UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

28 October 2008

OFFICE OF WATER

Memorandum

Subject: Implementation of Clean Water Act Section 316(a) Thermal Variances in NPDES Permits (Review of Existing Requirements)

From: James A. Hanlon, Director
Office of Wastewater Management

To: Water Division Directors, Regions 1 - 10

The purpose of this memorandum is to provide a framework for reviewing permit application materials that summarizes existing requirements to ensure consistency with section 316(a) of the CWA and its implementing regulations.

Beginning in January 2007, the Water Permits Division began to do Permit Quality Reviews (PQR) of National Pollutant Discharge Elimination System (NPDES) permits in conjunction with the Office of Water's Regional Water Program Review. A large component of the NPDES portion of each Regional review is a PQR assessing whether NPDES permitting authorities are adequately implementing NPDES requirements in their permits and other supporting documents (e.g., fact sheets and effluent limit calculations).Through this review, EPA Headquarters promotes national consistency, identifies successes in implementation of the base NPDES program, and identifies opportunities for improvement in the issuance of NPDES permits.

The PQR includes topic-specific reviews, during which detailed checklists are used to assess particular aspects of NPDES permits. A review of Clean Water Act (CWA) section 316(a) provisions is included in the PQR process, and the preliminary results from five EPA Regions indicate a need to clarify the procedures and criteria for granting and renewing CWA section 316(a) thermal variances.

Background

Section 316(a) of the CWA applies to point sources with thermal discharges. It authorizes the NPDES permitting authority to impose alternative effluent limitations for the control of the thermal component of a discharge in lieu of the effluent limits that would otherwise be required under sections 301 or 306 of the CWA.

Regulations implementing section 316(a) are codified at 40 C.F.R. Part 125, subpart H. These regulations identify the criteria and process for determining whether an alternative effluent limitation (i.e., a thermal variance from the otherwise applicable effluent limit) may be included in a permit and, if so, what that limit should be. This means that before a thermal variance can be granted, 40 C.F.R. §§ 125.72 and 125.73 require the permittee to demonstrate that the otherwise applicable thermal discharge effluent limit is more stringent than necessary to assure the protection and propagation of the waterbody's balanced, indigenous population (BIP) of shellfish, fish and wildlife.

40 C.F.R. § 125.71(c) defines the BIP as:

> "a biotic community typically characterized by diversity, the capacity to sustain itself through cyclic seasonal changes, presence of necessary food chain species and by lack of domination by pollution tolerant species. Such a community may include historically non-native species introduced in connection with a program of wildlife management and species whose presence or abundance results from substantial irreversible environmental modifications. Normally however, such a community will not include species whose presence or abundance is attributable to the introduction of pollutants that will be eliminated by compliance by all sources with section 301(b)(2) of the Act; and may not include species whose presence or abundance is attributable to alternative effluent limitations imposed pursuant to section 316(a)."

In 1977, EPA released draft CWA section 316(a) guidance entitled "*Interagency 316(a) Technical Guidance Manual And Guide For Thermal Effects Sections Of Nuclear Facilities Environmental Impact Statements."* This guidance provides valuable technical information on conducting 316(a) demonstrations, useful to both facilities and permitting authorities.

Expectations for Granting or Renewing a CWA Section 316(a) Thermal Variance

Variance Approval

The burden of proof is on the permittee to demonstrate that it is eligible to receive an alternative thermal effluent limit under section 316(a). This means the permittee must demonstrate to the permitting authority that a thermal effluent limit necessary to meet the requirements of sections 301 or 306 is more stringent than necessary to assure the protection and propagation of a BIP in and on the body of water into which the discharge is made. (See 40 C.F.R. § 125.73(a)).

In support of any proposed alternative thermal limit, the discharger must demonstrate that the alternative limit will assure protection of the BIP, considering the "cumulative impact of its thermal discharge together with all other significant impacts on the species affected." (See 40 C.F.R. § 125.73(a)).

When applying for an alternative thermal limit, an applicant must submit the supporting information and demonstrations identified and described in 40 C.F.R. §§ 125.72 and .73. Among other things, the applicant must identify and describe (1) the requested alternative effluent

limitation, (2) the methodology used to support that limitation, (3) the organisms comprising the BIP along with supporting data and information, and (4) the types of data, studies, experiments and other information the applicant intends to use to demonstrate that the alternative thermal limit assures the protection and propagation of the BIP. 40 C.F.R. § 125.72(a) and (b).

