SOLID WASTE PERMIT RENEWAL

ECDC Environmental, L.C.
CLASS V LANDFILL
Permit #9422R1
(Modified 2012 to Accept PCB Wastes)

Pursuant to the provisions of the *Utah Solid and Hazardous Waste Act*, Title 19, Chapter 6, Part 1, Utah Code Annotated (Utah Code Ann. §) 1953, as amended (the Act) and the *Utah Solid Waste Permitting and Management Rules*, Utah Administrative Code (Utah Admin. Code) R315-301 through 320 adopted thereunder,

ECDC Environmental, L.C., as Owner and Operator

is hereby approved to operate the ECDC Class V Landfill located in Township 15 South, Range 13 East, Salt Lake Base and Meridian, Carbon County, Utah and within the city limits of East Carbon City as shown in the permit renewal application that was determined complete on August 31, 2007. A complete legal description of the landfill location is incorporated in the permit application.

The operation of the landfill is subject to the condition that ECDC Environmental, L.C. (Owner and Operator) meet the requirements set forth herein.

All references to Utah Admin. Code R315-301 through 320 are to regulations that are in effect on the date that this permit becomes effective.

This permit shall become effective November 1, 2007.

This permit shall expire at midnight October 31, 2017.

Closure cost revision date November 1, 2012.

Signed this 1st day of November, 2007

Modified on 13th day of June, 2013

Scott T. Anderson, Director
Utah Division of Solid and Hazardous Waste

PERMIT REQUIREMENTS

LANDFILL NAME:	ECDC Environmental, L.C. Class V Landfill
OWNER NAME:	ECDC Environmental, L.C.
OWNER ADDRESS:	1111 West Highway 123 P.O. Box 69 East Carbon, Utah 84520
OWNER PHONE NO.:	(801) 888-4451
TYPE OF PERMIT:	Class V Landfill
PERMIT NUMBER:	9422R1
LOCATION:	Landfill site is located in Township 15 South, Range 13 East, Sections 7, 8, 9, 10, 16, 17, and 18, SLMB; Carbon County, Lat. 39° 31' 40", Long. 110° 28' 33"
PERMIT HISTORY	Permit renewal signed November 1, 2007 Permit modification #1 to accept PCB waste and Agency- initiated modification to replace Executive Secretary with Director signed June 13, 2013

The term "Permit" as used in this document is defined in Utah Administrative Code (Utah Admin. Code) R315-301-2(55).

The renewal application, including the documents listed in the table below, as deemed complete on August 31, 2007 hereby incorporated by reference into this Solid Waste Permit and will be referred to as the permit application throughout this permit. All representations made in the permit application are part of this permit and are enforceable under Utah Admin. Code 315-301-5(2).

Class V Landfill Permit Application	Document #01.000631	February 21, 2001
Alternative Final Cover Demonstration	Document #05.01852	May 17, 2005
Alternative Final Cover Demonstration Supplement	Document #05.04064	December 22, 2005

2005 Closure, Post-Closure Care and Post-Closure Investment Costs for the ECDC Facility	Document #05.01748	May 6, 2005
Groundwater Monitoring	Document #07.00349	January 25, 2007
Operations Plan	Document #06.01899	June 22, 2007
Alternative Liner Design	Document #07.01511	May 15, 2007
Chemical Waste Landfill Permit Application Initial Report	Document #11.02641	December 7, 2011
PCB Management Plan	Document #13.002471	October 2012
Chemical Waste Landfill Permit Application Groundwater Impact Assessment	Document #13.002471	September 2012

The permit application will become part of the operating record of the Landfill. Where differences in wording exist between this permit and the permit application, the wording of the permit supersedes that of the permit application.

The facility as described in this permit consists of following buildings:

1. Management office, bathhouse;
2. Maintenance building;
3. Railroad car rotary dump;
4. Heat/thawing building;
5. Wash facility;
6. Railroad car bottom dump and washout facility;
7. Intermodal yard;
8. Container heat shed;
9. Solidification facility and drum dock; and
10. Truck and rail sheds.

The facility also incorporates the following disposal cells for all permitted waste:

1. Cell 7 (undergoing final cover);
2. Cell 10 (currently not accepting waste, under intermediate cover awaiting final cover and closure);
3. SuperCell 1 (Actively accepting waste, currently completing Subcells 1A East and 1A West)
4. SuperCell 8 (Proposed to accept PCB wastes regulated by EPA Region 8 and Utah Admin. Code R315-315-7(3)(b).

