National Pollutant Discharge Elimination System

GENERAL PERMIT FACT SHEET for

Once Through Noncontact Cooling Water Discharges

NPDES Permit No. ING250000

November 4, 2015

Indiana Department of Environmental Management

Office of Water Quality
100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603

Existing Permit Information:	Permit Number: ING250000 Expiration Date: Under the NPDES general permit-by-rule, each permitted facility has a unique expiration date based upon five years from when coverage commences.
Source Location:	State-wide
Receiving Stream:	All waters of the state of Indiana, except for Outstanding State Resource Waters, Outstanding National Resource Waters, and salmonid streams.
Proposed Action:	New administrative general permit to replace the existing general permit rule (327 IAC 15-8)
Source Category	NPDES Minor – Industrial
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The Federal Water Pollution Control Act [also referred to as The Clean Water Act (CWA) (33 U.S.C. 1251 et seq.), which was enacted in 1972, provides that the discharge of pollutants to the waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The primary condition determining eligibility for this general permit is ensuring that the discharge consists of only once through noncontact cooling water. Dischargers who meet the eligibility requirements may apply for coverage by this NPDES general permit, instead of applying for an individual NPDES permit.

Development of a Fact Sheet for NPDES general permits is required by 327 IAC 5-3-8 (a) and Title 40 of the Code of Federal Regulations, Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Indiana Department of Environmental Management (IDEM) as outlined in 327 IAC 5-3-8(b) and 40 CFR 122.28.

A. Description of General Permit Category

The purpose of this general permit is to regulate the discharge of once through noncontact cooling water so that the public health, existing uses, and aquatic biota are protected. "Once through noncontact cooling water" is defined as "cooling water that:

(a) is used for the sole purpose of removing unwanted heat from a process;
(b) only makes one (1) pass through a unit that exchanges heat between the process and the cooling water (generally a heat exchanger); and
(c) does not come into contact with any raw material or manufactured product. In the context of this general permit, the term excludes discharges from steam electric power generation facilities defined under 40 CFR 423."

Applicants for this general permit may include any facility with discharges composed entirely of once through noncontact cooling water for which the applicant agrees to be regulated under the terms of this general permit (except as noted herein).

NPDES general permits are developed and issued to cover multiple facilities engaged in the same process category within the State of Indiana. IDEM first developed a general NPDES permit-by-rule (327 IAC 15-8) for discharges of once through noncontact cooling water in 1994. As a result of statutory changes to Indiana law in 2011, IDEM is now changing its method of administering NPDES general permits by changing from a permit-by-rule to an administratively issued "master" general permit (EPA terminology) which will be renewed and reevaluated on a five-year interval. Persons who seek coverage under the general permit will continue to be assigned permit tracking numbers beginning with "ING25", but coverage under the general permit will be limited to the permit term established in the general permit.

Discharges of once through noncontact cooling water are similar and require generally the same effluent limitations and monitoring requirements. As of November 2015, there are approximately 35 facilities regulated under 327 IAC 15-8. The discharge flow volumes range from 0.001 to 2.0 million gallons per day (MGD). Since the permit requirements for all these discharges are similar, requiring the same effluent limitations and monitoring requirements, and because of the number of these dischargers, it is the opinion of IDEM that this category of sources is controlled more appropriately under a NPDES general permit. These discharges are similar in the following ways:

1) They are comprised solely of once through noncontact cooling water discharges;
2) They discharge to receiving waters which have temperature requirements based on 327 IAC 2-1-6(b)(4)(D) or 327 IAC 2-1.5-8(c)(4)(C);
3) They may utilize chlorinated source water for the noncontact cooling activities at the site.

The existing general permit-by-rule specifically references “once through noncontact cooling water”. It was not intended for use by facilities which recirculate and re-use noncontact cooling water, because such wastewaters are more likely to contain significant quantities of pollutants such as water treatment additives. Therefore this general permit is intended to cover only those facilities which discharge once through noncontact cooling water.

B. Geographic area covered

This general permit is intended to cover any discharge of once through noncontact cooling water in the state of Indiana, except as denoted herein.

