

PROPOSED CAAPP PERMIT
October 11, 2006

217/782-2113

RENEWAL
CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

PERMITTEE:

U. S. Department of Energy
Attn: A. C. Zook, Acting Manager
Argonne Site Office
9800 South Cass Avenue
Argonne, Illinois 60439

Argonne National Laboratory
Attn: W. F. Arnold
Associate Laboratory Director for
Operations and Business Management
9700 South Cass Avenue
Argonne, Illinois 60439

I.D. No.: 043802AAA
Application No.: 95090195

Date Received: April 20, 2005
Date Issued: To Be Determined
Expiration Date¹: To Be Determined

Operation of: Multipurpose Government Research Laboratory
Source Location: 9700 South Cass, Argonne, DuPage County
Responsible Official: A. C. Zook, Acting Manager and
W. F. Arnold, Associate Laboratory Director for
Operations and Business Management

This permit is hereby granted to the above-designated Permittee to OPERATE a multipurpose government research laboratory, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact Dan Punzak at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:DGP:psj

cc: Illinois EPA, FOS, Region 1
CES
Lotus Notes

¹ Except as provided in Conditions 1.5 and 8.7 of this permit.

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1.0 INTRODUCTION

1.1 Source Identification

Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439-4836
630/252-2000

I.D. No.: 043802AAA
County: DuPage
Standard Industrial Classification: 8733

1.2 Owner/Parent Company

U. S. Department of Energy
Argonne Site Office
9800 South Cass Avenue
Argonne, Illinois 60439

Manager: A. C. Zook, Acting Manager

1.3 a. Operator

UChicago Argonne, LLC
9700 South Cass Avenue
Argonne, Illinois 60439

Air Quality Contact: Greg Barrett
630/252-2854

b. Co-Operator

U.S. Department of Energy
Argonne Site Office
9800 South Cass Avenue
Argonne, Illinois 60439

1.4 Source Description

The Argonne National Laboratory (ANL) is located at 9700 South Cass Avenue, Argonne, Illinois, 60439. Argonne National Laboratory (ANL) is a multipurpose research laboratory owned by the U. S. Department of Energy (DOE) and operated by the University of Chicago. The University of Chicago is responsible for day-to-day operations, including, but not limited to, monitoring, recordkeeping, facility maintenance and reporting. DOE is also a co-operator of the laboratory and is responsible for policy, programmatic funding and scheduling decisions, as well as general oversight. ANL is engaged in basic research involving the physical, life and environmental sciences, and technology research in fission, fusion, fossil energy, energy efficiency and renewable energy.

1.5 Title I Conditions

As generally identified below, this CAAPP permit contains certain conditions for emission units at this source that address the applicability of permitting programs for the construction and modification of sources, which programs were established pursuant to Title I of the Clean Air Act (CAA) and regulations thereunder. These programs include 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203, Major Stationary Sources Construction and Modification (MSSCAM), and are implemented by the Illinois EPA pursuant to Sections 9, 9.1, 39(a) and 39.5(7)(a) of the Illinois Environmental Protection Act (Act). These conditions continue in effect, notwithstanding the expiration date specified on the first page of this permit, as their authority derives from Titles I and V of the CAA, as well as Titles II and X of the Act. (See also Condition 8.7.)

This permit contains "Title I conditions" that reflect Title I requirements established in permits previously issued for this source, which conditions are specifically designated as "T1."

2.0 LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED

ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
APS	Advanced Photon Source
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment Trading Unit
BACT	Best Available Control Technology
BAT	Best Available Technology
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
D&D	Decontamination and Decommissioning
DOE	Department of Energy
ERMS	Emissions Reduction Market System
HAP	Hazardous Air Pollutant
HEPA	High Efficiency Particulate Air
HP or hp	Horsepower
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
mmscf	million standard cubic feet
mrem	milli (1/1000) roentgen equivalent man
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
PCB	Polychlorinated Biphenyls
PM	Particulate Matter
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
PM _{2.5}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns as measured by applicable test or monitoring methods
PSD	Prevention of Significant Deterioration
R&D	Research and Development
RMP	Risk Management Plan
SO ₂	Sulfur Dioxide
T1	Title I - identifies Title I conditions that have been carried over from an existing permit

