COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
RATIONALE FOR MODIFICATION 1
REMEDIATION ACTIVITIES DISCHARGING TO SURFACE WATER
CDPS PERMIT NUMBER COG-315000

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I. TYPE OF PERMIT *Modification #1 (Minor Modification) to the Remediation Activities Discharging to Surface Water Master General Permit*

II. GENERAL PERMIT INFORMATION

A. Activities Covered: *Discharges from remediation activities to surface waters of the state.*

B. Fee Category: *Oil and Gas Cleanup , Category 7, Subcategory 8*
Annual Fee: *$1,840 per year*
Amendment Fee: *$0.00*

III. PURPOSE OF MODIFICATION

Upon certification reissuance, the Division discovered:

1. *The Acute Whole Effluent Toxicity (WET) parameter citations and limitations within the Numeric Effluent Limitations and Monitoring Requirements Tables B.1 and B.2 were incorrect and inconsistent with the narrative language in the permit. Table B.1 and Table B.2 listed the parameter for Acute WET as Pimephales lethality and Ceriodaphnia lethality. Both with Daily Maximum limitations of Report LC50. Since Acute testing requires a 48 hour WET test using Ceriodaphnia and an acute 96-hour WET test using Pimephales, the correct Acute WET parameter citation should state LC50 Statre 96Hr Acute using Pimephales and LC50 statre 48Hr Acute using Ceriodaphnia. The limitations for both should be LC50≥100% as a Daily Minimum rather than Report LC50. Existing language in Part I.C.7 of the permit, WET Testing-Outfalls, accurately describes the Acute WET Testing requirements.*

2. *The Chronic WET parameter citations and limitations within the Numeric Effluent Limitations and Monitoring Requirements Tables B.1 and B.2 were incorrect and inconsistent with the narrative language in the permit. Table B.1 and Table B.2 listed the parameter for Chronic WET as Pimephales lethality and toxicity and Ceriodaphnia lethality and toxicity. Both with Daily Maximum limitations of Report Stat Diff and IC25. Since Chronic testing must be conducted using a static 7-day test on both Ceriodaphnia and Pimephales, the correct Chronic WET parameter citation should state Static Renewal 7 Day Chronic using Pimephales and Static Renewal 7 Day Chronic using Ceriodaphnia. The Daily Minimum limitations for both should be NOEC or IC25 >100% rather than Report Stat Diff and IC25. Existing language in Part I.C.7 of the permit, WET Testing-Outfalls, accurately describes the Chronic WET Testing requirements.*

IV. CHANGES MADE AS A RESULT OF THE AMENDMENT

The Division made the necessary modification to the Numeric Effluent Limitations and Monitoring Requirements Tables B.1 and B.2 of permit to correct the WET parameter citations and limitations.

Nicole Rolfe
September 1, 2011

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
FACT SHEET TO PERMIT NUMBER COG315000
GENERAL PERMIT FOR DISCHARGES FROM REMEDIATION ACTIVITIES

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I. TYPE OF PERMIT

Master General, NPDES, Surface Water, Fifth Renewal, Statewide

II. SCOPE OF THE GENERAL PERMIT

A. SIC Code: 1799 Special Trade Contractors, Not Elsewhere Classified
1629 Heavy Construction, Not Elsewhere Classified

B. Major Changes from Last Renewal:

The current general permit, which expired on October 31, 2010 and has been administratively extended by the Water Quality Control Division (Division), provides coverage for 25 Facilities with Remediation Activities. This renewed general permit is needed to continue to provide coverage for these established dischargers and for new groundwater remediation facilities that are operating throughout Colorado. Major changes from last renewal include the following:

- Inclusion of requirements to develop, document, and implement a Remediation Discharge Activities Management Plan in accordance with good engineering, hydrologic and pollution control practices to ensure compliance with effluent limitations and other permit conditions.
- Inclusion of a provision that requires dischargers to contain the initial effluent until analyses have confirmed that all numeric effluent limitations have been met. The Division has been including this condition in certifications under the current permit
- Quarterly influent screen for Base, Neutral, Acids, Volatile Organic Compounds, and Metals to detect changes in discharge
- Inclusion of practices required for discharges in exceedance of water quality standards
- Limitations on coverage to exclude discharges to groundwater or to outstanding waters

C. Facilities Covered:

This general permit is to authorize discharges from Remediation Activities to surface waters of the State in Colorado. Only facilities with activities that meet the definition of Remediation Activities are eligible for coverage under the general permit.

Table II-1 lists the 25 entities currently covered under the administratively extended Groundwater Remediation General Permit. The Division has received renewal applications for these 25 facilities.

Table II-1—Inventory of Facilities with Certifications under the Current General Permit

Certification	Facility	Discharge Flow Rate	Receiving Stream(s)
COG315025	*Municipal Service Center*	*001A-16.4 GPM*	*Little Dry Creek, within segment 16c Upper South Platte River Sub-basin*
COG315144	*Blanton Mountain Mart*	*001A-30 GPM*	*Tributary to Illinois River, within segment 4 of the North Platte River Sub-basin*
COG315146	*Hamilton Sundstrand Facility*	*001A-145 GPM* *002A-6.6 GPM*	*Little Dry Creek and Kalcevic Gulch, both within segment 16b of the Clear Creek Sub-basin*
COG315147	*Olde's Texaco Service Facility*	*001A-10 GPM*	*Tributary to Bear Creek, within Segment 1a of the Bear Creek Sub-basin*
COG315157	*RTD Tunnel 16 Groundwater Treatment Facility*	*003A-350 GPM*	*South Platte River, within Segment 14 of the Upper South Platte River Sub-basin*
COG315161	*Dietrich Standard Corporation*	*001A-40 GPM*	*Tributary to Dry Creek, within Segment 6 of the St. Vrain Sub-basin*
COG315165	*12000 W Cedar Dr Lot*	*001A-30 GPM*	*Lakewood Gulch, Segment 16c of the Upper South Platte River Sub-basin*
COG315169	*CDOT Materials Testing Lab*	*001A-1.5 GPM*	*Cherry Creek, Segment 03 of the Cherry Creek Sub-basin*
COG315176	*Raytheon Boulder Facility*	*001A-12 GPM* *002A-36 GPM*	*Both to tributaries to Dry Creek, within Segment 6 of the St. Vrain Sub-basin*
COG315179	*A and W Loveland Quick Trip Lust*	*001A-30 GPM*	*Big Barnes Ditch, within Segment 6 of the Big Thompson River Sub-basin*
COG315180	*Broderick Wood Prod Superfund*	*001A-67 GPM* *001B-67 GPM* *002A-80 GPM*	*Clear Creek, within Segment 15 of the Clear Creek Sub-basin*
COG315182	*BP Service Station 12001*	*001A-10 GPM*	*Clear Creek, within Segment 15 of the Clear Creek Sub-basin*
COG315183	*Former Redfield site*	*001A-40 GPM*	*Unnamed ditch tributary to Goldsmith Gulch, within Segment 4 of the Cherry Creek Sub-basin*
COG315197	*400 E 104 Ave Lot*	*001A-5 GPM*	*Grange Hall Creek-tributary to the South Platte River, within Segment 16c of the Upper South Platte River Sub-*

			basin
COG315198	*Wadsworth 66 Service Station*	*001A-5 GPM*	*Sanderson Gulch-tributary to the South Platte River, within Segment 16c of Upper South Platte River Sub-basin*
COG315210	*Pecos Street Grade Separation*	*001A- 450 GPM* *002A-450 GPM*	*Karen's Pond, tributary to Clear Creek, and directly to Clear Creek, both within Segment 15.*
COG315211	*Residence at 29 St Lot 4*	*001A-30 GPM*	*Boulder Creek, Segment 02b of the Boulder Creek Sub-basin, South Platte River Basin*
COG315215	*Mesa to Skylake Pipeline Project*	*SW 001A-200 GPM (Mobile to surface water)* *GW 001A-200 GPM (Mobile to Groundwater)*	*First Creek, Second Creek and the South Platte River, within segments 15, 16c, and 16d of the Upper South Platte River Sub-basin and* ***Groundwater***
COG315216	*W Main Pipeline Integrity Mgmt Program*	*200 GPM (Mobile)*	*Big Thompson River, within segment 04a of the Big Thompson River Sub-basin and to* ***Groundwater***
COG315217	*Kenwood Outfall*	*001A-100 GPM*	*South Platte River, Segment 15 of the Upper South Platte River Sub-basin*
COG315219	*Dahlia Ponds*	*001A-2,000--4,000 GPM*	*South Platte River, Segment 15 of the Upper South Platte River Sub-basin*
COG315224	*I-25 and Alameda Ave Project*	*001A-350 GPM* *002A-1,500 GPM*	*South Platte River, Segment 14 of the Upper South Platte River Sub-basin*
COG315225	*Denver Union Station*	*001A-1,000 GPM*	*South Platte River, Segment 14 of the Upper South Platte River Sub-basin*
COG315226	*South Platte River - Lower Lakewood Gulch*	*001A-120 GPM*	*South Platte River, Segment 14 of the Upper South Platte River Sub-basin*

D. Limitations on Coverage:

The Division included a limitation of coverage related to having representative data of the contaminated source water in order to characterize the waste stream and to identify all parameters which will require monitoring and/or numeric effluent limitations.

There are some discharges from Remediation Activities that cannot be covered under this general permit and must apply for coverage under another general permit or under an individual permit. These exclusions include discharges from Remediation Activities that:

- include other wastewaters (i.e., domestic wastewaters),
- are land applied or otherwise released to groundwater, or
- are to receiving waters designated as "outstanding waters"

Discharges that include other wastewaters such as domestic wastewaters are excluded on the basis that there may be additional pollutants of concern and other discharge characteristics that were not evaluated in the development of this general permit.

Land application or other discharges to groundwater are excluded from this permit. There are two current facilities with certifications authorizing discharges to groundwater. The Division will work directly with these two facilities to determine the best permitting approach for these discharges.

The Division requires that discharges to outstanding waters be authorized only by an individual permit, since a site specific evaluation is needed to meet the antidegradation requirements of Regulation 31.

