Colorado Discharge Permit System Regulations

MODIFICATION NO. 2 TO CERTIFICATION

under

DISCHARGES ASSOCIATED WITH SUBTERRANEAN DEWATERING OR WELL DEVELOPMENT *(SIC No: 1781))*

Category 26, Current fee $630/long term (CRS 25-8-502)

Division Initiated Modification = No Fee

This certification specifically authorizes Powertech (USA) Inc. to discharge in accordance with this certification under the General Permit for Subterranean Dewatering or Well Development.
All correspondence relative to this facility should reference the specific facility number, COG603162.

Permittee
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Modification No. 2
The permit is modified to replace the "report" requirement with a numeric limitation for Radium 226/228. While the Radium 226/228 levels identified in the submitted groundwater data are below the water-quality standard, the Division decided to include a limit, as described below. The maximum flow rate is changed from "report" to the rate listed in the Powertech application.

Modification No. 1 and Initial Permit Coverage
Modification No. 1 was issued on May 18, 2010 and made three changes. A second outfall (002A) was added. Radium 226/288 monitoring was added. Total dissolved solids monitoring was dropped since this discharge is not to the Colorado River watershed.

The initial permit for the proposed aquifer pump tests was issued on October 24, 2007 as certification COG-600988 under the Minimal Industrial Discharge (MINDI) general permit. The Division is phasing out the MINDI permit and decided the Powertech type of discharge is more appropriately covered under the above general permit (COG6030000). This conversion was made when Modification No. 1 was issued.

Project Name, Activity and Location
The project consists of short-term hydologic pump testing of subsurface aquifers (pump tests) using two water wells within the boundary of the planned Centennial Uranium Facility. The pump tests are planned to be a one-time event at each outfall location, but additional pump tests may be conducted in the future, if hydrogeologic information is needed. The planned pump tests are expected to last about 72 hours with an average flow rate of 0.043 million gallons per day (MGD), and a maximum rate of 0.072 MGD. Thus, the daily volume would 72,000 gallons and the 3-day total volume would be 216,000 gallons. The project is located 0.5 mile northeast of the intersection of WCR 100 and WCR 17 in Nunn, (Weld County) Colorado 80648.

To-date, no pump tests have been conducted under the permit which was issued in October 2007.

Discharge Points
The discharge point (001A) is located at approximately the following location, Latitude: 40° 42'28"N Longitude: -104°53'38" W. The discharge point (002A) is located at approximately the following location, Latitude: 40°43'00"N Longitude: 104°45'00" W.

Discharge Point	*Description*	*Estimated Flow Rate*
001A	The discharge* is from a water well hydrologic pump test of a subsurface aquifer that discharges to a reserve pit and dissipates to a field that slopes toward a dry tributary of Spring Creek.	Max= 0.072 MGD
002A	The discharge* is from a water well hydrologic pump test of a subsurface aquifer that discharges to a dry tributary of Spring Creek.	Max= 0.072 MGD

*All discharges must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts, and other local agencies regarding any discharges to storm drains systems, conveyances, or other water courses under their jurisdiction

Effluent Parameters

The discharges are to a dry tributary of Spring Creek, within Segment 3a of the Middle South Platte River Sub-basin, South Platte River Basin, found in the Classifications and Numeric Standards for the South Platte River Basin (Regulation No. 38; last update effective January 30, 2010). Segment 03a is Use Protected, and is classified for the following beneficial uses: Aquatic Life, Class 2 Warm; Recreation Class E; and Agriculture.

Outfall(s) 001A-002A: Permit Limitations and Monitoring Requirements for Short Term Discharges (i.e. Well Development, Monitoring or Observation)

Effluent Parameter	Discharge Limitations		
	Daily Maximum	Monitoring Frequency[1]	Sample Type
Applicable to all Discharges			
Flow, gpm	limit	2X/discharge	Instantaneous or Continuous[2]
Total Suspended Solids, mg/l	30	2X/discharge	Grab
pH, s.u.	6.5-9.0	2X/discharge	In-situ
Oil and Grease, mg/l	10	2X/discharge	Visual *
Site Specific Parameters			
Radium 226 and 228, Picocuries/ Liter (Total)	5 pCi/L	2X/discharge	Grab

1 This monitoring frequency is based on discharges that are classified as intermittent or temporary, such as those surrounding well development or subterranean dewatering activities. If the discharge is not classified as intermittent or temporary, the monitoring frequency may be changed.

2 Flow can be measured with a recorder or determined from estimates based on measurements of pump capacity or flow over timed intervals whichever represents existing conditions.

*There shall be no visible sheen. If a visual sheen is detected a grab sample must be taken.

Basis for Site Specific Parameter

The physical and inorganic analyses of the ambient groundwater that was submitted by Powertech in the application (May 19, 2010) to the Division is provided below.

