Garrett, Betty

From:	John Schmuck [John_Schmuck@Cameco.com]			
Sent:	Wednesday, January 02, 2013 10:50 AM			
То:	Cohen, Stephen			
Cc:	Burrows, Ronald; Lancaster, Thomas; Larry Teahon			
Subject:	RE: Cameco Crow Butte License Renewal			
Attachments:	Class I UIC DDW#2.pdf			

Steve, Ron, Tom -

- 1. Email sent Jan 2, 2012.
- 2. Production from the final mine unit (MU11) was started in 2010. As <u>projected</u> in the Marsland application, Figure 1.1-5, production in pounds per year begins declining in 2012. It is problematic to state that "reserves will be depleted" since we continue to IX and make yellowcake during restoration. Restoration in MU-11 is projected to begin in 2019
- 3. Yes. Crow Butte cools yellowcake drums more than 12 hours. Our current procedure specifies 24.
- 4. The permit was issued 11/18/2011, and the first disposal occurred on 11/30/2011. I have attached the permit.

Thanks. .john

From: Cohen, Stephen [mailto:Stephen.Cohen@nrc.gov]
Sent: Thursday, December 27, 2012 8:19 AM
To: John Schmuck
Cc: Burrows, Ronald; Lancaster, Thomas
Subject: Cameco Crow Butte License Renewal

John:

We have a few quick questions on Crow Butte.

- 1. I understand that Cameco agreed to the license conditions at various times; however, can you send an email confirming that you concur with all the license conditions. This is just to make the bookkeeping easier.
- 2. In your application you state that production will end in 2012 and that reserves will be depleted in 2014. Can you confirm that this is still the case?
- 3. Does Crow Butte cool yellowcake drums for 12 hours?
- 4. Can you confirm the date you started using the second disposal well and provide us a copy of the permit?

These are just some last-minute items we need to address as we finalize the SER for the License Renewal. Please respond to Ron Burrows and copy me and John Saxton at <u>john.saxton@nrc.gov</u>, on the response.

Please call me or John Saxton, 301-415-0697, if you have any questions. Thank you,

Stephen J. Cohen

Team Leader - New Facility Licensing Office of Federal and State Materials and Environmental Management Programs U.S. Nuclear Regulatory Commission Mailstop T8F5 Washington, DC 20555 301-415-7182

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410-206-8717 (cell) stephen.cohen@nrc.gov

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Dave Heineman Governor

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL QUALITY Michael J. Linder Director Suite 400, The Atrium 1200 'N' Street P.O. Box 98922 Lincoln. Nebraska 68509-8922 Phone (402) 471-2186 FAX (402) 471-2909 website: www.deq.state.ne.us

RETURN RECEIPT REQUESTED

NOV 2 4 2010

Mr. Paul Goranson Crow Butte Resources, Inc. 2020 Carey Ave., Ste 600 Cheyenne, WY 82001

RE: Class I – Non-hazardous deep disposal well Permit Number NE0210825

Dear Mr. Goranson:

Pursuant to the Nebraska Environmental Protection Act, Neb. Rev. Stat. Secs 81-1501, 81-1502, 81-1504 through 81-1510 and 81-1527 (Reissue 1994), the Nebraska Administrative Procedure Act (Reissue 1995), and the Nebraska Department of Environmental Quality Title 122, <u>Rules and Regulations for Underground Injection and Mineral Production Wells</u>, we are issuing and enclosing to Crow Butte Resources, Inc. Underground Injection Control Permit Number NE0210825 for the Class 1 non-hazardous waste injection well.

The permit for Underground Injection includes standard and specific conditions, which must be followed to remain in compliance with the aforementioned Statutes and Rules and Regulations. Monitoring and testing reports are required on a periodic basis, and are set forth in specific conditions of the permit.

Issuance of the Class 1 injection well is in addition to the Class 1 permit currently held by the facility (Underground Injection Control Permit-Number NE0210457) and accordance with expected activities at the Crow Butte Uranium Facility, which currently operates within conditions set forth in Underground Injection Control Permit Number NE0122611. Crow Butte Resources, Inc. will remain responsible for conditions set forth in existing, current permits, and all other duties and responsibilities under the Nebraska Environmental Protection Act, as amended, or any Rules and Regulations promulgated pursuant thereto.