E. Application Requirements:

Remediation facilities can apply for coverage under this general permit upon the issuance and effective date of the permit by submitting a complete and accurate application at least 45 days prior to the anticipated discharge. Following review of the application, the Division may request additional information. Upon receipt of the additional information, the Division shall have additional time to issue or deny the authorization to discharge.

Existing facilities with certifications under the administratively extended Groundwater Remediation General Permit (COG-315000) that have submitted renewal applications and qualify for coverage under the new general permit will automatically be transferred. Coverage will be transferred to the new general permit without a lapse of coverage (i.e. discharging without a permit) and without loss of fee payments.

The CDPS general permit for Construction Dewatering activities (COG-070000) authorizes discharges from similar activities as this general permit, but for which Remediation Activities are not conducted. As part of the Division's review of an application for coverage under COG-070000, or based on the availability of new information for facilities with existing coverage, the Division will assess the potential for various sources of contamination to be present in the discharge. Water quality based effluent limits may be required based on a Reasonable Potential Analysis (see Part VI.A.2.g) due to the presence of contaminants in the source water. Coverage under COG-070000 will not be authorized by the Division if remediation activities will be conducted for the discharge based on these water quality based effluent limits. If the applicant wishes to obtain coverage under the Remediation Activities general permit for the discharge, the following information must be submitted to the Division:

- a statement requesting that the information received in the Construction Dewatering application be applied towards the Remediation Activities Permit application,
- source water characterization data, and
- a description of the treatment utilized in order to meet limitations
- additional information as requested by the Division

All information must be submitted by the permit applicant legal contact and signed in accordance with Part I.E.7 of the permit.

III. RECEIVING STREAM

The Division has identified the stream segments to which the facilities with current certifications under the general permit discharge. The Division expects to continue coverage for these facilities under this general permit since the stream standards and designations are consistent with the limitations on coverage in the general

permit (i.e. none of the segments are designated as outstanding waters). The Division will also evaluate discharges to stream segments with established TMDLs, discharges to 303(d) listed waters, and other receiving water information as appropriate.

IV. SECTOR DESCRIPTION

A. Industry Description

Facilities with Remediation Activities in Colorado can be described as facilities engaged in Remediation Activities of groundwater, alluvial water, stormwater, and/or surface water (the source water) that will be discharged to surface waters and that is:

- Contaminated from specific industrial sources to include former dry cleaners, gasoline stations, industrial manufacturing facilities, etc.
- Contaminated from an unknown sources.
- Contaminated with naturally occurring constituents at concentrations that trigger water quality based effluent limits for discharges to surface water based on a Reasonable Potential Analysis (see Part VI.A.2.g).

B. Chemical Usage

Facilities potentially use a variety of chemicals during the treatment process for discharges from Remediation Activities. For this general permit the Division has required applicants to submit a list of proposed chemicals, including dosage rates, used in the treatment process. Additionally, a MSDS for each chemical proposed for use must be provided so that the Division can determine the appropriate effluent limitations and conditions to include in the certification. Additional sampling and monitoring requirements may be imposed based on the chemicals used.

The permittee shall notify the Division of any change in chemical usage associated with the permitted discharge in accordance with Part II.A.2 of the Permit.

V. COMPLIANCE HISTORY

The Division reviewed DMR data for the 25 facilities covered under this general permit. Some facilities received compliance advisories for failure to submit DMRs. A few facilities have continual numeric effluent limitation violations. The Division will evaluate whether these facilities will have to modify their treatment and contain their effluent until the modified treatment has confirmed that the effluent limitations have been met. Coverage under this renewed general permit may not be certified for a current permittee if compliance information from the previous permit term indicates that effluent limits in accordance with the permit do not ensure compliance with applicable water quality standards, control regulations, and the State and federal acts.

DMR review indicated that there were exceedances for various parameters including: Manganese, Iron, 1,4 Dioxane, Oil and Grease, MTBE, pH, Vinyl Chloride, 1,1,2,2-Tetrachloroethane, Chloroform, 1,2-Dichloroethane, Methylene Chloride, Carbon tetrachloride, Bromodichloromethane, 1,2-Dichloropropane, N-Nitrosodi-N-propylamine, Whole Effluent Toxicity Testing, Methyl tert-butyl ether, and Total Suspended Solids.

The Division had determined that a root cause for the high rate of exceedances of effluent limits in certifications under the previous permit was the implementation of treatment systems inadequate to remove pollutants as necessary to comply with those effluent limits. The Division has determined that for facilities covered under this permit, relying only on design calculation to determine if a facility will be capable of complying with effluent limits is inadequate to ensure compliance with applicable water quality standards, control regulations, and the State and federal acts. This iteration of the permit therefore requires containment of an initial batch of effluent until analyses have confirmed that all numeric effluent limitations have been met.

