordinance - Executive Orders:

The SDD issued Executive Order 21-002 to **ADM** on July 30, 2021, for Nickel exceedances in May and June 2021. In May, ADM had a loss from the Corn Plant Refinery dirty backwash tank, which contains high levels of Ion Exchange (IX) resin. The Corn Plant utilizes a nickel catalyst in some

of their processes, so the IX resin contained a large amount of nickel. The IX resin was flushed from the dirty backwash tank to the ADM Wastewater Treatment Plant, and subsequently settled in the grits chamber at ADM.

A separate incident in ADM caused a leak of hydrochloric acid which was hauled to the grits chamber for neutralization. The concentrated hydrochloric acid most likely lowered the pH of the grits chamber enough to regenerate the slug of IX resin from the Corn Plant, releasing the nickel from the resin and suspending it into the wastewater. The solubilized nickel ultimately passed through ADM's wastewater treatment plant and was discharged to the SDD. In May, ADM had 11 daily maximum nickel violations, exceeded their monthly average limit, and caused pass through, interference and caused the SDD to violate the site-specific rule nickel limit. ADM was unaware of the nickel violations until the SDD notified them of unusually high nickel results.

ADM's June nickel monthly average exceedance was caused by a blind that was mistakenly removed from a sump pit in the Corn Plant. Typically, wastewater from the Corn Plant sump pit is directed to the Mill, however with the blind removed the floor water and cleaning water from the maintenance of Sorbitol Reactor 2 was directed to ADM's Wastewater Treatment Plant and eventually to the SDD.

This issue was exacerbated by a plant upset due to a transformer failure in late June. Nickel laden water accumulated on the floor of the Corn Plant during the power outage, and since the blind was still removed on the pipe, the floor water was discharged to the ADM Wastewater Treatment Plant and then to the SDD. ADM has corrected this issue by having a contractor completely remove a section of pipe from the line to the ADM Wastewater Treatment Plant from the Corn Plant sump. The SDD has inspected the Corn Plant and confirmed that the section of pipe was removed.

The SDD has not received the required response for the July exceedance. Once the response is received, the SDD will issue an amendment to EO 21-002 or a separate Executive Order, depending on the source of the nickel.

ADM was assessed \$16,000 in penalties in May 2021 (11 daily maximum violations, 1 monthly average violation, and 4 ordinance violations), \$1,000 in June 2021 (monthly average violation), and \$1,000 in July 2021 (monthly average violation) for nickel related issues.

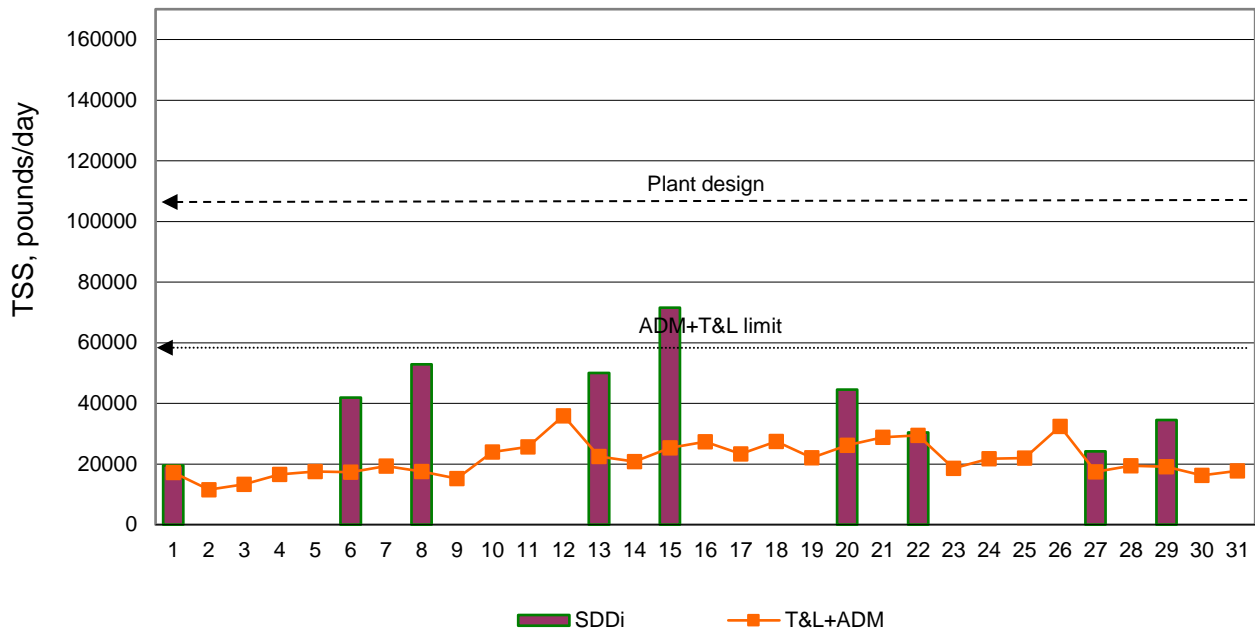
Pretreatment Ordinance - Penalty Assessments:

The following industrial penalties were assessed for July 2021:

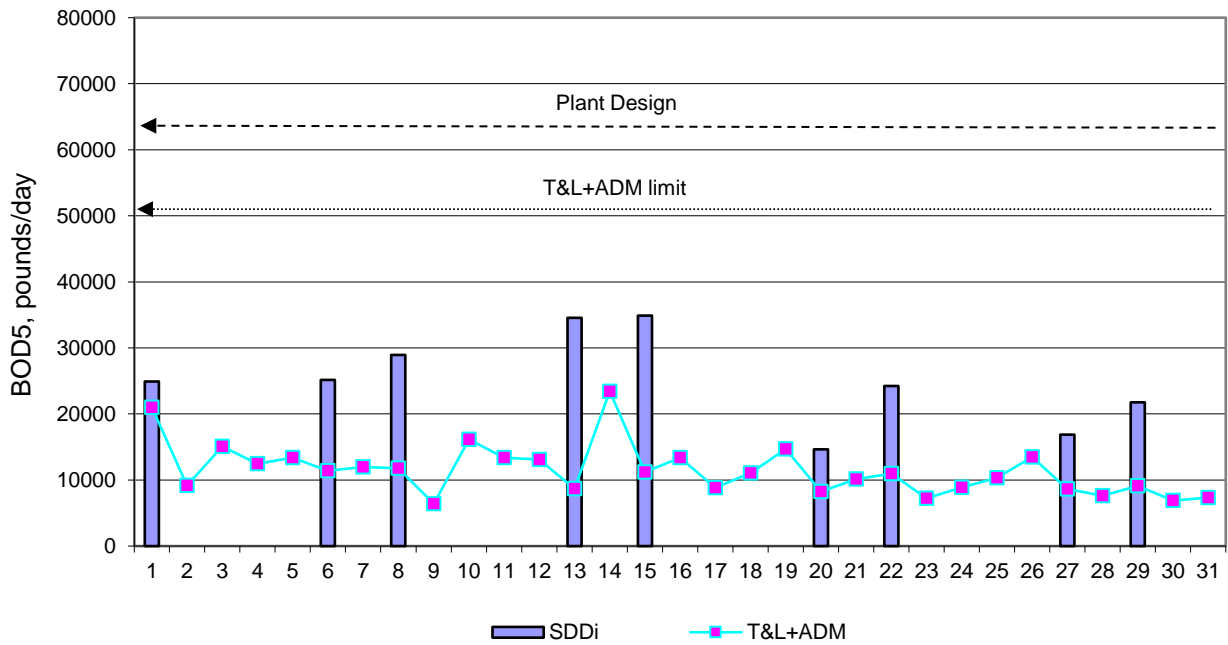
- | | |
|---------------------------|----------------|
| 1) ADM | \$1,000 |
| 2) Tate & Lyle | \$9,500 |
| 3) Prairie Farms | \$1,000 |

Plant Operating Graphs:

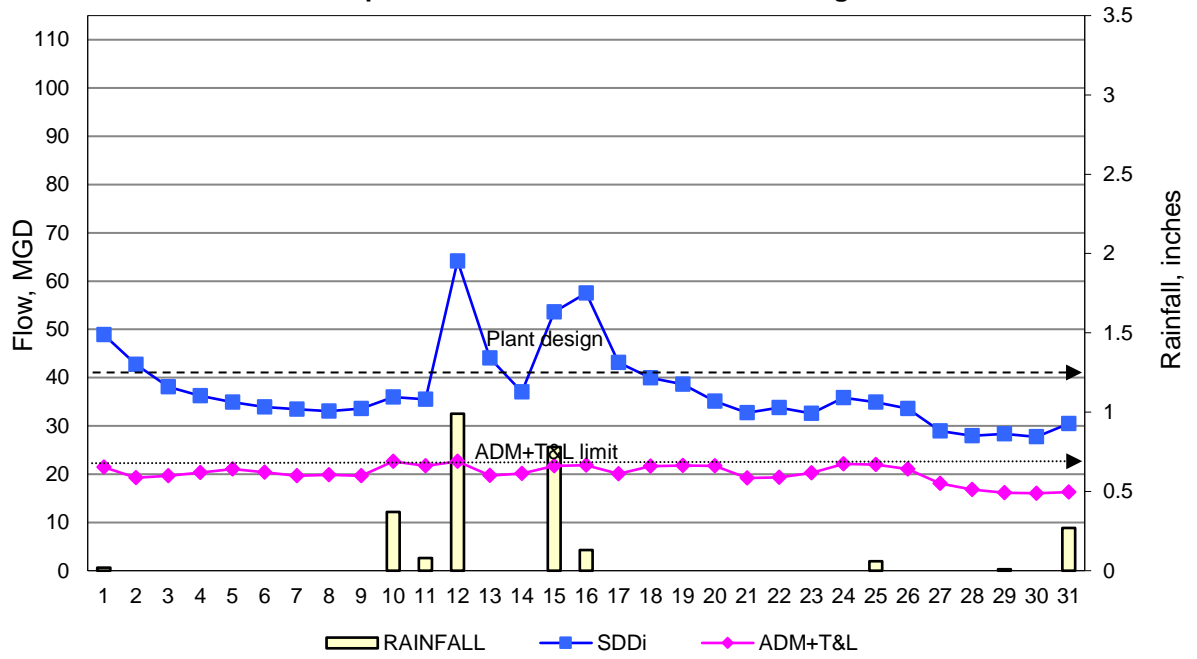
TSS Comparison: SDD Inf T&L+ADM Discharges



