

STATE OF WYOMING  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNDERGROUND INJECTION CONTROL PERMIT ISSUED UNDER  
WYOMING WATER QUALITY RULES AND REGULATIONS  
CHAPTER 13

CLASS I INJECTION WELL

( ) New  
(X) Modified

Permit Number: **07-174**  
UIC Facility Number WYS-009-00047

In compliance with the Wyoming Environmental Quality act (W.S. 35-11-101 through 1104, specifically 301(a)(i) through 301 (a)(iv), Laws 1973, Ch. 250, Section 1) and Wyoming Water Quality Rules and Regulations, Chapter 13.

Applicant: Power Resources, Inc.  
P.O. Box 1210  
Glenrock, WY 82637  
(307) 358-6541

Power Resources, Inc., hereafter referred to as the permittee, is authorized to operate **Southwest Disposal Area Well (SWA DW No. 1)** located in the NE¼ of Section 17, Township 35 North, Range 74 West in the 6<sup>th</sup> Principal Meridian, in Converse County according to the procedures and conditions of application 07-174 and requirements and other conditions of this permit. This permit shall become effective on date of issuance.

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John Wagner, Administrator  
Water Quality Division  
Herschler Building, 122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002  
(307)-777-7781

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Date

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John V. Corra, Director  
Department of Environmental Quality  
Herschler Building, 122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

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Date

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**A. Discharge Zone**

This injection well is authorized to inject into the Lance Formation as follows:

**Table 1 (Discharge Zone)**

Well Name	Perforated Intervals (injection start depth)	Perforated Intervals (injection end depth)
SWA DW No. 1	4,750	7,000

Additional perforations may be installed within the above named intervals of the authorized formations with the prior written approval of the Water Quality Division.

The packer (set on the bottom of the tubing) shall be set within 500 feet of the top of the authorized discharge zone for all wells.

Shale strata within the Upper Lance and Lower Fort Union Formations form the confining layer above the receiver and shale strata within the Lower Lance Formation form the confining layer below the Lance receiver.

**B. Well and Area of Review**

The well(s) authorized by this permit is/are located in:

Township 35 North, Range 74 West, Section 17, 6<sup>th</sup> Principal Meridian

The Area of Review is determined by calculating the cone of influence, volumetric cylinder, or using a default radius of 1,320 feet, whichever is greater.

The Area of Review around this well is legally described as:

Township 35 North, Range 74 West

Section 8: SW $\frac{1}{4}$  SE $\frac{1}{4}$ , SE $\frac{1}{4}$  SE $\frac{1}{4}$ , SE $\frac{1}{4}$  SW $\frac{1}{4}$

Section 17: NE $\frac{1}{4}$ , NE $\frac{1}{4}$  NW $\frac{1}{4}$ , SE $\frac{1}{4}$  NW $\frac{1}{4}$

The Area of Review is based on the following information:

**Table 2 (Area of Review Inputs for Formation)**

Description	Inputs	Units
SWA DW No. 1		
Time	10	Years
Porosity	17	Percent
Injection Rate	5,143	BPD

Thickness of Receiver	905	Feet
Area of Review	1,320	Feet
Fracture Gradient	0.642	PSI/Feet

### C. Groundwater Classification

The groundwater in the Lance Formation is classified as Class VI according to Wyoming Water Quality Rules and Regulations, Chapter 8. This classification was made for the following reasons:

1. It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;
2. This formation has been a permitted receiver in the past. The EPA has previously granted an aquifer exemption for designated portions of the Lance Formation from classification as a USDW.

### D. Authorized Operations

Wastes from this facility are exempt from RCRA regulations under 40 CFR 261.4(b)(7) as per the Beville Amendment. These wastes are exempt by virtue of the fact that they are beneficiation wastes which are produced by a process which is restricted to the following activities: crushing, grinding, washing, filtration, sizing, drying, palletizing, briquetting, calcining to remove water and/or carbon dioxide, roasting, and autoclaving.

The permittee is authorized to inject 5,143 barrels per day (216,000 gallons per day) of industrial wastes as a total volume injected. A maximum volume of 5,143 barrels per day may be injected into this well provided that the surface pressure limitations are not exceeded. Wastes to be injected are described as follows: operation and restoration bleed streams from in-situ leach uranium mining operations, yellowcake wash water, laboratory waste, reverse osmosis brine, groundwater and groundwater sweep solutions, and plant washdown water.

