



**INDUSTRIAL STREAMLINED
MERCURY VARIANCE (SMV) APPLICATION**
State Form 52111 (5-05)
Approved by State Board of Accounts, 2005
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
NPDES Permits Branch
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

PART ONE: General Information

Name of Facility		
Facility Address		
City or Town		
State	ZIP Code	County
National Pollutant Discharge Elimination System (NPDES) Permit No.:		
Name of Person in Responsible Charge		
Title		
Address		
City or Town		
State	ZIP Code	
Name of Primary Contact Person		
Address		
City or Town		
State	ZIP code	Telephone No.
E-mail Address (if available)		
NPDES Outfall(s) Affected by Streamlined Mercury Variance Request:		
Receiving Stream(s) Affected by Streamlined Mercury Variance Request:		
Average Daily Flow:		
Provide a brief description of all operations contributing to the permitted discharge(s):		

SIGNATURE BLOCK

This application must be signed by a person in responsible charge (see 327 IAC 5-2-22) to be valid. This signature attests to the following:
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name	Title
Signature	Date Signed (<i>month, day, year</i>)

Return the completed SMV application package (Parts I - V) and \$50 application fee (see IC 13-18-20-12(a)(4)) to mailing address listed above.

PART TWO – POLLUTANT MINIMIZATION PROGRAM PLAN (PMPP) INVENTORY/IDENTIFICATION

A. Provide a preliminary inventory of potential uses and sources of mercury in all buildings and departments, as well as a preliminary identification of known mercury-bearing equipment, wastestreams, and mercury storage sites. The following checklist* includes many of the chemicals, equipment, locations, etc. where mercury may be present at your site. For the purpose of satisfying the requirements of this section, you may submit the completed checklist as a preliminary inventory/identification. While the checklist is intended to facilitate the inventory/identification process, it should not be considered as all-inclusive for purposes of establishing a complete inventory. (see 327 IAC 5-3.5-9(a)(1) and 327 IAC 5-3.5-9(a)(2))

LABORATORY EQUIPMENT

<input type="checkbox"/> Manometers	<input type="checkbox"/> Ion exchange cartridges for lab water purification system
<input type="checkbox"/> Barometers	<input type="checkbox"/> Hanging mercury drop electrodes for polarographic analyzers
<input type="checkbox"/> Thermometers	<input type="checkbox"/> Mercury Hallow Cathode lamp for AA analysis

LABORATORY CHEMICALS

<input type="checkbox"/> COD analysis reagent (<i>mercuric sulfate</i>)	<input type="checkbox"/> Mercury or mercurous chloride
<input type="checkbox"/> TKN and TP analysis digestion reagents	<input type="checkbox"/> Mercury iodide
<input type="checkbox"/> Nessler reagent	<input type="checkbox"/> Mercury nitrate
<input type="checkbox"/> Mercury analytical standards	<input type="checkbox"/> Mercury (II) oxide
<input type="checkbox"/> Gas chromatograph sample interferences (<i>elemental mercury</i>)	<input type="checkbox"/> Mercury (II) sulfate
<input type="checkbox"/> Sodium hypochlorite (<i>Clorox</i>)	<input type="checkbox"/> Merthiolate

BULK CHEMICALS

<input type="checkbox"/> Phosphorus removal chemicals	<input type="checkbox"/> Chlorine
<input type="checkbox"/> Dechlorination chemicals	<input type="checkbox"/> Sodium hypochlorite
<input type="checkbox"/> Sludge thickening polymers	<input type="checkbox"/> Sulfuric acid
<input type="checkbox"/> Potassium hydroxide	<input type="checkbox"/> Nitric acid
<input type="checkbox"/> Sodium hydroxide	<input type="checkbox"/> Ferric or ferrous chloride
<input type="checkbox"/> Sodium chloride	<input type="checkbox"/> Pickling liquor (<i>for phosphorus removal</i>)

PROCESS CONTROL AND MEASURING EQUIPMENT

<input type="checkbox"/> Accustats	<input type="checkbox"/> Ring balances
<input type="checkbox"/> Barometers	<input type="checkbox"/> Shunt trips
<input type="checkbox"/> Counterweights	<input type="checkbox"/> Steam flow meters
<input type="checkbox"/> Elemental mercury for refilling mercury-containing equipment	<input type="checkbox"/> Stokes gauges
	Switches and relays:
<input type="checkbox"/> Flow meters	<input type="checkbox"/> Displacement plunger relays
<input type="checkbox"/> Gas regulators and meters	<input type="checkbox"/> Mercoid control switches
<input type="checkbox"/> Gyroscopes	<input type="checkbox"/> Pressure control switches (<i>mounted on bourdon tube or diaphragm</i>)
<input type="checkbox"/> Hydrometers with thermometers	<input type="checkbox"/> Relay switches
<input type="checkbox"/> Level and rotation sensors	<input type="checkbox"/> Mercury wetted relays
<input type="checkbox"/> Manometers, pressure gauges and vacuum gauges	<input type="checkbox"/> Mercury displacement relays (<i>found in motors</i>)
<input type="checkbox"/> Mercury-sealed pistons	<input type="checkbox"/> Sump pump, bilge pump and other float controls
<input type="checkbox"/> Perimeters	<input type="checkbox"/> Tilt switches
<input type="checkbox"/> Pressure-trols	<input type="checkbox"/> Thermometers (<i>including industrial dial face thermostats with capillary tubes</i>)
<input type="checkbox"/> Pyrometers	<input type="checkbox"/> Thermostats and thermoregulators
<input type="checkbox"/> Rectifiers	<input type="checkbox"/> Transmitters

