United States Environmental Protection Agency
Underground Injection Control Program

FINAL PERMIT

Class I Non-hazardous Waste Injection Well

Permit No. R9UIC-CA1-FY15-2R (the Permit)

Injection Well Names: Hilmar WD-2 and WD-3 (existing)
Monitoring Well Names: Hilmar MW-1D and MW-2D (proposed)

Issued to:

Hilmar Cheese Company
9001 North Lander Avenue
P.O. Box 910
Hilmar, CA 95324

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PART I. AUTHORIZATION TO INJECT

Pursuant to the Underground Injection Control (UIC) regulations of the U.S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (CFR), §§ 124, 144, 146, 147, and 148,

Hilmar Cheese Company (HCC or the Permittee)
9001 North Lander Avenue
P.O. Box 910
Hilmar, CA 95324

is hereby authorized, as owner and operator, and contingent upon the Permit conditions herein, to continue to operate two existing injection wells and to install and operate two new monitoring wells, as described below.

As background, on February 18, 2006, EPA authorized HCC to construct and operate four (4) Injection Wells, WD-1, WD-2, WD-3, and WD-4, pursuant to Class I UIC Permit CA10500001. HCC constructed and began operation of WD-2 in 2006. HCC constructed and began operation of WD-1, renamed WD-1P, in 2009. WD-1P was later plugged and abandoned in November 2015. HCC constructed and began operation of WD-3 in 2011. HCC did not construct, and no longer proposes to construct, WD-4. Accordingly, HCC is currently authorized to operate Existing Injection Wells WD-2 and WD-3. Until this Permit is issued and effective, authority to operate the Existing Injection Wells WD-2 and WD-3 will continue under the current UIC permit, No. CA10500001.

On August 26, 2015, EPA received a timely application for the renewal of HCC's Class I UIC permit. Due to changes resulting from EPA's technical review, HCC updated the application in January 2017, June 2018, April 2021, and most recently in June 2021. In addition to authorizing continued injection, this Permit requires the Permittee to drill and construct two (2) Proposed Monitoring Wells after it has met all applicable requirements of Part II Sections A-F, the Financial Assurance requirements described in Part II.H.1., and has received approval from EPA to construct and operate the Proposed Monitoring Wells pursuant to the terms of this Permit. With this Permit, EPA authorizes the Permittee to operate the Existing Injection Wells because the Permittee has met the requirements of Title 40 of CFR §§ 124, 144, 146, 147, and 148, as set forth in this Permit, to operate UIC Class I wells.

The Existing Injection Wells and Proposed Monitoring Wells are all located in Section 10, Township 6 South, Range 10 East, at and adjacent to the HCC Facility in Merced County, California. Exact locations of the existing Injection Wells are provided in Part II.B.1. Proposed locations of the monitoring wells are also provided in Part II.B.1; exact locations will be established and approved as outlined in this Permit and in the Monitoring Well Workplan, Appendix H.

The Permittee will inject industrial nonhazardous fluids produced during cheese production processes. The list of authorized injectate is found in Part II.E.5.a. of the Permit. The Permittee

shall verify the characterization of injectate through periodic testing and reporting, as required in Part II.E.1.b. and other sections within this Permit, to maintain authorization to inject.

This Permit authorizes injection into the undifferentiated Paleocene-Upper Cretaceous sands formation at an approximate depth of 3,235 to 4,148 feet below ground surface. The undifferentiated Paleocene-Upper Cretaceous sands formation has greater than 10,000 mg/L total dissolved solids and is confined above by the Kreyenhagen Shale, with thickness of approximately 80-90 feet thick in the area, and below by the Hall Shale, which is approximately 100 feet thick in the area.

All conditions set forth in this Permit are based on Title 40 of the CFR §§ 124, 144, 146, 147, and 148, which are the regulations in effect as of the effective date of this Permit.

This Permit consists of forty-one (41) pages plus appendices, and includes all items listed in the Table of Contents. Further, the Permit is based upon representations made by the Permittee and other information contained in the administrative record. The Permittee is responsible to read, understand, and comply with all terms and conditions of this permit.

This Permit is issued for a period of ten (10) years unless the Permit is terminated under the conditions set forth in Part III.B.1. or is administratively extended under the conditions set forth in Part III.E.12.

This permit is immediately effective on the date of signature.

TOMAS TORRES

Digitally signed by TOMAS TORRES
Date: 2021.09.27 14:08:58 -07'00'

Tomás Torres, Director
Water Division, EPA Region 9

PART II. SPECIFIC PERMIT CONDITIONS

A. REQUIREMENTS PRIOR TO DRILLING, TESTING, CONSTRUCTING, OR OPERATING

1. Financial Assurance

The Permittee's plugging and abandonment cost estimate and chosen financial assurance mechanism for the Existing Injection Wells and Proposed Monitoring Wells authorized by this Permit meet the requirements of 40 CFR § 144.52(a)(7).

2. Field Demonstration Submittal, Notification, and Reporting for all Wells authorized under this Permit

a. Prior to each field demonstration required by and described in Part II.B.5. and Part II.E., the Permittee shall submit plans for procedures and specifications to the EPA Region 9 Groundwater Protection Section for approval at least sixty (60) days prior to the planned demonstration. Submittals shall be made in accordance with Part III.E.9. No demonstration in this Permit may proceed without prior written approval from EPA.

b. After receipt of approval of the Permittee's proposed field demonstrations in writing from EPA, the Permittee must provide at least thirty (30) days notice to EPA prior to performing any required field demonstrations.

c. Unless otherwise specified in this Permit, or otherwise directed by EPA, the Permittee shall submit results of each such field demonstration required by Part II.B. through E. and G. to EPA within sixty (60) days of completion.

3. Approval Requirements for Proposed Monitoring Wells

Prior to commencing construction, drilling, testing, or operating, or any other activities for the Proposed Monitoring Wells, the Permittee must (i) satisfy the Financial Assurance requirements set forth in Section H of this Part, (ii) submit the information and plans to EPA required by Part II.B. through E. and G. of this Permit and as provided in the Monitoring Well Work Plan (Appendix H), and (iii) receive written approval by EPA of the deliverables identified in (i) and (ii).

B. CONDITIONS FOR ALL WELLS AUTHORIZED BY THIS PERMIT

1. Surface Location

The Existing Injection Wells are located as follows:

Existing Injection Well WD-2: Located at Latitude 37 Degrees, 25 Minutes, 33.2 Seconds North and Longitude 120 Degrees, 51 Minutes, 34.6 Seconds West.

Existing Injection Well WD-3: Located at Latitude 37 Degrees, 25 Minutes, 37.38 Seconds North and Longitude 120 Degrees, 51 Minutes, 0.46 Seconds West.

Proposed Monitoring Wells (MW-1D and MW-2D) may be authorized for UIC Class I monitoring activities under this Permit when the Permittee satisfies the requirements and receives written approval from EPA to commence construction, drilling, and monitoring activities. The proposed location of the Proposed Monitoring Wells are as follows:

Proposed Monitoring Well MW-1D: To be located approximately 4,400 ft southeast of WD-3 and approximately 100 ft southwest of AP-1 (AP = "Artificial Penetration"), as referenced in Table 2-1, Figure 2-1, and Figure 3-1 of the Monitoring Well Work Plan, Appendix H. Any proposed changes to the location of MW-1D will be presented in the drilling plans for review and approval by EPA.

