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DIVISION OF WATER
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FACT SHEET

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE TREATED WASTEWATER INTO WATERS OF THE COMMONWEALTH

KPDES No.: KY0079545 **Permit Writer:** Sara Beard **Date:** October 15, 2009
AI No.: 4109

1. **SYNOPSIS OF APPLICATION**

a. Name and Address of Applicant

General Motors Company
300 Renaissance Center
Detroit, Michigan 48265

b. Facility Location

General Motors LLC – Bowling Green Facility
600 Corvette Drive
Bowling Green, Warren County, Kentucky

c. Description of Applicant's Operation

The Bowling Green Facility produces motor vehicles and car bodies (SIC Code 3711).

d. Production Capacity of Facility

N/A

e. Description of Existing Pollution Abatement Facilities

Outfalls 001, 002, and 003 - Sedimentation is provided to the storm water runoff from parking areas and roofed structures prior to discharge.

Outfall 004 – Sedimentation is provided to the storm water runoff from the process fluids storage areas prior to discharge.

f. Permitting Action

This is a reissuance of a minor KPDES permit for an existing source discharger.

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2. **RECEIVING WATER**

a. Name/Mile Point

Outfalls 001, 002, 003, and 004 discharge to various sinkholes on the property located at the following latitudes/longitudes: 37°00′30″/-86°21′40″, 37°00′25″/-86°22′02″, 37°00′45″/-86°21′45″, and 37°00′50″/-86°21′58″, respectively.

b. Stream Segment Use Classification

Pursuant to 401 KAR 10:026, Section 5, the sink holes carry the following classifications: Warm Water Aquatic Habitat, Primary Contact Recreation, Secondary Contact Recreation, and Domestic Water Supply.

c. Stream Segment Categorization

Pursuant to 401 KAR 10:030, Section 1 the sink holes are categorized as High Quality Waters.

d. Stream Low Flow Condition

The 7-day, 10-year low flow and harmonic mean conditions do not apply to the sink holes.

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3. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge – Outfall 001 – Roof drainage and parking area storm water runoff.

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	0.33	0.45	Report	Report	401 KAR 5:065, Section 2(8)
Oil & Grease (mg/l)	2.86	4.54	10	15	401 KAR 5:080, Section 1(2)(c)2
Total Suspended Solids (mg/l)	20.3	27.9	30	60	401 KAR 5:080, Section 1(2)(c)2
Hardness (mg/l as $CaCO_3$)	36.1	44.9	Report	Report	401 KAR 5:065, Section 2(8)
Total Recoverable Copper (mg/l)	0.023	0.026	0.0093	0.0140	401 KAR 10:031, Section 4(1)
Total Recoverable Lead (mg/l)	0.016	0.018	0.0032	N/A	401 KAR 10:031, Section 4(1)
Total Recoverable Zinc (mg/l)	0.093	0.119	Report	0.120	401 KAR 10:031, Section 4(1)
pH (standard units)	6.4	9.8	6.0	9.0	401 KAR 10:031, Section 4

The data contained under the reported discharge columns are from the analysis of the DMR data that has been reported during the term of the current permit.

The abbreviation N/A means Not Applicable.

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4. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 001 – Roof drainage and parking area storm water runoff.

b. Effluent Characteristics

Flow, Oil & Grease, Total Suspended Solids, Hardness, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Zinc, and pH

c. Pertinent Factors

On September 8, 2004 Kentucky's revised water quality standards, 401 KAR 10:031 became effective.

A summarization of the water quality standards can be found in Fact Sheet Attachment A – Steady State Toxics Wasteload Allocation Model (SSTWAM2004).

d. Monitoring Requirements

Flow shall be monitored instantaneously once per discharge, but no more frequently than once per month.

Oil & Grease, Total Suspended Solids, Hardness, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Zinc, and pH shall be monitored once per discharge, but no more frequently than once per month, by grab sample.

e. Justification of Conditions

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Flow and Hardness
The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Total Suspended Solids and Oil & Grease
The limits for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Conventional Pollutant Control Technology" (BCT).

Total Recoverable Copper, Total Recoverable Lead, and Total Recoverable Zinc

The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4(1). A review of the DMR data for the previous permit period indicated that reasonable potential exists for these parameters to be limited or monitored in the permit.

pH
The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4.

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5. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge – Outfall 002 – Roof drainage and parking area storm water runoff.

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	0.14	0.22	Report	Report	401 KAR 5:065, Section 2(8)
Oil & Grease (mg/l)	2.33	2.98	10	15	401 KAR 5:080, Section 1(2)(c)2
Total Suspended Solids (mg/l)	4.82	6.64	30	60	401 KAR 5:080, Section 1(2)(c)2
Hardness (mg/l as $CaCO_3$)	29.9	33.8	Report	Report	401 KAR 5:065, Section 2(8)
Total Recoverable Copper (mg/l)	0.019	0.021	0.0093	0.0140	401 KAR 10:031, Section 4(1)
Total Recoverable Lead (mg/l)	0.015	0.016	0.0032	Report	401 KAR 10:031, Section 4(1)
Total Recoverable Zinc (mg/l)	0.058	0.073	Removing from permit		401 KAR 5:080, Section 1(2)(c)2 401 KAR 10:031, Section 4(1)
pH (standard units)	5.8	10.1	6.0	9.0	401 KAR 10:031, Section 4

The data contained under the reported discharge columns are from the analysis of the DMR data that has been reported during the term of the current permit.

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6. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 002 – Roof drainage and parking area storm water runoff.

b. Effluent Characteristics

Flow, Oil & Grease, Total Suspended Solids, Hardness, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Zinc, and pH

c. Pertinent Factors

On September 8, 2004 Kentucky's revised water quality standards, 401 KAR 10:031 became effective.

A summarization of the water quality standards can be found in Fact Sheet Attachment A – Steady State Toxics Wasteload Allocation Model (SSTWAM2004).

d. Monitoring Requirements

Flow shall be monitored instantaneously once per discharge, but no more frequently than once per month.

Oil & Grease, Total Suspended Solids, Hardness, Total Recoverable Copper, Total Recoverable Lead, and pH shall be monitored once per discharge, but no more frequently than once per month, by grab sample.

e. Justification of Conditions

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Flow and Hardness
The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Total Suspended Solids and Oil & Grease
The limits for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Conventional Pollutant Control Technology" (BCT).

Total Recoverable Copper and Total Recoverable Lead
The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4(1). A review of the DMR data for the previous permit period indicated that reasonable potential exists for these parameters to be limited or monitored in the permit.

Total Recoverable Zinc
The removal of this parameter is consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. A review of the DMR data for the previous permit indicated that reasonable potential did not exist for these parameters to be limited or monitored in the permit. Therefore, it is the "Best Professional Judgment" (BPJ) of the Division of Water that these parameters be removed from the permit.

pH
The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4.

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7. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge – Outfall 003 – Roof drainage and parking area storm water runoff.

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	0.14	0.20	Report	Report	401 KAR 5:065, Section 2(8)
Oil & Grease (mg/l)	2.22	3.29	10	15	401 KAR 5:080, Section 1(2)(c)2
Total Suspended Solids (mg/l)	12.2	16.7	30	60	401 KAR 5:080, Section 1(2)(c)2
Hardness (mg/l as $CaCO_3$)	37.5	45.6	Report	Report	401 KAR 5:065, Section 2(8)
Total Recoverable Copper (mg/l)	0.016	0.016	0.0093	0.0140	401 KAR 10:031, Section 4(1)
Total Recoverable Lead (mg/l)	0.016	0.018	0.0032	N/A	401 KAR 10:031, Section 4(1)
Total Recoverable Zinc (mg/l)	0.099	0.129	Report	0.120	401 KAR 10:031, Section 4(1)
pH (standard units)	5.8	9.5	6.0	9.0	401 KAR 10:031, Section 4

The data contained under the reported discharge columns are from the analysis of the DMR data that has been reported during the term of the current permit.

The abbreviation N/A means Not Applicable.

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8. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 003 – Roof drainage and parking area storm water runoff.

b. Effluent Characteristics

Flow, Oil & Grease, Total Suspended Solids, Hardness, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Zinc, and pH

c. Pertinent Factors

On September 8, 2004 Kentucky's revised water quality standards, 401 KAR 10:031 became effective.

A summarization of the water quality standards can be found in Fact Sheet Attachment A – Steady State Toxics Wasteload Allocation Model (SSTWAM2004).

d. Monitoring Requirements

Flow shall be monitored instantaneously once per discharge, but no more frequently than once per month.

Oil & Grease, Total Suspended Solids, Hardness, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Zinc, and pH shall be monitored once per discharge, but no more frequently than once per month, by grab sample.

e. Justification of Conditions

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Flow and Hardness
The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Total Suspended Solids and Oil & Grease
The limits for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Conventional Pollutant Control Technology" (BCT).

Total Recoverable Copper, Total Recoverable Lead, and Total Recoverable Zinc

The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4(1). A review of the DMR data for the previous permit period indicated that reasonable potential exists for these parameters to be limited or monitored in the permit.

pH
The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4.

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9. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge – Outfall 004 – Storm water runoff from the process fluids storage areas.

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	0.02	0.02	Report	Report	401 KAR 5:065, Section 2(8)
Oil & Grease (mg/l)	2.30	2.78	10	15	401 KAR 5:080, Section 1(2)(c)2
Total Suspended Solids (mg/l)	17.0	19.5	30	60	401 KAR 5:080, Section 1(2)(c)2
Hardness (mg/l as $CaCO_3$)	N/R	N/R	Report	Report	401 KAR 5:065, Section 2(8)
Benzene (mg/l)	0.20	0.20	0.0022	N/A	401 KAR 10:031, Section 4(1)
Toluene (mg/l)	0.56	0.56	Removing from permit		401 KAR 5:080, Section 1(2)(c)2 401 KAR 10:031, Section 4(1)
Total Organic Carbon (mg/l)	4.88	5.47	Report	Report	401 KAR 5:065, Section 2(8)
pH (standard units)	6.0	10.1	6.0	9.0	401 KAR 10:031, Section 4

The data contained under the reported discharge columns are from the analysis of the DMR data that has been reported during the term of the current permit.

The abbreviations N/A and N/R mean Not Applicable and Not Reported, respectively.

