

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

AUTHORIZATION TO DISCHARGE UNDER THE MONTANA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Montana Water Quality Act, Title 75, Chapter 5, Montana Code Annotated (MCA) and the Federal Water Pollution Control Act (the "Clean Water Act"), 33 U.S.C. § 1251 *et seq.*,

Phillips 66 Company

is authorized to discharge from its **Phillips 66 Billings Refinery**

located at **401 S. 23rd St. Billings, Montana,**

to receiving waters named, **Yegen Drain and Yellowstone River**

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein. Authorization for discharge is limited to those outfalls specifically listed in the permit.

This permit shall become effective: **{to be determined}**.

This permit and the authorization to discharge shall expire at midnight, **{5 years after effective date}**.

FOR THE MONTANA DEPARTMENT OF
ENVIRONMENTAL QUALITY

DRAFT

Jon Kenning, Chief
Water Protection Bureau

Issuance Date: _____

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I. EFFLUENT LIMITATIONS, MONITORING REQUIREMENTS & OTHER CONDITIONS

A. Description of Discharge Points and Mixing Zone

The authorization to discharge provided under this permit is limited to those outfalls specially designated below as discharge locations. Discharges at any location not authorized under an MPDES permit is a violation of the Montana Water Quality Act and could subject the person(s) responsible for such discharge to penalties under the Act. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within a reasonable time from first learning of an unauthorized discharge could subject such person to criminal penalties as provided under Section 75-5-632 of the Montana Water Quality Act.

| <u>Outfall</u> | <u>Description</u> |
|----------------|---|
| 002 | Location: Hydrostatic test wastewater discharge to the Yegen Drain located at 45.7814 N latitude, 108.4847 W longitude. Mixing Zone: The maximum extent of the chronic mixing zone is 200 feet downstream for total residual chlorine (TRC). The maximum extent of the acute mixing zone is 20 feet downstream for TRC. |
| 003 | Location: Storm water discharge to the Yegen Drain located at 45.77639 N Latitude, 108.4886 W longitude. Mixing Zone: None. |
| 004 | Location: Storm water discharge to the Yegen Drain located at 45.7814 N latitude, 108.4847 W longitude. Mixing Zone: None. |
| 005 | Location: Storm water discharge to branch of the Yegen Drain, located at 45.78694 N latitude, 108.4853 W longitude. Mixing Zone: None. |
| 006 | Location: Discharge into the Yellowstone River from a diffuser located at 45.79639 N latitude, 108.4697 W longitude. Mixing Zone: None. |

B. Effluent Limitations

Outfall 002 – Hydrostatic Testing

Beginning on the effective date of this permit and lasting through the term of the permit, the quality of effluent discharged by the facility from Outfall 002 to the Yegen Drain shall, as a minimum, meet the limitations as set forth below:

| Numeric Effluent Limits for Outfall 002: Hydrostatic Testing | | | |
|--|--------------|----------------------------|------------------------------|
| Parameter | Units | Maximum Daily Limit | Average Monthly Limit |
| Oil & Grease | mg/L | 10 | -- |
| Ammonia (as N) | mg/L | 4.6 | 2.3 |
| Total Residual Chlorine (TRC) ⁽¹⁾ | µg/L | 21 | 10 |
| Selenium, total recoverable | µg/L | 8.2 | 4.1 |
| pH | s.u. | 6.0 – 9.0 | |
| Footnotes: (1) Nondetect at the Required Reporting Value (RRV) of 100 µg/L demonstrates compliance with the TRC limits. | | | |

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

There shall be no discharge that causes visible oil sheen in the receiving stream.

There shall be no discharge of wastewater which reacts or settles to form an objectionable sludge deposit or emulsion beneath the surface of the receiving stream or upon adjoining shorelines.

Outfall 006 – Process Wastewater

Beginning on the effective date of this permit and lasting through the term of the permit, the quality of effluent discharged by the facility from Outfall 006 to the Yellowstone River shall, as a minimum, meet the limitations as set forth below:

| Numeric Effluent Limits for Outfall 006: Process Wastewater | | | |
|--|--------------|----------------------------|------------------------------|
| Parameter | Units | Maximum Daily Limit | Average Monthly Limit |
| Oil & Grease | mg/L | 10 | -- |
| Arsenic, total recoverable | µg/L | 10 | 10 |
| pH | s.u. | 6.0 – 9.0 | |
| WET – Two Species Acute, LC ₅₀ | % effluent | No acute toxicity | |

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

There shall be no discharge that causes visible oil sheen in the receiving stream.

There shall be no discharge of wastewater which reacts or settles to form an objectionable sludge deposit or emulsion beneath the surface of the receiving stream or upon adjoining shorelines.

SUM-A: Sum of Outfalls 002 and 006

Beginning on the effective date of this permit and lasting through the term of the permit, the quality of effluent discharged by the facility from SUM-A (the sum of the discharges from Outfall 002 & Outfall 006) shall, as a minimum, meet the limitations as set forth below:

| Numeric Effluent Limits for SUM-A | | | |
|---|--------------|----------------------------|------------------------------|
| Parameter | Units | Maximum Daily Limit | Average Monthly Limit |
| Total Suspended Solids (TSS) | lb/day | 338 | 215 |
| 5-Day Biochemical Oxygen Demand (BOD ₅) | lb/day | 485 | 270 |
| Chemical Oxygen Demand (COD) | lb/day | 2,243 | 1,253 |
| Ammonia (as N) | lb/day | 314 | 143 |
| Oil & Grease | lb/day | 148 | 78 |
| Sulfide, total | lb/day | 3.09 | 1.38 |
| Phenols | lb/day | 2.26 | 1.08 |
| Chromium, total recoverable | lb/day | 4.51 | 2.07 |
| Chromium, hexavalent | lb/day | 0.39 | 0.17 |

Storm Water Discharges

Interim Effluent Limits

Beginning on the effective date of this permit and lasting through <four years from permit effective date>, Phillips 66 will be required to meet the following effluent limits for storm water discharges from Outfalls 003, 004, and 005:

| Interim Numeric Effluent Limits for Outfalls 003, 004, and 005 | | | |
|---|--------------|----------------------------|------------------------------|
| Parameter | Units | Maximum Daily Limit | Average Monthly Limit |
| Total Organic Carbon (TOC) | mg/L | 110 | -- |
| Oil & Grease | mg/L | 10 | -- |
| pH | s.u. | 6.0 – 9.0 | |

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

There shall be no discharge that causes visible oil sheen in the receiving stream.

There shall be no discharge of wastewater which reacts or settles to form an objectionable sludge deposit or emulsion beneath the surface of the receiving stream or upon adjoining shorelines.

Final Effluent Limits

Effective <four years from permit effective date> through the term of the permit, Phillips 66 will be required to meet the following effluent limits for storm water discharges from Outfalls 003, 004, and 005:

| Final Numeric Effluent Limits for Outfalls 003, 004, and 005 | | | |
|---|--------------|----------------------------|------------------------------|
| Parameter | Units | Maximum Daily Limit | Average Monthly Limit |
| Total Organic Carbon (TOC) | mg/L | 110 | -- |
| Oil & Grease | mg/L | 10 | -- |
| Selenium, total recoverable | µg/L | 8.2 | 4.1 |
| pH | s.u. | 6.0 – 9.0 | |

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

There shall be no discharge that causes visible oil sheen in the receiving stream.