BUILDINGS

<input type="checkbox"/> DC watt-hour meters	Hydronic and warm air controls with tilt switches such as:
<input type="checkbox"/> Flame sensors (<i>found in the pilot light and burner assembly on gas-fired furnaces, boilers, unit heaters and space heaters</i>)	<input type="checkbox"/> Aquastats
	<input type="checkbox"/> Pressurestats
	<input type="checkbox"/> Firestats
	<input type="checkbox"/> Fan limit controls
	<input type="checkbox"/> Pressure/flow controls on air handling units.

* This checklist was borrowed from the Delta Institute

PART TWO (CONTINUED)

BUILDINGS (continued)

Switches and relays:

<input type="checkbox"/> Fire alarm box switches	<input type="checkbox"/> Mercury displacement relays (<i>found in lighting, resistance heating and motors</i>)
<input type="checkbox"/> Silent light switches	
<input type="checkbox"/> Relay switches	<input type="checkbox"/> Sump pump, bilge pump, flow monitor, float switches, and other float controls
<input type="checkbox"/> Mercury wetted relays	
<input type="checkbox"/> Tilt switches	

Phosphorus removal chemicals:

<input type="checkbox"/> Ferric or ferrous chloride
<input type="checkbox"/> Pickling liquor
<input type="checkbox"/> Thermostats

BEARINGS AND SEALS

<input type="checkbox"/> Trickling filter Pivot Arm Bearings (<i>mercury bearings/water seals</i>)

LAMPS

<input type="checkbox"/> Fluorescent	<input type="checkbox"/> Mercury vapor lamps
<input type="checkbox"/> High-pressure sodium	<input type="checkbox"/> Metal halide
<input type="checkbox"/> Mercury arc	<input type="checkbox"/> Ultraviolet disinfection

BATTERIES

<input type="checkbox"/> Mercury-zinc (<i>button</i>) batteries	<input type="checkbox"/> Mercury alkaline batteries
<input type="checkbox"/> Mercury-cadmium batteries	<input type="checkbox"/> Mercury oxide batteries

PAINT

<input type="checkbox"/> Old latex-paint (pre-1990)	<input type="checkbox"/> Marine paint
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FIRST AID/MEDICAL

<input type="checkbox"/> Mercurochrome	<input type="checkbox"/> Thermometers
<input type="checkbox"/> Sphygmomanometers	<input type="checkbox"/> Thimerosal (<i>contained in eye wash</i>)

OTHER

<input type="checkbox"/> Old pesticides, fungicides and herbicides	<input type="checkbox"/> Fleet vehicles may contain ABS, convenience and trunk lighting switches and HID headlamps
<input type="checkbox"/> Tree root growth control products	
<input type="checkbox"/> Computer monitors	

COLLECTION SYSTEM

<input type="checkbox"/> Lift station equipment	<input type="checkbox"/> Sewer lines with accumulated mercury
<input type="checkbox"/> Traps with accumulated mercury	<input type="checkbox"/> Other mercury containing equipment
<input type="checkbox"/> Sumps with accumulated mercury	<input type="checkbox"/> Mercury-containing chemicals used and/or stored on-site

MERCURY STORAGE SITES

<input type="checkbox"/> Elemental mercury	<input type="checkbox"/> Mercury-containing items collected for disposal
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B. Provide a plan and schedule for providing a complete inventory initiated under Section A. above. (*see 327 IAC 5-3.5-9(a)(1)*) The schedule required under this part should be expressed in terms of months from the date of NPDES permit issuance, renewal, or modification that incorporates the approved SMV. It is recommended that the schedule required under this part be developed in conjunction with the other schedules for action required by the SMV application.

A complete inventory should include an estimate of quantities (*i.e., volume of chemicals used annually, or numbers of mercury containing equipment*) for each item identified in Part II.A. Additionally, a complete inventory should include documentation from chemical suppliers and equipment suppliers of the mercury content in your most commonly purchased items. Mercury may not be present in a concentration great enough to appear on an MSDS, yet still contribute to the overall level of mercury in the influent.

