DEC's Regulation of Power Plants
Via the SPDES Permit Program

Since 1975, the Department of Environmental Conservation has been the EPA-approved agency responsible for issuing State Pollutant Discharge Elimination System (SPDES) permits in lieu of NPDES permits in New York.[1] SPDES permits, as the name implies, regulate the discharge of defined "pollutants" from point sources into waters of the State. Heat, or thermal discharge, is one of those defined pollutants, thus such discharge requires a SPDES permit.

Typically, as in the case of power plants, thermal discharges are associated with the use of water for cooling purposes withdrawn from water bodies through cooling water intake structures. Because of the impacts to aquatic resources caused by this activity - primarily known as impingement and entrainment - CW A §316(b) provides that: "Any standard established pursuant to §301 or §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 (BT A) for minimizing adverse environmental impact."

In December 2001, the EP A issued the first phase of regulations implementing CW A §316(b). The Phase I rule applies to all *new* facilities (those constructed *after* January 17, 2002) including power plants that withdraw more than 2 million gallons of water per day (MOD) and use at least 25% of that water for cooling. *See* 40 C.F.R. §125.80 *et seq.* Phase I rule requirements are to be implemented as conditions in SPDES permits and the rule specifically allows States to "adopt or enforce" any more stringent requirements than those in the rule.

Briefly, a new facility's cooling water intake structure may comply with the Phase I rule to achieve BTA by reducing its intake to a level commensurate with or comparable to closed-cycle cooling (attaining at least a 90% reduction in impingement and entrainment) unless compliance with the rule would result in costs "wholly disproportionate" to the costs EPA considered in establishing the requirement.

In July 2004, the EP A issued the second phase of rules implementing CW A §316(b). The Phase II rule applies *only* to existing large power plants - those that withdraw more than 50MGD for cooling purposes. *See* 40 C.F.R. § 125.90 *et seq.* The Phase II rule allows generators to achieve BTA for cooling water intake structures by selecting among various flexible approaches, including: (1) use of closed-cycle cooling; (2) implementing flow reductions/operational measures; (3) complying with national performance standards [reducing impingement by 80-95% and reducing entrainment by 60-90%]; and (4) installing EPA pre-approved technology [submerged cylindrical wedgewire screens].

Similar to the Phase I rule for new facilities, the Phase II requirements for *existing* facilities are to be implemented as conditions in SPDES permits and the Phase II rule also

[1] The NPDES permit program was established pursuant to the 1972 amendments to the federal Clean Water Act (CW A).

specifically allows States to "adopt or enforce" any more stringent requirements than those in the in the rule. A key difference between the Phase I and Phase II rules is the utilization of a "costs significantly greater than" test in the Phase II rule which is a departure from EP A's previously established "wholly disproportionate" cost test in the Phase I rule and, prior to that, in cases involving BTA determinations made for facilities in the absence of CWA §316(b) rules. *See* e.g., *In re Brunswick Steam Electric Plant*, Region 4, EPA (Nov. 7, 1977) and *Seacoast Anti-Pollution League* v. *Costle*, 597 F.2d 306 (1st Cir. 1979).

New York has its own regulation governing cooling water intake structures that allows DEC to provide greater protection of aquatic resources in SPDES permits beyond the requirements of the Phase I and II rules. New York's BTA regulation, enacted in 1974 as a water quality standard, consists of the following: "The location, design, construction and capacity of cooling water intake structures, in connection with point source thermal discharges, shall reflect the best technology available for minimizing adverse environmental impact." 6 NYCRR §704.5.

The Department's determination of BTA under 6 NYCRR §704.5 has been the subject *of* discussion in two DEC Commissioner Decisions: *Matter of Athens Generating Co., L.P.*, Interim Decision of the Commissioner, *June* 2, 2000 (new facility - dry cooling as BTA); and *Matter of Mirant Bowline, LLC,* Decision of the Commissioner, March 19, 2002 (new facility – closed cycle cooling with wedgewire screens and seasonal Gunderboom as BTA). In each case, the DEC Commissioner outlined the same four-step, case-by-case analysis to determine whether BTA is being utilized by any particular facility:

> (1) whether the facility's cooling water intake structure may result in adverse environmental impact, *i.e.*, impingement/entrainment;
> (2) if so, whether the 'location, design, construction and capacity of the cooling water intake structure reflects best technology available for minimizing adverse environmental impact';
> (3) whether practicable alternate technologies are available to minimize the adverse environmental impact; and
> (4) whether the costs of practicable technologies are wholly disproportionate to the environmental benefits conferred by such measures.

In addition to these two written Commissioner Decisions on BTA determinations, the Department has also set site-specific BTA requirements in SPDES permits for various other new and existing power plants by applying this process and setting stringent standards under 6 NYCRR §704.5 *See* e.g., *Matter of Bethlehem Energy Center* (repowered existing facility - closed cycle cooling with wedgewire screens and seasonal Gunderboom as BTA); *Matter of Reliant Astoria* (repowered existing facility - closed cycle cooling with wedgewire screens and seasonal Gunderboom as BTA); *Matter of NYP* A *Poletti* (repowered existing facility - closed cycle cooling with wedgewire screens as BTA); *Matter of* SCS *Astoria* (new facility - dry cooling as BTA); and *Matter of Besicorp-Empire Develovment Co.* (new facility - closed cycle cooling with wedgewire screens and seasonal Gunderboom as BTA).