



Applications of WSAC Technology to Utility Applications

This is a proposal for the Advanced Cooling Technologies supplemental project. Final project tasks will be selected through prioritization by the project funders.

Issue

Pilot testing of the wet surface air cooler (WSAC) technology by EPRI and DOE has demonstrated the ability to operate efficiently with cycling river water to more than 50 cycles of concentration. The existing pilot can be further utilized to demonstrate other applications of this technology to water conservation in existing and new plants.

Description

EPRI has defined two application-based research projects for the WSAC technology:

1. Testing using plant wastewater to provide inlet air chilling for the gas turbines on natural gas combined-cycle (NGCC) power plants.
2. Testing to reduce flue gas desulfurization (FGD) blowdown volume while providing auxiliary cooling for the plant.



Value

- Potential to reduce wastewater volume and treatment costs
- Additional cooling capability without increased water consumption
- Improved heat rate

Approach

EPRI would identify host sites for a pilot demonstration project. After installation, EPRI would monitor performance and operation/maintenance issues. Test data would be used to extrapolate full-scale cost and performance of the technology.

Project Deliverables

Deliverable Title	Planned Completion Date	Deliverable Type
Application of WSAC to Gas Turbine Inlet Cooling	12/31/2013	Technical Report
Application of WSAC to FGD Blowdown	12/31/2013	Technical Report

How to Apply the Results

Pilot testing of these two applications would provide information to make decisions on applying this technology to new or existing power projects.

Cost Estimate

Each pilot application is anticipated to require 24 months and \$300,000 to complete. Some of the costs may be borne by the host site, the vendor and potential participation by DOE.

For More Information

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 (askepri@epri.com).

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