UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466
http://www.epa.gov/region08

Ref: 8P-AR

Fact Sheet
Prevention of Significant Deterioration (PSD) Permit
PSD-UO-0001-00

to

Deseret Generation and Transmission Co-Operative
Bonanza Power Plant Unit Number 1
12500 East 25500 South
Vernal, Utah 84078

September 12, 2000

Permit Re-Notice: On May 19, 2000, EPA noticed for public review a draft PSD Permit for DG&T and provided for public review a Fact Sheet that explained the proposed permitting action. EPA is re-noticing the draft Permit and updating and expanding the Fact Sheet to reflect two changes to them.

- Per cent sulfur dioxide (SO_2) removal. On page 3 of the draft Permit, EPA stated that a State of Utah permit Condition related to 90% removal efficiency for SO_2 over 30 successive boiler operating days was retained in the federal Permit. In the May 19, 2000, draft Permit, EPA inadvertently omitted this Condition. The Permit noticed for public comment on September 19, 2000, includes this 90% SO_2 removal requirement as Condition 25. C. Conditions 25 C through E in the May 19, 2000, draft Permit are renumbered as Conditions 25 D through F. This SO_2 removal requirement is discussed more fully in the Emission Limits Section in the Fact Sheet beginning "Part III, Condition 1(a) of the EPA 1981 Conditional Permit..." , and is the only Permit change made.

- Annual SO_2 discharge. For clarification purposes, the Fact Sheet discussion in the Emission Limits Section, beginning "The Permittee requested an increase in SO_2 limits in the mid-1990's..." has been expanded and corrected to present a more accurate discussion of the annual emission limit for SO_2.

The EPA is re-noticing this draft Permit with the Condition related to 90% sulfur dioxide removal efficiency to ensure that interested people and organizations, including the facility, have an opportunity to comment on this change and the draft PSD Permit. The public comment period is from September 19, 2000 through October 31, 2000.

Fact Sheet: In accordance with requirements at 40 CFR § 124.8, the Environmental Protection Agency (EPA) has prepared a Fact Sheet related to reissuance of a Prevention of Significant Deterioration (PSD) permit to the Deseret Generation and Transmission Co-Operative (DG&T, hereafter the Permittee), Bonanza, Utah. This Permit modifies EPA's original PSD conditional approval permit issued February 4, 1981. This Fact Sheet presents information that is germane to this permit action.

The reason for EPA's reissuance of this Permit is that the Permittee is located in Indian country. Under Section 301(d) of the Clean Air Act (42 U. S. C. § 7601(d), EPA is required to be the permitting authority for this major air source located on the Uintah and Ouray Reservation. The State of Utah had issued Approval Orders to the facility in the 1980's and 1990's. This Permit replaces State issued Approval Orders.

Federal administrative permitting standards at 40 CFR Part 124, Procedures for Decisionmaking, provide requirements for several environmental permit programs, including the PSD program. General administrative procedures are codified in this Part, including those that relate to the PSD program. EPA PSD permit actions, such as issuing, modifying, reissuing, or

terminating, are addressed in 40 CFR § 124.1, Subpart A, General Program Requirements. Part 124 also includes requirements that pertain to draft permits, Fact Sheet, administrative records for draft permits when EPA is the permitting authority, public notice of permit actions and public comments periods, public comments and requests for public hearings, public hearings, and appeals of the PSD Permit decision. Requirements in Part 124, that provide for public review and involvement in this proposed action, will be used by EPA in its decision making.

In particular, the administrative requirements at 40 CFR Part 124, Subpart C, Specific Procedures Applicable to PSD Permits, will be followed. Whenever a major source's air emissions might affect a Class I area under 40 CFR § 124.42, Additional procedures for PSD Permits affecting Class I areas, the Regional Administrator must provide notice of receipt of a Permit application to the Federal Land Manager and the Federal official charged with direct responsibility for management of lands within such area.

In 1980, the Permittee provided an air quality modeling analysis in its permit application. Air emission impacts from the facility on PSD Class I areas and the State of Colorado Category I area in the Dinosaur National Monument [DNM] were evaluated. The Permittee concluded that the facility's impacts on PSD Class I areas would be "insignificant" and would also meet the State of Colorado's increments for those portions of the DNM in the state.

In 1993, the Permittee performed dispersion and visibility modeling to determine if proposed facility increases in SO_2 emissions might impact PSD Class II increments, the National Ambient Air Quality Standards (NAAQS), or visibility in PSD Class I areas. The Permittee concluded that no federal Class I or Class II areas would be impacted by the proposed SO_2 emission increases. The State of Utah and EPA reviewed the Permittee's modeling data and accepted this conclusion.

For this PSD Permit reissuance, the Federal Land Manager and the federal official charged with management of Class 1 areas will be notified of this proposed permit action. The State of Colorado has identified one State Category 1 area in the vicinity of the facility. The State of Colorado will be advised of this proposed Permit reissuance.

In accordance with requirements at 40 CFR § 124.8 (b)(3), EPA has determined that the operation of the facility will not result in significant increment consumption.

Public Comment Period: The public comment on this re-notice of the draft PSD Permit is from September 19, 2000 to October 31, 2000. States, Tribes, local governmental agencies, the public, and the Permittee may comment on this potential PSD Permit action during the public notice period. Organizations or people wishing to comment on this draft Permit must send written comments no later than October 31, 2000, to:

Lawrence A. Wapensky
EPA Region VIII (8P-AP)
Air and Radiation Program
999 18th Street
Denver, CO 80202

Telephone 303 312-6043
Fax Number 303 312-6064

This draft Permit represents a proposed Agency action to re-issue a previously issued federal PSD Permit to the Permittee, under Title I, Part A, Air Quality and Emission Limitations, and Part C, Prevention of Significant Deterioration of Air Quality, of the Clean Air Act, as amended. For completeness, this Fact Sheet should be read in conjunction with the draft PSD Permit.

