

STATEMENT OF BASIS

Permit Number: SDG070000

Permit Type: General Permit for Temporary Discharge Activities

PERMIT DESCRIPTION

This general permit contains discharge requirements and limits that are based on technology and water quality considerations, prohibitions, Best Management Practices (BMPs), and other conditions applicable to temporary discharges.

BACKGROUND

Various activities often result in temporary discharges to waters of the state. If these discharges are point sources, then they are subject to the requirements of the South Dakota Water Pollution Control Act and the Administrative Rules of South Dakota (ARSD), Chapters 74:52:01 through 74:52:11. Due to the nature of the scheduling of temporary activities, however, obtaining an individual Surface Water Discharge (SWD) permit may significantly impact the timing of a project due to administrative delays. The intent of the general permit for temporary discharges is to:

1. Facilitate the scheduling of these activities by reducing the administrative delays in their authorization;
2. Establish uniform criteria for management practices and effluent limits for discharges from these activities; and,
3. Promote a consistent permitting and enforcement posture with respect to these activities.

The general permit regulations in ARSD § 74:52:02:46 provide for the issuance of general permits where covered facilities:

1. Involve the same or substantially similar types of operations;
2. Discharge the same types of waste;
3. Require the same effluent limitations, operating conditions, or standards;
4. Require the same or similar monitoring; and
5. Are more appropriately controlled under a general permit.

DISCHARGE DESCRIPTION

The following is a listing of typical discharges regulated by this general permit.

Construction Dewatering:

During construction activity, dewatering of the excavation site is often necessary. The presence of water in the excavation is normally the result of either ground water intrusion or runoff from a precipitation event accumulating in the excavated area. Removal of this water from the construction site is often critical to the operation of equipment and the integrity of the structure being constructed.

This general permit covers the operation of *temporary dewatering* without any distinction as to whether the dewatering is for the foundation of a building, a dam, trenching for a pipeline, etc. The principal pollutant of concern is total suspended solids because of erosional effects or improper pumping procedures. In addition, there exists some potential for oil and grease in the discharge from the pumping systems. The general permit limits the level of oil and grease that will be allowed in the discharge. The South Dakota Department of Environment and Natural Resources (SDDENR) reviews each request for coverage before authorizing the discharge under this general permit to identify any exceptional situations where an individual permit or additional requirements under this general permit may be needed.

Hydrostatic Testing:

Pipeline and/or vessel installations must occasionally be tested for leakage before placing them in operation. Water is generally used to hydrostatically test the system and is the only test medium that is allowed to be discharged under this general permit.

The sources of hydrostatic testing water may be surface, ground, or well water. In general, nothing is added to the raw water used for the test. The test water could possibly be contaminated from residual materials or fluids in the pipe or vessel. Consideration of the potential for such contamination must be made for each test and will be assessed during the review of the information submitted with the original request for discharge authorization. It is unlikely that virgin pipe (the most common subject of hydrostatic tests) would pose any problem.

Pump testing of water wells:

Testing of wells is sometimes needed to determine the ability of the well to meet the required flow rates and water quality. Testing may also be required to determine the impacts of the well on the aquifer. This testing can result in a large amount of water being discharged over a short period of time, which could lead to significant erosion. The pollutant of concern would be suspended solids due to the erosion. In some cases, there may be other naturally occurring pollutants in the water that will be regulated by this general permit on a case by case basis.

Swimming pools and similar structures:

Swimming pools, hot tubs, spas, and similar structures such as water slides and water amusement parks periodically discharge water due to draining, cleaning, and filter backwash. This water can contain chlorine in amounts high enough to be toxic to aquatic life. Therefore, the total residual chlorine concentration must be non-detectable by the time the discharge reaches waters of the state.

Petroleum contaminated ground water:

Ground water can become contaminated by leaks from gasoline or diesel storage tanks. These can be either above ground or underground tanks. This general permit will regulate short term discharges of water from the remediation of this contamination. The pollutants of concern in these discharges could include benzene, toluene, ethylbenzene, xylene, and other petroleum hydrocarbons.

