

DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL
SOLID WASTE LANDFILL PERMIT

PacifiCorp Hunter Plant Class IIIb Landfill

Pursuant to *Utah Solid and Hazardous Waste Act*, Title 19, Chapter 6, Part 1, Utah Code Annotated (Utah Code Ann.) (the Act) and the *Utah Solid Waste Permitting and Management Rules*, Utah Administrative Code R315-301 through 320 adopted thereunder, a Permit is issued to

PacifiCorp as owner and operator,

to own, construct, and operate the Hunter Plant Class IIIb located in S ½ 15 N ½ 22 of Section NE/NW Township 19S, Range 8 E, Salt Lake Base and Meridian, Emery County, Utah as shown in the Permit Renewal Application that was determined complete on October 5, 2018.

The Permittee is subject to the requirements of R315-301 through 320 of the Utah Administrative Code and the requirements set forth herein.

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

This Permit shall become effective _____ 2018.

This Permit shall expire at midnight _____ 2028.

Closure Cost Revision Date: _____, 2023.

Signed this _____ day of _____, 2018.

Scott T. Anderson, Director
Utah Division of Waste Management and Radiation Control

FACILITY OWNER/OPERATOR INFORMATION

LANDFILL NAME: PacifiCorp Hunter Plant Class IIIb Landfill

OWNER NAME: PacifiCorp

OWNER ADDRESS: 1407 W. North Temple, Room 210

OWNER PHONE NO.: (435) 748-5114

OPERATOR NAME: PacifiCorp

OPERATOR ADDRESS: Highway 10 South of Castle Dale
Castle Dale, UT 84513

OPERATOR PHONE: Tyson Ekker, 435-748-5114

TYPE OF PERMIT: Class IIIb Landfill

PERMIT NUMBER: 003R1

LOCATION: Landfill site is located at Lat. 39 degrees 09' 34"
seconds, Long. 111° 00' 34"

PERMIT HISTORY Permit renewal signed **INSERT DATE SIGNED**

The term, "Permit," as used in this document is defined in R315-301-2(55) of the Utah Administrative Code. Director as used throughout this permit refers to the Director of the Division of Solid and Hazardous Waste.

The renewal application, including *Industrial Landfill Permit Renewal Application Hunter Power Plant, December 13, 2016, DSHW 2016-013855*, as deemed complete on the date shown on the signature page of this Permit, is hereby incorporated by reference into this Solid Waste Permit and shall 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 R315-301-5(2) of the Utah Administrative Code. The Permit Application shall become part of the daily operating record of the Landfill. Where differences in wording exist between this Permit and the application, the wording of this Permit supersedes that of the application.

This Permit consists of the signature page, Facility Owner/Operator Information section, sections I through V, and the Permit Application as defined above.

The facility as described in this Permit consists of a disposal cell for all permitted Class IIIb waste streams.

Compliance with 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 other than those inherent in this Permit. Nor does this Permit 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 is 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.

By this Permit, the Permittee is subject to the following conditions.

PERMIT REQUIREMENTS

I. GENERAL COMPLIANCE RESPONSIBILITIES

I.A. General Operation

- I.A.1. The Permittee shall operate the landfill in accordance with all applicable requirements of R315-304 of the Utah Administrative Code, 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 R315-301 through 320 of the Utah Administrative Code 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.

I.B. Acceptable Waste

- I.B.1. Scrap metal, wood, paper, demolition waste, plastic products, food scraps, and miscellaneous plant industrial waste.
- I.B.2. This Permit is for disposal of nonhazardous industrial waste, as defined in R315-301-2(35) of the Utah Administrative Code, generated by PacifiCorp Hunter Power Plant and as described in the Permit Application.

I.C. Prohibited Waste

- I.C.1. Hazardous waste as defined by R315-260-10 and R315-261-3 of the Utah Administrative Code;
- I.C.2. PCB's as defined by R315-301-2(53) of the Utah Administrative Code, except PCB's specified by R315-315-7(2)(a) and (c) of the Utah Administrative Code;
- I.C.3. Household waste;
- I.C.4. Municipal waste;
- I.C.5. Special waste except as specified in this Permit;
- I.C.6. Dead Animals
- I.C.7. Commercial waste; and
- I.C.8. Containers larger than household size (five gallons) holding any liquid, non-containerized material containing free liquids or any waste containing free liquids in containers larger than five gallons.
- I.C.9. Hazardous waste as defined by R315-1 and R315-2 of the Utah Administrative Code, except waste specified by R315-303-4(7)(a)(i)(B) of the Utah Administrative Code;
- I.C.10. Regulated asbestos-containing material.

I.C.11. Any prohibited waste received and accepted for disposal at the facility shall constitute a violation of this Permit, of Utah Code Ann. § 19-6-101 through 123 and of R315-301 through 320 of the Utah Administrative Code.

I.D. Inspections and Inspection Access

I.D.1. The Permittee shall allow the Director or an authorized representative, or representatives from the Central Utah Health Department, to enter at reasonable times and:

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

I.D.1.a.(i) Have access to and copy any records required to be kept under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;

I.D.1.a.(ii) 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 R315-301 through 320 of the Utah Administrative Code; and

I.D.1.a.(iii) Create a record of any inspection by photographic, video, electronic, or any other reasonable means.

I.E. Noncompliance

I.E.1. If monitoring, inspection, or testing indicates that any permit condition or any applicable rule under R315-301 through 320 of the Utah Administrative Code 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.

I.E.2. In the event of noncompliance with any permit condition or violation of an applicable rule, the Permittee shall promptly take any 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.

I.E.3. The Permittee shall:

I.E.3.a Document the noncompliance or violation in the daily operating record, on the day the event occurred or the day it was discovered;

I.E.3.b Notify the Director of the Utah Division of Waste Management and Radiation Control by telephone within 24 hours, or the next business day following documentation of the event; and

I.E.3.c Give written notice of the noncompliance or violation and measures taken to protect human health and the environment within seven days after Director notification.

- I.E.4. Within thirty days after 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.
- I.E.5. 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 R315-301 through 320 of the Utah Administrative Code and this Permit.
- I.F. Revocation
- I.F.1. This Permit is subject to revocation if the Permittee fails to comply with any condition of the Permit. The Director will notify the Permittee in writing prior to any proposed revocation action and such action shall be subject to all applicable hearing procedures established under R305-7 of the Utah Administrative Code and the Utah Administrative Procedures Act.
- I.G. Attachment Incorporation
- I.G.1. 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.
- II. DESIGN AND CONSTRUCTION**
- II.A. Design and Construction
- II.A.1. The landfill shall be constructed according to the design outlined in Attachment 2 and in the area designated in, including landfill cells, fences, gates, and berms prior to acceptance of waste.
- II.A.2. The Permittee shall notify the Director upon completion of construction of any landfill cells or run-on and run-off diversion systems. No landfill cells or run-on and run-off diversion system may be used until construction is approved by the Director and this permit modified.
- II.A.3. The Permittee shall notify the Director of the completion of construction of any final cover system and shall provide all necessary documentation and shall apply for approval of the construction from the Director and modification of this permit.
- II.A.4. If ground water is encountered during excavation of the landfill, the Director shall be notified immediately, and an alternative construction design developed and submitted for approval.
- II.B. Run-On Control

- II.B.1. The Permittee shall construct drainage channels and diversions as specified in Attachment 2 and shall maintain them at all times to effectively prevent runoff from the surrounding area from entering the landfill.

III. LANDFILL OPERATION

III.A. Operations Plan

- III.A.1. The Permittee shall keep the Operations Plan included in Attachment 1 on site at the landfill or at the location designated in section III-H of this Permit. The Permittee shall operate the landfill in accordance with the operations plan. If necessary, the Permittee may modify the Operations Plan, provided that the modification meets all of the requirements of R315-301 through 320 of the Utah Administrative Code, is as protective of human health and the environment as the Operations Plan approved as part of this Permit, and is approved by the Director as a permit modification under R315-311-2(1) of the Utah Administrative Code. The Permittee shall note any modification to the Operations Plan in the daily operating record.
- III.A.2. The Permittee shall submit any modification to the Operations Plan to the Director for approval.

III.B. Security

- III.B.1. The Permittee shall operate the Landfill so that unauthorized entry to the facility is restricted. The Permittee shall:
- III.B.1.a Lock all facility gates and other access routes during the time the landfill is closed.
- III.B.1.b Have at least one person required on site employed by the Permittee at the landfill during all hours that the landfill is open.
- III.B.1.c Construct all fencing and any other access controls as shown in Attachment 2 to prevent access by persons or livestock by other routes.

III.C. Training

- III.C.1. The Permittee shall provide training for on-site personnel in landfill operation, including waste load inspection, hazardous waste identification, and personal safety and protection.

III.D. Burning of Waste

- III.D.1. Except as provided in this paragraph, intentional burning of solid waste is prohibited and is a violation of R315-303-4(2)(b) of the Utah Administrative Code. The Permittee is allowed to burn material by complying with the requirements of R307-202-5 of the Utah Administrative Code. The Permittee shall perform such burning in a segregated area within the landfill site. The Permittee shall extinguish all accidental fires as soon as reasonably possible. The Permittee's non-compliance with R307-202-5 of the Utah Administrative Code, as determined by the Director of the Division of Waste Management and Radiation Control, also constitutes non-compliance with this Permit.
- III.D.2. The permittee shall extinguish all accidental fires as soon as reasonably possible.

III.E. Cover

- III.E.1. The Permittee shall cover the waste as necessary to prevent fires and to control vectors, blowing litter, odor, scavenging, and fugitive dust. The Permittee shall cover wastes that are capable of attracting or providing food for vectors, materials that may become windblown litter or fine materials that may become fugitive dust with a minimum of six inches of earth at the end of the working day in which the wastes are received. The Permittee may use an alternative cover material when the material and operation meets the requirements of R315-303-4(4)(b) through (e) of the Utah Administrative Code.
- III.E.2. The Permittee shall use a minimum of six inches of earthen cover or ash no less than once each month for all wastes received at the landfill.
- III.E.3. The Permittee shall record in the daily operating record and the operator shall certify, at the end of each day of operation when soil or an alternative cover is placed, the amount and type of cover placed and the area receiving cover.

III.F. Waste Inspections

- III.F.1. 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. The Permittee shall conduct inspections at a minimum frequency of 1% of incoming loads no less than once per month.
- III.F.2. The Permittee shall inspect all loads suspected or known to have one or more containers capable of holding more than five gallons of liquid to ensure that each container is empty.
- III.F.3. The Permittee shall inspect all loads that the Permittee suspect may contain a waste not allowed for disposal at the landfill.
- III.F.4. The Permittee shall conduct complete random inspections as follows:
- III.F.4.a The Permittee shall conduct the random waste inspection at the working face or an area designated by the Permittee.
- III.F.4.b The Permittee shall direct that loads subjected to complete inspection be unloaded at the designated area;
- III.F.4.c Loads shall be spread by equipment or by hand tools;

III.F.4.d Personnel trained in hazardous waste recognition and recognition of other unacceptable waste shall conduct a visual inspection of the waste; and

III.F.4.e The personnel conducting the inspection shall record the results of the inspection on a waste inspection form as found in Attachment 3. The Permittee shall place the form in the daily operating record at the end of the operating day.

III.F.4.f The Permittee or the waste transporter shall properly dispose of any waste found that is not acceptable at the facility at an approved disposal site for the waste type and handle the waste according to the rules covering the waste type.

III.G. Self-Inspections

III.G.1. 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 or the environment. The Permittee shall complete these general inspections no less than quarterly and shall cover the following areas: Waste placement, compaction, cover; fences and access controls; roads; run-on/run-off controls; final and intermediate cover; litter controls; and records. The Permittee shall place a record of the inspections in the daily operating record on the day of the inspection. The Permittee shall correct the problems identified in the inspections in a timely manner and document the corrective actions in the daily operating record.

III.H. Recordkeeping

III.H.1. The Permittee shall maintain and keep on file at Hunter Power Plant office a daily operating record and other general records of landfill operation as required by R315-302-2(3) of the Utah Administrative Code. The landfill operator, or other designated personnel, shall date and sign the daily operating record at the end of each operating day. Each record to be kept shall contain the signature of the appropriate operator or personnel and the date signed. The Daily operating record shall consist of the following two types of documents:

III.H.1.a Records related to the daily landfill operation or periodic events including:

III.H.1.a.(i) The number of loads of waste and the weights or estimates of weights or volume of waste received each day of operation and recorded at the end of each operating day;

III.H.1.a.(ii) Major deviations from the approved plan of operation recorded at the end of the operating day the deviation occurred;

III.H.1.a.(iii) Results of monitoring required by this Permit recorded in the daily operating record on the day of the event or the day the information is received;

III.H.1.a.(iv) 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.

III.H.1.b Records of a general nature including:

III.H.1.b.(i) A copy of this Permit, including all attachments;

III.H.1.b.(ii) Results of inspections conducted by representatives of the Director of the Division of Waste Management and Radiation Control, and of representatives of the local Health Department, when forwarded to the Permittee;

III.H.1.b.(iii) Closure and Post-closure care plans; and

III.H.1.b.(iv) Records of employee training.

III.I. Reporting

III.I.1. The Permittee shall prepare and submit to the Director an Annual Report as required by R315-302-2(4) of the Utah Administrative Code. 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, a re-application for approval of the financial assurance mechanism and all training programs completed.

III.J. Roads

III.J.1. The Permittee shall improve and maintain all access roads within the landfill boundary that are used for transporting waste to the landfill for disposal as necessary to assure safe and reliable all-weather access to the disposal area.