C. Receiving waters

This general permit will authorize discharges to all surface waters of the State of Indiana, except for direct discharges to Outstanding State Resource Waters (OSRWs), Outstanding National Resource Waters (ONRWs), and salmonid streams. Direct discharges to OSRWs, ONRWs, and salmonid streams are required to obtain an individual NPDES permit to regulate those discharges.

D. Eligibility

Discharges covered under this general permit will be from industrial and commercial facilities with discharges solely comprised of once through noncontact cooling water. The permitted outfall must not contain any industrial process wastewater, storm water runoff, boiler blowdown or air compressor condensates. This general permit contains certain specific exclusions from coverage which are denoted in Section 1.3 of the permit. Dischargers proposing discharges not authorized by this permit will be required to apply for an individual NPDES permit.

The following discharges of once through noncontact cooling water are not authorized by this permit:

a) direct discharges into waters that are designated as an ONRW defined at IC 13-11-2-149.5 or an OSRW defined at IC 13-11-2-149.6 and listed at 327 IAC 2-1.3-3(d);

b) discharges to a receiving stream when the discharge results in an increase in the ambient concentration of a pollutant which contributes to the impairment of the receiving stream for that pollutant as identified on the current 303(d) list of impaired waters;

c) discharges containing water treatment additives (WTAs) which have not received prior written approval from IDEM for the specific additive, use, and dosage at the particular facility for which the Notice of Intent (NOI) is submitted (see Attachment A to this Fact Sheet for a listing of facilities with approved WTAs for NCCW);

d) discharges from a facility that is not in compliance with section 316(b) of the Clean Water Act. Any facility which obtains cooling water from a surface water intake must satisfy the following conditions in order to be eligible for coverage under this general permit:

1) the water body where the cooling water is obtained (source water body) may not include threatened or endangered species in the vicinity of the cooling water intake structure;

2) the design intake flow must be less than 5 percent of the mean annual flow of the source water body;

3) the design intake velocity must be less than 0.5 feet per second; and

4) source water withdrawals from surface waters cannot exceed 2 million gallons per day (MGD) under any circumstances.

5) There shall be no impingement and entrainment of fish when drawing water from a surface water body.

e) discharges to salmonid waters (as defined in 327 IAC 2-1.5-5(a)(3) or to the St. Joseph River (tributary to Lake Michigan) upstream of the Twin Branch Dam;

f) discharges from steam electric power generation facilities, as defined under 40 CFR 423; and

g) new discharges of once through noncontact cooling water where the discharge would be greater than 1/10 of the stream flow of the receiving water body.

E. Application for Coverage

This general permit proposes to provide coverage for any facility with discharges of once through noncontact cooling water which meets the general permit criteria, is not precluded from general permit coverage, and agrees to be regulated under the terms of the general permit.

Each discharger seeking coverage under this general permit must submit a Notice of Intent (NOI) form. Federal regulations found in 40 CFR 122.21(a) exclude persons covered by general permits from requirements to submit an application for an individual permit. 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, the identities, locations, and mailing addresses of those permittees, and the nature of the discharges covered by the permit.

Applicants must obtain written IDEM approval for any wastewater treatment additive (WTA) prior to its use with noncontact cooling water that is to be discharged under this permit. Documentation of this IDEM-approval must be submitted with the Notice of Intent (NOI) when applying for coverage under this general permit. The necessary form and complete instructions are included in State Form 50000. A separate form must be submitted for each water treatment additive that the facility uses or plans to use.

F. Antidegradation Evaluation

Nature of Discharge

Once through noncontact cooling water is used to remove heat from a manufacturing process. The term also may include water that is used in a geothermal heating/cooling system. The primary pollutant of concern that is discharged to the receiving stream is heat. The purpose of the general permit is to ensure that waste heat being discharged to the receiving stream is in compliance with the in-stream temperature criteria contained in 327 IAC 2-1-6 and 327 IAC 2-1.5-8. Additional pollutants may be present in the discharge dependent upon the source of the cooling water. The effluent limits are not based upon Federal Effluent Guidelines or any other treatment technology. The facilities covered by this general NPDES permit have typical daily flow volumes ranging from 0.0001 to 2.0 million gallons per day (MGD).