ECDC does not operate a Class IV disposal cell, dead animal disposal cell, any other special waste disposal cells except as stated above, or areas for storage of recyclable materials, green waste, and composting.

By this permit to own and operate, the Permittee is subject to the following conditions.

I. GENERAL COMPLIANCE RESPONSIBILITIES

A. General Operation

The Permittee shall operate the landfill in accordance with all applicable requirements of Utah Admin. Code R315-302 and 303, for a Class V landfill, that are in effect as of the date of this permit unless otherwise noted in this permit. Any permit noncompliance or noncompliance with any applicable portions of Utah Code Ann. §§ 19-6-101 through 123 and applicable portions of Utah Admin. Code R315-301 through 320 constitutes a violation of the permit or applicable statute or rule and is grounds for appropriate enforcement action, permit revocation, modification, or denial of a permit renewal application.

B. Acceptable Waste

This permit is for the disposal of non-hazardous solid waste that may include municipal solid waste, commercial waste, industrial waste, construction/demolition waste, and special waste as allowed by Utah Admin. Code R315-315.

The Permittee may accept conditionally exempt small quantity generator hazardous waste as specified in Utah Admin. Code R315-303-4(7)(a)(i)(B) and PCB's as specified by Utah Admin. Code R315-315-7(2). For landfill cells that have received approval to accept PCBs from EPA Region 8, the Permittee may accept wastes as specified in Utah Admin. Code R315-315-7(3)(b).

C. Prohibited Waste

No hazardous waste as defined by Utah Admin. Code R315-1 and R315-2, PCB's as defined by Utah Admin. Code R315-301-2, except as allowed in Section I.B (Acceptable Waste) of this permit, or radioactive wastes as determined in Section VI of this permit may be accepted for treatment, storage, or disposal at the landfill. For landfill cells that have been approved by EPA Region 8 to receive PCB wastes, no wastes that could mobilize PCBs are allowed to be disposed in the cell. Furthermore, liquid organic solvents less than five gallons that may be included in conditionally exempt or municipal waste are prohibited from direct disposal and must be solidified prior to disposal.

Any prohibited waste received and accepted for treatment, storage, or disposal at the facility will constitute a violation of this permit, of Utah Code Ann. § 19-6-101 through 123 and of Utah Admin. Code R315-301 through 320.

D. Inspections and Inspection Access

The Permittee shall allow Director of the Utah Division of Solid and Hazardous Waste or an authorized representative of the Director, including representatives from the Southeastern Utah District Health Department, to enter at reasonable times and:

1. Inspect the landfill or other premises, practices or operations regulated or required under the terms and conditions of this Permit or Utah Admin. Code R315-301 through 320;

2. Have access to and copy any records required to be kept under the terms and conditions of this Permit or Utah Admin. Code R315-301 through 320;

3. Inspect any loads of waste, treatment facilities or processes, pollution management facilities or processes, or control facilities or processes required under this Permit or regulated under Utah Admin. Code R315-301 through 320; and

4. Create a record of any inspection by photographic, videotape, electronic, or any other reasonable means.

E. Noncompliance

If monitoring, inspection, or testing indicates that any permit condition or any applicable rule under Utah Admin. Code R315-301 through 320 may be or is being violated, the Permittee shall promptly make corrections to the operation or other activities to bring the facility into compliance with all permit conditions or rules.

In the event of any noncompliance with any permit condition or violation of an applicable rule, the Permittee shall promptly take any feasible action reasonably necessary to correct the noncompliance or violation and mitigate any risk to the human health or the environment. Actions may include eliminating the activity causing the noncompliance or violation and containment of any waste or contamination using barriers or access restrictions, placing of warning signs, or permanently closing areas of the facility.

The Permittee shall: document the noncompliance or violation in the operating record, on the day the event occurred or the day it was discovered; notify the Director of the Division of Solid and Hazardous Waste by phone within 24 hours, or the next business day following documentation of the event; and give written notice of the noncompliance or violation and measures taken to protect public health and the environment within seven days of Director notification.

Within thirty days of the documentation of the event, the Permittee shall submit, to the Director, a written report describing the nature and extent of the noncompliance or violation and the remedial measures taken or to be taken to protect human health and the environment and to eliminate the noncompliance or violation. Upon receipt and review of the assessment report, the Director may order the Permittee to perform appropriate remedial measures including development of a site remediation plan for approval by the Director.

In an enforcement action, the Permittee may not claim as a defense that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with Utah Admin. Code R315-301 through 320 and this permit.

Compliance with the terms of this permit does not constitute a defense to actions brought under any other local, State, or Federal laws. This permit does not exempt the Permittee from obtaining any other local, State or Federal permits or approvals required for the facility operation.

The issuance of this permit does not convey any property rights, other than the rights inherent in this permit, in either real or personal property, or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations including zoning ordinances.

The provisions of this Permit are severable. If any provision of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

F. Revocation

This permit is subject to revocation if any condition of this permit is not being met. The Permittee will be notified in writing prior to any proposed revocation action and such action will be subject to all applicable hearing procedures established under Utah Admin. Code R305-7 and the Utah Administrative Procedures Act.

Revocation of this permit does not revoke the financial assurance established for closure and post-closure care of the facility, nor remove any responsibility on the part of the permittee for completion of closure and post-closure care for the facility required in Utah Admin. Code R315-302-3.

Revocation of this permit will necessitate that the Director exercise the option to require the funds or other mechanism provided for financial assurance for completion of closure and post-closure care for the facility required in Utah Admin. Code R315-302-3 be called.

G. Attachment Incorporation

Attachments to the permit application are incorporated by reference into this permit and are enforceable conditions of this permit, as are documents incorporated by reference into the attachments. Language in this permit supersedes any conflicting language in the attachments or documents incorporated into the attachments.

H. Impact to Raptors and Wildlife

ECDC shall work with the U.S. Fish and Wildlife Service (FWS) and the Utah Division of Wildlife Resources (UDWR) in the assessment of the potential impact of PCB disposal activities on raptors and other wildlife.

II. DESIGN AND CONSTRUCTION

A. Design and Construction

The Permittee shall construct any landfill cell, sub-cell, run-on and runoff diversion system, waste treatment facility, or final cover in accordance with the alternative/equivalent design submitted as part of the permit application described in Document #07.01511 and in accordance with the Utah Solid Waste Permitting and Management Rules Utah Admin. Code R315-301 thru 320.

The Permittee shall construct any landfill cell that accepts PCB wastes as described in Utah Admin. Code R315-315-7(3)(b) in accordance with the design proposed in the document "Chemical Waste Landfill Permit Application", #SW2011.02461, dated December 7, 2011.

Prior to construction of any landfill cell, sub-cell, engineered control system, waste treatment facility, or final cover the Permittee shall submit construction design drawings and a Construction Quality Control and Construction Quality Assurance (CQC/CQA) Plan to the Director for approval. Buildings do not require approval. The Permittee shall construct any landfill cell, sub-cell, cell

liner, engineered control system, waste treatment facility, and the final cover in accordance with the design drawings and CQC/CQA Plans submitted and approved by the Director.

Subsequent to construction the Permittee shall notify the Director of completion of construction of any landfill cell, sub-cell, engineered control system, waste treatment facility, or final cover. Landfill cells may not be used for treatment or disposal of waste until all CQC/CQA documents and construction related documents, including as-built drawings, are approved by the Director. The Permittee shall submit as-built drawings for each construction event that are signed and sealed by an engineer registered in the State of Utah.

The Permittee shall notify the Director of any proposed incremental closure, placement of any part of the final, or placement of the full final cover. Construction of any portion of the final cover shall be considered as a separate construction event and shall be approved separately from any other construction or expansion of the landfill. Design approval must be received from the Director prior to construction and must be accompanied by a CQC/CQA Plan, for each construction season where incremental or final closure is performed.

A qualified independent third party shall perform the quality assurance function on liner components, cover components, and other testing as required by the approved CQC/CQA Plan. The results must be submitted as part of the as-built drawings to the Director.

All engineering drawings submitted to the Director must be stamped and approved by a professional engineer with a current registration in Utah.

B. Run-On Control

Drainage channels and diversions shall be constructed as specified in the permit application and maintained at all times to effectively prevent runoff from the landfill as well as any run on from surrounding area from entering the landfill.

C. Equivalent Design

This facility has demonstrated through geologic, hydrogeologic, climatic, waste stream, and other factors that the landfill will not contaminate ground water and is approved for the alternative design as outlined in the permit application for all cells other than the PCB cell. Any contamination of ground water resulting from operation of the landfill may result in the revocation of this alternative design approval. The basis for approval of the alternative design is found in the "Alternative Design Statement of Basis" found in Appendix A of this permit.

ECDC has permitted the PCB cell (TSCA cell) through EPA and has provided a cell design that meets the requirements of EPA Region 8 and exceeds the landfill design standards of the currently permitted cells. The PCB cell shall be constructed in accordance with the design found in the "Chemical Waste Permit Application."

III. LANDFILL OPERATION

A. Operations Plan

The Operations Plan included in the permit application and the solid waste permit issued by the Director shall be kept onsite at the landfill. The landfill shall be operated in accordance with the operations plan as included in the permit application. If necessary, the facility owner may modify the Operations Plan, provided that the modification meets all of the requirements of Utah Admin. Code R315-301 through 320, is as protective of human health and the environment as that approved in the permit application, and is approved by the Director as a minor modification under Utah Admin. Code R315-311-2(1)(a)(xiii). Any modification to the Operations Plan shall be noted in the operating record.

Any modification to the Operations Plan must be submitted to the Director for approval and is considered a minor permit modification in compliance with Utah Admin. Code R315-311-2(1)(a)(xiii) unless the Director determines the change should be subject to public comment under Utah Admin. Code R315-311-2(1)(a)(xviii).

The updated Operation Plan that includes all operational processes and procedures developed to accept PCB wastes as submitted in the PCB Management Plan shall be kept onsite and followed for all PCB waste disposal.

B. Security

The Permittee shall operate the Landfill so that unauthorized entry to the facility is prevented. All facility gates and other access routes shall be locked during the time the landfill is not open. Fencing and any other access controls as shown in the permit application shall be constructed to prevent access of persons or livestock by other routes.

C. Training

Permittee shall provide training for on-site personnel in landfill operation, including waste load inspection, hazardous waste identification, and personal safety and protection.

D. Burning of Waste

Intentional burning of solid waste is prohibited and is a violation of Utah Admin. Code R315-303-4(2)(b). All accidental fires shall be extinguished as soon as reasonably possible.

E. Daily Cover

The solid waste received at the landfill shall be completely covered at the end of each working day with a minimum of six inches of earthen material.

An alternative daily cover material may be used when the material meets the requirements of Utah Admin. Code R315-303-4(4)(b) through (d) or when the alternative daily cover meets the requirement of Utah Admin. Code R315-303-4(4)(e).

Permission to use alternative daily cover may be rescinded or amended if the requirements to prevent blowing debris, minimize access to the waste by vectors, minimize the threat of fires at the open face, minimize odors, or shed precipitation are not met, or if necessary to prevent nuisance conditions or adverse impacts to human health and or the environment.

F. Ground Water Monitoring

The Permittee shall monitor the ground water underlying the landfill in accordance with the Ground Water Monitoring Plan and the Ground Water Monitoring Quality Assurance/Quality Control Plan contained in the permit application. Additional groundwater monitoring parameters as outlined in the "Chemical Waste Permit Application" are required for the PCB landfill cell. If necessary, the facility owner may modify the Ground Water Monitoring Plan and the Ground Water Monitoring Quality Assurance/Quality Control Plan, provided that the modification meets all of the requirements of Utah Admin. Code R315-301 through 320 and is as protective of human health and the environment as that approved in the permit application, and is approved by the Director as a minor modification under Utah Admin. Code R315-311-2(1)(a).

Any modification to the Ground Water Monitoring Plan and the Ground Water Monitoring Quality Assurance/Quality Control Plan shall be noted in the operating record. Plan changes that are found by the Director to be less protective

of human health or the environment than the approved plan are a major modification and are subject to the requirements of Utah Admin. Code R315-311.

G. Gas Monitoring

The Permittee shall monitor explosive gases at the landfill in accordance with the Gas Monitoring Plan contained in the permit application and shall otherwise meet the requirements of Utah Admin. Code R315-303-3(5). If necessary, the Permittee may modify the Gas Monitoring Plan, provided that the modification meets all of the requirements of Utah Admin. Code R315-301 through 320 and is as protective of human health and the environment as that approved in the permit application, and is approved by the Director as a minor modification under Utah Admin. Code R315-311-2(1). Any modification to the Gas Monitoring Plan shall be noted in the operating record.

If the concentrations of explosive gases at any of the facility structures, at the property boundary or beyond the property boundary, ever exceed the standards set in Utah Admin. Code R315-303-2(2)(a), the Permittee shall immediately take all necessary steps to ensure protection of human health and notify the Director. Within seven days of detection, place in the operating record the explosive gas levels detected and a description of the immediate steps taken to protect human health. Implement a remediation plan that meets the requirements of Utah Admin. Code R315-303-3(5)(b) and shall submit the plan to, and receive approval from, the Director prior to implementation.

The Permittee shall operate and maintain the active landfill gas collection system consisting of:

1. Vertical gas extraction wells installed within the lined landfill cells
2. Blower and flare system to collect and treat the gas

H. Air Monitoring

ECDC is required to install, maintain and monitor for PCBs in an air monitoring station at each of two locations: the PCB landfill cell and the rotary dump facility. Each of these monitoring stations shall be placed at locations that are most likely to detect airborne particulates that could transport PCBs.

ECDC shall monitor the air at the rotary dump facility and at the top of the berm of the disposal cell as required by the EPA and at other locations within the facility boundaries to establish background levels of particulate transport. Results of monitoring events shall be reported to the Division within 30 days of completing the monitoring event. Results of the monitoring events shall be evaluated by the Division to determine if new monitoring locations are required.

I. Waste Inspections

The Permittee shall visually inspect incoming waste loads to verify that no wastes other than those allowed by this permit are disposed in the landfill. A complete waste inspection shall be conducted at a minimum frequency of 1 % of incoming loads, but no less than one complete inspection per day. Loads to be inspected are to be chosen on a random basis.

All loads that the operator suspects may contain a waste not allowed for disposal at the landfill will be inspected.

Complete random inspections shall be conducted as follows:

1. The operator shall conduct the random waste inspection at the working face or an area designated by the operator.

2. The load to be inspected will be chosen on a random basis;

3. Loads subjected to complete inspection shall be unloaded at the designated area;

4. Loads shall be spread by equipment or by hand tools;

5. A visual inspection of the waste shall be conducted by personnel trained in hazardous waste recognition and recognition of other unacceptable wastes.

I. Disposal of Liquids

Disposal of containers larger than household size (five gallons) holding any liquid, noncontainerized material containing free liquids, sludge containing free liquids, or any waste containing free liquids in containers larger than five gallons is prohibited.

Disposal of organic liquids is prohibited in the TSCA cell. Containers of liquid wastes shall be segregated and solidified prior to disposal in the TSCA cell.

J. Disposal of Special Wastes

Animal carcasses may be disposed at the landfill working face and must be covered with other solid waste or earth by the end of the operating day in which they are received. Asbestos waste shall be handled and disposed in accordance with Utah Admin. Code-315-315-2.

Incinerator ash shall be transported so as to prevent leakage or the release of fugitive dust. The ash shall be completely covered with a minimum of six inches of material, or use other methods or material, if necessary, to control fugitive dust. Ash may be used for daily cover when its use does not create a human health or environmental hazard.

K. Self Inspections

The Permittee shall inspect the facility to prevent malfunctions and deterioration, operator errors, and discharges that may cause or lead to the release of wastes or contaminated materials to the environment or create a threat to human health. These general inspections shall be completed no less than quarterly and shall cover the following areas: Waste placement, compaction, cover; cell liner; leachate collection system; fences and access controls; roads; run-on/run-off controls; ground water monitoring wells; final and intermediate cover; litter controls; and records. A record of the inspections shall be placed in the daily operating record on the day of the inspection. Areas needing correction, as noted on the inspection report, shall be corrected in a timely manner. The corrective actions shall be documented in the daily operating record.

L. Recordkeeping

The Permittee shall maintain and keep on file at the management office, a daily operating record and other general records of landfill operation as required by Utah Admin. Code R315-302-2(3).

The daily operating record shall include the following items:

1. The number of loads of waste and the weight of waste received each day of operation and recorded at the end of each operating day;

2. Major deviations from the approved plan of operation recorded at the end of the operating day the deviation occurred;

3. Results of other monitoring required by this permit recorded in the operating record on the day of the event or the day the information is received;

4. Records of all inspections conducted by the Permittee, results of the inspections, and corrective actions taken shall be recorded in the record on the day of the event.

The general record of landfill operations shall include the following items:

1. A copy of this permit (Permit #9422R1) including the permit application;

2. Results of inspections conducted by representatives of the Utah Division of Solid and Hazardous Waste, representatives of the Southeast Utah Health Department, or both, when those results are forwarded to the Permittee;

3. Closure and Post-closure care plans;

4. Records of employee training;

5. Results of groundwater monitoring; and

6. Results of landfill gas monitoring.

7. Results of air monitoring.

M. Reporting

The Permittee shall prepare and submit, to the Director, an Annual Report as required in Utah Admin. Code R315-302-2(4). The Annual Report shall include: the period covered by the report, the annual quantity of waste received, an annual update of the financial assurance mechanism, any leachate analysis results, all ground water monitoring results, the statistical analysis of ground water monitoring results, the results of gas monitoring, the quantity of leachate pumped, and all training programs completed.

