

STATE OF UTAH
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY
UTAH WATER QUALITY BOARD
SALT LAKE CITY, UTAH 84114-4870

Ground Water Discharge Permit
Permit No. UGW070002

In compliance with the provisions of the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated 1953, as amended, the Act,

Sunnyside Cogeneration Associates
P.O. Box 10
East Carbon, Utah 84520

is granted a renewed ground water discharge permit which supersedes the amended permit issued August 29, 2001 for the operation of the Ash Disposal Area associated with the Sunnyside Cogeneration Plant located at Sunnyside in Carbon County, Utah.

The Ash Disposal Area is located on a tract of land within the northeast quarter of Section 12, Township 15 South, Range 13 East, Salt Lake Base and Meridian (110° 23' West Longitude and 39° 33' North Latitude).

This permit is based on representations made by the permittee and other information contained in the administrative record. It is the responsibility of the permittee to read and understand all provisions of this permit.

The facility shall be constructed and operated in accordance with conditions set forth in the permit and the Utah Ground Water Quality Protection Rules (UAC R317-6).

This permit shall become effective on _____.

This permit and the authorization to operate shall expire at midnight, _____.

Walter L. Baker, P.E.
Executive Secretary
Utah Water Quality Board

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I. CONSTRUCTION PERMIT

The original and revised Construction Per:mits are included as Appendix A of this permit.

II. SPECIFIC PERMIT CONDITIONS

A. **Ground Water Classification**

Monitoring data have shown variable ground water quality across the site. The ground water classification for the alluvial aquifer associated with Icelander Creek and Whitmore Springs in the immediate vicinity of this facility is Class II Drinking Water Quality Ground Water. Ground water which is contained in or which has come in contact with the Mancos Shale may be Class III, Limited use Ground Water.

B. **Background Water Quality**

Background water quality for the Icelander Creek alluvial aquifer has been established from ground water monitoring results from Whitmore Spring. Values represented in Table 1 were derived from 12 samples taken from Whitmore Spring between October 1992 and July 1995. Ground water chemistry in Whitmore Springs is very similar to that in wells MW-2 and MW-3 and constitutes background water quality in those wells for the purposes of this permit. Water quality in the new well will be established after examination of data from background sampling of that well.

Table 1: Background Ground Water Quality

Constituent	Mean Concentration (mg/l)	Standard Deviation
Total Dissolved Solids	2,415 ^(a)	352 ^(a)
Calcium	112	18
Sodium	298	34
Potassium	7	1
Magnesium	123	17
Chloride	64	9
Sulfate	796	97
Bicarbonate	584	53
Carbonate	1	2

(a) Updated 4/10/04.

C. **Ground Water Protection Levels**

Ground water protection levels for downgradient compliance wells MW-1, MW-2, MW-3, MW-4, and MW-7 for this permit are represented in Table 2.

Table 2: Summary of Background Values and Ground Water Protection Levels

All units except pH are milligrams per liter.

Constituent	Background Values		Protection Levels	
	MW-1	MW-1, MW-2, MW-3, MW-4	MW-7	MW-7
pH units	8.25	6.5-8.5	7.98	6.5-8.5
TDS	2,415	3,018 ^(a)	4,290	5,363 ^(a)
Arsenic	0.0036	0.0125 ^(b)	0.006	0.025 ^(c)
Barium	0.0767	0.5 ^(b)	0.194	1.0 ^(c)
Cadmium	0.0031	0.0039 ^(a)	<0.003	0.0025 ^(c)
Copper	0.0120	0.325 ^(b)	0.018	0.65 ^(c)
Lead	0.0070	0.0088 ^(a)	<0.01	0.0075 ^(c)
Selenium	0.0063	0.0125 ^(b)	0.0167	0.025 ^(c)
Silver	0.008	0.025 ^(b)	0.0011	0.05 ^(c)
Zinc	0.0624	1.25 ^(b)	0.037	2.5 ^(c)

- (a) 1.25 x background concentration for TDS.
- (b) 0.25 x Ground Water Quality Standard for Class II Ground Water.
- (c) 0.5 x Ground Water Quality Standard for Class III Ground Water.