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PART THREE - POLLUTANT MINIMIZATION PROGRAM PLAN (PMPP) PLANNED ACTIVITIES

- A. Provide a list of planned activities to be conducted to eliminate or minimize the release of mercury to waters of the state. The list of planned activities may consider technical and economic feasibility and must include, at a minimum: *(see 327 IAC 5-3.5-9(a)(3))*
1. A review of purchasing policies and procedures.
 2. Necessary training and awareness for facility staff.
 3. Evaluation of alternatives to the use of any mercury-containing equipment or materials.
 4. Other specific activities designed to reduce or eliminate mercury loadings.
 5. An identification of the facility's responsibilities under P.L.225-2001 *(also known as House Enrolled Act 1901 of the 2001 legislative session)*. P.L.225-2001 outlines the restrictions on the sale or supply of mercury-added novelties, mercury-added products, and mercury commodities, and on the use or purchase of mercury commodities, compounds, or mercury-added instructional equipment and materials by public and non-public schools. In order to satisfy the requirement of this part, include a written statement that attests to the fact that an identification of the responsibilities under P.L.225-2001 has been undertaken.
- B. For each planned activity identified under section A. above, include the following: *(see 327 IAC 5-3.5-9(a)(4))*
1. The goal to be accomplished.
 2. A measure of performance.
 3. A schedule for action. The schedule required under this part should be expressed in terms of months from the date of NPDES permit issuance, renewal, or modification that incorporates the approved SMV. It is recommended that the schedule required under this part be developed in conjunction with the other schedules for action required by the SMV application.
- C. Provide an identification of the resources and staff necessary to implement the Pollutant Minimization Program Plan (PMPP). *(see 327 IAC 5-3.5-9(a)(6))* The identification should indicate the source and amount of funding available to implement the PMPP, as well as the number and position of employees that will be devoted to PMPP implementation.

PART FOUR – MERCURY MONITORING DATA

Provide all available influent and effluent mercury data for the two-year period preceding submittal of this application. Additionally, provide any information on mercury in biosolids for the two-year period preceding submittal of this application, if available. The data may be supplied on a separate form, but must include results for each individual sample *(including unit of measurement and U.S. EPA method)*, the date the sample was taken, and the analytical laboratory where the analysis was performed. *(see 327 IAC 5-3.5-9(a)(5))*

Influent

Date <i>(month, day, year)</i>	Result	ng/l	U.S. EPA Method	Analytical Laboratory

PART FOUR (CONTINUED)**Effluent**

Date (month, day, year)	Result	ng/l	U.S. EPA Method	Analytical Laboratory

Biosolids

Date (month, day, year)	Result	Unit	U.S. EPA Method	Analytical Laboratory

PART FIVE – POLLUTANT MINIMIZATION PROGRAM PLAN (PMPP) ADDITIONAL REQUIREMENTS

- A. Proof of Public Notice Activities:** Provide proof of the public notice activities identified below: (see 327 IAC 5-3.5-9(c))
For the notice of availability required under Section A.1. provide a copy of the notice as it appears in the newspaper. For the posting requirements under Section A.2. attest to that fact that the information was posted as required in a written statement.
1. Publish notice of the availability of the draft pollutant minimization program plan (PMPP) in a daily or weekly newspaper of general circulation throughout the area affected by the discharge.
 2. Post a copy of the information required by this section at the following:
 - a. Principal office of the municipality or political subdivision affected by the facility or discharge.
 - b. The United States post office.
 - c. If one is available, the library serving those premises.
 3. All notices published under this section shall contain the following information: (see 327 IAC 5-3.5-9(d))
 - a. The name and address of the applicant that prepared the PMPP.
 - b. A general description of the elements of the PMPP.
 - c. A brief description of the activities or operations that result in the discharge for which an SMV is being requested.
 - d. A brief description of the purpose of this notice and the comment procedures.
 - e. The name of a contact person, a mailing address, an Internet address, if available, and a telephone number where interested persons may obtain additional information and a copy of the PMPP.
 4. The applicant shall do the following: (see 327 IAC 5-3.5-9(e))
 - a. Provide a minimum comment period of thirty (30) days.
 - b. Include a copy of the comments received and the applicant's responses to those comments in the SMV application submitted to the department.
- B. Annual Reports:** Provide a schedule for the submission of the annual reports required under 327 IAC 5-3.5-9(a)(8).
Generally, the annual reports should be submitted each year on the anniversary of the effective date of the NPDES permit that incorporates the approved SMV. A proposed schedule with an alternative submittal date is subject to IDEM's approval. The annual reports shall include a description of the facility's progress toward fulfilling each PMPP requirement, mercury monitoring results, and steps taken to implement each planned activity developed under the PMPP.