There shall be no discharge of wastewater which reacts or settles to form an objectionable sludge deposit or emulsion beneath the surface of the receiving stream or upon adjoining shorelines.

C. Monitoring Requirements

1. *Effluent Monitoring Outfalls 002 through 006*

Self-monitoring of effluent shall be conducted after final treatment and prior to mixing with the receiving water. As a minimum, upon the effective date of this permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. Samples shall be collected, preserved and analyzed in accordance with approved procedures listed in 40 CFR 136.

Data supplied by Phillips 66 must meet the Required Reporting Value (RRV), which is the detection level that must be achieved in reporting surface water monitoring or compliance data to the Department as listed in Circular DEQ-7. The RRV is the Department’s best determination of a level of analysis that can be achieved by the majority of the commercial, university, or governmental laboratories using EPA-approved methods or methods approved by the Department. If no RRV is provided and ‘nondetect’ is expected, the detection limit must be the lowest that is achievable.

The parameters are to be reported by the 28th of the month following the monitoring period, unless otherwise specified. For instance, quarterly monitoring is due the 28th of the month following the quarter (i.e., January – March is due April 28th). If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report (DMR) Form that no discharge or overflow occurred.

| Outfall 002 - Effluent Monitoring Requirements ⁽¹⁾ | | | | | |
|---|----------|-------------------------------------|---------------------------|-------|-----------------------|
| Parameter | Units | Monitoring Frequency ⁽²⁾ | Type | RRV | Reporting Requirement |
| Flow | mgd | Daily | Calculated | NA | Daily Max & Mo Avg |
| | days | Daily | Recordkeeping | NA | Number of Days |
| pH | s.u. | 3/Event | Instantaneous / Grab | 0.1 | Min / Max |
| Total Suspended Solids (TSS) | mg/L | 1/Event | Grab | 10 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| 5-Day Biochemical Oxygen Demand (BOD ₅) | mg/L | 1/Event | Grab | 5 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Chemical Oxygen Demand (COD) | mg/L | 1/Event | Grab | 10 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Ammonia (as N) | mg/L | 3/Event | Grab | 0.07 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Oil & Grease | mg/L | 1/Event | Grab | 5 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| | Presence | 3/Event | Visual ⁽³⁾ | NA | Absent or Present |
| Sulfide, total | µg/L | 3/Event | Grab | 100 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Sulfide, dissolved | µg/L | 1/Month | Composite | 40 | Daily Max / Mo Avg |
| Hydrogen Sulfide (H ₂ S) | µg/L | 3/Event | Calculated ⁽⁴⁾ | 20 | Daily Max / Mo Avg |
| Phenol | µg/L | 1/Event | Grab | 10 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Chromium, total recoverable | µg/L | 1/Event | Grab | 10 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Chromium, hexavalent | µg/L | 1/Event | Grab | 2 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Selenium, total recoverable | µg/L | 3/Event | Grab | 1 | Daily Max / Mo Avg |
| Total Residual Chlorine | µg/L | 3/Event | Grab | 100 | Daily Max / Mo Avg |
| Fluoride | mg/L | 1/Event | Grab | 0.2 | Daily Max / Mo Avg |
| Aluminum, dissolved | µg/L | 1/Event | Grab | 9 | Daily Max / Mo Avg |
| Arsenic, total recoverable | µg/L | 1/Event | Grab | 1 | Daily Max / Mo Avg |
| Copper, total recoverable | µg/L | 1/Event | Grab | 2 | Daily Max / Mo Avg |
| Lead, total recoverable | µg/L | 1/Event | Grab | 0.3 | Daily Max / Mo Avg |
| Nitrate + Nitrite (N+N) | mg/L | 1/Event ^(5,6) | Grab | 0.02 | Mo Avg |
| Total Kjeldahl Nitrogen (TKN) | mg/L | 1/Event ^(5,6) | Grab | 0.23 | Mo Avg |
| Total Nitrogen (TN) | mg/L | 1/Event ^(5,6) | Grab or Calculated | 0.25 | Mo Avg |
| | lb/day | 1/Event ^(5,6) | Calculated | NA | Mo Avg |
| Total Phosphorus (TP) | mg/L | 1/Event ⁽⁵⁾ | Grab | 0.003 | Mo Avg |
| | lb/day | 1/Event ⁽⁵⁾ | Calculated | NA | Mo Avg |

Footnotes:

- (1) The effluent monitoring location must be after all treatment has been completed and prior to entry to the receiving waters.
- (2) Samples must be collected within 30 minutes of initial discharge for all parameters. For parameters requiring three samples per discharge event, samples must also be collected halfway through the discharge, and within 30 minutes of cessation of discharge.
- (3) Report Presence or Absence. If an oil sheen is observed, a grab sample of the effluent must be collected and analyzed for Oil & Grease.
- (4) Calculate H₂S based on dissolved sulfide concentrations and pH in accordance with *Standard Methods* Method 4500-S², unless another method is proposed and accepted by the Department.
- (5) Monitoring for nutrients required only during the Yegen Drain “summer season” of July 1st – September 30th.
- (6) TN may be provided by calculating the sum of N+N and TKN or by conducting the persulfate digestion method. If the persulfate digestion method is used, TKN analysis is not required and “NA” may be indicated on the DMR for N+N and TKN.

| Outfall 006 - Effluent Monitoring Requirements ⁽¹⁾ | | | | | |
|---|------------|------------------------|------------------------------|-------|-----------------------|
| Parameter | Units | Monitoring Frequency | Type | RRV | Reporting Requirement |
| Flow | mgd | Continuous | Instantaneous ⁽²⁾ | NA | Daily Max / Mo Avg |
| pH | s.u. | 1/Day | Instantaneous or Grab | 0.1 | Min / Max |
| Total Suspended Solids (TSS) | mg/L | 2/Week | Composite | 10 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| 5-Day Biochemical Oxygen Demand (BOD ₅) | mg/L | 1/Week | Composite | 5 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Chemical Oxygen Demand (COD) | mg/L | 2/Week | Composite | 10 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Ammonia (as N) | mg/L | 1/Week | Composite | 0.07 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Oil & Grease | mg/L | 1/Week | Grab | 5 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| | presence | 1/Day | Visual ⁽³⁾ | NA | Absent or Present |
| Sulfide, total | µg/L | 1/Month | Composite | 100 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Sulfide, dissolved | µg/L | 1/Month | Composite | 40 | Daily Max / Mo Avg |
| Hydrogen Sulfide (H ₂ S) | µg/L | 1/Month | Calculated ⁽⁴⁾ | 20 | Daily Max / Mo Avg |
| Phenol | µg/L | 1/Month | Grab | 10 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Chromium, total recoverable | µg/L | 1/Month | Composite | 10 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Chromium, hexavalent | µg/L | 1/Month | Composite | 2 | Daily Max / Mo Avg |
| | lb/day | 1/Month | Calculated | NA | Report |
| Arsenic, total recoverable | µg/L | 1/Month | Composite | 1 | Daily Max / Mo Avg |
| Total Residual Chlorine (TRC) | µg/L | 1/Quarter | Grab | 100 | Daily Max / Mo Avg |
| Fluoride | mg/L | 1/Quarter | Composite | 0.2 | Daily Max / Mo Avg |
| Aluminum, dissolved | µg/L | 1/Quarter | Composite | 9 | Daily Max / Mo Avg |
| Cadmium, total recoverable | µg/L | 1/Quarter | Composite | 0.03 | Daily Max / Mo Avg |
| Copper, total recoverable | µg/L | 1/Quarter | Composite | 2 | Daily Max / Mo Avg |
| Iron, total recoverable | µg/L | 1/Quarter | Composite | 20 | Daily Max / Mo Avg |
| Cyanide | µg/L | 1/Quarter | Grab | 3 | Daily Max / Mo Avg |
| Lead, total recoverable | µg/L | 1/Quarter | Composite | 0.3 | Daily Max / Mo Avg |
| Mercury, total recoverable | µg/L | 1/Quarter | Composite | 0.005 | Daily Max / Mo Avg |
| Selenium, total recoverable | µg/L | 1/Quarter | Composite | 1 | Daily Max / Mo Avg |
| Thallium, total recoverable | µg/L | 1/Quarter | Composite | 0.2 | Daily Max / Mo Avg |
| Nitrate + Nitrite ⁽⁶⁾ | mg/L | 1/Month ⁽⁵⁾ | Composite | 0.02 | Mo Avg |
| Total Kjeldahl Nitrogen (TKN) ⁽⁶⁾ | mg/L | 1/Month ⁽⁵⁾ | Composite | 0.23 | Mo Avg |
| Total Nitrogen (TN) ⁽⁶⁾ | mg/L | 1/Month ⁽⁵⁾ | Calculated or Composite | 0.25 | Mo Avg |
| | lb/day | 1/Month ⁽⁵⁾ | Calculated | NA | Mo Avg |
| Total Phosphorus (TP) | mg/L | 1/Month ⁽⁵⁾ | Composite | 0.003 | Mo Avg |
| | lb/day | 1/Month ⁽⁵⁾ | Calculated | NA | Mo Avg |
| Temperature | degrees C | 1/Month | Instantaneous | 0.1 | Report |
| Whole Effluent Toxicity, Acute ⁽⁷⁾ | % Effluent | 1/Quarter | Grab | NA | Pass/Fail |