VI. TERMS AND CONDITIONS OF THE PERMIT

A. Discussion of Numeric Effluent Limitations

1. Technology Based Limitations

   a. Federal Effluent Limitation Guidelines – There are no Federal Effluent Limitation Guidelines for this category of discharge.

   b. Regulation 62: Regulations for Effluent Limitations – These Regulations include effluent limitations that apply to all discharges of wastewater to State waters. These regulations are applicable to the discharge from the Remediation Activities.

      i. Total Suspended Solids - The Division's current permit includes numeric technology-based limits for TSS based on Regulation 62. The Division has retained those more stringent requirements in this renewal permit for all dischargers as required by the anti-backsliding provision in CWA § 402(o). These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

      ii. Oil and Grease – The oil and grease limitations from the Regulations for Effluent Limitations are applied as they are the most stringent limitations. These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

      iii. pH - The pH limitation specified in the Regulations for Effluent Limitations is not the most stringent and thus is not used.

2. Water Quality Regulations, Policies, and Guidance Documents

   a. Antidegradation – As stated in The Basic Standards and Methodologies for Surface Water, Section 31.8, an antidegradation (AD) analysis is required for all discharges to waters designated "reviewable", except in cases where the regulated activity will result in only temporary or short term changes in water quality. Therefore, short-term and intermittent discharges will be considered a temporary impact and exempted from the AD review.

      Under this general permit, long-term, continuous discharges to waters designated "reviewable" will get 15% of the water quality standard. This AD standard will be identified as a site specific limitation in the certification. If the permittee requests consideration of dilution, ambient water quality, or an AD alternatives analyis, then the permit applicant will need to appy for an individual permit.

b. Determination of Total Maximum Daily Loads (TMDLs) – Upon reissuance of the renewal certifications under this revised general permit, the Division will assess whether or not any permitted facility discharges to segments for which a TMDL has been completed. The Division has included a provision in the general permit that authorizes the inclusion of additional effluent limits and other terms and conditions in a certification for discharges to segments for which a TMDL has been completed. The determination whether compliance with numeric effluent limitations will be required will be made on a case by case basis.

c. Determination of Discharges to 303(d) Listed Waters—Upon reissuance of the renewal certifications under this revised general permit, the Division will assess whether or not any permitted facility discharges to segments on the 303(d) list of impaired waters. The Division has included a provision in the general permit that authorizes the inclusion of additional effluent limits and other terms and conditions in a certification for discharges to segments that are on the 303(d) list of impaired waters.

d. Colorado Mixing Zone Regulations –For this general permit, mixing zone regulations will not apply for discharges from Remediation Activities as all limitations are assigned as end of pipe limits based on the Water Quality Standards and Technology Based Limitations. The rationale for not applying mixing zone regulations is due to Division resource limitations and the time required to conduct a thorough analysis of the receiving stream and its' assimilative capacity. In addition, this level of analysis is more appropriate for the individual permit process in order to include public notice and comment opportunities. Not applying the mixing zone regulations is consistent with the previous iteration of the permit**.**

e. Total Phosphorus – As noted in the general permit, the Division will implement effluent limitations and monitoring conditions in the certification in accordance with the Phosphorus Control Regulations (Regulations, 71, 72, 73, and 74).

f. Flow—Flow limitations will be based on the capacity of the treatment system(s).

g. Reasonable Potential Analysis –An analysis must be performed to determine whether to include WQBELs in the permit. This reasonable potential (RP) analysis is based on the Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, dated December, 2002. This guidance document utilizes both quantitative and qualitative approaches to establish RP depending on the amount of available data.

3. Pollutants Limited by Water Quality Standards

a. pH – pH was determined to be a potential pollutant of concern for discharges from Remediation Activities based on the frequent occurrence in groundwater contaminated by a variety of potential contaminants of pH levels that do not meet surface water standards and the variety of chemicals used in the treatment process that can result in further modification of pH levels.

This parameter is limited by the water quality standards of 6.5-9.0 s.u., as this range is more stringent than the range specified under the Regulations for Effluent Limitations. This limitation is the same as that contained in the previous permit and is imposed effective immediately.

b. Temperature—Temperature was evaluated to determine whether or not it was considered a potential pollutant of concern. The Division decided not to include monitoring for temperature on a permit-wide basis as facilities generally do not add heat during their processes. However, a case-by-case determination will be made as whether to include monitoring for temperature for facilities that containerize the effluent for extended periods of time causing the potential for temperature to be a pollutant of concern.

c. Metals—A case-by-case determination will be made as to whether or not metals are potential pollutants of concern that must be limited and/or monitored to protect the classified uses assigned to the receiving water. The case-by-case determination will be made based on the source water for the remedial activity discharge, chemicals used in the remedial process, concentrations of naturally occurring metals, the potential for the characterization of the source water to change due to locations of contaminant plumes, and data supplied with the permit application used to characterize the potential source water.

The limitations for metals are based upon the water quality standards and will come directly from the basin regulations (Regulations 32-38) and the Basic Standards and Methodologies for Surface Water (Regulation 31). Standards for metals in the basin regulations that are shown as Table Value Standards (TVS) must be derived from equations that depend on the receiving stream hardness or species of fish present. These equations can be found in the basin regulations (Regulations 32-38).

d. Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs)—A case-by-case determination will be made as to whether or not VOCs and/or SVOCs are potential pollutants of concern that must be limited and/or monitored to protect the classified uses assigned to the receiving water. The case-by-case determination will be made based on the source water for the remedial activity discharge, chemicals used in the remedial process, the potential for the characterization of the source water to change due to locations of contaminant plumes, and data supplied with the permit application used to characterize the potential source water.