N. Roads

All access roads within the landfill boundary used for transporting waste to the landfill for disposal shall be improved and maintained as necessary to assure safe and reliable all-weather access to the disposal area.

IV. CLOSURE REQUIREMENTS

A. Closure

Final cover of the landfill shall be as shown in the permit application. A quality assurance plan for construction of the final landfill cover shall be submitted to Director. The Director must approve this plan prior to construction of any part of

the final cover at the landfill. A qualified third party shall perform permeability testing on the recompacted clay placed as part of the final cover.

This facility has demonstrated through geologic, hydrogeologic, climatic, waste stream, cover material properties, infiltration factors, and other factors that the landfill will not contaminate ground water and is approved for the alternative cover design as outlined in the permit application (Documents #05.01852 and #05.04064). Any contamination of ground water resulting from the landfill may result in the revocation of this alternative cover design approval and placement of a cover design meeting the requirements of the rules or other remedial action as required by the Director. The basis for approval of the alternative cover design n is found in the "Alternative Cover Design Statement of Basis" found in Appendix A.

B. Title Recording

The Permittee shall meet the requirements of Utah Admin. Code R315-302-2(6) by recording with the Carbon County Recorder as part of the record of title that the property has been used as a landfill.

C. Post-Closure Care

Post-closure care at the closed landfill shall be done in accordance with the Post-Closure Care Plan contained in the permit application. Post-closure care shall continue until all waste disposal sites at the landfill have stabilized and the finding of Utah Admin. Code R315-302-3(7)(c) is made.

D. Financial Assurance

The Permittee shall keep in effect and active the currently approved financial assurance mechanism or another mechanism that meets the requirements of Utah Admin. Code R315-309 to cover the costs of closure and post-closure care at the landfill. The financial assurance mechanism shall be adequately maintained to provide for the cost of closure at any stage or phase or anytime during the life of the landfill or the permit life, whichever is shorter.

E. Financial Assurance Annual Update

An annual revision of closure and post-closure costs and financial assurance mechanism as required by R315-309-2(2) shall be submitted to the Director as part of the annual report.

F. Closure Cost and Post-Closure Cost Revision

The Permittee shall submit a complete revision of the closure and post-closure cost estimates by the date listed on the signature page of this permit.

V. ADMINISTRATIVE REQUIREMENTS

A. Permit Modification

Modifications to this permit may be made upon application by the Permittee or by the Director. The Permittee will be given written notice of any permit modification initiated by the Director.

B. Permit Transfer

This permit may be transferred to a new permittee or new permittees by meeting the requirements of the permit transfer provisions of Utah Admin. Code R315-310-11.

C. Expansion

This permit is for the operation of a Class V Landfill according to the design and Operation Plan described and explained in the permit application. Any expansion of the current footprint designated in the description contained in the permit application, but within the property boundaries designated in the permit application, will require submittal of plans and specifications to the Director. The plans and specifications must be approved by the Director prior to construction.

Any expansion of the landfill facility beyond the property boundaries designated in the description contained in the permit application will require submittal of a new permit application in accordance with the requirements of Utah Admin. Code R315-310 and Utah Code Ann. § 19-6-108(1)(d) including all approvals required in Utah Code Ann. § 19-6-108.

Any addition to the acceptable wastes described in Section 1B will require submittal of all necessary information to the Director and the approval of the Director. Acceptance for PCB bulk product waste under Utah Admin. Code R315-315-7(3)(b) can only be done after submittal of the required information to the Director and modification of Sections 1B and IC of this permit. Acceptance of a broader waste stream may also require a new permit and compliance with the requirements for a new permit under Utah Admin. Code R315-301 through 320 and Utah Code Ann. § 19-6-108.

D. Expiration

This permit shall expire ten years from the effective date which is the date shown on the signature (first) page of this permit. Application for permit renewal shall be made at least 180 days prior to the expiration of this permit. If a timely renewal application is made and the permit renewal is not complete by the expiration date, this permit will continue in force until renewal is completed or denied.