T1N	Title I New - identifies Title I conditions that are being established in this permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VOM	Volatile Organic Material
WMO	Waste Management Operations

3.0 CONDITIONS FOR INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

- 3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

Building 205 - Gasoline Storage Tank^a
Building 308 - Alkali Metal Reaction Booth Vented to Venturi Scrubber^b
Building 370 - ALEX Alkali Metal Scrubber Vented to Venturi Scrubber^b
Building 212 - Acid Pickling Vented to Acid Scrubber^b
Building 212 - Plasma Spray Booth Vented to Water Scrubber^b
Building 371 - Gasoline Fueling from 55 Gallon Drums
Leaking Gas Cylinder Storage Facility^a
Area 800 Landfill
WMO Portable Filtration System is included as a significant unit for radionuclides in Section 7.1 but also has insignificant emissions of PM and metallic HAPs

^a Air pollutants are considered as hazardous pursuant to Section 112(b) of the Clean Air Act.

^b Although these units are equipped with control devices, the emissions would be less than specified in 35 IAC 201.211(a)(2) in the absence of the control device.

- 3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

Building 108 - Sulfuric Acid Storage Tank
Sanitary Wastewater Treatment Plant
G-Wing Ceramics Lab Vented to Filters

- 3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Equipment used for the melting or application of less than 50,000 lbs/year of wax to which no organic solvent has been added [35 IAC 201.210(a)(7)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Coating operations (excluding powder, architectural and industrial maintenance coating) with aggregate VOM usage that never exceeds 15 lbs/day from all coating lines at the source, including VOM from coating, dilutents, and cleaning materials [35 IAC 201.210(a)(13)].

Printing operations with aggregate organic solvent usage that never exceeds 750 gallons per year from all printing lines at the source, including organic solvent from inks, dilutents, fountain solutions, and cleaning materials [35 IAC 201.210(a)(14)].

Gas turbines and stationary reciprocating internal combustion engines of less than 112 kW (150 horsepower) power output [35 IAC 201.210(a)(15)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

Loading and unloading systems for railcars, tank trucks, or watercraft that handle only the following liquid materials, provided an organic solvent has not been mixed with such materials: soaps, detergents, surfactants, lubricating oils, waxes, glycerin, vegetable oils, greases, animal fats, sweetener, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(18)].

3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b). Note: These activities are not required to be individually listed.

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.3.2), the Permittee shall comply with the following requirements, as applicable:

3.2.1 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322 (see Attachment 2) and 35 IAC Part 266. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.

3.2.2 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 218.301, which requires that organic material emissions not exceed 8.0 pounds per hour or, if no odor nuisance exists, do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.2.3 For each open burning activity, the Permittee shall comply with 35 IAC Part 237, including the requirement to obtain a permit for open burning in accordance with 35 IAC 237.201, if necessary.

3.2.4 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 218.182^a.

^a The Permittee had been granted an adjusted standard (IPCB No. AS 03-4) from the requirements of 35 IAC 218.182. Pursuant to this adjusted standard, the applicable vapor pressure and other associated requirements of 35 IAC 218.182 do not apply to cold cleaning involving the preparation of sample materials and associated apparatus used for research and development testing and analysis activities conducted at the facility subject to the following:

- i. The research and development related cleaning activities include, but are not limited to, washing and rinsing slides, drying glassware, sample preparation, specimen cleaning, gel stain/destaining, membrane rinsing, and the cleaning of small parts and equipment associated with the preparation of sample materials for testing and analysis.

- ii. The requirements of this adjusted standard do not apply where solvents meeting the vapor pressure limits of 35 IAC 218.182 can be used without compromising the quality of the equipment being used or the validity of research results.

3.2.5 For each storage tank that has a storage capacity greater than 946 liters (250 gallons) and, if no odor nuisance exists, that stores an organic material with a vapor pressure exceeding 2.5 psia at 70°F, the Permittee shall comply with the applicable requirements of 35 IAC 218.122, which requires use of a permanent submerged loading pipe, submerged fill, or a vapor recovery system.