D. Best Available Technology Standard

1. Authorized Construction and Operation

- a) The Ash Disposal Area will be operated as a landfill strictly for disposal of ash generated from the burning of waste coal obtained from the adjacent waste coal pile and tailings impoundment, or other similar waste coal sources, and other coal based fuels [alternative fuels], limestone reagent added to control SO₂ emissions, and fuel oil or other high BTU coal (supplemental fuel) as limited by the FERC certification dated February 11, 1992, as supplemented by the Notice of Self-Certification of Sunnyside Cogeneration Associates as a Qualifying Small Power Production Facility in Docket No. QF86-556-004 filed April 19, 2000. While being loaded into trucks destined for the landfill, such ash will be conditioned with slurry containing water and water treatment solids. No other material is authorized for disposal by this permit in the Ash Disposal Area. At the present time, the Phase I Ash Disposal Area encompasses an area of approximately 20 acres, is now capped and is in post closure.

A Construction Permit has been issued which will allow for expansion of the Phase II Ash Disposal area of the landfill of approximately 32 acres. The total facility is approximately 52 acres. This construction will follow that which was approved in the original 20-acre design [see Part I].

2. Design and Construction

- a) *Phase I Ash Disposal Area* - The existing ash disposal area has been constructed as previously designed and approved and is now closed, capped and re-seeded according to specifications.
- b) *Phase II Ash Disposal Area* - The Ash Disposal Area has been constructed according to drawings dated February 8, 1997. Additional expansion of the landfill will also incorporate referenced design specification. Prior to ash placement in the expanded area, organic topsoil and vegetation will be removed, where necessary, from the underlying area. Ash will be placed in 12-inch lifts and compacted. Ash will be configured in 20 foot terraces with a maximum outslope of 2 horizontal to 1 vertical. A 15-foot wide bench will be constructed at the top of each terrace. The bench will be sloped to control drainage as shown in drawing 3. Drainage from the toe of each terrace will be routed to the sedimentation basin at the bottom of the disposal area. A sixteen inch vegetative cover soil material will be placed on the top of the final terrace and outslope configuration as each terrace is finished. The final sixteen-inch cover material will have a hydraulic conductivity no greater than 1×10^{-3} cm/sec.
- c) *Phase III Ash Disposal Area* - The Ash Disposal Area will be constructed according to drawings dated December 23, 2003. Additional expansion of the landfill will also incorporate referenced design specifications. Because of minimal lateral extent of soil and vegetative covering, removal of these materials will not be required and will have no consequences regarding the ash placement in the expanded area. Ash will be placed in 12-inch lifts and compacted. Ash will be configured in 20-foot terraces with a maximum outslope of 2 horizontal to 1 vertical. A 15-foot wide bench will be constructed at the top of each terrace. The bench will be sloped to control drainage as shown in drawing 3.

Drainage from the toe of each terrace will be routed to the sedimentation basin at the bottom of the disposal area. A sixteen inch vegetative cover soil material will be placed on the top of the final terrace and outslope configuration as each terrace is finished. The final sixteen inch cover material will have a hydraulic conductivity no greater than 1×10^{-3} cm/sec. The Phase III area will be approximately 30 acres.

3. Run-on and Run-off Control

Surface water run-on will be controlled by site grading and ditches to direct drainage away from the Phase I, II, and III Ash Disposal Areas.

4. Sediment Basins

Storm water and ash-contact run-off is collected in the sediment basins. These basins approved and permitted by the UPDES process for surface discharge to Icelander Creek, and the revised construction permit covers the construction of the new sediment basin.

E. Compliance Monitoring

1. Compliance Monitoring Points

Sunnyside Cogeneration shall operate ground water monitoring points as follows:

- a) *Phase I, II and III Ash Disposal Area* - Existing monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-7 will serve as downgradient monitoring points. Whitmore Spring serves as the upgradient monitoring point. Locations for these are shown in Drawing Y-30D.

All monitoring wells are constructed in accordance with criteria contained in the EPA RCRA Ground Water Monitoring Technical Enforcement Guidance Document, 1986, OSWER-9950.1 (RCRA TEGD)

2. Future Modification of the Monitoring Well Network

If at any time the Executive Secretary determines the monitoring program to be inadequate, Sunnyside Cogeneration shall submit within 30 days of receipt of written notice from the Executive Secretary a modified monitoring plan that addresses the inadequacies noted by the Executive Secretary.

3. Compliance Monitoring Period

Monitoring shall commence upon issuance of this permit and shall continue through a 30 year period following final closure of the ash disposal area.