Proposed Monitoring Well MW-2D: To be located approximately 3,900 ft northwest of WD-3 and approximately 500 ft southeast of AP-3 (referenced in Table 2-1 and Figure 2-1 of Appendix H). HCC will drill MW-2D as a deviated well (See Section 3.1, Figure 3-2 and Figure 4-2 of Appendix H). Any proposed changes to the location of MW-2D will be presented in the drilling plans for review and approval by EPA.

The HCC Facility, where the Wells above are located, is in Section 10, Township 6 South, Range 10 East, Northwest ¼ on the central northern side of Merced County, near the unincorporated community of Hilmar, CA.

2. Existing Injection Well Construction Details

Well Schematics for the two Existing Injection Wells authorized by this Permit are contained in Appendix B of this Permit. The Permittee shall at all times maintain the Existing Injection Wells consistent with these Well Schematics, unless changes are authorized by EPA as described in II.B.8.

3. Proposed Monitoring Well Construction Details

Well Schematics for the Proposed Monitoring Wells MW-1D and MW-2D are included in Appendix B and Appendix H, Monitoring Well Work Plan (Figures 4-1 and 4-2). The Permittee must receive written EPA approval prior to commencing drilling and construction of each well. All drilling, workover, and plugging procedures must comply with the California Geologic Energy Management Division (CalGEM)'s "Onshore Well Regulations" of the California Code of Regulations, found in Title 14, Natural Resources, Division 2, Department of Conservation, Chapter 4, Article 3, Sections 1722-1723.

4. Future Well Construction beyond Wells identified in this Permit

Prior to drilling any new well(s) not covered by this Permit, the Permittee must submit to EPA, for review and approval, a permit application with detailed construction plans and procedures, including proposed field coordinates (Section, Township, Range, with latitude/longitude) for the surface and bottom hole locations of the proposed well(s). The Permittee shall also provide the drilling program details, including the distance between all wells, and any justification for the proposed separation distance between the wells, both at the surface and at the true vertical depth of the top of the injection interval.

Construction on any such new well may only commence after the Permittee receives a modified or new permit, consistent with 40 CFR § 144.52(a)(1), that covers the construction and operation of any new well. All drilling, workover, and plugging procedures must comply with CalGEM's "Onshore Well Regulations" of the California Code of Regulations, found in Title 14, Natural Resources, Division 2, Department of Conservation, Chapter 4, Article 3, Section 1722-1723. Additional requirements may be applied upon EPA's review and issuance of a modified or a new permit.

5. Injection Well Formation Testing

a. Step-Rate Test (SRT)

i. Within ninety (90) days after the completion of any new injection well (should it be authorized in the future), the Permittee shall conduct an SRT on the new injection well to establish the maximum allowable surface injection pressure (MASIP), in accordance with Part II.E.3. The report shall be submitted to EPA within sixty (60) days of test completion.

ii. Refer to Appendix F – Step Rate Test Procedure Guidelines. Refer also to Society of Petroleum Engineering (SPE) Paper #16798 for test design and analysis guidance.

iii. Injection into any injection well as proposed in an approved SRT procedure, which may include injecting above fracture pressure, will be temporarily authorized only until such time that EPA approves final injection requirements pursuant to Part II.E.3.

b. Pressure Fall Off Test (FOT)

i. A FOT shall be performed approximately six (6) months after the Permit becomes effective, if a FOT has not been already been conducted within the last six (6) months pursuant to the Class I UIC permit. If a FOT has been performed within six (6) months under the Class I UIC permit, the next FOT shall be performed one year after the prior FOT. If a new Step Rate Test is approved and conducted and a new MASIP is established (see II.B.5.a. and II.E.3), a new FOT shall also be performed.

ii. The Permittee has historically determined and monitored formation characteristics by conducting an annual FOT in Well WD-3. For consistency, the Permittee may continue to conduct the FOT in this well or may propose to conduct the test in WD-2 to determine and monitor formation characteristics. The Permittee shall conduct the FOT after a radial flow regime has been established at an injection rate that is representative of the wastewater contribution to the well. The other injection wells shall either be inactive, or operated at a constant rate, prior to and during the FOT, in order to obtain reliable pressure data and accurate results. The Permittee shall conduct the FOT in accordance with EPA Region 9 guidance found in Appendix E, and as follows. The initial FOT after construction of new monitoring wells shall be performed as an interference test as described in Appendix H, pressure transient responses shall be recorded in the monitoring wells, and the test may be performed as an extended FOT or a flow-after-flow test.

iii. The Permittee shall submit to EPA for review and approval a detailed plan for the FOT that is developed in accordance with EPA Region 9 guidance in Appendix E. Once EPA provides written approval of the test plan, the Permittee may schedule

the FOT, providing EPA at least thirty (30) days' notice before the test is conducted. The final FOT report shall be submitted to EPA within sixty (60) days of test completion.

iv. The Permittee shall use the test results, including any measured pressure transient responses at the monitoring wells, to recalculate the Zone of Endangering Influence (ZEI), consistent with procedures set forth at 40 CFR § 146.6, and to evaluate whether any corrective action will be required (refer to Part II.D.). The Permittee shall include a summary of the ZEI recalculation with the FOT report.

v. After conducting the FOT required in Part II.B.5.b.i. above, the Permittee shall conduct a FOT annually thereafter following the same procedures described in Parts II.B.5.b.ii. and iii. The Permittee may conduct the annual FOT in conjunction with the annual External Mechanical Integrity Test (MIT) demonstration, as required by Part II.E.2.a.iii.

vi. The Permittee shall create a plot/graph of the latest static reservoir pressure of the injection zone and its cumulative behavior over time, the plot shall be included with the annual FOT report each year.

6. Injection Interval

Existing injection wells are currently injecting into the undifferentiated Paleocene through Upper Cretaceous sands formation, at depths corresponding to the perforation depths of wells WD-2 and WD-3. Injection by any existing wells is only permitted into the undifferentiated Paleocene through Upper Cretaceous sands formation, within the depth range as depicted in the as-built well schematics in Appendix B.

7. Monitoring Devices

a. Monitoring Devices for the proposed monitoring wells shall meet the requirements of the attached Monitoring Well Work Plan in Appendix H.

b. The Permittee shall maintain the following monitoring devices in good operating condition at all times during operation of Existing Injection Wells WD-2 and WD-3:

i. A tap on the discharge line between the injection pump and the wellhead or an alternative location proposed in a detailed

written request by the Permittee and approved in writing by the EPA Director or their delegated representative for the purpose of obtaining representative samples of injection fluid; and

ii. Devices to continuously measure and record injection pressure, annulus pressure, flow rate, and injection volume, subject to the following:

(a) Pressure gauges shall be of a design to provide:

(i) A full pressure range of at least fifty (50) percent greater than the anticipated operating pressure; and

(ii) A certified deviation accuracy of five (5) percent or less throughout the operating pressure range.

(b) Flow meters shall measure cumulative volumes and be certified for a deviation accuracy of five (5) percent or less throughout the range of injection rates allowed by the Permit.

