

Water Pollution Control Cooling Water Intake and Discharge Issues

CEAB Environmental Work Session
November 19, 2009

Federal & State Regulatory Framework

- ▶ **Federal Clean Water Act**
 - National Pollutant Discharge Elimination System (NPDES) Program
 - CT authorized to administer the NPDES program under CT Water Pollution Control Act

- ▶ **CT Water Pollution Control Act**
 - CGS Chapter 446k

Cooling Water & Other Discharges

- ▶ Federal Steam Electric Power Generating effluent limitations guidelines and standards (ELGs) apply to electric power generation facilities “primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium.” (40 CFR 423)
- ▶ <http://www.epa.gov/guide/steam/>

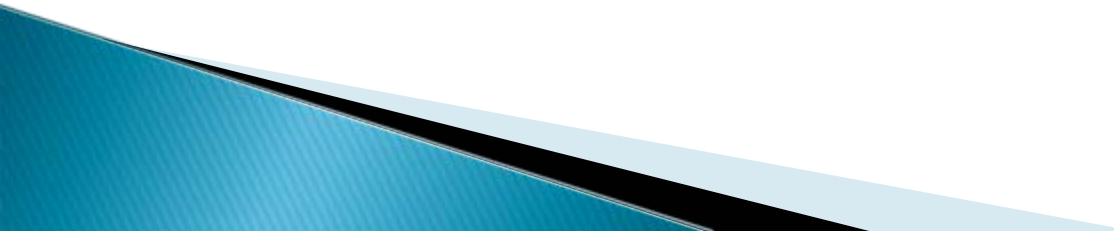
Thermal Discharges

- ▶ Clean Water Act Section 316(a) requires that the thermal component of a discharge be regulated, “...to assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is to be made...”

Cooling Water Intake Structures

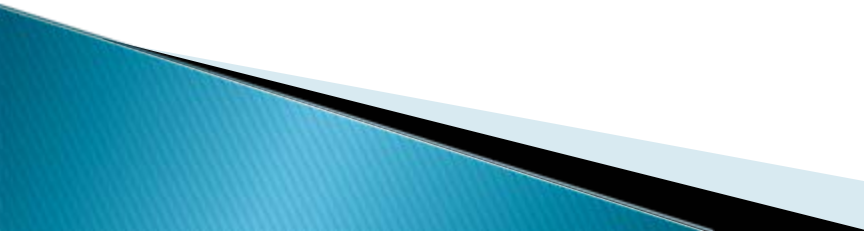
- ▶ Clean Water Act Sec. 316(b) requires that, “Any standard established pursuant to section 301 or section 306 of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.”
- ▶ <http://www.epa.gov/waterscience/316b/>

Environmental Concerns

- ▶ Impingement mortality and entrainment of aquatic organisms from the use of cooling water intake structures.
 - ▶ Impacts from thermal component of cooling water discharge on aquatic organisms and ecosystem.
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CWA 316(a) and 316(b) Issues

Existing facilities using cooling water intake structures:

- ▶ Will be evaluated to determine the best technology available (BTA) to be implemented.
 - ▶ Revised federal rules for existing facilities in flux (cost benefit, calculation baseline, etc.).
 - ▶ In the interim, CT required to make case-by-case BTA determination for each facility using Best Professional Judgment.
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CWA 316(a) and 316(b) Issues

New facilities using cooling water intake structures:

- ▶ depending on size of cooling water intake structure, must meet established minimum federal technological standards and state water quality standards.

CWA 316(a) and 316(b) Issues

- ▶ All facilities are reevaluated every five-years to assure compliance with federal and state requirements.