Sincerely,

Michael J. Linder Director

ML/jlc

Enclosure Cc: Dave Carlson, NDEQ Jim Stokey, CBR

Page 1 of 15 Permit Number NE0210825

NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY PERMIT FOR CLASS 1 NON-HAZARDOUS WASTE INJECTION WELL

In compliance with the Nebraska Environmental Protection Act, Neb. Rev. Stat. Secs. 81-1501, 81-1502, 81-1504 through 81-1510 (Reissue 1994), the Nebraska Administrative Procedure Act (Reissue 1995), and the Nebraska Department of Environmental Quality Title 122, <u>Rules and Regulations for Underground Injection and Mineral Production Wells</u>.

CROW BUTTE RESOURCES, INC.

2020 Carey Ave. Ste 600 Cheyenne, Wyoming 82001 Phone: (307) 316-7600 FAX: (307) 635-9949

is authorized to operate a Class 1 non-hazardous waste injection well associated with an in-situ uranium mining operation. The formation receiving the injected waste fluids shall be restricted to the Lower Dakota, Morrison, and Sundance Formations, which have been demonstrated to be located below the lowermost underground source of drinking water. In addition, the Lower Dakota, Morrison, and Sundance Formations exhibit water quality that is not considered under State and Federal Regulations to be underground sources of drinking water due to measured concentrations of their total dissolved solids.

Crow Butte Resources, Inc. currently operates the in-situ commercial uranium facility (Crow Butte facility) near Crawford, Nebraska. The mailing address and telephone number for the facility is P.O. Box 169, Crawford Nebraska 69339, (308) 665-2215.

The injection well is located in the Northeast Quarter of the Northeast Quarter of Section 13, Township 31 North, Range 52 West, Dawes County, Nebraska. All injection, testing, monitoring, and reclamation activities will be conducted in accordance with requirements and conditions set forth in parts herein.

Financial surety has been established to cover costs associated with administration, operation, abandonment, and reclamation of the well as required in Title 122, <u>Rules and</u> <u>Regulations for Underground Injection and Mineral Production Wells</u>, Chapter 13.

The permittee shall comply with all conditions in this permit, State and Federal regulations governing Class 1 non-hazardous waste injection wells, and the requirements of the Nebraska Department of Environmental Quality.

This permit becomes effective on December 1, 2010 and shall remain effective through November 30, 2020, unless it is revoked and reissued, or terminated. This permit is to include parameter limitations reflective of current and anticipated operations at the facility.

Signed this 2 4th day of November, 2010.

Michael J. Linder

Part I. SPECIFIC PERMIT CONDITIONS

A. General Description of Permitted Activity

- 1. This permit is for a Class 1 non-hazardous waste injection well located in the NE ¼, NE ¼, Section 13, Township 31 North, Range 52 West, Dawes County, Nebraska.
- 2. This permit is for a Class 1 non-hazardous waste injection well associated with an in-situ uranium facility. The uranium facility produces a volume of wastewater in excess of what can be re-introduced to the ore zone as part of the mining and restoration activities. The operation of the injection well allows for disposal of excess wastewater and may eliminate the need for additional evaporation ponds. This is the second Class 1 non-hazardous waste injection well associated with the Crow Butte facility. This second well will be capable of disposing of the increased wastewater produced during aguifer restoration of the uranium mine, in addition to disposing of excess process water from mining operations. The rate of injection will generally be constant on a daily basis, but may vary depending on processing operations at the Crow Butte facility. The wastewater will be pumped into the injection well and introduced into the Lower Dakota, Morrison, and Sundance Formations at depths approximately 3,207 to 3,643 feet below Kelly Bushing (12 feet above ground elevation). Continuous recording devices will be installed to monitor injection pressure, flow rate and volume, and the pressure on the annulus between the tubing and the long string casing. The injection pressure at the wellhead plus the hydrostatic pressure will not exceed the fracture pressure of the injection zones. The Mechanical Integrity of the injection well will be demonstrated at least once every two years during the life of the well as required in Nebraska Title 122, Chapter 18.
- 3. This permit does not authorize any wastewater discharge to the land surface or to the surface waters of the State of Nebraska. Wastewater that is to be discharged to the surface will be regulated under a separate permit.