3.2.6 For each organic material emission unit that is exempt from 35 IAC 218 Subpart TT, the Permittee shall maintain emissions of VOM to the atmosphere less than or equal to 2.3 Mg (2.5 tons) per calendar year. The total emissions from emission units (including insignificant and significant activities) not complying with 35 IAC 218 Subpart TT shall not exceed 4.5 Mg (5.0 tons) per calendar year.

3.3 Addition of Insignificant Activities

3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).

3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.

3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description	Date Constructed	Emission Control Equipment
Section 7.1			
Alkali Metal Scrubber (Building 206)	A Scrubbing Process to safely dispose of sodium and occasionally other alkali metals	N/A*	Venturi Scrubber and HEPA Filter
Advanced Photon Source (APS)	X-ray radiation beams are produced by accelerating electrons in a circular path at speeds near that of light.	N/A	None
Alpha Gamma Hot Cell Facility	Irradiated nuclear fuel materials that contain plutonium, uranium, and mix-fission products are examined and tested.	N/A	Carbon Adsorber and HEPA Filter
Storage Rooms/Assay Room (Building 306)	Waste material is stored in rooms with concrete floors and cinder block walls with no windows. Assay room is for external viewing of closed waste drums	N/A	HEPA Filters
Sorting/Decontamination/Size Reduction Rooms (Building 306)	Radioactive, non-radioactive and mixed wastes are separated and reduced.	N/A	HEPA Filters
Waste Treatment R & D (Building 306)	Three waste treatment processes are being evaluated: 1) aqueous mixed waste, 2) solidification process, and 3) transuranic aqueous mixed waste.	N/A	HEPA Filters
Compactor/Vial Crusher and Chemical/Photo-oxidation Unit (Building 306)	Bulking of rad, mixed and organic wastes. Experimental Treatment of org. wastes	N/A	HEPA Filters
Waste Treatment Rooms (Building 306)	Rooms contain a tank system used to neutralize acidic transuranic waste	N/A	HEPA Filters
Service Floor Tank Area (Building 306)	15 storage tanks used to collect radioactive liquid waste for future processing.	N/A	HEPA Filters
High Bay Area with Evaporator/Concentrator (Building 306)	Evaporator/concentrator system processes aqueous radioactive waste.	N/A	HEPA Filters
CP-5 Reactor	Facility D & D complete - awaiting final disposition	N/A	HEPA Filters