EPA does not plan to hold a public hearing on this draft Permit modification, unless requested in writing by a commenter. A request for a public hearing should meet requirements at 40 CFR § 124.11, Public comments and requests for public hearings. The request should state the reasons for the need for a public hearing.

This draft Permit will become effective immediately upon issuance, if no comments request a change in the draft Permit, in accordance with requirements at 40 CFR § 124.15, Issuance and effective date of Permit. If changes are requested, the Permit will become effective thirty days after a final Agency decision. An appeal of the final Permit decision may be made by any person, including the Permittee, who filed comments on the draft Permit in accordance with requirements at 40 CFR § 124.19, Appeal of RCRA, UIC, and PSD Permits.

Administrative Record: The Administrative Record for this draft Permit was prepared in accordance with requirements at 40 CFR § 124.9, Administrative Record for draft Permits. The Administrative Record is located at:

EPA Region VIII Library
First Floor of One Denver Place
999 18th Street
Denver, Colorado 80202
Business Hours: 12-4:00 P.M.
Monday-Friday

Air Quality Program
Environmental Office
Uintah and Ouray Reservation
Ute Indian Tribe
6358 E. Highway 40
Fort Duchsene, Utah 84026
Business Hours: 8:00 A.M.-4:30 P. M.
Monday-Thursday

TriCounty Health Department
Environmental Health Division
147 E. Main Street
Vernal, Utah 84078

Many documents are referenced in this Fact Sheet and are part of the Administrative Record. All Administrative Record documents can be found at the EPA library, the Air Quality Program of the Ute Indian Tribe, and the TriCounty Health Department. An Index of Documents lists all documents that are part of the Administrative Record.

Persons wishing assistance in reviewing the Administrative Record should notify the EPA contact person.

Facility Location: The power plant is located at:

Deseret Generation and Transmission Co-operative
12500 East 25500 South
Vernal, Utah 84078

Phone Number: 435-789-9000
Fax Number: 435-781-5816

The home office is located at:

Deseret Generation and Transmission Co-Operative
10714 S. Jordan Gateway
South Jordan, Utah 84095

Phone Number: 801-619-6500
Fax Number: 801-619-6559

Background: The Permittee is a public utility that operates an approximately 500 MW power plant near Bonanza, Utah. This facility is located on the Uintah and Ouray Reservation of the Ute Indian Tribe. EPA issued a PSD Permit to the Permittee on February 4, 1981, for construction of the facility and installation of best available control technology (BACT) for control of sulfur dioxide (SO_2), particulate matter (PM), and opacity conditions. In the 1980's and 1990's, the State of Utah issued Approval Orders to the Permittee for control of these emissions, and emissions of particulate matter (PM_{10}) 10 μ (10 microns) or less in diameter. EPA has determined that the facility is located in Indian country, on the Uintah and Ouray Reservation of the Ute Indian Tribe, and is not subject to State jurisdiction. EPA notified the Permittee on September 22, 1999, that the federal government is required to re-issue an EPA PSD Permit for the facility.

1998 State Approval Order: The State of Utah issued an Approval Order on March 16, 1998, to the Permittee, under the Clean Air Act, PSD permitting program, and the State of Utah's Air Conservation Act (UAR) and Utah's Air Quality Rules (UAQR). The State's Approval Order included requirements for opacity and control of fugitive emissions under the State Implementation Plan (SIP) and conditions related to burning of used oil under hazardous waste rules, in addition to BACT control requirements for $S0_2$, PM_{10}, and NO_x. This EPA Permit addresses requirements related to the emission for SO_2, PM, PM_{10}, and NO_x, opacity, and fugitive emissions. Federal permitting requirements for these regulated pollutants are found at 40 CFR § 60, Subpart Da, Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978 and at 40 CFR § 52.21, Prevention of significant deterioration of air quality. The intent of this action, when made final by EPA, is to re-issue the EPA 1981 Permit and to replace the State of Utah's Approval Order.

Chronology of Events: The following information summarizes recent EPA permitting actions related to the Permittee:

- December 15, 1997. The UDEQ in a letter to EPA withdrew proposed Title IV and Title V air permits to DG&T since the facility is located in Indian country.

- January 1, 1998. A federal Title IV, Phase II Acid Rain Permit for the Permittee became effective. On January 1, 2008, the Permittee must meet lower emission standards for $N0_x$ than are currently required by this Permit.

  No acid rain permit conditions are included in this draft Permit.

- July 12, 1999. The Ute Tribe Air Quality Management, in response to an EPA June 3, 1999, letter, stated that the Permittee is located on the Uintah and Ouray reservation.

- September 22, 1999. EPA sent a letter to DG&T communicating that EPA has permitting responsibility over the facility, since it is located on the Uintah and Ouray Reservation of the Ute Indian

EPA Jurisdiction: On February 12, 1998, in 63 FR 7253, the Tribal Authority Rule (TAR), was promulgated by EPA. The TAR sets forth provisions in the Clean Air Act as amended for which it is appropriate to treat Indian Tribes as States. On February 19, 1999, in 64 FR 8247, EPA promulgated rules for issuance of Title V Permits to air sources located in Indian Country. Until a Tribe receives authorization to implement applicable provisions of the Clean Air Act, EPA will issue Permits to the air sources located in Indian country. The Ute Indian Tribe has not received delegation from EPA to issue air permits to facilities located in Indian country.

PSD Permit Re-issuance Actions: Since the State of Utah had received permitting information from the Permittee and had issued Approval Orders to the facility, and since this information and the permits have been provided to EPA, the Permittee has not been requested to provide a formal Permit application, nor has one been submitted by the facility. EPA has requested certain existing information from the facility, but to simplify the permitting process and to reduce the administrative burden on the Permittee, no new data for this draft Permit have been requested.