Ground water with other contaminants:

Ground water can also have contamination from previous industrial activities at a location. Dewatering of this contaminated ground water may be necessary during the construction phase of redeveloping a site. The pollutants of concern would typically be heavy metals and/or solvents. These pollutants will be regulated by this general permit on a case by case basis.

Other short-term discharges:

There are potentially many other activities that could result in the need for a temporary discharge. These activities may be eligible for coverage under this general permit providing the following conditions are met:

1. The general permit limits, monitoring and reporting requirements, and management practices are appropriate;
2. The discharge is of a temporary nature; and
3. The discharge consists of relatively uncontaminated water.

When a request for coverage is received, SDDENR shall determine if the discharge meets the above criteria. If there is a potential for the discharge to contain pollutants other than those limited in the general permit, SDDENR may require the discharger to demonstrate that the pollutants in question are below surface water quality standards to receive coverage under this general permit. This can be accomplished by sampling the water to be discharged, analyzing it for the pollutants in question, and comparing the results with the surface water quality standards for that parameter according to approved methods. The permittee may be required to periodically reaffirm the absence of potential pollutants during the period of coverage. If it is shown that significant pollutants other than those limited by this general permit are present, a permittee's coverage under this general permit shall be terminated. Any further discharges would need to be covered by an individual or alternative general permit.

RECEIVING WATERS

Beneficial Uses

The South Dakota Surface Water Quality Standards designate beneficial uses for all waters of the state. These classifications designate the minimum quality at which the surface waters of the state are to be maintained and protected. All waterbodies in South Dakota have been assigned one or more of the following beneficial uses:

- (1) Domestic water supply waters;
- (2) Coldwater permanent fish life propagation waters;
- (3) Coldwater marginal fish life propagation waters;
- (4) Warmwater permanent fish life propagation waters;
- (5) Warmwater semipermanent fish life propagation waters;
- (6) Warmwater marginal fish life propagation waters;
- (7) Immersion recreation waters;
- (8) Limited contact recreation waters;
- (9) Fish and wildlife propagation, recreation, and stock watering waters;
- (10) Irrigation waters; and
- (11) Commerce and industry waters.

The proposed general permit was developed to ensure these beneficial uses are maintained and protected.

Total Maximum Daily Load

A Total Maximum Daily Load (TMDL) is a calculation of the maximum amount of a pollutant a waterbody can receive and still meet water quality standards. Under current EPA regulations, states establish TMDLs that include wasteload allocations from point sources, load allocations from non-point sources, and natural background conditions. Wasteload allocations are defined as the portion of a water body's loading capacity allocated to point source dischargers. TMDLs are established at levels necessary to attain and maintain the state surface water quality standards. TMDLs include seasonal variations and margins of safety to take into account any lack of knowledge about the relationship between the effluent limits and instream water quality.

TMDLs are developed on a pollutant- and waterbody-specific basis. In some instances, TMDLs may combine multiple pollutants into one set of TMDL documents. However, the specific TMDL wasteload and load allocations are pollutant-specific. States are responsible for establishing TMDLs, which EPA approves. Once approved by EPA, TMDLs are implemented through water quality management plans and through surface water discharge permits. The proposed general permit is a Surface Water Discharge permit that requires best management practices to ensure the surface water quality standards are met and maintained. Therefore, the general permit will be able to authorize discharges to waterbodies that are listed as impaired or have an approved TMDL. However, if SDDENR determines a specific site has the potential to cause or contribute to an impairment of the surface water quality standards, DENR can require the owner to implement additional controls and/or obtain an individual discharge permit.

COVERAGE UNDER THE PERMIT

Inclusion of the above-described activities under a single SWD General Permit appears to be a reasonable approach in regulating these related discharges. The characteristics of the discharged water from these activities are similar because they discharge the same types of wastes, involve similar operations, are temporary in nature, and are appropriately controlled by the similar effluent limits. Therefore, SDDENR has determined that these activities will be more appropriately controlled under a general permit rather than individual permits.

