



State of Utah

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Department of  
Environmental Quality

Amanda Smith  
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DIVISION OF AIR QUALITY  
Cheryl Heying  
*Director*

DAQE-IN0100960028-09

October 20, 2009

Steve Gross  
Sunnyside Cogeneration Associates  
P.O. Box 159  
Sunnyside, UT 84539

Dear Mr. Gross:

Re: Intent to Approve: Adding a Coal Refuse Delumper, Carbon County; CDS A; Attainment Area,  
NSPS (Part 60), Title V (Part 70)  
Project Number: N010096-0028

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an Approval Order. An invoice will follow upon issuance of the final Approval Order.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. The project engineer for this action is John Jenks, who may be reached at (801) 536-4459.

Sincerely,

Martin D. Gray, Manager  
Major New Source Review Section

MDG:JJ:kw

cc: Mike Owens  
Southeastern UT District Health Department

**STATE OF UTAH**

**Department of Environmental Quality**

**Division of Air Quality**

**INTENT TO APPROVE: Adding a Coal Refuse Delumper**

**Prepared By: John Jenks, Engineer  
Phone: (801) 536-4459  
Email: [jjenks@utah.gov](mailto:jjenks@utah.gov)**

**INTENT TO APPROVE NUMBER**

**DAQE-IN0100960028-09**

**Date: October 20, 2009**

**Sunnyside Cogeneration Associates  
Sunnyside Cogeneration Facility**

**Source Contact:  
Mr. Rusty Netz  
Phone: (435) 888-4476**

**Martin D. Gray, Manager  
Major New Source Review Section  
Utah Division of Air Quality**

## ABSTRACT

On June 15, 2009 Sunnyside Cogeneration Associates (SCA) submitted a NOI requesting permission to install a coal delumper and adjust two conditions in the existing AO (DAQE-AN0096021-06) issued to SCA's cogeneration facility located in Sunnyside, Carbon County.

The coal delumper is a device to break up previously processed chunks of coal refuse that have become frozen during cold weather. Any particulate emissions will be controlled by an existing baghouse and by operating the delumper inside a building. Total emissions are estimated at a fraction of a ton per year (0.00009 tpy). No other equipment will be affected by this change.

Current AO condition 17 requires SCA to measure production rate during emissions testing in terms of electricity production. SCA is requesting that production rate instead be based on maximum steam production of the boiler. This would represent a more immediate demonstration that the boiler is operating within 90% of capacity.

In the last paragraph of current AO condition 21 there is a requirement for a 15% relative accuracy test audit (RATA) performance requirement. The original basis for this requirement comes from 40 CFR 60, Appendix B, which has a 20% performance requirement. SCA has demonstrated to UDAQ that a value of 20% is more appropriate given that the nature of the requirement is to ensure the proper tolerance range of the analyzer and has no correlation with emissions. The more restrictive requirement simply makes the certification process of the CEMS more difficult and would not serve as any additional protection of the NAAQS or PSD increment.

The effect on emissions from these three changes is negligible, and are outside the sensitivity of any testing or monitoring required at the plant. Therefore no changes in total emissions are being made at this time. Plant-wide emissions will remain as follows:

142.91 tpy of PM<sub>10</sub>  
1,289.26 tpy of SO<sub>2</sub>  
771.2 tpy of NO<sub>x</sub>  
261.96 tpy of CO  
18.17 tpy of VOC

The NOI for the above-referenced project has been evaluated and has been found to be consistent with the requirements of UAC R307. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an AO by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notification of the intent to approve will be published in the Sun Advocate on October 22, 2009. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated. The proposed conditions of the AO may be changed as a result of the comments received.

