

STEAM CYCLE CHEMISTRY SERVICES



- **Minimize Boiler Chemical Cleanings**
- **Reduce Equipment Failures**
- **Optimize Chemical Treatment Programs**



Water and steam chemistry have a tremendous effect on the availability and reliability of steam generating equipment. M&M Engineering's services can optimize water and steam chemistry programs.

Specifically, M&M Engineering's Steam Cycle Chemistry Services can:

- Minimize the number of boiler chemical cleanings
- Reduce the number of chemistry-related equipment failures
- Optimize your chemical treatment program to provide the maximum protection for the least cost.

To minimize corrosion and deposits, steam and water chemistry must work hand-in-hand with operation and equipment constraints.

M&M Engineering combines the knowledge of chemists, technical specialists, and metallurgical and mechanical engineers to produce reliable, efficient water chemistry solutions.

Our practical experience combined with our technical expertise provides the engineering know-how to make the chemicals, equipment, and people work together so your facility will operate at peak performance.

Our Steam Cycle Chemistry Services can optimize chemical treatment programs, identify corrosion or deposit problems before they cause forced outages, and train personnel to react efficiently and effectively if chemical problems should arise.

We provide four ways to help you improve your steam chemistry.

Steam Cycle Chemistry Evaluation

Our Steam Cycle Chemical Evaluation is an extensive, objective review of a facility's steam chemistry practices. This comprehensive assessment includes a detailed review of the following areas:

- Water pretreatment equipment
- Chemical operating limits
- Sampling points and sample conditioning
- On-line instrumentation
- Analytical procedures and frequency of testing
- Lay-up and start-up practices
- Chemical feed systems and treatment chemical usage
- Condensate collection and reuse

In each of these areas, we will evaluate current plant procedures against industry "best practices," and find discrepancies that could lead to equipment failures and other problems.

Our concise report will present specific recommendations to improve water and steam chemistry and reduce the risk of chemistry-related maintenance.

Outage Inspections

Outages are particularly important times to examine the long-term effects of chemical treatment. M&M Engineering will inspect the feedwater system, boiler drums, and condensers. Our full-service laboratory will examine metallurgical samples, conduct tube deposit loading analysis, and provide a

detailed analysis of deposits corrosion products found in the system.

Following the inspection, we prepare an outage report that contains inspection results and photographs documenting the condition of key equipment, along with an evaluation of the performance of the chemical treatment. The report will list specific recommendations for improving steam cycle chemistry and reducing corrosion and deposits. This inspection can be combined with other services, including metallurgical surveys of piping and inspections for flow-accelerated corrosion.

Training

We prepare and present professional training materials on steam cycle chemistry for laboratory, operations, and supervisory personnel. Each course is tailored to the needs and equipment of the individual facility. Our training courses receive outstanding reviews because they produce results. When workers understand why chemistry is important and what to do when out-of-limit conditions occur, chemistry-related failures decrease.

Chemical Cleaning Support

Time between chemical cleanings and changes in personnel may leave you concerned about staffing your chemical cleaning with an experienced plant representative around the clock. We have helped many clients in all aspects of the cleaning process; from evaluating the need to clean, to bidding the job, to managing the actual cleaning process. M&M Engineering can assist you in any aspect of the cleaning or turn-key the entire project.

For more information contact:



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