B. Notice of Intent to Operate

The permittee shall submit a notice of completion of construction to the Director for approval. This notice of completion shall contain the following information:

- 1. A well completion report for the injection well.
- 2. A diagram of the as-built construction of the injection well.
- Physical and Chemical data needed to calculate or demonstrate the integrity and validity of the injection well operation. Such data include but may not be limited to:

- The physically determined values for Transmissivity and Hydraulic Conductivity of the Lower Dakota, Morrison, and Sundance Formations;
- The physical determination of the Total Dissolved Solids (TDS) content of the Lower Dakota, Morrison, and Sundance Formations;
- c. The physically measured values for the temperature and formation pressure of the Morrison, and Sundance Formations;
- d. Delineation of the actual confinement interval established from the designation of recognized formation log tops.
- 4. Calculations for: Pressure increase due to injection, Theis Equation calculations, radius of fluid displacement, maximum surface injection pressure, Lower Dakota, Morrison, and Sundance Formation fracture pressure, anticipated surface injection pressure, radius of pressure response for the injection well and receiving formations utilizing the physically measured and determined values in Part I, B.(1),(2), and (3) above.
- A pre-calculated amount of cement necessary to complete the well along with well records demonstrating the presence of adequate cement to prevent fluid migration behind casing.
- 6. The results of testing which demonstrate the mechanical integrity for the injection well by:
 - a. Setting a packer immediately above the completion interval and a packer at wellhead or ground surface. The space between the two will then be pressurized to at least 125% of maximum operating pressure specified in Part II, C of this permit. The pressure must be held for a period of at least 60 minutes maintaining 90% of the original pressure to pass the test.
 - Putting on an air tight wellhead and pressurizing the well with air to force the water column down the casing to a level where the air pressure is equal to 125% of the maximum operating pressure. The air pressure will be maintained and observed for a period of at least 60 minutes. The pressure must be held for a period of 60 minutes maintaining 90% of the pressure to pass the test.
- 7. An evaluation of the compatibility of the proposed injection fluids with fluids in the proposed injection horizons (under prevailing physical conditions).
- In addition the permittee shall have available on site for review upon request any other pertinent information which they have compiled, such as:
 - All available geological and geophysical logging and testing on the well;
 - b. The results of the formation testing program;

- c. Compatibility of injected material with fluids in the injection zones and the minerals in both the injection zones and the confining zone; or,
- d. Information that the Director may require in consultation with the permittee.

Part II. INJECTION LIMITATIONS, MONITORING, REPORTING, AND TESTING REQUIREMENTS

- A. The permittee is authorized to inject non-hazardous liquid waste consisting of process wastewater and restoration water generated in Nebraska at a Crow Butte uranium facility. Injection of wastes generated at other facilities is prohibited.
- B. Such injection shall be controlled, limited, and monitored by the permittee as specified in this permit. All monitoring reports are to be submitted to the Nebraska Department of Environmental Quality no later than 28 days after the last day of the month for which the monitoring data are being reported. Monitoring reports and other information required by this permit shall be directed to:

Nebraska Department of Environmental Quality UIC Program, Groundwater Unit Suite 400, The Atrium 1200 "N" Street P.O. Box 98922 Lincoln, Nebraska 68509-8922