Outfall 006 - Effluent Monitoring Requirements ⁽¹⁾

Footnotes:

- (1) The effluent monitoring location must be after all treatment has been completed, prior to discharge into the receiving water.
- (2) Requires recording device or totalizer.
- (3) Report Presence or Absence. If an oil sheen is observed, a grab sample of the effluent must be collected and analyzed for Oil & Grease.
- (4) Calculate H₂S based on dissolved sulfide concentrations and pH in accordance with *Standard Methods* Method 4500-S²⁻, unless another method is proposed and accepted by the Department.
- (5) Nutrient monitoring required only during the Yellowstone River “summer season” of August 1 – October 31st.
- (6) TN may be provided by calculating the sum of Nitrate+Nitrite and TKN, or by conducting the persulfate digestion method. If the persulfate digestion method is used, N+N and TKN analyses are not required and “NA” may be indicated on the DMR.
- (7) Two species conducted quarterly. Failure of any acute WET test requires that the permittee comply with the permit’s Special Conditions.

SUM-A - Effluent Monitoring Requirements ⁽¹⁾

| Parameter | Units | Monitoring Frequency | Type | RRV | Reporting Requirement |
|---|--------|----------------------|------------|-----|-----------------------|
| Total Suspended Solids (TSS) | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |
| 5-Day Biochemical Oxygen Demand (BOD ₅) | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |
| Chemical Oxygen Demand (COD) | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |
| Ammonia (as N) | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |
| Oil & Grease | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |
| Sulfide, total | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |
| Phenol | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |
| Chromium, total recoverable | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |
| Chromium, hexavalent | lb/day | 1/Month | Calculated | NA | Daily Max / Mo Avg |

Footnote:

(1) SUM-A is the sum of Outfall 002 and Outfall 006 monitoring data.

Except storm water, composite samples shall, as a minimum, be composed of two or more discrete aliquots (samples) of equal volume and time collected in a 24 hour period. The aliquots shall be combined in a single container for analysis (simple composite). The time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours.

Load Calculations

Effluent limitations or monitoring requirements that are expressed in terms of load (lb/day), must be based on total mass of the discharge in accordance with the definition of daily discharge in Part V of this permit. If the permit specifies that the effluent flow rate be monitored on a continuous basis, the total mass shall be calculated using the following equations:

$$\text{Load (lb/day)} = \text{Daily Discharge (mg/L)} \times \text{Daily Flow (MGD)} \times 8.34$$

| Outfalls 003, 004 & 005 - Storm Water Monitoring Requirements | | | | | |
|---|--------------|-----------------------------|-----------------------|------------|-----------------------------------|
| Parameter | Units | Monitoring Frequency | Type | RRV | Reporting Requirement |
| Flow | mgd | Daily | Estimated | NA | Daily Max & Mo Avg |
| | days | Daily | Recordkeeping | NA | Number of Days |
| pH | s.u. | Daily ⁽¹⁾ | Instantaneous or Grab | 0.1 | Monthly minimum & Monthly maximum |
| Total Suspended Solids (TSS) | mg/L | Weekly ⁽¹⁾ | Grab | 10 | Daily Max & Mo Avg |
| 5-Day Biochemical Oxygen Demand (BOD ₅) | mg/L | Weekly ⁽¹⁾ | Grab | 5 | Daily Max & Mo Avg |
| Chemical Oxygen Demand (COD) | mg/L | Weekly ⁽¹⁾ | Grab | 10 | Daily Max & Mo Avg |
| Ammonia (as N) | mg/L | Weekly ⁽¹⁾ | Grab | 0.07 | Daily Max & Mo Avg |
| Oil & Grease | mg/L | Weekly ⁽¹⁾ | Grab | 5 | Daily Max & Mo Avg |
| | Presence | Daily ⁽¹⁾ | Visual | NA | Absent or Present |
| Sulfide, dissolved ⁽²⁾ | µg/L | Weekly ⁽¹⁾ | Grab | 40 | Daily Max & Mo Avg |
| Hydrogen Sulfide ⁽²⁾ | µg/L | Weekly ⁽¹⁾ | Grab | 20 | Daily Max & Mo Avg |
| Phenol | µg/L | Weekly ⁽¹⁾ | Grab | 10 | Daily Max & Mo Avg |
| Chromium, total recoverable | µg/L | Weekly ⁽¹⁾ | Grab | 10 | Daily Max & Mo Avg |
| Chromium, hexavalent | µg/L | Weekly ⁽¹⁾ | Grab | 2 | Daily Max & Mo Avg |
| Total Organic Carbon (TOC) | mg/L | Weekly ⁽¹⁾ | Grab | 2 | Daily Max & Mo Avg |
| Selenium, total recoverable | µg/L | Weekly ⁽¹⁾ | Grab | 1 | Daily Max & Mo Avg |
| Arsenic, total recoverable | µg/L | Weekly ⁽¹⁾ | Grab | 1 | Daily Max & Mo Avg |
| Copper, total recoverable | µg/L | Weekly ⁽¹⁾ | Grab | 2 | Daily Max & Mo Avg |
| Benzene | µg/L | Weekly ⁽¹⁾ | Grab | 0.6 | Daily Max & Mo Avg |
| Toluene | µg/L | Weekly ⁽¹⁾ | Grab | 1 | Daily Max & Mo Avg |
| Xylene | µg/L | Weekly ⁽¹⁾ | Grab | 3 | Daily Max & Mo Avg |
| Nitrate + Nitrite (N+N) ^(3, 4) | mg/L | Weekly ⁽¹⁾ | Grab | 0.02 | Daily Max & Mo Avg |
| Total Kjeldahl Nitrogen (TKN) ^(3, 4) | mg/L | Weekly ⁽¹⁾ | Grab | 0.23 | Daily Max & Mo Avg |
| Total Nitrogen (TN) ^(3, 4) | mg/L | Weekly ⁽¹⁾ | Grab | 0.25 | Daily Max & Mo Avg |
| Total Phosphorus (TP) ⁽³⁾ | mg/L | Weekly ⁽¹⁾ | Grab | 0.003 | Daily Max & Mo Avg |
| WET – Acute Two Species ⁽⁵⁾ | % Effluent | Annually | Grab | NA | Pass/Fail |
| Footnotes: (1) Samples to be taken prior to or within the first 30 minutes of discharge, and daily or weekly thereafter, as specified. (2) For dissolved sulfide, use method 4500 S ²⁻ - series, as specified in 40 CFR 136 with a RRV of 0.04 ug/L. For hydrogen sulfide, use method 4500 S ²⁻ -H. <i>Standard Methods for the Examination of Water and Wastewater</i> . (3) Nutrient monitoring only required during the Yegen Drain “summer season” of July 1 st – September 30 th . (4) Total Nitrogen calculated by either sum of TKN and N+N, or using the persulfate digestion method allowed per Circular DEQ-12A. If persulfate digestion is used, “NA” may be reported for N+N and TKN. (5) WET monitoring is required at Outfall 004, only. If there is no discharge from Outfall 004 for the entire calendar year, then an additional annual WET sample may be taken the next year from any outfall. | | | | | |