327 IAC 2-1.3 outlines the state's Antidegradation Standards and Implementation Procedures. The Tier 1 antidegradation standard found in 327 IAC 2-1.3-3(a) applies to all surface waters of the state regardless of their existing water quality. Based on this standard, for all surface waters of the state, existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. IDEM implements the Tier 1 antidegradation standard by requiring NPDES permits to contain effluent limits and best management practices for regulated pollutants that ensure the narrative and numeric water quality criteria applicable to the designated use are achieved in the water and any designated use of the downstream water is maintained and protected.

The Tier 2 antidegradation standard found in 327 IAC 2-1.3-3(b) applies to surface waters of the state where the existing quality for a parameter is better than the water quality criterion for that parameter established in 327 IAC 2-1-6 and 327 IAC 2-1.5. These surface waters are considered high quality for the parameter and this high quality shall be maintained and protected unless the commissioner finds that allowing a significant lowering of water quality is necessary and accommodates important social or economic development in the area in which the waters are located. IDEM implements the Tier 2 antidegradation standard for regulated pollutants with numeric water quality criteria quality adopted in or developed

pursuant to 327 IAC 2-1 and 327 IAC 2-1.5 and utilizes the antidegradation implementation procedures in 327 IAC 2-1.3-5 and 2-1.3-6. Effluent limits for the following regulated pollutants are being included in this NPDES permit to satisfy the Tier 2 antidegradation standard: **heat (temperature) and total residual chlorine.**

According to 327 IAC 2-1.3-1(b), the antidegradation implementation procedures in 327 IAC 2-1.3-5 and 2-1.3-6 apply to a proposed new or increased loading of a regulated pollutant to surface waters of the state from a deliberate activity subject to the Clean Water Act, including a change in process or operation that will result in a significant lowering of water quality.

The temperature requirements shall be applicable to the wastewater at a point prior to discharge to the receiving waters. The previous general permit-by-rule allowed the option of using an instream monitoring point as the point of compliance for the temperature limits. The general permit-by-rule also did not include total residual chlorine limits, nor did it prohibit the use of potable water supply as a source water for the noncontact cooling water. As long as the applicant does not introduce chlorine for treatment of the source water or wastewater, IDEM does not believe that an antidegradation demonstration is necessary for an applicant to be able to use potable water as a source water. The purpose of adding total residual chlorine limits is to acknowledge the potential use of potable water and to ensure that water quality standards are met at the discharge whenever it is used.

The following antidegradation determination is based on 327 IAC 2-1.3. The general permit requirements for discharges of once through noncontact cooling water are based on the best professional judgment of the best available treatment in accordance with 327 IAC 5-5-2 and Indiana water quality standards. The new or increased loading of the regulated pollutant(s) established in the NPDES permit do/does not result in a significant lowering of water quality as defined in 327 IAC 2-1.3-2(50).

<u>Demonstration of a Non-Significant Lowering of Water Quality</u>

In accordance with the antidegradation standards and implementation procedures rule 327 IAC 2-1.3-4(c)(1)(B), a significant lowering of water quality will not occur if the following conditions are met**:**
For heat, the following conditions must be satisfied:
(i) The new or increased discharge will not result in an increase in temperature in a stream or an inland lake, outside of the designated mixing zone, where applicable.
(ii) The new or increased discharge will not result in an increase in waste heat of an amount in a stream greater than the amount determined by calculating the number of British thermal units (BTUs) required to raise the temperature of the stream design flow of the receiving stream by one (1) degree Fahrenheit.

IDEM has determined that a dilution ratio greater than or equal to 10 parts receiving stream (stream design flow) to 1 part effluent design flow will provide sufficient dilution to the discharge such that the new discharge will not cause a significant lowering of water quality for TRC or Heat in the receiving stream.

Therefore, all new discharges of NCCW to a receiving stream that has a dilution ratio greater than or equal to 10 parts receiving stream (stream design flow) to 1 part effluent design flow are eligible to apply for and obtain coverage under this general permit.

All new discharges of NCCW to a receiving stream that has a dilution ratio less than 10 parts receiving stream (stream design flow) to 1 part effluent design flow are NOT eligible to apply for and obtain coverage under this general permit.

No new discharges of NCCW may occur to a lake under this general permit because there are no mixing zones in lakes except for Lake Michigan or where 316a applies.