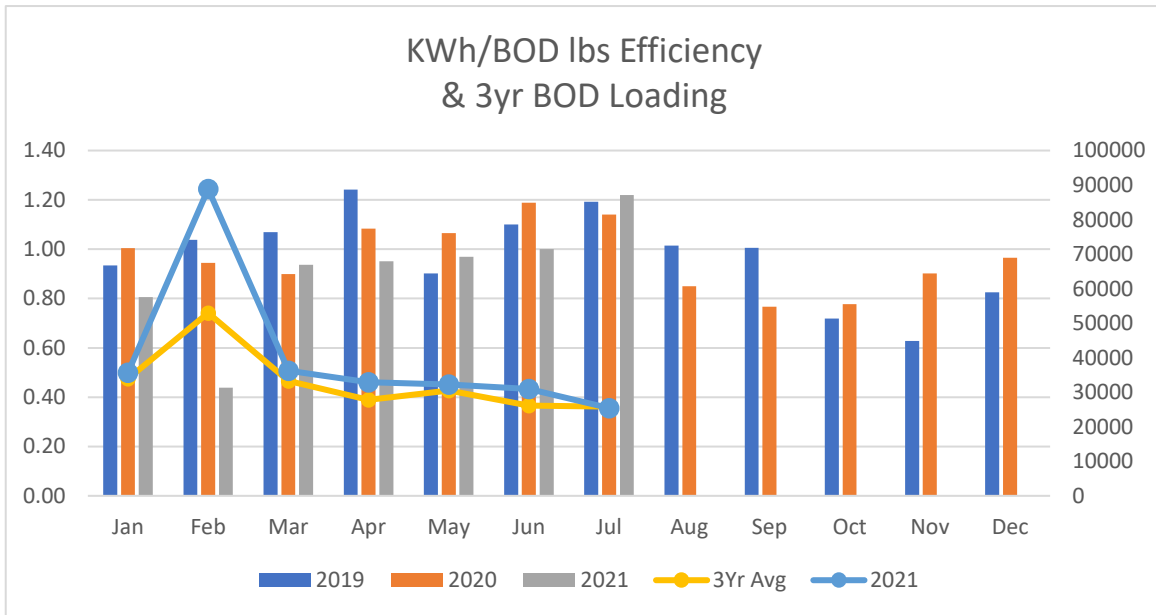
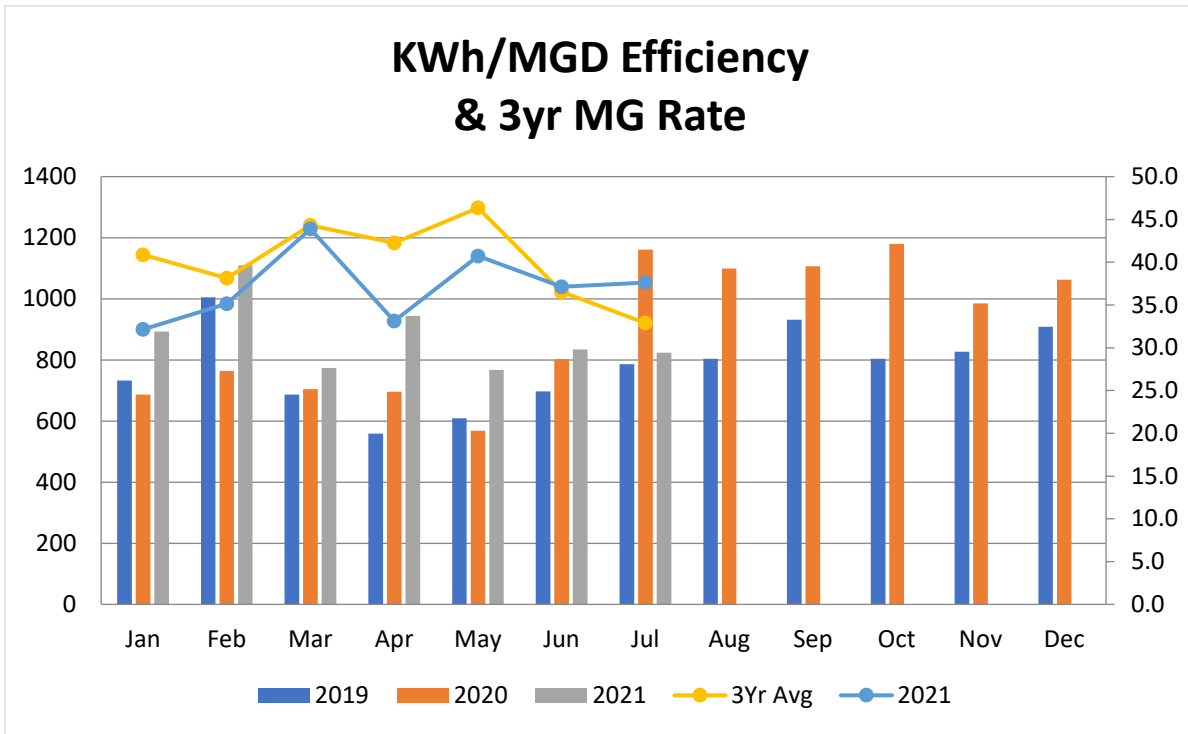
BOD Comparison: BOD Inf vs. T&L + ADM Discharges



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



Plant Efficiency Graphs:



Phosphorus Tracking Graphs:

