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SUCCESS STORIES

ChemScan mini Analyzers monitor Sulfite and Chlorine Levels



ChemScan mini analyzers to monitor sulfite/chlorine levels and address feed control issues.
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Problem: The wastewater plants in Clarkson and Guelph, Ontario use chlorine for disinfection but have severe limits on the concentration of chlorine residual that can be discharged. The receiving stream has limited capacity and is populated by aquatic life sensitive to chlorine. The usual approach to this problem is to feed sulfite in sufficient concentration to de-chlorinate the effluent. However, sulfite is an oxygen scavenger, and large residuals can result in reduced dissolved oxygen in the receiving stream, replacing one problem with another. Many plants have attempted to use ISE based probes for control but these devices cannot achieve the low detection limit or operational stability required. Pilot testing also revealed the unexpected result that chlorine and sulfite can both be present simultaneously.

Solution: Two new ChemScan mini analyzers were installed to monitor sulfite/chlorine levels and address the feed control issue. A ChemScan mini Low Chlorine analyzer, with a detection limit of 0.005 mg/l, was used to monitor chlorine residual before or after sulfite feed. The ChemScan mini Sulfite Analyzer, with a lower detection limit of 0.01 mg/l was used to monitor the sulfite residual. The combination of these analyzers provides a suite of analysis that allows both chlorine and sulfite to be minimized in the effluent.

Result: The two wastewater plants in Ontario have performed extensive pilot testing of the ChemScan mini analyzer suite performing direct analysis of residual chlorine and residual sulfite in effluent, successfully replacing ORP control.

Contact ASA Analytics for technical papers and literature.

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