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10. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 004 – Storm water runoff from the process fluids storage areas.

b. Effluent Characteristics

Flow, Oil & Grease, Total Suspended Solids, Hardness, Benzene, Toluene, Total Organic Carbon, and pH

c. Pertinent Factors

On September 8, 2004 Kentucky's revised water quality standards, 401 KAR 10:031 became effective.

A summarization of the water quality standards can be found in Fact Sheet Attachment A – Steady State Toxics Wasteload Allocation Model (SSTWAM2004).

d. Monitoring Requirements

Flow shall be monitored instantaneously once per discharge, but no more frequently than once per month.

Oil & Grease, Total Suspended Solids, Hardness, Benzene, Total Organic Carbon, and pH shall be monitored once per discharge, but no more frequently than once per month, by grab sample.

e. Justification of Conditions

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Flow, Hardness, and Total Organic Carbon
The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Total Suspended Solids and Oil & Grease
The limits for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Conventional Pollutant Control Technology" (BCT).

Benzene
The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1). A review of the DMR data for the previous permit period indicated that reasonable potential exists for this parameter to be limited or monitored in the permit.

Toluene
The removal of this parameter is consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. A review of the DMR data for the previous permit indicated that reasonable potential did not exist for these parameters to be limited or monitored in the permit. Therefore, it is the "Best Professional Judgment" (BPJ) of the Division of Water that these parameters be removed from the permit.

pH
The limits for these parameters are consistent with the requirements of 401 KAR 10:031, Section 4.

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11. ANTIDEGRADATION

This permit action involves the reissuance of a permit with a proposed expanded discharge. The conditions of 401 KAR 10:029, Section 1 have been satisfied by this permit action. A review under 401 KAR 10:030 Section 1 is not applicable.

12. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS

The permittee will comply with all effluent limitations by the effective date of the permit.

13. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

Best Management Practices (BMP) Plan
Pursuant to 401 KAR 5:065, Section 2(10), a BMP requirement shall be included: to control or abate the discharge of pollutants from ancillary areas containing toxic or hazardous substances or those substances which could result in an environmental emergency; where numeric effluent limitations are infeasible; or to carry out the purposes and intent of KRS 224. The facility has several areas where support activities occur which have a potential of the discharge of such substances through storm water runoff or spillage. Some of these areas will drain to present wastewater treatment plants, others will not.

Outfall Signage
The permittee shall post a permanent marker at all discharge locations and/or monitoring points. The marker shall be at least 2 feet by 2 feet in size and a minimum of 3 feet above ground level with the Permittee Name and KPDES permit and outfall numbers in 2 inch letters. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and shall be posted as near as possible to the actual sampling location.

14. PERMIT DURATION

Five (5) years. This facility is in the Tradewater/Green Basin Management Unit as per the Kentucky Watershed Management Framework.

15. PERMIT INFORMATION

The application, draft permit, fact sheet, public notice, comments received, and additional information is available from the Division of Water at 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

16. REFERENCES AND CITED DOCUMENTS

All material and documents referenced or cited in this fact sheet are a part of the permit information as described above and are readily available at the Division of Water Central Office. Information regarding these materials may be obtained from the person listed below.

17. CONTACT

For further information on the draft permit or comment process, contact the individual identified on the Public Notice or the Permit Writer – Sara Beard at (502) 564-3410, extension 4925, or email sara.beard@ky.gov.

18. PUBLIC NOTICE INFORMATION

Please refer to the attached Public Notice for details regarding the procedures for a final decision, deadline for comments and other information required by 401 KAR 5:075, Section 4(2)(e).

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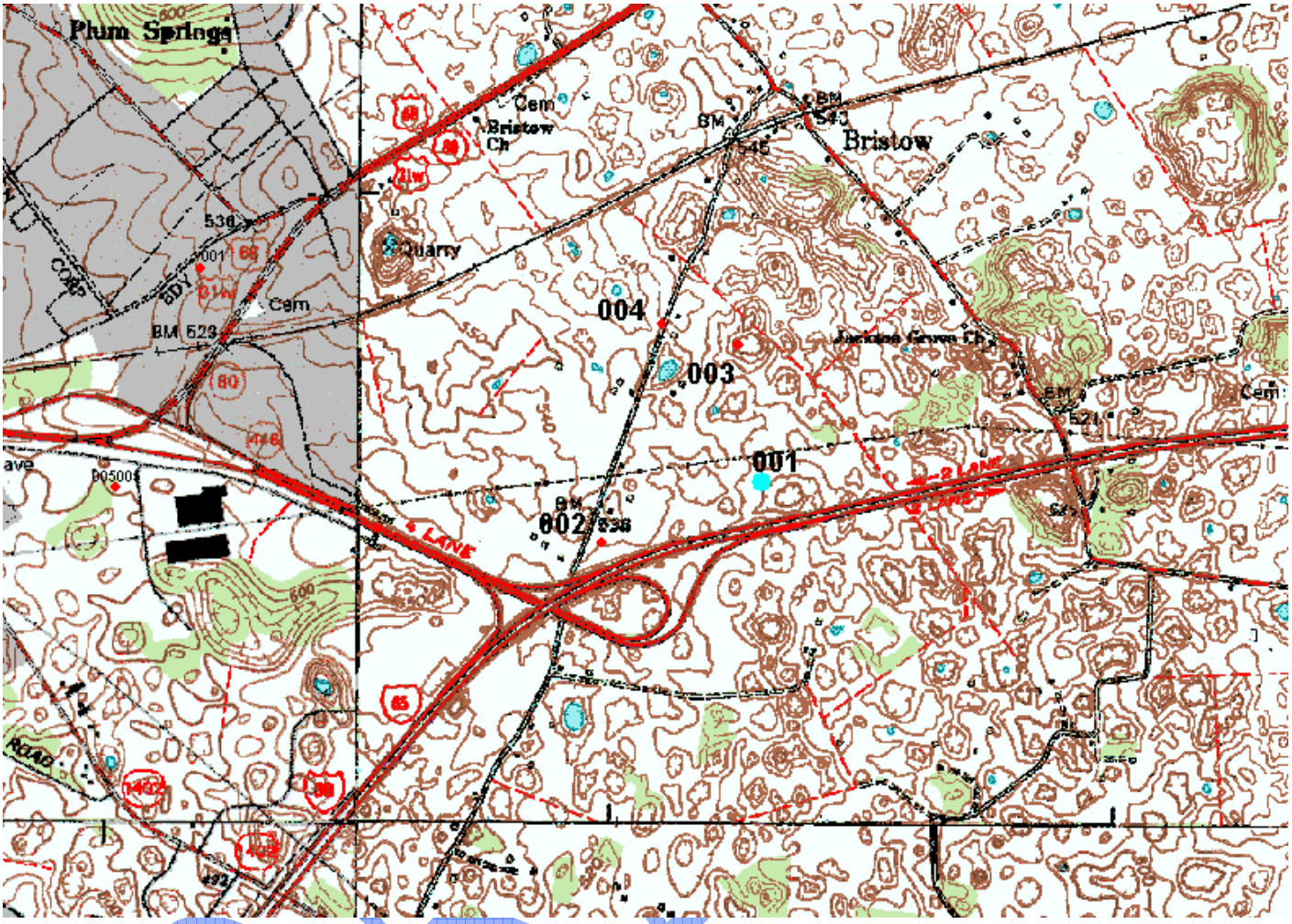
SITE MAP



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STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 001

Permit Writer	Sara Beard	
Date Entered	10/15/2009	
Facility Name	General Motors Corporation	
KPDES Number	KY0079545	
Outfall Number	001	
Case	Reissuance	
Status:		
Is this an existing facility – Enter "E"		
Is this an existing facility with an increase in pollutant load – Enter "I"		
Is this a new facility – Enter "N"		
Is this a regional facility with an approved up-to-date 201 plan – Enter "R"		
Has the permittee made a successful alternatives analysis/socioeconomic demonstration – Enter "A"	E	
Receiving Water Name	Sink Hole	
Discharge Mile Point	N/A	
Public Water Supply Name	0	
Intake Water Name	0	
Intake Mile Point	0	
Total Effluent Flow (Q_T)	0.33	MGD
Receiving Water 7Q10 (Q_{RW7Q10})	0	cfs
Receiving Water Harmonic Mean (Q_{RWHM})	0	cfs
Receiving Water pH	0	SU
Receiving Water Temperature	0.00	^oC
Intake Water 7Q10 (Q_{IW7Q10})	0	cfs
Intake Water Harmonic Mean (Q_{IWHM})	0	cfs
Effluent Hardness	100	(as mg/l CaCO3)
Receiving Water Hardness	100	(as mg/l CaCO3)
Zone of Initial Dilution (ZID)	1	
Mixing Zone (MZ)	0	
Acute to Chronic Ratio (ACR)	0.1	
Impaired	No	
Permittee agrees to accept no mixing zone for bioaccumulative or persistent pollutants prior to 09/08/2014	Yes	

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 001

Calculation Methodology

Definitions

Acute to Chronic Ratio	ACR	Total Effluent Flow	Q_T
Aquatic Life Acute Criteria	C_A	Receiving Water 7Q10	Q_{RW7Q10}
Aquatic Life Chronic Criteria	C_C	Receiving Water Harmonic Mean	Q_{RWHM}
Human Health Criteria - Fish Only	C_{HHFO}	Intake Water 7Q10	Q_{IW7Q10}
Human Health Criteria - Fish & Water	C_{HHFW}	Intake Water Harmonic Mean	Q_{IWHM}
End of Pipe Effluent Limit	C_T	Zone of Initial Dilution	ZID
Instream Background Concentration	C_U	Mixing Zone	MZ
Toxicity Units - Acute	TU_a	Toxicity Units - Chronic	TU_c
Effluent Hardness	H_T	Receiving Water Hardness	H_{RW}

Aquatic Life - Chemical Specific

Acute

NO ZID given $C_T = C_A$

ZID given $C_T = (C_A - C_U) \times (ZID)$

Chronic Mixing Zone / Complete Mix

$C_T = \{C_C[Q_T + (MZ)(Q_{RW7Q10})] - [C_U(MZ)(Q_{RW7Q10})]\}/Q_T$

Human Health - Chemical Specific

Fish Only: Mixing Zone / Complete Mix

Carcinogen / Non-Carcinogen $C_T = \{C_{HHFO}[Q_T + (MZ)(Q_{RWHM})] - C_U(MZ)(Q_{RWHM})\}/Q_T$