If effluent guidelines are promulgated for any of the permitted discharges, those discharges shall be evaluated to determine whether it can be authorized to discharge under this general permit or be required to apply for an individual SWD permit.

In addition to obtaining coverage under this general permit, a temporary water use permit is often required by the Water Rights Program when water is pumped from ground water or surface water. To aid the permittee in obtaining the appropriate permits in a timely and efficient manner, the information required to receive a temporary water use permit is contained in the Notice of Intent form. The form will be forwarded to the Water Rights Program for their use. The submittal of the Notice of Intent shall be considered an application for both a temporary water use permit (if necessary) and the temporary discharge permit.

EFFLUENT LIMITS

1. *Total Suspended Solids*

Alternative treatment technologies and BMPs are available to reduce the total suspended solids (TSS) in the discharge. However, the cost effectiveness of using these various technologies and BMPs varies from site to site because of the differences in water and sediment characteristics, duration of the discharge, scope of the project, geography of the site, and other factors. Temporary settling ponds and/or portable treatment units (e.g., filters) have been the most common treatment schemes used for TSS control.

Technology-based limits for most industries are derived assuming that the subject facilities are ongoing operations. Because of the relatively short duration of these temporary discharges, directly comparing TSS levels achieved by industries that are more permanent would not be a sound basis for deriving technology-based effluent limits.

A facility exercising reasonably diligent control of TSS through the use of a pond system, filtration, or other BMP should be capable of reliably achieving a TSS level of 90 mg/L or less. Effluent guidelines for conventional pollutants do not currently exist for the categories of point source dischargers covered by this general permit. Therefore, the effluent limit for TSS will be 90 mg/L, based on

best professional judgement (BPJ), using the South Dakota Surface Water Quality Standards (SDSWQS) as a guideline. This effluent limit applies to discharges to all waters of the state **except** discharges to waters classified as coldwater permanent fish life propagation waters according to the ARSD §74:51:01:45. For discharges to waters of the state classified as coldwater permanent fish life propagation waters, the effluent limit for TSS, based on the SDSWQS, shall be 53 mg/L.

Because of the variety of available chemical flocculants, the use of such settling aids must be approved by the SDDENR prior to any use.

2. ***Oil and Grease***

Total petroleum hydrocarbons (TPH) and other oils and greases may be present in the discharge due to pump lubricant contamination, contaminated ground water, or contaminated runoff entering the discharge. ARSD §74:51:01:10 prohibits TPH discharges that impart a visible film or sheen to the surface of the water or adjoining shoreline. ARSD §74:51:01:52 limits TPH and oil and grease discharges to 10 mg/L for all surface waters. ARSD §74:51:01:44 limits TPH discharges to waters classified as domestic water supplies are limited to 1 mg/L.

Since the hexane extractable materials method of analysis detects all oil and grease including TPH, an oil and grease limit will be conservative. A limit of 10 mg/L for oil and grease is therefore recommended based on the SDSWQS and BPJ, since this level can generally be attained by conventional oil skimming methods or a submerged overflow. However, for discharges to waters classified as domestic water supplies, the oil and grease limit shall be 1 mg/L, based on the SDSWQS.

The current general permit requires a TPH sample be taken on the first day of any discharge to detect any previously unidentified petroleum contamination. These initial samples have never detected any TPH except in areas where petroleum contamination was already suspected. Therefore the oil and grease grab sample on the first day of the discharge will not be required by the proposed general permit unless petroleum contamination is suspected.

3. ***BTEX***

The total BTEX concentration shall not exceed 100 µg/L. BTEX shall be measured as the sum of benzene, ethyl benzene, toluene, and xylene. The benzene concentration shall not exceed 5 µg/L. These limits are based on EPA guidance for discharges of wastewater from petroleum-contaminated ground water remediation sites and BPJ.

4. ***pH***

The pH shall not be less than 6.5 standard units nor greater than 9.0 standard units. These limits are based on SDSWQS and previous general permit limits.

