



Ambient Water Treatment Consulting, Inc.

Water Treatment Monitoring
Cooling and Boiler Water Analyses
Water Treatment Bid Evaluations
Equipment Inspections
Pipe Analyses

50 Jericho Turnpike
Suite 108
Jericho, New York 11753
Tel: (516) 342-1964
Fax: (516) 908-6470

COULD YOU ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR FACILITY?

- 1. What is the useful remaining life of the piping in the HVAC system? Should you be budgeting now for future replacement of critical piping?**
- 2. Could you accurately assess the state of the chemical water treatment program in your facility? Are you aware of the potential costs of a poor program?**
- 3. Is Legionella present in the tower and related piping? Does it pose a health threat? Are you taking prudent measures to head off legal assaults?**
- 4. Is the HVAC piping in the building reliable or is it near the failure point? Are the systems reliable enough to support a critical data system?**
- 5. Is your water treatment company providing the *protection* that they promised? How do you know?**
- 6. Is your water treatment company providing the *service* that they promised?**
- 7. If there were a failure of an HVAC piping in your facility, who would you feel comfortable with to determine the cause so that it would not happen again?**
- 8. If you decide to bid out the water treatment contract, how would you write the specifications? How would you compare competing bids? Would you know how to make an “apples to apples” comparison?**



WHERE WOULD YOU GO TO OBTAIN TO OBTAIN UNBIASED INDEPENDENT ANSWERS?

AMBIENT WATER TREATMENT CONSULTING, INC.

- 1. We do not sell water treatment chemicals.**
- 2. We do not sell water treatment equipment.**
- 3. We are not affiliated with any water treatment company.**
- 4. Our representatives average 20 years each in the water treatment industry.**
- 5. We are part of the Ambient Group, Inc., an environmental testing and monitoring company that has been in business since 1986 and has offices in New York City, Glen Cove, NY, Chicago, IL, and Los Angeles, CA.**
- 6. We have our own laboratories in Glen Cove, NY.**
- 7. We have extensive experience in all facets of the water treatment industry from organizing and supervising bids to monitoring the existing water treatment program.**
- 8. Our client list and references includes facility owners and managers from the local to the international.**
- 9. Our fees generally can be justified in the return on investment that can result from improved protection at a fair price, as well as in the minimization of costs associated with unexpected system failures.**



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Summary of Services

Ambient Water Treatment Consulting, Inc. is a full-service consulting firm staffed with water treatment professionals who are dedicated to providing you with **unbiased, independent information** on the state of your critical heat-transfer equipment. **We do not sell treatment products nor are we affiliated with any water treatment company.** We perform a variety of testing and inspection services that determine the effectiveness of the water treatment program. We can benchmark your program's performance, identify any deficiencies and offer workable solutions to improve or enhance your results. Our services include:

Water Treatment Program Evaluation

- ***Visual Inspections and Field Audits***
- ***Borescopic Inspections***
- ***Analysis of Bulk Water and Water-formed Deposit Samples***
- ***Metallurgical Analysis***

Treatment Programs for New Construction/New Systems

- ***Ensuring proper start-ups that avoid costly long-term problems***

Continual Monitoring of Piping Systems

- ***Destructive and Non-Destructive Testing to Determine Remaining Useful Life***
- ***Spool Piece Evaluations***
- ***Corrosion Coupon Monitoring***

Due-Diligence Inspections

- ***Evaluation of HVAC Equipment and Systems Piping in Properties Contemplated for Acquisition.***

Water Treatment Bid Administration

- ***Specifications, Solicitation, Evaluation and Performance Contracts***

Fuel Oil Testing for Critical Stand-by Generators

- ***Sampling, Analysis and Evaluations***



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[WATER TREATMENT CONSULTING SERVICES](#)

A properly-applied water treatment program controls corrosion, scaling and microbiological growth in critical heat transfer equipment (boilers, chillers, pumps, heat exchangers and cooling towers). Failure to maintain heat transfer equipment through proper control of contaminants can result in excess energy consumption and wasted dollars. Money is also wasted if a treatment vendor uses inappropriate amounts of treatment chemicals. Facility owners and managers rely on their water treatment vendor to provide consistent treatment programs for the protection of these systems; however, facility engineers and maintenance personnel often lack the necessary technical knowledge to assess the results of a treatment program.