Fish & Water Only: Mixing Zone / Applicable at point of withdrawal

Carcinogen $C_T = \{C_{HHFW}[Q_T + (Q_{IWHM})] - C_U(Q_{IWHM})\}/Q_T$

Non-Carcinogen $C_T = \{C_{HHFW}[Q_T + (Q_{IW7Q10})] - C_U(Q_{IW7Q10})\}/Q_T$

Aquatic Life - Whole Effluent Toxicity

Acute (Units TU_a)

NO ZID given CT = CA

ZID given $C_T = (C_A - C_U) \times (ZID)$

Chronic Mixing Zone / Complete Mix (Units TUc)

$C_T = \{C_C[Q_T + (MZ)(Q_{RW7Q10})] - [C_U(MZ)(Q_{RW7Q10})]\}/Q_T$

Conversion of TU_c to TU_a : $TU_c \times ACR = TU_a$

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 001

Metal Aquatic Criteria

Pollutant	Acute Criteria	Chronic Criteria
Total Recoverable Cadmium	$e^{(1.0166 (\ln Hardness) - 3.924)}$	$e^{(0.7409 (\ln Hardness) - 4.719)}$
Chromium III	$e^{(0.8190 (\ln Hardness) + 3.7256)}$	$e^{(0.8190 (\ln Hardness) + 0.6848)}$
Total Recoverable Copper	$e^{(0.9422 (\ln Hardness) - 1.700)}$	$e^{(0.8545 (\ln Hardness) - 1.702)}$
Total Recoverable Lead	$e^{(1.273 (\ln Hardness) - 1.460)}$	$e^{(1.273 (\ln Hardness) - 4.705)}$
Total Recoverable Nickel	$e^{(0.8460 (\ln Hardness) + 2.255)}$	$e^{(0.8460(\ln Hardness) + 0.0584)}$
Total Recoverable Silver	$e^{(1.72 (\ln Hardness) - 6.59)}$	
Total Recoverable Zinc	$e^{(0.8473 (\ln Hardness) + 0.884)}$	$e^{(0.8473 (\ln Hardness) + 0.884)}$

Hardness (as mg/l $CaCO_3$)

Zone Initial Dilution (ZID) $H_{RW} + [H_T + H_{RW}]/ZID$

Mixing Zone $[(Q_{RW7Q10})(MZ)(H_{RW}) + (Q_T)(H_T)]/[(QRW7Q10)(MZ)+(QT)]$

Total Ammonia Criteria

Chronic - applies state wide - unionzed criteria of 0.05 mg/l $[0.05*(1+10^{(pka-pH)})]/1.2$ pka=(0.0902+(2730/(273.1+T)) T = Temperature ^oC

Acute - applies to the Ohio River (ORSANCO Criteria) $[0.411/(1+10^{(7.204-pH)})]+[58.4/(1+10^{(pH-7.204)})]$

Bioaccumulative or Persistent

For new facilities after September 8, 2004 mixing zones shall not be granted for bioaccumulative or persistent pollutants of concern.

Mixing zones for bioaccumulative or persistent pollutants of concerned assigned prior to September 8, 2004 shall expire no later than September 8, 2014, unless the permittee agrees to expiration of the mixing zone prior to that date.

Therefore, the application of the more stringent criteria of Human Health Fish & Water Consumption, Human Health Fish Only Consumption, and Aquatic Life Chronic shall apply as end-of-pipe effluent limitations.

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 001

Reasonable Potential Analysis

In establishing water quality based effluent conditions the Division of Water must determine if the pollutant concentrations in the discharge will cause, have the reasonable potential to cause, or contribute to an excursion of any water standard. The process by which the Division of Water makes this determination is known as a Reasonable Potential Analysis.

A Reasonable Potential Analysis is performed by first calculating the expected effluent limitations for those pollutants with water quality criteria. The calculated limits are then compared to the concentrations reported on the KPDES permit application and/or a summarization of the values reported on the Discharge Monitoring Report (DMRs) submitted during the term of the permit. This comparison is made by dividing the reported value by the calculated effluent limitation and converting to a percentage. The following criteria are used in determining how the pollutant will be addressed in the permit.

New Permits or New Pollutants on Permit Renewals

If the reported concentration is less than 70% of the calculated effluent limit then no monitoring or limitations will be required.

If the reported concentration is equal to or greater than 70% but less than 90% of the calculated effluent limit then monitoring will be required.

If the reported concentration is equal to or greater than 90% and the number of analysis reported on the KPDES permit application is less than 12 then monitoring will be required.

If the reported concentration is equal to or greater than 90% and the number of analysis reported on the KPDES permit application is equal or greater than 12 then an effluent limitation will be required.

Permit Renewals - Existing Pollutants

If the reported concentration is less than 70% of the calculated effluent limit then and the source of the reported concentration was the DMRs for that facility and there were more than 12 DMRs utilized to determine the reported concentrations then the pollutant will be removed from the permit.

If the reported concentration is equal to or greater than 70% but less than 90% of the calculated effluent limit then monitoring will be required.

If the reported concentration is equal to or greater than 90% then an effluent limitation will be required.

In all cases, the Division of Water still may exercise its Best Professional Judgment in the implementation of the results.

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 001

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Chloride	16887006	0.000000	0.000000	250.000000	1,200.000000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Total Residual Chlorine		0.000000	0.000000	0.011000	0.019000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Color		0.000000	0.000000	0.075000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluoride		0.000000	0.000000	2.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Nitrate-Nitrite (as N)	14797558	0.000000	0.000000	10.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Alpha		0.000000	0.000000	NA	15.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Beta		0.000000	0.000000	NA	50.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Radium		0.000000	0.000000	NA	5.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Sulfate (as SO4)		0.000000	0.000000	250.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Surfactants		0.000000	0.000000	0.500000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Barium	7440393	0.000000	0.000000	1.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Iron	7439896	0.000000	0.000000	1.000000	4.000000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Antimony	7440360	0.000000	0.000000	0.005600	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Arsenic	7440382	0.000000	0.000000	0.010000	0.340000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Total Recoverable Beryllium	7440417	0.000000	0.000000	0.004000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Cadmium	7440439	0.000000	0.000000	0.000271	0.002133	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Chromium	7440439	0.000000	0.000000	0.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Copper	7440508	0.022600	0.026300	0.009329	0.013999	242.26%	187.87%	DMR	73	Limit	Limit	Chronic	Acute
Total Recoverable Lead	7439921	0.015800	0.017900	0.003182	0.081645	496.61%	21.92%	DMR	73	Limit	Remove	Chronic	Acute
Total Recoverable Mercury	7439976	0.000000	0.000000	0.000051	0.001700	0.00%	0.00%	No Data	0	None	None	HH Fish	Acute
Total Recoverable Nickel	7440020	0.000000	0.000000	0.052163	0.469174	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Selenium	7782492	0.000000	0.000000	0.005000	0.020000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Silver	7440224	0.000000	0.000000	NA	0.003784	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Recoverable Thallium	7440280	0.000000	0.000000	0.001700	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Zinc	7440666	0.093400	0.119000	0.119816	0.119816	77.95%	99.32%	DMR	73	Monitoring	Limit	Chronic	Acute
Free Cyanide	57125	0.000000	0.000000	0.005200	0.022000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
2,3,7,8 Tetrachlorodibenzo P Dioxin	1746016	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acrolein	107028	0.000000	0.000000	0.190000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acrylonitrile	107131	0.000000	0.000000	0.000051	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzene	71432	0.000000	0.000000	0.002200	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bromoform	75252	0.000000	0.000000	0.004300	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Carbon Tetrachloride	56235	0.000000	0.000000	0.000230	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chlorobenzene	108907	0.000000	0.000000	0.680000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chlorodibromomethane	124481	0.000000	0.000000	0.000400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chloroform	67663	0.000000	0.000000	0.005700	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dichlorobromomethane	75274	0.000000	0.000000	0.000550	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichloroethane	107062	0.000000	0.000000	0.000380	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1-Dichloroethylene	75354	0.000000	0.000000	0.000057	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichloropropane	78875	0.000000	0.000000	0.000050	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,3-Dichloropropene	542756	0.000000	0.000000	0.010000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Ethylbenzene	100414	0.000000	0.000000	3.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Methyl Bromide	74839	0.000000	0.000000	0.047000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Methylene Chloride	75092	0.000000	0.000000	0.004600	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 001

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
1,1,2,2-Tetrachloroethane	79345	0.000000	0.000000	0.000170	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Tetrachloroethylene	127184	0.000000	0.000000	0.000690	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Toluene	108883	0.000000	0.000000	6.800000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Trans-Dichloroethylene	156605	0.000000	0.000000	0.700000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,1-Trichloroethane	71556	0.000000	0.000000	0.200000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,2-Trichloroethane	79005	0.000000	0.000000	0.000590	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Trichloroethylene	79016	0.000000	0.000000	0.002500	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Vinyl Chloride	75014	0.000000	0.000000	0.002000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-Chlorophenol	95578	0.000000	0.000000	0.081000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dichlorophenol	120832	0.000000	0.000000	0.077000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dimethylphenol	105679	0.000000	0.000000	0.380000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dinitrophenol	51285	0.000000	0.000000	0.069000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Pentachlorophenol	87865	0.000000	0.000000	0.000270	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Phenol	108952	0.000000	0.000000	21.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,6-Trichlorophenol	88062	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acenaphthene	83329	0.000000	0.000000	0.670000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Anthracene	120127	0.000000	0.000000	8.300000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzidine	92875	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(a)anthracene	56553	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(a)pyrene	50328	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(k)fluoranthene	205992	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-chloroisopropyl)ether	108601	0.000000	0.000000	1.400000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-ethylhexyl)phthalate	117817	0.000000	0.000000	0.001200	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Butylbenzyl phthalate	85687	0.000000	0.000000	1.500000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-Chloronaphthalene	91587	0.000000	0.000000	1.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chrysene	218019	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dibenzo(a,h)anthracene	53703	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichlorobenzene	95501	0.000000	0.000000	2.700000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,3-Dichlorobenzene	541731	0.000000	0.000000	0.320000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,4-Dichlorobenzene	106467	0.000000	0.000000	0.400000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
3,3-Dichlorobenzidine	91941	0.000000	0.000000	0.000021	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Diethyl phthalate	84662	0.000000	0.000000	17.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dimethyl phthalate	131113	0.000000	0.000000	270.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Di-n-butyl phthalate	84742	0.000000	0.000000	2.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dinitrotoluene	121142	0.000000	0.000000	0.000110	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Diphenylhydrazine	122667	0.000000	0.000000	0.000036	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluoranthene	206440	0.000000	0.000000	0.130000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluorene	86737	0.000000	0.000000	1.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorobenzene	118741	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorobutadiene	87683	0.000000	0.000000	0.000440	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorocyclopentadiene	77474	0.000000	0.000000	0.240000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachloroethane	67721	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Ideno(1,2,3-cd)pyrene	193395	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 001