Emission Unit	Description	Date Constructed	Emission Control Equipment
Melt Attack and Coolability Experiment (MACE) (Building 315)	Designed to evaluate the use of water to terminate progression of a core melt accident in a light water reactor system.	N/A	Water Scrubber and HEPA Filters
Intense Pulsed Neutron Source (IPNS)	A pulsed proton beam is delivered onto a heavy metal target which emits a large number of neutrons	N/A	HEPA Filters
NBL - Plutonium Lab Air Handling System	Routine chemical and instrumental analyses of nuclear materials and the preparation and/or characterization of nuclear standards and reference materials are conducted.	N/A	HEPA Filters
NBL - Uranium Lab Air Handling System	Same as for NBL plutonium lab	N/A	HEPA Filters
Radionuclide Hood	Experimentation involving the use of radioactive materials	N/A	HEPA Filters
Hot Cell D & D Project (Building 301)	Hot cell facility undergoing D & D	N/A	HEPA Filters
WMO Portable Filtration System	Filtration system for waste handling erected at equipment dismantlement sites.	N/A	HEPA Filters
Mixed Waste Storage Facility (Building 303)	Location where low-level radioactive waste generated by various R & D, D & D, and support activities are stored.	N/A	HEPA Filters
Radioactive Waste Facility (Building 331)	The building is used to store and process radioactive waste and mixed waste generated at ANL	N/A	HEPA Filters
WMO Waste Bulking Sheds	These sheds house a bulking process for organic and corrosive acid wastes into 55 gallon drums. (Radionuclide Emissions)	N/A	HEPA Filters
Wastewater Treatment Plant	The continuous flow wastewater treatment plant has the capability to treat wastewater for metals, suspended solids and organic compounds. (Radionuclide Emissions)	N/A	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
M-Wing Hot Cells (Building 200)	Past experiments that involved nuclear materials which emit Rn ₂₂₀	^a	HEPA Filters
B-050 Counting Area Ventilation (Building 205)		N/A	
H-Wing Radionuclide Sources		N/A	
Radionuclide Hoods/Gloveboxes (Building 203)		N/A	
Zero Power Reactor D&D Project (Building 315)		N/A	
Section 7.2			
Boiler #1	85,000 Lb/Hr (106 mmBtu/Hr) Dual Fueled Steam Boiler	Pre-1972	None
Boiler #2	85,000 Lb/Hr (106 mmBtu/Hr) Dual Fueled Steam Boiler	Pre-1972	None
Boiler #3	85,000 Lb/Hr (106 mmBtu/Hr) Dual Fueled Steam Boiler	Pre-1972	None
Boiler #4	85,000 Lb/Hr (106 mmBtu/Hr) Dual Fueled Steam Boiler	Pre-1972	None
Section 7.3			
Boiler #5	170,000 lb/hr Steam Boiler, Dual Fueled (212 mmBtu/hr), Natural Gas or Coal.	Pre-1972	Baghouse
Section 7.4			
PCB Cleanup	PCB contaminated sediments are removed from various tanks at the facility. After removal the tanks are cleaned with biodegradable solvent.	1995	None (portable HEPA filter system to control radionuclide emissions during the sludge removal process)
Section 7.5			
WMO Waste Bulking Sheds	These sheds house a bulking process for organic and corrosive acid wastes into 55 gallon drums. (Non-Radionuclide Emissions)	1994	HEPA Filters
Section 7.6			
Wastewater Treatment Plant	The continuous flow wastewater treatment plant has the capability to treat wastewater for metals, suspended solids and organic compounds. (Non-Radionuclide Emissions)	1995	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
Section 7.7			
APS Emergency Generator #1	1250 kW Caterpillar Diesel Generator	1994	None
APS Emergency Generator #2	1250 kW Kohler Diesel Generator	1994	None
APS Emergency Generator #3	1250kW Kohler Diesel Generator	1994	None
ANL Peak Shaving Generator (Building 200)	500 kW Diesel Generator	1989	None
ANL Peak Shaving Generator (Building 202)	500 kW Diesel Generator	1989	None
Section 7.8			
TRF Buildings Containing Test Engines	Various Internal Combustion Engines	1996	None ^b
Section 7.9			
Tank #2 (Building 46)	10,000 gallon gasoline underground storage tank	1990	Submerged filling pipe; Stage I and II vapor recovery
Tank #3 (Building 46)	10,000 gallon ethanol/gasoline underground storage tank	1990	Submerged filling pipe; Stage I and II vapor recovery
Section 7.10			
Superconducting Cavity Surface Treatment	Surface Treatment with Acid Gases	2004	Packed Bed Scrubber

* N/A = Not applicable. All units which are designated N/A are subject only to a NESHAP (Subpart H of 40 CFR 61) for radionuclides. This rule is applicable regardless of date constructed and none of the construction permits for such units included a lb/hr limit. The limit for radionuclides is a calculated dose rate for all units.

^a This unit emits only radon and thus not subject to 40 CFR 61 Subpart H. It is also not subject to 40 CFR 61 Subpart Q for radon emitting units because only sources listed in 40 CFR 61.190 are subject and Argonne is not listed.

^b Some engines may be equipped with passive catalytic converters similar to those on passenger cars.

5.0 OVERALL SOURCE CONDITIONS

5.1 Applicability of Clean Air Act Permit Program (CAAPP)

- 5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of SO₂, CO and NO_x emissions.
- 5.1.2 This permit is issued based on the source also requiring a CAAPP permit because the source is subject to a standard, limitation, or other requirement under Section 112 (HAPs) of the CAA for which USEPA requires a CAAPP permit, pursuant to 40 CFR 70.3(a)(3) [Section 39.5(2)(a)(ii) of the Act]. Specifically, this source is subject to 40 CFR 61 Subpart H (radionuclides).