In order to ensure that facility managers are receiving the service they need from their water treatment vendor in a cost-effective manner, Ambient has developed a monitoring program that provides facility managers with technical information and accurate analyses of operating conditions. Ambient communicates this information in an objective manner and in an easy-to-understand format.

Ambient's program addresses five important areas: (1) water treatment program evaluation for established systems, (2) due-diligence inspections of potential property acquisitions, (3) development of treatment programs for new construction or previously unprotected systems, (4) periodic monitoring of treated systems and (5) destructive and non-destructive testing of piping systems for predictive or failure analysis. Each area is fully supported by Ambient's in-house and contract analytical laboratories and is described in detail below:

Water Treatment Program Evaluation

Ambient's water treatment professionals will conduct a thorough review of the existing water treatment program, including:

- Physical inspections of the critical heat transfer equipment to confirm operating conditions and treatment requirements.
- Physical inspections of the chemical feed equipment to ensure that the appropriate equipment is in place and functioning properly.
- Physical and analytical evaluation of filtration systems to ensure that the equipment is meeting factory specifications for particulate removal.
- Review of the capabilities of the existing water treatment vendor and the plant operating engineers. Training needs will be determined and a plan for implementation developed. Training programs for OSHA, NYSDEC and NJDEP-compliance can also be provided.



- Review of compliance with local laws and safety issues as they relate to chemical storage and handling.
- Chemical and microbiological analyses of treated and make-up water to quantify treatment chemicals, corrosion indicators, and microbiological activity. The effectiveness of the bacteria control program is evaluated in relation to potential health hazards originating from open condenser water systems
- Recommendations for the installation of corrosion and fouling monitoring systems, including coupon racks and field-test equipment.

The findings from the reviews and inspections are provided to the client in a written report complete with photographs, analytical results and recommendations. The report establishes operating and performance standards so that the facility engineers and the water treatment vendor have clear objectives and specific responsibilities for maintaining treatment levels. With the client's consent, Ambient will work with the water treatment vendor to ensure that the client receives the benefit of a continuously improving program consistent with the highest industry standards.

Please note that these inspections will not be sufficient to evaluate the integrity of existing equipment or for determination of remaining useful life. These services are addressed under *Forensic Analysis*.

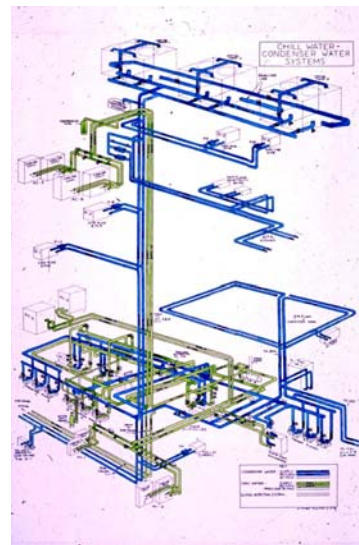
Due-Diligence Inspections

Ambient has the experience to use the information gathered from site inspections and analytical results to provide the client with an appraisal of the condition of the HVAC systems in a building or facility.

Treatment Programs for New Construction/New Systems

Ambient's water treatment professionals will provide a turnkey program for new construction, retrofit and/or replacement projects. This program will ensure that an appropriate treatment program is matched to the new equipment and piping, a qualified treatment vendor is chosen through a formal review process and that vendor meets performance goals during critical system start-up periods. The program includes:

- A review of mechanical specifications for optimization of maintenance and performance, leading to the development of water treatment feed, testing and monitoring equipment specifications; initial system cleaning and passivation.
- Development of performance specifications for the water treatment bid and pre-qualification of potential bidders, followed by a comprehensive evaluation of vendor proposals for cost, conformance to the specifications and ability to produce the desired results.
- Development of a service contract that details the owner's and vendor's responsibilities and clearly establishes the services to be provided by the vendor and the expected results for each system.





