



Solutions for Potable Water

Pure Water. Clean Air. Better World.



Granular Activated Carbon & Municipalities

The treatment of municipal drinking water through granular activated carbon (GAC) has been proven to remove a variety of dissolved organic compounds and chemicals, including those which can cause taste and odor concerns. More recently, GAC has been found to effectively remove natural organic matter (NOM), thereby reducing the formation of harmful disinfection byproducts (DBP's). DBPs are compounds formed by the chemical reaction between the disinfectant chemical and the NOM in the water. GAC removes NOM before it can react with disinfectant chemicals such as chlorine and chloramine to form DBPs during the disinfection process. Finally, GAC also removes many contaminants of concern (CEC), such as endocrine disrupting compounds (EDC), pharmaceuticals and personal care products (PPCP), and other emerging contaminants, such as perfluorinated compounds (PFCs), which are being discovered in our drinking water supplies.





Economically & Environmentally Friendly
NSF-Approved
Adheres to AWWA Standard



An Economical Activated Carbon Treatment Plan Tailored for Any Municipality

While the virtues of activated carbon are well known in the water industry (to include the fact that GAC is considered a best available control technology (BACT) by the US Environmental Protection Agency (US-EPA) for the control of regulated DBPs), GAC has a reputation of being too expensive for many municipalities to afford. Enter Calgon Carbon's Potable Water Service Program!

This program allows municipalities to utilize GAC economically and in an environmentally-friendly way. With the Potable Water Service Program, the right amount of GAC required to achieve a treatment plant's effluent quality standard is delivered through Calgon Carbon's extensive transportation network. When the activated carbon becomes saturated with organic impurities and can no longer achieve the desired effluent quality, Calgon Carbon can replace the spent carbon with a new supply of virgin activated carbon. However, for maximum economic and environmental benefit, Calgon Carbon suggests that municipalities convert to the Custom Municipal Reactivation (CMR) program.

Calgon Carbon's CMR program for municipal drinking water treatment plants is specially tailored to meet the unique demands of the drinking water industry. Activated carbon reactivated for use in drinking water treatment facilities must adhere to requirements of the American Water Works Association (AWWA) standard B605, and facilities which reactivated drinking water carbons must be certified by the National Sanitation Federation (NSF). Perhaps the most important requirement of this standard is that a municipality/water provider must receive back their own activated carbon. Calgon Carbon maintains the integrity of each drinking water provider's carbon through a rigorous chain-of-custody process. Our NSF-approved potable reactivation

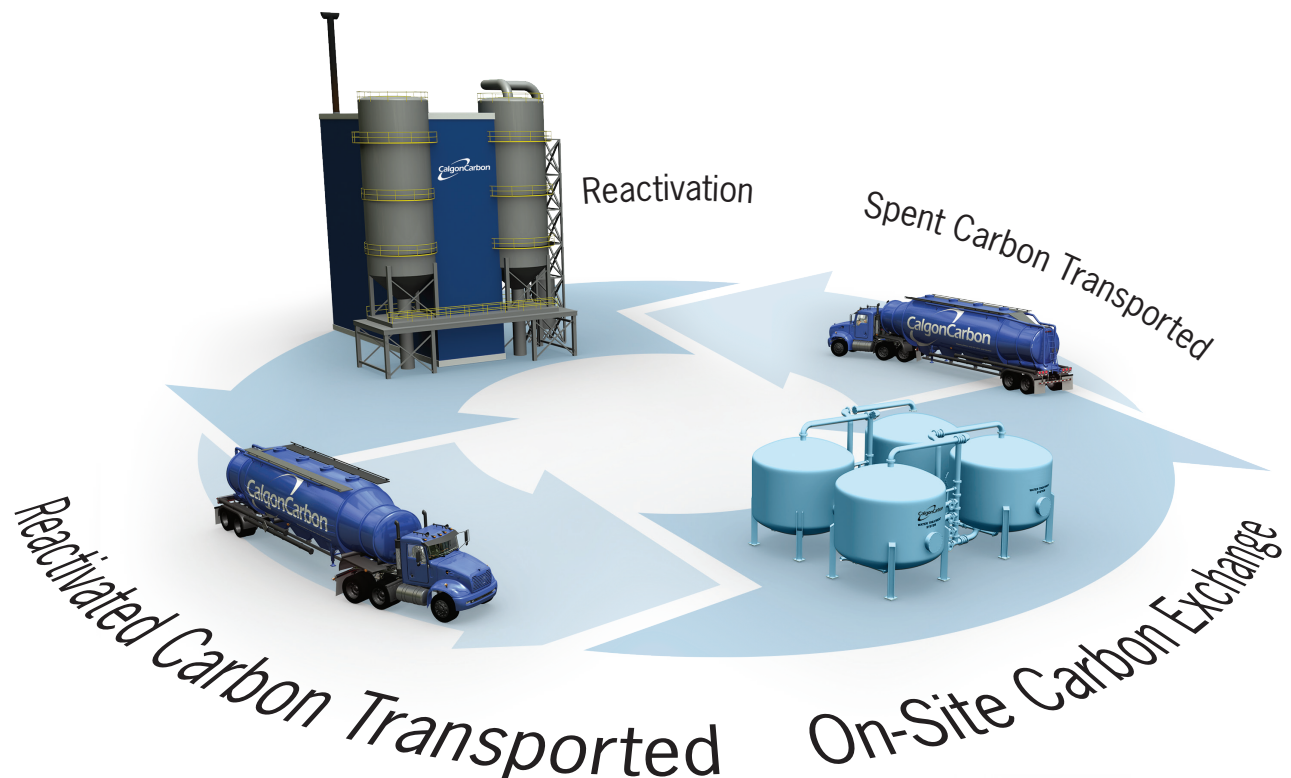
facilities strictly adhere to all procedures required by the AWWA B605 standard. The CMR program can reduce a municipality's activated carbon operating costs by 20% or greater compared to the use of virgin GAC. Further, production of CMR carbon generates 80% lower greenhouse gas emissions compared to the manufacture of new virgin GAC.