The limitations for VOCs and SVOCs are based upon the water quality standards that come directly from the Basic Standards and Methodologies for Surface Water (Regulation 31). The numeric effluent limitations implemented are dependent on the beneficial use of the receiving stream.

4. Whole Effluent Toxicity (WET) Testing

a. Purpose of WET Testing – The Water Quality Control Division has established the use of WET testing as a method for identifying and controlling toxic discharges from wastewater treatment facilities. WET testing is being utilized as a means to ensure that there are no discharges of pollutants "in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life" as required by Section 31.11 (1) of the Basic Standards and Methodologies for Surface Waters.

b. Reasonable Potential (RP) for Including WET Testing in Certifications—A case-by-case determination will be made as to whether or not WET testing will be required based on

reasonable potential for the effluent to be toxic to aquatic life. The case-by-case determination will be made based on the following criteria:

i. Expected pollutants in the discharge—Facilities that have limited number of toxic pollutants that are adequately controlled through chemical specific effluent limits will have a lower RP. Facilities that have toxic pollutants for which there are no numeric water quality standards, or have a higher number of toxic pollutants and therefore an increased potential for synergistic effects, will have higher potential for RP.

ii. Variability of the discharge, in regards to WET test data or other toxic pollutants—Facilities that have a higher level of variability in WET testing results or other toxic pollutants will have a higher potential for RP.

iii. Chemical Usage—Facilities that use chemicals in the treatment process at dosages that are toxic to aquatic life will have a higher potential for RP.

c. Acute VS Chronic WET Requirements—This general permit is not implementing the mixing zone regulations as described in Part VI.A.2.d ,therefore the low flow is considered zero and the end of pipe limitations apply. In accordance with the Division's, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (WET) Testing policy (WET Policy), when end of pipe limitations apply, chronic WET requirements will normally be implemented. However, as documented in the WET Policy, where the discharge is intermittent, as defined in the permit, acute WET testing may be substituted for chronic WET testing. The basis for this is that the aquatic life would not have chronic exposure to the effluent.

d. Acute WET Monitoring –Monitoring for WET is being required using Ceriodaphnia dubia and fathead minnows. The permittee shall report the LC_{50} for each test.

e. Chronic WET Monitoring –Monitoring for WET chronic toxicity will be required using Ceriodaphnia sp. and fathead minnows. The results of the testing are to be reported on Division approved forms. The permittee will be required to conduct two types of statistical derivations on the data, one looking for any statistically significant difference in toxicity between the control and the effluent concentrations and the second identifying the IC_{25}, should one exist. Both sets of calculations will look at the full range of toxicity (lethality, growth and reproduction).

5. Salinity Regulations – In compliance with the Colorado River Salinity Standards and the Colorado Discharge Permit System Regulations, for discharges to the Colorado River Basin, the permittee shall monitor for total dissolved solids on a Monthly basis.

B. Terms and Conditions Necessary to Assure Compliance

Regulation 61.8(3)(f) includes a requirement for permits to include such terms and conditions as the Division determines to be necessary to ensure compliance with applicable control regulations, water quality standards, and the state and federal Act. The Division has determined that the following conditions are necessary for discharges authorized by this permit.

1. Containing Discharge to Ensure Numeric Effluent Limits Can Be Met: Due to the history of non-compliance with effluent limitations and the variability of the source water being treated, Part I.C.2 of this iteration of the permit requires containment of the initial batch of the effluent until analyses have confirmed that all numeric effluent limitations have been met. If the initial sample exceeds any limitations, additional treatment shall be completed prior to discharge to ensure compliance with the limitations. An additional sample must be collected, post-treatment, to confirm compliance with the limitations. Additional sampling and treatment shall be repeated, and all water shall be collected and retained, until monitoring results for the treated effluent verify compliance with the numeric effluent limitations identified in the permit certification.

   This provision may be waived for existing permittees on a case-by-case basis if the discharger has been able to demonstrate consistent compliance with the permit numeric effluent limitations. Prior to issuing renewal permits for existing permittees, the Division will review facility DMR data to verify whether or not the facility has demonstrated compliance with the permit numeric effluent limits. The permit certification will specifically state if this provision has been waived.

2. Remediation Activity Practices: Regulation 61.8(3)(r) includes a requirement for permits to include conditions for best management practices to control or abate the discharge of pollutants when the practices are reasonably necessary to achieve effluent limitations and standards. The Division has identified the common occurrence of failure to design and implement practices as necessary to ensure continuous compliance with the effluent limits. The Part I.C.3 permit therefore includes a requirement that management practices be implemented in accordance with good engineering, hydrologic and pollution control practices. The permit specifically identifies the need to ensure that control mechanisms are designed, implemented, and maintained with proper hydraulic and pollutant removal capacities. This requirement would make it a violation for a structural pollutant removal control to be operated in such a way that is outside of its design tolerances intended to ensure compliance with the numeric effluent limits. Examples would included failure to operate at the proper flow rate, maintain necessary capacity and holding time, apply proper rates and quantities of chemicals, and replace filters as necessary for proper function. Failure to properly implement and maintain practices can result in variations in pollutant removal ability of controls such that exceedance of numeric effluent limits may not be identified by the intermittent sampling required by the permit and therefore the requirement to implement practices is necessary to ensure ongoing compliance with numeric effluent limits. The specific requirement that remediation activity practices to be implemented in with good engineering, hydrologic and pollution control practices removal is intended to require consistent pollutant removal through proper operation of treatment controls.