4. Monitoring Frequency

The ground water monitoring wells will be sampled semi-annually while the ash disposal landfill is open, according to the requirements of Part II.E.5(c).

5. Monitoring Requirements

- a) In association with each sampling event, water level measurements shall be made in each monitoring well prior to removal of any water from the well bore. Measurements will be made from a permanent single reference point clearly marked on the top of the well or surface casing. Measurements will be made to the nearest 0.01 foot, and reported as elevation above sea level.
- b) Water quality samples will be collected, handled and analyzed in conformance with the Water Quality Sampling Plan that has been approved by the Executive Secretary. Sampling at additional surface water monitor points shall be done according to the Water Quality Sampling Plan.
- c) The following analyses shall be performed on all compliance monitoring samples collected:
 - i) Field Measurements: pH, specific conductance, temperature
 - ii) Laboratory Analysis
 - Major Ions (Ca, Cl, CO₃, HCO₃, K, Mg, Na, SO₄)
 - Total dissolved solids
 - Metals (Ag, As, Ba, Cd, Cu, Pb, Se, Zn)
- d) Ash leachate analysis shall be done every five years beginning with permit issuance in 1992 according to the revised approved Ash Leachate Analysis.

6. Post Closure Monitoring

The permittee shall conduct monitoring after final capping and closure of the Ash Disposal Area on a semiannual frequency for a period of 30 years after final closure. Water Quality sampling from the monitoring wells will include the same field and lab analysis contained in Part II.E.5(c).

7. Laboratory Approval

All water quality analyses shall be performed by a laboratory certified by the State of Utah to perform such analyses.

F. **Non-Compliance Status**

1. Probable Out-of-Compliance Status

Other than as provided in paragraph III.F.2 below, Sunnyside Cogeneration shall evaluate the results of each round of ground water sampling analytical results to determine any exceedance of the ground water protection levels outlined in Part II Table 1. Upon determination by Sunnyside Cogeneration that a protection level has been exceeded, at any compliance monitoring well, Sunnyside Cogeneration shall:

- a) Immediately re-sample the exceeding monitoring well(s), submit analytical results from the re-sampling, and notify the Executive Secretary of the probable out-of-compliance status within 30 days of initial detection.
- b) Implement a monthly frequency of sampling for the ground water monitoring well(s) required by this permit. The monthly frequency shall continue until the Executive Secretary notifies Sunnyside Cogeneration that the permitted monitoring frequency can be resumed.

2. Probable Out-of-Compliance Status for Total Dissolved Solids

In the event total dissolved solids (TDS) exceeds 3,018 mg/l in wells MW-1, MW-2, MW-3, and MW-4 and no other parameters exceed protection levels, the permittee shall prepare a report on the cause of the exceedance for submission with the next regular monitoring report.

This report must show an analysis of major ion chemistry at all monitoring points for the current sampling event and any past data needed to evaluate the cause of the exceedance. If the Exceedance Report fails to identify the probable cause for exceeding the Protection Limits in Table 2, the analysis shall include Piper and Stiff diagrams for water chemistry of the monitoring points, ash leachate, leachate from naturally occurring materials at the site, and water from the ash runoff basin. Other information, such as trend analysis, may also be presented to support the report's conclusions.

In the event the report does not satisfactorily demonstrate that the TDS exceedance was caused by factors other than that of the landfill, the permittee shall follow the procedures in Parts II.F.1 and 3, as applicable. Based on available information, the Executive Secretary may require changes in the compliance-monitoring plan to better monitor the landfill's effects on ground water.

3. Out-of-Compliance Status due to Exceedence of Permit Limits

Based on the accelerated monitoring results obtained under monthly sampling as listed in Part II.F.1, Sunnyside Cogeneration shall determine in accordance with UAC R317-6-6.16, if an out of compliance situation exists. Upon making this determination Sunnyside Cogeneration shall:

- a) Notify the Executive Secretary of the out of compliance status within 24 hours of detection.
- b) Submit a Source Assessment and Compliance Schedule to the Executive Secretary within 30 days of detection of the out of compliance status that outlines the following:
 - i) Steps of action that will assess the extent of the contamination and identify its source.
 - ii) Measures that will be taken to alleviate contribution of any further contamination to the ground water and prevent any recurrence of the non-compliance.
 - iii) Actions that will be taken to mitigate and remediate existing contamination from the implicated facility.