The Potable Water Service Program is provided at a reasonable monthly or quarterly fee to fit most municipal operating budgets. What's more, an investment in costly capital upgrades or equipment is unnecessary. Since GAC works in existing treatment filters, few if any modifications to water facilities may be required. If needed, Calgon Carbon also custom-designs and pre-engineers, self-contained adsorption systems. Many of these units offer a minimal footprint and can be used in single or parallel configurations to meet the requirements of the plants treatment objectives. Necessary services, media, and equipment can be included in the fee arrangement over an extended period, eliminating the need for a single, large capital outlay. Because Calgon Carbon returns the spent activated carbon for reactivation, disposal or landfill fees are eliminated. Bottom line, treatment plant facilities achieve all of the benefits of a GAC system with none of the capital expense.

Let Calgon Carbon Do The Work

Here is how the Potable Water Service Program help takes the hassle out of water treatment:

- 1** A Calgon Carbon specialist inspects the plant facilities and reviews existing data to determine a customized Potable Water Service Program to achieve the plant's water quality objectives.
- 2** Based on the size of the plant, the water characteristics, the use of optional services, and other factors, Calgon Carbon's technical sales representative submits a recommendation with a corresponding service fee.
- 3** Once the program is in place, a Calgon Carbon specialist supervises all major steps required for installation, start-up and maintenance of the treatment system.
- 4** Calgon Carbon also supplies the personnel and equipment needed for efficient placement and removal of activated carbon and media during delivery and pickup.
- 5** On a scheduled basis, Calgon Carbon handles the activated carbon removal, replacement, and reactivation. There is no need for the treatment plant operator to be involved. Delivery is ensured when needed.
- 6** If technical assistance is required, a call placed to 1.800.4CARBON will gain results. Calgon Carbon can provide the latest in activated carbon research, with one of the largest technical service team in the industry for implementation.



Customization of the Program

Flexible options delivered by Calgon Carbon's Potable Water Service Program:



Calgon Carbon provides the personnel and equipment necessary to remove and dispose of existing sand and anthracite as well as for cleaning, disinfecting, maintenance, repair and start-up of all filter types.



Analytical services, testing for TOC, VOCs and other determinations are conducted by Calgon Carbon personnel on a pre-arranged schedule. Calgon Carbon laboratories are equipped with the latest instruments and fully-trained staff who follow analytical procedures accepted by the EPA, NSF, AWWA and other regulatory agencies. Additional services are available on a fee basis.



Pilot equipment for testing and evaluation of GAC for removing NOM, taste, and color or other specific organic compounds will be conducted at the plant site and supplied by Calgon Carbon.



Calgon Carbon provides transfer and storage vessels when the need is indicated by the activated carbon use rate.



The removal, replacement, and reactivation of GAC will be maintained by Calgon Carbon on a scheduled basis.



Periodically, Calgon Carbon hosts educational seminars to provide the latest regulatory changes and research findings.

Flexibility: Built into Every Program

The Potable Water Service Program can be used with existing water treatment filters. The cost to consumers is negligible—conversion of conventional filters to GAC can be accomplished for less than a dollar per month per family.

If a new system is desired, Calgon Carbon's custom-designed and pre-engineered, self-contained adsorption systems can be quickly delivered and easily installed at any treatment site. Available to treat low, medium and high water flows, these adsorption treatment units can also offer a minimal footprint for those treatment plants lacking expansion space.

The Potable Water Service Program can be customized to include as much assistance and service as required by the treatment plant operator.

Why Calgon Carbon?

In direct response to municipalities needs, Calgon Carbon has made installing GAC more cost-effective and environmentally-friendly for plants worldwide through the Potable Water Service Program.

The Potable Water Service Program provides effective stand-by protection against sudden, unforeseen contamination:

- easily modified to comply with more stringent water quality legislation
- can restore contaminated raw water sources to acceptable potable quality
- eliminates the need and costs associated with the seasonal use of powdered activated carbon

Find Out More Without Further Commitment

Plant requirements can be discussed with a Calgon Carbon technical representative without commitment. The representative will collect data, note customer effluent requirements and water treatment objectives, and develop a customized Potable Water Service Program proposal. In addition, Calgon Carbon has a world class inside sales support team to act as the "Knowledge Center" for Calgon Carbon. Whether a customer is interested in having a site visit, placing an order, asking a technical question, or even looking for bid fulfillment, any member of the support team is able to step in and assist.

Representatives can be reached by phone at 1.800.4CARBON, or by sending an e-mail to info@calgoncarbon.com.

Go With The World Leader In Granular Activated Carbon Technology

From the initial plant survey, to the installation of granular activated carbon (GAC), to maintenance and technical support, Calgon Carbon has designed the Potable Water Service Program to provide all the benefits of GAC at an affordable monthly fee. Present technology has proven that treatment of water through GAC is a best available treatment technology to remove NOM from water so that it cannot react with disinfectant chemicals and create DBPs. But a large number of water plants – already burdened with ever-rising costs in other areas for maintenance and equipment – are hard pressed to upgrade their filter media. That's why Calgon Carbon pioneered its unique, customized Potable Water Service Program in the late 1970's. Since then, municipalities in the United States and abroad have installed activated carbon through the Potable Water Service Program, achieving all the benefits of activated carbon adsorption with virtually no capital outlay.



Comprehensive Activated Carbon Service at an Affordable Price

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