III.K. Litter Control

III.K.1. Litter resulting from operations of the landfill shall be minimized. In addition to the litter control plans found in Attachment 1, the Permittee shall implement the following procedures when high wind conditions are present:

III.K.1.a Reduce the size of the tipping face;

III.K.1.b Reduce the number of vehicles allowed to discharge at the tipping face at one time;

III.K.1.c Orient vehicles to reduce wind effects on unloading and waste compaction;

III.K.1.d Reconfigure tipping face to reduce wind effect;

III.K.1.e Use portable and permanent wind fencing as needed; and

III.K.1.f Should high winds present a situation that the windblown litter cannot be controlled, the Permittee shall cease operations of the landfill until the winds diminish.

III.L. Ground Water Monitoring

- III.L.1. The ground water monitoring requirement for the PacifiCorp Hunter Power Plant Class IIIb landfill has been waived in accordance with R315-308-1(3) of the Utah Administrative Code. Any contamination of ground water resulting from operation of the landfill shall result in the revocation of this waiver.

IV. **CLOSURE REQUIREMENTS**

IV.A. Closure

- IV.A.1. Final cover of the landfill shall be as shown in Attachment 2. The final cover shall meet, at a minimum, the standard design for closure as specified in R315-305-5(5)(b) of the Utah Administrative Code.
- IV.A.2. The Permittee shall install final cover of the landfill as shown in Attachment 2. The final cover shall meet, at a minimum, the standard design for closure as specified in the R315-303-3(4) of the Utah Administrative Code plus sufficient cover soil or equivalent material to protect the low permeability layer from the effects of frost, desiccation, and root penetration. The Permittee shall submit to the Director a quality assurance plan for construction of the final landfill cover, and approval of the plan shall be received from the Director prior to construction of any part of the final cover at the landfill. A qualified person not affiliated with the Permittee or the construction contractor shall perform permeability testing on the recompacted clay placed as part of the final cover.

IV.B. Title Recording

- IV.B.1. The Permittee shall meet the requirements of R315-302-2(6) of the Utah Administrative Code by recording a notice with the Emery County Recorder as part of the record of title that the property has been used as a landfill. The notice shall include waste disposal locations and types of waste disposed. The Permittee shall provide the Director the notice as recorded.

IV.C. Post-Closure Care

- IV.C.1. The Permittee shall perform post-closure care at the closed landfill 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 R315-302-3(7)(c) of the Utah Administrative Code is made.

IV.D. Financial Assurance

IV.D.1. The Permittee shall keep in effect and active the currently approved financial assurance mechanism or another approved mechanism that meets the requirements of R315-309 of the Utah Administrative Code and is approved by the Director to cover the costs of closure and post-closure care at the landfill. The Permittee shall adequately fund and maintain the financial assurance mechanism(s) 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(include the following for a trust fund), and the Permittee shall fully fund the trust fund within ten years of the date waste is first received at the landfill.

IV.E. Financial Assurance Annual Update

IV.E.1. The Permittee shall submit an annual revision of closure and post-closure costs for inflation and financial assurance funding as required by R315-309-2(2) of the Utah Administrative Code, to the Director as part of the annual report. The Permittee shall submit the information as required in R315-309-9 of the Utah Administrative Code and shall meet the qualifications for the "Corporate Financial Test" or "Corporate Guarantee" each year.

IV.F. Closure Cost and Post-Closure Cost Revision

IV.F.1. The Permittee shall submit a complete revision of the closure and post-closure cost estimates by the Closure Cost Revision Date listed on the signature page of this Permit and any time the facility is expanded, any time a new cell is constructed, or any time a cell is expanded.

V. V. ADMINISTRATIVE REQUIREMENTS

V.A. Permit Modification

V.A.1. Modifications to this Permit may be made upon application by the Permittee or by the Director following the procedures specified in R315-310-11-2 of the Utah Administrative Code. The Permittee shall be given written notice of any permit modification initiated by the Director.

V.A.2. Permit Transfer

V.A.2.a This Permit may be transferred to a new permittee or new permittees by complying with the permit transfer provisions specified in R315-310-11 of the Utah Administrative Code.

V.B. Expansion

V.B.1. This Permit is for the operation of a Class IIb 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, shall require submittal of plans and specifications to the Director. The plans and specifications shall be approved by the Director prior to construction.

- V.B.2. Any expansion of the landfill facility beyond the property boundaries designated in the description contained in the Permit Application shall require submittal of a new Permit Application in accordance with the requirements of R315-310 of the Utah Administrative Code.
- V.B.3. Any addition to the list of acceptable waste in Section I-B shall require submittal of all necessary information to the Director and the approval of the Director.
- V.C. Expiration
- V.C.1. If the Permittee desires to continue operating this landfill after the expiration date of this Permit, the Permittee shall submit an application for permit renewal at least six months prior to the expiration date, as shown on the signature (cover) page of this Permit. If the Permittee timely submits a permit renewal application and the permit renewal is not complete by the expiration date, this Permit shall continue in force until renewal is completed or denied.

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Attachment 1

Operations Plan

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2.2 PLAN OF OPERATION (R315-310-3(1)(e))

2.2.1 Intended Construction Schedule (R-315-302-2(2)(a))

Industrial wastes were placed in a specific area in the north-central portion of the ash embankment area, designated the Primary Industrial Waste Site. This designated site is approximately 6.2 acres, and is filled to capacity at an elevation of 5650 feet above sea level. Industrial wastes are currently placed in an area approximately 9.8 acres designated as the Secondary Industrial Waste Site near the north boundary of the embankment area.

A 30-year design life was established by the Hunter Plant for the CCR embankment in 1997. The Primary Industrial Waste Site is estimated to be filled to capacity in 2006, and the Secondary Industrial Waste Site will last until end of the CCR landfill life in 2042. See Plan Sheet 3 (General Arrangement), for location of the Primary and Secondary Industrial Waste Site locations. Also refer to Plan Sheets 5 & 6 (Ash Pile Development Layout #1 and #2). These maps are located in Tab 2 of this document.

2.2.2 On-Site Waste Handling Procedures (R315-302-2(2)(b)) and (R315-310-3(1)(f))

The industrial waste landfill will be operated in compliance with Utah DWMRC regulations. Materials disposed of in the landfill will be compacted to the smallest practical volume before final placement against the working face and covered. At the end of the operating day when material is disposed of in the landfill, after compacting and pushing the waste material against the working face, the material will be completely covered with at least 6 inches of earth, bottom ash or other suitable cover material. This is part of the litter, rodent and insect control procedures. The working area will be so developed that water will not be allowed to pond above or in the operating area. The working face will be kept small for fugitive dust control.

Hazardous or PCB containing wastes are excluded from the industrial landfill. At least one percent (1%) of waste loads will be reviewed and characterized in detail and recorded on a log sheet. Inspection procedures will consist of the waste being spread out on the ground, and the perimeter of the waste walked to check for hazardous or PCB containing materials. Inspection details will be recorded on a log sheet. The log sheet instructs that hazardous wastes are not permitted in the landfill, and contains a list of prohibited materials. Any prohibited materials will be removed from the waste load, containerized, and reported to the Landfill Manager. A copy of the Weight and Volume Log Sheet used by landfill personnel is included in Appendix C.

2.2.3 Landfill Inspections and Monitoring (R315-302-2(2)(c)), (R315-302-2(5)(a)) and (R315-310-3(1)(g))

Monthly inspections of the industrial landfill will be conducted to identify problems in time to correct them before they harm human health or the environment. Please see Appendix C for the Monthly Landfill Inspection form.

2.2.4 Fire/Explosion Contingency Plans (R315-302-2(2)(d))

The *Hunter Plant Emergency Procedures* shall be abided by in the event of a fire, explosion, and other releases such as explosive gases or run-off collection failure. A complete copy of the *Hunter Plant Emergency Procedures* is included in Appendix E.

2.2.5 Ground Water Corrective Action Program (R315-302-2(2)(e))

An investigation shall be initiated if contamination is detected in the groundwater. The investigation shall involve working in cooperation with state agencies to determine the extent of the problem and the proper remedial actions.

2.2.6 Contingency Plans for Other Releases (R315-302-2(2)(f))

The *Hunter Plant Emergency Procedures* shall be abided by in the event of a fire, explosion, and other releases such as explosive gases or run-off collection failure. A complete copy of the *Hunter Plant Emergency Procedures* is located in Appendix E.

2.2.7 Fugitive Dust Control (R315-302-2(2)(g))

The *Hunter Power Plant Fugitive Dust Control Plan* contains detailed descriptions of the methods to be implemented for controlling dust. The plan identifies primary sources of fugitive dust at the plant (which include the ash haul road and landfill), establishes work practices and procedures that minimize fugitive dust, and describes visual indicators to determine the appropriate level of control necessary to achieve dust control. The primary method outlined in controlling dust on the ash haul road and landfill is frequent use of water. If the use of water and other operational procedures do not adequately control dust, a variety of other control alternatives may be utilized. A copy of the plant *Fugitive Dust Control Plan* is included in Appendix F of the *Landfill Operations Plan*.

2.2.8 Plan for Litter Control and Collection (R315-302-2(2)(h))

At the end of the operating day when material is disposed of in the landfill, after compacting and pushing the waste material against the working face, the material will be completely covered with at least 6 inches of earth, bottom ash, or other suitable cover material. Litter control along the access roads and at the facility shall be accomplished by clean-up of the areas as often as necessary to prevent unsightly conditions or windblown materials leaving the site.

2.2.9 Maintenance of Installed Equipment (R315-302-2(2)(i))

As a Class IIIb landfill, the Hunter Industrial Solid Waste Landfill does not operate or maintain any leachate systems, gas collection systems or ground water monitoring systems.

2.2.10 Exclusion of Hazardous/PCB Waste (R315-302-2(2)(j))

Hazardous or PCB containing wastes are excluded from the landfill. Each load of waste material is reviewed and characterized by the truck driver and recorded on a log sheet. The driver is instructed and the log sheet reminds him that hazardous wastes are not permitted in the landfill. A copy of the Log Sheet used by landfill personnel is included in Appendix C.

2.2.11 Control of Disease Vectors (R315-302-2(2)(k))

At the end of the operating day when material is disposed of in the industrial landfill, after compacting and pushing the waste material against the working face, the material will be completely covered with at least 6 inches of earth, fly ash or other suitable cover material. This is part of the litter, rodent and insect control procedures.

2.2.12 Alternative Waste Handling (R315-302-2(2)(l))

In the occurrence that the industrial landfill is inoperative, solid waste shall be sent to the ECDC Landfill at East Carbon or the Emery County Landfill.

2.2.13 General Safety Training for Site Operations (R315-302-2(2)(o))

The Hunter Plant through the plant Environmental Engineer and Training Coordinator shall conduct CCR and industrial waste training seminars to involved PacifiCorp employees and Contractor's personnel. Generally, training seminars will be conducted when operating personnel changes are made by PacifiCorp or the Contractor. Also, training seminars are to be conducted when major changes in the *Landfill Operations Plan* occur. This training should be performed as needed to assist the employees in executing and fulfilling their responsibilities. Training records should be kept identifying who has been trained, the training subject, and the date trained.

Please refer to Appendix C for a copy of the Industrial Waste Landfill Training Sign-In Sheet.

2.2.14 Any Recycling Programs Planned at the Facility (R315-303-4(6))

Hunter Power Plant recycles as much scrap metal as practicable with a minimal amount disposed of in the industrial landfill. In addition, lead acid batteries, anti-freeze, electronic components, and used oil are recycled. No other wastes are recycled at the plant.

2.2.15 Regulatory Requirements of Rule R315-304 (R315-310-5(2)(e))

Included is an excerpt from the Hunter Power Plant *Landfill Operations Plan*, Regulatory Requirements section:

Utah Administrative Code Regulation R315-304 applies to the Hunter Plant industrial landfill operations. These regulations classify industrial landfills into two categories: Class IIIa and Class IIIb. The Hunter Plant industrial landfill meets the requirements for a Class IIIb classification. The landfill is not open to the public, it receives waste generated solely from on site and it does not receive hazardous waste. Industrial waste has been received at the landfill prior to 1998; thus the landfill is an existing Class IIIb landfill. Existing Class IIIb landfills have no siting restrictions.

