

Ohio Environmental Protection Agency

Fact Sheet For

National Pollutant Discharge Elimination System (NPDES)

General Permit for Discharges of Non-Contact Cooling Water

I. Background

The Federal Water Pollution Control Act [also referred to as the Clean Water Act (CWA)] and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111.04), provide that the discharge of pollutants to waters of the State from any point source is unlawful, unless the discharge is in compliance with a NPDES permit. Uncontaminated non-contact cooling water is used to reduce temperature and the only pollutant that is discharged to the receiving stream is heat. The purpose of issuing NPDES permits to facilities discharging non-contact cooling water is to ensure that waste heat being discharged to the receiving stream does not result in deleterious effects to the aquatic life and does not violate Ohio's Water Quality Standards (WQS).

Ohio EPA has elected to issue a statewide general permit to cover those facilities discharging non-contact cooling water (NCCW) to a receiving stream at a discharge-to-minimum receiving stream flow ($Q_{7,10}$ as explained by the definition in the general permit) ratio not exceeding 1:20. Part VI of this permit provides a definition of non-contact cooling water, which is further explained in this fact sheet of the general NCCW permit.

The conditions under the heading "eligibility" are very important because key factors that determine eligibility - like volume of discharge compared to receiving stream flow, use of biocides, why cooling tower blowdown cannot be covered under this general permit, use of chlorinated cooling water when dechlorination is not feasible, a statement certifying use of uncontaminated cooling water, etc., are addressed here. Also, the general permit imposes effluent limitations and monitoring requirements based on WQS and not on any particular industrial federal effluent guideline.

II. Description of General Permit Coverage and Type of Discharge

Changes from the existing permit -The changes to this permit are: (1) the general permit has been written in SWIMS format (2) revise the discharge date from 10/1/1996 to 7/1/93 (based on antidegradation rule revision effective 7/01/03) for limiting the eligibility to existing sources (i.e., sources that were constructed or discharging prior to July 1, 1993 or those sources that have existing individual or general NPDES permit issued after July 1, 1993). New sources (i.e., sources that started discharging after July 1, 1993 and do not currently have permit coverage) are not covered by this renewed general permit because these dischargers are subject to antidegradation review and will need to apply for coverage under individual permit (3) clarify the difference in the effluent characteristics between cooling water discharge and cooling tower blowdown; explain why cooling tower blowdown is not covered under this general permit (4) mention the availability of completing the NOI application form online (5) include the procedure to terminate the individual permit if someone qualifies for coverage under this general permit and (6) mention the requirement for permission to discharge to any municipal separate storm sewer system (MS4) and not limited to only large or medium (MS4).

The details of these above changes are attached under "FACT SHEET ADDENDUM".

III. Description of Permit Conditions

Notice of Intent - Operators of facilities with the industrial activities described in Section II must obtain a permit to discharge. Each individual facility must submit a Notice of Intent (NOI) to obtain coverage under the general permit. Ohio EPA's regulations (OAC Rule 3745-38-06) exclude persons covered by general permits from requirements to submit an individual application. NOI requirements are intended to establish a mechanism that can be used to establish a clear accounting of the number of permittees covered by the general permit, their identities, locations, mailing addresses, and nature of discharge.

To obtain general permit coverage, a discharger need only complete and submit an NOI form that is available from Ohio EPA, along with the appropriate fee, to the following address:

Ohio Environmental Protection Agency
Office of Fiscal Administration
P.O. Box 1049
Columbus, Ohio 43216-1049

Individuals with an existing discharge who intend to obtain coverage for NCCW discharges under the general permit shall submit an NOI form within 45 days of the effective date of the permit.

Eligibility Determining Factors

- A. Flow - Past experience with NCCW discharges shows that dischargers with flows less than or equal to 5 percent of the minimum receiving stream flow ($Q_{7,10}$, see definition in the general permit) have no significant thermal effect on the aquatic life, and Ohio's surface water temperature standards will be maintained. A correct assessment of the receiving stream flow ($Q_{7,10}$) as well as discharge flow rate, are very important. If the applicant fails to provide the $Q_{7,10}$ value, it will be determined by Ohio EPA.
- B. Types of closely related discharges - Cooling tower blowdown, boiler blowdown, and air compressor condensate are not considered to be part of the NCCW discharge approved by this general permit. The reason for this is that cooling tower blowdown is routinely mixed with biocides to remove solids build-up, boiler blowdown removes dissolved and suspended solids, and air compressor condensates are often contaminated with oil.
- C. Contaminants that may be present in the cooling water (especially in ground water) - As explained in the definition of NCCW in Part VI of the general permit, the permittee must ensure that the cooling water being used is free from metals, ammonia, organics, and total dissolved solids so that WQS are not violated. These pollutants may result in toxicity and oxygen demand in the receiving stream. Inexpensive tests of some indicating parameters will confirm the level of pollution. In Ohio, significant concentrations of iron, zinc, and copper have been noticed in some ground water. Scanning for these metals will help eliminate future toxicity problems.