8. Proposed Changes and Workovers

a. The Permittee shall give advance notice to EPA, as soon as possible, pursuant to and in accordance with 40 CFR § 144.51(l), of any planned physical alterations or additions to any of the wells authorized by this Permit, including sidetracking and deepening or perforating additional intervals. Any changes in well construction, including changes in casing, tubing, packers, and/or perforations other than minor changes, will require prior written approval by EPA and may require a permit modification application under the requirements of 40 CFR § 144.39 or § 144.41. Modifications that are considered routine in well construction details, such as tubing dimensions and strengths, packer models, types and setting depths, and perforation interval changes within the permitted injection zone, may be processed by EPA as minor permit modifications, consistent with 40 CFR § 144.41(f) and Part III.B.1. of this Permit.

b. For each operating well authorized by this Permit, the Permittee shall provide all records of well workovers, logging, or other subsequent test data to EPA within sixty (60) days of completion of the activity.

c. The Permittee shall submit all reports required by this Permit using the appropriate reporting forms (see Appendix C).

d. The Permittee shall perform a MIT on each operating injection or monitoring well authorized by this Permit using the procedures set forth in Part II.E.2.a. within thirty (30) days of completion of workovers or alterations and prior to resuming injection or monitoring activities. The Permittee shall provide results of the MIT to EPA within sixty (60) days of completion.

C. MONITORING WELL CONSTRUCTION

1. Requirement for Written Approval of Drilling Plans and Permission to Construct

A Drilling Plan detailing the well drilling, logging, sampling and completion procedures shall be submitted for EPA review and approval. The Drilling Plan shall document detailed step-by-step procedures for the work, including any refinements of the work scope identified in the Monitoring Well Work Plan, Appendix H. No drilling or construction activities for any monitoring wells subject to this permit may commence without adherence to the conditions in this section and written permission from EPA.

2. Casing and Cementing

The Monitoring Well Work Plan submitted with the permit application is hereby incorporated into this permit as Appendix H and, together with the approved Drilling plan, shall be binding on the Permittee. Notwithstanding any other provisions of this permit, the Permittee shall case and cement the wells to prevent the movement of fluids into or above underground sources of drinking water ("USDW"). USDW is defined by 40 CFR §144.3. The following approximate specifications apply to the Proposed Monitoring Wells:

a. Monitoring Wells MW-1D and MW-2D:

Refer to Monitoring Well Work Plan, Appendix H, Section 4, Table 4-1 for casing and cementing details.

b. Permittee must submit an as-built well construction schematic to EPA within sixty (60) days of the completion of any permitted monitoring well.

3. Proposed Location of Proposed Monitoring Wells MW-1D and MW-2D

Any monitoring wells authorized under this permit will be located near the Hilmar Cheese Company property on North Lander Avenue in Hilmar, California. The proposed locations for Monitoring Wells MW-1D and MW-2D are on the Project Location Map in Appendix A and in the Monitoring Well Work Plan, Appendix H (Section 3 Siting, Figures 2-1, 3-1 and 3-2). Any refinements of the proposed locations shall be included in the Drilling Plan and submitted to EPA for written approval prior to starting work. Final coordinates of any Monitoring Well constructed under this permit will be submitted with the well construction diagram required under item 2.b. of this Part.

4. Proposed Monitoring Well Sampling and Testing

The Permittee shall follow the sampling and testing programs presented in the Monitoring Well Work Plan attached as Appendix H, together with any refinements presented in the approved Drilling Plans for each well.

5. Underground Sources of DrinkingWater

During construction of the Monitoring Wells (MW-1D and MW-2D), information relating to ground water at these sites shall be obtained and submitted to the EPA in accordance with the Monitoring Well Work Plan and the approved Drilling Plans submitted for each well. This information will be used to demonstrate the presence and characteristics of, or the lack of, any underground sources of drinking water.

a. The Permittee shall provide well log and water sample analyses as evidence.

b. The EPA may require minor alterations to the construction requirements based upon the information obtained during well drilling and related operations if the proposed casing setting depths will not completely cover the base of the USDWs and the confining formation located immediately above the injection zone.

6. Confining Layer

Information on the confining layer (the Kreyenhagen Formation), such as its characteristics, its thickness and its local structure will be obtained and provided during drilling of new wells. From existing hydrogeologic data, the Kreyenhagen Formation (dark gray to brown massive shale) appears to be approximately 100 feet thick with good continuity both laterally and vertically.

7. Monitoring Devices

The Permittee shall install and maintain in good operating condition all monitoring devices as proposed in Appendix H, the Monitoring Well Work Plan and the approved Drilling Plans to be prepared for each well.

8. Proposed Changes and Workovers

The Permittee shall give advance notice to the EPA of any planned physical alterations or additions to the permitted monitoring wells. Any changes in monitoring well construction after the approved installations are completed will require prior approval of EPA and a permit modification under the requirements of 40 CFR §144.39. In addition, the Permittee shall provide all records of well workovers, logging, or other subsequent test data, including required mechanical integrity testing, to EPA within sixty (60) days of completion of the activity. Appendix C contains samples of the appropriate reporting forms. Demonstration of mechanical integrity shall be performed within thirty (30) days of completion of workovers or alterations and prior to resuming monitoring activities, in accordance with Part II, Section E.2.b.i.

9. Drilling, work-over, and plugging procedures

All drilling, workover, and plugging procedures must comply with CalGEM's "Onshore Well Regulations" of the California Code of Regulations, found in Title 14, Natural Resources, Division 2, Department of Conservation, Chapter 4, Article 3, Section 1722-1723. Drilling procedures shall also include the following:

a. Details for staging long-string cementing or justification for cementing without staging;

b. Records of daily Drilling Reports (electronic and hard copies);

c. Blowout Preventer ("BOP") System testing on recorder charts including complete explanatory notes during the test(s);

d. Casing and other tubular and accessory measurement tallies; and

e. Details and justification for any open hole gravel packing.

In lieu of using EPA reporting forms in Appendix C, procedures provided on reporting forms such as CalGEM's Well Summary Report may be acceptable provided all required information as specified above is included.

Operations for any permitted monitoring well may not commence until construction for that well is complete, and the Permittee has complied with the items listed above in a. through e., and a written Authorization to Operate has been issued for that well by EPA.

10. Notice of Monitoring Well Construction Completion

The Permittee must provide notice of completion of construction for each permitted monitoring well to EPA. Monitoring well operations may not commence until EPA has issued an Authorization to Operate.

The Final Monitoring Well Completion Reports, with associated final construction diagrams, specifications, and locations, once approved by EPA, replace the Monitoring Well Construction Plans, Proposed Location, and Specifications cited in II.C.2. and 3. above for those wells.

a. Analyses to be included in the next quarterly report following completion:

i. Fluid characteristics for parameters as specified in the Monitoring Well Work Plan, Appendix H, Section 6;

ii. Results of any additional MITs or other tests required by EPA, and any well workovers completed.

b. Results of an internal MIT (casing/tubing annular pressure test) shall be completed at least once every five years as required in Part II.E.2.a.i. and submitted as a part of the quarterly report due in April.

D. CORRECTIVE ACTION

The Permittee is not required to conduct any corrective action, in accordance with 40 CFR §§ 144.55 and 146.7, prior to EPA granting authorization to inject under this Permit.