VI. RADIOACTIVE WASTE RESTRICTIONS

ECDC shall conduct operations and perform radiation monitoring of all waste streams entering the facility for disposal as follows:

A. All waste streams shall be monitored for external gamma radiation prior to disposal in any operating cell.

B. The threshold for external gamma radiation of the waste that will be allowed to enter the cell without further investigation shall be based on the existing background gamma radiation of the facility and shall not exceed two times the background radiation of the facility. Monitoring shall be recorded and records shall be maintained as part of the record for daily operations.

C. Should any waste stream exhibit a radiological characteristic that exceeds the threshold external gamma radiation (Radiological Event), the Division of Solid and Hazardous Waste (DSHW) shall be notified and the event entered in the Daily Operating Record of the facility. The waste shall not enter the disposal cell until the Division of Radiation Control has approved the waste for disposal in the cell.

D. ECDC shall not accept any waste streams that are classified as "Radioactive Materials" by any of the following:
   1. As defined in Utah Admin. Code R313; or
   2. By the state where the waste originates; or
   3. As determined by a Federal Agency.

E. ECDC shall test waste received from a "facility", as defined by CERCLA, Section 101(9), that has or has had radioactive materials contained on that facility. The test shall be done in a manner consistent with what is required of a radioactive waste facility in Utah. The frequency of testing of waste from a "facility" shall be the following:
   1. Each railcar or once per 100 tons for the first 10 railcars or the first 1000 tons;

2. Thereafter, once per 10 railcars or once for every additional 1000 tons.

F. ECDC shall perform the following calibration and maintenance schedule for all installed radiation monitoring equipment:

1. Annual calibration of detectors and monitors by qualified personnel, such as the equipment manufacturer;

2. Monthly maintenance inspections using a radiation check source to insure that all installed radiation detectors alarm and record in accordance with design specifications.

G. Any noncompliance with conditions VI(A-G) shall constituted a violation of this permit.

APPENDIX A

STATEMENT OF BASIS FOR ALTERNATIVE FINAL COVER

ECDC has submitted a plan that proposes to use an alternative final cover design for the final cover of this cell. Each landfill cell or construction event is evaluated as a separate construction event and must include the documentations required by the Division to make a determination that the alternative final cover is designed in accordance with the Division's requirements. Accordingly, the *Utah Solid Waste Permitting and Management Rules, R315-303-3(4)* states that the standard cover design shall consist of:

> *a layer to minimize infiltration, consisting of at least 18 inches of compacted soil, or equivalent, with a permeability of 1 X10 $^{-5}$ cm/sec or less, or equivalent, shall be placed upon the final lifts.* and;
>
> *The Director may approve an alternative final cover design, on a site specific basis, if it can be demonstrated that the alternative final cover design provides equivalent reduction in infiltration as specified as the standard design.*

For alternative final cover demonstrations, the Division requires that the facility test the materials that will be used in the cover design, including the quantities, borrow sources, moisture/density characteristics, and the moisture characteristic curve that is used in the modeling of the proposed cover design. The facility then models the final cover under normal (average) climate conditions until a steady-state of the moisture within the final cover is achieved.

After the final cover has achieved this steady state condition, the facility is required to model the final cover design under high precipitation (wet) weather conditions and low precipitation (dry) weather conditions. These two conditions determine if: 1) the proposed alternative cover design can prevents excessive water from percolating through the liner during multiple years of high precipitation; and 2) determines if the alternative cover will prevent excessive water from percolating through the cover even when there may not be enough moisture in the cover to sustain plant growth during seasons of low precipitation.

In conclusion, the Director finds that the demonstration included in the ECDC Class V Landfill Permit Application has demonstrated that the alternative final cover design can achieve the design requirement of infiltration below 3 mm/year. The Director has determined that infiltration rates below 3 mm/year under the conditions of high moisture years and low moisture years is sufficient demonstration of an equivalent final cover design.

APPENDIX B

STATEMENT OF BASIS FOR LINER DESIGN MODIFICATION

ECDC has submitted a plan that proposes to use an alternative liner design for the floor area of the cell. In 2004, ECDC proposed to modify the floor design of Supercell #1. The documents supporting this permit modification were submitted and the public participation phase of the permit modification proceeded. This permit modification process was discontinued prior to the construction of the Supercell #1. At that time, ECDC indicated that the documents to proceed with the modification of the liner floor design would be incorporated into the permit renewal for the facility.