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Isophorone	78591	0.000000	0.000000	0.035000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Nitrobenzene	98953	0.000000	0.000000	0.017000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodimethylamine	62759	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodi-n-Propylamine	621647	0.000000	0.000000	0.000005	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodiphenylamine	86306	0.000000	0.000000	0.003300	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Pyrene	129000	0.000000	0.000000	0.830000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2,4-Trichlorobenzene	120821	0.000000	0.000000	0.260000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Aldrin	309002	0.000000	0.000000	0.000000	0.003000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
alpha-BHC	319846	0.000000	0.000000	0.000003	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Beta-BHC	319857	0.000000	0.000000	0.000009	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
gamma-BHC (Lindane)	58899	0.000000	0.000000	0.000019	0.000950	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Chlordane	57749	0.000000	0.000000	0.000001	0.002400	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
4,4'-DDT	50293	0.000000	0.000000	0.000000	0.001100	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
4,4'-DDE	72559	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
4,4'-DDD	72548	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dieldrin	60571	0.000000	0.000000	0.000000	0.000240	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Alpha-Endosulfan	959988	0.000000	0.000000	0.000056	0.000220	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Beta-Endosulfan	33213659	0.000000	0.000000	0.000056	0.000220	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Endosulfan sulfate	1031078	0.000000	0.000000	0.062000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Endrin	72208	0.000000	0.000000	0.000036	0.000086	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Endrin aldehyde	7421934	0.000000	0.000000	0.000290	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Heptachlor	76448	0.000000	0.000000	0.000000	0.000520	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Heptachlor epoxide	1024573	0.000000	0.000000	0.000000	0.000520	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Polychlorinated Biphenyls (PCBs)		0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Toxaphene	8001352	0.000000	0.000000	0.000000	0.000730	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
1,2,4,5-Tetrachlorobenzene	95943	0.000000	0.000000	0.000970	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-methyl-4,6-dinitrophenol	534521	0.000000	0.000000	0.013000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-D	94757	0.000000	0.000000	0.070000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,5-TP (Silvex)	93721	0.000000	0.000000	0.010000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,5-trichlorophenol	95954	0.000000	0.000000	1.800000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Asbestos	1332214	0.000000	0.000000	7,000.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(b)fluoranthene	205992	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-chloroethyl)ether	111444	0.000000	0.000000	0.000030	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(chloromethyl)ether	542881	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chloropyrifos	2921882	0.000000	0.000000	0.000041	0.000083	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Chromium (III)	16065831	0.000000	0.000000	0.086180	1.803049	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Chromium (VI)	18540299	0.000000	0.000000	0.011000	0.016000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Demeton	8065483	0.000000	0.000000	0.000100	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Dinitrophenols	25550587	0.000000	0.000000	0.069000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Guthion	86500	0.000000	0.000000	0.000010	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Hexachlorocyclo-hexane-Technical	319868	0.000000	0.000000	0.000012	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hydrogen Sulfide, Undissociated	7783064	0.000000	0.000000	0.002000	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Malathion	121755	0.000000	0.000000	0.000100	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 001

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Methoxychlor	72435	0.000000	0.000000	0.000030	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Mirex	2385855	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Nitrosamines, Other		0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodibutylamine	924163	0.000000	0.000000	0.000006	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodiethylamine	55185	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosopyrrolidine	930552	0.000000	0.000000	0.000016	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Parathion	56382	0.000000	0.000000	0.000013	0.000065	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Pentachlorobenzene	608935	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Phthalate esters		0.000000	0.000000	0.003000	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Total Dissolved Solids		0.000000	0.000000	750.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Tritium		0.000000	0.000000	NA	20,000.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Strontium-90		0.000000	0.000000	NA	8.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Uranium		0.000000	0.000000	NA	0.030000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Ammonia		0.000000	0.000000	58.399996	58.399996	0.00%	0.00%	No Data	0	None	None	Chronic	Acute

Hardness	Chronic	Acute
Metal limitations are developed using the mixed hardness of the effluent and receiving waters	100	100

Toxicity

Type of Test	Maximum	Units	Justification	Percent Effluent
Chronic	1.00	TUc	Chronic	100.00%

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 002

Permit Writer	Sara Beard	
Date Entered	10/15/2009	
Facility Name	General Motors Corporation	
KPDES Number	KY0079545	
Outfall Number	002	
Case	Reissuance	
Status: **Is this an existing facility – Enter "E"** **Is this an existing facility with an increase in pollutant load – Enter "I"** **Is this a new facility – Enter "N"** **Is this a regional facility with an approved up-to-date 201 plan – Enter "R"** **Has the permittee made a successful alternatives analysis/socioeconomic demonstration – Enter "A"**	E	
Receiving Water Name	Sink Hole	
Discharge Mile Point	N/A	
Public Water Supply Name	0	
Intake Water Name	0	
Intake Mile Point	0	
Total Effluent Flow (Q_T)	0.22	MGD
Receiving Water 7Q10 (Q_{RW7Q10})	0	cfs
Receiving Water Harmonic Mean (Q_{RWHM})	0	cfs
Receiving Water pH	0	SU
Receiving Water Temperature	0.00	^oC
Intake Water 7Q10 (Q_{IW7Q10})	0	cfs
Intake Water Harmonic Mean (Q_{IWHM})	0	cfs
Effluent Hardness	100	(as mg/l CaCO3)
Receiving Water Hardness	100	(as mg/l CaCO3)
Zone of Initial Dilution (ZID)	1	
Mixing Zone (MZ)	0	
Acute to Chronic Ratio (ACR)	0.1	
Impaired	No	
Permittee agrees to accept no mixing zone for bioaccumulative or persistent pollutants prior to 09/08/2014	Yes	

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 002

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Chloride	16887006	0.000000	0.000000	250.000000	1,200.000000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Total Residual Chlorine		0.000000	0.000000	0.011000	0.019000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Color		0.000000	0.000000	0.075000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluoride		0.000000	0.000000	2.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Nitrate-Nitrite (as N)	14797558	0.000000	0.000000	10.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Alpha		0.000000	0.000000	NA	15.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Beta		0.000000	0.000000	NA	50.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Radium		0.000000	0.000000	NA	5.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Sulfate (as SO4)		0.000000	0.000000	250.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Surfactants		0.000000	0.000000	0.500000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Barium	7440393	0.000000	0.000000	1.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Iron	7439896	0.000000	0.000000	1.000000	4.000000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Antimony	7440360	0.000000	0.000000	0.005600	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Arsenic	7440382	0.000000	0.000000	0.010000	0.340000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Total Recoverable Beryllium	7440417	0.000000	0.000000	0.004000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Cadmium	7440439	0.000000	0.000000	0.000271	0.002133	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Chromium	7440439	0.000000	0.000000	0.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Copper	7440508	0.018800	0.020700	0.009329	0.013999	201.52%	147.87%	DMR	72	Limit	Limit	Chronic	Acute
Total Recoverable Lead	7439921	0.014600	0.015800	0.003182	0.081645	458.89%	19.35%	DMR	72	Limit	Remove	Chronic	Acute
Total Recoverable Mercury	7439976	0.000000	0.000000	0.000051	0.001700	0.00%	0.00%	No Data	0	None	None	HH Fish	Acute
Total Recoverable Nickel	7440020	0.000000	0.000000	0.052163	0.469174	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Selenium	7782492	0.000000	0.000000	0.005000	0.020000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Silver	7440224	0.000000	0.000000	NA	0.003784	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Recoverable Thallium	7440280	0.000000	0.000000	0.001700	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Zinc	7440666	0.058200	0.073000	0.119816	0.119816	48.57%	60.93%	DMR	70	Remove	Remove	Chronic	Acute
Free Cyanide	57125	0.000000	0.000000	0.005200	0.022000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
2,3,7,8 Tetrachlorodibenzo P Dioxin	1746016	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acrolein	107028	0.000000	0.000000	0.190000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acrylonitrile	107131	0.000000	0.000000	0.000051	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzene	71432	0.000000	0.000000	0.002200	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bromoform	75252	0.000000	0.000000	0.004300	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Carbon Tetrachloride	56235	0.000000	0.000000	0.000230	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chlorobenzene	108907	0.000000	0.000000	0.680000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chlorodibromomethane	124481	0.000000	0.000000	0.000400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chloroform	67663	0.000000	0.000000	0.005700	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dichlorobromomethane	75274	0.000000	0.000000	0.000550	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichloroethane	107062	0.000000	0.000000	0.000380	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1-Dichloroethylene	75354	0.000000	0.000000	0.000057	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichloropropane	78875	0.000000	0.000000	0.000050	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,3-Dichloropropene	542756	0.000000	0.000000	0.010000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Ethylbenzene	100414	0.000000	0.000000	3.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Methyl Bromide	74839	0.000000	0.000000	0.047000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 002

