

# Nuclear Plant Recoups Efficiency with Sludge Dewatering and Filtration



## PROJECT SCOPE

Nuclear power plant required cooling-water bay maintenance, including sludge dewatering and filtration.

## CLIENT

Nuclear Power Plant

## INDUSTRY SEGMENT

Power

## EQUIPMENT

- 4 filter boxes
- 6 21,000 gal. tanks
- 4 6" pumps
- 1 BF400 bag filter
- 1 48-2 sand filter
- 1 PF 400 particulate filter
- 3 sets of flocculation tubes
- 20 Spillguards
- Multiple Spillguard bridges

## BACKGROUND

A nuclear power plant uses electric pumps to bring lake-water into the plant's large bays, then moves it through a series of tunnels shielded by screens. Every year, an average six feet of zebra mussels and lake-sediment sludge builds up on the screens, preventing optimal water flow. The plant required a temporary system of pumps and hose to remove and dewater sludge from the bays and clear the screens. The water would need to be cleaned and filtered to meet the strict specifications that would allow for discharge back into the lake.

## OUTCOME

Over the past three years the power plant has performed their annual maintenance-pumping with a system designed and supplied by Rain for Rent, and operated by plant personnel. The system begins with pumping the sludge-water from the bays through a system of four filter boxes, a series of bag filters and sock tubes with flocculant, and into three tanks allowing for further sediment to drop out. From these three tanks, water is pumped into a 48-2 sand filter, a PF 400, and then an additional set of three clean water tanks. At this point the water is tested; if it meets the required measurement of 10 NTU, it is discharged back into the lake via the storm sewer.

## HIGHLIGHTS

- Rain for Rent meets with the customer regularly to ensure the system achieves current specifications and works at maximum efficiency, and to present solutions for potential issues ahead of time so that the customer avoids costly delays.
- The project was labor intensive due to high-security measures; every piece of equipment had to be individually inspected before being allowed to enter or leave the site.
- Rain for Rent's filtration system cleaned the water to 4 NTU, resulting in water returning cleaner than it was when taken from the lake.

## CUSTOMER FEEDBACK

The customer stated that they are pleased with Rain for Rent's team, equipment, response time, and ability to solve issues. They appreciate Rain for Rent's prior experience with the project which provides valuable understanding of what it takes to get the job done safely within an extremely strict security ordinance.



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