**Name of Permittee:**

Sunnyside Cogeneration Associates  
P.O. Box 159  
Sunnyside, UT 84539

**Permitted Location:**

Sunnyside Cogeneration Facility  
State Road 123  
#1 Power Plant Road  
East Carbon, UT 84539

**UTM coordinates:** 552,984 m Easting, 4,377,786 m Northing  
**SIC code:** 4911 (Electric Services)

**Section I: GENERAL PROVISIONS**

- I.1 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
- I.2 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
- I.3 All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of five (5) years. [R307-401]. [R307-415-6b]
- I.4 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
- I.5 The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring. [R307-150]
- I.6 The owner/operator shall comply with UAC R307-107. General Requirements: Unavoidable Breakdowns. [R307-107]
- I.7 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]

**Section II: SPECIAL PROVISIONS**

**II.A The approved installations shall consist of the following equipment:**

**II.A.1 Permitted Source**

Plant-wide conditions

**II.A.2 Circulating Fluidized Bed Combustion Boiler**

Rated at 700 MMBtu/hr and fueled by coal, coal refuse or alternative fuels, and fueled by diesel fuel during startup, shutdown, upset condition and flame stabilization. This boiler is equipped with a limestone injection system to the fluidized bed and a baghouse. This boiler is subject to 40 CFR 60, Subpart Db and CAM.

**II.A.3 Controlled Point Sources**

Crusher, Enclosed Conveyor Transfer Points, Coal Silo Bin Vents, Coal Dust Collectors #1 (Coal Silo Unloading) and #2 (Coal Bunker Unloading) (all of above are subject to NSPS Subpart Y); and Flyash Baghouse, Hydrated Lime Storage Silo, Soda Ash Storage Silo, Ash Unloading Wet Scrubber, and Limestone Bulk Storage.

**II.A.4 Uncontrolled Point Sources**

Primary and Secondary Screens, Coal Conveying Operations (NSPS Subpart Y), Coal Receiving Hoppers (NSPS Subpart Y), Bulk Storage of Coal, and Limestone Receiving Hopper.

**II.A.5 Fugitive Dust Sources**

Coal or Coal Refuse, Mining Operations, Ash Landfill Operations, Unpaved Roads, and Paved Haul Roads.

**II.A.6 Diesel Engines**

One diesel engine, approximately 201 HP, used to power the emergency backup fire pump, and various portable I/C engines to power air compressors, generators, welders and pumps.

**II.A.7 Fuel Oil Storage Tanks**

50,000 gallon storage tank used to store backup diesel fuel oil for main boiler startup, shutdown, upset condition and flame stabilization (NSPS Subpart Kb), a 7,200 gallon storage tank used to store diesel fuel, and a 250 gallon storage tank used to store diesel fuel oil for the emergency diesel fire pump.

**II.A.8 Emergency Generator**

A 500 kW emergency standby diesel generator, used in the event of disruption of normal electrical power and testing/maintenance.

**II.A.9 Coal Dust Collectors #1 and #2 (EU#2A)**

Coal Silo Unloading Dust Collector and Coal Bunker Unloading Dust Collector. Both units are subject to CAM.

**II.B Requirements and Limitations****II.B.1 Conditions on Permitted Source**

II.B.1.a The owner/operator shall notify the Executive Secretary when the installation of the coal refuse delumper listed in section II.A.3 has been completed and is operational as an initial compliance inspection is required. To Insure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If the installation has not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the installation. At that time, the Executive Secretary shall require documentation of the continuous installation of the operation and may revoke the AO in accordance with R307-401-18. [R307-401-18]

II.B.1.b The sulfur content of any fuel oil burned shall not exceed 0.85 pounds of sulfur per million BTU heat input as determined by ASTM Method D-4239-83. The percent by weight of the sulfur contained in the fuel can be obtained from the fuel oil certifications. Certification of fuels shall be either by SCA's own testing or test reports from the fuel marketer. Records of the fuel sulfur content must be kept on site. [R307-203-1]

II.B.1.c The production limit of 506,700 megawatt-hours of electricity per rolling 12-month period shall not be exceeded. To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of electricity production shall be kept for all periods when the plant is in operation. Compliance with the limitations for the production of electricity shall be determined by examination of power sales records and electrical meter records. These records shall be kept on a daily basis. [R307-401]