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Methylene Chloride	75092	0.000000	0.000000	0.004600	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,2,2-Tetrachloroethane	79345	0.000000	0.000000	0.000170	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Tetrachloroethylene	127184	0.000000	0.000000	0.000690	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Toluene	108883	0.000000	0.000000	6.800000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Trans-Dichloroethylene	156605	0.000000	0.000000	0.700000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,1-Trichloroethane	71556	0.000000	0.000000	0.200000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,2-Trichloroethane	79005	0.000000	0.000000	0.000590	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Trichloroethylene	79016	0.000000	0.000000	0.002500	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Vinyl Chloride	75014	0.000000	0.000000	0.002000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-Chlorophenol	95578	0.000000	0.000000	0.081000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dichlorophenol	120832	0.000000	0.000000	0.077000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dimethylphenol	105679	0.000000	0.000000	0.380000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dinitrophenol	51285	0.000000	0.000000	0.069000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Pentachlorophenol	87865	0.000000	0.000000	0.000270	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Phenol	108952	0.000000	0.000000	21.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,6-Trichlorophenol	88062	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acenaphthene	83329	0.000000	0.000000	0.670000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Anthracene	120127	0.000000	0.000000	8.300000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzidine	92875	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(a)anthracene	56553	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(a)pyrene	50328	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(k)fluoranthene	205992	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-chloroisopropyl)ether	108601	0.000000	0.000000	1.400000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-ethylhexyl)phthalate	117817	0.000000	0.000000	0.001200	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Butylbenzyl phthalate	85687	0.000000	0.000000	1.500000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-Chloronaphthalene	91587	0.000000	0.000000	1.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chrysene	218019	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dibenzo(a,h)anthracene	53703	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichlorobenzene	95501	0.000000	0.000000	2.700000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,3-Dichlorobenzene	541731	0.000000	0.000000	0.320000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,4-Dichlorobenzene	106467	0.000000	0.000000	0.400000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
3,3-Dichlorobenzidine	91941	0.000000	0.000000	0.000021	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Diethyl phthalate	84662	0.000000	0.000000	17.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dimethyl phthalate	131113	0.000000	0.000000	270.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Di-n-butyl phthalate	84742	0.000000	0.000000	2.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dinitrotoluene	121142	0.000000	0.000000	0.000110	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Diphenylhydrazine	122667	0.000000	0.000000	0.000036	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluoranthene	206440	0.000000	0.000000	0.130000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluorene	86737	0.000000	0.000000	1.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorobenzene	118741	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorobutadiene	87683	0.000000	0.000000	0.000440	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorocyclopentadiene	77474	0.000000	0.000000	0.240000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachloroethane	67721	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 002

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Ideno(1,2,3-cd)pyrene	193395	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Isophorone	78591	0.000000	0.000000	0.035000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Nitrobenzene	98953	0.000000	0.000000	0.017000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodimethylamine	62759	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodi-n-Propylamine	621647	0.000000	0.000000	0.000005	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodiphenylamine	86306	0.000000	0.000000	0.003300	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Pyrene	129000	0.000000	0.000000	0.830000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2,4-Trichlorobenzene	120821	0.000000	0.000000	0.260000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Aldrin	309002	0.000000	0.000000	0.000000	0.003000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
alpha-BHC	319846	0.000000	0.000000	0.000003	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Beta-BHC	319857	0.000000	0.000000	0.000009	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
gamma-BHC (Lindane)	58899	0.000000	0.000000	0.000019	0.000950	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Chlordane	57749	0.000000	0.000000	0.000001	0.002400	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
4,4'-DDT	50293	0.000000	0.000000	0.000000	0.001100	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
4,4'-DDE	72559	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
4,4'-DDD	72548	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dieldrin	60571	0.000000	0.000000	0.000000	0.000240	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Alpha-Endosulfan	959988	0.000000	0.000000	0.000056	0.000220	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Beta-Endosulfan	33213659	0.000000	0.000000	0.000056	0.000220	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Endosulfan sulfate	1031078	0.000000	0.000000	0.062000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Endrin	72208	0.000000	0.000000	0.000036	0.000086	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Endrin aldehyde	7421934	0.000000	0.000000	0.000290	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Heptachlor	76448	0.000000	0.000000	0.000000	0.000520	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Heptachlor epoxide	1024573	0.000000	0.000000	0.000000	0.000520	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Polychlorinated Biphenyls (PCBs)		0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Toxaphene	8001352	0.000000	0.000000	0.000000	0.000730	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
1,2,4,5-Tetrachlorobenzene	95943	0.000000	0.000000	0.000970	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-methyl-4,6-dinitrophenol	534521	0.000000	0.000000	0.013000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-D	94757	0.000000	0.000000	0.070000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,5-TP (Silvex)	93721	0.000000	0.000000	0.010000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,5-trichlorophenol	95954	0.000000	0.000000	1.800000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Asbestos	1332214	0.000000	0.000000	7,000.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(b)fluoranthene	205992	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-chloroethyl)ether	111444	0.000000	0.000000	0.000030	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(chloromethyl)ether	542881	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chloropyrifos	2921882	0.000000	0.000000	0.000041	0.000083	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Chromium (III)	16065831	0.000000	0.000000	0.086180	1.803049	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Chromium (VI)	18540299	0.000000	0.000000	0.011000	0.016000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Demeton	8065483	0.000000	0.000000	0.000100	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Dinitrophenols	25550587	0.000000	0.000000	0.069000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Guthion	86500	0.000000	0.000000	0.000010	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Hexachlorocyclo-hexane-Technical	319868	0.000000	0.000000	0.000012	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hydrogen Sulfide, Undissociated	7783064	0.000000	0.000000	0.002000	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 002

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Malathion	121755	0.000000	0.000000	0.000100	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Methoxychlor	72435	0.000000	0.000000	0.000030	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Mirex	2385855	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Nitrosamines, Other		0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodibutylamine	924163	0.000000	0.000000	0.000006	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodiethylamine	55185	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosopyrrolidine	930552	0.000000	0.000000	0.000016	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Parathion	56382	0.000000	0.000000	0.000013	0.000065	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Pentachlorobenzene	608935	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Phthalate esters		0.000000	0.000000	0.003000	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Total Dissolved Solids		0.000000	0.000000	750.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Tritium		0.000000	0.000000	NA	20,000.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Strontium-90		0.000000	0.000000	NA	8.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Uranium		0.000000	0.000000	NA	0.030000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Ammonia		0.000000	0.000000	58.399996	58.399996	0.00%	0.00%	No Data	0	None	None	Chronic	Acute

Hardness	Chronic	Acute
Metal limitations are developed using the mixed hardness of the effluent and receiving waters	100	100

Toxicity

Type of Test	Maximum	Units	Justification	Percent Effluent
Chronic	1.00	TUc	Chronic	100.00%

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 003

Permit Writer	Sara Beard	
Date Entered	10/15/2009	
Facility Name	General Motors Corporation	
KPDES Number	KY0079545	
Outfall Number	003	
Case	Reissuance	
Status: **Is this an existing facility – Enter "E"** **Is this an existing facility with an increase in pollutant load – Enter "I"** **Is this a new facility – Enter "N"** **Is this a regional facility with an approved up-to-date 201 plan – Enter "R"** **Has the permittee made a successful alternatives analysis/socioeconomic demonstration – Enter "A"**	E	
Receiving Water Name	Sink Hole	
Discharge Mile Point	N/A	
Public Water Supply Name	0	
Intake Water Name	0	
Intake Mile Point	0	
Total Effluent Flow (Q_T)	0.2	MGD
Receiving Water 7Q10 (Q_{RW7Q10})	0	cfs
Receiving Water Harmonic Mean (Q_{RWHM})	0	cfs
Receiving Water pH	0	SU
Receiving Water Temperature	0.00	^oC
Intake Water 7Q10 (Q_{IW7Q10})	0	cfs
Intake Water Harmonic Mean (Q_{IWHM})	0	cfs
Effluent Hardness	100	(as mg/l CaCO3)
Receiving Water Hardness	100	(as mg/l CaCO3)
Zone of Initial Dilution (ZID)	1	
Mixing Zone (MZ)	0	
Acute to Chronic Ratio (ACR)	0.1	
Impaired	No	
Permittee agrees to accept no mixing zone for bioaccumulative or persistent pollutants prior to 09/08/2014	Yes	

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 003

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Chloride	16887006	0.000000	0.000000	250.000000	1,200.000000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Total Residual Chlorine		0.000000	0.000000	0.011000	0.019000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Color		0.000000	0.000000	0.075000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluoride		0.000000	0.000000	2.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Nitrate-Nitrite (as N)	14797558	0.000000	0.000000	10.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Alpha		0.000000	0.000000	NA	15.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Beta		0.000000	0.000000	NA	50.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Radium		0.000000	0.000000	NA	5.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Sulfate (as SO4)		0.000000	0.000000	250.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Surfactants		0.000000	0.000000	0.500000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Barium	7440393	0.000000	0.000000	1.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Iron	7439896	0.000000	0.000000	1.000000	4.000000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Antimony	7440360	0.000000	0.000000	0.005600	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Arsenic	7440382	0.000000	0.000000	0.010000	0.340000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Total Recoverable Beryllium	7440417	0.000000	0.000000	0.004000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Cadmium	7440439	0.000000	0.000000	0.000271	0.002133	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Chromium	7440439	0.000000	0.000000	0.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Copper	7440508	0.015500	0.016300	0.009329	0.013999	166.15%	116.44%	DMR	73	Limit	Limit	Chronic	Acute
Total Recoverable Lead	7439921	0.015900	0.017600	0.003182	0.081645	499.75%	21.56%	DMR	66	Limit	Remove	Chronic	Acute
Total Recoverable Mercury	7439976	0.000000	0.000000	0.000051	0.001700	0.00%	0.00%	No Data	0	None	None	HH Fish	Acute
Total Recoverable Nickel	7440020	0.000000	0.000000	0.052163	0.469174	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Selenium	7782492	0.000000	0.000000	0.005000	0.020000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Silver	7440224	0.000000	0.000000	NA	0.003784	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Recoverable Thallium	7440280	0.000000	0.000000	0.001700	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Zinc	7440666	0.099300	0.128800	0.119816	0.119816	82.88%	107.50%	DMR	73	Monitoring	Limit	Chronic	Acute
Free Cyanide	57125	0.000000	0.000000	0.005200	0.022000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
2,3,7,8 Tetrachlorodibenzo P Dioxin	1746016	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acrolein	107028	0.000000	0.000000	0.190000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acrylonitrile	107131	0.000000	0.000000	0.000051	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzene	71432	0.000000	0.000000	0.002200	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bromoform	75252	0.000000	0.000000	0.004300	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Carbon Tetrachloride	56235	0.000000	0.000000	0.000230	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chlorobenzene	108907	0.000000	0.000000	0.680000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chlorodibromomethane	124481	0.000000	0.000000	0.000400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chloroform	67663	0.000000	0.000000	0.005700	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dichlorobromomethane	75274	0.000000	0.000000	0.000550	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichloroethane	107062	0.000000	0.000000	0.000380	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1-Dichloroethylene	75354	0.000000	0.000000	0.000057	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichloropropane	78875	0.000000	0.000000	0.000050	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,3-Dichloropropene	542756	0.000000	0.000000	0.010000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Ethylbenzene	100414	0.000000	0.000000	3.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Methyl Bromide	74839	0.000000	0.000000	0.047000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 003