1. Annual Zone of Endangering Influence (ZEI) Review

Beginning in March 2022 and annually every March thereafter, the Permittee shall review the ZEI calculation based on any new data obtained from the FOT and static reservoir pressure observations required by Part II.B.5.b. The Permittee shall provide to EPA a copy of the modified ZEI calculations, along with all associated assumptions and justifications, with the next Quarterly Report due in accordance with the schedule set forth in Part II.F.6.b.

The monitoring program specified in Appendix H is designed to collect data that will be included, along with injection well data, in the required annual ZEI recalculation, and for evaluating potential further investigations, tests or verifications to be implemented, or corrective action to re-enter and plug and abandon any improperly abandoned wellbores within the area of review (AOR).

2. Implementation of Corrective Actions

a. If any additional wells (reference permit application Tables A-1 and A-2) requiring corrective action, in accordance with 40 CFR §§ 144.55 and 146.7, are found within the modified ZEI referenced above, a list of those wells (or modified Tables A-1 and A-2) along with their locations and construction data shall be provided to EPA within thirty (30) days of their identification.

b. The Permittee shall submit a plan for approval by EPA to re-enter, plug, and abandon the wells requiring corrective action per Part II.D.2.a., above, in a manner that does not allow movement of fluid containing any contaminant into USDWs, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or may otherwise adversely affect the health of persons. The Permittee may submit an alternative plan to address the potential for fluid movement in any such wells to EPA.

c. The Permittee may not commence corrective action activities without prior written approval from EPA.

E. WELL OPERATION

1. Required Demonstrations

a. Mechanical Integrity

i. Within ninety (90) days of the effective date of this Permit, the Permittee shall propose a schedule to conduct a mechanical integrity test (MIT) to demonstrate that each existing injection well authorized by this Permit has mechanical integrity consistent with 40 CFR § 146.8 and with Part II.E.2.a. The test should be planned for no more than 365 days after the prior well tests were conducted under the Class I permit. The Permittee shall demonstrate that there are no significant leaks in the casing and tubing (internal mechanical integrity) and for operating injection wells, that there is not significant fluid movement into or between USDWs through

the casing wellbore annulus or vertical channels adjacent to the injection wellbore (external mechanical integrity).

b. Injectate Hazardous Waste Determination

i. Within sixty (60) days of the effective date of this Permit, the Permittee shall certify that the existing Injectate "Hazardous Waste Determination" of each unique waste stream source injected into each operating injection well authorized by this Permit, as listed in Part II.E.5.a., in accordance with 40 CFR § 262.11, is unchanged. If a change is identified, a new determination must be performed within sixty (60) days of the effective date of this Permit. The results of the analysis shall demonstrate that the injectate does not meet the definition of hazardous waste as defined in 40 CFR § 261.

ii. Whenever there is a process change or a change in fluid chemical constituents or characteristics of the injectate at the HCC facility, the Permittee shall perform an additional "Hazardous Waste Determination" for each unique waste stream source listed in Part II.E.5.a. The Permittee should also refer to injectate testing requirements set forth in Part II.F.1., below. A letter with the results of the analyses shall be submitted to EPA within sixty (60) days of the "Hazardous Waste Determination" completion.

2. Mechanical Integrity

a. Mechanical Integrity Tests

Mechanical integrity testing shall conform to the following requirements throughout the life of any well(s) currently or in the future authorized by EPA under this Permit and in accordance with the requirements set forth at 40 CFR §§ 144.51(q) and 146.8:

i. Casing/Tubing Annular Pressure (Internal MIT)

In accordance with the timing requirements defined in Part II.E.2.b., below, the Permittee shall perform a pressure test on the annular space between the tubing and long string casing to demonstrate the absence of significant leaks in the casing, tubing, and/or liner of each existing well. This test shall be for a minimum of thirty (30) minutes at a pressure as established below. A well passes the MIT if there is less than a five (5) percent change in pressure over the thirty (30) minute period.

A pressure differential of at least three hundred and fifty (350) psig between the tubing and annular pressures shall be maintained throughout the MIT. This test shall be performed on each well authorized by this Permit initially as described in this Part and at least once every five (5) years thereafter.

Detailed plans for conducting the Internal MIT must be submitted to EPA for review and approval. Once approved, the Permittee may schedule the Internal MIT, providing EPA at least thirty (30) days' notice before the Internal MIT is conducted. The final test report shall be submitted to EPA within sixty (60) days of test completion.

(a) For injection wells, this test shall be for a minimum of thirty (30) minutes at a pressure equal to or greater than the maximum allowable surface injection pressure (MASIP). If greater than the MASIP, it should be no greater than one hundred (100) pounds per square inch gauge (psig) or 10% above the MASIP, whichever is less.

(b) For monitoring wells, this test shall be for a minimum of thirty (30) minutes at a pressure not less than the lowest injection well MASIP or as otherwise specified in the approved Monitoring Well Work Plan, Appendix H.

ii. Continuous Pressure Monitoring

The Permittee shall continuously monitor and record the tubing/casing annulus pressure and injection pressure of each existing injection well and the bottom-hole pressure of each monitoring well by a digital instrument with a resolution of one tenth (0.1) psig.

(a) For injection wells, the average, maximum, and minimum monthly results shall be included in the next Quarterly Report submitted to EPA pursuant to Part II.F.5.b., along with any additional records or data requested by EPA regarding the continuous monitoring data described in this Section.

(b) Monitoring well results shall be provided, along with any additional records or data as specified in the Monitoring Well Work Plan, Appendix H. Bottom-

hole pressure data shall be collected and reported from each monitoring well at a frequency consistent with the approved work plan.

iii. Injection Profile Survey (External MIT)

Detailed plans for conducting the External MIT must be submitted to EPA for review and approval. Once approved, the Permittee may schedule the External MIT, providing EPA at least thirty (30) days' notice before the External MIT is conducted. The final test report shall be submitted to EPA within sixty (60) days of test completion.

(a) For each operating injection well authorized by this Permit, in conjunction with and consistent with the deadlines for the first FOT conducted under this Permit, as required in Part II.B.5.b., the Permittee shall conduct a demonstration that the injectate is confined to the proper zone and submit the results of the demonstration to EPA for approval.

This demonstration shall consist of temperature and radioactive tracer surveys, and top perforation and packer checks (as specified in Appendix D) or another diagnostic tool or procedure as approved by EPA.

(b) For each active monitoring well, HCC will submit a proposal for consideration and approval by EPA to evaluate and report on external mechanical integrity.

iv. Cement Evaluation Analysis

For any injection and monitoring well authorized under this Permit, after installing and cementing casing, conducting a cement squeeze job, or any well cement repair, the Permittee shall submit to EPA cementing records and cement evaluation logs that demonstrate isolation of the injection interval and other formations from underground sources of drinking water. Surface casing, intermediate, and long string casing well bore annuli shall be cemented to ground surface.

Analysis shall include cement evaluation performed after each casing is set and cemented. Cement evaluation must assess the following four objectives:

(a) Bond between casing and cement;
(b) Bond between cement and formation;
(c) Detection and assessment of any micro-annulus (small gaps between casing and cement); and
(d) Identification of any cement channeling in the borehole annulus.

If the cement bond logs indicate a lack of sufficient cement or poor bonding at the base of USDWs and/or other critical intervals in any approved well under this Permit, remedial cementing may be required to place additional cement in the casing/wellbore annulus.