The permittee is authorized to inject according to the following permit limits:

**Table 3 (Permit Limits)**

Description	Permit Limits	Units
<b>SWA DW No. 1</b>		
Maximum Injection Rate	5,143	BPD
Surface Tubing Injection Pressure (Maximum)	1,156	PSIG
Annulus Pressure (Minimum)	200	PSIG
Annulus Pressure (Maximum)	800	PSIG

The injection pressure shall be continuously monitored and recorded on a chart recorder or digitally. The permittee shall continuously monitor the pressure on the casing annulus and

tubing, and shall maintain a positive pressure on the annulus.

The permittee may conduct step injection tests to determine changes in the fracture pressure as the injection continues. After acceptance by the Administrator of these tests the permittee shall limit the injection pressure to 100 psig less than the new fracture pressure as measured on the surface.

If the injection pressure and/or rate exceeds authorized limitations it is a violation of this permit and shall be reported pursuant to Section I of this permit.

The permittee is authorized to inject industrial processing wastes as follows:

#### **Well workover wastes**

This category includes water associated with drilling fluids used during the drilling of any oil and gas well or the water supply wells on oil and gas locations; rig wash water; well completion, treatment and stimulation fluids; waste produced during any workover or abandonment of an oil or gas well or test hole; wastes from subsurface gas storage and retrieval; liquid hydrocarbons removed from the production stream but not from oil refining; materials ejected from a producing well during the process known as blowdown;

No additional prior approval is required in order to accept these wastes. Please account for all such wastes on your quarterly reports under the heading **Well workover wastes - Authorization #1997-1**, rather than the name of the company generating the wastes.

#### **Water and other tank bottoms**

This category includes water and other tank bottoms from the storage facilities that hold crude oil, natural gas, gas condensate, or wastes which are exempt under the oil and gas exploration and production exemption to RCRA.

At least once every three (3) years, permittee shall obtain a comprehensive water analyses including all parameters except PCB's found in Wyoming Water Quality Rules and Regulations, Chapter 13, Appendix A for each source of waste accepted under this provision. No additional prior approval is required in order to accept these wastes. Please account for all such wastes on your quarterly report under the title **Water and other tank bottoms- Authorization #1997-2** rather than the name of the company generating these wastes.

#### **Gas plant sweetening and dehydration wastes**

This category includes gas plant sweetening wastes for sulfur removal including amines, backwash, and any wastes produced by a Bevon Stetford processing plant; gas plant dehydration wastes, and backwash.

At least once every three (3) years, permittee shall obtain a comprehensive water analyses including all parameters except PCB's found in Appendix A, Chapter 13, Water Quality Division

Rules and Regulations, for each company generating such wastes which are accepted under this provision. These analyses shall be accompanied by a complete description of the waste sampled including the plant name and location, and whether the waste is glycol, amine, or caustic waste. No additional prior approval is required in order to accept these wastes. Please account for all such wastes on your quarterly report under the title **Gas Plant Wastes – Authorization #1997-3** rather than the name of the company generating these wastes.

#### **Miscellaneous Oilfield Related Wastes**

Cooling tower blowdown wastes on gas plant or other exempt sites; packing fluids; pigging wastes from in field gathering lines, but not from interstate pipeline systems;

At least once every three (3) years, permittee shall obtain a comprehensive water analyses including all parameters except PCB's found in Appendix A, Chapter 13, Water Quality Division Rules and Regulations, for each source of waste accepted under this provision. No additional prior approval is required in order to accept these wastes. Please account for all such wastes on your quarterly report under the title **Miscellaneous Oilfield - Authorization# 1997-4** rather than the name of the company generating these wastes.

#### **Regulated Underground and Above Ground Storage Tank Wastes**

Wastes generated during the removal or maintenance of Underground or Above Ground Storage Tanks, so long as those tanks are regulated facilities under the Above Ground and Underground Storage Tank Program administered by the Water Quality Division. Under this provision, wastes including water from inside an active tank, water found inside the tank during a removal operation, groundwaters contaminated by gasoline and diesel, and water used in any form of testing operation, may be injected without analyses and without prior approval. Permittee shall obtain a written statement from the generator of any such waste stating that the waste is from a storage tank regulated by the Water Quality Division. These statements shall contain the certification statement found in your permit. Please account for all such wastes on your quarterly report under the title **Regulated Tank Wastes – Authorization #1997-5** rather than the name of the company generating these wastes.

#### **Oilfield Produced Water**

This category includes all waters produced directly with the production of oil and gas and collected in the field where the oil and gas were produced. It does not include tank bottoms or water accumulated in gas processing plants, refineries, or intrastate or interstate pipe line facilities.

No additional prior approval is required in order to accept these wastes. Please account for all such wastes on your quarterly reports under the heading **Oilfield Produced Water - Authorization #1997-6**, rather than the name of the company generating the wastes.