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Methylene Chloride	75092	0.000000	0.000000	0.004600	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,2,2-Tetrachloroethane	79345	0.000000	0.000000	0.000170	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Tetrachloroethylene	127184	0.000000	0.000000	0.000690	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Toluene	108883	0.000000	0.000000	6.800000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Trans-Dichloroethylene	156605	0.000000	0.000000	0.700000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,1-Trichloroethane	71556	0.000000	0.000000	0.200000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,2-Trichloroethane	79005	0.000000	0.000000	0.000590	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Trichloroethylene	79016	0.000000	0.000000	0.002500	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Vinyl Chloride	75014	0.000000	0.000000	0.002000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-Chlorophenol	95578	0.000000	0.000000	0.081000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dichlorophenol	120832	0.000000	0.000000	0.077000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dimethylphenol	105679	0.000000	0.000000	0.380000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dinitrophenol	51285	0.000000	0.000000	0.069000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Pentachlorophenol	87865	0.000000	0.000000	0.000270	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Phenol	108952	0.000000	0.000000	21.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,6-Trichlorophenol	88062	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acenaphthene	83329	0.000000	0.000000	0.670000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Anthracene	120127	0.000000	0.000000	8.300000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzidine	92875	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(a)anthracene	56553	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(a)pyrene	50328	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(k)fluoranthene	205992	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-chloroisopropyl)ether	108601	0.000000	0.000000	1.400000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-ethylhexyl)phthalate	117817	0.000000	0.000000	0.001200	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Butylbenzyl phthalate	85687	0.000000	0.000000	1.500000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-Chloronaphthalene	91587	0.000000	0.000000	1.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chrysene	218019	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dibenzo(a,h)anthracene	53703	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichlorobenzene	95501	0.000000	0.000000	2.700000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,3-Dichlorobenzene	541731	0.000000	0.000000	0.320000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,4-Dichlorobenzene	106467	0.000000	0.000000	0.400000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
3,3-Dichlorobenzidine	91941	0.000000	0.000000	0.000021	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Diethyl phthalate	84662	0.000000	0.000000	17.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dimethyl phthalate	131113	0.000000	0.000000	270.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Di-n-butyl phthalate	84742	0.000000	0.000000	2.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dinitrotoluene	121142	0.000000	0.000000	0.000110	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Diphenylhydrazine	122667	0.000000	0.000000	0.000036	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluoranthene	206440	0.000000	0.000000	0.130000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluorene	86737	0.000000	0.000000	1.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorobenzene	118741	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorobutadiene	87683	0.000000	0.000000	0.000440	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorocyclopentadiene	77474	0.000000	0.000000	0.240000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachloroethane	67721	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 003

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Ideno(1,2,3-cd)pyrene	193395	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Isophorone	78591	0.000000	0.000000	0.035000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Nitrobenzene	98953	0.000000	0.000000	0.017000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodimethylamine	62759	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodi-n-Propylamine	621647	0.000000	0.000000	0.000005	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodiphenylamine	86306	0.000000	0.000000	0.003300	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Pyrene	129000	0.000000	0.000000	0.830000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2,4-Trichlorobenzene	120821	0.000000	0.000000	0.260000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Aldrin	309002	0.000000	0.000000	0.000000	0.003000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
alpha-BHC	319846	0.000000	0.000000	0.000003	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Beta-BHC	319857	0.000000	0.000000	0.000009	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
gamma-BHC (Lindane)	58899	0.000000	0.000000	0.000019	0.000950	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Chlordane	57749	0.000000	0.000000	0.000001	0.002400	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
4,4'-DDT	50293	0.000000	0.000000	0.000000	0.001100	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
4,4'-DDE	72559	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
4,4'-DDD	72548	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dieldrin	60571	0.000000	0.000000	0.000000	0.000240	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Alpha-Endosulfan	959988	0.000000	0.000000	0.000056	0.000220	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Beta-Endosulfan	33213659	0.000000	0.000000	0.000056	0.000220	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Endosulfan sulfate	1031078	0.000000	0.000000	0.062000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Endrin	72208	0.000000	0.000000	0.000036	0.000086	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Endrin aldehyde	7421934	0.000000	0.000000	0.000290	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Heptachlor	76448	0.000000	0.000000	0.000000	0.000520	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Heptachlor epoxide	1024573	0.000000	0.000000	0.000000	0.000520	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Polychlorinated Biphenyls (PCBs)		0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Toxaphene	8001352	0.000000	0.000000	0.000000	0.000730	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
1,2,4,5-Tetrachlorobenzene	95943	0.000000	0.000000	0.000970	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-methyl-4,6-dinitrophenol	534521	0.000000	0.000000	0.013000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-D	94757	0.000000	0.000000	0.070000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,5-TP (Silvex)	93721	0.000000	0.000000	0.010000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,5-trichlorophenol	95954	0.000000	0.000000	1.800000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Asbestos	1332214	0.000000	0.000000	7,000.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(b)fluoranthene	205992	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-chloroethyl)ether	111444	0.000000	0.000000	0.000030	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(chloromethyl)ether	542881	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chloropyrifos	2921882	0.000000	0.000000	0.000041	0.000083	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Chromium (III)	16065831	0.000000	0.000000	0.086180	1.803049	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Chromium (VI)	18540299	0.000000	0.000000	0.011000	0.016000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Demeton	8065483	0.000000	0.000000	0.000100	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Dinitrophenols	25550587	0.000000	0.000000	0.069000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Guthion	86500	0.000000	0.000000	0.000010	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Hexachlorocyclo-hexane-Technical	319868	0.000000	0.000000	0.000012	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hydrogen Sulfide, Undissociated	7783064	0.000000	0.000000	0.002000	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 003

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Malathion	121755	0.000000	0.000000	0.000100	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Methoxychlor	72435	0.000000	0.000000	0.000030	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Mirex	2385855	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Nitrosamines, Other		0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodibutylamine	924163	0.000000	0.000000	0.000006	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodiethylamine	55185	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosopyrrolidine	930552	0.000000	0.000000	0.000016	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Parathion	56382	0.000000	0.000000	0.000013	0.000065	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Pentachlorobenzene	608935	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Phthalate esters		0.000000	0.000000	0.003000	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Total Dissolved Solids		0.000000	0.000000	750.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Tritium		0.000000	0.000000	NA	20,000.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Strontium-90		0.000000	0.000000	NA	8.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Uranium		0.000000	0.000000	NA	0.030000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Ammonia		0.000000	0.000000	58.399996	58.399996	0.00%	0.00%	No Data	0	None	None	Chronic	Acute

Hardness	Chronic	Acute
Metal limitations are developed using the mixed hardness of the effluent and receiving waters	100	100

Toxicity

Type of Test	Maximum	Units	Justification	Percent Effluent
Chronic	1.00	TUc	Chronic	100.00%

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 004

Permit Writer	Sara Beard	
Date Entered	10/15/2009	
Facility Name	General Motors Corporation	
KPDES Number	KY0079545	
Outfall Number	004	
Case	Reissuance	
Status: **Is this an existing facility – Enter "E"** **Is this an existing facility with an increase in pollutant load – Enter "I"** **Is this a new facility – Enter "N"** **Is this a regional facility with an approved up-to-date 201 plan – Enter "R"** **Has the permittee made a successful alternatives analysis/socioeconomic demonstration – Enter "A"**	E	
Receiving Water Name	Sink Hole	
Discharge Mile Point	N/A	
Public Water Supply Name	0	
Intake Water Name	0	
Intake Mile Point	0	
Total Effluent Flow (Q_T)	0.025	MGD
Receiving Water 7Q10 (Q_{RW7Q10})	0	cfs
Receiving Water Harmonic Mean (Q_{RWHM})	0	cfs
Receiving Water pH	0	SU
Receiving Water Temperature	0.00	^oC
Intake Water 7Q10 (Q_{IW7Q10})	0	cfs
Intake Water Harmonic Mean (Q_{IWHM})	0	cfs
Effluent Hardness	100	(as mg/l CaCO3)
Receiving Water Hardness	100	(as mg/l CaCO3)
Zone of Initial Dilution (ZID)	1	
Mixing Zone (MZ)	0	
Acute to Chronic Ratio (ACR)	0.1	
Impaired	No	
Permittee agrees to accept no mixing zone for bioaccumulative or persistent pollutants prior to 09/08/2014	Yes	