3. Remediation Activities Management Plan: Part I.C.4 of this iteration of the permit also includes a requirement to develop, document, and implement a Remediation Activities Management Plan (Plan). The requirement for the Plan ensures that the practices implemented at the site are documented so that it is clear to the permittee, operator, and Division how the remediation practices at the site are to be implemented to maintain compliance with the permit. The plan is also required to describe practices that will be implemented to meet additional conditions of the permit, and to enable effective compliance oversight of the permitted facility.

4. Discharge Log: Discharges authorized by this permit often occur irregularly. This irregular nature can result in confusion for both the permittee and the Division in determining monitoring frequency and the application of both daily and averaged effluent limitations. A discharge monitoring log is therefore required by Part I.C.5 of the permit to identify when discharges are occurring from

permitted outfalls. This requirement applies to all dischargers but is intended to not result in a significant tracking and record keeping burden for those discharges that are on-going.

5. Practices for Discharges in Exceedance of Applicable Water Quality Standards: Pollutant concentrations in the influent for discharges authorized by this permit can change significantly over time. These changes can be impossible to predict and therefore makes it likely that the permittee will not be able to notify the Division of the change in discharge as required by Part II.A.2 of the permit prior to the change occurring. Without this notification and the ability to respond proactively, the Division does not have the ability to determine if the altered discharge is consistent with the conditions of the permit and whether or not the permit continues to ensure compliance with applicable control regulations, water quality standards, and the state and federal Act.

   The previous iteration of this permit addressed this concern by not authorizing any pollutant not identified in the permit certification. The Division has determined that this requirement is infeasible since it would result in a violation for pollutants that were present even when there is no potential for an exceedance of a water quality standard or when the permittee is unaware of the pollutants' presence. Therefore, Part I.C.7 of the permit includes requirements for the permittee to respond to changes in discharge only when the permittee becomes aware that pollutant concentrations in the discharge exceed any applicable water quality standards for the receiving water for a pollutant not subject to an effluent limitation in the permit certification. The permit also provides additional conditions that would allow a discharge to continue in compliance with the permit if the permittee can prevent the exceedance at the outfall. However, notification to the Division is required. The occurrence of an exceedance of a water quality standard at the outfall for a pollutant without an effluent limitation will likely result in the Division requiring a new or revised permit application and shall follow the procedures specified in Sections 61.5 through 61.6, and 61.15 of the Colorado Discharge Permit System Regulations.

C. Monitoring

1. Effluent Monitoring – Effluent monitoring will be required as shown in the general permit. The monitoring frequencies for some parameters deviate from the Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy (Monitoring Policy). However, according to the Monitoring Policy, intermittent type discharges such as batch type discharges are not subject the Monitoring Policy. Since discharges permitted under this general permit have the potential to be both continuous and of batch type, the Division established the monitoring frequencies based on the variability of the source water and type of activity resulting in the discharge to State waters. However, the monitoring frequencies are consistent with the previous iteration of the permit.

   Monitoring locations will be authorized in the permit certification. Facilities wanting to request a reduction in monitoring frequency must request so through the modification process. The Division will evaluate if a reduction in monitoring frequency can be made in accordance with the Monitoring Policy. Subsequently, upon permit renewal, facilities that have previously been granted a reduction in monitoring frequency will be re-evaluated against the criteria set forth in the Policy to determine if monitoring reductions can continue.

2. Influent Monitoring—Since the source water being discharged under this general permit has the high potential to change based on proximity to groundwater contaminant plumes and groundwater flow, quarterly influent monitoring is required. The Division established the influent monitoring

frequency based on potential for variability of the source water and the type of activity producing the discharge.

D. Reporting

1. Discharge Monitoring Report – Facilities authorized under this general permit must submit Discharge Monitoring Reports (DMRs) on a **monthly** basis to the Division. These reports should contain the required summarization of the test results for all parameters and monitoring frequencies shown in Part I.B of the permit. See the permit, Part I.B, C, D and/or E for details on such submission.

2. Special Reports – Special reports are required in the event of an upset, bypass, or other noncompliance. Please refer to Part II.A. of the permit for reporting requirements. Submittal of these reports to the US Environmental Protection Agency Region VIII is no longer required.

E. Spills

Spill requirements apply to materials spilled that result in their presence in the discharge authorized under this permit. Spills that may cause pollution of state waters that are not discharged through an outfall authorized under this general permit are not within the scope of this general permit and are required to be reported in accordance with the Colorado Water Quality Control Act 25-8-601(2), since the Division views these actions as not authorized under the scope of a discharge permit. Additional information regarding reporting of unauthorized spills is contained in the Divisions Guidance for Reporting Spills.