#### **Sump Wastes**

Wastes known as "sump wastes" from floor drains and septic tanks at various sites. This general category includes wastes from sumps in automotive shops, gasoline stations, oilfield service industries, airports, and similar shops which perform mechanical work. This category does not include industrial process wastes from manufacturing operations or wastes from sumps in shops which do not perform mechanical work. These wastes must be characterized fully prior to disposal to insure that they are not hazardous wastes. The Water Quality Division will issue a letter of approval for each new source of waste under this category prior to permittee accepting the first lot of waste. In order to obtain such an approval letter, permittee shall submit a complete written description of the waste, including the name of the company generating the waste, the address or legal description of the location where the waste was produced, a description of the processes that produced the waste, and a comprehensive water analyses including all parameters except PCB's found in Appendix A, Chapter 13, Water Quality Division Rules and Regulations. Based on this information, the Water Quality Division may issue an approval letter for the disposal of non-hazardous sump waste for a duration of no more than three (3) years.

In order to renew a previously approved source, once every three (3) years, permittee shall obtain a comprehensive water analyses including all parameters except PCB's found in Appendix A, Chapter 13, Water Quality Division Rules and Regulations. Please account for all such wastes on your quarterly report under the title **Miscellaneous Sump Waste – Authorization #1997-7** rather than the name of the company generating these wastes.

#### **Bevill Amendment Wastes**

The Bevill Amendment exempts most wastes generated in the mining industry from regulation under RCRA. Wastes covered by the Bevill Amendment to RCRA are detailed in 40 CFR 261.4(b)(7). This section of 40 CFR 261 sets up two (2) types of mining wastes which are exempt, beneficiation wastes and processing wastes. The two terms are almost interchangeable, except that processing usually refers to a process which produces a final end product, while beneficiation produces an intermediate product which must be further refined to be used. Once every three (3) years, permittee shall obtain a comprehensive water analyses including all parameters except PCB's found in Appendix A, Chapter 13, Water Quality Division Rules and Regulations. Please account for all such wastes on your quarterly report under the title **Bevill Amendment Waste – Authorization #1997-8** rather than the name of the company generating these wastes.

#### **Water well wastes**

This category of fluids includes water associated with drilling fluids used during the drilling of any water supply well, rig wash water, well completion, treatment and stimulation fluids, waste produced during any workover or abandonment of a water well, or a test hole including spent acid from acid fracturing or well acidizing jobs.

No additional prior approval is required in order to accept these wastes. Please account for all such wastes on your quarterly reports under the heading **Water well wastes - Authorization #1997-9**, rather than the name of the company generating the wastes.

### **Miscellaneous Non-hazardous wastes**

In addition to the authorizations contained in this permit, permittee may still obtain additional approvals for wastes which do not fit any of the above classifications. Any such waste must be characterized fully in order to insure that this waste is not a hazardous waste. The Water Quality Division will issue a letter of approval for each new source of waste under this category prior to permittee accepting the first lot of waste. In order to obtain such an approval letter, permittee shall submit a complete written description of the waste, including the name of the company generating the waste, the address or legal description of the location where the waste was produced, a description of the processes that produced the waste, a certification that the waste is not a listed hazardous waste, and a comprehensive water analyses for the waste. Since this is a very broad category of wastes, the exact analyses required will be based on the type of processes that generate the waste, and the type of contaminants likely to be present in the waste. Based on this information, the Water Quality Division may issue an approval letter for the disposal of non-hazardous waste for a duration of no more than three (3) years.

In order to renew a previously approved source, once every three (3) years, permittee shall obtain a comprehensive water analyses including all parameters included in the initial approval. Please account for all such wastes on your quarterly report under the title **Miscellaneous Non-Hazardous Waste – Authorization #1997-10** rather than the name of the company generating these wastes.

### **Wastes accepted under these blanket authorizations**

For each type of waste accepted under any of the blanket authorizations contained in this permit, permittee shall require that the company generating these waste provide a full written description of the wastes to support the fact that the wastes are similar to the wastes described in the authorization. Permittee shall keep records on-site concerning the source of all such wastes. All wastes accepted under any authorization contained in this permit shall be neutralized to a pH of greater than 2.0 and less than 12.5.

### **Corrosion Inhibitors**

The composite injection stream may also contain a small amount of Nalco 7801 corrosion inhibitor. Nalco 7801 is an aqueous solution of alkanol amine phosphate ester and ethylene glycol. Nalco 7801 has been shown to not meet the definition of hazardous waste under RCRA.

The composite injection stream may also contain a small amount of Betz GCP-188 deposit control additive. Betz GCP-188 deposit control additive has been shown to not meet the definition of hazardous waste under RCRA.