The regulatory requirements for operation, closure and post-closure care for Class IIIb landfills are summarized below:

- 1. Develop, keep on file, and abide by a plan of operation approved by the Utah Department of Environmental Quality (UDEQ) Executive Secretary. The plan of operation shall include the following:*
 - A. Intended Schedule of Construction*
 - B. Description of on-site solid waste handling procedures*
 - C. Schedule for conducting inspections and monitoring the facility*
 - D. Contingency plans in the event of a fire or explosion*
 - E. Contingency plans for other releases such as failure of run-off containment system*
 - F. Plan to control fugitive dust*
 - G. Procedures for excluding the receipt of hazardous waste or waste containing PCBs*
 - H. Closure and post-closure care plans*
 - I. Cost estimates and financial assurance*
 - J. General training and safety plan for site operators*
- 2. Maintain and keep on-site or at a location approved by the UDEQ Executive Secretary the following:*
 - A. Weights or volumes, number of vehicles entering and the types of wastes received each day*
 - B. Deviations from the approved plan of operation*

- C. *Training and notification procedures*
 - D. *Inspection log*
 - E. *Closure and post-closure care plans*
 - F. *Cost estimates and financial assurance documentation*
3. *Prepare an annual report and place the report in the facility's operating record. The annual report shall cover facility activities during the previous year and must include the following information:*
- A. *Name and address of facility*
 - B. *Calendar year covered by the report*
 - C. *Annual quantity in tons or cubic yards and estimated in-place density in pounds per cubic yard of solid waste handled*
 - D. *Annual update of the required financial assurance mechanism*
 - E. *Training programs or procedures completed*
4. *Inspect the landfill facility to prevent malfunctions and deterioration, operator errors, and discharges which may cause or lead to the release of wastes to the environment or to a threat to human health. These inspections must be conducted with sufficient frequency (no less than quarterly) to identify problems in time to correct them before they harm human health or the environment. The inspection log or summary shall include the following:*
- A. *Date and time of inspection*
 - B. *Printed name and handwritten signature of the inspector*
 - C. *Notation of observations made and the date and nature of any repairs or corrective action*
 - D. *Logs must be kept for a minimum of three years*
5. *Design the landfill to minimize the acceptance of liquids and control storm water run-on/run-off.*
6. *Provide for the following:*
- A. *Fencing at the property boundary or the use of other artificial or natural barriers to impede entry by the public and large animals. A lockable gate shall be required at the entry to the landfill.*
 - B. *Erecting a sign at the facility entrance that identifies at least the name of the facility, unacceptable materials, and an emergency telephone number.*
 - C. *Adequate fire protection to control any fires that may occur at the facility.*
 - D. *Preventing the potential harborage in active areas of rat and other vectors*

- E. *Minimize the size of the unloading area and working face as much as possible*
 - F. *Approach and exit roads of all-weather construction, with traffic separation and traffic control on-site and at the site entrance*
 - G. *Communication, such as telephone or radio, between employees working at the landfill and management offices to handle emergencies.*
- 7. *Prevent the disposal of unauthorized waste by ensuring that at least one person is on site during hours of operation and shall prevent unauthorized disposal during off-hours by controlling entry.*
- 8. *Employ measures to prevent emissions of fugitive dusts, when weather conditions or climate indicate that transport of dust off-site is liable to create a nuisance.*
- 9. *Cover timber, wood, and other combustible waste with a minimum of six inches of soil, or equivalent, to avoid a fire hazard.*
- 10. *Plans and a statement of fact concerning the location of any disposal site shall be recorded as part of the record of title with the county recorder not later than 60 days after certification of closure.*
- 11. *Close the facility in a manner that will:*
 - A. *Minimize the need for maintenance*
 - B. *Minimize or eliminate threats to human health and the environment from escape of solid waste constituents, leachate, gases, or contaminated run-off to the groundwater, surface water, or the atmosphere*
 - C. *Prepare the facility for the post-closure period*
- 12. *Develop, keep on file and abide by a closure plan approved by the UDEQ Executive Secretary.*
- 13. *The closure plan shall project time intervals at which sequential partial closure, if applicable, is to be implemented and identify closure cost estimates and projected fund withdrawal intervals for the associated closure costs from the approved financial assurance instrument.*
- 14. *Landfills shall be closed by:*
 - A. *Leveling the waste*
 - B. *Covering the waste with a minimum of 2 feet of soil, including six inches of topsoil*
 - C. *Contouring the cover to minimum 2 percent surface slopes and maximum 33 percent side slopes, except where integrity and erosion control can be demonstrated at steeper slopes*
- 15. *Notify the UWMRC Director of the intent to implement the closure plan in whole or part, 60 days prior to the project final receipt of waste at the unit or facility.*

16. *Commence implementation of the closure plan, in part or whole, within 30 days after final elevation is attained in part or all of the facility closure plan. Closure activities shall be completed within 180 days from their starting time.*
17. *Within 90 days following completion of closure, submit to the DWMRC Director the following:*
 - A. *Facility or unit closure plan sheets signed by a professional engineer registered in the state of Utah, and modified as necessary to represent as-built changes to final closure construction as approved in the closure plan*
 - B. *Certification by the owner or operator and a professional engineer registered in the state of Utah that the site or unit has been closed in accordance with the approved closure plan.*
18. *Provide post-closure activities for facility maintenance and monitoring of gases, land, and water for 30 years or as long as the DWMRC Director determine is necessary for the facility to become stabilized and to protect human health and the environment.*
19. *Develop, keep on file, and abide by a post-closure plan. The post-closure plan shall project time intervals at which post-closure activities are to be implemented and identify post-closure cost estimates and project fund withdrawal intervals from the selected financial assurance instrument.*
20. *Commence post-closure activities after closure activities have been completed.*
21. *Submit a certification to the DWMRC Director when post-closure activities are complete, signed by the owner or operator and a professional engineer registered in the state of Utah stating why post-closure activities are no longer necessary.*

The Hunter Plant will continue to comply with the rules and regulations stated in this section throughout the life of the landfill. A complete copy of the Hunter Power Plant *Landfill Operations Plan* is located in Appendix D.

2.2.16 Additional Site Information (R315-302-2(2)(p))

Additional site specific information concerning the landfill may be requested by the Utah DWMRC. If this situation occurs, PacifiCorp will supply the information to the DWMRC as soon as practicable.

3.0 PART III – TECHNICAL REPORT

3.1 MAPS

3.1.1 Topographic Map (R315-310-4(2)(a)(i))

Plan Sheet 3 (CCR Landfill, General Arrangement) is a detailed topographic map, with design details included to show important features of the Hunter landfill unit. The scaled map shows the boundaries of the Primary and Secondary Industrial Waste Sites, design and location of run-on/runoff control structures, as well as site cross-sections, survey control data, and miscellaneous site details.

3.1.2 U.S.G.S. Topographic Map (R315-310-4(2)(a)(ii))

The most recent USGS 7 ½ minute series topographic map (Castle Dale, Utah) is also included as Plan Sheet 1, showing the waste facility boundary, property boundary, existing utilities and structures within ¼-mile of the site, and the direction of prevailing winds.

3.2 ENGINEERING REPORT

3.2.1 Landfill Design & Operation Details (R315-310-3(1)(b))

This section addresses cell design, cover design, fill methods, and elevation of the final cover, including plans and drawings.

The Primary Industrial Waste Site has been closed to new industrial waste, and has not been seeded or had top soil applied. The Primary Industrial Waste Site area will be under the CCR Landfill. The landfill will grow vertically as the plant continues to place CCR waste on the landfill. (See Plan Sheet 3 – CCR Landfill, General Arrangement). The Secondary Industrial Waste Site, which is currently in use, has also been designated near the north boundary of the embankment area. This area is approximately 9.8 acres, and will provide additional industrial waste capacity at the landfill.

Also refer to Plan Sheet 5 (30-Year Plan, Cell Layout #1), Plan Sheet 6 (30-Year Plan, Cell Layout #2).

3.2.2 Run-Off/Run-On Control Systems (R315-310-5(2)(b))

The existing storm water retention pond provides the necessary requirements for controlling storm water runoff from the active phases of the landfill. The storm water management plan encompasses the entire landfill, not just the industrial waste areas. The intent of the storm water control system is to retain all storm water onsite, with only emergency discharge offsite. Precipitation that falls on the landfill area is transmitted to ditches along the perimeter of the landfill, then to the detention pond east of the landfill. To promote runoff, as opposed to infiltration of rainfall into the wastes, the waste surface

should be sloped at a minimum of 2 percent to the northeast. Any potential run-on from offsite areas should be collected in swales or ditches at the landfill boundary and transmitted around the perimeter of the landfill to the detention basin or back to its existing drainage.

The detention pond is designed to contain the required potential precipitation for the entire landfill. Runoff calculations for both precipitation and snow melt were performed. The Utah Department of Natural Resources, Dam Safety Division was contacted. The State requires using a 6-hour, 100-year storm event and 100-year snow total for runoff and snowmelt calculations. The data for these two criteria were obtained from the National Weather Service.

The detention pond should be cleaned out as necessary when they begin to fill with sediment or ash. Monitoring of the storm water detention basins can be accomplished by placing a stake or staff gauge to monitor the sediment level.

3.3 CLOSURE PLAN (R315-310-3(1)(h))

The Industrial Landfill will be closed in 2042, as detailed in this document.

3.3.1 Closure Schedule (R315-310-4(2)(d)(i))

A 30-year design life was established for the entire landfill in 1997. The Primary Industrial Waste Site was filled to capacity in 2006, and the Secondary Industrial Waste Site, which is currently in use, will last until end of the landfill life in 2042.

3.3.2 Final Cover Design (R315-310-4(2)(c)(iii))

At a minimum, the final cover system must be designed and constructed to meet the criteria specified in section 257.100: *Inactive CCR Surface Impoundments* of USEPA 40CFR Part 257. The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less. The infiltration of liquids through the CCR unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material. The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of 6 inches of earthen material that is capable of sustaining native plant growth. The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence. Should additional CCR disposal cells be proposed over the top of the industrial cells, the final cover design may be revised.

The cover systems will be fertilized and seeded to promote the growth of vegetation that will minimize erosion and maintenance requirements for the cover system. Specific seeding and fertilizing recommendations are summarized in the Landfill Closure section of the *Landfill Operations Plan*, located in Appendix D.

Once industrial landfill cells reach capacity, a minimum of 2-feet of bottom ash will be placed over the cells as an intermediate cover. The integrity of the intermediate cover will be maintained by plant personnel. This cover will minimize dusting problems during embankment construction and operation of the CCR landfill. Final closure of all cells will be completed after the CCR landfill reaches capacity.

3.3.3 Site Capacity (R315-310-4(2)(d)(ii))

A 30-year design life was established for the entire landfill in 1997. The Primary Industrial Waste Site is estimated to be filled to capacity in 2006, and the Secondary Industrial Waste Site will last until end of the landfill life in 2042. The average volume of industrial wastes placed in the landfill is 6,939 cubic yards per year, based on data from 2010 through 2015.

3.3.4 Final Regulatory Inspection (R315-310-4(2)(d)(iii))

After all closure operations are complete, a final inspection will be conducted by the appropriate regulatory agencies.

3.4 POST – CLOSURE CARE PLAN (R315-310-3(1)(h))

3.4.1 Site Monitoring (R315-310-4(2)(e)(i))

PacifiCorp will provide care for the landfill facility following the date of final completion of closure in a manner that assures the facility and facility structures are maintained and operated as intended. The post-closure plan will include operation and maintenance of both the industrial and CCR portions of the landfill. The facility will be inspected quarterly for evidence of run-on, erosion of the final cover, and ponding of water on the final cover. Appropriate actions to correct these conditions will be undertaken and may include construction of drainage ditches or diversion dikes to prevent run-on, repair of erosion damage, as well as repair and grading of areas of ponding water on the final cover.

PacifiCorp will assure that a healthy vegetative cover is established and maintained over the site. The facility will be inspected quarterly for areas of poor vegetative cover. Such areas will be prepared and reseeded in order to establish adequate vegetative cover. Annual fertilization of the facility will be undertaken at least until the vegetative cover is established sufficiently to render such maintenance unnecessary.

Drainage ditches and the storm water retention pond will be maintained until the vegetative cover is established sufficiently to render such maintenance unnecessary. Drainage ditches will be inspected quarterly for evidence of restricted flow caused by erosion or sedimentation. Such blockages will be removed expeditiously. The storm water retention pond will be inspected quarterly for evidence of sedimentation.

3.4.2 Title and Land Use Changes/Zoning Restrictions (R315-310-4(2)(e)(v))

At this time, the anticipated land use following closure is Hunter Plant CCR Landfill expansion, or wildlife habitat. Any alternative land uses will be submitted to the department for approval prior to initiation of construction or development.

A sample deed notice is outlined below:

CAUTION! THE PROPERTY MORE COMPLETELY DESCRIBED BELOW HAS BEEN USED FOR AN INDUSTRIAL SOLID WASTE DISPOSAL FACILITY. THE COMPLETE LEGAL DESCRIPTION IS:

Insert complete legal description here

DISPOSED MATERIALS INCLUDE SCRAP METAL, WOOD, PAPER, DEMOLITION WASTE, PLASTIC PRODUCTS, FOOD SCRAPS, AND MISCELLANEOUS PLANT INDUSTRIAL WASTE.

Any changes to the record of title, land use, or zoning restrictions will be submitted to the department for approval prior to construction or development.

3.4.3 Post-Closure Maintenance (R315-310-4(2)(e)(iii))

PacifiCorp will maintain the approved final contours and drainage system of the site to minimize precipitation run-on, minimize erosion, optimize drainage of precipitation, and provide a surface drainage system which in no way adversely affects proper drainage from adjacent lands. The facility will be inspected quarterly for evidence of run-on, erosion of the final cover, and ponding of water on the final cover. Appropriate actions to correct these conditions will be undertaken and may include construction of drainage ditches or diversion dikes to prevent run-on, repair of erosion damage, as well as repair and grading of areas to eliminate ponding water on the final cover.

PacifiCorp will assure that a healthy vegetative cover is established and maintained over the site. The facility will be inspected quarterly for areas of poor vegetative cover. Such areas will be prepared and reseeded in order to establish adequate vegetative cover. Annual fertilization of the facility will be undertaken at least until the vegetative cover is established sufficiently to render such maintenance unnecessary.

Drainage ditches and the storm water holding basin will be maintained until the vegetative cover is established sufficiently to render such maintenance unnecessary. Drainage ditches will be inspected quarterly for evidence of restricted flow caused by erosion or sedimentation. Such blockages will be removed expeditiously. The storm water holding basin will be inspected quarterly for evidence of sedimentation.

3.4.4 Contact Information (R315-310-4(2)(e)(vi))

The primary contact for the Hunter Landfill is listed below:

NAME	Tyson Ekker
MAILING ADDRESS	P.O. Box 569 Castle Dale, UT 84513
PHYSICAL ADDRESS	Hwy 10, South of Castle Dale Castle Dale, UT 84513
TELEPHONE NUMBER	435-748-5114

3.5 FINANCIAL ASSURANCE

PacifiCorp has developed Closure and Post-Closure cost estimates for the Hunter Power Plant Industrial Solid Waste Landfill, pursuant to Utah DSHW regulations and associated guidance documents. Estimates are provided for a third-party to conduct and complete closure activities.

3.5.1 Closure Cost Calculations (R315-310-4(2)(d)(iv))

Closure costs were calculated, in current dollars, for a third party to conduct and complete closure activities at the landfill. A Landfill Closure Cost Estimate Worksheet was developed using the Utah DSHW *Preparation of Solid Waste Facility Closure and Post-Closure Cost Estimates* Guidance Document. The total closure costs for the Hunter Industrial Waste landfill is **\$864,775.22**. The worksheet is included in Appendix F, along with detailed reference information and assumptions used to develop the costs.