F. Compliance Schedules

Compliance schedules are authorized to be included in certifications as needed. The Division anticipates that a compliance schedule may be appropriate for implementation of the more restrictive Antidegradation limitations for example. All information and written reports required by a compliance schedule should be directed to the Permits Section for final review unless otherwise stated.

G. Additional Terms and Conditions

1. Signatory and Certification Requirements – Signatory and certification requirements for reports and submittals are discussed in Part I.E.7. of the permit.

Nicole Rolfe
April 1, 2011

VII. REFERENCES

A. Colorado Department of Public Health and Environment, Water Quality Control Division Files, for facilities currently authorized under this permit.

B. Basic Standards and Methodologies for Surface Water, Regulation No. 31, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective November 30, 2009.

C. Colorado Discharge Permit System Regulations, Regulation No. 61, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2009.

D. Regulations for Effluent Limitations, Regulation No. 62, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2008.

E. Colorado River Salinity Standards, Regulation No. 39, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective August 30, 1997.

F. Antidegradation Significance Determination for New or Increased Water Quality Impacts, Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2001.

G. Memorandum Re: First Update to (Antidegradation) Guidance Version 1.0, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 23, 2002.

H. Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2002.

I. The Colorado Mixing Zone Implementation Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 2002.

J. Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities, Water Quality Control Division Policy WQP-20, May 1, 2007.

K. Policy for Conducting Assessments for Implementation of Temperature Standards in Discharge Permits, Colorado Department Public Health and Environment, Water Quality Control Division Policy Number WQP-23, effective July 3, 2008.

L. Policy for Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (WET) Testing, Colorado Department of Public Health and Environment, Water Quality Control Division Policy Number WPC Program Permits-1, effective September 30, 2010.

VIII. PUBLIC NOTICE COMMENTS

The City and County of Denver (CCoD) provided the only written comments during the Public Notice Period. Summaries of these comments and the Division's response are provided below. The full comments and supporting documents are contained in the permit file and available upon request from the Division's Records Center.

Comment 1—Part I.B.3, Monitoring Frequencies and Sample Types for Influent Parameters
The requirement that a permittee seeking relief from influent sampling substantiate that constituents are not present in influent at concentrations more than one half the underlying surface water standard seems unreasonable and excessive. The text should clarify that this requirement applies only to constituents that are not already in the permit.

> ***Response 1****—Because the source of the discharge authorized under this general permit is highly variable due to changes in ground water flow from the pumping of ground water, the Division does not consider this requirement to be unreasonable or excessive. Contrary, the Division feels this requirement is necessary in order to maintain compliance with Part I.C.6 of the permit. The permit requires influent monitoring and reporting for parameters listed in Table B.3 (See Part III of the permit for each listed parameter) including those parameters with a numeric effluent limit in the permit (certification). Monitoring of constituents in the influent with a numeric effluent limit in the permit (certification) is required to identify changes that could result in the necessity for revised treatment and to meet the intent of Part II.A.2 of the permit to identify any changes that could result in an altered discharge.*

Comment 2—Part I.B.3, Monitoring Frequencies and Sample Types for Influent Parameters
The permit should include a provision allowing the permittee to demonstrate that constituents in influent that are not included in the permit will not result in an exceedance of a water quality standard in the receiving water. The demonstration could be performed by evaluating the assimilative capacity of the receiving water, in-stream monitoring, or modeling. The permittee could then petition the Division for relief from influent monitoring requirements.

> ***Response 2—****Consistent with Part. I.C.11 of the permit, all effluent limitations are assigned as end of pipe limits based on the Water Quality Standards. An assessment to determine the assimilative capacities for the receiving stream for each pollutant of concern is not applicable to this permit. Dischargers who want consideration of a mixing allowance or ambient stream conditions should apply for an individual permit.*

Comment 3—Part I.B.3, Monitoring Frequencies and Sample Types for Influent Parameters
Section 3 is confusing. Clarification is needed on influent monitoring frequency.

> ***Response 3****—The Division reworded the footnotes to state that the influent must be monitored once per quarter and in accordance with Part I.B.3. of the permit.*

Comment 4—Part I.C.7, WET Testing-Outfall(s)
We recommend adding a reference to the Fact Sheet for clarity regarding reasonable potential for WET.

> ***Response 4****—The Division has added a reference to the Fact Sheet which explains the reasonable potential for inclusion of WET testing as a permit requirement.*

Comment 5—Part I.C.7, WET Testing-Outfall(s), 4th paragraph
WET tests are typically performed by an outside party, and there is the potential for control failure during tests. CCoD recommends adding the italicized text to the permit language:

If a test is considered invalid, the permittee is required to perform additional testing during the monitoring period to obtain a valid test result. *Unless demonstrated that the permittee took appropriate steps to acquire valid WET test results,* failure to obtain a valid test result during the monitoring period shall result in a violation of the permit for failure to monitor.

