

Selenium Removal for Industrial Water Systems

What is SeQuester®?

- A proprietary process that removes selenium from industrial wastewaters to help facilities comply with federal and state discharge regulations
- A targeted physical chemical process that removes both species of selenium, selenite and selenate, from the water
- Offers a significantly less capital-intensive process than alternative bioreactor systems
- Removes selenium without concern about standard upstream process operating parameters (i.e., temperature, ORP, chlorides, flow)
- Can be operated in either batch mode or continuously to meet the needs of the plant

For the electric utility industry, SeQuester® can help with:

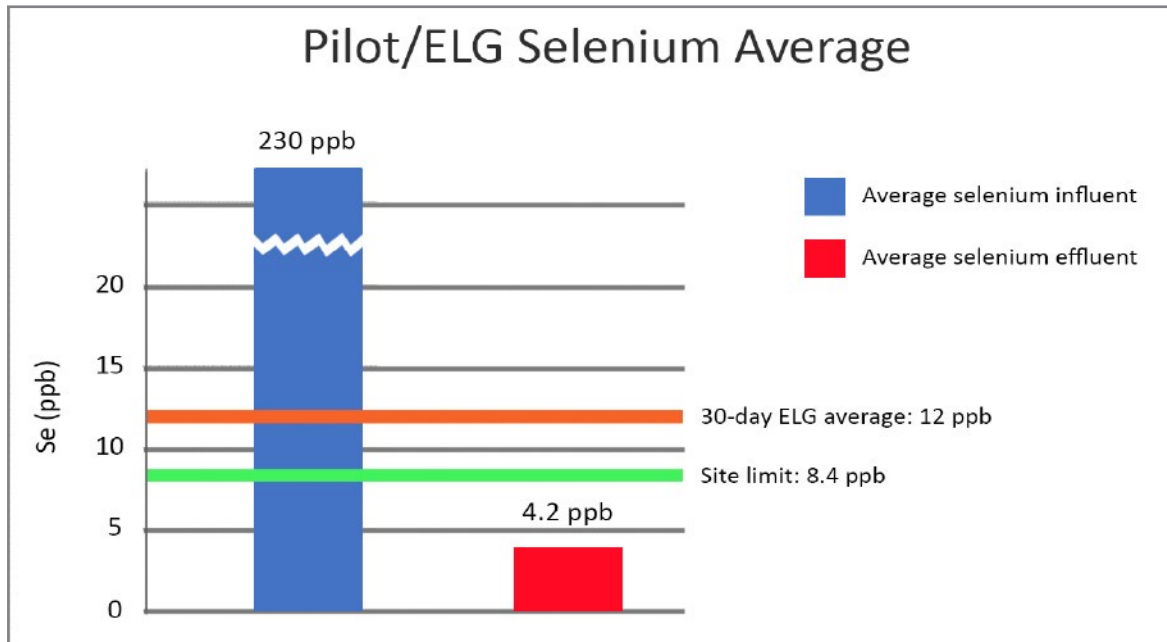
- Reducing selenium concentrations via chemical and physical methods. Reduction below detectable limits is possible.
- Avoiding capital expenditures by transferring costs towards operations and maintenance. This process can allow plants to operate beyond the 2028 shutdown/compliance deadline per effluent limitation guideline (ELG) regulations and may relieve concerns about stranded debt if a plant shutdown is necessary.
- Irregular discharge at cycling plants. The process performs well in batch mode and can handle typical flow and chemistry variations. Basic day shift operation is possible, with no concerns about maintaining the viability of bio-populations that influence other processes.
- Treatment of small leachate streams or other coal combustion residual (CCR) runoffs, which can also be collected and processed in batch mode, making operation much less expensive and more flexible than other methods.



ChemTreat cannot guarantee results.

Running the process on coal pile runoff, leachate ponds, flue gas desulfurization (FGD) wastewater, and ash pond waters has shown the technology's ability to reduce selenium concentrations below detectable levels (<2.0 ppb).

The results at an eastern U.S. utility are outlined in the graph below. The 30-day average total selenium numbers are 4.12 ppb, well under the regulated requirement (12 ppb) and the site limit of 8.4 ppb. The technology allows much flexibility for chemistry and hydraulic residence time adjustments, which in turn enables selenium reduction as low as the site regulations require.



Results are examples only. They are not guaranteed. Actual results may vary.

SeQuester® can effectively remove selenium from refinery, landfill, mining, storm water runoff, and other industrial process and wastewater streams, enabling these facilities to meet discharge regulations.



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