The Permittee may not commence or recommence injection or operation of that well until it has received written notice from EPA that the cement evaluation/demonstration is satisfactory.

b. Schedule for MITs

EPA may require that an Internal and/or External MIT be conducted within thirty (30) days of a written request from EPA during the permitted life of any well authorized by this Permit. The Permittee shall also arrange and conduct MITs according to the following requirements and schedule:

i. Within thirty (30) days from completion of any workover operation where well integrity is compromised, an Internal MIT shall be conducted and submitted to EPA for approval to verify that the well has mechanical integrity. Prior to this field demonstration, the Permittee shall submit testing plans to EPA, as described in Part II.A.2.

ii. At least annually for all operating injection wells, an injection profile survey External MIT shall be conducted in accordance with 40 CFR § 146.8 and Part II.E.2.a.iii.(a), above.

iii. At least once every five (5) years for each operating well authorized under this Permit, an Internal MIT shall be conducted in accordance with 40 CFR § 146.8 and Part II.E.2.a.i., above.

iv. At least once every five (5) years for each active monitoring well, HCC will submit a proposal for consideration and approval by EPA to evaluate and report on external

mechanical integrity., in accordance with Part II.E.2.a.iii.(b), above.

c. Loss of Mechanical Integrity

Within twenty-four (24) hours from the time the Permittee becomes aware of any loss of mechanical integrity of any injection or monitoring well authorized by this Permit, the Permittee shall notify EPA of the situation and specify which of the following circumstances apply:

i. The well fails to demonstrate mechanical integrity during a test; or

ii. A loss of mechanical integrity becomes evident during operation; or

iii. A significant change in the annulus or injection pressure occurs during normal operating conditions. See Part II.E.6.d.

In the event of a loss of mechanical integrity, the Permittee shall immediately suspend injection or monitoring activities in the affected well and shall not resume operation until it has taken necessary actions to restore and confirm mechanical integrity of the affected well and not until EPA has provided written approval prior to recommencing injection into or otherwise operating the affected well.

The Permittee may not recommence injection or other operation after a workover which has compromised well integrity (such as unseating the packer, etc.) until it has received written approval from EPA that the demonstration of mechanical integrity is satisfactory.

3. Injection Pressure Limitation

For any injection well authorized pursuant to this Permit:

a. Maximum allowable surface injection pressure (MASIP) will be set at 80% of the calculated fracture pressure at the surface without consideration of friction losses, or the maximum safe operating pressure of the injection equipment, whichever is less. The applicable fracture gradient will be based on results of the SRT conducted in each well in the undifferentiated Paleocene-Upper Cretaceous sands Formation injection zone under Part II.B.5.a.

i. Based on the results of the SRT conducted on Injection Well WD-2 on October 3, 2006 (Appendix I), injection pressure measured at the WD-2 and WD-3 wellheads shall not exceed nine hundred and nineteen (919) psig.

b. The Permittee may request a change in the maximum injection pressure allowed under Part II.E.3.a.i., above. Any such request shall be made in writing and justified to EPA with the results of a SRT conducted as described in Part II.B.5.a. If EPA approves the change, the proposed MASIP would be added to the Permit as an attachment, becoming the enforceable MASIP.

c. In no case shall the Permittee inject at pressures that (i) initiate new fractures or propagate existing fractures in the injection zone or the confining zone, (ii) cause the movement of injection or formation fluids into or between USDWs, or (iii) allow injection fluids to migrate to oilfield production wells.

4. Injection Volume (Rate) Limitation

For any injection well authorized pursuant to this Permit:

a. An injection rate limit shall be determined along with EPA's establishment of a maximum allowable surface injection pressure, based on a SRT(s) and an annual ZEI recalculation. Once the injection rate limit is established based on the testing requirements outlined in this Permit, the Permittee shall not inject at a rate above the limit. This rate will be subject to an annual review based on the annual ZEI determinations performed as described in Part II.D.1.

i. Based on the results of the SRT conducted on the WD-2 well on October 3, 2006 (Appendix I), total injection rate shall not exceed twenty-one million and five-hundred thousand (21,500,000) gallons per month or seven hundred and sixty-eight thousand (768,000) gallons per day at any time.

b. The Permittee may request a change in the maximum rate allowed in Part II.E.4.a.i., above. Any such request shall be made in writing, along with a justification for the proposed change, to EPA for review and approval by EPA.

c. Should any change in injection rate be requested, the Permittee shall demonstrate to the satisfaction of EPA that the proposed change will not interfere with the operation of the facility, its ability to meet conditions described in this Permit, change its well classification, or

cause migration of injectate or pressure buildup to occur beyond the Area of Review.

d. The injection rate shall not cause an exceedance of the injection pressure limitation established pursuant to Part II.E.3.a.i.

5. Injection Fluid Limitation

a. This Permit authorizes injection of the following non-hazardous fluids into the existing injection wells authorized by this Permit:

i. Spent sodium chloride (brine) solution from the facility's ion exchange regeneration process;

ii. HCC facility wastewater, including wastewater generated from equipment and tank sanitizing, general facility wash-downs, equipment blowdowns, and tanker truck wash-outs;

iii. Concentrated salt from reverse osmosis reject solution (brine) at the water reclamation plant, separated from reclaim water;

iv. Concentrated salt and/or condensate water from water reclamation plant evaporators, separated from reclaim water;

v. Any combination of the above fluids.

vi. Injection fluids may also include chemical additives for the purpose of facility and injection well operation and maintenance, and must be reported to and approved by EPA prior to injection.

b. The Permittee shall not inject any hazardous waste, as defined by 40 CFR § 261, at any time. See also Part II.E.5.a. above.

c. Injection fluids shall be limited to those authorized by this Permit, which are those fluids produced by the Permittee as described in Part II.E.5.a., above. No fluids shall be accepted from sources other than the HCC Facility.

d. Particulate Filters may be used upstream of any existing well authorized by this Permit, at the discretion of the Permittee, to prevent formation plugging or damage from particulate matter. The Permittee shall include any filter specifications in the Quarterly Report due annually in April as required in Part II.F.6.b., including proposed particle size removal with any associated justification for

the selected size. For any particulate filters used, the Permittee shall follow appropriate waste analysis and disposal practices consistent with local, state, and federal law, and provide documentation to EPA.

e. Any well stimulation or treatment procedure (such as acidizing, etc.) performed at the discretion of the Permittee shall be proposed and submitted to EPA for approval. The procedure must include a detailed list of all proposed additives or chemicals to be used in the well stimulation or treatment. If approval is granted by EPA in writing, notification to EPA is required at least thirty (30) days prior to performing the approved procedure. This requirement may be modified if the Permittee submits a standard operating procedure for well stimulation or treatment for EPA approval after the effective date of this Permit. This standard operating procedure must include all potential additives that may be used. If the standard operating procedure plan is approved by EPA in writing, the Permittee shall notify EPA within fifteen (15) days of the proposed well stimulation or treatment procedure, provided the procedure does not deviate in any way from the EPA-approved plan.