Injection and Operational Parameters	Injection or Parameter Limitation	Measurement or Sample Frequency	Reporting Requirements	Analysis or Measurement Type
Injection Pressure (pounds per square inch gauge)	650 pslg	N/A	Monthly	Continuous Recording Device
Maximum Daily Injection Volume (gallons per day)	Report	N/A	Monthly	Continuous Recording Device
Maximum Daily Injection Rate (gallons per minute)	Report	N/A	Monthly	Continuous Recording Device
Average Daily Injection Rate (Annualized) (gallons per minute)	Report	N/A	Monthly	Continuous Recording Device
Minimum Allowable Operating Annulus Pressure (pounds per square inch gauge)	150 psig Above Injection Pressure	Daily	Monthly	Gauge or Continuous Recording Device
Seal Pot Liquid Level (inches)	Liquid level must be visible in sight glass	Daily	Monthly	Sight Glass
Calcium	Report	Weekly	Monthly	Monthly Composite
Chloride	40,000 mg/i	Weekly	Monthly	Monthly Composite
Sulfate	10,000 mg/l	Weekly	Monthly	Monthly Composite
Sodium	40,000 mg/l	Weokly	Monthly	Monthly Composite
Alkalinity	4,100 mg/l	Weekly	Monthly	Monthly Composite
pH (Standard Units)	5.0 - 9.5 *	Weekly	Monthly	Monthly Composite
Radium	5,000 pCi/l	Weekly	Monthly	Monthly Composite
Uranium	25 mg/l	Weekly	Monthly	Monthly Composite
Vanadium	100 mg/l	Weekly	Monthiy	Monthly Composite
Arsenic	t mg/l	Weekly	Monthly	Monthly Composite
Barium	100 mg/l	Weekly	Monthly	Monthly Composite
Cadmium	1 mg/l	Weekly	Monthly	Monthly Composite
Chromium	5 mg/l	Weekly	Monthly .	Monthiy Composite
Lead	5 mg/l	Weekly	Monthly	Monthly Composite
Mercury	0.2 mg/l	Weekly	Monthiy	Monthly Composite
Selenium	1 mg/l	Weekly	Monthly	Monthly Composite
Silver	5 mg/l	Weekly	Monthly	Monthly Composite

C. Operational Parameters and Limitations

* The injection of wastewater may be accompanied with the addition of an anti-scalant and/or blocide to inhibit precipitates and scale from developing in the injection well.

Samples taken in compliance with Injection requirements specified above shall be taken at the following locations:

Injection fluid: at a sampling outfall between the processing plant and the injection well.

Samples shall be analyzed in accordance with Part IX, Y, of this permit.

The gauge, meter, continuous recording device, or sight glass shall at all times be maintained operational and shall at all times be located to properly measure the activity being monitored.

- D. The monthly average, maximum, and minimum values taken from the continuous recordings for the month for injection flow rate and volume, wellhead annulus pressure and wellhead injection pressure, and the seal pot liquid level shall be reported in the monthly monitoring report submitted to NDEQ.
- E. The monitoring of the pressure buildup in the injection zones and the static fluid level shall be conducted annually including, at a minimum, a shut down of the well for at time sufficient to record the formation pressure in the injection interval, and conduct a valid observation of the pressure fall-off curve for the injection interval. A plan for this test shall be submitted to NDEQ for review and approval prior to conducting the test. The test shall not commence until approval of the test plan has been obtained from NDEQ. The test results and interpretation of the test shall be submitted to NDEQ within thirty (30) days of completion of the test.
- F. The following shall also be reported to NDEQ by the permittee:
 - 1. Any well treatment procedures used, including those associated with normal maintenance and malfunction correction, and all well workovers shall be reported to the NDEQ within thirty (30) days of completion. A well treatment plan or workover plan shall be submitted to NDEQ for review and approval prior to commencement of a well treatment or workover. No well treatment or workover shall commence until the permittee has obtained approval for the well treatment or workover plan from the NDEQ.
 - 2. Immediate notification to the NDEQ of all spills associated with the operation of the injection well or its appurtenances.
 - 3. The results and interpretation of mechanical integrity tests and any other tests or logs of the injection well or injection zones within thirty (30) days of completion.
 - 4. A written description and explanation of any noncompliance with operating limitations as specified in this permit for wellhead injection pressure, injection flow volume, or injection limits occurring during the month being reported shall be submitted with the monthly monitoring report.
 - 5. Any addition of liquid to the annulus seal pot shall be reported in the monthly monitoring report. The date the liquid was added and the volume added shall be included in the monthly monitoring report.
 - 6. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the NDEQ, the permittee shall submit such facts or corrected information to the NDEQ, postmarked within five (5) calendar days of becoming aware of the circumstances.

