

LAKES, RIVERS AND STREAMS ARE A TREASURED RESOURCE FOR THE PEOPLE OF TENNESSEE. THEY SERVE US IN MANY WAYS AND PROVIDE OUR WATER SUPPLY, FLOOD CONTROL, RECREATION, FISHING OPPORTUNITIES, TRANSPORTATION AND COMMERCE CORRIDORS. BEFORE COMMUNITIES AND INDUSTRIES DISCHARGE USED WATER BACK INTO THE RIVERS, THEY TREAT IT TO REMOVE METALS, ORGANICS, AND OTHER WASTES. THIS TREATMENT USES MECHANICAL AND BIOLOGICAL PROCESSES AT A TREATMENT PLANT. TO PREVENT ALGAE GROWTH AND TOXIC BLOOMS IN THE LAKES AND RIVERS, NITROGEN AND PHOSPHORUS CAN BE ALSO REMOVED AT THE TREATMENT PLANT.

Some plants have added new treatment processes, but these upgrades may not be affordable or necessary for all facilities.

Several plants in Tennessee are reducing nitrogen and phosphorus, while optimizing treatment process in the plant without incurring large capital expenses. At many treatment plants, operators also optimize energy usage and improve energy efficiency and savings.

Tennessee Department of Environment and Conservation, Division of Water Resources has been championing plant optimization as an effective approach with environmental and economic benefits since 2011. Case studies from Tennessee cities and utilities are posted on the TNPOP website.

TN

Plant Optimization Program



**USE EQUIPMENT
FROM TDEC TO
OPTIMIZE YOUR
PLANT**

HACH TNT EQUIPMENT AND REAGENTS

- **QUICKLY CONDUCT A RANGE OF ANALYSES SUCH AS AMMONIA, TOTAL NITROGEN, TOTAL PHOSPHORUS, AND OTHER PARAMETERS TO INFORM PROCESS CHANGES AND CONFIRM RESULTS. ALL NECESSARY ANALYSIS EQUIPMENT WILL BE PROVIDED, INCLUDING SPECTROPHOTOMETER, PIPETTES, AND DIGESTER BLOCK**

PORTABLE MULTIPARAMETER PROBES

- **INSTANTANEOUS MONITORING OF DO AND ORP TO GUIDE PROCESS CHANGES**

Contact Jordan Fey for more
information:

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TN

Plant Optimization Program



The Tennessee Plant Optimization Program Partners support the participating facilities and their operators through site visits, training, development of optimization strategy, and technical assistance during the optimization process, all free of charge.

**TENNESSEE
ASSOCIATION OF
UTILITY DISTRICTS
(TAUD)**

**MUNICIPAL
TECHNICAL
ADVISORY
SERVICES (MTAS)**

TRAINING IS PROVIDED DURING QUARTERLY SITE VISITS FOR AT LEAST ONE YEAR AND AS VIDEOS ON THE TNPOP WEBSITE ALONG WITH OTHER RESOURCES SUCH AS AUDIT CHECKLISTS, CASE STUDIES, AND PEER OPERATOR MENTORING. THE PROGRAM ALSO LENDS OUT DIAGNOSTIC EQUIPMENT FOR PROCESS TESTING.

THE REQUIREMENTS FOR TNPOP PARTICIPANTS ARE:

- SIGN UP FOR EMORS; PROVIDE 1 YEAR OF NITROGEN AND PHOSPHORUS DATA PRIOR TO OPTIMIZATION AND CONTINUE TO USE OF EMOR REPORTING DURING AND AFTER OPTIMIZATION.**
- PROVIDE AT LEAST 12 MONTHS OF BASELINE ENERGY BILLS AND PROVIDE ENERGY BILLS DURING AND 12 MONTHS AFTER OPTIMIZATION.**
- COMPLETE PREPARATORY TRAINING INCLUDING DIAGNOSTIC INSTRUMENT USE SPECIFIED BY THE PROGRAM PARTNER.**

THE DIVISION OF WATER RESOURCES PROVIDES FLEXIBLE AND INFORMED REGULATORY OVERSIGHT AND ENFORCEMENT DISCRETION DURING THE OPTIMIZATION PERIOD. INTERESTED FACILITIES SHOULD CONTACT JORDAN FEY AT JORDAN.FEY@TN.GOV TO APPLY.