Permitting Overview and Chronology of Events: The following is a history of communications and permitting actions related to the Permittee's Bonanza Power Plant No. 1. The permitting process began 22 years ago. The State of Utah was the permitting decision-making authority for much of this time. This overview is related to Permit actions and is not meant to be an exhaustive presentation or discussion of each communication, Permit issuance or modification, related to the Permittee, nor include every document in the EPA files on this subject. All documents and electronic spreadsheet diskettes are available for review. In the Fact Sheet, the documents are numbered to make cross-referencing with the Administrative Record Index easier.

1. September 22, 1978, Burns and McDonnell engineers, architects and consultants of Kansas City, Missouri, DG&T's representatives, sent a letter to the EPA Region VIII stating that the utility planned to construct a coal-fired electric steam generating facility in Uintah County, Utah. The facility was to be a major source of SO_2, PM, and NO_x, subject to Prevention of Significant Deterioration permitting rules at 40 CFR § 52.21.

2. August 14, 1980. DG&T submitted to the State of Utah and the EPA a document titled: Information for Review Pursuant to 40 CFR 52.21 Concerning Deseret Generation and Transmission Cooperative, Inc., Moonlake Units 1&2, Uintah County, Utah. This document is an amendment to the original permit application from DG&T to EPA on January 18, 1980, regarding the prevention of significant deterioration, which is not in EPA files.

   The August 14 submittal included an air quality analysis on potential impacts on the Dinosaur National Monument, a PSD Class II and a Colorado Category I areas, and a Best Available Control Technology (BACT) analysis.

3. April 1981. A final Environmental Impact Statement, for Moon Lake Power Plant Project Units 1 and 2 was prepared jointly by Bureau of Land Management, Department of Interior, Rural Electrification Administration, Department of Agriculture, and assisted by Forest Service, Department of Agriculture related to the Moon Lake Power Plant (now known as Bonanza Unit No.1).

4. February 4, 1981. EPA issued a conditional approval permit with comments and analyses to DG&T to construct and operate a coal fired electric generating plant

under Prevention of Significant Deterioration of air quality regulations, 40 CFR Section 52.21.

5. April 29, 1981. The State of Utah issued an Approval Order for two 400 MW (megawatts) units to DG&T. This document referenced a June 13, 1980, notice of intent from DG&T which is not in EPA files. The State of Utah's Approval Orders are equivalent to permits.

6. February 12, 1982. 47 Fed. Reg. 6427. The State of Utah received authorization for the PSD program from EPA. The approved State regulation "does not necessarily apply on Indian Reservations." EPA approved the State's air program, "except as it applies on Indian Reservations."

7. July 13, 1983. The State of Utah wrote to DG&T regarding continuous emissions monitoring systems and quality assurance.

8. September 20, 1983. The State of Utah wrote to DG&T on consolidating conditions in the State Approval Order of April 30, 1981 and the EPA permit of February 4, 1981.

9. November 9, 1983. A Burns and McDonnell Memorandum presented notes from a meeting with DG&T, the State of Utah, and EPA about the PSD permit.

10. January 20, 1984. The State of Utah wrote to EPA asking for clarification in the consolidated State-EPA Permit and specifically related to Appendix III.

11. July 11, 1984. The State of Utah amended its April 30,1981, Approval Order to consolidate conditions in the State and EPA PSD permit of February 4, 1981.

    Note: 1981-1984. DG&T's Bonanza Unit No. 1 was constructed and became operational in 1985.

12. May 19, 1987. The State of Utah amended the July 11, 1984, Approval Order to DG&T for coal and sludge handling. Particulate emissions and fugitive dust controls, including emissions from a 14-acre coal storage pile, were included in the Approval Order.

13. July 2, 1987. The State of Utah wrote to the DG&T to correct a typographical error in May 19, 1987 letter and to replace prior Approval Orders.

14. December 26, 1990. The State of Utah wrote to DG&T confirming ongoing authorization and approval for construction of Unit 2 for the Bonanza plant. (Unit 2 has not been constructed as of 2000.)

15. September, 1992. DG&T's Proposal for Experimental Approval Order for Bonanza I. Document requested to allow $S0_2$ emissions be increased from 209 lbs/hr to 240 lbs/hr (30-day rolling average) beginning October 1, 1992 and ending March 31,1993. The document discussed options related to $S0_2$ removal efficiency and economic considerations.

16. September 15, 1993. Radian Corporation prepared for DG&T a document on FGDPRISM and Simulation Results for Bonanza Unit 1. The document discussed and modeled fluid gas desulfurization and sulfur dioxide removal efficiency and emission limits.

    Note: On September 27, 1993, the Permittee requested revised (an increase in) SO_2 limits for the Bonanza Power Plant. This document is not in EPA files but was referenced in a November 15, 1994, Supplemental BACT document.

17. September, 1993. North American Weather Consultants prepared a multi-part document for DG&T on Dispersion Modeling and Visibility Analysis of Proposed SO_2 Emissions Increase for Deseret Generation and Transmission Co-Operative Bonanza 1.

    This report modeled visibility effects at Arches National Park and Flat Top Wilderness Area, using Complex 1 Model and Industrial Source Complex Short Term (ISCST2) air dispersion and visibility modeling for $S0_2$ in PSD Class I and Class II areas.

18. March 18, 1994. The State of Utah sent a letter to EPA on a Notice of Intent to change (increase) $S0_2$ emissions at the Bonanza plant, including an engineering and a modified source plans reviews, with public notice documents.

19. March 31, 1994. EDF sent a letter to the State of Utah on Request for Public Hearing: Proposed Approval of Modifications at the Deseret Generation and Transmission Station, Bonanza, Utah (DAQE-0193-94). The EDF communication expressed concern about allowing a decrease in $S0_2$ removal efficiency from 93.8% 90%. EDF noted that "[T]he proposed modification would practically quadruple the existing $S0_2$ emission rate (from .055 to .20 lbs/MMBTUs) and increase $S0_2$ emissions by almost 3,000 tons/year."