The composite injection stream may also contain a small amount of Tretolite SP-200 scale inhibitor. Tretolite SP-100 deposit control additive has been shown to not meet the definition of hazardous waste under RCRA.



The composite injection stream may also contain a small amount of Baker Petrolite SCW2600 scale inhibitor. Baker Petrolite SCW2600 deposit control additive has been shown to not meet the definition of hazardous waste under RCRA.

The composite injection stream may also contain a small amount of Tretolite NC-370 Biocide added to control bacterial growth in the injection system. Tretolite NP-370 biocide additive has been shown to not meet the definition of hazardous waste under RCRA.

Additional corrosion inhibitors may be used with the prior written approval of the Water Quality Division.

#### **E. Hazardous Waste**

**This permit does not allow for the injection of any hazardous waste** as defined in 40 CFR 261.3 and in Wyoming Solid Waste Management Rules and Regulations, Chapter 2. Injection of any substance defined as a hazardous waste, whether hazardous by listing or by characteristic is a violation of this permit.

#### **F. Proper Operation and Maintenance**

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

The permittee shall operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes mechanical integrity of the well, effective performance, adequate funding, operator staffing and training, and laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

The injection well covered by this permit shall meet all construction requirements outlined in Wyoming Water Quality Rules and Regulations, Chapter 13, Section 11.

The permittee is required to operate in accordance with statements, representations and procedures presented in the complete permit application and supporting documents as accepted and approved by the Administrator.

Any modifications which will result in a violation of permit conditions shall be reported by submission of a new or amended permit application and shall not be implemented until a new or modified permit has been issued.

Injection into a well may not begin until construction is complete and EPA has issued an aquifer exemption for designated portions of the Lance Formation from classification as a USDW.

#### **G. Entry and Inspection**

The permittee shall allow the Administrator, or an authorized representative for the Administrator (upon presentation of credentials and during normal working hours) to enter the premises where a regulated facility is located, or where records are kept under the conditions of this permit and inspect and photograph the discharge and related facilities, review and copy reports and records required by this permit, collect fluid samples for analysis, measure and record water levels, and perform any other function authorized by law or regulation.

#### **H. Environmental Monitoring Program for Groundwaters of the State**

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The permittee shall prepare records of all monitoring information including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation to be retained for a period of at least three (3) years after closure of the facility.
3. Records of monitoring information shall include:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The name(s) of individual(s) who performed the sampling or measurements;
  - c. The date(s) analysis were performed;
  - d. Names of individuals who performed the analyses;
  - e. The analytical techniques or methods used;
  - f. The results of such analyses.
4. No ground water monitoring program for near surface ground waters is required because of the excellent confinement of this formation.

#### **I. Requirements for Monitoring the Discharge**

The permittee shall monitor the injection pressure continuously and record readings on a strip chart recorder, a circular chart recorder, or digitally with the pressure transducer on the well or in the injection plant. A high pressure kill switch shall also be installed on the injection tubing. This device shall be set to preclude violations of the maximum injection pressure.

The permittee shall monitor the injection volume continuously and record those readings on a strip chart recorder, a circular chart recorder, or digitally with the pressure transducer on the well or in the injection plant.

The permittee shall continuously monitor the pressure of the casing/tubing annulus and shall maintain a positive pressure on the annulus. The pressure maintained shall not be less than 200 psig or more than 800 psig. The permittee shall continuously record the annulus pressure on a strip chart recorder, a circular chart recorder, or digitally with the pressure transducer on the wellhead. A high/low pressure kill switch shall also be installed on the casing/tubing annulus. This device shall be set to preclude violations of the permit for annulus pressure.

The permittee shall shut-in the well(s) covered by this permit annually for a period of time long enough to observe a valid pressure falloff curve. This test shall be considered complete when the pressure curve becomes asymptotic to a straight line. This test shall be analyzed by the permittee using either the Miller Dyes Hutchinson (MDH) method or the Horner Method. In either case, graphs of this test shall be submitted to include either the MDH or Horner Plot and a Log-Log plot after injection. From these plots, the transmissivity md-ft/cp, the permeability in md, and the dimensionless skin factor shall be calculated and submitted to the Water Quality Division with the next quarterly report after the test is done.

The permittee shall monitor the quality of the injected water on an approved schedule. The Administrator may add or delete parameters to be analyzed or change reporting frequencies. The parameters identified in Table 4 shall be analyzed by the listed methods and reported quarterly.