6. Tubing/Casing Annulus Requirements

For any injection or monitoring well authorized pursuant to this Permit:

a. The Permittee shall use and maintain corrosion-inhibiting annular fluid during well operation. The annulus fluid used in any well authorized by this Permit will be a sodium chloride or potassium chloride brine with oxygen scavenger, biocide, and corrosion inhibitor.

b. The Permittee shall maintain a minimum pressure of one hundred (100) psig at shut-in conditions on the tubing/casing annulus.

For any injection well authorized pursuant to this Permit:

c. If the historic cyclic range of annular pressure fluctuation is not already known, then within the first three (3) months of normal injection operations after the effective date of this Permit, the Permittee shall monitor and record to determine that range. The pressure fluctuation data shall be submitted with the first Quarterly Report due after the effective date of the Permit.

d. Any annular pressure measured outside of the established normal pressure range, as previously determined under EPA Permit No. CA10500001, regardless of whether it otherwise meets the

requirements of this Permit, shall be reported orally to EPA within twenty-four (24) hours, followed by a written submission within five (5) days, as a potential loss of mechanical integrity. In the submission, the Permittee must describe the event and include details, such as associated injection pressures and temperatures. The Permittee shall provide any additional information regarding the reported annular pressure event requested by EPA within sixty (60) days of receipt of a written request from EPA.

F. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS

1. Injection Fluid Monitoring Program

On a quarterly basis, the Permittee shall sample and analyze injection fluids to yield representative data on their physical, chemical, and other relevant characteristics. Test results shall be submitted by the Permittee to EPA on a quarterly basis (see Part II.F.6., below).

Samples and measurements shall be representative of the monitored activity. The Permittee shall utilize applicable analytical methods described in Table I of 40 CFR § 136.3 or in EPA Publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," and as described below, unless other methods have been approved by EPA or additional approved methods or updates to the methods become available.

a. Summary of Acceptable Analytic Methods:

i. Inorganic Constituents – USEPA Method 300.0, Part A for Major Anions and USEPA Method 200.8 for Cations and Trace Metals.

ii. Solids - Standard Methods 2540C and 2540D for Total Dissolved Solids (TDS) and Total Suspended Solids (TSS).

iii. General and Physical Parameters – appropriate USEPA methods for Temperature, Turbidity, pH, Conductivity, Hardness, Specific Gravity, Alkalinity, and Biological Oxygen Demand (BOD); and Density and Viscosity (See EPA Bulletin 712-C-96-032) under standard conditions.

iv. Volatile Organic Compounds (VOCs) - USEPA Method 8260D.

v. Semi-Volatile Organic Compounds (SVOCs) - USEPA Method 8270E.

b. Analysis of Injection Fluids

Within sixty (60) days after the effective date of this Permit and whenever there is a change in injection fluids such as whenever the injection fluid is no longer representative of previous samples and measurements that have been submitted and approved, the Permittee shall perform injectate sampling and analyses as outlined in Part II.F.1., above.

2. Monitoring Well Fluid Sampling and Analysis

The Permittee shall follow the sampling and analysis specified in the Monitoring Well Work Plan attached as Appendix H.

3. Monitoring Information

For all wells authorized by this Permit, the Permittee shall maintain records of monitoring activity required under this Permit, including the following information and data:

a. Date, exact location, and time of sampling or measurements;

b. Name(s) of individual(s) who performed sampling or measuring;

c. Exact sampling method(s) used;

d. Date(s) laboratory analyses were performed;

e. Name(s) of individual(s) who performed laboratory analyses;

f. Types of analyses; and

g. Results of analyses.

4. Monitoring Devices

a. Continuous Monitoring Devices for Injection Wells

During all periods of operation of any authorized injection well, the Permittee shall measure the following wellhead parameters: (i) injectate rate/volume, (ii) injectate temperature, (iii) annular pressure, and (iv) injection pressure. All measurements must be recorded at minimum to a resolution of one tenth (0.1) of the unit of measure (e.g., injection rate and volume must be recorded to a resolution of

one tenth (0.1) of a gallon; pressure must be recorded to a resolution of one tenth (0.1) of a psig; injection fluid temperature must be recorded to a resolution of one tenth (0.1) of a degree Fahrenheit. Exact dates and times of measurements, when taken, must be recorded and submitted. Each injection well shall have a dedicated flow meter, installed so it records all injection flow. To meet the requirements of this Section, the Permittee shall monitor the following parameters, at the prescribed frequency, and record the measurements at this required frequency, using the prescribed instruments (continuous monitoring requires a minimum frequency of at least one (1) data point every sixty (60) seconds):

Monitoring Parameter	Frequency	Instrument
Injection rate (gallons per minute)	Continuous	Digital recorder
Daily Injection Volume (gallons)	Daily	Digital Totalizer
Total Cumulative Volume (gallons)	Continuous	Digital Totalizer
Well head injection pressure (psig)	Continuous	Digital recorder
Annular pressure (psig)	Continuous	Digital recorder
Injection fluid temperature (degrees Fahrenheit)	Continuous	Digital recorder

The Permittee must adhere to the required format below for reporting injection rate and well head injection pressure. An example of the required electronic data format:

DATE	TIME	INJ. PRESS (PSIG)	INJ. RATE (GPM)
06/27/09	16:33:16	1525.6	65.8
06/27/09	17:33:16	1525.4	66.3

Each data line shall include four (4) values separated by a consistent combination of spaces or tabs. The first value contains the date measurement in the format of mm/dd/yy or mm/dd/yyyy, where mm is the number of the month, dd is the number of the day and yy or yyyy is the number of the year. The second value is the time measurement, in the format of hh:mm:ss, where hh is the hour, mm are the minutes and ss are the seconds. Hours should be calculated on a twenty-four (24)-hour basis, i.e. 6 PM is entered as 18:00:00. Seconds are optional. The third value is the well head injection pressure in psig. The fourth column is injection rate in gallons per minute (gpm).

b. Calibration and Maintenance of Equipment

The Permittee shall calibrate and maintain on a regular basis all monitoring and recording equipment to ensure proper working order of all equipment.

5. Recordkeeping

a. The Permittee shall retain the following records and shall have them available at all times at the HCC Facility for inspection by EPA or other authorized personnel, in accordance with the following:

i. All monitoring information, including required observations, calibration and maintenance records, recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the permit application;

ii. Information on the physical nature and chemical composition of all injected fluids, including injectate, chemical additives for the operation and maintenance of the facility and wells, and any additives for treatment, such as for well stimulation and/or acidization;

iii. Results of the injectate "Hazardous Waste Determination" according to 40 CFR §262.11 (See Part II.E.1.b.). Results shall demonstrate that the injectate does not meet the definition of hazardous waste as defined in 40 CFR §261; and

iv. Records and results of MITs, FOTs, and any other tests and logs required by EPA, and any well work and workovers completed.

b. The Permittee shall maintain copies (or originals) of all records described in paragraphs II.F.5.a.i. through iv. above, during the operating life of any well authorized by this Permit and shall make such records available at all times for inspection at the HCC facility. The Permittee shall only discard the records described in paragraphs II.F.5.a.i. through iv, if written approval from EPA to discard the records is obtained.