3.5.2 Post-Closure Cost Calculations (R315-310-4(2)(e)(iv))

Post-closure costs were calculated, in current dollars, for a third party to conduct and complete post-closure activities at the landfill. A Landfill Closure Cost Estimate Worksheet was developed using the Utah DSHW *Preparation of Solid Waste Facility Closure and Post-Closure Cost Estimates* Guidance Document. The total post-closure costs for the Hunter Industrial Waste landfill is **\$1,111,520.02**. The worksheet is included in Appendix F, along with detailed reference information and assumptions used to develop the costs.

3.5.3 Financial Assurance Mechanism (R315-309-1(1))

A corporate financial test agreed upon between PacifiCorp and the Utah DWMRC will be used to ensure that closure and post-closure activities are completed. Financial Assurance information is located in Appendix G.

4.0 REFERENCES

Hunter Power Plant; *Industrial Landfill Operations Manual*.

Hunter Power Plant; *Emergency Chemical Spill Contingency Plan*.

Utah Division of Solid and Hazardous Waste; *Solid Waste Rules (Section R315-301 through 320)*.

USEPA 40CFR Part 257 Subpart D; *Section 257.100 (Inactive CCR Surface Impoundments)*

Utah Division of Waste Management and Radiation Control; Various Guidance Documents

Discussions with PacifiCorp personnel.

Attachment 2

Landfill Operations Landfill Design, Final Cover and Closure Plans

DRAFT

APPENDIX D.
Hunter Power Plant Landfill Operations Plan

DRAFT

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Introduction

The Hunter Power Plant, majority owned by and totally operated by PacifiCorp, is a coal-fired electrical generation plant located near Castle Dale in Emery County, Utah. The Hunter Plant disposes of industrial wastes at its industrial landfill site on the power plant facility. The plant expanded the combustion waste site in 1997, with an expected life through 2042.

This *Landfill Operations Plan* describes the physical characteristics of the site, as well as details and procedures for industrial waste disposal, remaining development of the industrial landfill, site drainage and storm water control, and closure and post-closure of the industrial landfill.

Existing Site Operations

The Hunter Power Plant is a three-unit coal-fired electric generating plant. The baseload for Units 1 and 2 is approximately 430 net megawatts each, and Unit 3 is approximately 460 net megawatts. The plant produces the following combustion wastes associated with the electric generation operations: fly ash, bottom ash, pyrites, slaker grits, and scrubber sludges. These wastes are disposed of in the ash landfill.

In addition, non-combustion wastes from dredging ponds and basins, sludges from sumps and vessels, and plant industrial wastes are generated and disposed of at the industrial landfill. The industrial landfill is a specific area of the ash landfill and is subject to the conditions of an industrial waste permit issued by the State of Utah.

The hauling and placement of wastes is contracted to a third party trucking company, who provides the equipment and labor necessary to haul, place, and compact the wastes in the industrial landfill. The plant uses large dumpsters (approximately 30-yard capacity) located at various locations around the facility. These dumpsters are hauled to the landfill on a weekly basis by another contractor.

The access road from the main plant to the disposal site has two different types of construction. Starting from the main plant area, the haul road is an asphalt paved road. Prior to crossing Rock Creek, this road turns to a bottom ash/gravel road base material. Dust control and safety issues require speed limits. The regular speed limit from the plant to the recovery basin pump house is 15 mph, and 35 mph from the pump house to the disposal site. The paved portion of the haul road is kept clean by periodically flushing the surface with water from water trucks to minimize dust and tracking ash onto the plant roads. The unpaved portion is also periodically watered to control fugitive dust.

Environmental Site Conditions

The environmental site conditions discussed below include a description of the general plant area, site geology, and drainage conditions.

The Hunter Power Plant property consists of approximately 2000 acres located at an elevation of 5,600 feet above sea level. The plant site is east of the North Horn Mountains and three miles south of Castle Dale, Utah. The community of Castle Dale is located on Utah State Highway 10, 30 miles southwest of Price, Utah. The plant site is located in the Castle Valley area. Native soils over which the landfill is sited consist of Chipeta Series soils underlain by Mancos Shale. The Chipeta Series soils are calcareous, well drained and moderately fine saline silty clay loam texture, approximately 10 to 20 inches deep. The underlying Mancos Shale is a gray, consolidated, fissile, calcareous mudstone with interbeds of thin sandstone and siltstone.

Average precipitation is between 6 and 10 inches per year, with the main season of rainfall occurring in late July through October. 10 to 20 inches of snow can be expected in the winter, representing between one and two inches of the annual precipitation. Skies are clear about 225 days per year. Winds are light to moderate in all seasons. The strongest winds normally blow from the south during the spring. Temperature ranges normally from a low of near 10 degrees Fahrenheit in January to as high as 90 degrees in July. Existing surface water flow outside the landfill is diverted around the site and back into the normal drainage. Storm water falling inside the landfill site is directed to an evaporation pond east of the landfill.

Design Assumptions

Critical design assumptions used in preparing this plan include a description and quantity of the industrial wastes and the regulatory framework for disposal of industrial wastes. Please refer to the Reference Drawings in Appendix A for landfill design and site development details.

Waste Description and Quantities

The different wastes currently disposed of at the landfill include the following:

- Miscellaneous industrial wastes are produced including paper products, plastic and metal drums, dirt, wood products, lunchroom wastes, scrap metal, and drained filters. The average volume of these wastes is 6,939 cubic yards per year, based on data from 2010 through 2015. Hazardous or PCB containing wastes are excluded from the landfill.
- Sludges are produced from the wash bay sump, auto shop sump, circ water holding basin, and the wastewater holding basin. All sludges will be dewatered and must pass a paint filter test before being disposed of in the landfill.

Regulatory Requirements

The Utah Administrative Code has exempted ash and flue gas desulfurization wastes from coal burning power plants from the requirements contained in the solid waste regulations. Because industrial wastes that are not exempt are disposed of at the landfill, Utah Administrative Code Regulation R315-304 applies to the Hunter Plant industrial landfill operations. These regulations classify industrial landfills into two categories: Class IIIa and Class IIIb. The Hunter Plant industrial landfill meets the requirements for a Class IIIb classification. The landfill is not open to the public, it receives waste generated solely from

on site and it does not receive hazardous waste. Industrial waste has been received at the landfill prior to 1998; thus the landfill is an existing Class IIIb landfill. Existing Class IIIb landfills have no siting restrictions.

The regulatory requirements for operation, closure and post-closure care for Class IIIb landfills are summarized below:

1. Develop, keep on file, and abide by a plan of operation approved by the Utah Division of Waste Management and Radiation Control Director. The plan of operation shall include the following:
 - A. Intended Schedule of Construction
 - B. Description of on-site solid waste handling procedures
 - C. Schedule for conducting inspections and monitoring the facility
 - D. Contingency plans in the event of a fire or explosion
 - E. Contingency plans for other releases such as failure of run-off containment system
 - F. Plan to control fugitive dust
 - G. Procedures for excluding the receipt of hazardous waste or waste containing PCBs
 - H. Closure and post-closure care plans
 - I. Cost estimates and financial assurance
 - J. General training and safety plan for site operators
2. Maintain and keep on-site in the plant environmental files the following information:
 - A. Weights or volumes, number of vehicles entering and the types of wastes received each day
 - B. Deviations from the approved plan of operation
 - C. Training and notification procedures
 - D. Inspection log
 - E. Closure and post-closure care plans
 - F. Cost estimates and financial assurance documentation
3. Prepare an annual report and place the report in the facility's operating record. The annual report shall cover facility activities during the previous year and must include the following information:
 - A. Name and address of facility
 - B. Calendar year covered by the report

- C. Annual quantity in tons or cubic yards and estimated in-place density in pounds per cubic yard of solid waste handled
 - D. Annual update of the required financial assurance mechanism
 - E. Training programs or procedures completed
4. Inspect the landfill facility to prevent malfunctions and deterioration, operator errors, and discharges which may cause or lead to the release of wastes to the environment or to a threat to human health. These inspections must be conducted with sufficient frequency (no less than quarterly) to identify problems in time to correct them before they harm human health or the environment. The inspection log or summary shall include the following:
- A. Date and time of inspection
 - B. Printed name and handwritten signature of the inspector
 - C. Notation of observations made and the date and nature of any repairs or corrective action
 - D. Logs must be kept for a minimum of three years
5. Design the landfill to minimize the acceptance of liquids and control storm water run-on/run-off.
6. Provide for the following:
- A. Fencing at the property boundary or the use of other artificial or natural barriers to impede entry by the public and large animals. A lockable gate shall be required at the entry to the landfill.
 - B. Erecting a sign at the facility entrance that identifies at least the name of the facility, unacceptable materials, and an emergency telephone number.
 - C. Adequate fire protection to control any fires that may occur at the facility.
 - D. Preventing the potential harborage in active areas of rat and other vectors
 - E. Minimize the size of the unloading area and working face as much as possible
 - F. Approach and exit roads of all-weather construction, with traffic separation and traffic control on-site and at the site entrance
 - G. Communication, such as telephone or radio, between employees working at the landfill and management offices to handle emergencies.
7. Prevent the disposal of unauthorized waste by ensuring that at least one person is on site during hours of operation and shall prevent unauthorized disposal during off-hours by controlling entry.
8. Employ measures to prevent emissions of fugitive dusts, when weather conditions or climate indicate that transport of dust off-site is liable to create a nuisance.

9. Cover timber, wood, and other combustible waste with a minimum of six inches of soil, or equivalent, to avoid a fire hazard.
10. Plans and a statement of fact concerning the location of any disposal site shall be recorded as part of the record of title with the county recorder not later than 60 days after certification of closure.
11. Close the facility in a manner that will:
 - A. Minimize the need for maintenance
 - B. Minimize or eliminate threats to human health and the environment from escape of solid waste constituents, leachate, gases, or contaminated run-off to the groundwater, surface water, or the atmosphere
 - C. Prepare the facility for the post-closure period
12. Develop, keep on file and abide by a closure plan approved by the DWMRC Director.
13. The closure plan shall project time intervals at which sequential partial closure, if applicable, is to be implemented and identify closure cost estimates and projected fund withdrawal intervals for the associated closure costs from the approved financial assurance instrument.
14. Landfills shall be closed by:
 - A. Leveling the waste
 - B. Placing a minimum of 2-feet of bottom ash over the industrial waste cells as an intermediate cover, until the ash landfill has reached capacity. The integrity of the intermediate cover will be maintained by plant personnel.
 - C. Covering the waste with a minimum of 2 feet of soil, including six inches of topsoil
 - D. Contouring the cover to a minimum 2 percent surface slopes and maximum 33 percent side slopes, except where integrity and erosion control can be demonstrated at steeper slopes
15. Notify the DWMRC Director of the intent to implement the closure plan in whole or part, 60 days prior to the project final receipt of waste at the unit or facility.
16. Commence implementation of the closure plan, in part or whole, within 30 days after final elevation is attained in part or all of the facility closure plan. Closure activities shall be completed within 180 days from their starting time.
17. Within 90 days following completion of closure, submit to the DWMRC Director the following:
 - A. Facility or unit closure plan sheets signed by a professional engineer registered in the state of Utah, and modified as necessary to represent as-built changes to final closure construction as approved in the closure plan

- B. Certification by the owner or operator and a professional engineer registered in the state of Utah that the site or unit has been closed in accordance with the approved closure plan.
18. Provide post-closure activities for facility maintenance and monitoring of gases, land, and water for 30 years or as long as the DWMRC Director determine is necessary for the facility to become stabilized and to protect human health and the environment.
 19. Develop, keep on file, and abide by a post-closure plan. The post-closure plan shall project time intervals at which post-closure activities are to be implemented and identify post-closure cost estimates and project fund withdrawal intervals from the selected financial assurance instrument.
 20. Commence post-closure activities after closure activities have been completed.
 21. Submit a certification to the DWMRC Director when post-closure activities are complete, signed by the owner or operator and a professional engineer registered in the state of Utah stating why post-closure activities are no longer necessary.

Site Development

Industrial wastes are placed in a specific area in the north-central portion of the ash embankment area, designated the Primary Industrial Waste Site (See Plan Sheet 3 - CCR Landfill, General Arrangement). This designated site is approximately 6.2 acres, and will be filled to the same final elevation as the ash disposal. At this time, no ash disposal is planned to take place over the top of this area. The Primary Industrial Waste Site has been filled to capacity, and a Secondary Industrial Waste Site has also been designated near the north boundary of the embankment area. This area is approximately 9.8 acres, and will provide additional industrial waste capacity at the landfill. Plan Sheet 5, Industrial Waste Typical Cross Sections, for the Primary and Secondary Waste Industrial Waste Sites show the cell construction, slope, and final cover details.

Landfill Phasing

The closure of the landfill, to include both the ash disposal area and the industrial waste site, will occur as the areas or cells are filled to their intended limits. Once industrial landfill cells reach capacity, a minimum of 2-feet of bottom ash will be placed over the cells as an intermediate cover. The integrity of the intermediate cover will be maintained by plant personnel. This cover will minimize dusting problems during embankment construction and operation of the ash landfill. Final closure of all cells will be completed after the ash landfill reaches capacity. The final side slopes and top slopes of the industrial waste sites will be closed according to Utah industrial landfill regulations, as detailed in the Landfill Closure section of this document.

A 30-year design life was established for the entire landfill in 1997. The Primary Industrial Waste Site is estimated to be filled to capacity in 2006, and the Secondary Industrial Waste Site will last until end of the landfill life in 2042.