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 004

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Chloride	16887006	0.000000	0.000000	250.000000	1,200.000000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Total Residual Chlorine		0.000000	0.000000	0.011000	0.019000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Color		0.000000	0.000000	0.075000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluoride		0.000000	0.000000	2.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Nitrate-Nitrite (as N)	14797558	0.000000	0.000000	10.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Alpha		0.000000	0.000000	NA	15.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Beta		0.000000	0.000000	NA	50.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Radium		0.000000	0.000000	NA	5.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Sulfate (as SO4)		0.000000	0.000000	250.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Surfactants		0.000000	0.000000	0.500000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Barium	7440393	0.000000	0.000000	1.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Iron	7439896	0.000000	0.000000	1.000000	4.000000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Antimony	7440360	0.000000	0.000000	0.005600	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Arsenic	7440382	0.000000	0.000000	0.010000	0.340000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Total Recoverable Beryllium	7440417	0.000000	0.000000	0.004000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Cadmium	7440439	0.000000	0.000000	0.000271	0.002133	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Chromium	7440439	0.000000	0.000000	0.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Copper	7440508	0.000000	0.000000	0.009329	0.013999	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Lead	7439921	0.000000	0.000000	0.003182	0.081645	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Mercury	7439976	0.000000	0.000000	0.000051	0.001700	0.00%	0.00%	No Data	0	None	None	HH Fish	Acute
Total Recoverable Nickel	7440020	0.000000	0.000000	0.052163	0.469174	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Selenium	7782492	0.000000	0.000000	0.005000	0.020000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Total Recoverable Silver	7440224	0.000000	0.000000	NA	0.003784	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Recoverable Thallium	7440280	0.000000	0.000000	0.001700	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Total Recoverable Zinc	7440666	0.000000	0.000000	0.119816	0.119816	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Free Cyanide	57125	0.000000	0.000000	0.005200	0.022000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
2,3,7,8 Tetrachlorodibenzo P Dioxin	1746016	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acrolein	107028	0.000000	0.000000	0.190000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acrylonitrile	107131	0.000000	0.000000	0.000051	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzene	71432	0.200500	0.200500	0.002200	NA	9113.64%	0.00%	DMR	45	Limit	Remove	HH DWS	NA
Bromoform	75252	0.000000	0.000000	0.004300	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Carbon Tetrachloride	56235	0.000000	0.000000	0.000230	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chlorobenzene	108907	0.000000	0.000000	0.680000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chlorodibromomethane	124481	0.000000	0.000000	0.000400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chloroform	67663	0.000000	0.000000	0.005700	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dichlorobromomethane	75274	0.000000	0.000000	0.000550	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichloroethane	107062	0.000000	0.000000	0.000380	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1-Dichloroethylene	75354	0.000000	0.000000	0.000057	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichloropropane	78875	0.000000	0.000000	0.000050	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,3-Dichloropropene	542756	0.000000	0.000000	0.010000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Ethylbenzene	100414	0.000000	0.000000	3.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Methyl Bromide	74839	0.000000	0.000000	0.047000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 004

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Methylene Chloride	75092	0.000000	0.000000	0.004600	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,2,2-Tetrachloroethane	79345	0.000000	0.000000	0.000170	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Tetrachloroethylene	127184	0.000000	0.000000	0.000690	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Toluene	108883	0.559400	0.559400	6.800000	NA	8.23%	0.00%	DMR	45	Remove	Remove	HH DWS	NA
1,2-Trans-Dichloroethylene	156605	0.000000	0.000000	0.700000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,1-Trichloroethane	71556	0.000000	0.000000	0.200000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,1,2-Trichloroethane	79005	0.000000	0.000000	0.000590	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Trichloroethylene	79016	0.000000	0.000000	0.002500	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Vinyl Chloride	75014	0.000000	0.000000	0.002000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-Chlorophenol	95578	0.000000	0.000000	0.081000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dichlorophenol	120832	0.000000	0.000000	0.077000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dimethylphenol	105679	0.000000	0.000000	0.380000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dinitrophenol	51285	0.000000	0.000000	0.069000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Pentachlorophenol	87865	0.000000	0.000000	0.000270	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Phenol	108952	0.000000	0.000000	21.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,6-Trichlorophenol	88062	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Acenaphthene	83329	0.000000	0.000000	0.670000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Anthracene	120127	0.000000	0.000000	8.300000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzidine	92875	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(a)anthracene	56553	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(a)pyrene	50328	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(k)fluoranthene	205992	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-chloroisopropyl)ether	108601	0.000000	0.000000	1.400000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-ethylhexyl)phthalate	117817	0.000000	0.000000	0.001200	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Butylbenzyl phthalate	85687	0.000000	0.000000	1.500000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-Chloronaphthalene	91587	0.000000	0.000000	1.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chrysene	218019	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dibenzo(a,h)anthracene	53703	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Dichlorobenzene	95501	0.000000	0.000000	2.700000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,3-Dichlorobenzene	541731	0.000000	0.000000	0.320000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,4-Dichlorobenzene	106467	0.000000	0.000000	0.400000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
3,3-Dichlorobenzidine	91941	0.000000	0.000000	0.000021	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Diethyl phthalate	84662	0.000000	0.000000	17.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dimethyl phthalate	131113	0.000000	0.000000	270.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Di-n-butyl phthalate	84742	0.000000	0.000000	2.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-Dinitrotoluene	121142	0.000000	0.000000	0.000110	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2-Diphenylhydrazine	122667	0.000000	0.000000	0.000036	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluoranthene	206440	0.000000	0.000000	0.130000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Fluorene	86737	0.000000	0.000000	1.100000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorobenzene	118741	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorobutadiene	87683	0.000000	0.000000	0.000440	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachlorocyclopentadiene	77474	0.000000	0.000000	0.240000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hexachloroethane	67721	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 004

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Ideno(1,2,3-cd)pyrene	193395	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Isophorone	78591	0.000000	0.000000	0.035000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Nitrobenzene	98953	0.000000	0.000000	0.017000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodimethylamine	62759	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodi-n-Propylamine	621647	0.000000	0.000000	0.000005	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodiphenylamine	86306	0.000000	0.000000	0.003300	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Pyrene	129000	0.000000	0.000000	0.830000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
1,2,4-Trichlorobenzene	120821	0.000000	0.000000	0.260000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Aldrin	309002	0.000000	0.000000	0.000000	0.003000	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
alpha-BHC	319846	0.000000	0.000000	0.000003	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Beta-BHC	319857	0.000000	0.000000	0.000009	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
gamma-BHC (Lindane)	58899	0.000000	0.000000	0.000019	0.000950	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Chlordane	57749	0.000000	0.000000	0.000001	0.002400	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
4,4'-DDT	50293	0.000000	0.000000	0.000000	0.001100	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
4,4'-DDE	72559	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
4,4'-DDD	72548	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Dieldrin	60571	0.000000	0.000000	0.000000	0.000240	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Alpha-Endosulfan	959988	0.000000	0.000000	0.000056	0.000220	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Beta-Endosulfan	33213659	0.000000	0.000000	0.000056	0.000220	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Endosulfan sulfate	1031078	0.000000	0.000000	0.062000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Endrin	72208	0.000000	0.000000	0.000036	0.000086	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Endrin aldehyde	7421934	0.000000	0.000000	0.000290	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Heptachlor	76448	0.000000	0.000000	0.000000	0.000520	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Heptachlor epoxide	1024573	0.000000	0.000000	0.000000	0.000520	0.00%	0.00%	No Data	0	None	None	HH DWS	Acute
Polychlorinated Biphenyls (PCBs)		0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Toxaphene	8001352	0.000000	0.000000	0.000000	0.000730	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
1,2,4,5-Tetrachlorobenzene	95943	0.000000	0.000000	0.000970	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2-methyl-4,6-dinitrophenol	534521	0.000000	0.000000	0.013000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4-D	94757	0.000000	0.000000	0.070000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,5-TP (Silvex)	93721	0.000000	0.000000	0.010000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
2,4,5-trichlorophenol	95954	0.000000	0.000000	1.800000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Asbestos	1332214	0.000000	0.000000	7,000.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Benzo(b)fluoranthene	205992	0.000000	0.000000	0.000004	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(2-chloroethyl)ether	111444	0.000000	0.000000	0.000030	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Bis(chloromethyl)ether	542881	0.000000	0.000000	0.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Chloropyrifos	2921882	0.000000	0.000000	0.000041	0.000083	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Chromium (III)	16065831	0.000000	0.000000	0.086180	1.803049	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Chromium (VI)	18540299	0.000000	0.000000	0.011000	0.016000	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Demeton	8065483	0.000000	0.000000	0.000100	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Dinitrophenols	25550587	0.000000	0.000000	0.069000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Guthion	86500	0.000000	0.000000	0.000010	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Hexachlorocyclo-hexane-Technical	319868	0.000000	0.000000	0.000012	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Hydrogen Sulfide, Undissociated	7783064	0.000000	0.000000	0.002000	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA

STEADY STATE TOXICS WASTELOAD ALLOCATION MODEL (SSTWAM2004) – REASONABLE POTENTIAL ANALYSIS – OUTFALL 004

Parameter	CAS Number	Reported Discharge (mg/l)		Calculated Effluent Limitations (mg/l)		Reasonable Potential		Data Source	No. of Samples	Effluent Requirement		Justification	
		Average	Maximum	Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum
Malathion	121755	0.000000	0.000000	0.000100	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Methoxychlor	72435	0.000000	0.000000	0.000030	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Mirex	2385855	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Nitrosamines, Other		0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodibutylamine	924163	0.000000	0.000000	0.000006	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosodiethylamine	55185	0.000000	0.000000	0.000001	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
N-Nitrosopyrrolidine	930552	0.000000	0.000000	0.000016	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Parathion	56382	0.000000	0.000000	0.000013	0.000065	0.00%	0.00%	No Data	0	None	None	Chronic	Acute
Pentachlorobenzene	608935	0.000000	0.000000	0.001400	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Phthalate esters		0.000000	0.000000	0.003000	NA	0.00%	0.00%	No Data	0	None	None	Chronic	NA
Total Dissolved Solids		0.000000	0.000000	750.000000	NA	0.00%	0.00%	No Data	0	None	None	HH DWS	NA
Tritium		0.000000	0.000000	NA	20,000.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Strontium-90		0.000000	0.000000	NA	8.000000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Uranium		0.000000	0.000000	NA	0.030000	0.00%	0.00%	No Data	0	None	None	NA	Acute
Total Ammonia		0.000000	0.000000	58.399996	58.399996	0.00%	0.00%	No Data	0	None	None	Chronic	Acute

Hardness	Chronic	Acute
Metal limitations are developed using the mixed hardness of the effluent and receiving waters	100	100

Toxicity

Type of Test	Maximum	Units	Justification	Percent Effluent
Chronic	1.00	TUc	Chronic	100.00%

KPDES

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT

PERMIT NO.: KY0079545
AI NO.: 4109

AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

General Motors Company
300 Renaissance Center
Detroit, Michigan 48265
Louisville, Kentucky 40232

is authorized to discharge from a facility located at

General Motors LLC – Bowling Green Facility
600 Corvette Drive
Bowling Green, Warren County, Kentucky

to receiving waters named

Outfalls 001, 002, 003, and 004 discharge to various sinkholes on the property located at the following latitudes/longitudes: 37°00′30″/-86°21′40″, 37°00′25″/-86°22′02″, 37°00′45″/-86°21′45″, and 37°00′50″/-86°21′58″, respectively.

