



# Potential for New Once-Through Cooling Capacity

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

## Issue

EPA's Phase I regulation for Clean Water Act Section 316(b) compliance on new facilities requires fish protection performance equivalent to that of wet cooling towers. Current technologies could meet these impingement reductions in many locations, but entrainment reductions would pose a greater problem.

## Description

This project would evaluate the site characteristics, cooling systems designs, technologies, and operational requirements that would allow new capacity to be built with once-through cooling.

## Value

- Decreased costs associated with once-through cooling (compared to other options)
- Water conservation (compared to evaporative cooling)
- Efficiency improvements over life of plant
- CO<sub>2</sub> reduction from efficiency gains

## Approach

EPRI will analyze siting characteristics and plant intake/outfall designs that could provide once-through cooling from ecologically benign water sources. These could include locations such as deep oceans/lakes, cooling reservoirs, and large rivers (lower Mississippi). Using known performance capabilities of existing technologies, EPRI then would analyze which types of sites have the potential to meet EPA Phase I (new plants) 316(b) regulations.

## Project Deliverables

Deliverable Title	Planned Completion Date	Deliverable Type
Potential for New Once-Through Cooling Capacity	6/30/2010	Technical Report

## How to Apply the Results

Members would be able to use this EPRI report to guide them in siting new plants that may provide for permitting a once-through cooling system. Such plants would provide significant reductions in cost, increased efficiency and lower carbon emissions over the life of the plant.

## Cost Estimate

This project is estimated to require 18 months and \$140,000 to complete.

## For More Information

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

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