

E) Chlorides

Chlorides and the issues that it presents the District has been on the agenda for last several months. Progress has been made in quantifying chlorides loads and the permit implications that could potentially affect the District in its successor WPDES permit.

Current month activities:

District followed up with Kimberly after reviewing its Water Commission meeting minutes seeing discussion on WI DNR permitting and chlorides testing. The minutes mentioned extensive testing costs and an increase in costs to the Village and that discharge of “backwash” to the District would be implemented in future months.

A phone call to Jerry Verstagen was placed and he was able to explain the changes being made by Kimberly. He informed me that we are receiving all the chlorides waste from the Kimberly water utility and that no additional chlorides will be discharged to the District. They had previously had an NPDES permit to discharge water that was used in the first cycle of their backwash. It is essentially drinking water and free of chlorides but the DNR has upped the testing frequency from 16 to 248 samples per year and that it is no longer feasible to keep the permit active. As a result, this discharge will be sent to HOVMSD once their permit expires. They estimate that an additional 15-20 MG/year will be sent to the District via Kimberly’s MS 1.

Previous months activities:

- Chlorides concentration – previously reviewed the past 3 years concentration in the HOVMSD influent. From 2019 to 2020 the concentration increased from 562 mg/L to 610 mg/L for an increase of 8.5%.

A single year increase of 8.5% is concerning with discussion on the influence of precipitation and clear water potentially biasing the concentration in the influent.

- Chlorides mass – the past 3 years influent mass load was graphed and brought forward for review. From 2019 to 2020 influent mass projected to increase from 893,703 pounds to 897,583 pounds.

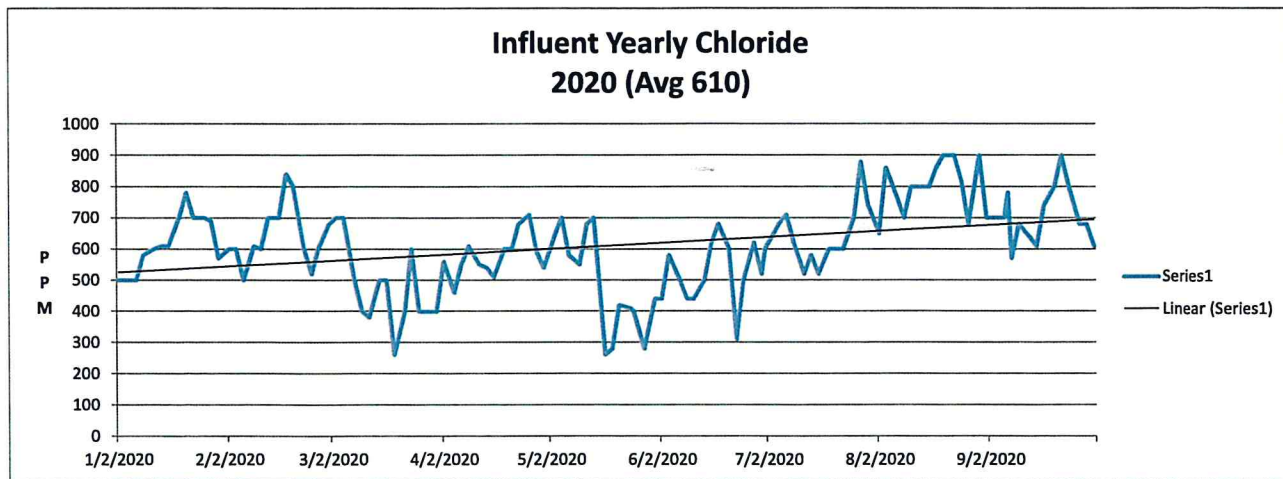
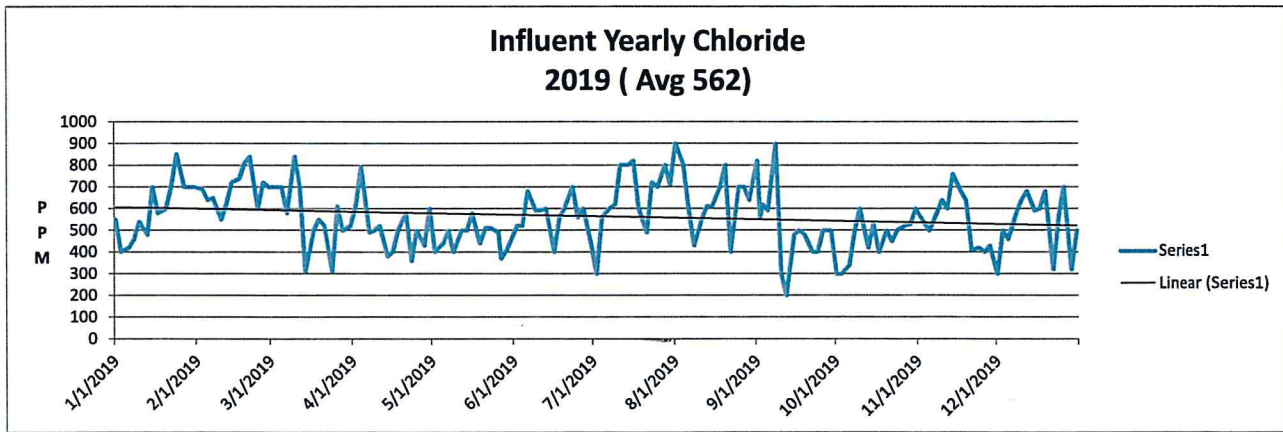
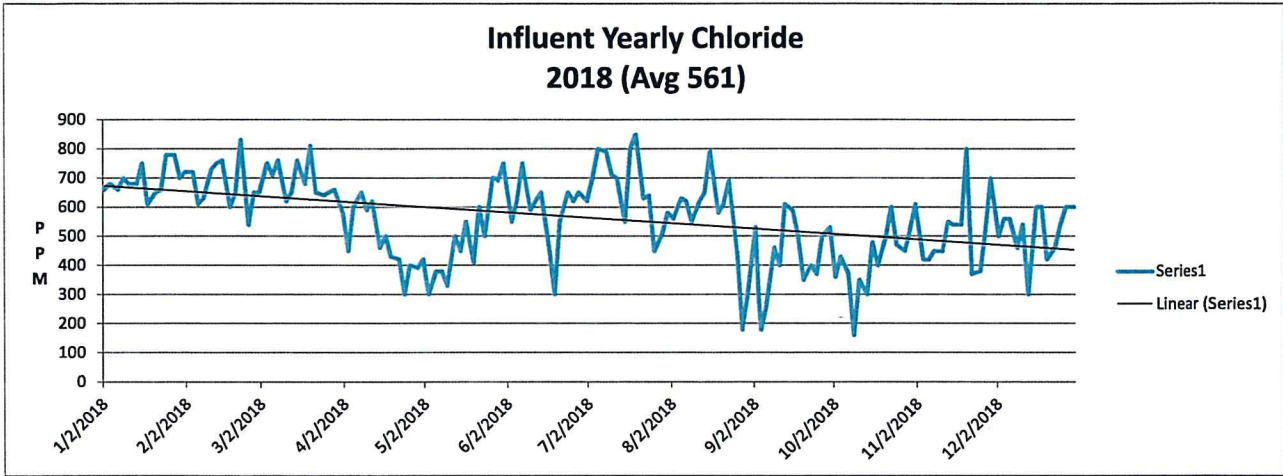
The mass projected increase was found to be only 0.4% and far less percentage wise than chlorides concentration. This second look at chlorides load shows that precipitation and wet weather is a major influence on concentration but the chlorides mass is not increasing at an alarming rate.

