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Activated Carbon - Major Canadian Importer in 2023

<https://bit.ly/45vkokB>



CASE STUDY - PFAS REMOVAL

Applying selected activated carbon from Japan to achieve PFAS treatment target

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| Source | Process water | Background and Challenges: At the Chatan Water Treatment Plant, granular activated carbon (GAC) was introduced in 1992 to reduce trihalomethanes and has since been used for PFAS mitigation as well. However, despite the low PFAS concentrations in the raw water, an unexpected “reversal phenomenon” occurred, where PFAS concentrations in the treated water were found to be higher than those in the raw water. To address this issue, a leading specialized institution selected and specified an optimized activated carbon tailored to the plant’s treatment conditions. |
| Technology | Selected AC | |
| EBCT | 0.252 min (RSCCT column test) 18 min (full-scale facility) | |
| Configuration | Ozone + Granular Activated Carbon (GAC) | |
| INLET PFAS - 2023 Annual Average | | Testing and Selection Process: To evaluate PFAS removal performance, comparative testing was conducted on eleven (11) types of granular activated carbon (GAC): <ul style="list-style-type: none"> • Period: October 2019 to February 2021 (approximately 17 months) • Testing organization: Independent water treatment consulting firm • Through batch adsorption experiments and adsorption lifespan evaluations • The selected AC demonstrated high adsorption capacity for both high- and low-concentration PFAS influents • Its adsorption characteristics were evaluated as “outstanding” and the product was officially approved for use at the plant. |
| PFHxS | 3 ng/L | |
| PFOS+PFOA | 8 ng/L | |
| PFOS+PFOA+PFHxS | 11 ng/L | |
| OUTLET PFAS - 2023 Annual Average | | |
| PFOS+PFOA Management Target | < 50 ng/L | Implementation: <ul style="list-style-type: none"> • Supply commencement: November 2021 • Installation completion: November 2023, with a full-scale renewal of all 16 adsorption tanks (total capacity: 1,600 m³) |
| PFHxS Actual | < 1 ng/L | |
| PFOS+PFOA Actual | < 1 ng/L | |
| Flowrate | 247,300 m ³ /day | |