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Evaluation of Dessicant Systems for Recovery of Water From Plumes

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

Issue

Significant water vapor is generated from the combustion of fossil fuels and this water is exhausted to the atmosphere via the stack. The Energy and Environmental Research Center at the University of North Dakota (EERC) currently is developing a dessicantt-based capture method to remove water vapor from stack gasses to be used as makeup water to the plant. Little is known about the projected cost and efficiency of such a dessicant-based capture system.

Description

EPRI will investigate the comparative costs and advantages of applying a dessicant-based capture system to cooling tower plumes. This project would work with EERC and DOE to pursue conceptual design work and pilot studies to evaluate the benefits of such a system.

Value

Potential to provide new power plants with an independent source of water for a significant portion of the plant water needs.

Approach

EPRI will partner with EERC and DOE to continue development and evaluation of this technology.

Project Deliverables

Deliverable Title	Planned Completion Date	Deliverable Type
Evaluation of Dessicant Systems for Recovery of Water From Plumes	12/31/2011	Technical Report

How to Apply the Results

This project will provide long-range benefits in developing a potential new method to generate water within the plant boundary.

Cost Estimate

From current knowledge of the project, EPRI estimates that three years would be required for pilot demonstration to determine applicability. Costs would depend upon EPRI cost share requirements, with DOE and EERC providing the remainder of the required funding.

For More Information

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

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