



State of Utah  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF AIR QUALITY

Michael O. Leavitt  
Governor  
Dianne R. Nielson, Ph.D.  
Executive Director  
Russell A. Roberts  
Director

150 North 1950 West  
Salt Lake City, Utah 84114  
(801) 536-4000  
(801) 536-4099 Fax  
(801) 536-4414 T.D.D.

Reply to: State of Utah  
Division of Air Quality  
P.O. Box 144820  
Salt Lake City, Utah 84114-4820

August 27, 1993

DAQE-0752-93

James R. Van Orman  
Director of Environmental Management  
DOO-ALC/EM  
7276 Wardlegih Road  
Hill Air Force Base, Utah 84056-5127

Re: Modified Approval Order for:  
A. Replacement Boilers in Buildings 1624, 1904, 2104, 2203  
B. Paint Spray Booth in Building 751  
C. Carbon Brake Coating Process in Building 507  
Davis County CDS A1 NA

Dear Mr. Van Orman:

The Division of Air Quality received a letter dated June 1, 1993, requesting that condition 4E of the Approval Order (AO) DAQE-492-92 be modified. Condition 4E required that the boiler stack be tested at 90%, 70%, and 50% of the boilers capacity. This condition was changed to required testing at 90% of the boilers capacity. The new condition is now numbered 6E. Also, the generators listed in DAQE-492-92 are now consolidated in a separate AO (DAQE 719-93). Therefore, they have been deleted from this AO. This air quality AO authorizes the project with the following conditions. Failure to comply with any of the conditions may constitute a violation of this order.

1. Hill Air Force Base shall install and operate the following:
  - A. The boilers located in Buildings 1624, 1904, 2104, and 2203
  - B. The paint spray booth located in Building 751
  - C. The carbon brake coating process located in Building 507

These shall all be operated according to the information submitted in the Notice of Intent dated April 24, 1991, and additional information submitted to the Executive Secretary dated July 30, 1991; December 26, 1991; January 8, 1992, and June 1, 1993.

A copy of this AO shall be posted on site and shall be available to the employees who operate the air emission producing equipment. All employees who operate the air emission producing equipment shall receive instruction as to their responsibilities in operating the equipment in compliance with all of the relevant conditions.

2. Definitions of terms, abbreviations, and references used in this AO conform to those used in the Utah Air Conservation Rules (UACR), Utah Administrative Codes (UAC), and Series 40 of the Code of Federal Regulations (40 CFR). These definitions take precedence unless specifically defined otherwise herein.
3. This AO shall replace the AO dated May 22, 1992 (DAQE-492-92).
4. The approved installations shall consist of the following equipment:
  - A. Replacement boilers located in Buildings 1624, 2104, and 2203, rated at 250 HP - The boilers shall be equipped with low-NO<sub>x</sub> burners using natural gas as the primary fuel, with #2 fuel oil being used as the back-up fuel.
  - B. Placing of an existing 400 HP boiler in Building 1904 using natural gas as the primary fuel with #2 fuel oil being used as the back-up fuel.
  - C. A paint spray booth equipped with paint arrestor filters located in Building 751 and using low VOC compliance paint.
  - D. An existing electric furnace to be used for baking Bendix P-11 coating on carbon brake disks in Building 507.
5. Emissions to the atmosphere from the indicated emission point shall not exceed the following rates and concentrations:
  - A. Exhaust stacks for 250 HP replacement boilers in Buildings 1624, 2104, and 2203:
    - 1) NO<sub>x</sub> - 40 ppm at 7% oxygen: 0.24 lb/hr
    - 2) CO - 100 ppm at 7% oxygen
  - B. Exhaust stack for 400 HP replacement boiler in Building 1904, - NO<sub>x</sub> - 1.84 lb/hr
  - C. Exhaust stack for carbon brake coating in Building 507 - Phosphorous Oxides - 1.33 lb/hr
6. Stack testing to show compliance with the emission limitations of condition #5 shall be performed as specified below:

A.	<u>Emission Point</u>	<u>Pollutant</u>	<u>Testing</u>	<u>Retest Status</u>
1.	Boiler exhaust stacks in Bldgs 1624, 1904, 2104, and 2203	NO <sub>x</sub>	§	***
		CO	*/**	**



G. Test Procedure

The test shall be conducted in the following manner:

1. The gas sample shall be drawn according to the instructions of the test instrument being used.
2. The sample value shall be determined from the test instrument, appropriate calculations made, and the data recorded.

H. Failed Boiler Status

If the boiler is unable to attain the emission limitation in condition #5, at any one of the operating rates specified in condition 6E, the boiler shall be assigned to a lower position on the "use priority list" (used as standby where possible) until the unit has been repaired or maintenance performed and a successful retest completed.

Maintenance and repairs of any boiler that fails the periodical test shall be performed within 15 days or the boiler shall be idled.

If a boiler, that has failed a test, is repaired and a successful retest completed according to the limitations of Condition #5.A within 15 days, the boiler shall be determined to not have been in violation.

A boiler that fails the retest after repair shall be idled until further repairs are made and a successful retest completed. If the boiler demand requires the boiler to be operated, it shall be base loaded at the rate that will result in the lowest emissions rate possible until the boiler can be repaired and shown in compliance by the above test.

Operating a boiler that has failed the above "retest after repair" shall be determined to be a violation of this AO.

I. Reports

A copy of all test reports containing the test results, any calculations required, and the test instrument calibration data shall be retained by the owner/operator for two years. The reports shall be made available to the Executive Secretary or his agent upon request. An annual summary report of all the test results with a copy of the periodical reports shall be submitted to the Executive Secretary no later than January 31 of each year for the previous calendar year.