6. Reporting

a. The Permittee shall submit to EPA Quarterly Reports containing, at minimum, the following information gathered during the Reporting Period identified in this Part (below):

i. Injection fluid characteristics for parameters specified in Part II.F.1.a.;

ii. Beginning in the next quarterly report following monitoring well completion, monitoring well parameters as detailed in the Monitoring Well Work Plan, Appendix H, Section 6;

iii. When appropriate, Injectate Hazardous Waste Determination according to Part II.E.1.b.;

iv. The results of any additional MITs, FOTs, logging or other tests, as required by EPA;

v. Any pressure tests, as required by Parts II.B.5. and II.E.2.a.i. and ii.;

vi. Shut-in static reservoir pressure cumulative behavior plot of the injection zone, as required by Part II.B.5.b.vi.;

vii. Hourly and daily values, submitted in electronic format, for the continuously monitored parameters specified for the injection wells in Part II.F.4.a of this section; and

viii. Monthly cumulative total volumes, as well as monthly average, minimum, and maximum values for the continuously monitored rate, pressure, and temperature parameters specified for the injection wells in paragraph II.F.4.a. of this section, unless more detailed records are requested by EPA;

b. Quarterly Reports, with the applicable Appendix C forms, shall be submitted for the reporting periods by the respective due dates as listed below:

Reporting Period	Report Due
Jan, Feb, Mar	Apr 28
Apr, May, June	July 28
July, Aug, Sept	Oct 28
Oct, Nov, Dec	Jan 28

c. For the Quarterly Report covering the reporting period of January, February, and March, the Permittee shall also include in that Report the following information collected during the prior year covering January through December:

i. Annual reporting summary (7520-11 in Appendix C);

ii. Annual injection profile survey results as required in Part II.E.2.a.iii;

iii. Annual ZEI recalculation as required in Part II.D.1.;

iv. A narrative description of any non-compliance with the Permit that occurred during the past year.

d. In addition to meeting the submittal requirements of Part III.E.9., digital e-copies of all Quarterly Reports shall also be provided to the following:

California Geologic Energy Management Division (CalGEM)
Northern District
Attention: District Deputy
Via email at CalGEMNorthern@conservation.ca.gov

Central Valley Regional Water Quality Control Board
Fresno Office
Attention: Underground Injection Control
Via email at centralvalleyfresno@waterboards.ca.gov

Should either of the contacts/email addresses identified above no longer work at CalGEM/Regional Water Board, the Permittee must notify EPA, ascertain the replacement contact(s)/addresses, and submit reports going forward to the new contacts/addresses.

G. PLUGGING AND ABANDONMENT

1. Notice of Plugging and Abandonment

The Permittee shall notify the EPA no less than sixty (60) days before abandonment of any well authorized by this Permit and shall not perform the plugging and abandonment activities until the Permittee receives written notice of approval by EPA.

2. Plugging and Abandonment Plans

The Permittee shall plug and abandon the well(s) as provided in the Plugging and Abandonment Plan submitted by the Permittee (see Appendix F) and approved by the EPA, consistent with CAlGEM's "Onshore Well Regulations" of the California Code of Regulations, found in Title 14, Natural Resources, Division 2, Department of Conservation, Chapter 4, Article 3, Sections 1722-1723 and 40 CFR § 146.10. Upon written notice to the Permittee, EPA may change the manner in which a well will be plugged, based upon but not limited to the following reasons: (a) if the well is modified during its permitted life, (b) if the proposed Plugging and Abandonment Plan for the well is not consistent with EPA requirements for construction or mechanical integrity, or (c) otherwise at EPA's discretion. Upon written notice, EPA may periodically require the Permittee to update the estimated plugging cost. To determine the appropriate level of financial assurance for the Plugging and Abandonment Plan, the Permittee has obtained a cost estimate from an independent third-party firm in the business of plugging wells. The estimate includes the costs of all the materials and activities necessary to pay an independent third-party contractor to completely plug and abandon the injection and monitoring wells, as established in the Plugging and Abandonment Plan.

3. Cessation of Injection or Monitoring Activities

After a cessation of injection operations for two (2) years for any well authorized by this Permit, a well is considered inactive. In this case, the Permittee shall plug and abandon the inactive well in accordance with the approved Plugging and Abandonment Plans, contained in Appendix G, unless the Permittee:

a. Provides notice to EPA of an intent to re-activate the well(s);

b. Has demonstrated that the well(s) will be used in the future;

c. Has described actions or procedures, satisfactory to EPA and approved in writing by EPA, which will be taken to ensure that the well(s) will not endanger USDWs during the period of inactivity; and

d. Conducts an initial, Internal MIT on the inactive well(s) and subsequent Internal MITs annually thereafter while the well(s) remains inactive, demonstrating no loss of mechanical integrity. Note that the Permittee must restore mechanical integrity of the inactive well(s) or plug and abandon the well(s) if it fails the MIT.

4. Plugging and Abandonment Report

Within sixty (60) days after plugging any well authorized by this Permit, or at the time of the next Quarterly Report (whichever is sooner), the Permittee shall submit a report on Form 7520-19 (see Appendix C, applies to injection wells; reports on plugged monitoring wells shall include all applicable information), as well as the detailed procedural activity of engineer's log and daily rig log to EPA. The report shall be certified as accurate by the person who performed the plugging operation and shall consist of either:

a. A statement that the well was plugged in accordance with the approved Plugging and Abandonment Plan contained in Appendix G; or

b. Where actual plugging differed from the Plugging and Abandonment Plan contained in Appendix G, a statement specifying and justifying the different procedures followed.

H. FINANCIAL ASSURANCE REQUIREMENTS

1. Demonstration of Financial Assurance

The Permittee is required to demonstrate and maintain financial responsibility and resources sufficient to close, plug, and abandon any underground injection operations authorized by this Permit, as provided in the Plugging and Abandonment Plans contained in Appendix G and consistent with 40 § CFR 144 Subpart D.

In addition, the Permittee shall meet the following specific financial assurance requirements:

a. Prior to the issuance of this Permit, the Permittee provided, and EPA approved in writing, a financial assurance instrument, consistent with Part II.A.1 of this Permit, to guarantee closure of the all wells authorized by this Permit.

b. For each well authorized by this Permit, the financial assurance mechanism shall be reviewed and updated annually, if necessary, and a description of that review and any updates shall be set forth in the Quarterly Report due on April 28 of each year. EPA, upon written request, may require the Permittee to change to an alternate method of financial assurance. Any such change must be approved in writing by EPA prior to the change.

c. EPA may periodically require the Permittee to update the estimated Plugging and Abandonment Plan (see Appendix G) and/or the cost associated with it, and the Permittee shall make such an adjustment within sixty (60) days of notice from EPA. Alternately, EPA may independently adjust the required financial assurance amount, as warranted.

2. Failure of Financial Assurance

The Permittee must notify EPA of the insolvency of a financial institution supporting the financial assurance as soon as possible, but no later than ten (10) days after the Permittee becomes aware of the insolvency. The Permittee shall submit to EPA a revised and/or new instrument of financial assurance, consistent with the terms of this Permit, within sixty (60) days after any of the following events occur:

a. The institution issuing the bond or other financial instrument files for bankruptcy;

b. The authority of the trustee institution to act as trustee, or the authority of the institution issuing the financial instrument, is suspended or revoked; or

c. The institution issuing the financial instrument lets it lapse or decides not to extend it.

Failure to submit acceptable financial assurance may result in the termination of this Permit pursuant to 40 CFR § 144.40(a)(1).