The landfill design for ECDC has evolved over the last 10 years to place the greatest amount of leak protection in the portions of the landfill that could be exposed to the leachate retained within the landfill. The embankment (sides) of the landfill are sloped at a grade of 2:1 and will drain water immediately. Since this portion of the landfill would not be expected to pose a risk potential for leaks, the standard HDPE liner and GCL is considered sufficient for environmental protection. The current embankment design is as follows from the top down:

- 24" Protective cover
- 60 mil HDPE
- GCL liner
- Geosynthetic cushion layer
- Subgrade.

Likewise, the sump design of the landfill has been enhanced for the SuperCell design to include two composite liners and a 3 foot clay layer that has been compacted and is less permeable than $1x10^{-7}$ cm/s. This sump design is more stringent than the standard design of two feet of compacted clay and a single HDPE liner. The Division feels that this sump design provides the most environmental protection at the portion of the landfill that contains leachate and is the part of the landfill that has the most potential for leakage. There are no proposed design modifications to the sump design. The sump design is as follows from the top down:

- 24" Protective soil cover
- Nonwoven geotextile filter fabric/Drainage net
- 1" minus rounded washed gravel
- Nonwoven geotextile protective layer
- 60 mil HDPE liner
- GCL liner
- 3 feet compacted clay $1x10^{-7}$ cm/sec permeability
- 60 mil HDPE liner
- GCL liner
- Geosynthetic cushion layer below GCL
- Subgrade

The permit renewal application proposes to modify the design of the floor of the landfill. The floor of the landfill is that portion of the landfill that is below the embankment and above the sump. The slop of the floor is 2% toward the sump.

The current floor design of the landfill is as follows from the top down:

- 24" Protective soil layer
- Nonwoven geotextile filter fabric/Drainage net
- 60 mil HDPE liner
- GCL liner
- 18" thick separation soil
- Nonwoven geotextile filter fabric/Drainage net
- 60 mil HDPE liner
- GCL liner
- 6" thick soil cushion layer
- Subgrade

The alternative design approved in this permit for the floor design is as follows from the top down:

- 24" Protective soil layer
- Nonwoven geotextile filter fabric/Drainage net
- 60 mil HDPE liner
- GCL liner
- 6" thick soil cushion layer
- Subgrade

ECDC has performed an analysis of the impact of removing this composite liner from the floor of the landfill. In this analysis, ECDC has also included an enhanced quality control and quality assurance (QC/QA) technique for installing HDPE liners. The modeling of the impact of removing a liner and implementing the testing is presented in Document #2007.01511 entitled "Permit Modification Proposed Alternative Bottom Liner Design".

Leakage of liquid through the landfill cell floor is determined mainly by two factors: the head of liquid above the surface and the number of pinholes and defects in the HDPE liner. The head of liquid means the amount of height of liquid above the surface that provides the driving force for the liquid to pass through a pinhole in the HDPE liner. The slope of the floor and the geonet immediately above the HDPE liner reduces the liquid head by allowing any liquids to quickly flow to the sump. Without any liquid head, leakage through the HDPE liner is drastically reduced or eliminated.

Liner defects are usually separated into large holes, such as tears or punctures, during the installation of the liner and small holes such as pinholes that occur during the manufacture of the HDPE liner. The occurrence of pinhole leaks in the liner are difficult determine by sight during the liner installation and the large holes usually occur during protective placement. Liner placement technical literature reviewed by the Division staff estimated that 73% of large holes occur the liner is installed and inspected. Consequently, ECDC proposes to implement a testing

methodology after the protective cover is applied on top of the liner. By implementing this enhanced testing protocol, it is anticipated that the number of pinholes can be reduced and that installation defects occurring after the protective cover placement are identified and repaired before the landfill is used.

The results of the modeling predict that the leakage through the landfill is reduced even when one liner is removed from the floor section of the landfill due to the enhanced testing of the liner installation. ECDC has committed to enhancing the installation of the floor liner system by using the best available quality control and quality assurance for electrically detecting leaks in the liner installation at the time of cell construction. This most current technique for detecting potential leaks in the liner after installation is described in Document #0701511.

The Division of Solid and Hazardous Waste has reviewed this change and concluded that the removal of the HDPE/GCL composite liner from the floor portion of the landfill combined with the enhanced liner testing does not reduce the environmental integrity of the landfill.

Each landfill cell or construction event is evaluated as a separate construction event and must include the documentations required by the Division to make a determination that the alternative final cover is designed in accordance with the Division's requirements.