5.2 Area Designation

This permit is issued based on the source being located in an area that, as of the date of permit issuance, is designated nonattainment for the National Ambient Air Quality Standards for ozone (moderate) and PM_{2.5} and attainment or unclassifiable for all other criteria pollutants (NO_x, CO, SO₂, PM₁₀ and lead).

5.3 Source-Wide Applicable Provisions and Regulations

- 5.3.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions for Specific Emission Units) of this permit.
- 5.3.2 In addition, emission units at this source are subject to the following regulations of general applicability:
 - a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.
 - b. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

5.3.3 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.3.4 Risk Management Plan (RMP)

Should this stationary source, as defined in 40 CFR 68.3, become subject to the federal regulations for Chemical Accident Prevention in 40 CFR Part 68, then the owner or operator shall submit the items below. This condition is imposed in this permit pursuant to 40 CFR 68.215(a)(2)(i) and (ii).

- a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or
- b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the RMP, as part of the annual compliance certification required by Condition 9.8.

5.3.5 Future Emission Standards

Should this stationary source become subject to a new or revised regulation under 40 CFR Parts 60, 61, 62, or 63, or 35 IAC Subtitle B after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by Condition 9.8. This permit may also have to be revised or reopened to address such new or revised regulations (see Condition 9.12.2).

5.3.6 Episode Action Plan

- a. Pursuant to 35 IAC 244.141, 244.142, and 244.143, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144 and is incorporated by reference into this permit.
- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert

or emergency be declared by the Director of the Illinois EPA or his or her designated representative.

- c. If an operational change occurs at the source which invalidates the plan, a revised plan shall be submitted to the Illinois EPA for review within 30 days of the change, pursuant to 35 IAC 244.143(d). Such plans shall be further revised if disapproved by the Illinois EPA.

5.3.7 Fugitive Emissions from Coal Storage Piles

No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source. (35 IAC 212.301)

5.4 Source-Wide Non-Applicability of Regulations of Concern

Source-wide non-applicability of regulations of concern are not set for this source. However, there may be unit specific non-applicability of regulations of concern set forth in Section 7 of this permit.

5.5 Source-Wide Control Requirements and Work Practices

Source-wide control requirements and work practices are not set for this source. However, there may be requirements for unit specific control requirements and work practices set forth in Section 7 of this permit.

5.6 Source-Wide Production and Emission Limitations

5.6.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.6.1) are set for the purpose of establishing fees and are not federally enforceable (see Section 39.5(18) of the Act).

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	21.53
Sulfur Dioxide (SO ₂)	332.20
Particulate Matter (PM)	65.93
Nitrogen Oxides (NO _x)	395.20
HAP, not included in VOM or PM	10.00
Total	824.86

5.6.2 Emissions of Hazardous Air Pollutants

The emissions of HAPs from the source shall be less than 10 tons/year for each individual HAP and 25 tons/year for all HAPs combined. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). This condition is being imposed so that the source is not a major source of HAP emissions. The Permittee shall fulfill the applicable testing, recordkeeping, and reporting requirements of Conditions 5.7.1, 5.9.2, and 5.10.2. For HAPs generated by the combustion of coal, AP-42 emission factors may be used to calculate and record those HAP emissions. Testing is not required.

5.6.3 Other Source-Wide Emission Limitations

Other source-wide emission limitations are not set for this source pursuant to the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, state rules for Major Stationary Sources Construction and Modification, 35 IAC Part 203, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.7 Source-Wide Testing Requirements

5.7.1 Pursuant to 35 IAC 201.282 and Section 4(b) of the Act, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

- a. Testing by Owner or Operator: The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests [35 IAC 201.282(a)].
- b. Testing by the Illinois EPA: The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but

excluding instruments and sensing devices, as may be necessary [35 IAC 201.282(b)].

- c. Any such tests are also subject to the Testing Procedures of Condition 8.5 set forth in the General Permit Conditions of Section 8.

5.8 Source-Wide Monitoring Requirements

Source-wide monitoring requirements are not set for this source. However, there may be provisions for unit specific monitoring set forth in Section 7 of this permit.