Industrial Wastes

The Primary Industrial Waste Site, presently located within the boundaries of the existing ash landfill, receives miscellaneous non-hazardous wastes generated on site, including some food scraps, paper products, empty metal, plastic and glass containers, dunnage, construction materials and other trash. The industrial waste sites will be operated in general compliance with **Utah Division of Solid and Hazardous Waste** regulations. Non-commercial industrial solid waste disposal facility requirements are as follows: (Ref Utah R315-304-6)

- a. Materials disposed of in the landfill will be compacted to the smallest practical volume before final placement against the working face and covered.
- b. At the end of the operating day when material is disposed of in the landfill, after compacting and pushing the waste material against the working face, the material will be completely covered with at least 6 inches of earth, fly ash or other suitable cover material. This is part of the litter, rodent and insect control procedures.
- c. The working area will be developed so that water will not be allowed to pond above or in the operating area. The working face will be kept small for fugitive dust control.
- d. When the primary waste area has been filled to design capacity, the cell will be covered with 2 feet of compacted cover soil, including six inches of topsoil. It is possible that cells of ash could be placed above the industrial waste fill sometime in the future. For that reason, the final vertical and horizontal dimensions of the closed industrial waste area will be established by land survey and permanently recorded, along with dates the facility was opened and closed.
- e. Qualified personnel shall be at the facility to supervise activities during the operating days waste material is hauled to the facility to ensure the waste material is dumped in the designated location, compacted, and covered by the end of that operating day.
- f. Open burning shall not be permitted.
- g. Litter control along the access roads and at the facility shall be accomplished by clean-up of the areas as often as necessary to prevent unsightly conditions or windblown materials leaving the site.
- h. Provisions for dust control at the facility and along the access roads shall be implemented as necessary, normally in conjunction with similar controls associated with the ash landfill operations.
- i. Appropriate rodent and insect control procedures shall be implemented as necessary.
- j. Note that water treatment plant and digested wastewater treatment plant sludges containing no free moisture shall be placed on the working face and covered with other solid wastes or suitable cover material.
- k. Monthly inspections of the Primary Industrial Waste Site will be conducted to identify problems in time to correct them before they harm human health or the environment.
- l. The *Hunter Plant Emergency Procedures* shall be abided by in the event of a fire, explosion, and other releases such as explosive gases or runoff collection failure.
- m. A corrective action program shall be implemented if ground water is contaminated. Please refer to the *Monitoring* section of this document for details.

- n. Hazardous or PCB containing wastes are excluded from the landfill. Each load of waste material is reviewed and characterized by the truck driver and recorded on a log sheet. The driver is instructed and the log sheet reminds him that hazardous wastes are not permitted in the landfill.
- o. In the occurrence that the industrial landfill is inoperative, solid waste will be sent to the East Carbon Landfill or Emery County Landfill.

Sludge Wastes

Combustion wastes and flue gas desulfurization sludge wastes can be disposed of in the non-permitted portion of the landfill, because they are exempt. Non exempt sludges and wet wastes cannot be disposed of in the exempt portion of the landfill, and must be dewatered and then placed in the industrial waste site for disposal. All the rules for weighing and logging each load, as well as compacting and covering, apply to these wastes.

Alternative Plan for Waste Handling

In the occurrence that the industrial landfill is inoperative, solid waste shall be sent to the East Carbon Landfill or the Emery County Landfill.

Slopes

Final side slopes of the industrial landfill will be no steeper than 33%. It is suggested that temporary slopes be the same. The top slope shall decline 2% toward the northeast, which is consistent with the surrounding ash landfill.

Monitoring

Landfill inspections will be conducted monthly to identify problems in time to correct them before they harm human health or the environment.

Corrective Action Plan for Contaminated Ground Water

An investigation shall be initiated if contamination is detected in ground water. The investigation shall involve working in cooperation with state agencies to determine the extent of the problem and the proper remedial actions.

Contingency Plan

The *Hunter Plant Emergency Procedures* shall be abided by in the event of a fire, explosion, and other releases such as explosive gases or run-off collection failure.

Landfill Closure

This section details the final cover system, seeding and fertilizing, and storm water management.

Final Cover System

The regulations for final cover systems for industrial landfills in Utah consist of 2 feet of soil cover including 6 inches of topsoil to support vegetative cover. This standard cover system only applies to the plant waste areas that will be permitted as an industrial landfill (Primary and Secondary Industrial Waste Sites). The recommended cover system for the Primary and Secondary Industrial Waste Sites are 18 inches of compacted borrow cover soil and 6 inches of topsoil, for a total of 24 inches. The current cover design specifies that the 24-inch soil cover will be purchased from an off-site source. The first 18-inches of cover will be compacted to a permeability of no less than 1×10^{-5} cm/sec. For the remaining non-permitted areas of the landfill it is anticipated that 12 inches of cover soil be placed over the completed landfill. Should additional ash disposal cells be proposed over the top of the industrial cells, the final cover design may be revised.

The cover systems should be fertilized and seeded to promote the growth of vegetation that will minimize erosion and maintenance requirements for the cover system. Specific seeding and fertilizing recommendations are summarized in the following paragraphs.

Seeding and Fertilizing

Once the final landfill slopes and elevations have been formed, a layer of bottom ash and pyrites should be placed to reduce the generation of dust and to provide a suitable surface for growing vegetation. Next, the required two feet of soil cover (for the industrial waste sites) should be placed over the bottom ash, with the upper six inches being topsoil for the final root zone material.

Seeding specifications are detailed in Specification No. STD-Y-02934, adopted from the Utah Department of Transportation (UDOT). Specific seeding procedures of the selected plant species will be dependent on the slope of the land and the selected method of seeding. On the flatter slopes (3:1 or flatter) seeding is best done with a Brillion-type grain seed drill followed by a ring roller. Prior to seeding on the flatter slopes, a commercial fertilizer (500 pounds per acre of 15-15-15 or equivalent) may be broadcast over the entire area to be seeded. Slopes steeper than 3:1 are included into the landfill closure design. A copy of the UDOT seeding specification is located in Appendix B.

If temporary irrigation is available, then seeding can be done in September or early October. Otherwise seeding should be done in mid-October. An appropriate final reclamation seeding mix for Desert Salt Shrub, as defined by the Price, Utah BLM is presented in Table 1 on the following page.

Another option for grassing the landfill would be the recommendations of the Utah Department of Wildlife Resources. These recommendations were developed with the intent of producing browse for deer. The requirements from Wildlife Resources involve more stringent seeding requirements that are not required for erosion control.

Unless the more stringent deer browse seeding requirements are necessary, it is recommended that the natural seed mix described in Table 1 be used for the final vegetative cover.

TABLE 1

Recommended Vegetative Cover		
Grasses and Forbs	Scientific Name	Pounds/acre
Indian ricegrass	Oryzopsis hymenoides	2
Squirreltail	Elymus elymoides	2
Galleta	Hilaria jamesii	2
Lewis flax	Linum perenne lewisii	1
Palmer penstemon	Penstemon palmerii	1
Gooseberryleaf globemallow	Sphaeralcea grossulariifolia	0.5
Shrubs		
Forage kochia	Kochia prostrata	2
Rubber rabbitbrush	Chrysothamnus nauseosus	1
Fourwing saltbush	Atriplex canescens	2
Winterfat	Krasheninmkovia (Eurotia) lanata	2
TOTAL		15.5

Storm Water Management

The existing storm water retention pond provides the necessary requirements for controlling storm water runoff from the active phases of the landfill. The storm water management plan encompasses the entire landfill, not just the industrial waste areas. The intent of the storm water control system is to retain all storm water onsite with only emergency discharge offsite. Precipitation that falls on the landfill area is transmitted to ditches along the perimeter of the landfill, then to the detention pond east of the landfill. To promote runoff, as opposed to infiltration of rainfall into the wastes, the waste surface should be sloped at a minimum of 2 percent to the northeast. Any potential run-on from offsite areas should be collected in swales or ditches at the landfill boundary and transmitted around the perimeter of the landfill to the detention basin or back to its existing drainage. Daily waste placement and compaction is also conducted in a manner that promotes drainage away from the waste.

During 1996, diversion ditches and a perimeter road were constructed around the proposed new embankment. All runoff upstream from the embankment is diverted around the expanded site. All runoff from inside the embankment is caught in ditches and diverted to the retention pond east of the existing embankment. Plan Sheet 3 (CCR Landfill- General Arrangement) shows the existing detention pond, as well as the perimeter diversion ditch layout surrounding the new embankment.

The pond is designed to contain the required potential precipitation for the entire landfill. Runoff calculations for both precipitation and snow melt were performed. The Utah Department of Natural Resources, Dam Safety Division was contacted. The State requires using a 6-hour, 100-year storm event and 100-year snow total for runoff and snowmelt

calculations. The data for these two criteria were obtained from the National Weather Service.

Results indicate that the precipitation criteria govern with 72.7 acre feet of runoff. This includes a 20% sediment load. The data sheet and the pond drawings have some discrepancies. The data sheet and the pond drawings, both with three feet of freeboard, indicate a capacity of 80 acre feet and 108 acre feet, respectively. The conclusion is, in either case, the pond is of sufficient size as long as sediment is removed to maintain the volume greater than the specified limit.

Detention ponds should be cleaned out as necessary when they begin to fill with sediment or ash. Monitoring of the storm water detention basins can be accomplished by placing a stake or staff gauge to monitor the sediment level.

Post-Closure Plan

PacifiCorp will provide care for the landfill facility following the date of final completion of closure in a manner that assures the facility and its structures are maintained and operated as intended. The post-closure plan will include operation and maintenance of both the industrial and ash portions of the landfill.

Post-Closure Care Activities

PacifiCorp will maintain the approved final contours and drainage system of the site to minimize precipitation run-on and erosion, optimize drainage of precipitation, and provide a surface drainage system which in no way adversely affects proper drainage from adjacent lands. The facility will be inspected quarterly for evidence of run-on, erosion of the final cover, and ponding of water on the final cover. Appropriate actions to correct these conditions will be undertaken and may include construction of drainage ditches or diversion dikes to prevent run-on, repair of erosion damage, as well as repair and grading of areas of ponding water on the final cover.

PacifiCorp will assure that a healthy vegetative cover is established and maintained over the site. The facility will be inspected quarterly for areas of poor vegetative cover. Such areas will be prepared and reseeded in order to establish adequate vegetative cover. Annual fertilization of the facility will be undertaken at least until the vegetative cover is established sufficiently to render such maintenance unnecessary.

Drainage ditches and the storm water retention pond will be maintained until the vegetative cover is established sufficiently to render such maintenance unnecessary. Drainage ditches will be inspected quarterly for evidence of restricted flow caused by erosion or sedimentation. Such blockages will be removed expeditiously. The storm water detention pond will be inspected quarterly for evidence of sedimentation.

Dust Management

Detailed descriptions of the methods to be implemented for controlling dust are described in the Hunter Power Plant *Fugitive Dust Control Plan*, and should be referred to as necessary.

The plan identifies primary sources of fugitive dust at the plant (which include the ash haul road and landfill), establishes work practices and procedures that minimize fugitive dust, and describes visual indicators to determine the appropriate level of control necessary to achieve dust control. A copy of the *Fugitive Dust Control Plan* is included in Appendix C. The primary method outlined in controlling dust on the ash haul road and landfill is frequent use of water. If the use of water and other operational procedures do not adequately control dust, a variety of other control alternatives may be utilized.

Operational Documentation

Monitoring the effectiveness of this *Landfill Operations Plan* should be performed as part of the control monitoring testing. As part of the annual reporting process required by the Utah DWMRC, PacifiCorp's Landfill Manager will evaluate the effectiveness of the Plan and make any procedural or plan changes as necessary. This section also includes additional measures that will be completed to ensure that the *Landfill Operations Plan* meets its original objectives.

The Hunter Plant's designated Landfill Manager and individual to whom the ash haul and site maintenance contractor is responsible to is:

Tyson Ekker
Hunter Plant
Highway 10 South of Castle Dale
P.O. Box 569
Castle Dale, Utah 84513
(435) 748-6525

The Hunter Plant may change the Landfill Manager periodically as needed. The Landfill Manager shall be designated by the Hunter Plant management. All revisions to the *Landfill Operations Plan* shall be done by the Landfill Manager and approved by the Hunter Plant management.

Facility Inspections

Facility inspections can be conducted anytime at the discretion of the Landfill Manager. At a minimum, quarterly inspections will be conducted and documented as part of the operating record. This inspection schedule will ensure that the requirements of Utah Administrative Code Section R315-304 are being satisfied.

