

Service Bulletin

SERVICE MAINTENANCE PROGRAM

Maintenance Needs

The application of adsorption through the use of a granular activated carbon adsorption system is a well-known and proven treatment technique in treating drinking water, wastewater, process liquids and fluids, and groundwater treatments throughout the world. Capital expenditures have been made in the purchase of adsorption systems which have become important, integral parts of Municipal and Industrial operating permits. The reliability and operational status of these adsorption systems is a critical issue which must be addressed through a pro-active maintenance program to maximize system life. At the same time, internal operating budgets are continually under pressure for reductions and economies. These two trends are usually in opposition to each other. New and improved maintenance programs are continuously sought which will insure system reliability at reduced maintenance expenditures.

Maintenance Plan

The Calgon Carbon Maintenance Service Programs can answer the needs above for all adsorption system owners. Through the use of the industry maintenance experts at Calgon Carbon, national purchasing, economics of scale and proven techniques, we can inspect and maintain your adsorption systems ensuring the highest operational status with budgeted, low-cost maintenance fees. Calgon Carbon Corporation has extensive experience over the last 25 years in maintaining our Service Systems throughout the world. We can now apply this experience to all granular carbon adsorption systems whether designed and built by Calgon Carbon or others. Through the use of the Calgon Carbon Preventative Maintenance Programs, you can put these experts to work on your adsorption system for a simple, budgeted monthly fee. System reliability life is maximized while operating costs are minimized. Our preventative maintenance experience has become an industry hallmark over the years.

Additionally, by subscribing to these maintenance services, you also gain access to other Calgon Carbon services:

- ◆ Reactivated or virgin carbon supply
- ◆ Emergency response services and equipment
- ◆ Technical support for adsorption applications
- ◆ Back-up adsorption equipment inventory
- ◆ Spare parts availability
- ◆ Safe reactivation service eliminating liabilities

The Program - How It Works

The Calgon Carbon Preventative Maintenance Program is a two-step process

First, for a single fixed fee, Calgon Carbon will perform a preventative maintenance inspection. This inspection will provide a written report on the operational status and physical condition of your adsorption system. This inspection is performed during a granular carbon exchange so that both an external and internal assessment can be made. In addition to the physical status of the adsorption system, system operating manuals, operator training, and carbon exchange procedures will also be thoroughly reviewed. A final report will document the findings as well as provide written recommendations for changes in equipment and procedures, or in training that will be necessary. The inspection carried out by our industry experts is an effective management tool for assessing system status and for diagnosing problem areas that need specific attention. The inspection will also establish the monthly service fees that will be used in the maintenance program.



Visit our website at www.calgoncarbon.com, or call **1-800-4-CARBON** to learn more about our complete range of products and services, and local contact information.

**Chemviron
Carbon**

The second part of the Preventive Maintenance Program is the on-going equipment maintenance services performed by Calgon Carbon's own industry experts. These fully trained and accredited technicians, through our world-wide experience base, will assure reliable system performance at reduced maintenance costs. This budgeted monthly fee covers labor, parts, repairs or replacements for the critical components in your adsorption system. The guaranteed maintenance would include repair or replacement of the following major components:

- ◆ Annual on-going inspections
- ◆ Lining repairs or replacements
- ◆ Underdrain nozzle replacements
- ◆ Underdrain nozzle piping and supports
- ◆ Valve repairs or replacement
- ◆ Painting
- ◆ Spool piece
- ◆ Rupture disc piping
- ◆ Sight glass
- ◆ Gasket/packing replacements
- ◆ Vessel distributing piping
- ◆ Maintenance reports
- ◆ Spare parts lists

These contracted on-going maintenance services can be done on a monthly fee, a total service basis, or on a time and materials basis.

Through this multi-year contractual year agreement, the maximum subscriber benefits are realized. The value propositions that Calgon Carbon brings are rapidly seen in your enhanced plant operations, maximized system reliability, reduced maintenance costs, and extended system life.

Value Proposition for Customers

- ◆ Extended system life
- ◆ Maximum system reliability
- ◆ Reduction of owner's maintenance costs
- ◆ Guaranteed maintenance
- ◆ Reduction of owner's manpower
- ◆ Budgeted, known maintenance costs
- ◆ Utilization of industry maintenance experts
- ◆ Access to reactivated carbon supply
- ◆ Access to back-up equipment inventory
- ◆ Spare parts availability

Safety Message

Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate sampling and work procedures for potentially low oxygen spaces should be followed, including all applicable federal and state requirements.

Limitations of Liability: The Supplier's liability and the purchaser's exclusive remedy for any cause of action arising out of this transaction, including, but not limited to, breach of warranty, negligence and/or indemnification, is expressly limited to a maximum of the purchase price of spare parts or equipment sold hereunder. All claims of whatsoever nature shall be deemed waived unless made in writing within forty-five (45) days of the occurrence giving rise to the claim. In no event shall the Supplier for any reason or pursuant to any provision of the warranty be liable for incidental or consequential damages, or damages in excess of the purchase price, nor shall the supplier be liable for loss of profits or fines imposed by governmental agencies.



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