5. **Wastewaters**

There shall be no discharge of process generated wastewater except wastewater resulting from the temporary activities described in the Notice of Intent Form and authorized by SDDENR.

There shall be no discharge of sanitary wastewater from toilets or related facilities.

These limits are based on BPJ as this general permit is for the discharge of relatively uncontaminated water.

6. **Toxics**

There shall be no discharge of toxic pollutants in toxic amounts. Specific limits for toxics expected in a particular discharge will be set on a case by case basis using the acute aquatic life standards found in ARSD 74:51:01 Appendix B as a guideline. The human health and chronic aquatic life standards will not be used as they are based on long-term exposure and the discharges allowed by the proposed general permit will be short-term in nature. These limits are based on the SDSWQS (ARSD § 74:51:01:55).

7. **Visible Pollutants and Solids**

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

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. Sludge/digester supernatant and filter backwash shall not be directly blended with or enter either the final plant discharge and/or waters of the State.

These limits are based on the SDSWQS(ARSD § 74:51:01:06).

8. **Erosion**

The permittee shall take all reasonable measures to prevent or minimize the possibility of stream channel scouring or erosion caused by the discharge with the implementation of appropriate BMPs. Some examples of BMPs are included in Attachment A.

This limit is based on BPJ.

9. **Chemicals**

No chemicals shall be added to the discharge without prior approval from SDDENR.

This limit is based on BPJ.

10. Total Residual Chlorine

The total residual chlorine concentration must be non-detectable at the point the discharge reaches the receiving waters. SDDENR considers the analytical detection limit for total residual chlorine to be 0.05 mg/L. Any sample results less than 0.05 mg/L will be considered non-detectable. This can be verified by monitoring at any of the following locations:

- at the point where the discharge reaches the receiving water;
- at the discharge location; or
- at a location between these two points.

This limit is based on BPJ.

MANAGEMENT REQUIREMENTS

To ensure the department can maintain a basic permittee information file, the general permit will require that a facility wishing to discharge under the conditions of the general permit must first supply SDDENR with notice of its intent to be covered by the general permit. To fulfill this requirement, the permittee must complete and submit the Notice of Intent (NOI) and Certification of Applicant form located in Attachment A of the proposed general permit to SDDENR. SDDENR then makes the decision to grant or deny discharge authority, or request any additional information. Each person receiving coverage under this general permit will be issued a cover letter granting coverage and a copy of the general permit with the limits specific to their location identified.

Monitoring is required of each activity that will result in a discharge to waters of the state. The following table shows the sample type and frequency for various parameters for temporary discharge activities.

Parameter	Sample Frequency ¹	Sample Type
Flow Rate (gpm)	Daily	Measure or Estimate
Total Flow Volume (gallons)	Monthly	Measure or Estimate
pH (s.u.)	Weekly	Instantaneous ²
Oil and Grease	Daily	Visual
Oil and Grease (mg/L)	Contingent	Grab ^{3,4}

¹ If the duration of the discharge is shorter than the required sample frequency, a minimum of one sample shall be taken for all parameters.

² pH shall be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment.

³ Oil and grease shall be visually monitored daily. If a visual sheen is observed, an oil and grease sample shall be taken and analyzed using SM5520 hexane extractable materials.

Parameter	Sample Frequency ⁴	Sample Type
Total Suspended Solids ⁵ (mg/L)	Weekly	Visual/Grab
Benzene ⁶ (µg/L)	Weekly	Grab
Total BTEX ⁶ (µg/L)	Weekly	Grab
Toxics ⁷ (µg/L)	Weekly	Grab
Total Residual Chlorine ⁸ (mg/L)	Daily	Grab
There shall be no discharge of floating solids or visible pollutants in more than trace amounts.		
There shall be no discharge of process wastewater not identified in NOI or sanitary wastewater.		
No chemicals shall be added to the discharge without prior approval of SDDENR.		

⁴ An oil and grease sample shall be taken during the first day of the discharge if petroleum contaminated ground water is expected.

