



# **Air Quality Permitting Technical Analysis**

February 20, 2003

**Permit to Construct No. 011-00022**

**Department of Energy, Idaho Operations, Bingham County**

P-020520

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**FINAL PERMIT**

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## ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURES

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
Department	Department of Environmental Quality
DEQ	Department of Environmental Quality
HAPs	Hazardous Air Pollutants
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
MACT	Maximum Achievable Control Technology
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	Permit to Construct
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
T/yr	Tons per year
VOC	volatile organic compound

## 1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200, *Rules for the Control of Air Pollution in Idaho* for issuing permits to construct (PTC).

## 2. PROJECT DESCRIPTION

The Department of Energy (DOE) is proposing to amend PTC #011-00022 issued on August 23, 1993 for the utility paint spray booth. These changes include updating the addresses and facility contact information and the following permit condition changes.

- Remove the maximum paint usage
- Remove the hourly emissions limits
- Change the requirement for new paints so that the facility may use paints that meet the emissions standards in this permit
- Remove the requirement to submit the O&M manual for DEQ review
- Simplify the monitoring and recordkeeping requirements

Removing the maximum paint usage from this permit does not change the emissions from the paint booth because the facility already must comply with the emissions limits by calculating the VOC content of the paints used. The hourly emissions limits were less than 10% of the significant rates and are not necessary to show compliance. The requirement for new paints allows the facility to use paints that will meet the exemption criteria for toxic pollutants and the permitted emissions rates.

## 3. FACILITY DESCRIPTION

The utility paint spray booth is a maintenance and utility spray paint booth. This paint booth is not used for production painting. The items painted vary in material type, size, and configuration. The paint booth is approximately 23 feet long, 14 feet wide, and 9 feet high. There are several types of paints and solvents used in the utility paint spray booth. No radionuclides are involved.

## 4. SUMMARY OF EVENTS

- December 23, 2002 DEQ received an application from DOE for the revision of the utility paint spray booth PTC
- January 21, 2003 DEQ received the PTC application fee and the PTC processing fee

## 5. PERMIT HISTORY

The following is a summary of the permit history:

- August 23, 1993 PTC No. 011-00022 was issued for the utility paint spray booth

## 6. TECHNICAL ANALYSIS

### *Equipment Listing*

Particulate emissions are controlled by a Binks cabinet type exhaust chamber. The filter is a Binks Andraee model #29-359 with a manufacturer's guaranteed control efficiency of 87% on particulate matter (PM).

### ***Emission Estimates***

There are no changes in emissions associated with this permit amendment. See the technical memorandum dated March 8, 1990 for a description of the emissions estimate.

### ***Modeling***

There are no changes in emissions associated with this permit amendment. Therefore, no modeling is required.

### ***Facility Classification***

The utility paint spray booth is located at a facility that is classified as a major facility because the potential to emit is greater than 100 tons per year (T/yr) for one or more criteria air pollutants.

### ***Area Classification***

The utility paint spray booth is located approximately 35 miles west of Idaho Falls in Bingham county, AQCR 61, and Zone 11. This area is unclassifiable for all criteria air pollutants.

## **7. PERMIT REQUIREMENTS**

### ***Regulatory Review***

This permit to construct is subject to the following permitting requirements:

IDAPA 58.01.01.201 ..... Permit to Construct Required

This project does not involve an increase in emissions and is not considered a modification. This is an administrative permit amendment which does not require an opportunity for public comment.

IDAPA 58.01.01.210 ..... Demonstration of Preconstruction Compliance with Toxic Standards

There is no increase in toxic emissions associated with this permit amendment.

40 CFR 52..... Prevention of Significant Deterioration (PSD)

There are no PSD requirements associated with this permit amendment.

40 CFR 60..... New Source Performance Standards (NSPS)

There are no NSPS standards that apply to the utility paint spray booth.

40 CFR 61 and 63..... National Emission Standards for Hazardous Air Pollutants (NESHAP) & Maximum Achievable Control Technology (MACT)

No NESHAP or MACT standards apply to the utility paint spray booth.

### ***Utility Paint Spray Booth***

#### **7.1 Particulate Matter and Volatile Organic Compound (VOC) Emissions Limits**

Emissions of PM and VOCs from the paint booth are limited to 0.2 T/yr and 0.8 T/yr respectively. This limit was established from the previous permit application.

## 7.2 Compliance Demonstration

The permittee will show compliance with the emissions limits by recording the types, quantities, solvent content, and date of application for all paints and solvents used in the paint booth. Any paint used in the paint booth that was not included in the permit application must be analyzed to show that the PM, VOC, and toxic air pollutants (TAP) emissions would not violate any permit conditions or screening emissions levels. Any paint or solvent that would violate an applicable emissions limit (EL) must be approved by the Department prior to use. The permittee must keep records of the paint and solvent specifications as well as the calculations used to show compliance for any paint or solvent that was not included in the permit application.

## 8. AIRS INFORMATION

Table 8.1 AIRS/AFS<sup>a</sup> FACILITY-WIDE CLASSIFICATION<sup>b</sup> DATA ENTRY FORM

AIR PROGRAM	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	TITLE V	AREA CLASSIFICATION
POLLUTANT							A – Attainment U – Unclassifiable N – Nonattainment
SO <sub>2</sub>	B		B				U
NO <sub>x</sub>	A	A	A			A	U
CO	A	A				A	U
PM <sub>10</sub>	B						U
PT (Particulate)	B		B				
VOC (Ozone)	B		B				U
THAP (Total HAPs)	B			X			
			<b>APPLICABLE SUBPART</b>				
			Dc and Kb	H and M			

<sup>a</sup> Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

<sup>b</sup> AIRS/AFS Classification Codes:

- A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 T/yr threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.
- SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
- B = Actual and potential emissions below all applicable major source thresholds.
- C = Class is unknown.
- ND = Major source thresholds are not defined (e.g., radionuclides).

## 9. FEES

The DOE paid the \$1,000 application fee as required in IDAPA 58.01.01.224 on January 21, 2003. A permit to construct processing fee of \$250 was required in accordance with IDAPA 58.01.01.225 for a permit amendment that did not require any engineering analysis. The processing fee was received on January 21, 2003. The DOE facility is a major facility as defined in IDAPA 58.01.01.008.10 and is therefore subject to registration and registration fees in accordance with IDAPA 58.01.01.387. The facility is current with its registration fees.

**Table 9.1 EMISSIONS INVENTORY**

<b>Emissions Inventory</b>			
<b>Pollutant</b>	<b>Annual Emissions Increase (T/yr)</b>	<b>Annual Emissions Reduction (T/yr)</b>	<b>Annual Emissions Change (T/yr)</b>
NO <sub>x</sub>	0.0	0	0.0
SO <sub>2</sub>	0.0	0	0.0
CO	0.0	0	0.0
PM <sub>10</sub>	0.0	0	0.0
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Amount	<b>\$250.00</b>		

## 10. RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommend that DOE be issued amended PTC No. 011-00022 for the utility paint spray booth. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

DH/sm                      Project No. P-020520

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