- On-site analyses and field inspections to verify that the mechanical contractor and water treatment vendor are providing the services and meeting the performance goals including critical start-up procedures (hydrostatic testing, chemical cleaning and passivation and maintenance of new piping).

Continual Monitoring of Piping Systems

For systems with an established water treatment program, Ambient's water treatment professionals will work to ensure that the procedures crucial to maximizing the life of critical equipment are followed by the owner and the water treatment vendor.

The continual monitoring program includes:



- Reviewing and tracking the water treatment vendor's monitoring results.
- Unbiased monitoring of the vendor's adherence to the treatment specification based on chemistry and microbiological testing, corrosion coupon and spool piece monitoring and ultrasonic template testing.
- Coordination with the water treatment vendor to ensure that plant personnel are properly trained in the effective and safe use of the treatment chemicals and equipment.

Forensic Analyses

Destructive analysis is used to determine existing conditions and useful life or to investigate a failure. Heat transfer equipment and piping can fail for reasons that are not easy to see. In cases where corrosion or fouling is a suspected cause or contributor, Ambient's water treatment professionals can investigate the problem and use the information to prevent a recurrence.

Ambient also performs non-destructive testing of piping systems and heat transfer equipment using ultrasonic testing and borescopic inspections.

Using the results of the destructive and/or non-destructive tests, Ambient can work with water treatment vendor and plant personnel to develop a strategy to remedy the conditions that caused the failure and to provide recommendations for protection of the system into the future.

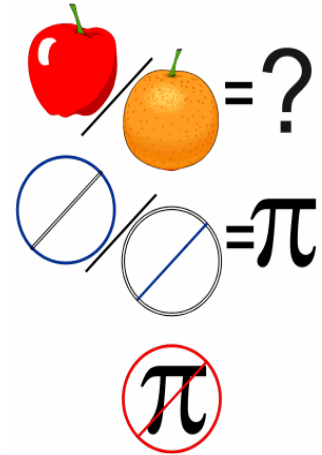




Administration of Water Treatment Bids and Contracts

All contracts should be reviewed on a scheduled basis in order to ensure that the results of the water treatment program are in line with what was expected by the client and promised by the vendor. If the client feels that the time is proper for evaluating that through the bidding process, Ambient can simplify the procedure by handling all aspects of the complex project. From writing the bid specifications to writing the final contract, using Ambient's services often is justified by obtaining the most qualified vendor at the lowest cost.

- Ambient's knowledge of the vendor's corporate, regional, district and field service capabilities are critical in choosing the best company.
- The vendor quotes that are returned to Ambient in response to the specifications that we develop are then compared to ensure that all bids are evaluated in an "Apples-to-Apples" format.
- Ambient can arrange and host bid interviews with all or the "short list" of vendors. This provides the client with a feel for the prospective water treatment company.
- Ambient will follow up the interview with an evaluation of the companies that were deemed finalists in the process. The information is presented in a readily understood format.
- To ensure that the bid specifications are followed, Ambient can write a contract for chemicals and services that can either stand-alone or be incorporated into a client's standard contract.



Fuel Oil Testing for Critical Standby Generators

Minimize the risk of going off line due to fuel quality problems.

- Power outages can result in the diesel generator failing due to poor oil quality.
- Our testing procedure minimizes the possibility of failure under load.



If you are interested in finding out more about how these services can improve the water treatment program at your facility and extend the life of your critical heat transfer equipment, or if you have questions about any of the services that Ambient provides, please contact Steven Beckenstein at:

(516) 342-1964 or via email at info@awtconsulting.com