**Table 4 (Quarterly Sampling Schedule)**

EPA Analytic Method	Parameter Analyzed	CAS Number	Proposed Permit Limit or UCL (mg/L)
SM2540	Total Dissolved Solids	None	*
376.1	Hydrogen Sulfide	7783-06-4	*
SM4500H+B	pH	None	>2 - <11 s.u.
	Uranium Trioxide (UO <sub>3</sub> )	1344-58-7	*
	Uranium Dioxide (UO <sub>2</sub> )	1344-57-6	*
206.5	Arsenic (metal)	7440-38-2	*
239	Lead (metal)	7439-92-1	*
245	Mercury (metal)	7439-97-6	*
375.2	Sulfate	None	*
420	Total Phenolic Hydrocarbons	108-95-2	*
624	1,1,1,2-Tetrachloroethane	630-20-6	*
624	1,1,1-Trichloroethane	71-55-6	*
624	1,1,2,2-Tetrachloroethane	79-34-5	*
624	1,1,2-Trichloroethane	79-00-5	*
624	1,1-Dichloroethane	75-34-3	*
624	1,1-Dichloroethene	75-35-4	*
624	1,1-Dichloropropene	563-58-6	*
624	1,2,3-Trichlorobenzene	87-61-6	*
624	1,2,3-Trichloropropane	96-18-4	*

624	1,2,4-Trichlorobenzene	120-82-1	*
624	1,2,4-Trimethylbenzene	95-63-6	*
624	1,2-Dibromo-3-chloropropane	96-12-8	*
624	1,2-Dibromoethane	106-93-4	*
624	1,2-Dichlorobenzene	95-50-1	*
624	1,2-Dichloroethane	107-06-2	*
624	1,2-Dichloropropane	78-87-5	*
624	1,3,5-Trimethylbenzene	108-67-8	*
624	1,3-Dichlorobenzene	541-73-1	*
624	1,3-Dichloropropane	142-28-9	*
624	1,4-Dichlorobenzene	106-46-7	*
624	2,2-Dichloropropane	590-20-7	*
624	2-Chloroethyl vinyl ether	110-75-8	*
624	2-Chlorotoluene	95-49-8	*
624	2-Hexanone	591-78-6	*
624	4-Chlorotoluene	106-43-4	*
624	Acetone	67-64-1	*
624	Acetonitrile	75-05-8	*
624	Acrolein	107-02-8	*
624	Acrylonitrile	107-13-1	*
624	Benzene	71-43-2	*
624	Bromobenzene	108-86-1	*
624	Bromochloromethane	74-97-5	*
624	Bromodichloromethane	75-27-4	*
624	Bromoform	75-25-2	*
624	Bromomethane	74-83-9	*
624	Carbon disulfide	75-15-0	*
624	Carbon tetrachloride	56-23-5	*
624	Chlorobenzene	108-90-7	*
624	Chlorodibromomethane	124-48-1	*
624	Chloroethane	75-00-3	*
624	Chloroform	67-66-3	*
624	Chloromethane	74-87-3	*
624	cis-1,2-Dichloroethene	156-59-2	*
624	cis-1,3-Dichloropropene	10061-01-5	*
624	Dibromomethane	74-95-3	*
624	Dichlorodifluoromethane	75-71-8	*
624	Ethyl Acetate	141-78-6	*
624	Ethylbenzene	100-41-4	*
624	Hexachlorobutadiene	87-68-3	*
624	Iodomethane	74-88-4	*
624	Isopropylbenzene	98-82-8	*
624	m+p-Xylenes	1330-20-7	*
624	Methyl ethyl ketone	78-93-3	*

624	Methyl isobutyl ketone	108-10-1	*
624	Methyl tert-butyl ether (MTBE)	1634-04-4	*
624	Methylene chloride	75-09-2	*
624	n-Butylbenzene	104-51-8	*
624	n-Propylbenzene	103-65-1	*
624	Naphthalene	91-20-3	*
624	o-Xylene	95-47-6	*
624	p-Isopropyltoluene	99-87-6	*
624	sec-Butylbenzene	135-98-8	*
624	Styrene	100-42-5	*
624	tert-Butylbenzene	98-06-6	*
624	Tetrachloroethene	127-18-4	*
624	Toluene	108-88-3	*
624	trans-1,2-Dichloroethene	156-60-5	*
624	trans-1,3-Dichloropropene	10061-02-6	*
624	Trichloroethene	79-01-6	*
624	Trichlorofluoromethane	75-69-4	*
624	Vinyl acetate	108-05-4	*
624	Vinyl chloride	75-01-4	*
624	1,2-Dichloroethene (Total)	540-59-0	*
624	BETX, Total	BETX	*
624	Xylenes, Total	1330-20-7	*

\* The undefined permit limit or UCL's are only for exempted wastes that are injected. Any wastes that are non-exempt require analysis for hazardous waste limits and approval by the Department prior to injection.