7. Visible emissions from the following emission points shall not exceed the following values:

A.	250 hp Boiler	Building	1624	10%	
B.	400 hp Boiler	Building	1904	10%	
C.	250 hp Boiler	Building	2104	10%	4.2.4-492

D.	250 hp Boiler	Building	2203	10%
E.	Paint spray booth	Building	751	10%
F.	Carbon brake furnace	Building	507	0%

Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. Visible emissions from mobile sources and intermittent sources shall use procedures similar to Method 9, but the requirement for observations to be made at 15-second intervals over a 6-minute period shall not apply.

8. The emissions of VOC from paint spray booth in Building 751 shall not exceed 0.040 tons per 12-month period without prior approval in accordance with R307-1-3.1, UAC. Compliance with the limitation shall be determined on a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using the previous 12 months. The emissions of VOC from the spray booth shall be determined by maintaining a record of paints and thinners used. The record shall include the following data for each item used:

- A. Name of paint or thinner
- B. Weight in pounds per gallon
- C. Percent VOC by weight
- D. Amount used on a daily basis

Records of consumption shall be kept for all periods when the plant is in operation. Records of consumption shall be made available to the Executive Secretary upon request, and shall include a period of two years ending with the date of the request. VOC emissions shall be determined by the following manner:

$$\text{VOC} = \frac{(\% \text{ Volatile by Weight} / 100) * (\text{Density lb/gal}) * (\text{Gallons Consumed})}{(2.000 \text{ lb/ton})}$$

The VOC content in pounds for each individual item or surface coating used shall be calculated, and then the total of all items shall be summed, such that the cumulative total shall not exceed the 0.04 tons per 12 month period as specified.

- 9. The owner/operator shall use only natural gas as a primary fuel and #2 fuel oil as a backup fuel in the replacement boilers located in Buildings 1624, 1904, 2104, and 2203. If any other fuel is to be used, an AO shall be required in accordance with R307-1-3.1, UAC.
- 10. The sulfur content of any fuel oil burned shall not exceed 0.5% by weight. The sulfur content of any fuel oil or diesel fuel shall be tested if directed by the Executive Secretary.
- 11. The paint spray booth shall be equipped with a set of paint arrestor particulate filters or equivalent to control particulate emissions. All air exiting the booth shall pass through this control system before being vented to the atmosphere. Equivalency shall be determined by the Executive Secretary.

12. All installations and facilities authorized by this AO shall be adequately and properly maintained. The owner/operator shall comply with R307-1-3.5 and 4.7, UAC. R307-1-3.5, UAC addresses emission inventory reporting requirements. R307-1-4.7, UAC addresses unavoidable breakdown reporting requirements. The owner/operator shall calculate/estimate the excess emissions whenever a breakdown occurs. The sum total of excess emissions shall be reported to the Executive Secretary for each calendar year no later than January 31 of the following year.
13. The Executive Secretary shall be notified in writing upon start-up of the installation, as an initial compliance inspection is required. Eighteen months from the date of this AO, the Executive Secretary shall be notified in writing of the status of construction/installation if construction/installation is not completed. At that time, the Executive Secretary shall require documentation of the continuous construction/installation of the operation and may revoke the AO in accordance with R307-1-3.1.5, UAC.

Any future modifications to the equipment approved by this order must also be approved in accordance with R307-1-3.1.1, UAC.

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 the UACR.

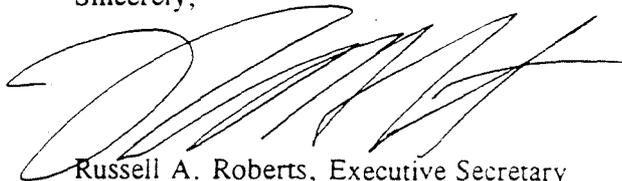
Annual emissions from the source listed in this NOI are currently calculated at the following values:

- A. Total annual emissions for each of the 250 hp boilers located in Buildings 1624, 2104, and 2203 are the following values:
  - 1) 0.06 tons/yr for Particulate
  - 2) 0.056 tons/yr for  $PM_{10}$
  - 3) 0.01 tons/yr for  $SO_2$
  - 4) 0.47 tons/yr for  $NO_x$
  - 5) 0.13 tons/yr for VOC
  - 6) 0.46 tons/yr for CO
- B. Total annual emissions for the 400 hp boiler located in building 1904 are the following values:
  - 1) 0.11 tons/yr for Particulate
  - 2) 0.10 tons/yr for  $PM_{10}$
  - 3) 0.02 tons/yr for  $SO_2$
  - 4) 3.68 tons/yr for  $NO_x$
  - 5) 0.22 tons/yr for VOC
  - 6) 0.73 tons/yr for CO
- C. Total annual emissions for the paint booth located in building 751 is 0.04 tons/yr for VOC.

- D. Total annual emissions for the carbon brake coating process located in building 507 is 1.32 tons/yr for PO<sub>x</sub>.
- E. Total annual emissions, based on 100 hr/yr operation, for each emergency generator located in buildings 1212, and 1213 are the following values:
- 1) 0.04 tons/yr for Particulate
  - 2) 0.04 tons/yr for PM<sub>10</sub>
  - 3) 0.04 tons/yr for SO<sub>2</sub>
  - 4) 0.67 tons/yr for NO<sub>x</sub>
  - 5) 0.05 tons/yr for VOC
  - 6) 0.14 tons/yr for CO
  - 7) 0.01 tons/yr for Aldehydes

These calculations are for the purposes of determining the applicability of PSD and nonattainment area major source requirements of the UACR. Except for VOC, they are not to be used for purposes of determining compliance.

Sincerely,



Russell A. Roberts, Executive Secretary  
Utah Air Quality Board

RAR:JR:sbq

cc: EPA Region VIII, Mike Owens