Reducing Unaccounted-for-Effluent in a Common Effluent Treatment Plant by 66.4% using EverSense for WaterMAP

Tamil Nadu, India | Water and Waste Water

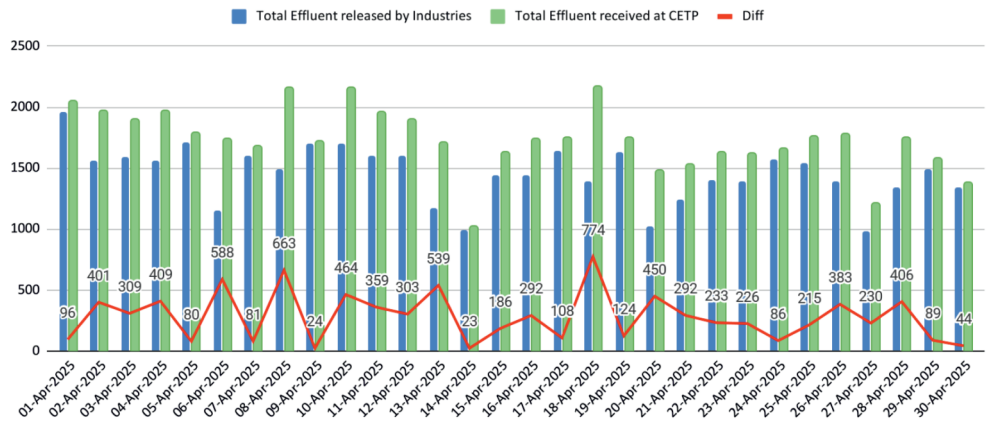
Problem

A Common Effluent Treatment Plant (CETP) in South India was facing variations of 800 to 900 m^3/day between effluent released by its 72 member industrial plants to that received. While the expected average effluent discharge from each industry was around 20 m^3/day, nearly 50% of this flow remained unaccounted for. There was no mechanism to correctly charge the plant letting out this effluent discharge. Additionally, based on production schedules, sudden switches between maximum or part flow effluent discharge (which could be less than the minimum required flow) through the flow meter impacted its calibration. Equipment issues such as non-return valve (NRV) failure and pump choking caused by concentrated effluent blocking the filter suction mechanism, lead to fluctuating flow and backflow into the common effluent collection tank.

Solution

Forbes Marshall Digital partnership with this CETP began in March 2024. An RTru was installed at each of the 72 member plants to provide data on status of the flow of effluent. We maintain the uptime of the entire network at above 95% minimising the probability of data loss. Through digital connectivity, the user receives an alert when the flow meter needs to be cleaned (as against having to follow a fixed monthly maintenance schedule). Establish sequentially controlling the effluent discharge for each industry over cloud to maintain the CETP load. We monitor the flow meter diagnostics and define the accuracy of measurement.

Cutting fluctuation in Unaccounted Effluent from 50% to 16% through daily monitoring and specialist intervention



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Benefits delivered

	Pre Service	Post Service
Average per day difference in Effluent quantity	800-900 KLD	283 KLD
Unaccountability of the Unaccounted-for-Effluent	50%	16.8%

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