All chemical parameters listed in this permit are expressed in mg/L unless otherwise noted. pH is expressed in standard units. The permittee shall use the above listed analytical methods unless an alternate method is first approved by the Water Quality Division.

The above upper control limits (UCL) are not to be exceeded in any sample. UCLs are derived from Wyoming Water Quality Rules and Regulations, Chapter 13, Appendices A and B, and Chapter 8. The lowest UCL shall apply if there are any conflicts between rules and parameters. Exceedances of these values are a violation of this permit and shall require notification under Section K of this permit. Failure to perform and report analyses in accordance with the prescribed schedule and method is also a violation of this permit.

#### J. Test Procedures

All samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All samples taken shall include a trip blank of distilled water for each sampling date and a duplicate sample at least once per year.

All required analyses shall be conducted in compliance with Wyoming Water Quality Rules and Regulations, Chapter 8, Section 7.

**K. Records and Reports**

1. The permittee shall retain copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the report or application.
2. The permittee shall give notice to the Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.
3. The permittee shall give advance notice to the Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
4. The permittee shall use electronic data deliverable (EDD) reporting when required by the Administrator.
5. Monitoring results shall be reported at intervals specified in Section D and/or Section I of this permit.
6. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.
7. The permittee shall report any noncompliance which may endanger health or the environment, orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. The report should include:
  - a. Any monitoring or other information which indicates that any contaminant may cause an endangerment to a usable groundwater of the state.
  - b. Any noncompliance with a permit condition or malfunction of the discharge (injection) system which may cause fluid migration into or between usable groundwaters of the state.
  - c. A written submission shall be provided within five (5) days of the time the permittee becomes aware of the circumstances. This written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
8. The permittee shall report all instances of noncompliance not reported otherwise at the time monitoring reports are submitted.

9. Where the permittee becomes aware that it failed to submit any relevant acts in a permit application, or submitted incorrect information in a permit application or in any report to the Administrator, it shall promptly submit such facts or information.
10. The permittee shall retain all records concerning the nature and composition of injected fluids until five (5) years after completion of any specified plugging and abandonment procedures. The Administrator may require the owner/operator to deliver the records to the Administrator at the conclusion of the retention period.
11. A subsurface discharge (injection) well may not commence subsurface discharge (injection) until, following public notice and an opportunity for hearing, a groundwater pollution control permit has been issued by the department for the proposed operation, and:
  - a. Well construction is complete and the permittee has submitted notice of completion of construction to the Administrator, and
  - b. The Administrator has inspected or otherwise reviewed the subsurface discharge (injection) well and finds it in compliance with the conditions of the permit; or the permittee has not received notice from the Administrator of intent to inspect or otherwise review the facility within fourteen (14) days of the well completion notice (above) in which case prior inspection or review is waived, and
  - c. Well mechanical integrity testing has been proven or demonstrated to the satisfaction of the Administrator.
12. The quarterly report of operations for this well shall include the following information:
  - a. The minimum, average and maximum daily injection rate for each month of the quarter. The page showing the maximum injection rate shall also show the maximum permitted injection rate for comparison.
  - b. The minimum, average, and maximum daily injection pressure for each month of the quarter. The page showing the maximum injection pressure shall also show the maximum permitted injection pressure for comparison.
  - c. The total injection volume in barrels for each month of the quarter, the total for the quarter, the total cumulative injected to date.
  - d. The maximum and minimum annulus pressure for each month of the quarter.
  - e. Any permit exceedences within the quarter.
  - f. Any tests run during the quarter. This includes but is not limited to the results on any Mechanical Integrity Tests, Pressure Falloff Tests, Step Injection Tests, or any well workovers.

- g. Quarterly reports are due in the Cheyenne office of the Water Quality Division no later than thirty (30) days after the end of each calendar quarter.
13. The annual report of operations on this well shall include the following additional information:
- a. A graphical representation of the injection pressure and volume for the previous five year's operation. This graph shall have the dates of the year on the abscissa and the pressure and volume as the ordinate.
  - b. Graphical representations of the quality of the injected water overtime. These graphs shall show the injected quality for the previous five year's operation and shall be prepared on appropriate scales to show the variation.
  - c. Analytical results required by Section I of this permit.
14. A comprehensive report for an aborted or curtailed operation authorized by this permit shall be submitted to the Administrator within thirty (30) days of complete termination of the injection (discharge) or associated activity, in lieu of an annual report.