Parameter	Groundwater Sample (February 11, 2010) Value	Water Quality Standard (Acute unless noted otherwise)
Physical Parameters, mg/l		
Alkalinity (Total), as CaCO3	279	NA
Suspended Solids (Total)	19	45 (7-day average)
Metals (Dissolved)		
Aluminum, ug/l	<0.1	750 (Total Recoverable)
Barium, ug/l	0.3	NA
Iron, mg/l	0.05	1,000 mg/l (Total Recoverable)
Manganese, ug/l	<0.01	3,422
Trace Metals (Dissolved) ug/l		
Arsenic	<0.001	340
Cadmium	<0.001	3.9
Copper	<0.1	20
Lead	<0.1	102
Mercury	<0.002	1.4
Selenium	<0.001	18.4
Silver	<0.05	4.2
Zinc	<0.1	205
Uranium	0.0015	3,811
Radionuclides (Dissolved), pCi/l		
Gross Alpha Radioactivity	4.6	NA
Gross Beta Radioactivity	19.4	NA
Radium-226	3.6	NA
Radium-228	0.5	NA
Radionuclides (Total), pCi/l		
Radium-226 and Radium-228	No Sample	5
Radon-222	11	NA

The information in Classifications and Numeric Standards for the South Platte River Basin, (Regulation No. 38, last update effective January 30, 2010) and Basic Standards and Methodologies for Surface Water, (Regulation No. 31, last revised November 30, 2009) were used to calculate applicable water-quality standards shown in the table. The water-quality standards for dissolved, trace metals for metals are derived from equations (Table Value Standards, or TVS, as listed in the regulations) that depend on the receiving stream hardness or species of fish present. The Classification and Numeric Standards documents for each basin include a specification for appropriate hardness values to be used. For this specific site, the mean hardness was determined to be 152 mg/l based on sampling data from USGS Gage Station 6720500. This hardness value and the TVS formulas were used to calculate applicable water-quality standards shown in the table.

The parameter levels in groundwater, with the exception of Total Suspended Solids and Radium, are substantially below the applicable water-quality standard. Thus, limits and/or monitoring is not necessary for inclusion as terms of this permit.

A total suspended solid is already a permit requirement, based on the terms of the general permit.

In addition to the existing monitoring requirement, a limit for Radium is placed in the permit based on the analysis of the groundwater sample. The sum of the measurements of dissolved Radium-226 and Radium-228 is 4.1 pCi/l which approaches the limit of 5 pCi/l for all Radium -226 and Radium-228 in the groundwater. Based on qualitative reasonable potential analysis by the Division, a limit is appropriate based on the groundwater analysis and location of a nearby uranium ore body.

While the results of the groundwater analysis show the Radium levels below but near the water-quality standard, the discharge water must be tested before discharge to confirm compliance with this limit. The analysis of Radium in water samples will take several days or weeks to complete. Thus, it will be necessary for Powertech to retain and store all water from the pump tests until analysis of the stored water confirm that the combined Radium-226 and Radium-228 concentration is in compliance with the water-quality standard and only then can the pump test water be discharged at either of the outfall locations. Further, once compliance is confirmed, the pump test water must be released the water at a rate that

is within accordance of the flow rate approved in the certification (i.e, a maximum of 0.072 MGD).

Other Conditions

Antidegradation
Antidegradation review does not apply to this permit because the receiving stream is classified as Use Protected.

Sampling
Sampling shall occur at a point after treatment, or after the implementation of any Best Management Practices (BMPs). If BMPs or treatment are not implemented, sampling shall occur where the discharge leaves control of the permittee, and prior to entering the receiving stream or prior to discharge to land. Samples must be representative of what is entering the receiving stream.

Monitoring and Reporting
Discharge Monitoring Reports (DMR) must be submitted quarterly as long as the certification is in effect. The permittee shall provide the Division with any additional monitoring data on the permitted discharge collected for entities other than the Division. This will be supplied to the Division within 48 hours of the receipt of the data by the permittee.

This certification to discharge is effective until the general permit for Discharges Associated with Subterranean Dewatering or Well Development expires. However, the permittee expects a one time discharge event from each outfall location with possible additonal aquifer pump tests if future hydrogeologic information is needed. The maximum frequency of the discharge, or pump test, from the additional outfall (002A) will not exceed a monthly recurrence interval. The permittee will terminate the certification once the discharge is complete. For termination of permit coverage, the permittee must initiate this by sending a letter to the Division requesting the permit certification be terminated.

Best Management Practices
The permittee shall implement and maintain the Best Management Practices (BMP) for the prevention of erosion and the control of solid and liquid pollutants due to the discharge. BMPs include various options, such as: modification of the pipe discharge structure to disperse flows; containment of water by berms or other comparable structures; the use of geocloth, filter fabric, or plastic sheeting for protection of containment structures; rip-rap; and/or any other approved methods.

The General Permit for Discharges Associated with Subterranean Dewatering or Well Development is attached and the permittee should review this permit for familiarity with all of the permit requirements. If the permittee has questions related to this certification that cannot be answered by a review of the permit, the permit writer should be contacted.

Permit Writer
Maura McGovern
303-692-3392
July 19, 2010