5.9 Source-Wide Recordkeeping Requirements

5.9.1 Annual Emission Records

The Permittee shall maintain records of total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act.

5.9.2 Records for HAP Emissions

The Permittee shall maintain records of HAP emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit, pursuant to Section 39.5(7)(b) of the Act.

- a. The Permittee shall maintain records of individual and combined HAP emissions on a monthly and annual basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit to demonstrate compliance with Condition 5.6.2, pursuant to Section 39.5(7)(b) of the Act.
- b. The Permittee shall keep an MSDS or equivalent document showing the analysis of coal for sulfur content and metallic HAP content. These analysis sheets may be used to make the calculation of HAP emissions required in conjunction with the coal usage required by Condition 7.5.9. If the analysis sheet uses a maximum or range value (e.g., less than 1% or range of 2 - 3%) then the highest value shall be used.
- c. If the USEPA revises any of the tables for emissions of HAPs from coal combustion in AP-42 Section 1.1 (for example Table 1.1-14 to 1.1-18), the Permittee shall recalculate the emissions of HAPs from boiler #5 and determine if the coal usage limit in Condition 7.3.5(c) is adequate to assure that the source will continue to remain a minor source of HAPs.

5.9.3 Other Records

- a. The Permittee shall maintain records of the following items for each steam plant boiler [Section 39.5(7)(b) of the Act]. These records shall be kept up to date for each steam plant boiler at the source and be retained until the steam plant boiler is removed from service.
 - i. The date* on which construction of the emission unit was commenced, with a copy of supporting documentation;
 - ii. The dates* on which modification or reconstruction as defined in the NSPS, 40 CFR 60.14 and 60.15 respectively, were commenced on the emission unit, if applicable;
 - iii. The material type(s) and usage for each emission unit (i.e., natural gas burned); and
 - iv. The rated or designed capacity for each emission unit (i.e., boiler heat capacity).
- * If a date is prior to April 14, 1972, a specific date is not needed and documentation need only show commencement of construction prior to this date.
- b. For all units subject to 35 IAC 218 Subpart TT and which do not comply with the control requirements of 35 IAC 218.986(a) but use the de minimis exemption in §218.980(d), a record shall be kept of total annual VOM emissions from all units combined. This shall include insignificant emission units.

5.9.4 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.10 Source-Wide Reporting Requirements

5.10.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the source with Section 5 requirements within 30 days, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken. There are also reporting requirements for unit specific emission units set forth in Section 7 of this permit.

5.10.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information, including HAP emissions, for the previous calendar year.

5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios

Source-wide operational flexibility is not set for this source. However, there may be provisions for unit specific operational flexibility set forth in Section 7 of this permit.

5.12 Source-Wide Compliance Procedures

5.12.1 Procedures for Calculating Emissions

Except as provided in Condition 9.1.3, compliance with the source-wide emission limits specified in Condition 5.6 shall be addressed by the recordkeeping and reporting requirements of Conditions 5.9 and 5.10, and compliance procedures in Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit.

6.0 CONDITIONS FOR EMISSIONS CONTROL PROGRAMS

This section is reserved for emissions control programs. As of the date of issuance of this permit, there are no such programs applicable to this source.

6.1 Emissions Reduction Market System (ERMS)

6.1.1 Description of ERMS

The ERMS is a "cap and trade" market system for major stationary sources located in the Chicago ozone nonattainment area. It is designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as required by Section 182(c) of the CAA.

The ERMS addresses VOM emissions during a seasonal allotment period from May 1 through September 30. Participating sources must hold "allotment trading units" (ATUs) for their actual seasonal VOM emissions. Each year participating sources are issued ATUs based on allotments set in the sources' CAAPP permits. These allotments are established from historical VOM emissions or "baseline emissions" lowered to provide the emissions reductions from stationary sources required for reasonable further progress.

