



State of Idaho
Department of Environmental Quality
Air Quality Division

**AIR QUALITY PERMIT
STATEMENT OF BASIS**

Permit to Construct No. P-2008.0073

Final

**U.S. Department of Energy, Idaho Operations Office (DOE-ID)
Battelle Energy Alliance, LLC (BEA)
Idaho National Laboratory (INL)
Materials and Fuels Complex (MFC)
Fuel Conditioning Facility (FCF)
Scoville, Idaho**

Facility ID No. 011-00022

June 4, 2008

Ken Hanna

A handwritten signature in black ink, appearing to read "KH".

Permit Writer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

Acronyms, Units, and Chemical Nomenclature

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
HAPs	Hazardous Air Pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MMBtu	million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
PC	permit condition
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SO ₂	sulfur dioxide
T/yr	tons per year
µg/m ³	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound

STATEMENT OF BASIS

Permittee:	U.S. Department of Energy, Idaho Operations	Permit No.: P-2008.0073
Location:	Scoville, Idaho	Facility ID No. 011-00022

1. FACILITY INFORMATION

1.1 Facility Description

The facility description for the INL MFC FCF is unchanged by this PTC revision except for instances where inlet HEPA filters are described. The purpose of this revision is to remove all references to inlet HEPA filters that protect against backflow contamination, because these filters are not part of the air pollution control system. Refer to the Statements of Basis for PTC No. P-2007.0043, issued June 22, 2007 for a detailed description of this facility.

1.2 Permitting History

This PTC is for a revision at an existing Tier I facility. See the current Tier I permit statement of basis for the permitting history.

2. APPLICATION SCOPE

The purpose of this revision is to remove all references to inlet HEPA filters that protect against backflow contamination, because these filters are not part of the air pollution control system.

2.1 Application Chronology

April 14, 2008	PTC application fee was received
May 5, 2008	Application for PTC revision was received from BEA
May 14, 2008	Draft revised permit provided to Regional Office for Review
May 19, 2008	Draft revised permit provided to BEA for review
June 3, 2008	Comments received from BEA
June 3, 2008	PTC processing fee received from permittee

3. TECHNICAL ANALYSIS

3.1 Emissions Inventory and Ambient Air Impact Analysis

Emissions from the FCF will not change as a result of this revision (i.e., will not increase nor decrease). This revision simply corrects the classification of certain HEPA filters used at the facility to meet Department of Energy requirements but not used for air pollution control purposes. A modeling analysis to evaluate ambient air impacts is not required since allowable emission rates will not increase as a result of this PTC revision.

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4. REGULATORY REVIEW

4.1 Attainment Designation (40 CFR 81.313)

The facility location and attainment designations are unchanged by this permit revision. No changes to the EPA AIRS/AFS database are necessary.

4.2 Permit to Construct (IDAPA 58.01.01.201)

This action is a PTC “revision” per IDAPA 58.01.01.209.04 since the facility will continue to meet all applicable requirement of Sections 200 through 228. A comment period for this revision is not required since the permit revision will not result in any increase in emissions authorized by the permit.

4.3 Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

The INL is classified as a major facility under the Title V program and Tier I operating permit No. T1-60521, issued June 28, 2005 is in effect to address these requirements. This PTC revision addresses “State-only” requirements that are not included in the Tier I permit; therefore, the Tier I permit is not affected by this PTC revision.

4.4 PSD Classification (40 CFR 52.21)

There is no change in emissions resulting from this revision. PSD requirements do not apply.

4.5 NSPS Applicability (40 CFR 60)

NSPS requirements for the FCF are not affected by this PTC revision.

4.6 NESHAP Applicability (40 CFR 61)

NESHAP requirements for the FCF under Subpart H continue to apply and are not affected by this PTC revision.

4.7 Permit Conditions Review

This section describes only those permit conditions (PC) that have been added, revised, modified or deleted as a result of this permitting action. All other permit conditions remain unchanged.

All references to the “inlet HEPA filters that protect against backflow contamination” have been removed from the permit. The original PTC No 140-0022, issued on December 5, 1989 did not intend for these particular filters to be regulated in the permit. These filters are installed for purposes of meeting Department of Energy requirements, and they are not installed as air pollution control equipment for purposes of meeting air quality regulations. In subsequent modifications to this PTC, the inlet HEPA filters became subject to requirements in the PTC; however, this should not have occurred. The purpose of this PTC revision is to correct this error and return to the intent of the original PTC by removing all references to the inlet HEPA filters. Specific changes necessary to accomplish this revision are shown below.

PC 1.4: In the description of the Air Cell System in Table 1.1 of PC 1.4, the following text was deleted: “Building Exhaust System HEPA filter on Air Cell inlet ducting.”

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Existing description of the Air Cell System in Table 1.1 of PC 1.4:

“Building Exhaust System HEPA filter on Air Cell inlet ducting.
Materials transferred into/out of cell through airlock.
Cell is maintained at a negative pressure relative to the building.
Two-stage HEPA filter, 99.97% efficiency.”

Revised description of the Air Cell System in Table 1.1 of PC 1.4:

“Materials transferred into/out of cell through airlock.
Cell is maintained at a negative pressure relative to the building.
Two-stage HEPA filter, 99.97% efficiency.”

PC 2.1.2: The last sentence of the second paragraph was deleted as follows: “An aerosol tested HEPA filter is used to protect against backflow contamination from the air cell to the general building area.”

Existing version of the second paragraph of PC 2.1.2:

“Air for the air cell is brought in through two inlets from the general building area. The air cell and other contaminated areas are maintained at a lower pressure than the building but at higher pressure than the argon cell. An aerosol tested HEPA filter is used to protect against backflow contamination from the air cell to the general building area.”

Revised version of the second paragraph of PC 2.1.2:

“Air for the air cell is brought in through two inlets from the general building area. The air cell and other contaminated areas are maintained at a lower pressure than the building but at higher pressure than the argon cell.”

Existing version of the last sentence of the second paragraph of PC 2.1.3:

“... The purification system off-gases and the argon cell normal exhaust discharge to the air cell system through a two-stage aerosol tested HEPA filter.”

The last sentence of the second paragraph of PC 2.1.3 was revised to read as follows:

“... Exhaust from the argon cell purification and feed/bleed systems pass through a two-stage aerosol tested HEPA filter into the air cell exhaust system prior to discharge through the MFC Main Stack.”

Existing PC 2.7.3:

“The permittee shall install, operate, and maintain a two-stage certified aerosol tested HEPA filter system to filter emissions from the air cell exhaust system.”

Revised PC 2.7.3:

“The permittee shall install, operate, and maintain a two-stage certified aerosol tested HEPA filter system to filter emissions from the air cell exhaust system prior to discharge through the MFC Main Stack.”

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PC 2.7.4 was deleted. The existing PC 2.7.4 appeared as follows:

“The permittee shall install, operate, and maintain a certified aerosol tested HEPA filter system to protect against backflow contamination from the air cell to the building.”

5. PERMIT FEES

Table 5.1 lists the processing fee associated with this permitting action. The facility is subject to a processing fee of \$250.00 because there is no emissions increase, and no engineering analysis was required for this permit revision. Refer to the chronology for fee receipt dates.

Table 5.1 PTC PROCESSING FEE TABLE

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM ₁₀	0.0	0	0.0
VOC	0.0	0	0.0
HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 250.00		

6. PUBLIC COMMENT

This action is a PTC “revision” per IDAPA 58.01.01.209.04. A comment period for this revision is not required since the revision will not result in any increase in emissions authorized by the permit.