

UCC Temporary Wastewater Treatment System

Proves Successful Utilizing Existing Under-Boiler Submerged Flight Conveyor

Plant Challenge: Plant Can No Longer Discharge Outage Wash Water to Existing Bottom Ash Pond

A Southern US utility that currently discharges wash water to a bottom ash pond scheduled to be closed was faced with redirecting its wash water to a federal waterway. This required the site to select a proven technology to meet stringent effluent water quality requirements at the local, state, and federal levels. The utility needed to find an economical solution for treating the boiler, backpass, and economizer wash water which would be executed through their under-boiler submerged flight conveyor (SFC). NPDES permit requirements needed to be met to reduce high concentrations of Total Suspended Solids, control pH, and precipitate out heavy metals such as iron and copper. The utility reached out to UCC Environmental (UCC) for a solution.

UCC Solution: A UCC Temporary Outage Wash Treatment System

The utility requested UCC design, supply, install and operate an outage wash pilot test for the non-chemical water cleaning of its boiler, backpass, and economizer on one unit. The removal targets set by the plant were the most stringent seen to date. UCC developed a solution to utilize the existing under-boiler SFC in conjunction with temporary equipment that included mobile clarifiers for additional polishing, chemical injection skids, sludge tanks, and geo bags to meet all discharge requirements.

UCC Test Results:

The wash water treatment test pilot was a success. The temporary system was installed for two weeks and operated 24 hours a day, seven days a week. Water samples of untreated and treated water were taken to monitor the removal efficiency of the solids and ensure effluent requirements were achieved. The pilot demonstrated the feasibility of utilizing an underboiler SFC in combination with a temporary clarifier as an economical means to pretreat outage wash wastewater prior to final discharge.

Removal of key regulated constituents, which included TSS, pH, iron, boron and copper was achieved.

Due to a favorable pilot test and the economic advantages of renting UCC's temporary wash water treatment system, the utility plans to lease a UCC mobile wash water system for each unit annually. This installation demonstrates the overall value of UCC's expertise in meeting increasingly complex environmental challenges experienced by customers.

For a century, UCC has engineered technical solutions in solids handling, air pollution control, and wastewater treatment. Our continuous development and testing provide significant advancements in meeting stringent environmental regulations. With thousands of high-performing systems in service, UCC is considered the industry standard for mission-critical solutions worldwide.

UCC MOBILE CLARIFIER FOR WASH WATER



TEMPORARY UCC CHEMICAL SKID AND TOTES