20. April 15, 1994. EPA sent a letter to the State of Utah expressing concern about the proposed requested increase in $S0_2$ emissions and a decrease in $S0_2$ control efficiency. EPA's main concern was that the proposed increase would be a major modification and necessitate a new BACT analysis by DG&T. The EPA letter referenced a State's Intent to Approve letter of March 14, 1994, which is included with documents in Reference 18 above.

21. April 15, 1994. EPA internal memorandum requested a modeling review.

22. May 18, 1994. EPA sent a letter to the State of Utah requesting a BACT analysis for proposed changes to PSD permit modifications for DG&T and "[T]o minimize any future inconsistencies between the State's ... and EPA's position on this permit action."

23. May 23, 1994. EDF sent a letter to the State of Utah providing additional comments on Proposed Approval of Modifications at the Deseret Generation and Transmission Station, Bonanza, Utah.

24. June 10, 1994. The State of Utah sent a letter to EPA regarding obtaining guidance on doing a BACT determination.

25. July 13, 1994. The State of Utah sent a letter to the National Park Service discussing modeling at PSD Class I areas, with an internal July 6, 1994, State of Utah analysis of modeling for visibility and increment consumption for PSD Class I and II areas. The State's review concluded that the proposed $S0_2$ increase would not contribute "to an exceedance of the NAAQS and PSD increments for $S0_2$."

26. July 13, 1994. The EPA wrote to the State of Utah on the BACT analysis and responding to questions.

27. August 9, 1994. Law Offices of Kimball, Parr, Waddoups, Brown, and Gee, representatives for DG&T, provided meeting notes from an August 2, 1994, meeting with the State and EPA on a BACT supplement.

28. August 10, 1994. The U. S. Department of Interior wrote to the State of Utah expressing concern about potential adverse air impacts at Arches National Park, Canyonlands National Park, and Dinosaur National Monument from the proposed DG&T's $S0_2$ emission increase.

29. September 16, 1994. The Department of Interior wrote to the State of Utah regarding modeling from the DG&T proposed the $S0_2$ emission increase and noted it has an affirmative responsibility as the Federal Land Manager to protect air quality related values (AQRVs) in Class I areas.

30. November 7, 1994. The State of Utah sent a letter to DG&T determining that increasing input heat rate from 4055 MMBTU/hr to 4381 MMBTU/hr is a PSD major modification, requiring a more comprehensive BACT analysis.

31. November 15, 1994. A Supplemental BACT for Notice of Intent and Application for Revised Approval Order was prepared by DG&T and submitted to the State of Utah. This BACT analysis was prepared to support the Permittee's $S0_2$ increase proposal.

32. December 9, 1994. DG&T sent a letter to the State of Utah expressing concerns with Utah's conclusions that the heat rate increase (Reference 30) constituted a major modification. The Permittee said that "DG&T continues to believe that the NOI does not constitute a major modification. Nevertheless, DG&T has cooperated with the DAQ to ensure that the NOI satisfied all substantive and procedural PSD requirements."

33. May 25, 1995. EPA internal memorandum to request a review of the State's modeling analysis for the proposed DG&T permit modification.

34. June 6, 1995. EPA internal memorandum on air quality modeling review for the Bonanza plant. The review concluded that the "applicant has adequately addressed the air quality impacts related to the proposed project."

35. June 14, 1995. The State of Utah amended the July 2, 1987, Approval Order. DG&T requested an increase in $S0_2$ emission levels and a reduction in removal efficiency from 93.8% to 90% and an increase in emission rate from 0.055 lbs/MMBTU to 0.20 lbs/MMBTU of $S0_2$. The State of Utah determined that DG&T's original proposal to have a 0.20 lbs/MMBTU $S0_2$ emission limit rolling average over 30 successive boiler operating days, as modeled, would impact Air Quality Related Values (AQRV) at Arches National Park. The State of Utah set the $S0_2$ emission standard at 0.10 lbs MMBTU on a rolling annual average and 0.15 lbs/MMBTU emissions over a 30-day rolling average. The State determined that this limit was protective of AQRVs and would not impact regional haze at Arches National Park. $S0_2$ emissions would increase by 1003.46 tpy, slightly less than 1/3 of the amount originally proposed by the facility.

36. June 27, 1995. EPA internal memorandum discussed the State of Utah's June 14, 1995, Approval Order.

    Note. On November 18, 1997, EPA issued a Phase II acid rain Permit to DG&T. This Permit is not germane to the proposed re-issuance of the PSD Permit to the facility. The acid rain Permit is mentioned to provide chronological continuity of major permit actions related to DG&T.

37. December 15, 1997. The State of Utah sent a letter to EPA withdrawing proposed Title IV and V permits to DG&T.

38. January 2, 1998. The State of Utah provided to DG&T a Utah Division of Air Quality modified source plan review. DG&T requested an Approval Order modification from the State of Utah to reduce $N0_x$ emissions and to increase CO (carbon monoxide), PM and PM_{10}, $S0_2$, and VOC (volatile organic compounds, an ozone precursor) emissions. These emission changes are presented in the table below:

	$N0_x$	CO	PM	PM_{10}	$S0_2$	VOC
TPY	-528.17	91.60	22.60	14.11	38.21	10.68

These emission changes were below PSD significance levels. The Permittee's request pertained to adding a ruggedized rotor to the existing turbine and having an increase in the coal pile area. The request from DG&T to the State of Utah pertaining to this modification is not in EPA files.

39. Undated letter, around February-March 1998. DG&T sent a letter to the State of Utah on amendments to ruggedized rotor at Bonanza plant and recalculation of hazardous air pollutants emissions decrease by 10.84 tpy

40. Undated letter probably about February 1, 1998. DG&T sent a letter to the State of Utah on emission limits of 0.55 lbs/MMBTU for NO_x emissions. DG&T noted that in the "original PSD review" process it was unclear how this emission limit was set.