⁵ In lieu of sampling for this parameter, the Secretary may allow the facility to implement a pollution prevention plan that includes best management practices to prevent total suspended solids from entering the waters of the state. The discharge must still be monitored visually for suspended solids.

⁶ Benzene and BTEX monitoring is only required if petroleum contamination is possible in the water being discharged. This monitoring will be required by the department on a case by case basis.

⁷ The specific toxics to be monitored for will be determined on a case by case basis based on the potential contamination at that site.

⁸ Total Residual Chlorine monitoring is only required for the discharge of potentially chlorinated water. This monitoring will be required by the department on a case by case basis.

Effluent monitoring results shall be summarized for each month and recorded on separate Discharge Monitoring Report forms (DMRs) and submitted to SDDENR monthly. If no discharge occurs during a month, it shall be stated as such on the DMR. The permittee will be required to maintain its records for a minimum of three years. Such records will be subject to inspection by SDDENR and EPA.

DMRs shall be filled out and submitted for the duration of permit coverage. Once the temporary discharge activities cease, the permittee shall submit a completed Notice of Termination Form, located in Attachment B of the proposed general permit. Once this form is received by the department, permit coverage will be terminated. However, this shall not relieve the permittee from maintaining the required records for discharges that occurred while the permittee was covered under the general permit.

Authorizations under this general permit are made pursuant to the South Dakota Water Pollution Control Act. This general permit does not constitute any authorization under Section 404 of the Federal Clean Water Act, which might be necessary for the discharge of fill material during construction.

POLLUTION PREVENTION PLAN

Instead of monitoring for total suspended solids, the permittee may request to develop and implement a pollution prevention plan before beginning the temporary discharge activities. The plan must detail the best management practices the permittee will undertake to reduce or eliminate any discharge of pollutants. The following table lists some examples of best management practices applicable to temporary discharge activities.

Best Management Practice	Description of Practice
Filter Berm	<ul style="list-style-type: none">• A temporary ridge of gravel or crushed rock.• Retains sediment on-site by retarding and filtering runoff while allowing water to be discharged from the site.
Vegetative Buffer	<ul style="list-style-type: none">• An area of growing vegetation between the discharge and the receiving waters.• Filters runoff and minimizes erosion.
Filter Fence	<ul style="list-style-type: none">• A low fence made of filter cloth and fencing material.• Filters runoff water before discharge.
Sediment Pond	<ul style="list-style-type: none">• Small ponding area either diked or excavated.• Allows the sediment to settle out before discharge.

If a pollution prevention plan is developed, the permittee must still visually monitor for oil and grease, suspended solids, and visible pollutants. If a sheen is detected, a sample must be immediately taken and analyzed for oil and grease. Flow records must also be kept and benzene and BTEX monitoring must still be performed, if required. If any permit violation is suspected, a sample must be taken.

REQUIRING AN INDIVIDUAL SWD PERMIT

In accordance with ARSD § 74:52:02:47, the Secretary may require any owner or operator covered under the general permit to apply for an individual SWD permit for any of the following reasons:

1. The discharge is a significant contributor of pollution to waters of the state or it presents a health hazard;
2. The discharge is not in compliance with the conditions of the general permit;
3. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
4. Effluent limitation guidelines are promulgated for point sources covered by this general permit;

5. A water quality management plan containing requirements applicable to such point sources is approved; or
6. Conditions or standards have changed so that the discharge no longer qualifies for the general permit.

In addition, an owner or operator covered by this general permit may apply for an individual SWD permit pursuant to the provisions in the ARSD, § 74:52:02:46.

DRAINAGE ISSUES

The county in which the discharge will occur has the authority to regulate drainage. The permittee is responsible for obtaining any necessary drainage permits from the respective county prior to discharging, if applicable.

ANTIDegradation REVIEW

SDDENR has fulfilled the antidegradation review requirements for this general permit. In accordance with South Dakota's Antidegradation Implementation Procedure and the SDSWQS, no further review is required since permitted discharges will not cause significant degradation of the quality of the receiving stream.