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, III, and IV hereof. The permit consists of this cover sheet, and Part I 5 pages, Part II 1 page, and Part III 1 page, and Part IV 3 pages.

This permit shall become effective on.

This permit and the authorization to discharge shall expire at midnight, .

_____
Date Signed

_____
Sandra L. Gruzesky, Director
Division of Water

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PART I A1 - EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 001 – Roof drainage and parking area storm water runoff.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	N/A	N/A	Report	Report	1/Discharge	Instantaneous
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Discharge	Grab
Total Suspended Solids (mg/l)	N/A	N/A	30	60	1/Discharge	Grab
Hardness (mg/l as $CaCO_3$)	N/A	N/A	Report	Report	1/Discharge	Grab
Total Recoverable Copper (mg/l)	N/A	N/A	0.0093	0.0140	1/Discharge	Grab
Total Recoverable Lead (mg/l)	N/A	N/A	0.0032	N/A	1/Discharge	Grab
Total Recoverable Zinc (mg/l)	N/A	N/A	Report	0.120	1/Discharge	Grab
pH (standard units)	N/A	N/A	6.0(min)	9.0(max)	1/Discharge	Grab

The abbreviation N/A means Not Applicable.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point after final treatment, but prior to actual discharge to or mixing with the receiving waters or wastestreams from other outfalls.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

All parameters shall be samples 1/Discharge, but no more frequently than once per month.

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PART I A2 - EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 002 – Roof drainage and parking area storm water runoff.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	N/A	N/A	Report	Report	1/Discharge	Instantaneous
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Discharge	Grab
Total Suspended Solids (mg/l)	N/A	N/A	30	60	1/Discharge	Grab
Hardness (mg/l as $CaCO_3$)	N/A	N/A	Report	Report	1/Discharge	Grab
Total Recoverable Copper (mg/l)	N/A	N/A	0.0093	0.0140	1/Discharge	Grab
Total Recoverable Lead (mg/l)	N/A	N/A	0.0032	Report	1/Discharge	Grab
Total Recoverable Zinc (mg/l)	N/A	N/A	Removing from Permit			
pH (standard units)	N/A	N/A	6.0(min)	9.0(max)	1/Discharge	Grab

The abbreviation N/A means Not Applicable.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point after final treatment, but prior to actual discharge to or mixing with the receiving waters or wastestreams from other outfalls.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

All parameters shall be samples 1/Discharge, but no more frequently than once per month.

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PART I A3 - EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 003 – Roof drainage and parking area storm water runoff.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	N/A	N/A	Report	Report	1/Discharge	Instantaneous
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Discharge	Grab
Total Suspended Solids (mg/l)	N/A	N/A	30	60	1/Discharge	Grab
Hardness (mg/l as $CaCO_3$)	N/A	N/A	Report	Report	1/Discharge	Grab
Total Recoverable Copper (mg/l)	N/A	N/A	0.0093	0.0140	1/Discharge	Grab
Total Recoverable Lead (mg/l)	N/A	N/A	0.0032	N/A	1/Discharge	Grab
Total Recoverable Zinc (mg/l)	N/A	N/A	Report	0.120	1/Discharge	Grab
pH (standard units)	N/A	N/A	6.0(min)	9.0(max)	1/Discharge	Grab

The abbreviation N/A means Not Applicable.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point after final treatment, but prior to actual discharge to or mixing with the receiving waters or wastestreams from other outfalls.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

All parameters shall be samples 1/Discharge, but no more frequently than once per month.

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PART I A4 - EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 004 – Roof drainage and parking area storm water runoff.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	N/A	N/A	Report	Report	1/Discharge	Instantaneous
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Discharge	Grab
Total Suspended Solids (mg/l)	N/A	N/A	30	60	1/Discharge	Grab
Benzene (mg/l)	N/A	N/A	0.0022	N/A	1/Discharge	Grab
Toluene (mg/l)	N/A	N/A	Removing from Permit			
Total Organic Carbon (mg/l)	N/A	N/A	Report	Report	1/Discharge	Grab
pH (standard units)	N/A	N/A	6.0(min)	9.0(max)	1/Discharge	Grab

The abbreviation N/A means Not Applicable.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point after final treatment, but prior to actual discharge to or mixing with the receiving waters or wastestreams from other outfalls.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

All parameters shall be samples 1/Discharge, but no more frequently than once per month.

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PART I B - SCHEDULE OF COMPLIANCE

The permittee shall achieve compliance with all requirements on the effective date of this permit.

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PART II - STANDARD CONDITIONS FOR KPDES PERMIT

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal, and local agencies.

It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

The permittee is also advised that all KPDES permit conditions in KPDES Regulation 401 KAR 5:065, Section 1 will apply to all discharges authorized by this permit.

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PART III - OTHER REQUIREMENTS

A. Reporting of Monitoring Results

Monitoring results obtained during each monitoring period must be reported on a preprinted Discharge Monitoring Report (DMR) Form that will be mailed to you. The completed DMR for each monitoring period must be sent to the Division of Water at the address listed below (with a copy to the appropriate Regional Office) postmarked no later than the 28th day of the month following the monitoring period for which monitoring results were obtained.

Division of Water
Bowling Green Regional Office
1508 Western Avenue
Bowling Green, Kentucky 42104
ATTN: Supervisor

Division of Water
Surface Water Permits Branch
Permit Support Section
200 Fair Oaks Lane
Frankfort, Kentucky 40601

B. Reopener Clause

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under 401 KAR 5:050 through 5:086, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of KRS Chapter 224 when applicable.

C. Outfall Signage

The permittee shall post a permanent marker at all discharge locations and/or monitoring points. The marker shall be at least 2 feet by 2 feet in size and a minimum of 3 feet above ground level with the Permittee Name and KPDES permit and outfall numbers in 2 inch letters. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and shall be posted as near as possible to the actual sampling location.

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PART IV - BEST MANAGEMENT PRACTICES

SECTION A. GENERAL CONDITIONS

1. Applicability

These conditions apply to all permittees who use, manufacture, store, handle, or discharge any pollutant listed as: (1) toxic under Section 307(a)(1) of the Clean Water Act; (2) oil, as defined in Section 311(a)(1) of the Act; (3) any pollutant listed as hazardous under Section 311 of the Act; or (4) is defined as a pollutant pursuant to KRS 224.01-010(35) and who have ancillary manufacturing operations which could result in (1) the release of a hazardous substance, pollutant, or contaminant, or (2) an environmental emergency, as defined in KRS 224.01-400, as amended, or any regulation promulgated pursuant thereto (hereinafter, the "BMP pollutants"). These operations include material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas.

2. BMP Plan

The permittee shall develop and implement a Best Management Practices (BMP) plan consistent with 401 KAR 5:065, Section 2(10) pursuant to KRS 224.70-110, which prevents or minimizes the potential for the release of "BMP pollutants" from ancillary activities through plant site runoff; spillage or leaks, sludge or waste disposal; or drainage from raw material storage. A Best Management Practices (BMP) plan will be prepared by the permittee unless the permittee can demonstrate through the submission of a BMP outline that the elements and intent of the BMP have been fulfilled through the use of existing plans such as the Spill Prevention Control and Countermeasure (SPCC) plans, contingency plans, and other applicable documents.

3. Implementation

If this is the first time for the BMP requirement, then the plan shall be developed and submitted to the Division of Water within 90 days of the effective date of the permit. Implementation shall be within 180 days of that submission. For permit renewals the plan in effect at the time of permit reissuance shall remain in effect. Modifications to the plan as a result of ineffectiveness or plan changes to the facility shall be submitted to the Division of Water and implemented as soon as possible.

4. General Requirements

The BMP plan shall:

a. Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.

b. Establish specific objectives for the control of toxic and hazardous pollutants.

   (1) Each facility component or system shall be examined for its potential for causing a release of "BMP pollutants" due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.

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(2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances which could result in a release of "BMP pollutants," the plan should include a prediction of the direction, rate of flow, and total quantity of the pollutants which could be released from the facility as result of each condition or circumstance.

c. Establish specific Best Management Practices to meet the objectives identified under paragraph b of this section, addressing each component or system capable of causing a release of "BMP pollutants."

d. Include any special conditions established in part b of this section.

e. Be reviewed by plant engineering staff and the plant manager.

5. Specific Requirements

The plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document," and shall include the following baseline BMPs as a minimum.

a. BMP Committee
b. Reporting of BMP Incidents
c. Risk Identification and Assessment
d. Employee Training
e. Inspections and Records
f. Preventive Maintenance
g. Good Housekeeping
h. Materials Compatibility
i. Security
j. Materials Inventory

6. SPCC Plans

The BMP plan may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 151, and may incorporate any part of such plans into the BMP plan by reference.

7. Hazardous Waste Management

The permittee shall assure the proper management of solid and hazardous waste in accordance with the regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1978 (RCRA) (40 U.S.C. 6901 et seq.) Management practices required under RCRA regulations shall be referenced in the BMP plan.

8. Documentation

The permittee shall maintain a description of the BMP plan at the facility and shall make the plan available upon request to NREPC personnel. Initial copies and modifications thereof shall be sent to the following addresses when required by Section 3:

Division of Water
Bowling Green Regional Office
1508 Western Avenue
Bowling Green, Kentucky 40222
ATTN: Supervisor

Division of Water
Surface Water Permits Branch
Operational Permits Section
200 Fair Oaks Lane
Frankfort, Kentucky 40601

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9. BMP Plan Modification

The permittee shall amend the BMP plan whenever there is a change in the facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in the release of "BMP pollutants."

10. Modification for Ineffectiveness

If the BMP plan proves to be ineffective in achieving the general objective of preventing the release of "BMP pollutants," then the specific objectives and requirements under paragraphs b and c of Section 4, the permit, and/or the BMP plan shall be subject to modification to incorporate revised BMP requirements. If at any time following the issuance of this permit the BMP plan is found to be inadequate pursuant to a state or federal site inspection or plan review, the plan shall be modified to incorporate such changes necessary to resolve the concerns.

SECTION B. SPECIFIC CONDITIONS

Periodically Discharged Wastewaters Not Specifically Covered By Effluent Conditions

The permittee shall include in this BMP plan procedures and controls necessary for the handling of periodically discharged wastewaters such as intake screen backwash, meter calibration, fire protection, hydrostatic testing water, water associated with demolition projects, etc.

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