This general permit requires permit conditions as outlined in Section H of this fact sheet that ensure a new or increased discharge of once through noncontact cooling water will not increase the temperature of the receiving waterbody outside of the designated mixing zone, where applicable, and therefore does not constitute a significant lowering of water quality.

The applicant is required to provide information in the NOI about the source of the once through noncontact cooling water. If the applicant proposes to use chlorinated source water, the NOI must include documentation that this is the only viable cooling water source. This documentation will satisfy the “necessary” test for antidegradation.

G. When to Apply

All dischargers desiring coverage under this general permit must timely submit a complete Notice of Intent. The current NPDES general permit-by-rule (327 IAC 15-8) allows an NOI to be filed at least fifteen (15) days prior to the commencement of the proposed activity. Under the terms and conditions of this general permit, appropriate submission time frames depending upon the situation of the discharger are proposed (See Section 4.0 of the general permit).

H. Permit Conditions

1. Narrative Water Quality Based Limits

The narrative water quality standards contained in 327 IAC 2-1-6(a)(1) (A)-(E) and 327 IAC 2-1.5-8 have been included in this general permit to ensure that the narrative water quality criteria are met.

2 Numeric Permit Limits & Monitoring Requirements

This NPDES general permit for once through noncontact cooling water protects the quality of waters of the state by regulating the quality of water discharged from such industrial activities. According to 40 CFR 122.44 and 327 IAC 5, NPDES permit limits are based on either technology-based limitations, where applicable, best professional judgment (BPJ), or Indiana Water Quality Based Effluent Limitations (WQBELs), whichever is most stringent.

The water quality based effluent limitations in this general permit are based on water quality criteria in 327 IAC 2-1-6 or under the procedures described in 327 IAC 2-1-8.2 through 327 IAC 2-1-8.6 and implementation procedures in 327 IAC 5. Limitations and/or monitoring are required for parameters identified by applications of the reasonable potential to exceed a WQBEL under 327 IAC 5-2-11.1(h)(1) and 327 IAC 5-2-11.5.

Parameters regulated under this general permit include flow, oil and grease, pH, total residual chlorine, total flow, and temperature. These are the baseline effluent limitations and monitoring requirements which are required of all discharges of once through noncontact cooling water.

a. Flow is a standard parameter to be monitored in all NPDES permits. The requirement is to report both the monthly average and daily maximum flows for each month. This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 5-2-13(a)(2).

b. Oil and Grease is a common industrial pollutant and has the potential to be present in once through noncontact cooling water. The requirement is to monitor and report the concentration of this parameter on a twice monthly basis. This monitoring requirement for oil and grease is the same as that which exists in the current general permit-by-rule, 327 IAC 15-8.

c. **pH** is included in the general permit to ensure that the discharge will not violate Indiana water quality standards. The proposed limit of 6.0 to 9.0 standard units (s.u.) is in accordance with the Water Quality Standards (327 IAC 2-1-6 and 327 IAC 2-1.5-8). This restriction is necessary due to the variable water supply sources and the potential for pH adjustment due to the use of approved water treatment additives. The effluent limitations and monitoring requirement for pH is the same as that which exists in the current general permit-by-rule, 327 IAC 15-8.

d. Total Residual Chlorine (TRC) limits are included to account for permittees that utilize a chlorinated potable water supply as the source water for the once through noncontact cooling water. Some facilities utilize water which has been withdrawn directly from a stream or from an unchlorinated well. Others must use a public water supply (PWS) which typically is chlorinated for bacteriological control. Historically such situations have typically resulted in the requirement for these facilities to obtain an individual NPDES permit.

The effluent limitation for TRC shall apply whenever chlorinated intake water is used as the source water for once through noncontact cooling water during any given month.