#### **L. Permit Actions**

This permit is issued for a period of ten (10) years. If the permittee wishes to continue injection after the expiration date of this permit, he shall apply to the Administrator prior to the expiration date of this permit. An expired permit continues in effect until a new permit is issued or the permit is terminated by the Administrator.

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

The filing of a request by the permittee, or at the instigation of the Administrator, for permit modification, revocation, termination, or notification of planned changes or anticipated noncompliance shall not stay any condition of this permit.

After notice and opportunity for a hearing, a permit may be modified, suspended or revoked in whole or part during its term for cause which includes, but is not limited to any of the following:

1. Violation of this permit;
2. Obtaining a permit by misrepresentation of facts in the application; or
3. Failure of the casing, cement or the confining layer.



This permit will be reviewed at least once every five (5) years, and may be reviewed more frequently. A permit may be modified at any time as may be required, including for conformity with changes in regulations or standards which occur after the permit was issued. A permit may be modified in whole or part in order to apply more or less stringent standards; or prohibitions for toxic or other substances present in the permittees discharge as may be ordered by the Council.

#### **M. Mechanical Integrity**

Mechanical integrity shall be maintained continuously and reviewed at least once every five (5) years. The test used to determine mechanical integrity shall be a two part test approved by the Administrator.

Part I of the mechanical integrity test shall demonstrate the absence of leaks through the packer, tubing, casing, and wellhead. Prior to injection and at least once every five (5) years, and more frequently if required by the Administrator, the casing tubing annulus of each of these wells shall be pressure tested to 2,000 psig. A successful test shall show that there has been less than 10% pressure loss after fifteen (15) minutes at 2,000 psig.

Part II of the mechanical integrity test shall demonstrate the absence of fluid movement behind the casing. Prior to injection and at least once every five (5) years, and more frequently if required by the Administrator, each of these wells shall be logged using a radioactive tracer (RTS) log and a temperature log and the results and their interpretation shall be reported to the Water Quality Division along with the next quarterly report.

Other types of logs may be substituted for Part II of the mechanical integrity test with the prior written approval of the Water Quality Division.

Should any of the above tests show a lack of mechanical integrity, the Water Quality Division shall be notified by telephone within twenty-four (24) hours and with a written report within seven (7) days. In the case of a failed mechanical integrity test, the well shall be immediately shut-in. Injection shall not resume until the well has been repaired and a complete mechanical integrity test has been passed and the Water Quality Division has approved these tests.

**If at any time injection occurs in any zone not within the permitted receiver, a permit violation has occurred.** The operator shall prepare an estimate of the volume and quality of all wastewaters which were injected outside of the permitted receiver. In the case where any aquifer meeting the standards for Class I through IV under Wyoming Water Quality Rules and Regulations, Chapter 8, has been contaminated due to out of zone injection, the operator shall prepare and implement a plan to recover these solutions and inject them into the proper receiver.

#### **N. Plugging and Abandonment**

The permittee shall notify the Administrator at such times as the permit requires before conversion or abandonment of the well. Immediately following the permanent cessation of subsurface discharge or related activity, or where a well has not been completed, the

applicant/permittee shall notify the director and follow the procedure prescribed by the director for plugging and abandonment or the discontinuance of related activities:

The well plugging and abandonment procedures shall be as stringent as those identified in the Petrotek application dated January 10, 2007 of the permit application.

In no case shall the abandonment procedure be less stringent than required by the EPA nationwide for Class I non-hazardous waste wells at the time of abandonment.

Within thirty (30) days after plugging and abandonment of any wells covered by this permit, the permittee shall submit a plugging and abandonment report, detailing the compliance with the compliance and abandonment procedures outlined in the original permit application, and describing any deviation from the original plan. The abandonment shall include surface reclamation of the well site.

#### **O. Duties of the Permittee**

The permittee shall give advance notice to the Administrator as soon as possible of any planned physical alteration or additions other than authorized operation and maintenance to the permitted facility and receive authorization prior to implementing the proposed alternation or addition.

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

Any modification which may result in a violation of a permit condition shall be reported to the Administrator, and any modification that will result in a violation of any permit conditions shall be reported to the Administrator through the submission of a new or amended permit application.

The permittee shall report all instances where he becomes aware that he failed to submit any relevant facts in the permit application, or where he submitted incorrect information in a permit application or in any report to the Administrator, and shall promptly submit such facts or information.

Monitoring results shall be reported at the intervals specified elsewhere in this permit.