Training

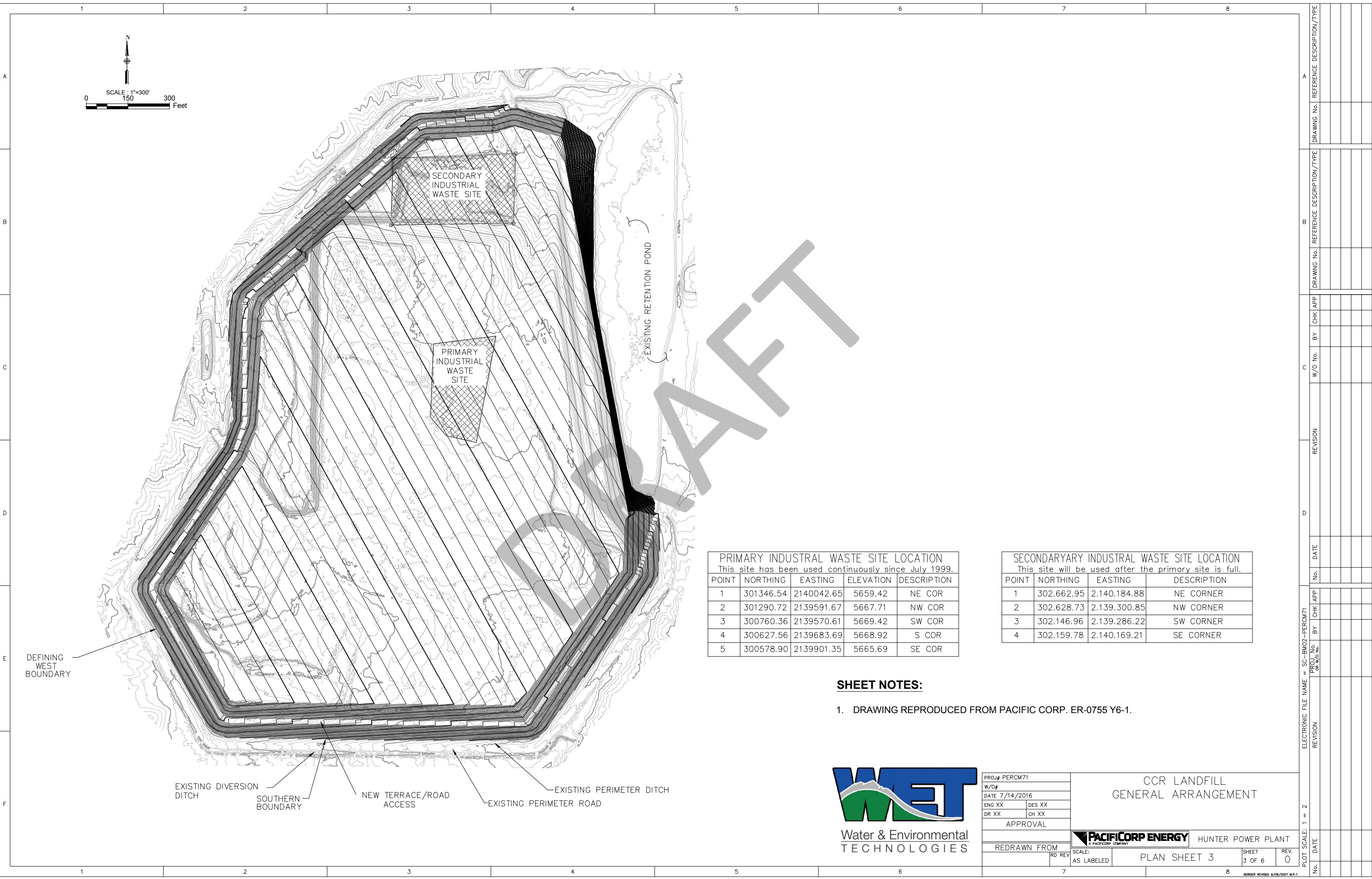
The Hunter Plant through the plant Environmental Engineer and training coordinator shall conduct ash pile and industrial waste training seminars to involved PacifiCorp employees and Contractor's personnel. Generally, training seminars will be conducted when operating personnel changes are made by PacifiCorp or the Contractor. Also, training seminars are to be conducted when major changes in the *Landfill Operations Plan* occur. This training should be performed as needed to assist the employees in executing and fulfilling their

responsibilities. Training records should be kept identifying who was trained, the training subject, and the date trained.

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Appendix A
Reference Drawings

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SECONDARY INDUSTRIAL WASTE SITE LOCATION			
This site will be used after the primary site is full.			
POINT	NORTHING	EASTING	DESCRIPTION
1	302.662.95	2.140.184.88	NE CORNER
2	302.628.73	2.139.300.85	NW CORNER
3	302.146.96	2.139.286.22	SW CORNER
4	302.159.78	2.140.169.21	SE CORNER

1. DRAWING REPRODUCED FROM PACIFIC CORP. ER-0755 Y6-1.

PROJ# PERCM71		CCR LANDFILL GENERAL ARRANGEMENT			
W/O#					
DATE 7/14/2016					
ENG XX	DES XX				
DR XX	CH XX				
APPROVAL					
REDRAWN FROM				HUNTER POWER PLANT	
RD REV					
SCALE:		PLAN SHEET 3		SHEET 3 of 6	REV. 0
AS LABELED					
7		8		BORDER REVISED 9/29/2007 M.P.T.	

Appendix B
Specification No. STD-Y-02934
Seeding (UDOT)

DRAFT



PacifiCorp Generation Engineering
Standard Specification
SEEDING (UDOT)
Specification No. STD-Y-02934

	Rev 3	Date	Rev 4	Date	Rev 5	Date
Prepared By:	Staff	5/16/95				
Reviewed By:	Staff	5/16/96				
Approved By:	Staff	5/16/96				

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PacifiCorp Generation Engineering
Standard Specification
SEEDING (UDOT)
Specification No. STD-Y-02934

1 SCOPE

This specification establishes the requirements for seeding disturbed areas on Utah Department of Transportation's (UDOT) highway right-of-way or other designated areas as necessary to complete the work indicated on the drawings, in the scope of work document and as specified herein. The work includes the preparation of the subsoil, strip and replace topsoil, mulching and seeding.

2 RELATED WORK SPECIFIED IN OTHER SPECIFICATIONS

For related work refer to the following specifications:

- 2.1 Specification No. STD-Y-02220: Earthwork.
- 2.2 Specification No. STD-Y-02225: Trench Excavation and Backfill for Underground Utilities.

3 APPLICABLE DOCUMENTS

The following related standards, specifications, manuals, codes and other publications of nationally recognized technical organizations are referenced herein. Methods, equipment and materials shall comply with applicable or specified portions of the referenced documents, in addition to all federal, state or local codes having jurisdiction. References to these documents shall be to the latest issue date of each document, unless otherwise indicated, together with the latest additions, addenda, amendments, supplements, etc., thereto, in effect as of the date of the contract for the work.

- 3.1 Utah Code: title 4, Chapter 16.
- 3.2 Utah Department of Transportation (UDOT)

4 SUBMITTALS

- 4.1 Submit a copy of the purchase order documenting that all seeds, including any substitutions, have been acquired before the seeding window begins. The purchase order should list the common and botanical name for each seed species.
- 4.2 Seed analysis reports as prepared by the respective seed testing laboratory shall be provided to the Company.

5 EQUIPMENT

- 5.1 Seeding work may be performed using a seed drill, a mulch blower for the application of hay or straw mulch, and a smooth or serrated coulter disc to anchor the mulch into the soil.
- 5.2 Seeding work may also be performed using hand-held seeder incorporated by hand raking, slope chaining or cat-tracking (broadcast method).

6 MATERIALS

- 6.1 Topsoil: On site materials to be salvaged.
- 6.2 Seed:
 - 6.2.1 Seed Certification:
 - 6.2.1.1 Obtain seed from seed lots that have been tested by a state or certified seed testing laboratory.
 - 6.2.1.2 Seed certification reports or labels shall indicate the following information:
 - 6.2.1.2.1 Botanical name (include variety if applicable)
 - 6.2.1.2.2 Common name
 - 6.2.1.2.3 Name of seed testing laboratory
 - 6.2.1.2.4 Name and address of the seed company
 - 6.2.1.2.5 Lot number or identification
 - 6.2.1.2.6 Weed seed (%)
 - 6.2.1.2.7 Other crop seed (%)
 - 6.2.1.2.8 Inert matter (%)
 - 6.2.1.2.9 Pure live seed (%)
 - 6.2.1.2.10 Noxious weed seed (name and rate of occurrence)

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6.2.1.2.11 Date tested (month and year)

6.2.1.2.12 Germination (%) - Note that seed germination tests older than 18 months for grass seed and 9 months for forb, shrub or tree seed are not acceptable.

6.2.1.2.13 Hard seed (%)

6.2.1.2.14 Net weight (do not include container weight)

6.2.1.2.15 Pure Live Seed weight

6.2.1.2.16 Collection locations for native shrub and tree species (state, county, elevation)

6.2.2 Supply seed on a pure live seed basis.

6.2.3 Provide seeds complying with the Utah Seed Act.

6.2.4 Provide inoculated legume seed.

6.2.5 Provide a seed mixture with the proportions of the following species:

SEEDING SCHEDULE				
SEED NO.	NAME		LBS. P.L.S./ACRE	
	BOTANICAL	COMMON	Drill	Broad-cast
1	Agropyron spicatum x repens	Newhy Hybird Wheatgrass	3.00	4.00
2	Oryzopsis hymenoides 'Paloma'	Indian Ricegrass	3.00	4.00
3	Poa Sandbergii	Sandberg Bluegrass	0.75	1.00
4	Sporobolus airoides	Alkali Saccaton	0.25	0.50
5	Agropyron cristatum 'fairway'	Fairway Crested Wheatgrass	3.00	4.00
6	Atriplex garneri	Gardner Saltbush	1.00	1.50
7	Grayia spinosa	Spiny Hopsage	1.00	1.50

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CONTINUE SEEDING SCHEDULE				
SEED NO.	NAME		LBS. P.L.S./ACRE	
	BOTANICAL	COMMON	Drill	Broad-cast
8	Purshia glandulosa	Desert Bitterbrush	1.00	1.50
	Total pounds of pure live seed per acre		13.00	18.00

6.2.6 Seed Substitutions:

- 6.2.6.1 Before requesting a seed substitution, contact the major seed brokers in the state to verify that the seed is unavailable.
- 6.2.6.2 Have Company verify seed is unavailable and to recommend a seed substitution.
- 6.2.6.3 Replacement seed shall be of equal or greater cost to the originally specified seed.

6.2.7 Mixing Seed:

- 6.2.7.1 Mix and bag the different varieties of seed in the presence of the Company.
- 6.2.7.2 Company will verify that the seed certification report or label represents the lot from which the seed is being furnished.
- 6.2.7.3 Mix the different seed varieties to provide an even blend.
- 6.2.7.4 Bag the mixed seed, seal the container and attach a signed Company label to the exterior.

6.2.8 Do not use wet, moldy or damaged seed.

6.2.9 Notify Company two (2) working days before seeding.

6.3 Mulch:

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- 6.3.1 Vegetative Mulch (drill seeding): Supply clean cereal straw from a Utah (or other State) Department of Agriculture certified weed free and noxious weed free field.
- 6.3.2 Wood Fiber Mulch: Processed virgin wood fiber, free of germination or growth inhibiting substances, conforming to the following specifications:
 - 6.3.2.1 Maximum moisture content of 15%.
 - 6.3.2.2 Minimum organic matter (oven-dried basis) of 98%.
 - 6.3.2.3 Maximum ash content (oven-dried basis) of 1%.
 - 6.3.2.4 Range of pH from 4.0 to 6.0.
 - 6.3.2.5 Minimum water holding capacity (oven-dried basis) of 1000 grams (per 100 grams of fiber).
 - 6.3.2.6 Fiber Length:
 - 6.3.2.6.1 Thirty percent minimum at least 0.15 inches in length or longer.
 - 6.3.2.6.2 Fifty percent minimum retained on the 28 mesh screen.
- 6.4 Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.
- 6.5 Liquid Tackifier:
 - 6.5.1 Non-flammable concentrated liquid polymer emulsion with a minimum 60 percent solids.
 - 6.5.2 Non-toxic to plants and animals.
 - 6.5.3 Shall allow water to penetrate to the soil.

7 EXECUTION

- 7.1 Time of Seeding:

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- 7.1.1 Do not seed during periods of high winds or excessive moisture unless otherwise approved by the Company.
- 7.1.2 Seeding Window: Complete all seeding within the appropriate seeding window. If the seeding is not completed within the given window, it shall be postponed until the following year.

<u>Elevation</u>	<u>Seeding Window</u>
Below 4000'	Oct. 1st-Dec. 15th
4000'-6000'	Sept. 15th-Dec. 1st
Above 6000'	Sept. 1st-Nov. 15th

7.2 Sequence of Construction:

- 7.2.1 Prepare the subsoil and place the topsoil.
- 7.2.2 Apply seeds either by drilling or broadcasting.

7.3 Preparation of Subsoil:

- 7.3.1 Grade out any unnatural humps or dips to provide a surface suitable for seeding.
- 7.3.2 Prepare subsoil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Blend slopes into level areas.
- 7.3.3 Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated subsoil.
- 7.3.4 Scarify subsoil to a depth of 3 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted subsoil.

7.4 Placing Topsoil:

- 7.4.1 Do not work topsoil or seed when the soil is saturated or frozen.
- 7.4.2 If the topsoil has produced weeds, remove them before seeding.
- 7.4.3 Dampen topsoil that is in a dry, powdery condition before seeding.
- 7.4.4 Spread topsoil to a minimum depth of 6 inches over area to be seeded.

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- 7.4.5 Remove large roots and foreign non-organic material from topsoil while spreading.
- 7.4.6 Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
- 7.4.7 If a crust has formed on the topsoil, loosen the ground surface to a depth of one inch.
- 7.5 Seeding by Drill:
 - 7.5.1 Use the drill method of seeding on accessible slopes 3:1 and flatter.
 - 7.5.2 Use a rangeland type drill equipped with the following:
 - 7.5.2.1 Depth band
 - 7.5.2.2 Seed box agitator
 - 7.5.2.3 Seed metering device
 - 7.5.2.4 Furrow opener
 - 7.5.2.5 Packer wheels
 - 7.5.3 Provide the Company a copy of the manufacturer's directions on drill calibration two (2) working days before seeding.
 - 7.5.4 Calibrate the drill in the presence of the Company.
 - 7.5.5 Demonstrate the accuracy of the calibration by using the manufacturer's or one of the following methods:
 - 7.5.5.1 Method 1:
 - 7.5.5.1.1 Jack up the wheel of the drill which drives the auger.
 - 7.5.5.1.2 Measure the wheel circumference to determine a 1 foot distance.
 - 7.5.5.1.3 Rotate the wheel 1 foot.

- 7.5.5.1.4 Catch the seed on a clean canvas or in a container.
- 7.5.5.1.5 Count the number of seeds being applied in a square foot.
- 7.5.5.1.6 Adjust the calibration as necessary.
- 7.5.5.1.7 Repeat the test until the required application rate (+/-5%) is obtained.

7.5.5.2 Method 2:

- 7.5.5.2.1 Perform a test drill run over a 4 feet by 8 feet piece of plywood.
- 7.5.5.2.2 Count the number of seeds in a square foot.
- 7.5.5.2.3 Adjust the calibration as necessary.
- 7.5.5.2.4 Repeat the test until the required application rate (+/-5%) is obtained.