The effluent limitation for TRC is 0.02 mg/l as a daily maximum. This limit is derived from 327 IAC 2-1-6. (Table 1 - Water Quality Criteria for Specific Substances) and 327 IAC 2-1.5-8 (Table 8-1; Surface Water Quality Criteria for Protection of Aquatic Life) and assumes that the discharge is likely to occur when there is little or no dilution available in the receiving waters. Since this effluent limitation (0.02 mg/l) is less than the LOQ value (0.06 mg/l), the permittee may report "< 0.06" for the daily maximum if the testing result(s) are less than the LOQ value. For any month in which the permittee does not utilize chlorinated intake water, the permittee may report "n/a" for this parameter.

e. Total Flow reporting requirements are included and facilities covered by this general permit must report the total flow value for the month in units of million gallons (mgal). This requirement has been a parameter listed on the Discharge Monitoring Report forms for all NPDES permittees for the past several years, and it is included to assist IDEM in properly assessing the annual permit operating fees set forth under IC 13-18-20.

f. Temperature Requirements are as established in the temperature table below and are based on the various sets of thermal standards contained in the Indiana Water Quality Standards, 327 IAC 2. The first set of temperature requirements are applicable to direct discharges to the Ohio River. The second set of temperature requirements is applicable to all other Indiana streams, with the exception of those which are specifically excluded from general permit coverage as set forth in Section D of this fact sheet and Section 1.3 of the general permit. The Indiana water quality standards contain more stringent temperature requirements for salmonid streams and for Lake Michigan, and such discharges will be regulated by individual NPDES permits.

MAXIMUM TEMPERATURES FOR DISCHARGE (in Degrees Fahrenheit (^{o}F))

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Ohio River main stream 327 IAC 2-1-6(b)(4)(D)	50	50	60	70	80	87	89	89	87	78	70	57
All other Indiana streams (except for OSRWs, ONRWs, St. Joseph River, and salmonid streams)	50	50	60	70	80	90	90	90	90	78	70	57

3. Monitoring and Reporting Requirements

Monitoring requirements for oil and grease, pH and temperature are set at twice monthly. Flow monitoring was previously set at twice monthly, but it is now a daily requirement. Total flow must be calculated once monthly.

The permittee is required to complete and submit federal DMRs and state MMRs to IDEM containing the results obtained during the previous monitoring period by the 28th day of the month following the monitoring period.

The permittee may choose to or may be required to enroll in the NetDMR program for the electronic submittal of the federal DMRs and the state MMR forms in lieu of submitting them via U.S. Mail. Once approved by IDEM, the permittee may use this process for submitting reports in lieu of submitting hard copies of the reports to IDEM.

I. Reporting Spills and Noncompliance

All persons covered by this general permit must monitor for, identify, and report adverse incidents. If a person covered by this general permit observes or is otherwise made aware of an adverse incident that may have resulted from a discharge, the person must notify IDEM by telephone at **(888) 233-7745:**

- immediately for incidents which pose a significant danger to human health or the environment,
- as soon as possible but within two (2) hours of discovery for any adverse incidents resulting in death or acute injury or illness to animals or humans (see 327 IAC 2-6.1), and
- within 24 hours of the person becoming aware of the adverse incident for any other adverse incidents not listed above.

The permittee shall also submit a written report to IDEM within 5 days of the permittee becoming aware of the incident and may be submitted by U.S. Mail, by fax, or by email (such reports must be sent to: wwreports@idem.IN.gov).

Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

J. Fees

In accordance with IC 13-18-20-12, any application for a new permit, renewal of a permit, modification of a permit, or variance from a permit requirement must be accompanied by an application fee, which is currently $50.00. This fee is also applicable to Notice of Intent letters for general permits. Once approved for coverage under a general permit, the permittee is also subject to annual operating fees. These annual fees are variable and are set by statute in IC 13-18-20.

K. Reopening Clause

This general permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing to include any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, when the effluent limitation or standard so issued or approved:

a) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
b) controls any pollutant not limited in the permit.

L. Permit Term

This general permit is to be in effect for a five-year term.

M. Forms, References, and Guidance Documents

The IDEM website will contain information about each of the NPDES general permits, including the issued permit(s), Notice of Intent (NOI) forms, Notice of Termination (NOT) forms, Application for Approval to Use Water Treatment Additives form, and helpful reference documents to assist the regulated community and the general public. This web page is still in development as of the date of this fact sheet.

Attachment A:

ING250000
Non-Contact Cooling Water General Permit
Currently Approved Water Treatment Additives (11/5/2015)

Permitted Facility ID Number	Approved Water Treatment Additive(s)
None currently	