Ammonia Concentrations in Wastewater Treatment Plant Influent (2013-2024)

This Appendix provides historical influent concentration data for ammonia (NH_3) and TKN at the Saskatoon WWTP. Influent refers to the wastewater entering the Plant.

Ammonia is a key parameter for evaluating both overall Plant loading and the impact of industrial discharges. Elevated ammonia concentrations have regulatory and operational implications, particularly as Saskatoon prepares to meet a year-round effluent limit below 6 mg/L. Ammonia is a subcomponent of TKN, and it is common in Canadian Council of Ministers of the Environment guidelines and municipal Sewer Use Bylaw to include TKN as a parameter, as it captures both organic nitrogen and ammonia to better represent the total nitrogen loading to wastewater systems.

Monitoring data demonstrated an average of 65% increase in TKN and NH_3, influent in past decade. This sustained upward trend highlights the growing impact of nitrogen loads on plant operations and reinforces the need for including ammonia/TKN in the surcharge program.

The following figures summarizes annual WWTP influent of TKN and NH_3.