- P99 calculation – The District requested a P99 calculation on its 2020 data by DNR. Nicole Krueger with DNR calculated the P99 and determined that if the District’s NPDES permit were being reissued it would not require a chlorides limit.

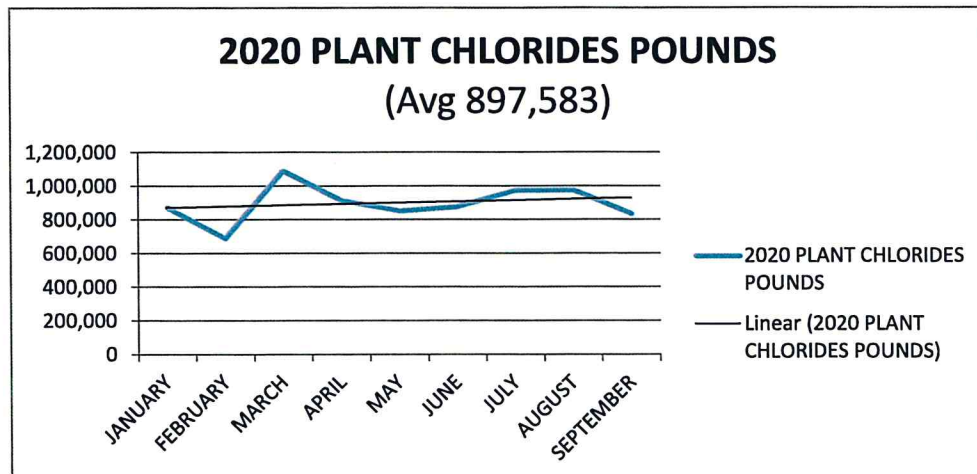
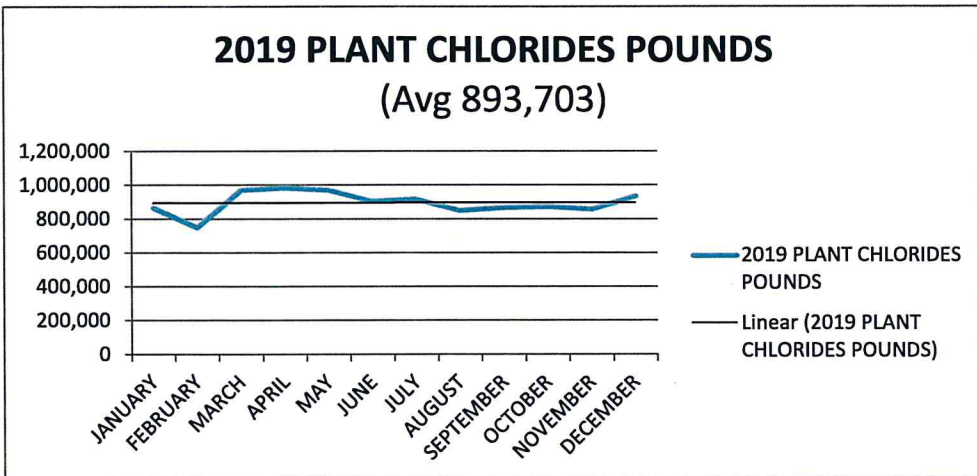
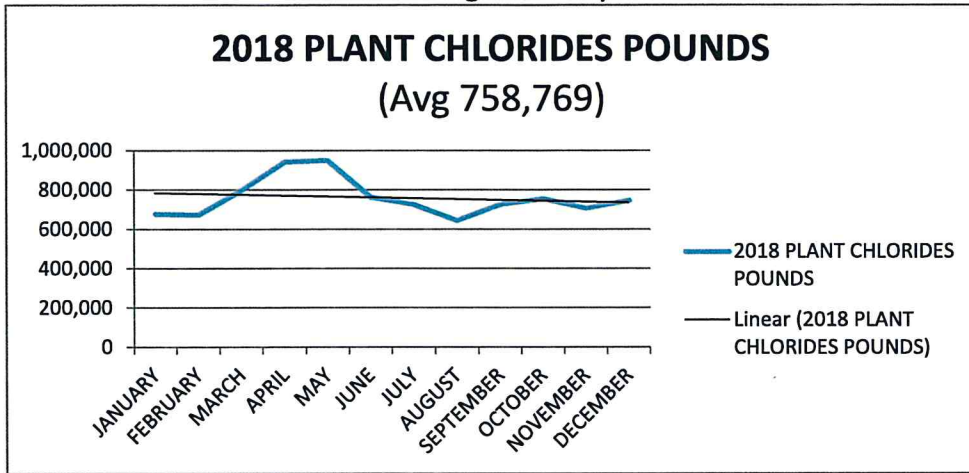
Future months: No changes to testing and monitoring chlorides recommended at this time. Propose chlorides review be placed on the HOVMSD Commission agenda on a quarterly basis moving forward.

2018-2020 Influent Chloride

Heart of the Valley MSD



2018-2020 Influent Chloride
Influent Average Monthly Pounds



Brian Helminger

From: Krueger, Nicole E - DNR <Nicole.Krueger@wisconsin.gov>
Sent: Tuesday, June 2, 2020 11:53 AM
To: Brian Helminger
Subject: RE: Chlorides and the P99 calculation
Attachments: Chlorides.xlsm

Attached is the P99 calculation. I looked at the WQBEL from 2015 which had a potential daily maximum limit of 1514 mg/L and a weekly average of 4173 mg/L. We compare the 1-day P99 to the daily max limit and the 4-day P99 to the weekly average limit. The calculated P99s are not exceeding either of the calculated limits, so just using this data, HOV would not need chloride limits.

Thanks

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Nicole Krueger
Phone: (414)-263-8650
Nicole.Krueger@wisconsin.gov

From: Brian Helminger <brian.helminger@hvmsd.org>
Sent: Tuesday, June 2, 2020 11:35 AM
To: Krueger, Nicole E - DNR <Nicole.Krueger@wisconsin.gov>
Subject: RE: Chlorides and the P99 calculation

Thanks for the quick reply Nicole I understand at least 11 results are necessary but here is a listing of datapoints. If it cannot run more than 11 points I'd guess the most recent 11 would be appropriate too.

Brian Helminger

District Director

Heart of the Valley
Metropolitan Sewerage District
801 Thilmany Road
Kaukauna, WI 54130
Phone: 920-766-5731
www.hvmsd.org

From: Krueger, Nicole E - DNR <Nicole.Krueger@wisconsin.gov>
Sent: Tuesday, June 2, 2020 11:32 AM
To: Brian Helminger <brian.helminger@hvmsd.org>
Subject: RE: Chlorides and the P99 calculation

Hi Brian,