3. Insolvency of Owner or Operator

An owner or operator must notify EPA by certified mail and electronic mail of the commencement of voluntary or involuntary proceedings under U.S. Code Title 11 (Bankruptcy), naming the owner or operator as debtor, within ten (10) business days after such an event occurs. A guarantor of a corporate guarantee must make such a notification if he/she is named as debtor, as required under the terms of the guarantee.

I. DURATION OF PERMIT

This Permit and the authorization to inject are issued for a period of up to ten (10) years unless terminated under the conditions set forth in Part III.B.1 or administratively extended under the conditions set forth in Part III.E.12.

PART III. GENERAL PERMIT CONDITIONS

A. EFFECT OF PERMIT

The Permittee is allowed to engage in underground injection well construction and operation in accordance with the conditions of this permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any injection activity not otherwise allowed by this Permit, as such activities may allow the movement of fluid into USDWs (as defined by 40 CFR 144.3 and 146.3).

No injection fluids are allowed to migrate to any nearby oilfield production wells. Further, this Permit requires systematic and predictive documentation over the HCC Facility's operational life to ensure that no injection fluids, either presently or in the future, will migrate to oilfield or geothermal production wells.

Any underground injection activity not specifically authorized in this permit is prohibited. The Permittee must comply with all applicable provisions of the SDWA and 40 CFR Parts 124, 144, 146, 147 and 148. Such compliance does not constitute a defense to any action brought under Section 1431 of the SDWA, 42 U.S.C. § 300(i), or any other common law, statute, or regulation other than Part C of the SDWA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Nothing in this permit shall be construed to relieve the Permittee of any duties under all applicable, including future, laws or regulations.

B. PERMIT ACTIONS

1. Modification, Revocation and Reissuance, and Termination

   EPA may, for cause or upon request from the Permittee, modify, revoke and reissue, or terminate this permit in accordance with 40 CFR §§ 124.5, 144.12, 144.39, 144.40, and 144.51(f). The permit is also subject to minor modifications in accordance with 40 CFR § 144.41. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance by the Permittee, does not stay the applicability or enforceability of any permit condition. EPA may also modify, revoke and reissue, or terminate this Permit in accordance with any amendments to the SDWA if the amendments have applicability to this Permit.

2. Transfers

   This permit is not transferable to any person except after notice to and approval by EPA and the Permittee complies with the requirements of 40 CFR §144.38. *See also* 40 CFR § 144.51(1)(3). EPA 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 SDWA.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this 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.

D. CONFIDENTIALITY

In accordance with 40 CFR §§ 2 and 144.5, any information submitted to EPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures contained in 40 CFR § 2 (Public Information). Claims of confidentiality for the following information will be denied:

1. Name and address of the Permittee; or

2. Information dealing with the existence, absence, or level of contaminants in drinking water.

E. GENERAL DUTIES AND REQUIREMENTS

The provisions of 40 CFR § 144.51 are incorporated by reference into this Permit, except as modified by specific provisions in this Permit. In addition, the following general duties and requirements apply to this Permit and the Permittee.

1. Duty to Comply

   The Permittee shall comply with all applicable UIC Program regulations and all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued by EPA in accordance with 40 CFR §144.34. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act (SDWA) and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Such noncompliance may also be grounds for enforcement action under the Resource Conservation and Recovery Act (RCRA).

2. Penalties for Violations of Permit Conditions

Any person who violates a permit requirement is subject to civil penalties, fines, and other enforcement action under the SDWA and may be subject to enforcement actions pursuant to RCRA. Any person who willfully violates a permit condition may be subject to criminal prosecution.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

4. Duty to Mitigate

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

5. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of 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 only when necessary to achieve compliance with the conditions of this permit.

6. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

7. Duty to Provide Information

The Permittee shall furnish to EPA, within a time specified, any information which EPA 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 to EPA, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry

The Permittee shall allow the EPA, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

a. 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;

b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;

c. Inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

9. Submittal Requirements

The Permittee shall follow the procedures set forth below for all submittals made to EPA under this Permit, including all notices and reports:

a. All submittals to EPA shall be signed and certified by a responsible corporate officer or duly authorized representative consistent with the requirements of 40 CFR §§ 122.22, 144.32, and 144.51(k).

b. Unless otherwise required by this Permit or rule, all submissions (including correspondence, reports, records and notifications) required under this Permit shall be in writing and mailed first class mail to the following address:

U.S. Environmental Protection Agency, Region 9
Water Division
UIC Program
Groundwater Protection Section (WTR-4-2)
75 Hawthorne St.
San Francisco, CA 94105-3901

and by e-mail to: albright.david@epa.gov

c. The compliance date for submittal of a report is the day it is mailed.

10. Additional Reporting Requirements

a. Planned Changes

The Permittee shall give notice to EPA as soon as possible of any planned physical alterations or additions to the permitted facility.

b. Anticipated Non-compliance

The Permittee shall give advance notice to EPA of any planned changes in the permitted facility or activity which may result in non-compliance with permit requirements.

c. Compliance Schedules

Reports of compliance or non-compliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted to EPA no later than thirty (30) days following each schedule date.

d. Monitoring Reports

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

e. Twenty-four Hour Reporting

i. The Permittee shall report to EPA any non-compliance which may endanger health or the environment, including:

(a) Any monitoring or other information which indicates that any contaminant may cause an endangerment to an USDW; or

(b) Any non-compliance with a permit condition, or malfunction of the injection system, which may allow the movement of fluid containing any contaminant into a USDW, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or may otherwise adversely affect the health of persons.

ii. Any information shall be provided orally within twenty-four (24) hours from the time the Permittee becomes aware of the circumstances. A written submission of all non-compliance as described in Part III.E.10.e.i., above, shall also be provided to EPA within five (5) days of the time the Permittee becomes aware of the

circumstances. The written submission shall contain: a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times; if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.

f. Other Non-compliance

At the time monitoring reports are submitted, the Permittee shall report in writing all other instances of non-compliance not otherwise reported pursuant to other reporting requirements outlined in this Permit. The Permittee shall submit the information listed in Part III.E.10.e.

g. Other Information

If the Permittee becomes aware that it failed to submit all relevant facts in the permit application, or submitted incorrect information in the permit application or in any report to EPA, the Permittee shall submit such facts or information within two (2) weeks of the time such facts or information becomes known.

11. Requirements Prior to Commencing Injection, Plugging and Abandonment Report, Duty to Establish and Maintain Mechanical Integrity

The Permittee shall comply with all applicable requirements set forth at 40 CFR §§ 144.51(m)-(q) and as outlined throughout this Permit.

12. Continuation of Expiring Permit

a. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must submit a complete application for a new permit at least three-hundred sixty-five (365) days before this permit expires.

b. Permit Extensions

The conditions and requirements of an expired permit continue in force and effect in accordance with 5 U.S.C. §558(c) until the effective date of a new permit, if:

i. The Permittee has submitted a timely and complete application for a new permit; and

ii. EPA, through no fault of the Permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit.

13. Records of Permit Application

The Permittee shall maintain records of all data required to complete the permit application and any supplemental information submitted with the permit application.

14. Availability of Reports

All reports prepared in accordance with the conditions of this Permit shall be available for public inspection at appropriate offices of the EPA. Permit applications, permits, and well operation data shall not be considered confidential.