Existing dischargers may base their demonstration on the "absence of prior appreciable harm in lieu of predictive studies." (See 40 C.F.R. §125.73(c)(1)). The demonstration of no appreciable harm must consider the "interaction of such thermal component with other pollutants and the additive effect of other thermal sources to a [BIP]…" (See 40 C.F.R. § 125.73(c)(1)(i)). The regulations at 40 C.F.R. §125.73(c)(2) further state that "in determining whether or not prior appreciable harm has occurred the Director shall consider the length of time in which the applicant has been discharging and the nature of the discharge."

With respect to renewal of a prior section 316(a) thermal variance, it is essential that permitting authorities require applicants to provide as much of the information described in 40 C.F.R. § 125.72(a) and (b) as necessary to demonstrate that the alternative effluent limit assures the protection and propagation of the BIP. 40 C.F.R. § 125.72(c). Such information may include a description of any changes in facility operations, the waterbody, or the BIP since the time the variance was originally granted.

Permit and Fact Sheet Requirements

NPDES permits containing a 316(a) thermal variance must include a fact sheet that complies with the general requirements of 40 C.F.R. § 124.8. Among other things, the fact sheet must explain why the permitting authority believes any section 316(a) thermal variance included in the permit is justified, and it should contain a summary of any 316(a) thermal variance history from previous permits, if applicable (e.g., dates, determinations, limitations, etc.), as well as the basis for continuing the 316(a) thermal variance in the present permit.

A 316(a) thermal variance is an NPDES permit condition. It, therefore, expires along with the permit. A permittee may request a renewal of its 316(a) thermal variance prior to the expiration of the permit. Any discharger holding a 316(a) thermal variance should be prepared to support the continuation of the variance with studies based on the discharger's actual operation experience (See Note following 40 C.F.R. 125.72).

Public Notice

40 C.F.R § 124.57 contains specific public notice requirements for permits requesting a 316(a) thermal variance. In addition to the public notice requirements at 40 C.F.R. § 124.10(d)(1), the public notice for permits requesting a 316(a) thermal variance must contain the following elements:

1. A statement that the thermal component of the discharge is subject to effluent limitations under CWA sections 301 or 306 and a brief description, including a quantitative statement, of the thermal effluent limitations proposed under Section 301 or 306, and

2. A statement that a Section 316(a) request has been filed and that alternative less stringent effluent limitations may be imposed on the thermal component of the discharge under Section 316(a) and a brief description, including a quantitative statement, of the alternative effluent limitations, if any, included in the request.

If you have any questions, please contact me at (202) 564-0748 or have your staff contact Deborah Nagle at (202) 564-1185.

Additional Resources

U.S. EPA. May 1, 1977. *Interagency 316(a) Technical Guidance Manual And Guide For Thermal Effects Sections Of Nuclear Facilities Environmental Impact Statements*. Office of Water Enforcement, Permits Division, Industrial Permits Branch, Washington, D.C. (http://www.epa.gov/npdes/pubs/owm0001.pdf)

In re Dominion Energy Brayton Point, L.L.C., 2007 EPA App. LEXIS 38 (NPDES Permit Appeal No. 03-12)(September 27, 2007).

In re Dominion Energy Brayton Point, L.L.C. (Formerly USGen New England, Inc.) Brayton Point Station, 12 E.A.D. 490, 2006 EPA App. LEXIS 9 (NPDES Permit Appeal No. 03-12)(February 1, 2006).

In re Aurora Energy, L.L.C., 2004 EPA App. LEXIS 30 (NPDES Permit Appeal No. 03-11)(September 14, 2004).

In the Matter of Public Service Company of Indiana, Inc. (Wabash River Generation Station, Cayuga Generating Station), 1 E.A.D 590, 1979 EPA App. LEXIS 4 (NPDES Appeal No. 78-6) (November 29, 1979).

In the Matter of Public Service Company of New Hampshire (Seabrook Station, Units 1 & 2), 1 E.A.D. 455, 1978 EPA App. LEXIS 17 (NPDES Permit Appeal No. 76-7)(August 4, 1978).

In the Matter of Public Service Company of New Hampshire (Seabrook Station, Units 1 & 2), 1 E.A.D. 332, 1977 EPA App. LEXIS 16 (NPDES Permit Appeal 76-7)(June 10, 1977).

Letter dated August 11, 1988, from Charles Kaplan, EPA National Expert for Steam Electric to Region 4 States.

"Guidance on Systematic Planning Using the Data Quality Objective Process", (EPA/QA/G-4), EPA/240/B-06/001, February 2006)
(http://www.epa.gov/quality/qa_docs.html#guidance)

Biological Criteria:Technical Guidance for Streams and Small Rivers, EPA/822/B-96/001
(http://www.epa.gov/bioindicators/html/bioltech.html)