Part III. MECHANICAL INTEGRITY TESTING

A mechanical integrity test (MIT) to check for internal mechanical integrity shall be conducted at least once every two years. The internal MIT is to check for significant leakage in the casing, tubing, and packer. Whenever the NDEQ believes that because of a downhole problem the continued use of the well constitutes a threat to human health, or the fresh and/or useable waters or the soils of the State, or the release of injected fluid into an unauthorized zone is occurring, the permittee shall be required to immediately cease injection and conduct a MIT. If determined necessary by the NDEQ, a MIT shall be conduced when there has been a well workover. A MIT plan shall be submitted to the NDEQ for review and approval prior to conducting any MIT. No MIT work shall commence until approval of the MIT has been obtained from the NDEQ. The internal MIT shall be witnessed by the NDEQ. If the well fails a MIT, the requirements of Section IV. Part B. of this permit shall be implemented by the permittee. The results and interpretations of a MIT shall be submitted to the NDEQ within thirty (30) days of test completion.

Part IV. ANNULUS PRESSURE DECLINE, ANNULUS LIQUID LOSS, ANOMALOUS OPERATIONAL DATA, LOSS OF MECHANICAL INTEGRITY

- A. The permittee shall calculate the total volume of liquid contained in the annulus. If the annulus fluid declines more than 0.66% over a 24-hour period, the annulus fluid loss must be investigated as a potential loss of mechanical integrity.
- B. If the annulus pressure declines 20% or more below minimum allowable operating pressure, or loss of annulus liquid indicating a loss of mechanical integrity occurs, or anomalous operational data indicating a loss of mechanical integrity occurs, the permittee shall notify the NDEQ within twenty-four (24) hours of becoming aware of the circumstances, and the permittee shall immediately investigate and identify the cause of the annulus pressure decline, annulus liquid loss or anomalous operational data. The results of this investigation shall be reported to the NDEQ within twenty-four (24) hours of completion. If the well appears to be lacking mechanical integrity, the permittee shall:
 - 1. Immediately cease injection of waste fluids;
 - 2. Take all steps required by the NDEQ to determine the presence or absence of mechanical integrity. If the well is determined to have mechanical integrity, injection may resume after the permittee has obtained authorization from the NDEQ to resume injection.
- **C.** If a loss of mechanical integrity is determined pursuant to Part III of this permit, the permittee shall:
 - 1. Immediately cease injection of waste fluids;
 - 2. Notify the NDEQ within twenty-four (24) hours of the determination;

- 3. Take all steps determined necessary by the NDEQ to determine whether there may have been a release of injection fluids into any unauthorized zone. This may include the need for an external MIT to check for significant fluid movement through vertical channels adjacent to the wellbore. If there is evidence there may have been a release into an unauthorized zone, the permittee shall verbally notify the NDEQ within twenty-four (24) hours of determination. A written notice shall also be provided to the NDEQ, postmarked within five (5) calendar days of the determination including a report describing all aspects of the release;
- 4. Comply with any immediate corrective or remedial action specified by the NDEQ. If it is determined necessary by the NDEQ, the permittee shall submit to the NDEQ a remediation and corrective action plan and implementation schedule for review and approval. Work shall not commence until approval of the remediation and corrective action plan has been obtained from the NDEQ;
- 5. Restore and demonstrate mechanical integrity to the NDEQ. A plan for any well workover or mechanical integrity test shall be submitted to the NDEQ;
- 6. Resume injection only upon authorization from the NDEQ.

