



NCS
FLUID SYSTEMS

EMERGENCY WATER TREATMENT RESPONSE

VANCOUVER, BRITISH COLUMBIA

HEAD OFFICE:

NCS Fluid Handling Systems Inc.
2803 9th Street
Nisku, Alberta, Canada
T9E 0H2

BC OFFICE:

25853 Fraser Highway
Langley, British Columbia, Canada
V2Z 2K5

Bypass Pumping • Dewatering • River Diversion • Water Treatment, ESC & Filtration • Hydrotesting

EMERGENCY WATER TREATMENT RESPONSE

VANCOUVER, BRITISH COLUMBIA



BACKGROUND

NCS was presented with an emergency water management response requirement at Canada's second busiest airport when the client was less than 24 hours away from breaching their on-site water storage capacity while they awaited contaminated analytics.

CHALLENGE

NCS was required to provide 72 hours of water storage to ensure analytics were received and a next step strategy was in place.

The site presented several high-risk security, safety, and environmental challenges that needed to be overcome to ensure the onsite operations did not need to pause.

Before the analytics were even complete, NCS' extensive experience in the area (including airside at the same location) told us that we were in for a complex water

treatment challenge with a variety of heavy metals contaminants.

Once the analytics were received, it confirmed NCS' suspicions that a challenging multi-phase water treatment system would be required, due to the presence of both high and low pH precipitation contaminants.

Specifically, there were 8 different metals exceedances, including Hexavalent Chromium at 700x the allowable limit for discharge, Aluminum at 200x above the allowable limit for discharge, and Iron at 300x the allowable limit for discharge.

STRATEGY

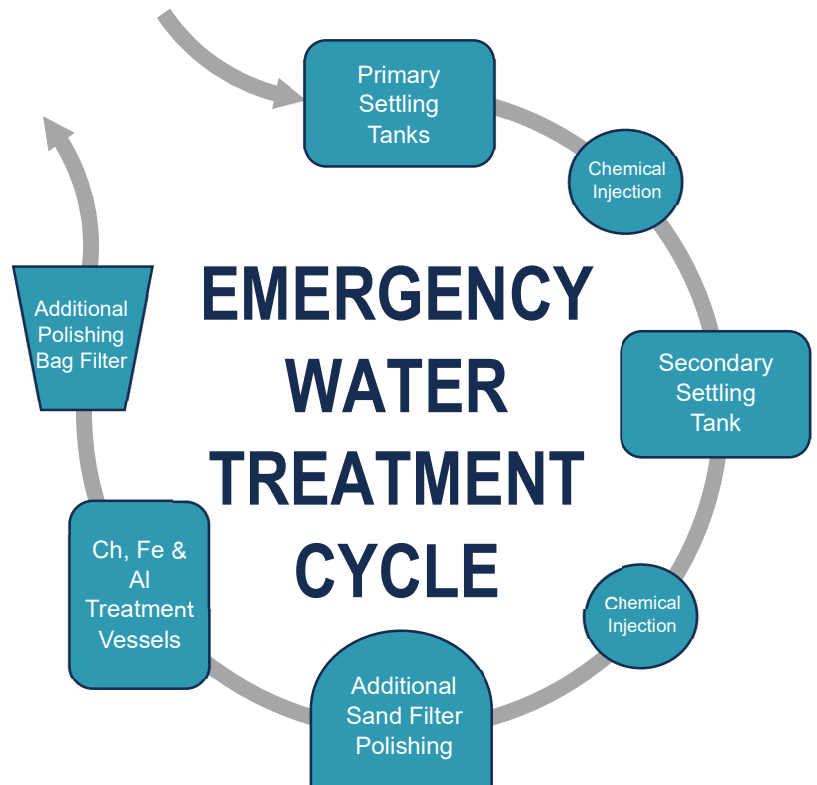
As NCS was able to anticipate upcoming water treatment requirements, we were able to immediately mobilize a water storage system that would become the initial treatment component for a heavy metals removal system.

The initial water storage was on site within 12 hours of the call.

Once analytics were confirmed, NCS mobilized a multistage pH control system to precipitate out the entire range of contaminants.

NCS identified the high incoming pH level of the media, so strategically aligned its system to run the pH + system on the front end to provide dramatic cost savings to the client.

Beyond the pH control provided in the system, NCS supplied specifically targeted organoclays to capture residual contaminants and ensure that the system operated continuously with no exceedance events.



SUCCESSES

- ▶ NCS' emergency response capabilities prevented the client from having to deal with a fluid storage breach situation resulting in a non-compliance event.
- ▶ By utilizing NCS' in house engineering capability, we were able to provide a strategic and consultative approach that provided holistic cost savings to the client.
- ▶ NCS operated the system through multiple high volume rain events over and above the anticipated range, even in the saturated PNW, with 0 exceedance events.