#### **P. Financial Responsibility**

The permittee is required to maintain financial responsibility and resources in a form approved by the director, to close, plug and abandon the discharge operation, and reclaim the surface facilities in a manner prescribed by the director. A letter of credit issued by Royal Bank of Canada in the amount of \$22,353,000 covers reclamation and restoration of the Smith Ranch - Highland uranium facilities and proposed injection well SWA DW No. 1. This bond or replacement financial instruments shall be maintained as long as this well is covered under this

permit. Injection into well SWA DW No. 1 may not begin until financial assurance is completed and approved by the Administrator at a cost of no less than \$94,500.

#### **Q. Special Permit Conditions**

In addition to the conditions required of all permits, the Administrator has established conditions as required for monitoring, schedules of compliance, and such additional conditions as are necessary to prevent the migration of fluids into underground sources of drinking water. These conditions are established in conformance with Chapter 13, Section 9(e).

#### **R. Signatories Requirement**

All reports filed in conjunction with this permit shall contain the following certification:

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

All reports required by this permit and other requested information shall be signed as follows:

For a corporation – by a principal executive officer of at least the level of vice-president;

For a partnership or sole proprietorship – by a general partner or the proprietor, respectively;

For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official;

or

By a duly authorized representative for any of the above. A person is a duly authorized representative only if:

1. The authorization is made in writing by one of the prescribed principals;
2. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
3. The written authorization is submitted to the Administrator.

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Administrator prior to or together with any reports or information, to be signed by the new authorized representative.

#### **S. Noncompliance**

The permittee shall comply with all conditions of the permit. Any permit noncompliance constitutes a violation of Wyoming Water Quality Rules and Regulations, Chapter 13 and is grounds for enforcement action, permit termination, revocation, or modification. Conformed noncompliance resulting in an excursion shall be reported to the Administrator orally within twenty-four (24) hours, and a written submission shall be provided within five (5) days of the time the permittee becomes aware of the excursion. The written report shall contain the sections specified in Section K of this permit. Any permit noncompliance constitutes a violation of this permit.

The filing of any request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

#### **T. Permit Transfer**

Any transfer of this permit shall be accomplished by the submission of the proper forms for permit transfer to the Administrator. Transfer of this permit must first be approved by the Administrator, and the Director, and no transfer shall be approved unless the proposed permittee agrees to bring any and all noncompliance issues into compliance with this permit.

The permittee is alone responsible for the operation of the facility covered by this permit. Sale of the facility and subsequent operation of this facility by another is a violation of this permit unless a transfer of this permit has first been accomplished.

#### **U. Property Rights**

This permit does not convey any property rights or any exclusive privilege. This permit does not authorize injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

#### **V. Severability**

Nothing in this permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation.

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



# Department of Environmental Quality




To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

**MEMORANDUM**  
**UNDERGROUND INJECTION CONTROL PROGRAM**  
**WATER QUALITY DIVISION**  
**WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY**

MEMO TO: Rich Chancellor, LQD, Administrator

FROM: John Passehl, WQD 

DATE: August 28, 2007

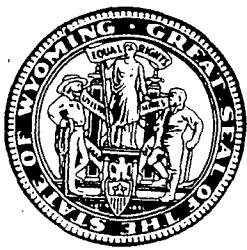
SUBJECT: Power Resources Inc.  
Draft Permit 07-174, Class I  
Converse County, Wyoming

Federal UIC regulations for Class I wells require that we send notice to all agencies that regulate mining. Chapter 13 specifically requires us to send notice to the Land Quality Division. Enclosed please find one copy of the draft permit on the above referenced facility and one copy of the public notice. Please provide whatever comments you wish before the end of the public comment period. If you wish to review this application we can provide a copy.

JAP/cs/7-0751

Attachments: Draft permit  
Public notice





# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

August 28, 2007

Wendy Cheung  
USEPA, Region VIII  
1595 Wynkoop Street  
Denver, Colorado 80202-1129

RE: Power Resources Inc.  
Draft Permit 07-174, Class I  
Converse County, Wyoming

Dear Ms. Cheung:

Enclosed is the draft permit for the above referenced Class I underground injection control disposal facility for injection well SWA DW No. 1 located in Section 17, Township 35 North, Range 74 West of the 6<sup>th</sup> Principal Meridian, Converse County.

This application is for disposal into the Lance Formation. There are no wells which penetrate the proposed receiver within the calculated area of review. This agency has drafted a permit and a public notice which are also enclosed. The total dissolved solids of the formation at this location has been shown by the applicant to be less than 3,000 mg/L and the water in this formation may be assumed to contain various dissolved contaminants injected legally through nearby permits.

Please review this application and submit your comments within the next 45 days.

Sincerely,

John A. Passehl, P.G.  
UIC Geological Supervisor  
Water Quality Division

JAP/cs/7-0751

Enclosures: Application  
Draft Permit  
Public Notice

cc: Kevin Frederick