Part V. PLUGGING AND ABANDONMENT

- A. The well shall be plugged and abandoned upon reaching the end of its useful life or when determined necessary by the NDEQ to protect human health, or the fresh and/or usable waters or soils of the state. The permittee shall notify the NDEQ at least sixty (60) days prior to plugging and abandonment of the well. In addition to the notice, the permittee shall submit a plugging and abandonment plan to the NDEQ for review and approval. The permittee shall conform to all plugging and abandonment requirements of State and Federal regulations and the NDEQ. The well shall be plugged in a manner that will not allow the movement of fluids into or between sources of fresh and/or usable water or allow the movement of injected fluids out of the injection zones. Plugging and abandonment work shall not commence until approval of the plugging and abandonment plan has been obtained from NDEQ. The report of plugging and abandonment and related information shall be submitted to the NDEQ within thirty (30) days after the completion of the plugging operation.
- B. The permittee shall reclaim all disturbed land surfaces to conserve the soil and water resources in the affected are of the injection well. The Natural Resource Conservation Service (NRCS) shall be consulted for technical assistance in reclaiming the land surface. Topsoll shall be reapplied to the natural contoured surface of the land, and the soils re-seeded with an appropriate seed mixture.

Part VI. FINANCIAL RESPONSIBILITY FOR PLUGGING AND ABANDONMENT

The permittee shall maintain financial responsibility and financial resources to close, plug, and abandon the injection well and appurtenances in a manner required by the NDEQ. This requirement includes the costs for reclaiming the disturbed land surfaces associated with the injection well. The permittee currently demonstrates financial assurance through the use of an irrevocable standby letter of credit. Financial assurance documents shall be revised and updated when required by the NDEQ.

Part VII. CONSTRUCTION REQUIREMENTS

- A. The well shall be cased and cemented such that:
 - Injected fluids and fluids in the injection zones or other formation fluids do not cause deterioration of the water quality of the fresh and/or usable water zones;
 - The loss of fresh and/or usable water due to downward migration is prevented;
 - 3. The release of injected fluids into an unauthorized zone is prevented; and
 - 4. Corrosion will be prevented from compromising these measures.
- B. Borehole, casing, tubing and cement specifications for injection well:

Borehole Size	Casing or Tubing Size & Material	Weight Ibs/ft	Casing Seat Depth	Type of Cement	Minimum Number of Sacks of Cement*
14 ¾ "	10 3⁄4 " Steel	40.5	800' bgs	50/50 Pozmix	375
9 7/8"	7 " Steel	23.0	3700' bgs	50/50 Pozmix	820
N/A	2 3/8 " to 5 ½ "	as appropriate	N/A	N/A	N/A

Packer Type: Baker Model A-3, AL-2, or equivalent Packer Seating Depth: 3157 to 3700 feet * May be converted to barrels N/A = Not Applicable

- C. Type of Annulus Fluid: Brule or Chadron Formation water containing scaling and corrosion inhibitors. Minimum Operation of Annulus Pressure: 150 PSIG above injection pressure
- D. Injection fluids will be introduced into the Lower Dakota, Morrison, and Sundance Formations through perforations in the casing from approximately 3207 to 3643 feet. All depths indicated have been measured below the land surface from 12 feet above the ground elevation (Kelly Bushing) at the injection well.

Part VIII. SPILL PREVENTION AND CONTAINMENT

The injection well will be equipped with high level sensing instruments as a means of spill prevention. Lined ponds will be used for spill containment. The lined ponds must be constructed as per the requirements of the NDEQ, and must be approved prior to construction and operation.

Part IX. STANDARD PERMIT CONDITIONS

- A. <u>Duty to Comply:</u> The permittee shall comply with all conditions of this permit, Federal and State laws and regulations. Any permit noncompliance constitutes a violation of the appropriate act or regulations and is grounds for enforcement actions or for permit termination, revocation and reissuance, modification, or denial of permit renewal application.
- B. <u>Duty to Reapply:</u> If the permittee wished to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. An application to renew this permit shall be filed with the NDEQ at least one hundred eighty (180) days prior to its expiration date.
- C. <u>Duty to Cease or Reduce Activity:</u> It shall not be an acceptable defense for a permittee in an enforcement action to declare or claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. <u>Duty to Mitigate:</u> The permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit, including additional monitoring as necessary to determine the nature and impact of a noncomplying discharge or injection, and the necessary actions to be taken based on monitoring.
- E. <u>Proper Operation and Maintenance:</u> The permittee shall at all times properly operate and maintain all facilities and systems of monitoring, treatment, and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems when necessary to maintain compliance with the conditions of the permit.
- F. <u>Property Rights:</u> This permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to private property or any invasion of a person's rights, nor any infringement of Federal, State, or local laws or regulations.
- G. <u>Duty to Provide Information</u>: The permittee shall furnish to the NDEQ within a reasonable time, any information which the NDEQ may request to determine whether cause exists for modifying, revoking, reissuing or terminating the permit,

or to determine compliance with this permit. The permittee shall also furnish to the NDEQ, upon request, copies of reports and information required to be kept by this permit.

- H. <u>Inspection and Right of Entry:</u> The permittee shall allow the Director, or any authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
 - 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this permit;
 - 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit;
 - Sample or monitor for the purpose of assuring permit compliance or as otherwise authorized by appropriate Rules and Regulations, any substances or parameters at any location.
- I. Samples, Measurements, and Records;
 - 1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - 2. The permittee shall retain records of all monitoring information, including calibration and maintenance records, and all continuous monitoring instrumentation records, 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 five (5) years from the date of sample, measurement, report, or application. This period may be extended by request of the NDEQ at any time.
 - 3. The permittee shall retain records concerning the nature and composition of all injected fluids until five (5) years after the completion of any plugging and abandonment procedures. The NDEQ may require the owner or operator to deliver the records to the NDEQ at the conclusion of the retention period.
 - 4. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;

- d. The individual(s) who performed the analyses;
- e. The analytical sampling and preservation techniques or methods used;
- f. The results of such analysis.
- J. <u>Signatory Requirements:</u> All permit applications, reports required by this permit, or other information requested by the NDEQ shall be signed and certified in accordance with the requirements of Nebraska Title 122 <u>Rules and Regulations</u>. <u>for Underground Injection and Mineral Production Wells</u>, Chapter 15.
- K. <u>Monitoring and Records:</u> All monitoring requirements shall be in accordance with those stated in Nebraska Title 122 <u>Rules and Regulations for Underground</u> <u>Injection and Mineral Production Wells</u>, Chapter 20.
 - 1. Representative Sampling

Samples and measurements taken as required herein shall be representative of all the volume and nature of the monitored discharge or injection. All samples shall be taken at the monitoring points specified in this permit unless otherwise specified. Monitoring points shall not be changed without notification to and the approval of the NDEQ.

2. Mechanical Integrity

The permittee shall demonstrate mechanical integrity at least once every two years during the life of the well as required herein and in Nebraska Title 122, Chapters 18 and 20. The NDEQ shall be notified at least five days prior to any mechanical integrity testing.

- L. <u>Transfer of Permit:</u> This permit is not transferable to any person except after notice and approval by the NDEQ. The NDEQ may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the appropriate Rules and Regulations. In some cases, modification and reissuance is mandatory. The existing permittee shall notify the NDEQ at least ninety (90) days in advance of the proposed transfer date. The notice shall include a written agreement between the existing and new permittee containing a specific date for the transfer of permit responsibility, coverage and liability between them, and demonstrate that financial requirement will be met by the new permittee. The new permittee shall submit to the NDEQ at least ninety (90) days prior to the proposed transfer date a new permit application including the financial assurance documents guaranteeing that resources are available to properly plug, abandon, and reclaim the well and surrounding affected lands.
- M. <u>Emergency Reporting</u>: The permittee shall verbally report to the NDEQ any noncompliance which may endanger human health or the environment within twenty-four (24) hours of becoming aware of the circumstances. A written submission shall also be provided, postmarked within five (5) calendar days of

the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, corrective action taken, 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. The permittee shall comply with any corrective or remedial action required by the NDEQ.