TERMINATION OF COVERAGE

When the temporary discharge activities are complete, the permittee is required to submit a Notice of Termination to SDDENR. The Notice of Termination indicates that all temporary discharge activities have ended.

ENDANGERED SPECIES

This is a renewal of an existing general permit. Due to the nature of the pollutants in discharges allowed by this general permit and the temporary nature of the discharges, no listed endangered species are expected to be affected by activities related to this general permit.

PERMIT EXPIRATION

A five-year permit is recommended.

CONTACT

Any questions pertaining to this statement of basis can be directed to Albert Spangler, Natural Resources Project Engineer for the Surface Water Quality Program at (605) 773-3351.

December 8, 2010

ATTACHMENT A

Construction Site Best Management Practices (BMPs)

BEST MANAGEMENT PRACTICE	USES
Block and Gravel Inlet Protection	<ul style="list-style-type: none"> • Used in small drainage areas before the area has been permanently stabilized • Where there is danger of silting in an inlet
Buffer Zones	<ul style="list-style-type: none"> • Floodplains, next to wetlands, along stream banks, and on steep, unstable slopes
Check Dams	<ul style="list-style-type: none"> • Across swales or drainage ditches to reduce the velocity of flow
Dust Control	<ul style="list-style-type: none"> • Used where open dry areas of soil are anticipated on the site
Drainage Swale or Earth Dike	<ul style="list-style-type: none"> • Divert upslope flows from disturbed areas and to divert runoff to a stabilized outlet • To reduce the length of slope the runoff will cross • At the perimeter of the construction site to prevent sediment-laden runoff from leaving the site • To direct sediment-laden runoff to a sediment trapping device
Excavated Gravel Inlet Protection	<ul style="list-style-type: none"> • Used in small drainage areas before the area has been permanently stabilized • Where there is danger of silting in an inlet • Where ponds around the inlet structure could be a problem to traffic on site
Filter Fabric Inlet Protection	<ul style="list-style-type: none"> • Used in small drainage areas before the area has been permanently stabilized • Where there is danger of silting in an inlet
Geotextiles	<ul style="list-style-type: none"> • Stabilize the flow on channels and swales • Used on recently planted slopes to protect seedlings until they become established
Mulching	<ul style="list-style-type: none"> • Areas where slopes are steeper than 2:1 • Where runoff is flowing across the area • When seedlings need protection from bad weather
Permanent Seeding and Planting	<ul style="list-style-type: none"> • Areas where soils are unstable because of their texture, structure, water table, winds, or slopes • Filter strips, buffer areas, vegetated swales, steep slopes, and stream banks

Pipe Slope Drain	<ul style="list-style-type: none"> • On slopes before permanent storm water drainage structures have been installed • Where diversion measures have been used to concentrate flows • On any slope where concentrated runoff crossing the face of the slope may cause gullies, channel erosion, or saturation of slide-prone soils • As an outlet for a natural drainageway
Silt Fence	<ul style="list-style-type: none"> • Immediately upstream of the point(s) of runoff discharge from a site before flow becomes concentrated • Below disturbed areas where runoff may occur in the form of overland flow
Stabilized Construction Entrance	<ul style="list-style-type: none"> • Wherever vehicles are leaving a construction site and enter onto a public road • At any unpaved entrance/exit where there is risk of transporting mud or sediment onto paved roads
Temporary Sediment Trap	<ul style="list-style-type: none"> • At the outlet of the perimeter controls installed during the first stage of construction • At the outlet of any structure which concentrates sediment-laden runoff, e.g. at the discharge point of diversions, channels, slope drains, or other runoff conveyances • Above a storm water inlet that is in line to receive sediment-laden runoff
Temporary Seeding	<ul style="list-style-type: none"> • Areas which have been disturbed by construction and which are likely to be redisturbed, e.g. denuded areas, soil stockpiles, dikes, dams, sides of sediment basins, and temporary roadbanks

Information obtained from the Environmental Protection Agency's "Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices" (September 1992).