2. *Instream Monitoring*

Yellowstone River - Upstream

Beginning in 2018 and continuing the duration of the permit, Phillips 66 shall monitor the Yellowstone River upstream of the proposed diffuser location. The parameters to be monitored and their frequency are provided below.

| Yellowstone River Ambient Monitoring – Upstream of Proposed Diffuser ⁽¹⁾ | | | | |
|---|--------------|--|--------------------|------------|
| Parameter | Units | Monitoring Frequency ⁽²⁾ | Type | RRV |
| pH | s.u. | Quarterly | Instantaneous | 0.1 |
| Temperature | deg C | Quarterly | Instantaneous | 0.1 |
| Hardness (as CaCO ₃) | mg/L | Semi-annually | Grab | NA |
| Ammonia (as N) | mg/L | Semi-annually | Grab | 0.07 |
| Sulfide, dissolved | µg/L | Semi-annually | Grab | 40 |
| Hydrogen Sulfide | µg/L | Semi-annually | Grab | 20 |
| Phenol | µg/L | Semi-annually | Grab | 10 |
| Chromium, total recoverable | µg/L | Semi-annually | Grab | 10 |
| Chromium, hexavalent | µg/L | Semi-annually | Grab | 2 |
| Aluminum, dissolved | µg/L | Semi-annually | Grab | 9 |
| Arsenic, total recoverable | µg/L | Semi-annually | Grab | 1 |
| Cadmium, total recoverable | µg/L | Semi-annually | Grab | 0.03 |
| Copper, total recoverable | µg/L | Semi-annually | Grab | 2 |
| Cyanide | µg/L | Semi-annually | Grab | 3 |
| Iron, total recoverable | µg/L | Semi-annually | Grab | 20 |
| Lead, total recoverable | µg/L | Semi-annually | Grab | 0.3 |
| Mercury, total recoverable | µg/L | Semi-annually | Grab | 0.005 |
| Selenium, total recoverable | µg/L | Semi-annually | Grab | 1 |
| Thallium, total recoverable | µg/L | Semi-annually | Grab | 0.2 |
| Nitrate + Nitrite ⁽³⁾ | mg/L | Semi-annually ⁽²⁾ | Grab | 0.02 |
| Total Kjeldahl Nitrogen (TKN) ⁽³⁾ | mg/L | Semi-annually ⁽²⁾ | Grab | 0.23 |
| Total Nitrogen (TN) ⁽³⁾ | mg/L | Semi-annually ⁽²⁾ | Calculated or Grab | 0.25 |
| Total Phosphorus (TP) | mg/L | Semi-annually ⁽²⁾ | Grab | 0.003 |
| Footnotes: | | | | |
| (1) Monitoring location to be submitted to the Department for approval prior to initial sampling. The location should be after the Yegen Drain enters the Yellowstone, but upstream from the future diffuser location. | | | | |
| (2) Semiannual monitoring for all but nutrients must be one sample during the first half of the year and the second sample during the second half of the year, at least 60 days after the first sample. Semi-annual monitoring for nutrients required only during the Yellowstone River “summer months” (August 1 – October 31 st). One sample to be taken third quarter (August or September) and one in the fourth quarter (October). | | | | |
| (3) Total Nitrogen calculated by either sum of TKN and N+N, or using the persulfate digestion method allowed per Circular DEQ-12A. If persulfate digestion is used, “NA” may be reported for TKN and N+N | | | | |

Phillips 66 shall submit the Yellowstone River ambient monitoring results annually, by the 28th of January following the monitoring year, as described in Part I.E. of this permit.

Yegen Drain - Upstream

Beginning in 2018 and continuing the duration of the permit, Phillips 66 shall monitor the Yegen Drain upstream of the hydrostatic testing and storm water discharge locations, at the monitoring frequency provided below.

| Yegen Drain Ambient Monitoring – Upstream of Discharges ⁽¹⁾ | | | | |
|--|--------------|--|--------------------|------------|
| Parameter | Units | Monitoring Frequency ⁽²⁾ | Type | RRV |
| Flow | cfs | Monthly | Estimate | NA |
| pH | s.u. | Monthly | Instantaneous | 0.1 |
| Temperature | deg C | Monthly | Instantaneous | 0.1 |
| Hardness (as CaCO ₃) | mg/L | Quarterly | Grab | NA |
| Ammonia (as N) | mg/L | Quarterly | Grab | 0.07 |
| Sulfide, dissolved | µg/L | Quarterly | Grab | 40 |
| Hydrogen Sulfide | µg/L | Quarterly | Grab | 20 |
| Chromium, total recoverable | µg/L | Quarterly | Grab | 10 |
| Chromium, hexavalent | µg/L | Quarterly | Grab | 2 |
| Fluoride | mg/L | Quarterly | Grab | 0.2 |
| Aluminum, dissolved | µg/L | Quarterly | Grab | 9 |
| Arsenic, total recoverable | µg/L | Quarterly | Grab | 1 |
| Copper, total recoverable | µg/L | Quarterly | Grab | 2 |
| Lead, total recoverable | µg/L | Quarterly | Grab | 0.3 |
| Selenium, total recoverable | µg/L | Quarterly | Grab | 1 |
| Benzene | µg/L | Quarterly | Grab | 0.6 |
| Toluene | µg/L | Quarterly | Grab | 1 |
| Xylene | µg/L | Quarterly | Grab | 3 |
| Nitrate + Nitrite ⁽²⁾ | mg/L | Monthly ⁽¹⁾ | Grab | 0.02 |
| Total Kjeldahl Nitrogen (TKN) ⁽²⁾ | mg/L | Monthly ⁽¹⁾ | Grab | 0.23 |
| Total Nitrogen (TN) ⁽²⁾ | mg/L | Monthly ⁽¹⁾ | Calculated or Grab | 0.25 |
| Total Phosphorus (TP) | mg/L | Monthly ⁽¹⁾ | Grab | 0.003 |
| Footnotes: | | | | |
| (1) Nutrient monitoring required only during Yegen Drain “summer months” of July 1 st – September 30 th . | | | | |
| (2) Total Nitrogen calculated by either sum of TKN and N+N, or using the persulfate digestion method allowed per Circular DEQ-12A. If persulfate digestion is used, “NA” may be reported for TKN and N+N | | | | |

Phillips 66 shall submit the Yegen Drain ambient monitoring results annually, by the 28th of January following the monitoring year, as described in Part I.E. of this permit.