**II.B.2 Conditions on Circulating Fluidized Bed Boiler**

II.B.2.a The fluidized bed boiler shall use refuse coal or coal additives as fuel (with diesel fuel used during startup, shutdown, upset conditions and flame stabilization). The coal additives shall consist of alternative fuels approved by the Executive Secretary. The average quantity of coal additives blended with refuse coal for burning shall not be greater than 10% of the total coal burned during a calendar day. The owner/operator may increase the average quantity of alternative fuels up to 25% upon approval of those alternative fuels by the Executive Secretary. To obtain approval from the Executive Secretary, the owner/operator shall submit a test analysis of the alternative fuels. Prior to switching sources of alternative fuels the owner/operator shall obtain approval from the Executive Secretary. The analysis shall contain at a minimum the ASTM coal proximate analyses, the ultimate analyses, the benzene analyses and the polyaromatic hydrocarbons (PAH) analyses. [R307-401-8]

II.B.2.b Visible emissions from the fluidized bed boiler stack shall not exceed 10% opacity (calculated on a six minute average) at all times, except for one six-minute period per 60-minute period, during which the opacity shall not exceed 27%. [40 CFR 60 Subpart Db, R307-401-8]

II.B.2.c The emission rates/concentrations from the main boiler stack shall not exceed any of the following values:

Particulates: 0.025 lb per 10<sup>6</sup> BTU heat input

SO<sub>2</sub> (during normal boiler operation not including startup, shutdown and malfunction):  
0.42 lb per 10<sup>6</sup> BTU heat input on a 30-day rolling average  
462 lb per hour on a 3-hour block average

SO<sub>2</sub> (including startup, shutdown and malfunction):  
1.2 lb per 10<sup>6</sup> BTU heat input on a 30-day rolling average

NO<sub>x</sub> (during normal boiler operation not including startup, shutdown and malfunction):  
0.25 lb per 10<sup>6</sup> BTU heat input on a 30-day rolling average

NO<sub>x</sub> (including startup, shutdown and malfunction):  
0.6 lb per 10<sup>6</sup> BTU heat input on a 30-day rolling average

CO:  
0.085 lb per 10<sup>6</sup> BTU heat input (as per 40 CFR 60 Appendix A, Method 10 or 10b). [R307-401-8]

II.B.2.c.1 Stack testing or monitoring to show compliance with the emission limitations for the boiler stack shall be performed as specified below:

Pollutant	Test Frequency
Total Suspended Particulate (TSP)	Every 3 years
SO <sub>2</sub>	Continuous
NO <sub>x</sub>	Continuous
CO	Annually

[R307-165, R307-170]

II.B.2.c.2 The owner/operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the emissions discharged to the atmosphere from the main boiler stack and record the output of the system. The monitoring system shall be used for measuring and determining compliance. The continuous monitoring system shall be used for the following:

The opacity of emissions  
NO<sub>x</sub> emissions  
SO<sub>2</sub> emissions  
The concentration of CO<sub>2</sub> or O<sub>2</sub> in the main boiler stack

To determine compliance with the SO<sub>2</sub> mass emission limits (lbs/hr), the owner/operator shall install, maintain, calibrate, and operate a continuous stack flow monitoring system or other alternate monitoring methodology acceptable to the Executive Secretary. A 20% Relative Accuracy Test Audit (RATA) performance requirement shall apply to the mass emission rate monitoring system.

The continuous monitoring system shall comply with applicable provisions of 40 CFR 60.47b, 40 CFR 60.48b and 40 CFR 60 Appendix B, Specifications 1(opacity), 2 (SO<sub>2</sub> and NO<sub>x</sub>) and 3 (O<sub>2</sub> and CO<sub>2</sub>).

The owner/operator shall comply with R307-170, UAC, Continuous Emission Monitoring Program. To be in compliance, the owner/operator must operate in accordance with the most current version of the UAC, R307-170. Also, the owner/operator shall comply with all the reporting and record keeping requirements of 40 CFR 60.49b. All continuous monitoring data shall be recorded. [R307-170, 40 CFR 60 Appendix B]

- II.B.2.c.3 The Executive Secretary may require testing at any time. A pre-test protocol and notification of the test date shall be provided at least 30 days prior to the test. A pretest conference shall be held. It shall be held at least 30 days prior to the test between the owner/operator, the tester, and the Executive Secretary. The emission points shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approvable access shall be provided to the test locations.