A simple COD test will show the level of organics amenable to chemical oxidation, as well as to certain inorganics (such as sulfides, sulfites, ferrous iron, chlorides, and nitrites). Although many soluble hydrocarbons are completely oxidized in the COD test, some of the more stable compounds are not measured. An organic carbon determination in a TOC analysis is free from the many variables inherent in COD or BOD analyses. If the cooling water effluent shows a COD value exceeding 50 mg/l and a TOC value exceeding 20 mg/l, it is suggested that entities investigate the level of contaminants further before they certify the use of cooling water. Doing so will help ensure that their discharge will not impact the receiving stream.

Effluent Limitations and Monitoring Requirements - As stated previously, effluent limitations and monitoring requirements are based on WQS and not on any particular industrial federal effluent guideline.

No change in the language under Part 1.C.1.d on page 3 of the permit - The language emphasizes permittees to consider dechlorination if they have to use chlorinated water from an off-site source.

Notice of Termination - Each individual facility covered under the general permit must submit a Notice of Termination form (NOT) to terminate coverage under this permit. Permittees are to request permit coverage termination once the NCCW discharges are eliminated. Failure to submit an NOT form constitutes a violation of the permit according to ORC section 6111.07.

Annual Discharger Fees - The annual fees, specified in paragraph 3745-11(L)(4)(c) of the Ohio Revised Code, are based on the average flow discharged by a facility during the summer, low-stream-flow, portion of the year. Ohio EPA plans to use flows reported on NOI forms to determine fees if reported discharge flows are not available. The latest Ohio EPA fee schedule is mentioned in the following website.

<http://www.epa.state.oh.us/pic/fees.pdf>

FACT SHEET ADDENDUM

Important Changes incorporated in the renewal of the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharge of Non-Contact Cooling Water (NCCW)

Change 1: This General Permit has been written in SWIMS (Surface Water Information Management System) format. Therefore, existing Attachment I, Attachment II, Attachment III, Attachment IV and Attachment V are now referred to as Part II, Part III, Part IV, Part V and Part VI respectively.

Change 2: Change in the language under Part 1.C.1.a. of the permit.

The language defines description of general permit coverage and type of discharges. The discharge date in the language has been revised from 10/1/1996 to 7/1/1993 (based on the antidegradation rule revision effective 7/1/1993) for limiting the eligibility for coverage to existing point sources under this permit. The rest of the language in the paragraph remains unchanged. The complete paragraph reads as follows:

Except for the dischargers identified under paragraph I.C.2., this permit may covers all existing point source non-contact cooling water discharges to waters of the state. Existing point sources under this permit are those sources that were constructed or discharging prior to July 1, 1993, or those sources that have an existing or general NPDES permit for the non-contact cooling water discharge.

Change 3: Change in the language under Part I.C.1.c. and addition of Part I.C.1.d. The existing Part I.C.1.d. is now Part I.C.1.e.

Under Part I.C.1.c. minor revision in the language describing “once-through cooling water” and “recirculated cooling water” made for better understanding the difference in the effluent characteristics between cooling water discharge and cooling tower blowdown. Part I.C.1.d. explains why cooling tower blowdown is not covered under this general permit. The added language under Part 1.C.1.d. reads as follows:

Cooling tower blowdown (resulting from materials build up in the recirculating water) is not covered under this general permit because the blowdown is wastewater, separate from recirculated cooling water, and needs to be treated.

Change 4: Change in the language under Part II. B.of the permit.

The language has been revised to include the information about completing NOI (Notice of Intent) application form available online from Ohio EPA's Division of Surface Water website. The revised language reads as follows:

B. Contents of Notice of Intent. The applicant shall complete and submit an approved NOI form available online and provided by Ohio EPA. The NOI form can be completed and printed from Ohio EPA's Division of Surface Water website. From the website go to "Forms & Publications" and click under " General Permit Applications".

Change 5: Change in the language under Part V. F.3. of the permit.

The language includes the procedure to terminate an individual permit when someone qualifies for coverage under the general non-contact cooling water permit. The included language reads as follows:

If an individual permit holder believes the discharge could be covered by this general permit, the owner or operator must submit an NOI (see Part II C) for coverage under this general permit and request the appropriate Ohio EPA district office to terminate the individual permit either thru revocation or issuance of No Permit Requirement (NPR) as the case may be.

Change 6: Change the language under Part II.D.of the permit. The current permit requires that anyone discharging to a large or medium municipal separate storm sewer system (MS4) must get permission of the MS4 operator before coverage can be granted under this permit. Federal regulations have expanded the number of MS4s that are required to obtain NPDES permits. As a result, this draft permit would require anyone discharging to any MS4 to obtain permission before coverage can be granted. The definition of MS4 in Part VI has also been updated to conform to current federal rules.