41. March 16, 1998. The State of Utah's issued an Approval Order to DG&T for a change in the coal pile to 22 acres and to install a ruggedized rotor. The Approval Order required DG&T to meet the above $N0_x$, CO, PM, PM_{10}, $S0_2$ and VOC emission standards for the existing unit and when the new ruggedized rotor is installed in calendar year 2000. The State noted that DG&T requested "a modification in federally enforceable emission limits which will limit the potential to emit (pte) from this source."

42. April 20, 1999. DG&T sent a letter to the State of Utah advising the State of plans to make proposed minor changes to scrubber modules, adding 317L stainless steel trays.

43. April 20, 1999. DG&T sent a letter to the State of Utah related to replacing three of the five existing coal pulverizers with the ruggedized rotor upgrade. DG&T stated that "[T]he letter is for information purposes only." References 38-40 pertain to the addition of the new ruggedized rotor that DG&T planned to install.

44. May 20, 1999. The State of Utah sent a letter to DG&T approving scrubber trays and coal pulverizer changes.

45. July 12, 1999. The Ute Tribe Air Quality Management, in response to a June 3, 1999, letter from EPA, responded stating that certain Title V source information (including DG&T) are located within Indian Country.

46. July 19, 1999. EPA sent letters to the Ute Indian Tribe and the State of Utah on Part 71 Sources on the Uintah and Ouray Reservation.

47. September 22, 1999. EPA sent a letter to DG&T communicating that EPA has permitting authority over the facility since it is located on the Uintah and Ouray reservation

48. November 10, 1999. DG&T sent a letter to EPA transmitting information related to the absorber, baghouse, and reliability issues surrounding the turbine.

49. November 11, 1999. DG&T sent a letter to the State of Utah on the planned upgrade and rebuild of pulverizers and digital control system for the boiler and turbine.

50. November 11. 1999. DG&T sent a letter to the State of Utah requesting approval on replacement of boiler barrels and tip of burners.

51. December 17, 1999. The State of Utah sent a letter approving requested changes in two DG&T's November 11, 1999, letters.

52 February 22, 2000. DG&T sent letter to EPA providing comments on a draft PSD permit that EPA was writing.

53. March 21, 2000. DG&T sent a letter to EPA on $S0_2$ removal efficiencies .

54. March 21, 2000. DG&T sent a letter to EPA on firing bituminous and subbituminous coals. DG&T indicated that it would not be likely to burn anything but bituminous coal at Bonanza. In EPA discussions with DG&T, it was agreed that the draft permit should be written to allow flexibility in firing either coal.

55. March 28, 2000. EPA transmitted an e-mail communication to DG&T on drafts of the Fact Sheet and the PSD Permit.

56. April 6, 2000. DG&T sent an e-mail communication to EPA on the drafts of the Fact Sheet and the PSD Permit.

57. April 12, 2000. DG&T sent a letter to EPA transmitting the following documents:

-December 17, 1999 letter from the State of Utah to DG&T. Related to New Source Review, upgrading the digital control system and changes to outer barrel and tip of the burners.
-November 11, 1999, letter from DG&T to the State of Utah related to ruggedized rotor and the rebuild and upgrade of the current pulverizers.
-November 11, 1999, letter from DG&T to the State of Utah stating upgrade to take place in April.
-May 20, 1999. Letter from DG&T to the State of Utah on upgrade of scrubber trays and pulverizers.
-April 20, 1999. Letter from DG&T to the State of Utah advising that it is planning on replacing three of the five existing coal pulverizers around April 2000.
-April 20, 1999. Letter from DG&T to the State of Utah related to adding slotted 317L stainless steel trays below spray headers in the modules.
-October 8, 1987. Letter from the State of Utah to DG&T on identification of startup and shutdown thresholds for Unit 1.
-February 4, 1981. EPA letter to DG&T transmitting conditional approval PSD permit, including Appendix III, and other documents.
-April 29, 1981. Letter from the State of Utah to DG&T related to issuance of "Air Quality Approval Order ...[for] two 400 MW Units...."
-July 13, 1983. Letter from the State of Utah to DG&T on requirements for continuous emissions monitoring systems and QA ....
-September 20, 1983. Letter from the State of Utah to DG&T on consolidation of State and EPA requirements.
-November 9, 1983. Meeting notes prepared by Burns and McDonnell.
-January 20, 1984. Letter from the State of Utah to EPA requesting clarification on Appendix III.
-July 11, 1984. Letter from the State of Utah to DG&T consolidating the State's and EPA's PSD permit.
-July 2, 1987. Letter from the State of Utah correcting a typographical error.
-Undated State of Utah Policy on continuous emission monitoring systems.

Most of the above documents were cited earlier in the Fact Sheet.

58. 1999-2000. Diskettes from DG&T provided to EPA for review of electronic spreadsheet facility operational and emission data for 1995 and 2000.

Features of the Draft PSD Permit:

- Permitting Process. The Permittee constructed the facility after the EPA conditional permit was issued in 1981 and has been operating the Bonanza Power Plant Unit No. 1 since 1985. The EPA permitting reissuance process was streamlined to reflect the fact that this is not a new facility.

  A key feature of this draft Permit is to provide flexibility to the Permittee in measuring emissions of pollutants to meet BACT requirements and NSPS regulatory emission standards. Nevertheless, the EPA pollution control standards are as stringent as those required by the State of Utah, except for the $S0_2$ PSD 30-day emission limit which is slightly more stringent than that required in the State's March 16, 1998, Approval Order.

- Pollution Control Equipment. The Permittee uses a baghouse, flue gas desulfurization, and low $N0_x$ burners to reduce pollution emissions.

