

New England Water Treatment Technology Assistance Center

University of New Hampshire • Durham, New Hampshire

Got a drinking water problem? That's why we're here!

Contact Information

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Visit our website:

www.unh.edu/erg/wttac



Ozone pilot system in Newmarket, New Hampshire.

Who We Are

The New England Water Treatment Technology Assistance Center (NE-WTTAC) specializes in helping small public water systems improve the quality of the drinking water in their community. The center has concentrated on four major programs:

- Resource training for drinking water regulatory and consulting engineers;
- Evaluation of non-aligned treatment technologies;
- Innovative technology comparisons;
- Treatment technology cost summaries.

We often form partnerships with other universities, communities, regulatory agencies, and the private sector. Situated within the Environmental Research Group and the Department of Civil Engineering at the University of New Hampshire, the NE-WT-TAC is one of eight EPA-funded Technology Assistance Centers which form a network for small systems and technical service providers (TACnet).

Our Mission

The NE-WTTAC at the University of New Hampshire is committed to protecting public health, improving water system sustainability, and enhancing small system compliance. The New England Drinking Water Advisory Board offers assistance in selecting and prioritizing technology issues to be evaluated by the NE-WTTAC.

Our Expertise

We have been involved in more than 50 research projects funded by the private sector, water utilities, state governments, the U.S. EPA, and the American Water Works Association Research Foundation.



Visit the TACnet website: www.tacnet.info.

The faculty and staff of the NE-WTTAC have expertise in new technology development, pilot-testing in communities, verification of technology, and matching the appropriate technologies to users' needs.

Technologies that have been developed or evaluated include:

- Slow sand filtration
- Conventional treatment
- GAC/biological filtration
- UV treatment
- Membrane filtration
 Gas-stripping

Riverbank filtration

Advanced oxidation

• Roughing filtration

Water stabilization

Pre-coat pressure

filtration

Innovative media

absorption

Typical piloting and verification studies involve working closely with a host community. The NE-WTTAC has also worked on selected technology assessments with other research universities, including the University of Tennessee-Knoxville, Oregon State University, and Syracuse University. As part of our education and scholarship mission, students are frequently used to support research under the careful supervision of the faculty. Research findings are published and widely disseminated.



Outreach

We're here to help. The NE-WTTAC works with small public water supply systems, municipalities, water companies, state agencies, research universities, and the private sector in collaborative technology development demonstrations, and verifications. Here are examples of completed and current projects:

Recently Completed Project

- A Technical Training Website (www.unh.edu/erg/ wttac/engineer_training_program.htm) focusing on Limestone Bed Contractors, Membrane Filtration, UV Disinfection, Slow Sand Filtration, Iron, Manganese, and Arsenic Removal;
- Assessment of Riverbank Filtration as a Viable Treatment Process;
- Enhancing Organic Precursor and Arsenic Removal Using Innovative Adsorbents;
- Costing Summaries for Slow Sand Filtration and Ceramic Media Pressure Filtration;
- Enhanced Corrosion Control in Small Systems Using Calcium Silicate Contactors;
- Fate and Transport of Radionuclides from Small System Ion-exchange Treatment Units;
- Enhancing Gravel Roughing Filtration Removals of Organic Precursor Materials;
- Assessing the Role of a Schmutzdecke in Microbial Removals by Riverbank and Slow Sand Filtration;
- Costing Summaries for Diatomaceous Earth Filtration and Arsenic Treatment by Activated Alumina and Ion Exchange;
- Assessing Temperature Influences on Slow Sand Filtration Treatment Performance;
- Radioactive Contamination of Ion Exchange Resins;
- Literature Review Assessment of UV Design Modification to Reduce the Risk of Mercury Release.

Active Projects

- Assessing Post Treatment Aeration Variables to Reduce Disinfection Byproducts for Small Systems;
- Assessing the Role of Protists in Removing Problematic Microbes by Biofiltration Systems;
- Assessing Zero Valent Iron for Arsenic Removal;
- Basic Safety Guidelines for Small Water Systems;
- Best Management Practices for Well Abandonment/Decommissioning;
- Development of a Riverbank Filtration Training Website for Engineers;
- Evaluating the Disinfection of Particle Associated Viruses;
- Evaluation and Optimization of an Intermittent Slow Sand Filter for Small System Drinking Water Supplies;
- Helping Small Water Systems Develop and Manage a Corrosion Control Strategy;
- Metal Addition to Enhance Granular Sand Media Biological Filtration Performance;
- Pilot Study to Assess the Removal Capabilities of Riverbank Filtration.