During the pretest conference the owner/operator shall submit a monitoring plan and a quarterly report format to the Executive Secretary for review and approval/disapproval. The monitoring plan shall include all of the required monitors.

The test methods used shall be as follows:

Particulate - Appropriate methods as described in 40 CFR 60.46b

SO<sub>2</sub> - Appropriate method as described in 40 CFR 60, Appendix A, Method 6, 6a, 6b, or 6c at the option of the owner

NO<sub>x</sub> - Appropriate method as described in 40 CFR 60.46b

CO - Appropriate method as described in 40 CFR 60, Appendix A, Method 10 or 10b. CO emissions shall be converted from a concentration basis (ppm) to a mass emission rate (lb/mmBTU) using a similar method as for NSPS pollutants.

The owner/operator shall comply with 40 CFR 60.46b(b) when conducting compliance testing for Particulates, 40 CFR 60.46b (c) and (e) for NO<sub>x</sub>, and 40 CFR 60.45b(b) and (c) for SO<sub>2</sub>. [R307-165]

- II.B.2.c.4 The production rate during all compliance testing shall be no less than 90% of the designed maximum steady-state steam output rate of 478,000 pounds per hour averaged during the compliance test. [R307-165]

### II.B.3 **Conditions on Controlled Point Sources**

- II.B.3.a The following emission points shall be controlled by a fabric filter baghouse which shall control the opacity of emissions to no greater than 7%:

Crusher and crusher-to-conveyor transfer points  
Conveyor transfer points evacuated to a baghouse  
Coal silo dust collectors  
Fly ash baghouse  
Soda ash storage silo  
Ash unloading

Hydrated lime storage silo  
Limestone bulk storage  
Delumper

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

For sources that are subject to NSPS, opacity shall be determined by conducting observations in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9. [R307-205]

II.B.4 **Conditions on Uncontrolled Point Sources**

II.B.4.a The following emission points shall not release to the atmosphere emissions with an opacity greater than 10%:

Conveying operations and transfer points  
Fuel receiving hoppers  
Bulk storage of coal  
Limestone receiving  
Primary screen and secondary screen

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

For sources that are subject to NSPS, opacity shall be determined by conducting observations in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9. [R307-205]

II.B.4.b The following emission points shall not release to the atmosphere emissions with an opacity greater than 20%:

Diesel engine exhaust  
Coal refuse mining operations  
Ash landfill operations  
Unpaved roads  
Paved haul roads

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

For sources that are subject to NSPS, opacity shall be determined by conducting observations in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9. [R307-205]

II.B.5 **Conditions on Fugitive Dust Sources**

II.B.5.a Sunnyside Cogeneration Facility shall operate in accordance with the most current fugitive dust control plan approved by the Executive Secretary for the control of all dust sources associated with the plant and Ash Landfill. The parameters and assumptions used in the most recent air quality modeling analysis shall not be changed if such change would result in an increase in

PM<sub>10</sub> emissions. The limitations and conditions in the current fugitive dust control plan shall not be changed without prior approval in accordance with R307-401, UAC. [R307-205, R307-309]

### **Section III: APPLICABLE FEDERAL REQUIREMENTS**

In addition to the requirements of this AO, all applicable provisions of the following federal programs have been found to apply to this installation. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

NSPS (Part 60), A: General Provisions  
NSPS (Part 60), Y: Coal Preparation Plants  
NSPS (Part 60), Db: Indus Com Institn Steam Generator

### **PERMIT HISTORY**

The final AO will be based on the following documents:

Is Derived From  
Supersedes

Source submitted NOI dated June 15, 2009  
DAQE-AN0096021-06 dated November 9, 2006

## ACRONYMS

The following lists commonly used acronyms and their associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
COM	Continuous opacity monitor
DAQ	Division of Air Quality (typically interchangeable with UDAQ)
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO <sub>x</sub>	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM <sub>10</sub>	Particulate matter less than 10 microns in size
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO <sub>2</sub>	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality (typically interchangeable with DAQ)
VOC	Volatile organic compounds