> ***Response 5*** *–The Division's expectation is that permittees comply with the terms and conditions of the permit and exercise proper operation and maintenance which includes adequate laboratory controls and quality assurance procedures. If for any reason a permittee is unable to comply with the WET testing requirements or is unable to obtain valid WET test results, the permittee shall provide the Division with the proper noncompliance notification demonstrating that they exercised due diligence and there were factors beyond their control that prevented them from obtaining valid WET test results. The suggested language was not be added to the permit.*

Comment 6—Part I.C.7.a.iii, Automatic Compliance Response
The listed permit reference for the description of the Toxicity Identification Evaluation / Toxicity Reduction Evaluation (TIE /TRE) investigation does not seem correct.

> ***Response 6—****The Division corrected the reference to TIE/TRE in the permit.*

Comment 7—Part I.C.7.b, Chronic WET Testing
Would it take an Individual Permit or just a modified General Permit to change the IWC from 100% to something that may be more appropriate for a given project? If it can be demonstrated that the discharge is a small percentage of minimum instream flows (i.e., <5%), would this not justify a lower IWC percentage?

> ***Response 7—****As in previous iterations of this general permit, the IWC is set to 100%. In order to change the IWC from 100% to a lower IWC percentage, a discharger would have to apply for an individual permit. Additional language was added to the permit stating that the permittee should apply for an individual permit for consideration of a lower IWC percentage.*

Comment 8—Part I.C.8, Chemical Additions
The proposed revised permit states that no chemicals are to be added to the discharge unless the WQCD first grants permission. Please define at which point in the treatment system that the water is considered 'discharge'.

> ***Response 8 –****The Division reworded the language to clarify that the requirement addresses chemicals that have the potential to be present in the permitted discharge. This would include, but is not limited to, chemical additions at any point in the treatment system.*

Comment 9—Part I.D, Definition of Terms
Information contained in the definition of antidegradation limits appears to be a requirement for permittees to implement and not a definition. CCoD suggests moving the text to a more suitable location in the permit and rewording the requirements so that they are clearer

> **Response 9—***The Division removed the "Antidegradation limits" definition since the definition described the method for calculating the two year rolling average. An "Antidegradation" definition was added.*

Comment 10—Part I.E.3, Analytical and Sampling Methods for Monitoring
The analytical sampling text on calculation of average concentrations does not appear to be consistent with the definitions of "seven day average" and "thirty day average" and should be modified to avoid confusion.

> ***Response 10—****The Division reworded the language within Part I.E.3 as it pertains to calculating average concentrations. Text within the "Seven (7) day average" and "Thirty (30) day average" definitions pertaining to calculating the Seven (7) day and Thirty (30) day averages was removed and language referencing Part I.E.3 (Analytical and Sampling Methods for Monitoring and Reporting) was added.*

Comment 11—Part II.A.5, Other Notification Requirements
The text notes that manufacturing, commercial, mining, and silvicultural dischargers must notify the Division when certain criteria are or are expected to be reached. CCoD recommends removing the text as it does not appear to be relevant to this permit.

> ***Response 11****—Part II.A.5 is boiler plate language which exists in all CDPS industrial general permits. Since the language does not cause any conflict with the permit requirements, the language will not be removed.*

Comment 12—Will the changes in the new permit be implemented through permit revisions or will existing permits remain unchanged until the permit is renewed?

> ***Response 12****—Existing permit certifications will remain unchanged until the permit becomes issued and effective. All existing permittee's wishing to continue permit coverage under the revised permit were required to have filed a permit renewal application. Once the revised permit is issued, each existing permittee with a renewal application on file will be issued a new permit certification with an effective date set to that of the effective date of the revised general permit. Where a permit certification has new or more stringent limitations, where necessary and in accordance with Regulation 61, the facility will be given a schedule for compliance that will include specific deadlines for the facility to achieve compliance with the new or more stringent limitation(s) as soon as possible.*

Comment 13—What will be the agency's response time to new permits and requested modifications? CCoD recommends that the current 30 day review time remain in place so as not to delay development projects or redevelopment of Brownfields sites and subsequently potentially affecting the economics of the projects.

Response 13*—As stated in Part I.A.3 of the permit, the Division has changed the application deadline from 30 days to 45 days before the anticipated date of discharge. The longer review period is necessary for the Division to complete the certification issuance process.*

Comment 14—It seems that the proposed revised permit treats all sites the same as a water treatment facility regardless of size, including the need for a certified operator to run the treatment facility. If that is WQ's intent, that may not be appropriate for all types of discharges from remediation activities. It is not clear how the proposed permit requirements can be practically, or cost effectively, implemented for smaller remediate projects. CCoD recommends that CDPHE WQCD propose and implement a subset of the permit requirements for smaller projects.

Response 14—*It is the Division's intent to treat all sites (regardless of size) the same that are discharging treated or remediated ground water, alluvial water, stormwater, and /or surface water. The nature of a general permit is to regulate a category of discharge and is not based on the quantity of discharge or size of the project. According to Regulation 61,Colorado Discharge Permit System Regulations, the general permit shall be written to regulate a category of point sources if the sources all a) involve the same or substantially similar types of operations; b) discharge the same types of wastes; c) require the same effluent limitations or operating conditions; d) require the same or similar monitoring; and e) in the opinion of the Director, are more appropriately controlled under a general permit than under individual permits.*

Nicole Rolfe
July 26, 2011