Whole Effluent Toxicity Testing – Acute Toxicity

Starting in the first calendar quarter following the effective date of the permit, the permittee shall conduct acute static renewal toxicity tests on a grab sample of the effluent according to the above monitoring schedules (quarterly for Outfall 006 and annually for Outfall 004). Testing will employ two species and will consist of five (5) effluent concentrations (100, 50, 25, 12.5, 6.25 percent effluent) and a control. Dilution water and the control shall consist of the receiving water unless notice has been provided to the Department that laboratory water must be used.

The static renewal toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms*, EPA-600/4-90/027 and the *Region VIII EPA NPDES Acute Test Conditions-Static Renewal Whole Effluent Toxicity*. The permittee shall conduct acute 48-hour static renewal toxicity tests using *Ceriodaphnia dubia* and fathead minnow (*Pimephales promelas*). The control of pH in the toxicity test utilizing CO₂ enriched atmospheres is allowed to prevent rising pH drift. The target pH selected must represent the pH value of the receiving water at the time of sample collection.

Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration. If more than 10 percent control mortality occurs, the test is considered invalid and shall be repeated until satisfactory control survival is achieved, unless a specific individual exception is granted by the Department. This exception may be granted if less than 10 percent mortality was observed at the dilutions containing high effluent concentrations.

If acute toxicity occurs in a routine test, an additional test (resample) shall be conducted within 14 days of the date of notification of the test failure. Should acute toxicity occur in the resample test, testing shall occur once a month until further notified by the Department. In all cases, the results of all toxicity tests must be submitted to the Department in accordance with Part II of this permit.

The quarterly results from the laboratory shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting period (e.g., whole effluent results for a quarterly reporting quarter ending March 31 shall be reported with the March DMR due April 28th). The format for the laboratory report shall be consistent with the latest revision of Region VIII Guidance for Acute Whole Effluent Reporting, and shall include all chemical and physical data as specified.

If the results for eight consecutive quarters of acute testing for Outfall 006 indicate no acute toxicity, the Permittee may request a reduction to semi-annual toxicity testing on two species. The Department may approve or deny the request based on the results and other available information without additional public notice. If the request is approved, the test procedures are to be the same as specified above.

D. Special Conditions

1. *Toxicity Identification Evaluation (TIE)-Toxicity Reduction Evaluation (TRE)*

Should acute toxicity be detected in the required resample, a TIE-TRE shall be undertaken by the permittee to establish the cause of the toxicity, locate the source(s) of the toxicity, and develop control or treatment for the toxicity. Failure to initiate or conduct an adequate TIE-TRE, or delays in the conduct of such tests, shall not be considered justification for noncompliance with the WET limits contained in Part I.B of this permit. A TRE plan needs to be submitted to the Department within 45 days after confirmation of the continuance of effluent toxicity (resample).

2. *Notification Regarding Outfall 006*

Phillips 66 currently discharges the process wastewater to the City of Billings for treatment. At least 60 days prior to commencing construction of the diffuser in the Yellowstone River, Phillips 66 shall notify the Department, in writing, of the expected date of completion and submit the final diffuser design.

E. Compliance Schedule

1. *Compliance Schedule*

By no later than **January 1, 2018**, Phillips 66 shall submit a plan to the Department for compliance with the Outfalls 003, 004, and 005 storm water final effluent limits. The plan shall include, as appropriate:

- An evaluation of each source contributing to the pollutants which have expected concentrations greater than the final effluent limits;
- An evaluation of control methods and technology to reduce the pollutants from each source; and
- A projected schedule for ensuring compliance as of *<four years from permit effective date>*.

Until the final compliance date of *<four years from permit effective date>*, Phillips 66 must submit an annual report summarizing their progress towards meeting the effluent limits to the Department. The annual report must be post-marked no later than January 28th of each year, and include actions taken in the previous year and planned actions for the upcoming year.

| Schedule Summary | | | | | |
|--|---|------------------------|--------------|--|--|
| Permit Condition | Action | Specific Action | Frequency | First Scheduled Completion Date ⁽¹⁾ | Report Due Date ⁽²⁾ |
| Part I.C.2 | Upstream Monitoring – Yellowstone River | pH & temperature | Quarterly | January-March 2018 | January 28 th of 2019 and each subsequent permit year |
| | | other parameters | Semi-annual | January-June 2018 | |
| | | nutrients | Semi-annual | August-October 2018 | |
| Part I.C.2 | Upstream Monitoring – Yegen Drain | flow, pH & temperature | Monthly | January 2018 | January 28 th of 2019 and each subsequent permit year |
| | | other parameters | Quarterly | January-March 2018 | |
| | | nutrients | Monthly | July 2018 | |
| Part I.E.1 | Storm Water Effluent Limits Compliance | annual report | Annual | January 28, 2017 | January 28 th of each permit year |
| | | compliance plan | Single Event | January 1, 2018 | January 1, 2018 |
| | | compliance with limits | First Event | <i><four years from permit effective date></i> | NA |
| Footnotes: NA = Not Applicable ¹ The actions must be completed on or before the scheduled completion dates. ² This notification must be postmarked or electronically submitted to the Department on or before the scheduled due date. | | | | | |

F. Storm Water Pollution Prevention Plan (SWPPP)

In the following section the term “storm water discharges” applies to the discharge of storm water, via pumping or in response to precipitation, from Phillips 66 Refinery property.

- Storm water from the facility process areas is routed through the wastewater treatment system and discharged to the City of Billings and/or Outfall 006. Effluent limits at Outfall 006 include the storm water routed to the wastewater treatment system.
- Non-process area storm water discharges discharged through Outfalls 003, 004, and 005 are covered under this section of the permit.