7.5.5.3 Method 3:

- 7.5.5.3.1 Attach a trough or container under the seed tubes.
- 7.5.5.3.2 Pull the drill over a measured distance.
- 7.5.5.3.3 Weigh the collected seed.
- 7.5.5.3.4 Calculate the pounds of seed being applied per acre.
- 7.5.5.3.5 Adjust the calibration as necessary.
- 7.5.5.3.6 Repeat the test until the required application rate (+/-5%) is obtained.

- 7.5.6 Space drill rows a minimum of 6 inches and a maximum of 8 inches apart.

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- 7.5.7 Fill the seed box/boxes no more than half full when drilling on a slope.
- 7.5.8 Set depth bands to drill seeds to a 3/8 to 1/2 inch depth.
- 7.5.9 Drill along the contour.
- 7.5.10 Maintain the drill at the calibrated setting throughout the seeding operation.
- 7.5.11 Allow the furrows that are created by the drill to remain.

7.6 Broadcast Method:

- 7.6.1 Use the broadcast method of seeding under the following conditions:
 - 7.6.1.1 Slopes steeper than 3:1.
 - 7.6.1.2 Slopes 3:1 and flatter where the area to be seeded is inaccessible to drill.
 - 7.6.1.3 Area to be seeded is not large enough to justify the use of a drill.
 - 7.6.1.4 Rocky conditions would damage a drill.
- 7.6.2 Broadcast the seed evenly over the prepared slopes by means of a hand-held seeder or a hydroseeder. Use rice hulls if a carrier is needed.
- 7.6.3 Do not seed during windy conditions or when soil is saturated.
- 7.6.4 Incorporate the seed into the soil by hand raking, slope chaining or cat-tracking.
 - 7.6.4.1 If the hand raking method is used, rake the seed in at a depth of 1/4 to 1/2 inch and perpendicular to the slope.
 - 7.6.4.2 If the slope chaining method is used, pull the chain along the contour making a minimum of 3 passes over the slope.
 - 7.6.4.3 If the cat-tracking method is used, run the cat up and down the slope creating cleat tracks that run parallel with the contours.

7.7 Mulching:

7.7.1 Mulch all seeded areas with straw or wood fiber mulch.

7.7.1.1 Wood Fiber Mulch Application:

7.7.1.1.1 Slurry application rate per acre:

7.7.1.1.1.1 Two thousand pounds of wood fiber mulch.

7.7.1.1.1.2 Sixty five gallons of liquid tackifier.

7.7.1.1.1.3 Four thousand gallons of water.

7.7.1.1.2 Fill the hydroseeder tank with one-half of the required quantity of water.

7.7.1.1.3 Add the wood fiber mulch while continuing to fill the tank with water.

7.7.1.1.4 Reduce the agitation speed of the hydroseeder to low or minimum.

7.7.1.1.5 Add the liquid tackifier.

7.7.1.1.6 Apply the slurry to form an even cover over the seeded area.

7.7.1.1.7 On cut slopes, extend the slurry mix over the top of the slope to cover all disturbed areas.

7.7.1.2 Straw Mulch Application:

7.7.1.2.1 Apply 2500 pounds of straw (having a moisture content less than 18%) per acre.

7.7.1.2.2 Apply straw mulch uniformly using a blower-type mulching machine.

7.7.1.2.3 Begin application at the top of the slope working in a downward direction.

PacifiCorp Generation Engineering
Standard Specification
SEEDING (UDOT)
Specification No. STD-Y-02934

7.7.1.2.4 On cut slopes, extend straw mulch over the top of the slope and tie in to existing vegetation.

7.7.1.2.5 Secure the straw to the soil using a sheep's foot roller, a dull edged disk-type roller or other approved equipment that will anchor the straw to the soil.

7.7.2 Anchor the mulch into the soil a minimum of 2 inches.

7.7.3 If mulch breaks during anchoring, sprinkle with water, but do not soak, to facilitate placement.

END OF SPECIFICATION

Appendix C
Fugitive Dust Control Plan

DRAFT

**PACIFICORP
HUNTER POWER PLANT
FUGITIVE DUST CONTROL
PLAN**

Revision 6

7 January 2013

1. Introduction

The purposes of this plan are to: (1) identify the primary sources of fugitive dust which result from various activities at PacifiCorp's Hunter Power Plant, (2) establish operating procedures and work practices which *minimize* fugitive dust, and, (3) describe the visual indicators that are to be used to determine the appropriate level of control to minimize fugitive dust for each source.

The Hunter Power Plant is located in an area designated as attainment for all measured pollutants. PacifiCorp recognizes the importance of minimizing fugitive dust generated by this facility, and believes that the operating procedures and work practices summarized by this plan represent technically feasible and economically reasonable methods to do so.

The work practices summarized herein include multiple levels of control for each of the primary sources of fugitive dust. Under *normal* or *typical* circumstances, the established work practices minimize fugitive dust.

Under *abnormal* or *atypical* circumstances, however, such as extreme winds, established methods to control fugitive dust are less effective. Furthermore, safety considerations may prohibit the implementation of a specific control measure. (For example, the application of water to a roadway during periods of freezing temperatures may lead to an inherently unsafe condition.)

Hunter Power Plant Operating personnel and Contractors are responsible for: (1) implementing the procedures and work practices summarized by this plan, and (2) documenting compliance with this plan.

Records demonstrating that the fugitive dust control plan is being implemented will be maintained on site. These records will be used by the "Responsible Official" (Plant Managing Director) to certify compliance with the requirement to minimize fugitive dust. These records will be made available to inspectors at their request.

This plan must be approved by the Utah Division of Air Quality. The Division of Air Quality may require revision of this plan if it is determined that the plan is not effective based on visual observations, citizen complaints, or other means.

1.1 Source Information

PacifiCorp - Hunter Power Plant
Three Miles South of Castle Dale, Utah on State Highway 10
PO Box 569
Castle Dale, Utah 84513
435-748-6200

1.2 Process Description

The Hunter Power Plant consists of three coal-fired steam generating units. Coal is obtained primarily from local coal mines via truck to the prep plant. (The prep plant is not

operated by Hunter Power Plant therefore not included in this dust control plan.) Coal is transferred from the prep plant to the storage pile via a tripper conveyor that is located under a large roofed structure. The coal is stored in an open pile. Mobile equipment is used to maintain the pile. Coal is reclaimed from the pile by underground conveyors and is transferred to the coal silos in the powerhouse.

The combustion process generates byproducts such as bottom ash, fly ash, and other residues from combustion. Scrubber byproducts are generated from flue gas desulfurization. These materials are transported by truck to an on-site combustion waste landfill.

2.0 Potential Sources of Fugitive Dust

Activities which have the potential to produce fugitive dust at the Hunter Power Plant include: (1) the hauling of fly ash, bottom ash, and scrubber byproducts to the ash landfill, (2) wind erosion at both the ash landfill and the coal storage pile, and, (3) movement of mobile equipment on the coal storage pile and the ash landfill and on paved and unpaved areas.

*Specific sources of fugitive dust include: (1) the **coal yard**, (2) the **area around the fly ash unloaders**, (3) the **ash haul road**, (4) the **ash landfill**, (5) gypsum load out facility, and (6) general plant **road/traffic areas**¹.*

3.0 Monitoring

Visual indicators shall be used to determine the appropriate level of control to minimize fugitive dust for each of the specific sources summarized above. Indicators that the appropriate level of control to minimize fugitive dust is currently in effect (considering meteorological conditions such as wind speed, precipitation, temperature, etc.) may include the following:

For fugitive dust generated by a vehicle in motion (ash haul road, area around the fly ash unloaders, , gypsum load out facility, general plant road/traffic areas, etc.):

The level of fugitive dust control currently in effect shall be considered **acceptable** unless dust *significantly obscures the background*, as viewed through the vehicle rear-view mirror or by an observer not in the vehicle, **and:** (1) dust continues to rise, or be lofted, into the air for a significant amount of time after a vehicle has passed, or, (2) dust persists, or lingers, in the air for a significant amount of time after a vehicle has passed. If the foregoing conditions occur, the next most stringent control level shall be triggered.

For fugitive dust derived from stationary sources (coal yard, ash landfill, etc.):

The level of fugitive dust control currently in effect for all other sources of fugitive dust (including haul roads not in use) shall be considered **acceptable** unless dust *significantly*

¹ There exist on plant site various roadways that experience very little traffic on a daily basis. As such, they are insignificant sources of fugitive dust, and are not typically subject to the fugitive dust control measures described herein.

obscures the background, and exceeds the dust from similar natural terrain in adjacent areas. If the foregoing conditions occur, the next most stringent control level shall be triggered.

A visual observation of each of the sources summarized in Section 2.0 shall be made daily, **with the following exception:**

Should meteorological conditions (substantial rain or snow) mitigate the need for *normal* or *typical* fugitive dust control measures for a specific day, no visual observations shall be required for that day. This exception shall be noted on the "Hunter Power Plant Fugitive Dust Control Log" as "Level Zero – no fugitive dust control required – all sources", along with the basis of determination ("raining hard", "rained all last night", "1 foot of snow fell last night", etc.). This exception shall be noted on the log by the Ash Haul Contractor Superintendent, or, in his absence, the Designated Lead Water Truck Driver.

All other observations shall be entered on the "Hunter Power Plant Fugitive Dust Control Log" as being **Acceptable ("OK")** or **Action Required ("A/R")**. If visual observation of a fugitive dust source determines that *action is required*, the fugitive dust control level shall be increased to the next most stringent control level. Likewise, if the level of fugitive dust control is determined to be *acceptable* through visual observation, fugitive dust control may be maintained at its current level, or may be relaxed to the next less stringent level if it is likely that fugitive dust control will continue to be *acceptable*.

The daily visual observation shall be conducted by one or more of the following individuals: (1) the Water Truck Driver(s), (2) the Ash Haul Contractor Superintendent or his designee, (3) the Operations Shift Supervisor, (4) the process owner responsible for fuel (coal) and/or solid waste management, or, (5) the Plant Environmental Engineer or his designee. Any employee that observes a condition which he/she believes would warrant a higher level of dust control should contact one of the above identified individuals and report his observation, which will trigger an evaluation by the identified individual. (Typically, the daily visual inspections shall be conducted by the Water Truck Driver(s).)

4.0 Description of Work Practices

Visual observations are to be used to determine the appropriate level of control to minimize fugitive dust: If visual observation of a fugitive dust source determines that *action is required*, the fugitive dust control level shall be increased to the next most stringent control level. Likewise, if the level of fugitive dust control is determined to be *acceptable* through visual observation, fugitive dust control may be maintained at its current level, or may be relaxed to the next less stringent level if it is likely that fugitive dust control will continue to be *acceptable*.

Exception: The application of water to roadways shall be temporarily suspended in the event that persistent freezing temperatures, lead to the accumulation of ice on roadways.

The Operations Shift Supervisor, the process owners responsible for fuel (coal) and solid waste management, and the Ash Haul Contractor Superintendent are jointly responsible to verify that proper decisions are made and that the proper level of control is implemented.

The following summarizes, in general, the control levels that shall be used with each of the fugitive dust sources. *Source-specific* control levels are described in the appropriate subsection:

Level Zero No fugitive dust control measures are required because: (1) meteorological conditions (substantial rain or snow) reduce or eliminate the potential for fugitive dust, and/or, (2) other conditions persist whereby no fugitive dust is present, or is present at *acceptable* levels.

Level 1 Level 1 is the level of fugitive dust control that is implemented under *normal* or *typical* circumstances. Water shall be applied to fugitive dust sources in accordance with the "Hunter Power Plant Dust Control Schedule".

Level 2 In addition to Level 1, the frequency of application water to fugitive dust sources is increased, where practicable. Note, however, that the ash haul road and the ash landfill are considered to be the "priority sources" of fugitive dust. That is to say that other lower-impact sources (other plant roads) may be "bumped" from the watering schedule in order to apply more water to the ash landfill and the ash haul road. Thus, the frequency of application of water shall be increased in locations where there is the highest potential for dusting (typically, the ash haul road); at the same time, if necessary, the frequency of application of water shall be decreased in locations where there is a lesser potential for dusting (typically, less-used plant roads).

Level 3 **Haul Road:** In addition to Level 2, the speed limit on the ash haul roads will be reduced to 25 mph.

Coal Yard & Ash Landfill: In addition to Level 2, curtail operation during high wind events, *if practicable*, until wind velocity subsides.

Several sources of water may be used for fugitive dust control (when the application of water is the operative control measure), including, but not limited to, the following: (1) waste water holding basin, (2) south catchment basins, (3) cooling tower holding basin (4) either evaporation/irrigation storage ponds, (5) ash water storage tanks, and/or, (6) raw water.

4.1 Coal Yard

Generally, the coal received from the mine has a moisture content sufficient to minimize fugitive dust without the need for additional control; water is also applied to the coal pile to aid in compaction of the pile.

Water may be applied to the coal pile as needed to minimize fugitive dust when coal is pushed off the pile into the reclaim conveyor as determined by visual observations conducted by the Equipment Operator(s) or Water truck Driver(s).

Level Zero No action required under normal or typical circumstances.

Level 1 No action required under normal or typical circumstances.

Level 2 Apply water as required, as determined by visual observations of fugitive dust.

Level 3 In addition to level 2, curtail operation during high wind events, *if practicable*, until wind velocity subsides.

Conveyors, drop points, and live coal handling and storage shall be enclosed as presently constructed. Any *dead coal storage* shall be water sealed and compacted. Records shall be kept as to the amounts, dates, and areas of application.

4.2 Fly Ash Unloader Area

Fly ash is mixed with scrubber slurry or water, and is then loaded into a haul truck. Wetting the fly ash minimizes fugitive dust during transfer (to the truck) and hauling (to the ash landfill). (Note: Dust generated during the transfer of fly ash from the unloader to the truck shall be considered fugitive *emissions* and therefore subject to the opacity limitations established in the operating permit condition for fugitive emissions.)

