

RECORDED BENEFITS

- 39% reduction in polymer consumption
- Mill supply turbidity and water quality maintained
- \$31,620 in annual cost savings
- 330,000 gallons of water saved annually

Nanobubble Technology Reduces Chemical Consumption While Maintaining Water Quality

NoveraSM Nanobubble Performance Program

Customer Challenge

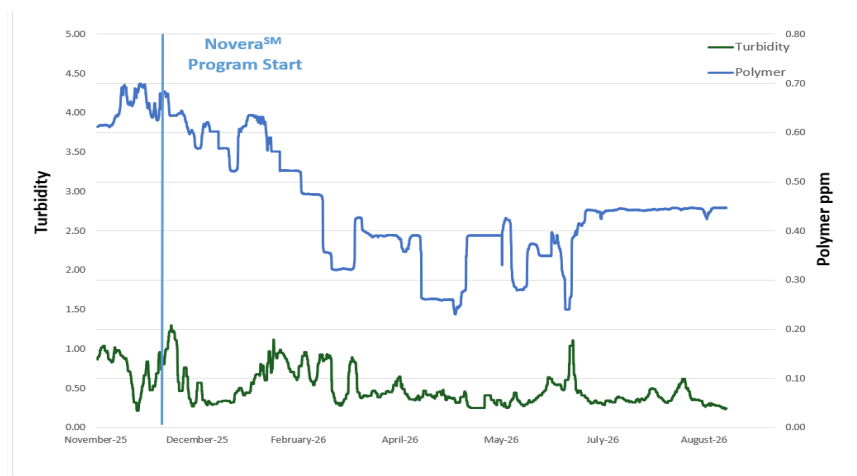
A North American integrated pulp and paper mill operating multiple settling clarifiers wanted to reduce its flocculant consumption while maintaining mill supply turbidity and water quality.

Recommended Solution

Following a thorough process assessment, Solenis recommended that the mill implement the Novera Nanobubble Performance Program, which combines a patented nanobubble generator with Solenis chemistry and application expertise. In this application, nanobubbles were introduced into the polymer make-down water to improve the efficiency of the ZaltaTM flocculant used. The Novera program not only improves polymer activation but also strengthens solids separation, reducing chemical consumption and improving polymer reaction.

Results Achieved

During full-scale operation of the Novera program, the flocculant dosage decreased from 0.63 ppm to 0.38 ppm, a 39% reduction, while mill supply turbidity and water quality were maintained. The mill also achieved annual cost savings of \$31,620 and reduced its water consumption by 330,000 gallons per year.



Turbidity and Polymer Dosage with Novera Program

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