For these non-process storm water discharges to have permit coverage, a Storm Water Pollution Prevention Plan (SWPPP) must be developed and implemented. The purpose of the SWPPP is to identify sources of pollution to storm water and to select Best Management Practices (BMPs) to eliminate or minimize pollutant discharges at the source and/or to remove pollutants contained in storm water runoff. The facility must implement the provisions of the SWPPP required under this part as a condition of this permit. The SWPPP must comply with the following requirements:

1. General SWPPP Requirements

- a. The SWPPP and associated documentation, as well as BMPs developed and implemented, must be accomplished using good standard engineering practices.
- b. The SWPPP must be retained onsite.
- c. The SWPPP must be signed in accordance with the signatory requirements stated in Part IV.G of the permit.
- d. The SWPPP must be made available upon request of Department staff, such as during inspections.
- e. The Department may notify the permittee that the SWPPP does not meet one or more of the minimum requirements of this permit. After such notification from the Department, the permittee shall make changes to the SWPPP and shall submit to the Department a written certification that the requested changes have been made. Unless otherwise stated by the Department, the permittee shall have 30 days after such notification to make the required changes. In addition, when the Department makes such notification, the permittee shall provide the Department with a copy of revisions to the SWPPP.
- f. The permittee shall amend the SWPPP whenever there is a change in design, construction, operation, or maintenance that has significant effect on the potential for the discharge of pollutants to surface waters, or if the SWPPP proves to be ineffective in achieving the general objective of controlling pollutants in a storm water discharge covered under this permit. When such revisions are made to the SWPPP based upon this permit condition, the permittee shall provide the Department with a copy of revisions to the SWPPP.

- g. The SWPPP must identify the name of receiving surface waters. If there is a distinguishable point source discharge or outfall, the SWPPP must include a description of the size, type, and location of each point source discharge or outfall. A description of storm water runoff flow and drainage patterns into the receiving surface waters must be provided.
- h. The SWPPP must identify a specific person or persons who are responsible for SWPPP development, implementation, maintenance, and revision. The SWPPP must clearly identify the responsibilities of each person. The activities and responsibilities of the person(s) must address all aspects of the SWPPP. Should the identity of these responsible contacts/individuals change during the permit period, the permittee shall ensure measures are in place to transfer, and familiarize replacement personnel with the requirements pertaining to the SWPPP.
- i. The SWPPP must identify facility personnel training programs used to inform personnel responsible for implementing activities identified in the SWPPP or otherwise responsible for storm water management of the components and goals of the SWPPP. Training should address topics such as spill response, good housekeeping, and material management practices. A schedule must identify the frequency for such training.
- j. The SWPPP must include the inspection and maintenance of storm water management BMPs. Qualified personnel shall be identified in the SWPPP to inspect the facility site and storm water management BMPs following each significant storm water rainfall event resulting in 0.5 inches of precipitation or more, or after significant snowmelt events. Inspections must be documented and maintained with the SWPPP. Inspections and their respective records must include tracking or follow-up procedures to ensure adequate response and corrective actions have been taken based on any problems or deficiencies observed during the inspection.
- k. The SWPPP must address good housekeeping measures to help maintain a clean, orderly facility. Measures could include a routine schedule for the managing and removal of waste materials, as well as routine inspections of potential problem areas.
- l. The SWPPP must include a General Location Map (such as a USGS topographic quadrangle map), extending one mile beyond the property boundaries of the facility, with enough detail to identify the location of the facility, any storm water discharges, and the receiving surface waters. The facility site must be clearly delineated on this map. The permittee may use the topographic map submitted with the application provided it indicates this information with respect to storm water discharges.

2. Identification of Potential Pollutant Sources

The SWPPP must provide a description of potential pollutant sources which may reasonably be expected to affect the quality of storm water discharges. The SWPPP must identify all significant activities and materials that could potentially be pollutant sources. To accomplish this, the SWPPP must include, at a minimum:

- a. For each area with storm water discharges from regulated activities that have a *reasonable potential* to contain significant amounts of pollutants, the SWPPP must include a prediction of the direction of flow and an identification of the types of pollutants and parameters of concern. Factors to consider include the toxicity of chemicals; quantity of chemical used, produced or discharged; the likelihood of contact with storm water; the history of any MPDES permit violations; and the characteristics and uses of the receiving surface waters.

Items to identify and assess may include:

- i. Areas and management practices used for the storage, treatment, or disposal of wastes;
 - ii. Areas where significant spills and leaks of hazardous substances may have occurred;
 - iii. Areas and management practices used for the loading or unloading of dry bulk materials and liquids;
 - iv. Areas and management practices used for the outdoor storage of materials and/or products;
 - v. Areas and management practices used for outdoor manufacturing or processing activities;
 - vi. Areas and management practices used for vehicle fueling, washing, and maintenance;
 - vii. Dust or particulate-generating processes;
 - viii. Illicit connections and/or management practices;
 - ix. Areas more susceptible to erosion; and,
 - x. Areas with unstabilized sediment due to ground disturbance activities.
- b. A summary of existing storm water quality sampling test results which characterize historical pollutants in storm water discharges.
 - c. Estimate and define area(s) of relatively impervious surfaces (including paved areas and facility structural roofs) with respect to the total area drained by each point source discharge of storm water.
 - d. An evaluation of how the quality of any potential storm water running onto the facility site would impact the facility's storm water discharge.

3. Storm Water Management Best Management Practices

The SWPPP must include:

- a. A description of storm water management BMPs appropriate for the facility, including those used to divert, infiltrate, reuse, or otherwise manage storm water runoff. The appropriateness and priorities of BMPs in a SWPPP shall reflect the identified potential sources of pollutants to storm water at the facility.

- b. Reasonable and appropriate BMPs such as: reuse of collected storm water (such as for process water or as an irrigation source); inlet controls (such as oil/water separators); snow management activities; infiltration devices, detention/retention devices (including constructed wetlands); run-on/runoff controls; diversion structures; flow attenuation by use of open vegetated swales, natural depressions, and other practices; and, ponds. Where practicable, industrial materials and activities could be protected by a storm resistant shelter to prevent exposure to rain or snow.
- c. The location and description of any treatment to remove pollutants from storm water.
- d. A description of measures to ensure the ongoing implementation and maintenance of BMPs. Inspections and maintenance activities, such as cleaning oil and grit separators or catch basins, must be documented and recorded. Incidents such as spills, leaks, other releases of potential pollutants, and/or other material/waste management problems, must also be documented and recorded.
- e. Spill Prevention and Response Measures, as follows:
 - i. Areas where potential spills may occur that could contribute pollutants to storm water discharges, and their accompanying drainage points.
 - ii. Where appropriate, specific material-handling procedures, storage requirements, and use of equipment, such as diversion valves.
 - iii. Procedures and necessary equipment for cleaning up spills.
 - iv. Emergency spill/response contact and/or notification numbers.

SWPPP records of spills must be updated when a significant spill or leak of hazardous substances occurs and must include a description of the specific origin and location of the release, a description of the materials released, an estimate of the quantity of the release, and a description of any remediation or cleanup measures which were taken.

- f. Sediment and Erosion Control BMPs, as follows:
 - i. Sediment and erosion control BMPs including various structural, vegetative, and/or stabilization measures.
 - ii. BMPs to be implemented as necessary.
 - iii. Areas which have a higher potential for erosion due to topography, slope characteristics, facility activities, and/or other factors.
 - iv. An assessment of the nature of any fill material to be used, the existing soils located at the site, and the erodibility (high, moderate, or slight) of such soils.
 - v. Storm water discharges associated with construction activity at the facility site may be included under this permit provided the SWPPP is developed or revised to address these discharges as follows:

- The SWPPP must identify and locate the BMPs to be used during and after the construction project to control sediment discharges to surface waters;
 - Final stabilization of disturbed areas must be ensured;
 - This Sediment and Erosion Control section of the SWPPP must be updated with a SWPPP modification to reflect new construction activity as necessary; and,
 - The SWPPP modification must be submitted to the Department prior to the start of construction.
- vi. The SWPPP may include the use of BMPs such as sediment basins, detention/retention structures, berms, barriers, filter strips, covers, diversion structures, sediment control fences, straw bale dikes, seeding, sodding, and/or other control structures. Any SWPPP elements that require engineered structures, such as detention ponds or diversion structures, must be prepared by a qualified individual using good standard engineering practices.