Fallout from airborne fly ash and spillage from haul trucks accumulates on the paved area surrounding the fly ash unloaders. This area is to be cleaned at least once per week (or more frequently if plant operating personnel or the Ash Haul Contractor determine that fugitive dust is becoming a nuisance or evidence exists that fly ash is being tracked away from the ash unloader). Methods used to clean this area include, but are not limited to, flushing the area with water, or removing the material using a front-end loader or vacuum truck. The dates that the fly ash unloader area is cleaned shall be logged and recorded utilizing the Hunter Power Plant Fugitive Dust Control Log forms.

Level Zero Remove accumulated material from the area at least once per week. No other action required.

Level 1 *Normal or typical* watering schedule: Apply water in accordance with the "Hunter Power Plant Dust Control Schedule".

Exception: The application of water to roadways shall be temporarily suspended in the event that persistent freezing temperatures lead to the accumulation of ice on roadways.

Level 2 In addition to Level 1, increase the frequency of application of water to area around the fly ash unloaders and gypsum load out area, if practicable.

4.3 Ash Haul Road

Of all the roads on the plant site, the ash haul road receives the most *intense* use (many vehicles making many round-trips per day at greater speeds than are typically observed in the plant proper). Other access roads or paved areas are used less intensely, and are subject to lower vehicle speeds, and thus may be considered to be lesser or minor sources of fugitive dust. Vehicle speed on the ash haul road is to be limited to a **maximum speed of 35 mph**. Should Level 2 control measures fail to control fugitive dust, vehicle speeds shall be limited to a speed of **25 mph**. The speed limit signs along the ash haul will be changed to read 25 MPH whenever Level 3 measures are implemented.

Level Zero Maintain speed limit of 35mph. No other action required.

- Level 1** *Normal or typical* watering schedule: Apply water in accordance with the "Hunter Power Plant Dust Control Schedule".
- Exception:** The application of water to roadways shall be temporarily suspended in the event that persistent freezing temperatures lead to the accumulation of ice on roadways.
- Level 2** In addition to Level 1, increase the frequency of application of water to the ash haul road; at the same time decrease the frequency of application of water to plant roads where there is a lesser potential (less traffic, lower speeds) for dusting.
- Level 3** In addition to level 2, reduce vehicle speed limit to 25 mph. Change the posted speed limit sign to read 25 MPH.

4.4 Ash Landfill

Fly ash bottom ash and gypsum is delivered to the ash landfill via dump truck. It is placed on the ash pile, and is compacted as it is delivered. Water is applied both as a compaction aid and for fugitive dust control.

The inactive portions of the ash landfill are compacted and covered with a veneer of bottom ash. (Bottom ash is coarser than fly ash and minimizes fugitive dust generated from wind erosion events.) The active area (cell) of the ash landfill is more susceptible to wind erosion and is thus confined to the smallest practical area (ten acres or less).

- Level Zero** At the end of each operating day, completely compact the active cell (knock down all the "windrows" of ash) and/or apply water (except during rainy or snowy weather), and cover with a thin veneer of bottom ash as available. When the active cell is completed, compact and cover with 6-12 inches of bottom ash. No other action required.
- Level 1** In addition to Level Zero, complete the *normal or typical* watering schedule: Apply water in accordance with the "Hunter Power Plant Dust Control Schedule".
- Level 2** In addition to Level 1, increase the frequency of application of water to the ash haul road; at the same time decrease the frequency of application of water to other plant roads where there is a lesser potential (less traffic, lower speeds) for dusting. **Level 3** In addition to level 2, curtail operation during high wind events, ***if practicable***, until wind velocity subsides.

4.5 Plant Roads and Traffic Areas, including Roadways On and Around the Coal Pile, Gypsum Load Out Area, and the Ash Landfill

Of all the roads on the plant site, the ash haul road receives the most intense use (many vehicles making many round-trips per day at greater speeds than are typically observed

in the plant proper). Other access roads or paved areas are used less, and thus may be considered to be lesser or minor sources of fugitive dust.

Level Zero

No action required.

Level 1

Normal or typical watering schedule: Apply water in accordance with the "Hunter Power Plant Dust Control Schedule".

Exception: The application of water to roadways shall be temporarily suspended in the event that persistent freezing temperatures lead to the accumulation of ice on roadways.

Level 2

In addition to Level 1, increase the frequency of application of water to plant roads where fugitive dust is high where practicable (and when the level of control of fugitive dust from the ash haul road is **acceptable**). Otherwise, decrease the frequency of application of water to plant roads where there is a lesser potential (less traffic, lower speeds) for dusting; at the same time increase the frequency of application of water to the plant roads where fugitive dust is high.

5.0 Recordkeeping

Records of all actions taken to implement the Fugitive Dust Control Plan shall be maintained and shall include the date and time the action was taken.

5.1 Log Sheets

A daily log (the "Fugitive Dust Control Log") of visual observations and dust control activities shall be maintained, including the dates when the paved area surrounding the fly ash unloader area is cleaned and/or watered. This log is to include the date, time, operator name, water truck number, location and description of the dust control activities, and the levels of fugitive dust control that were undertaken that day. A copy of this daily log shall be reviewed by the plant personnel responsible for dust control, whereupon it shall be filed in the plant environmental files.

5.2 Record Retention

Records shall be kept on site for a period of five years for inspection.

6.0 Quality Assurance

Hunter Power Plant personnel will conduct periodic inspections and evaluations of the Fugitive Dust Control Plan and the potential emission sources in order to evaluate the effectiveness of the Fugitive Dust Control Plan. Periodically the plan shall be reviewed by plant environmental personnel, the Operations Shift Supervisor, process owners responsible for fuel (coal) and solid waste management, plant staff engineer responsible for dust control, and the Ash Haul Contractor. If it is determined that revisions to the plan are necessary, the plan shall be revised and resubmitted to the Division of Air Quality for approval.

Hunter Power Plant Dust Control Schedule

The following represents a normal or typical daily dust control (watering) schedule for the Hunter Power Plant for *Fall/Winter/Spring* and *Summer*. Note that these schedules are approximate, and that on occasion deviations from both schedules will occur, including the dates of implementation (for example, a warm, late summer may require that the Summer Schedule extend into October). In addition, there are days throughout the year when the application of water is *not* required to the intensity specified below because: (1) meteorological conditions (i.e. rain) reduce or eliminate the potential for fugitive dust, and/or (2) other conditions persist whereby no fugitive dust is present, or is present at *acceptable* levels.

Fall/Winter/Spring Schedule: 1 October through 30 April

Water Applications to Ash Landfill Area

Fugitive Dust Control Measure
Apply 3 loads (12,000 gallons) of water to the ash landfill.
Apply 1 load (4,000 gallons) of water to the unpaved ash haul road.
Apply 1 load (4,000 gallons) of water to the paved ash haul road.
Apply 0.5 loads (2,000 gallons) of water to the industrial waste landfill.

Water Application to Other Plant Areas

Fugitive Dust Control Measure
Apply 0.5 loads (2,000 gallons) of water to the coal grizzly area.
Apply 2 loads (8,000 gallons) of water to the area around the fly ash unloaders and gypsum load out area.
Apply 1 load (4,000 gallons) of water to the other plant roads.

Hunter Power Plant Dust Control Schedule

Summer Schedule**1 May through 30 September Average Daily Application****Water Application to Ash Landfill Area**

Fugitive Dust Control Measure
Apply 12 loads (48,000 gallons) of water to the ash landfill.
Apply 7 loads (28,000 gallons) of water to the unpaved ash haul road.
Apply 4 loads (16,000 gallons) of water to the paved ash haul road.
Apply 0.5 load (2,000 gallons) of water to the industrial waste landfill.

Water Application to Other Plant Areas

Fugitive Dust Control Measure
Apply 1 load (4,000 gallons) of water to the coal grizzly area.
Apply 5 loads (20,000 gallons) of water to the area around the fly ash unloaders and gypsum load out area.
Apply 1 load (4,000 gallons) of water to the other plant roads.

Attachment 3

Landfill Inspection Forms

DRAFT

Hunter Plant Industrial Waste Landfill And Products of Combustion Landfill

Date:

Signature:

Item No.	Item	N/A	Y	N	Comments
LF-1	[True (Y) or False (N)]: There is no evidence of fire (e.g. smoke, heat, or burning vegetation) in the landfill.				
LF-2	[True (Y) or False (N)]: There is a fire extinguisher present at the landfill entrance.				
LF-3	[True (Y) or False (N)]: There is no evidence (or knowledge) of garbage (e.g. food waste, paper, etc.) in the products of combustion (ash) landfill.				
LF-4	[True (Y) or False (N)]: There is no evidence (or knowledge) of scrap metal or construction debris (e.g. concrete, asphalt, re-bar, etc.) in the products of combustion (ash) landfill.				
LF-5	[True (Y) or False (N)]: The landfill does not need repair because of erosion.				
LF-6	Is the soil cover adequate over the landfill so that material in the industrial landfill is not exposed?				
LF-7	[True (Y) or False (N)]: There is no evidence (or knowledge) of a discharge from the landfill retention pond.				
LF-8	[True (Y) or False (N)]: All ditches and berms are intact, in good shape, and will contain all irrigation, leachate, or storm water from the landfill site.				
LF-9	Are all entrance and exit locations free of landfill material and in good repair?				
LF-10	Are all erosion control measures (e.g., silt fences, hay bales, screens over inlets and culverts, etc.) at the landfill site (check N/A if not applicable) in good shape and operating properly?				
LF-11	Have all areas at and adjacent to the landfill been visually inspected?				
LF - 12	Are any improper wastes in the industrial landfill (liquids, not punctured aerosol cans, not smashed drums, ect)				
LF - 13	Is the fugitive dust plan in place and working?				
LF-14	Is there a sign identifying the name of facility, unacceptable material, and emergency telephone number?				
LF-15	Is there evidence of harborage of rats or other vectors?				
LF-16	Is the unloading area and working face minimized as much as possible?				
LF-17	Are there any other items that require corrective action?				
LF-18	Is Chain Locked on the Combustion Waste Landfill outlet? Is the outlet closed? Outfall #19				

The Hunter Plant is enclosed by a fence and all access points (gates) are controlled.

Waste log sheets are submitted to and kept on file by the plant environmental engineer.

Log Sheet

Driver:		
	Print Name	Signature
Date:		
Time:		
Vehicle Number:		

Weights & Measures		
Weight of Truck & Load	<input style="width: 90%;" type="text"/>	lbs
Weight of Empty Truck (Tare)	<input style="width: 90%;" type="text"/>	lbs
1 Weight of Load	<input style="width: 90%;" type="text"/>	lbs
2 Estimate of Uncompacted Volume of Load	<input style="width: 90%;" type="text"/>	Cu yds
(example: The 20 foot bin level full = 26 cu yds, 3/4 full = 19.5 cu yds, 1/2 full = 13 cu yds, 1/4 full = 6.5 cu yds)		

Brief Description of Contents of Load
(Example: Waste Paper, Cardboard, Pallets, Pigs, Plastic, Used Rags, Empty drums, Empty buckets, Punctured aerosol cans, Floor sweepings. List what you see in this load.)

Prohibited Materials - list and remove any you see:
(example: Non-punctured aerosol cans, drums or buckets partially full, any liquid waste, mercury, flourescent bulbs <u>without</u> green ends, lead acid batteries, NiCad batteries, any hazardous or PCB-containing wastes must be separated and removed from this site.)

Please place prohibited materials removed from the landfill in the plastic drum near the gate. Thank you.

**Monthly Landfill Inspection
Hunter Plant**

Yes	No	Inspection Item	Comments (Describe the data and nature of any repairs or corrective action, include WO numbers)
		Are barriers in place to prevent unauthorized access?	
		Are signs in place that identify the name of the facility, unacceptable materials, and an emergency number to call?	
		Is there a fire extinguisher present?	
		Is there evidence that rats or other animals have infested the area?	
		Is the trash being dumped in a concise and compact area according to the operating plan?	
		Is the trash covered sufficiently such that there is no loose trash and that combustible material has at least six inches of cover?	
		Is there evidence that improper waste has been dumped (liquids, unpunctured aerosol cans, unsmashed drums, etc.)?	
		Is fugitive dust observed at the facility or on the road to the facility?	
		Is the waste log located at the site with proper and complete entries?	
		Is there evidence that storm water has been released from the facility?	

Inspector _____ (Print) _____ (Sign) Date _____ Time _____

INDUSTRIAL WASTE LANDFILL TRAINING SIGN-IN SHEET

DATE: _____

GROUP: _____

DESCRIPTION OF TRAINING: _____

INSTRUCTOR: _____

Huntington Power Plant Industrial Waste Landfill - Operations Plan

LENGTH OF TRAINING: _____

☐ Utah Administrative Code
Regulation R315-304 as it applies
to Class IIIb landfills

☐ Solid Waste Handling Procedures

☐ Inspections and Monitoring

☐ Random Inspection Requirements

☐ Contingency Plans in the event of Fire or Explosion

☐ Storm Water Pollution Prevention Plan

☐ Fugitive Dust Control Plan

☐ Procedures for Exclusion of
Hazardous Waste and of waste
containing PCBs

☐ General Training and Safety for Site Operators

☐ Logs of Weight, Volume and Classification of wastes

☐ Cell Design and Cover Requirements

☐ Site Access Control

☐ Other _____

EMPLOYEE / CONTRACTOR		EMPLOYEE NUMBER	EMPLOYEE / CONTRACTOR		EMPLOYEE NUMBER
01.			16.		
02.			17.		
03.			18.		
04.			19.		
05.			20.		
06.			21.		
07.			22.		
08.			23.		
09.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

I certify that the employees / contractors listed above were presented the training listed hereon.

Supervisor Signature: _____

Date: _____

Comments: _____

Please fill out a "Training Sign-in Sheet" for **all** training, and forward to the Administrative Assistant

Thanks!