N. Operation Requirements:

- 1. The operator of the well shall not allow the movement of fluid containing any contaminant into any formation or aquifer not permitted to receive fluid by this permit. The operator shall have the burden of showing that the requirements of this paragraph are met.
- 2. If any water quality monitoring of an aquifer indicates the movement of any contaminant into any formation or aquifer not permitted to receive fluids by this permit, the operator shall take such action as required by the NDEQ including taking the well out of service, closure of the well, or plugging and abandonment of the well.
- O. <u>Permit Modifications and Terminations</u>: After notice and opportunity for a hearing, this permit may be modified, revoked and reissued, or terminated in whole or in part during its term for cause as provided, but not limited to those set forth in Nebraska Title 122, Chapter 30. The permittee shall furnish to the NDEQ, within a reasonable amount of time, any information which the NDEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish, upon request, copies of all records required to be kept by this permit.
- P. <u>Severability:</u> The provisions of this permit are severable, and if any provision of this permit and any circumstance is held invalid, the application of such provision to other circumstances and the remainder of the permit shall not be affected as stated in Nebraska Title 122, Chapter 36.
- Q. <u>Change in Waste Streams</u>: Any facility changes or process modifications which may result in new, different or altered waste streams or an increase in waste stream volumes or an increase in concentration of pollutants shall be reported to the NDEQ at least one hundred eighty (180) days before such changes.
- R. Anticipated Noncompliance: If for any reason, the permittee will be unable to comply with permit requirements, the permittee shall give advance notice to the NDEQ. The notice shall include the reason for the anticipated noncompliance and a description of steps taken to reduce, eliminate, and prevent reoccurrence of the noncompliance. Upon receiving proper notice from the permittee, the NDEQ may grant for a specified time a temporary waiver to a permit requirement for the purpose of testing and treating the well, or for conducting a well workover, or to protect human health or the environment.

- S. <u>Plugging and Abandonment:</u> Plugging and abandonment shall be done in accordance with Nebraska Title 122, Chapter 35. Prior to abandonment the permittee shall notify the Director seven days before commencing plugging and abandonment. Plugging shall conform to the following standards:
 - 1. A plugging and abandonment plan shall be submitted to the NDEQ for approval. The permittee shall follow the plugging and abandonment plan as approved by the Director.
 - 2. Prior to abandoning the injection well, the well shall be plugged with cement or other approved plugging material in a manner which will prohibit the movement of fluids out of the injection zones into or between underground sources of drinking water.
- T. <u>Financial Responsibility:</u> The permittee shall secure and maintain in full force and effect at all times a performance bond or other form of financial security in a form acceptable to the Director. This bond or financial security will provide for proper plugging and abandonment of the injection well, and surface reclamation. This permit shall not become effective until the permittee secures a performance bond or other form of financial security acceptable to the Director in the appropriate amount.
- U. <u>Permit Changes:</u> This permit may be modified, revoked and reissued, or terminated for causes by the NDEQ (Nebraska Title 122, Chapters 30 and 31) or upon filing a request by the permittee. The permittee shall furnish to the Director any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit. Such information may also be requested by the Director to determine compliance with the permit. Upon request by the Director, the permittee shall also furnish copies of records required to be kept by the permit.
- V. <u>Confidential Information</u>: Any information to be treated as confidential must be clearly identified by the permittee at the time it is submitted to the Department. Information determined by the Director to be confidential shall be managed in accordance with Nebraska Title 122, Chapter 28.
- W. <u>Averaging of Measurements:</u> Calculations for all limitations which require averaging shall utilize an arithmetic mean unless otherwise specified by the Director in this permit.
- X. <u>Test Procedures:</u> Test procedures for the analysis of pollutants that are required to be monitored by this permit, unless otherwise specified by the Director, shall conform to the latest edition of the following references:
 - 1. <u>Standard Methods for the Examination of Water and Wastewaters</u>, 19th Edition, 1995, American Public Health Association. New York, NY 10019.
 - 2. <u>A.S.T.M. Standards</u>, Part 11, American Society for Testing and Materials, Philadelphia, PA 19103.

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3. <u>Methods for Chemical Analysis of Water and Wastes</u>, March 1979, Environmental Protection Agency Water Quality Office, Analytical Quality Control Laboratory NERC, Cincinnati, Ohio 45268.

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