- Coal. The Permittee owns a bituminous coal mine and transports coal via a company owned railroad from near Rangley, Colorado to the Bonanza Power Plant No. 1 in Utah. Only bituminous coal is burned. To provide flexibility to the Permittee, the Permit allows for subbitminous coal to be fired. The bituminous coal has a range of heating values. For the purposes of this Permit, the coal is considered to provide 10,000 British Thermal Units (BTUs/Lb) of coal consumed. Sulfur and ash content vary in the coal. In calculating $S0_2$ emission limits, the coal is considered to contain 1% sulfur. For purposes of this Permit the ash content of the coal is 9%. Coal is combusted at the rate of 225 tons per hour and has a heating value of 20 MMBTU/ton.

  Emission rate calculations for SO_2, and PM and PM_{10} in this Permit do not provide for any parametric partitioning with the bottom ash. Sulfur is calculated to be converted to SO_2. Fly ash is calculated to be emitted as PM or PM_{10}.

  The information regarding the sulfur, ash, and BTU content of the bituminous coals was provided to EPA by the Permittee in an electronic spreadsheet for 1994 and more recently on March 7, 2000. Technical information related to the coal and emission limits for $S0_2$, $N0_x$, PM and PM_{10} are contained in these electronic spreadsheets.

- Fugitive Emissions. The State of Utah's Approval Order had requirements for fugitive emission controls. The draft PSD Permit contains these controls in Conditions 28-36.

There are Permit Conditions for the control of fugitive emissions, including those emanating from the 22 acre coal storage pile. In Section IV, of the August 14, 1980, original Permit application to EPA and the State of Utah, the Permittee committed to control fugitive emissions from the coal handling facilities, ash and limestone handling facilities, and from fugitive dust. As required at 40 CFR § 52.21(j), Control technology review, the Permittee must apply BACT for each pollutant subject to regulation under the Act that it would have the potential to emit in significant amounts. This requirement pertains to fugitive emissions as well as point source emissions. The draft October 1990 New Source Review Workshop Manual further clarifies that "if a source has been determined to be major, fugitive emissions, to the extent they are quantifiable, are considered in any subsequent analyses (e.g., air quality impact)."

The Permit also includes conditions related to roads and fugitive emissions from coal transport, such as from paved and unpaved road dust, conveyor drop points for coal and limestone (used in SO_2 control), track hopper for bottom dump coal, limestone storage, coal pile, fly ash, and fluid gas desulfurization (FGD) sludge. The Permittee is required by Condition 36 to develop a Fugitive Emissions Dust Control Plan and submit it to EPA 90 days after Permit issuance, and provide updates to EPA when changes are made to the plan. The Plan must address each applicable Condition in the Permit.

- BACT Analysis: The original Permit application in 1980 provided a BACT analysis for point source and fugitive emissions, and this was supplemented in 1994. The Permittee has provided an adequate BACT analysis.

  A. 1980 BACT Study. Particulate control was provided by a fabric filter system which met New Source Performance Standards (NSPS). Six FGD systems were studied by the Permittee and the system it chose would meet BACT with a removal efficiency of 92-95% for SO_2. For NO_x emission controls, implementing operational practices involving off-stoichiometric firing, improved burner-furnace design, and flue gas recirculation helped the Permittee meet the 0.60 lbs/MMBTU heat input emission. For PM, BACT was determined to be a fabric filter system that met and will be lower than the standard of 0.03 lbs/MMBTU NSPS.

  B. 1994 Supplemental BACT Study. As a result of a proposed major modification to its Approval Order, the State of Utah required a BACT study for requested SO_2 emission increases by the Permittee, i.e., a proposed reduction in emission controls from 93% to 90%, which would result in an increase in 2922 tpy. The Permittee studied information in the RACT/BACT/LAER Clearinghouse, reviewed requirements at the Platte River Power Authority (Rawhide Facility), National Park Service concerns,

- Operator Training. Requirements are listed for training operators and personnel who operate air pollution emission control equipment. These conditions relate to meeting BACT standards and proper pollution control equipment operation. The Permittee may provide written guidance to air pollution control equipment operators to optimize pollution control equipment based on the Permittee's experience with the equipment (Condition 38.C.)

- Performance Testing, Emissions Monitoring and Quality Assurance Control. The Permittee must comply with applicable air quality assurance procedures at 40 CFR Part 60, Appendix F, Quality Assurance Procedures (Condition 26). Many performance testing and monitoring requirements are included in the draft Permit (Conditions 12, 21, 22, and 37). The Permittee is required to operate air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions at all times including periods of startup, shutdown, or malfunction (Condition 13.D).

- Records and Miscellaneous. The Permittee must maintain and provide operational records to EPA as specified in this Permit (Conditions 43-44).

- Modification and Reconstruction. The Permittee must comply with 40 CFR §§ 60.14 and 60.15 related to notifying EPA if a Permit modification or reconstruction of the source or equipment is planned (Conditions 45-47).

- Inspections and Notifications. The Permittee must comply with inspection and notification provisions at Part 113 and 114 of the CAA (Conditions 50-51). For purposes of determining compliance with this Permit, EPA may use any credible evidence or information (Condition 13.G).

- Emerging Technology. The Permittee may participate in emerging fuel technology. The source may receive a commercial demonstration Permit if it participates in this program (Condition 19).

- Sale or Name Changes. The Permittee must notify EPA if its name changes or if it is sold (Condition 48).

- Compliance with Environmental Laws. The Permittee must comply with other environmental laws. The PSD Permit does not relieve the source of any environmental obligation (Condition 49).

The PM and PM_{10} standards in the March 16, 1998, State of Utah Approval Order are included in this PSD Permit. They are:

A. PM must not be discharged to the atmosphere at a rate exceeding 0.0297 lbs/MMBTU heat input.

B. PM_{10} particulate matter must not be discharged to the atmosphere at a rate exceeding 0.0286 lbs/MMBTU heat input.

Also, for purposes of this Permit, the Permittee has the option of considering all PM_{10} particulate matter test results that are <0.0286 lbs/MMBTU heat input to demonstrate compliance with PM and PM_{10} requirements. This option simplifies the reporting requirements for the Permittee and is an enhanced and rigorous environmental standard to be met. Alternatively, the Permittee may measure PM and PM_{10} separately for compliance purposes, which is allowed by the Permit.

