

Water Balance Study for Fossil Fuel Power Station



The water balance will align the plant for future compliance with the EPA Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category.

Client

Confidential Electric Generation Client

Location

Southeastern, USA

Contract Value

USD 200K

Years

2014—2015

More Information

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Project Overview

AECOM developed an interactive water balance for a fossil fuel power station. The project included data collection, flow characterization, the development of line diagrams, and the development of water balances including estimates for process wastewater, stormwater, and ash basins.

Client Benefits

- AECOM personnel with acute knowledge of the federal and state regulations and regulators in the state enabled efficient regulatory approvals for the project.
- AECOM's extensive experience in all aspects of this power plant's operations and design, as well as extensive experience developing water balances at other power plants belonging to the client streamlined development of the water balance.
- The team designed the water balance model to be easily upgraded to a more complex model, if the client required more precise results in the future.
- AECOM's approach to completing tasks allowed for the client to continue to build upon the work completed.

Work Performed

AECOM developed an interactive water balance for a fossil fuel power station. During initial tasks, AECOM conducted a data gap assessment to collect and review existing site data, and to determine the appropriateness of sampling and analytical methodologies, data quality, and uncertainties. The purpose of this assessment was to ensure that the data collected was of acceptable quality for use in the water balance, and to determine if any changes needed to

be made to sample collection and analysis methodologies in the future. AECOM then visited the station to begin collecting data, tour the facility's ash basins and wastewater systems and evaluate operational processes. Following the data gap analysis and site visits, technical memoranda were submitted for the power station.

AECOM then performed stream validation walk-downs to identify and locate wastewater sources, waypoints, and flow routes at each station. Information was also collected to support flow characterization data collection, including proposed locations for data collection, and accessibility to the collection site. This data was then used to develop detailed line diagrams.

These line diagrams were then used to produce water balances for the power station. AECOM collaborated with the client to identify any streams requiring flow characterization or monitoring. Pump amp data was collected during three weeks of monitoring using flow meters to develop a water balance for intermittent flows. This flow data was integrated into the line drawings. AECOM then delivered a draft water balance, which was reviewed with the client and developed into a final water balance following review.