- c) Implement the Source Assessment and Compliance Schedule within 120 days of approval by the Executive Secretary.

4. Out-of-Compliance Status due to Failure of Best Available Technology

If the permittee determines that an out of compliance situation exists due to failure to maintain best available technology, Sunnyside Cogeneration shall notify the Executive Secretary according to the provisions of this permit.

In the event a compliance action is initiated against the permittee for violation of permit conditions relating to containment technology, the permittee may affirmatively defend against that action by demonstrating the following:

- a) The permittee submitted notification according to the provisions of this permit.
- b) The failure was not intentional or caused by the permittee's negligence, either in action or failure to act.
- c) The permittee has taken adequate measures to meet permit conditions in a timely manner or has submitted to the Executive Secretary, for his approval, an adequate plan and schedule for meeting permit conditions; and
- d) The provisions of Utah Code Ann. § 19-5-107 have not been violated.

G. Reporting Requirements

1. Reporting

Water quality sampling results shall be submitted to the Executive Secretary as follows:

<u>Semi-Annual Sampling</u>	<u>Report Due On</u>
1st (Jan., Feb., March, April, May, June)	July 15
2nd (July, Aug., Sept., Oct., Nov., Dec.)	January 15

Failure to submit reports within the time frame due shall be deemed as noncompliance and may result in enforcement action.

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. **Representative Sampling**

Samples taken in compliance with the monitoring requirements established under Part I shall be representative of the monitored activity.

B. **Analytical Procedures**

Water sample analysis must be conducted according to test procedures specified under UAC R317-6-6.3.L, unless other test procedures have been specified in this permit.

C. **Penalties for Tampering**

The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. **Reporting of Monitoring Results**

Monitoring results obtained during each reporting period specified in the permit, shall be submitted to the Executive Secretary, Utah Division of Water Quality at the following address no later than the 15th day of the month following the completed reporting period:

Utah Division of Water Quality
195 North 1950 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870
Attention: Ground Water Protection Program

E. **Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. **Additional Monitoring by the Permittee**

If the permittee monitors any pollutant more frequently than required by this permit, using approved test procedures as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted. Such increased frequency shall also be indicated.

G. Records Contents

Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

H. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Executive Secretary at any time.

I. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee shall verbally report any noncompliance which may endanger public health or the environment as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances. The report shall be made to the Utah Department of Environmental Quality 24 hour number, (801) 536-4123, or to the Division of Water Quality, Ground Water Protection Section at (801) 536-4300, during normal business hours (Monday through Friday 8:00 am - 5:00 pm Mountain Time).
2. A written submission shall also be provided to the Executive Secretary within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;

- b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
3. Reports shall be submitted to the addresses in Part III.D, Reporting of Monitoring Results.

J. Other Noncompliance Reporting

Instances of noncompliance not required to be reported within 24 hours, shall be reported at the time that monitoring reports for Part III.D are submitted.

K. Inspection and Entry

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

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

IV. COMPLIANCE RESPONSIBILITIES

A. **Duty to Comply**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Executive Secretary of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

B. **Penalties for Violations of Permit Conditions**

The Act provides that any person who violates a permit condition implementing provisions of the Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under Section 19-5-115(2) of the Act a second time shall be punished by a fine not exceeding \$50,000 per day. Nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. **Need to Halt or Reduce Activity not a Defense**

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

D. **Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. **Proper Operation and Maintenance**

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

V. GENERAL REQUIREMENTS

A. **Planned Changes**

The permittee shall give notice to the Executive Secretary as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when the alteration or addition could significantly change the nature of the facility or increase the quantity of pollutants discharged.

B. **Anticipated Noncompliance**

The permittee shall give advance notice of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

C. **Permit Actions**

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. **Duty to Reapply**

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a permit renewal or extension. The application should be submitted at least 180 days before the expiration date of this permit.

E. **Duty to Provide Information**

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

F. **Other Information**

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Executive Secretary, it shall promptly submit such facts or information.

G. **Signatory Requirements**

All applications, reports or information submitted to the Executive Secretary shall be signed and certified.

1. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
 - c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by the Executive Secretary shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Executive Secretary, and,
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to Authorization. If authorization under Part IV.G.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.G.2. must be submitted to the Executive Secretary prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system

designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports

The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports

Except for data determined to be confidential by the permittee, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Executive Secretary. As required by the Act, permit applications, permits, effluent data, and ground water quality data shall not be considered confidential.

J. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

K. Severability

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

L. Transfers

This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Executive Secretary at least 30 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
3. The Executive Secretary does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

M. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, penalties established pursuant to any applicable state law or regulation under authority preserved by Section 19-5-117 of the Act.

N. Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. If new ground water standards are adopted by the Board, the permit may be reopened and modified to extend the terms of the permit or to include pollutants covered by new standards. The permittee may apply for a variance under the conditions outlined in R317-6-6.4(D).
2. If alternative compliance mechanisms are required.
3. If subsequent ground water monitoring data reveals the background water quality values in Part II Table 1 are not accurate.
4. If data collected subsequent to permit issuance indicate that the fresh water reservoir and or the coal runoff basin present risks to ground water quality.

APPENDIX A 1992, 1997, and 2004 CONSTRUCTION PERMITS

Original (1992) Construction Permit

We have completed our review of the plans and specifications for the construction of Sedimentation Basins which will serve the Sunnyside Cogeneration coals storage and ash disposal sites. The plans were received December 16, 1991.

The plans and specifications as submitted, comply with *the Utah Water Quality Rules, (R317, Utah Administrative Code)*. A **Construction Permit** is hereby issued as constituted by this letter, subject to the following conditions:

1. Any revisions or modifications to the approved plans and specifications must be submitted to the Division of Water Quality (the Division) for review and approval, before construction or implementation thereof.

Construction must not begin until the ground water discharge permit is issued.

2. The approved facilities must not be placed in service unless the division has made a final inspection, and has authorized in writing to place the constructed facilities in service.
3. Sediments shall be removed when sixty percent of the maximum sediment storage volume is reached.
4. The native soil used for construction of the bentonite enriched lining must:
 - a. Be free of rocks larger than two inches, debris, organic and other foreign substances, and,
 - b. Be predominately silt or clay, i.e. more than 50% passing a No. 200 sieve.

This construction permit will expire on February 18, 1993, unless substantial progress is made in constructing the approved facilities or the plans and specifications have been resubmitted and the construction permit is reissued. This permit does not relieve you in any way of your obligations to comply with other applicable local requirements, or those stated in the permit issued under the *Utah Pollutant Discharge Elimination System*. You may contact Mr. Claron Bjork of Southeastern Utah District Health Dept at 637-3671 for further assistance in this regard.

A set of approved plans and specifications is returned herewith bearing an imprint of our construction permit stamp. The stamped set must be kept available for examination and inspections to be conducted by the Division, or for resolution of any conflicts or discrepancies that may arise during construction or installments.

Construction Permit, Revised: February, 1997

The plans and specifications as submitted on February 8, 1997 for the Phase 2 Ash Disposal Facility, comply with *the Utah Water Quality Rules, (R317, Utah Administrative Code)*. A **Construction Permit** is hereby issued as constituted by this letter, subject to the following conditions:

1. *Any revisions or modifications to the approved plans and specifications must be submitted to the Division of Water Quality (the Division) for review and approval, before construction or implementation thereof.*
2. *The approved facilities must not be placed in service unless the Division has made a final inspection, and has authorized in writing to place the constructed facilities in service.*

This construction permit will expire on *April 1, 1998*, unless substantial progress is made in constructing the approved facilities or the plans and specifications have been resubmitted and the construction permit is reissued. This permit does not relieve you in any way of your obligations to comply with other applicable local requirements, or those stated in the permit issued under the *Utah Pollutant Discharge Elimination System*.

The project consists of the construction of a first cell of an ultimately four cell ash disposal area which will be approximately 32 acres in size. The project will also include the construction of a haul road from the Phase 1 area, perimeter berms and ditches, a seepage blanket and outlet, an armored ash containment ditch, a lined sedimentation basin and emergency outlet, a cell access road within Cell 1 and the establishment of turf on the haul road and sedimentation basin embankments. The seepage blanket will intercept the seep under Cell 1 and discharge it outside of the disposal area. The sedimentation basin will intercept stormwater runoff from the surface of the disposal area for containment or treatment. The basin is designed to totally contain a 10 yr 24 hr storm volume and flow. The liner for the pond will consist of either a synthetic membrane or two, six-inch compacted lifts of clay with a minimum hydraulic permeability of 1×10^{-6} cm/sec. The liner will be covered with an 18-inch thick soil layer. A stone armor layer will form the top layer of the pond lining. Any runoff that exceeds the rate and volume of the design storm will overflow into a 12" dia. line and discharge into the adjacent Icelander Creek, an ephemeral stream.