The Permittee must not exceed 20% opacity from the tall stack or any affected facility except for a one six-minute period per hour of not more than 27% opacity. The Permittee is required to use a opacity continuous monitoring system for the tall stack, but may use visible observations if this system is inoperative.

Other Requirements:

- General Conditions. There are general Permit conditions related to the source's name, address, telephone and fax numbers, and Universal Transverse Mercator Coordinates for locating the facility. Specific definitional provisions are included. A brief description of the Permit application to the State of Utah and the power capacity of the facility is presented. Requirements for PSD applicability determination are presented. A condition that this PSD Permit, when issued, will replace all existing Approval Orders issued by the State of Utah is included. Conditions related to the effective date of this Permit, appeals procedures, and recission are included (Conditions 1-8).

  Under 40 CFR § 60.8, Performance test, the Permittee is allowed to demonstrate compliance with this regulation by providing its most recently measured CEMS data for sulfur dioxide and oxides of nitrogen and the opacity continuous monitoring system particulate matter data. Flexibility is provided to the Permittee in providing these emissions data (Condition 12.A.3). Since the source has been operating for over 5 years, the EPA does not perceive it necessary to require a performance test as it would for a new source. But, the Permittee may elect to conduct the Performance test as required by the regulation.

2.5 times emission limit increase. This lower limit will provide a little more air quality protection and less increment consumption, and still provide the Permittee with flexibility should higher sulfur content coal be encountered. The proposed limit will reduce SO_2 emissions by about 45 lbs/hour.
-The Permittee's data in the electronic spreadsheet indicates that it is emitting SO_2 at about 0.088 lbs/MMBTU heat input on a 30-day rolling average.
-The 0.0976 lbs/MMBTU heat input SO_2 annual emission limit compared with the proposed 0.14 lbs/MMBTU heat input emission limit still provides the Permittee with a 43% differences between the two limits compared to a 53% allowed by the State.
-The Permittee can use lime, adipic acid, and other substances to reduce SO_2 emissions if needed.

- Acid Rain Permit. The draft Permit does not contain Conditions related to NO_x emission rates or SO_2 emission allowances that are included in the federal Phase II Acid Rain Permit for Deseret Bonanza, issued on January 1, 1998. The acid rain permit is mentioned to identify that the facility has received this type of permit.

- Nitrogen Oxides Control. NSPS requirements and those from the BACT review are included in the Permit (Conditions18 and 27). The Permittee is required to use a CEMS for these NO_x measurements.

  Condition 27 relates to the NO_x emission limits and provides flexibility to the Permittee for the possibility that subbituminous and bituminous coal may be fired. The Permittee may fire either coal. If subbituminous standard coal is fired, NO_x emissions of 0.50 lbs/MMBTU heat input must not be exceeded. If bituminous coal is fired, NO_x BACT emissions of 0.55 lbs/MMBTU heat input must not be exceeded. A procedure is provided to calculate NO_x emissions if a mixture of subbituminous and bituminous coal are fired. The State of Utah's 1998 Approval Order has the condition that the Permittee must not exceed 0.55 lbs/MMBTU heat input for NO_x based on a 30-day rolling average. With the addition of the ruggedized rotor and low NO_x burner in calendar year 2000, the Permittee will reduce NO_x emissions by 528.17 tpy. Also, the facility's BACT analysis indicated that this slight emission lowering is achievable.

  Lastly, the potential concentration of NO_x must be reduced by 65% as specified in 40 CFR § 60.44a(a)(2), table 2, NO_x reduction requirement for solid fuels (Condition 18.C)

- Particulate Matter and Particulate Matter 10μ in diameter. There are several specific PM and/or PM_{10} emission limits and requirement for opacity (Conditions 13, 16, 21, and 24).

based on a 30-day rolling average." The intent to include this requirement was expressed on page 3 of the May 19, 2000, draft Permit: "The draft Permit contains the same 90% [sulfur dioxide] removal efficiency ...based on a 30-day rolling average."

It was also the intent of EPA to require both an emission rate limit for SO_2 in lbs/MMBTU heat input and to include a per cent removal efficiency for SO_2 in the May 19, 2000, draft Permit. This approach is retained from the State's March 16, 1998, Approval Order.

- On April 29, 1981, the State issued an Approval Order with the limit of 0.055lbs/MMBTU of SO_2 as averaged over 30 successive boiler days.

- On July 11, 1984, the State consolidated the April 1981 State permit and the EPA 1981 permit and required a SO_2 emission limit of 0.055 lbs/MMBTU as averaged over 30 successive boiler operating days. This unit of emission limit for SO_2 is used in 2000. The facility accepted the 0.055 lbs/MMBTU emission limit for SO_2.

- The Permittee requested an increase in SO_2 limits in the mid-1990's in part because of potential increases in sulfur content of the coal and to make the facility's SO_2 limit more compatible with other power plants. In a June 14, 1995, Approval Order the State allowed a discharge rate of 0.10 lbs/MMBTU heat input for SO_2 based on a rolling 12-month average and with an SO_2 emission limit of 0.15 lbs/MMBTU heat input SO_2 averaged over 30 successive boiler operating days. These requirements were retained in an August 4, 1997, revision to the Approval Order. On March 16, 1998, in the State's Approval Order, the 0.15 lbs/MMBTU heat input SO_2 30day average emission limit was retained, but the annual SO_2 emission limit was changed to 0.0976 lbs/MMBTU heat input based on a rolling 12-month average. EPA accepts the 0.0976 lbs/MMBTU heat input annual SO_2 limit based on a 12-month rolling average for this PSD permit reissuance. The May 19, 2000, Fact Sheet cited the SO_2 emission limit as 0.10 lbs/MMBTU heat input instead of 0.0976 lbs/MMBTU heat input. Condition 25. A in the May 19, 2000, draft Permit correctly states the emission limit as 0.0976 lbs/MMBTU heat input. The 0.15 lbs/MMBTU heat input is viewed by EPA, for reasons described below, to be a little high, and therefore, the EPA is proposing that the SO_2 limit be 0.14 lbs/MMBTU heat input based on a 30-day rolling average.