4. SWPPP Site Map or Plan

The SWPPP must include a site map or plan which indicates the following:

- a. An identification of each point source discharge of storm water with a delineated outline of the respective drainage area;
- b. Each required point source discharge of storm water sampling location (with the formal number indicated on the map as designated on DMRs);
- c. Delineated drainage patterns which clearly indicate the storm water runoff flow patterns (such as using arrows or detailed topographic contours to show which direction storm water will flow);
- d. The "areas" identified in Part I.F.2.a. and c.;
- e. The "BMPs" identified in Part I.F.3.;
- f. Major permanent facility structures;
- g. Each well where liquids associated with the facility are injected underground including any storm water conveyances;
- h. Location and source of runoff from adjacent property containing significant quantities of pollutants of concern to the facility as discussed in Part I.F.2.d.;
- i. Location of all surface waters on or near to the construction activity site (including perennial and intermittent waterbodies, ephemeral streams, springs, wetlands with standing water, etc.);
- j. A map scale;
- k. A north arrow; and,
- l. For construction activities:

- i. Areas of total development and, at a minimum, areas of "disturbance" related to construction activity (including support activities related to a construction site such as concrete or asphalt batch plants, equipment staging areas, material storage areas, soil stockpile areas, material borrow areas, etc.);
- ii. Location of all erosion and sediment control BMPs;
- iii. Location of impervious structures (including buildings, roads, parking lots, outdoor storage areas, etc.) after construction is completed;
- iv. Areas where vegetative BMPs are to be implemented;
- v. Approximate slopes anticipated after major grading activities; and,
- vi. The boundary of the 100-year floodplain, if determined.

5. Comprehensive Site Inspection and Compliance Evaluation Report

- a. A Comprehensive Site Inspection must be performed annually to identify areas contributing to the regulated storm water discharge and to evaluate whether BMPs to reduce pollutant loadings are adequate and properly implemented.
- b. A Comprehensive Site Inspection must assess the following:
 - i. Whether the description of potential pollutant sources is accurate as required under Part I.F.2. of this permit;
 - ii. Whether the site map has been updated or otherwise modified to reflect current conditions;
 - iii. Whether the BMPs to control potential pollutants in storm water discharges as identified in the SWPPP and Part I.F.3. are being effectively implemented; and,
 - iv. Whether any SWPPP revisions such as additional BMPs are necessary.
- c. Based on the results of the Comprehensive Site Inspection, the description of potential pollutant sources and BMPs identified in the SWPPP must be revised as appropriate within 14 days of such inspection and must provide for implementation of the changes to the SWPPP in a timely manner.
- d. A tracking or follow-up procedure, including a schedule for implementation, must be used and identified in the Report which ensures adequate response and corrective actions have been taken in response to the Comprehensive Site Inspection and/or noncompliances.
- e. Records of the Comprehensive Site Inspection, the Compliance Evaluation Report, and any related follow-up actions must be maintained by the permittee.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Representative Sampling

Samples taken in compliance with the monitoring requirements established under Part I of the permit shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

B. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under Part 136, Title 40 of the Code of Federal Regulations, unless other test procedures have been specified in this permit. All flow-measuring and flow-recording devices used in obtaining data submitted in self-monitoring reports must indicate values within 10 percent of the actual flow being measured.

C. Penalties for Tampering

The Montana Water Quality Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than six months, or by both.

D. Reporting of Monitoring Results

Monitoring results must be reported on a Discharge Monitoring Report (DMR) EPA form 3320-1. Monitoring results must be submitted in either electronic or paper format and be postmarked no later than the 28th day of the month following the end of the monitoring period. Whole effluent toxicity (biomonitoring) results must be reported with copies of the laboratory analysis report on forms from the most recent version of EPA Region VIII's "Guidance for Whole Effluent Reporting". If no discharge occurs during the reporting period, "no discharge" must be reported on the report form. Legible copies of these, and all other reports required herein, must be signed and certified in accordance with Part IV.G 'Signatory Requirements' of this permit and submitted to the Department at the following address:

Montana Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, Montana 59620-0901
Phone: (406) 444-3080

E. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit must be submitted to the Department in either electronic or paper format and be postmarked no later than 14 days following each schedule date unless otherwise specified in the permit.

F. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using approved analytical methods as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

G. Records Contents

Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The initials or name(s) of the individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The time analyses were initiated;
5. The initials or name(s) of individual(s) who performed the analyses;
6. References and written procedures, when available, for the analytical techniques or methods used; and
7. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

H. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time. Data collected on site, copies of Discharge Monitoring Reports, and a copy of this MPDES permit must be maintained on site during the duration of activity at the permitted location.

I. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee shall report any serious incidents of noncompliance as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Protection Bureau at (406) 444-3080 or the Office of Disaster and Emergency Services at (406) 324-4777. The following examples are considered serious incidents:
 - a. Any noncompliance which may seriously endanger health or the environment;

- b. Any unanticipated bypass which exceeds any effluent limitation in the permit (See Part III.G of this permit, "Bypass of Treatment Facilities"); or
 - c. Any upset which exceeds any effluent limitation in the permit (see Part III.H of this permit, "Upset Conditions").
2. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. a description of the noncompliance and its cause;
 - b. the period of noncompliance, including exact dates and times;
 - c. the estimated time noncompliance is expected to continue if it has not been corrected; and
 - d. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 3. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Protection Bureau, by phone, (406) 444-3080.
 4. Reports shall be submitted to the addresses in Part II.D of this permit, "Reporting of Monitoring Results".

J. Other Noncompliance Reporting

Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for Part II.D of this permit are submitted. The reports shall contain the information listed in Part II.I.2 of this permit.

K. Inspection and Entry

The permittee shall allow the head of the Department or the Director, or an authorized representative thereof, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance, any substances or parameters at any location.

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give the Department or the Regional Administrator advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance.

B. Penalties for Violations of Permit Conditions

The Montana Water Quality Act provides that any person who violates a permit condition of the Act is subject to civil or criminal penalties not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions of the Act is subject to a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than 2 years, or both, for subsequent convictions. MCA 75-5-611(a) also provides for administrative penalties not to exceed \$10,000 for each day of violation and up to a maximum not to exceed \$100,000 for any related series of violations. Except as provided in permit conditions on Part III.G of this permit, "Bypass of Treatment Facilities" and Part III.H of this permit, "Upset Conditions", nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, as a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

F. Removed Substances

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard.

G. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts III.G.2 and III.G.3 of this permit.
2. Notice:
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.I of this permit, "Twenty-four Hour Reporting".
3. Prohibition of bypass:
 - a. Bypass is prohibited and the Department may take enforcement action against a permittee for a bypass, unless:
 - 1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - 3) The permittee submitted notices as required under Part III.G.2 of this permit.
 - b. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in Part III.G.3.a of this permit.

H. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part III.H.2 of this permit are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review (i.e. Permittees will have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with technology-based permit effluent limitations).
2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under Part II.I of this permit, "Twenty-four Hour Notice of Noncompliance Reporting"; and
 - d. The permittee complied with any remedial measures required under Part III.D of this permit, "Duty to Mitigate".
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

J. Changes in Discharge of Toxic Substances

Notification shall be provided to the Department as soon as the permittee knows of, or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. One hundred micrograms per liter (100 µg/L);

- b. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - d. The level established by the Department in accordance with 40 CFR 122.44(f).
2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
- a. Five hundred micrograms per liter (500 µg/L);
 - b. One milligram per liter (1 mg/L) for antimony;
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - d. The level established by the Department in accordance with 40 CFR 122.44(f).

IV. GENERAL REQUIREMENTS

A. Planned Changes

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutant discharged. This notification applies to pollutants which are not subject to effluent limitations in the permit.

B. Anticipated Noncompliance

The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

C. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application must be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for revoking, modifying and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

F. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information with a narrative explanation of the circumstances of the omission or incorrect submittal and why they weren't supplied earlier.

G. Signatory Requirements

All applications, reports or information submitted to the Department or the EPA shall be signed and certified.

1. All permit applications shall be signed as follows:

a. For a corporation: by a responsible corporate officer;

- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
 - c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is considered a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Department; and
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or an individual occupying a named position.)
 3. Changes to authorization. If an authorization under Part IV.G.2 of this permit is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part IV.G.2 of this permit must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
 4. Certification. Any person signing a document under this section shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

H. Penalties for Falsification of Reports

The Montana Water Quality Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document

submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$25,000 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by the Clean Water Act, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

K. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

L. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers

This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Department at least 30 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them;
3. The Department does not notify the existing permittee and the proposed new permittee of an intent to revoke or modify and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part IV.M.2 of this permit; and
4. Required annual and application fees have been paid.

N. Fees

The permittee is required to submit payment of an annual fee as set forth in ARM 17.30.201. If the permittee fails to pay the annual fee within 90 days after the due date for the payment, the Department may:

1. Impose an additional assessment computed at the rate established under ARM 17.30.201; and,
2. Suspend the processing of the application for a permit or authorization or, if the nonpayment involves an annual permit fee, suspend the permit, certificate or authorization for which the fee is required. The Department may lift suspension at any time up to one year after the suspension occurs if the holder has paid all outstanding fees, including all penalties, assessments and interest imposed under this sub-section. Suspensions are limited to one year, after which the permit will be terminated.

O. Reopener Provisions

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary), or other appropriate requirements if one or more of the following events occurs:

1. **Water Quality Standards:** The water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
2. **Water Quality Standards are Exceeded:** If it is found that water quality standards or trigger values in the receiving stream are exceeded either for parameters included in the permit or others, the department may modify the effluent limits or water management plan.
3. **TMDL or Wasteload Allocation:** TMDL requirements or a wasteload allocation is developed and approved by the Department and/or EPA for incorporation in this permit.
4. **Water Quality Management Plan:** A revision to the current water quality management plan is approved and adopted which calls for different effluent limitations than contained in this permit.
5. **Toxic Pollutants:** A toxic standard or prohibition is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit.
6. **Toxicity Limitation:** Change in the whole effluent protocol, or any other conditions related to the control of toxicants have taken place, or if one or more of the following events have occurred:
 - a. Toxicity was detected late in the life of the permit near or past the deadline for compliance.

- b. The TRE/TIE results indicated that compliance with the toxic limits will require an implementation schedule past the date for compliance.
- c. The TRE/TIE results indicated that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits.
- d. Following the implementation of numerical controls on toxicants, a modified whole effluent protocol is needed to compensate for those toxicants that are controlled numerically.
- e. The TRE/TIE revealed other unique conditions or characteristics which, in the opinion of the Department, justify the incorporation of unanticipated special conditions in the permit.

V. DEFINITIONS

1. **“Act”** means the Montana Water Quality Act, Title 75, chapter 5, MCA.
2. **“Administrator”** means the administrator of the United States Environmental Protection Agency.
3. **“Acute Toxicity”** occurs when 50 percent or more mortality is observed for either species (See Part I.C of this permit) at any effluent concentration. Mortality in the control must simultaneously be 10 percent or less for the effluent results to be considered valid.
4. **“Arithmetic Mean” or “Arithmetic Average”** for any set of related values means the summation of the individual values divided by the number of individual values.
5. **“Average Monthly Limitation”** means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
6. **"Bypass"** means the intentional diversion of waste streams from any portion of a treatment facility.
7. **“Chronic Toxicity”** means when the survival, growth, or reproduction, as applicable, for either test species, at the effluent dilution(s) designated in this permit (see Part I.C.), is significantly less (at the 95 percent confidence level) than that observed for the control specimens.
8. **“Composite samples”** means a sample composed of two or more discrete aliquots (samples). The aggregate sample will reflect the average quality of the water or wastewater in the compositing or sample period. Composite sample may be composed of constant volume aliquots collected at regular intervals (simple composite) or flow proportioned.
9. **“Daily Discharge”** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.
10. **"Daily Maximum Limit"** means the maximum allowable discharge of a pollutant during a calendar day. Expressed as units of mass, the daily discharge is cumulative mass discharged over the course of the day. Expressed as a concentration, it is the arithmetic average of all measurements taken that day.

11. **"Department"** means the Montana Department of Environmental Quality (DEQ). Established by 2-15-3501, MCA.
12. **"Director"** means the Director of the Montana Department of Environmental Quality.
13. **"Discharge"** means the injection, deposit, dumping, spilling, leaking, placing, or failing to remove any pollutant so that it or any constituent thereof may enter into state waters, including ground water.
14. **"EPA"** means the United States Environmental Protection Agency.
15. **"Federal Clean Water Act"** means the federal legislation at 33 USC 1251, *et seq.*
16. **"Grab Sample"** means a sample which is taken from a waste stream on a one-time basis without consideration of flow rate of the effluent or without consideration for time.
17. **"Instantaneous Maximum Limit"** means the maximum allowable concentration of a pollutant determined from the analysis of any discrete or composite sample collected, independent of the flow rate and the duration of the sampling event.
18. **"Instantaneous Measurement"**, for monitoring requirements, means a single reading, observation, or measurement.
19. **"Minimum Level"** (ML) of quantitation means the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration point for the analyte, as determined by the procedure set forth at 40 CFR 136. In most cases the ML is equivalent to the Required Reporting Value (RRV) unless otherwise specified in the permit. (ARM 17.30.702)
19. **"Mixing zone"** means a limited area of a surface water body or aquifer where initial dilution of a discharge takes place and where certain water quality standards may be exceeded.
20. **"Nondegradation"** means the prevention of a significant change in water quality that lowers the quality of high-quality water for one or more parameters. Also, the prohibition of any increase in discharge that exceeds the limits established under or determined from a permit or approval issued by the Department prior to April 29, 1993.
21. **"Regional Administrator"** means the administrator of Region VIII of EPA, which has jurisdiction over federal water pollution control activities in the state of Montana.
22. **"Severe property damage"** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or

substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

23. **“TIE”** means a toxicity identification evaluation.
24. **"TMDL"** means the total maximum daily load limitation of a parameter, representing the estimated assimilative capacity for a water body before other designated uses are adversely affected. Mathematically, it is the sum of wasteload allocations for point sources, load allocations for non-point and natural background sources, and a margin of safety.
25. **“TRE”** means a toxicity reduction evaluation.
26. **"TSS"** means the pollutant parameter total suspended solids.
27. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.