A set of approved plans and specifications is returned herewith bearing an imprint of our construction permit stamp. The stamped set must be kept available for examination and inspections to be conducted by the Division, or for resolution of any conflicts or discrepancies that may arise during construction or installation.

Construction Permit, Revised: April 2004

The plans and specifications as submitted on December 31, 2004 for the Phase 3 Ash Disposal Facility, comply with *the Utah Water Quality Rules, (R317, Utah Administrative Code)*. A **Construction Permit** is hereby issued as constituted by this letter, subject to the following conditions:

1. *Any revisions or modifications to the approved plans and specifications must be submitted to the Division of Water Quality (the Division) for review and approval, before construction or implementation thereof.*
2. *Sediments shall be removed from the sedimentation basins when sixty percent of the maximum sediment storage volume is reached. The maximum sediment storage volume is that volume of in-basin sediment where the remaining open storage volume in the basin is adequate to totally contain the 10 year, 24 hour storm. The sediments shall be removed from all basins if any one basin's maximum sediment capacity is 60% full.*
3. *The approved facilities must not be placed in service unless the Division has made a final inspection, and has authorized in writing to place the constructed facilities in service.*

This construction permit will expire on *April 2005*, unless substantial progress is made in constructing the approved facilities or the plans and specifications have been resubmitted and the construction permit is reissued. This permit does not relieve you in any way of your obligations to comply with other applicable local requirements, or those stated in the permit issued under the *Utah Pollutant Discharge Elimination System*.

This construction permit, which covers Phase 3 of the project, consists of the construction of the third cell of the ash disposal area, which will be approximately 30.47 acres in size. Phase 3 will cover the area between the fill areas of Phases 1 and 2. The finished surface terrace and bench construction contours will tie into, and match those of the two existing adjacent phases on either end of the fill area. Terraced slopes, constructed with an approximate 2.5 horizontal to 1 vertical slope, will be approximately 20 ft. high, with 15 ft. wide benches separating each slope. Cover soil will be placed of the finished ash surfaces and vegetation will be established to minimize erosion and percolation of rainfall into the ash. Cover soil will be placed once or twice per year, as seeding, fertilizing, and mulching of the cover soil will be performed once per year.

The project will also include the construction of a piped seepage collection system to collect seepage from ephemeral seeps which underlay the fill area, open drainage collection ditches, a lined sedimentation basin with emergency outlet, and the establishment of turf on the haul road and sedimentation basin embankments. The seepage collection system will intercept the seep under the Phase 3 fill area and discharge it outside of the disposal area to an open drainage collection ditch, which will convey the seepage to a sedimentation basin.

The Phase 3 sedimentation basin is a component of the integrated seepage and runoff control system for all three phases. The Phase 3 sedimentation basin will be approximately 2.75 acre-feet in volume, and will be located below the Phase 3 fill area and between the Phase 1 and 2 sedimentation basins. All project area drainage will be directed to one of the three sedimentation basins or interconnecting drainage ditches. The system is designed to totally contain a 100-year 24-hour storm with no stored sediment or a 10-year 24-hour storm volume and flow with a full compliment of stored sediment. The liner for the Phase 3 sedimentation pond will consist of two, six-inch compacted lifts of clay with a maximum hydraulic permeability of 1×10^{-6} cm/sec. The native soil used for the liner must be free of rocks larger than two inches, debris, organic and other foreign substances, and be predominately silt or clay, with more than 50% passing a No. 200 sieve. The liner material will be amended with granular bentonite to achieve this permeability. The liner will be covered with an 18-inch thick soil layer. A stone armor layer will form the top layer of the pond lining. Storm flows will normally decant into a 4" diameter line and be discharged into the downstream drainage ditch going to the Phase 2 sedimentation pond. Any runoff that exceeds the rate and volume of the design storm will be discharged over an open spillway 5.5 ft. above the decant line.

A set of approved plans and specifications is returned herewith bearing an imprint of our construction permit stamp. The stamped set must be kept available for examination and inspections to be conducted by the Division, or for resolution of any conflicts or discrepancies that may arise during construction or installation.