  -The sulfur content in the coal as reported by the Permittee (Reference 40) for 1986-1997 consistently runs around 0.50%. The sulfur content may increase but as of 1997 has not increased over a decade.
  -Increasing the limit to 0.15 lbs/MMBTU heat input from the initial State requirements of 0.055 lbs/MMBTU heat input SO_2 represents a 2.7 times emission limit increase. Even with a limit of 0.14 lbs/MMBTU heat input, this represents a

year (TPY); PM, PM_{10} and SO_2 emissions will increase but are calculated to be below the significance level. These proposed changes did not require a major Permit modification. The State of Utah performed an engineering review of the Permittee's data on January 2, 1998. EPA has relied on this review and has not repeated it.

The emission limits in this Permit pertain to the current turbine system that the Permittee employs and for the existing turbine with the addition of the new ruggedized rotor, distributive control system, new burners, and scrubber trays that will be installed in calendar year 2000 (Condition 5. B).

Emission Limits:

- Sulfur Dioxide Controls. The Permittee must meet New Source Performance Standards (NSPS) and those required by the BACT determination and PSD regulations (Conditions 17 and 25). The latter are more stringent. The Permittee must use a Continuous Emission Monitoring System (CEMS) for this measurement.

  The Permittee may use adipic acid, lime, or other materials to reduce SO_2 emissions (Condition 25.D).

  This draft PSD permit is a reissuance of a February 4, 1981 EPA permit. The EPA reissuance of the PSD permit has a limit of 0.14 lbs/MMBTU heat input, which is slightly more stringent than that required by the State in 1998. The rationale for this 0.14 lbs/MMBTU heat input emission limit is:

- The EPA permit in 1981 has a limit of 418 lbs/hour of SO_2 as averaged over 30 successive boiler days of operation for units 1 and 2. (Unit 2 has not been built.) This equates to about 0.10 lbs/MMBTU of SO_2 as averaged over 30 successive days of operation.

- Part III, Condition 1(a) of the EPA February 4, 1981, Conditional Permit has a requirement that the "plant" not discharge into the atmosphere sulfur dioxide at a rate exceeding "10 per cent of the potential combustion concentration (90% per cent reduction as averaged over 30 successive boiler operating days...." Condition 7. B in the March 16, 1998, State of Utah Approval Order has a requirement that "Bonanza 1 shall achieve at least 90% SO_2 removal efficiency based on a 30-day rolling average."

  The draft EPA PSD Permit noticed for public review on May 19, 2000, inadvertently omitted this requirement. The draft Permit now has Condition 25. C that requires that "The Permittee must achieve at least 90% SO_2 removal efficiency

and controls at several power plants out of Region VIII. Coal blending was considered and was determined not to be an option, since the Permittee obtains its coal from the Deserado Mine. Coal blending is not economically feasible. Economic analyses of emission control options were provided. Cost per ton of SO_2 removal by the Permittee was $2255 compared to about $1200 for two other power plants studied.

The Permittee considered that it was achieving BACT. Nevertheless, the Permittee requested an emission limit increase to 0.20 lbs/MMBTU for SO_2 over a 30-day rolling average. The State of Utah approved a 0.15 lbs/MMBTU emission limit to ensure protection of air quality.

Allowed SO_2 emission levels are slightly less than 1/3 of the amount the Permittee requested. With these changes, the Permittee will be required to meet about 90% reduction in SO_2 rather than the 93% it formerly met.

The supplemental BACT analysis was focused on SO_2 emissions.

See the following discussion in the Emission Limits section on Nitrogen Oxides Controls for the current BACT standard for NO_x.

- Fuels. The State of Utah has a section in its Approval Order related to burning of hazardous waste as fuels and fuel supplements. There is no federal air requirement for these conditions.

  Since the Permittee must comply with federal hazardous waste rules at all times, there are no hazardous waste requirements listed in this PSD Permit. Also, this is a federal air Permit and this Permit is not the appropriate place to include conditions related to the Resource Conservation and Control Act (RCRA).

- Turbine with a new Ruggedized Rotor: The Permittee has used a Westinghouse Turbine Generator with a high pressure/intermediate pressure rotor and a low pressure rotor since the plant became operational. In order to take advantage of improvements in technology and rotor design and construction, the Permittee will install a new Westinghouse ruggedized rotor in calendar year 2000. The Permittee is upgrading its current turbine unit with the addition of the ruggedized rotor. In an undated letter (c. late 1997) to the State of Utah, the Permittee provided data showing that no New Source Review (NSR) or PSD significance level would be exceeded with the installation of the ruggedized rotor. The Permittee's Attachment #3 lists the pre-change and post-change emissions for carbon monoxide (CO), volatile organic compounds (VOCs), NO_x, SO_2, PM, PM_{10}, and Hazardous Air Pollutants (HAPs). With the new ruggedized rotor, the Permittee, for the pollutants covered by this draft Permit, will decrease NO_x by about 528 tons per

Summary

- There are no air toxic emissions from the facility that are regulated at this time.

- The EPA has reduced the administrative burden on the Permittee by not requiring a new Permit application. The Permittee has provided supplemental existing information as requested. The Permittee has cooperated with EPA in this Permitting process. The EPA has relied on work the State of Utah did in issuing its prior Approval Orders.