By December 31 of each year, the end of the reconciliation period following the seasonal allotment period, each source should have sufficient ATUs in its transaction account to cover its actual VOM emissions during the preceding season. A transaction account's balance as of December 31 will include any valid ATU transfer agreements entered into as of December 31 of the given year, provided such agreements are promptly submitted to the Illinois EPA for entry into the transaction account database. The Illinois EPA will then retire ATUs in sources' transaction accounts in amounts equivalent to their seasonal emissions. When a source does not appear to have sufficient ATUs in its transaction account, the Illinois EPA will issue a notice to the source to begin the process for Emissions Excursion Compensation.

In addition to receiving ATUs pursuant to their allotments, participating sources may also obtain ATUs from the market, including ATUs bought from other participating sources and general participants in the ERMS that hold ATUs (35 IAC 205.630) and ATUs issued by the Illinois EPA as a consequence of VOM emissions reductions from an Emissions Reduction Generator or an Intersector Transaction (35 IAC 205.500 and 35 IAC 205.510). During the reconciliation period, sources may also buy ATUs from a secondary reserve of ATUs managed by the Illinois EPA, the "Alternative Compliance Market Account" (ACMA) (35 IAC 205.710). Sources may also transfer or sell the ATUs that they hold to other sources or participants (35 IAC 205.630).

6.1.2 Applicability

This permit is issued based on this source not being a participating source in the Emissions Reduction Market System (ERMS), 35 IAC Part 205, pursuant to 35 IAC 205.200. This is based on the source's actual VOM emissions during the seasonal allotment period from May 1 through September 30 of each year being less than 10 tons and the source's baseline emissions also being less than 10 tons.

6.1.3 Recordkeeping and Reporting

- a. The Permittee shall maintain the following records to allow the confirmation of actual VOM emissions during the seasonal allotment period:
 - i. Records of operating data and other information for each individual emission unit or group of related emission units at the source, as specified in Sections 5 and 7 of this permit, as appropriate, to determine actual VOM emissions during the seasonal allotment period;
 - ii. Records of the VOM emissions, in tons, during the seasonal allotment period, with supporting calculations, for each individual emission unit or group of related emission units at the source, determined in accordance with the procedures specified in Sections 5 and 7 of this permit; and
 - iii. Total VOM emissions from the source, in tons, during each seasonal allotment period, which shall be compiled by November 30 of each year.
- b. In the event that the source's VOM emissions during the seasonal allotment period equal or exceed 10 tons, the source shall become a participating source in the ERMS and beginning with the following seasonal allotment period, shall comply with 35 IAC Part 205, by holding allotment trading units (ATUs) for its VOM emissions during each seasonal allotment period, unless the source obtains exemption from the ERMS by operating with seasonal VOM emissions of no more than 15 tons pursuant to a limitation applied for and established in its CAAPP permit.

6.2 NO_x Trading Program

Not applicable to this source.

6.3 Acid Rain

Not Applicable to this source.

7.0 UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS

7.1 Group 1 - Radionuclide Emitting Units

7.1.1 Description

The Permittee operates a large and constantly changing number of emission units that are regulated under 40 CFR 61 Subpart H, National Emission Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities. These units are regulated collectively by the standard set in 40 CFR 61 Subpart H.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Radionuclide Emitting Unit	Description ^a	Emission Control Equipment
Alkali Metal Scrubber (Building 206)	A scrubbing process to safely dispose of sodium and occasionally other alkali metals	Venturi Scrubber and HEPA Filter
Advanced Photon Source (APS)	X-Ray radiation beams are produced by accelerating electrons in a circular path at speeds near that of light.	None
Alpha Gamma Hot Cell Facility	Irradiated nuclear fuel materials that contain plutonium, uranium, and mix-fission products are examined and tested.	Carbon Adsorber and HEPA Filter
Storage Rooms/Assay Room (Building 306)	Waste material is stored in rooms with concrete floors and cinder block walls with no windows. Assay room is for external viewing of closed waste drums	HEPA Filters
Sorting/Decontamination/Size Reduction Rooms (Building 306)	Radioactive, non-radioactive and mixed wastes are separated and reduced.	HEPA Filters
Waste Treatment R & D (Building 306)	Three waste treatment processes are being evaluated: 1) aqueous mixed waste, 2) solidification process, and 3) transuranic aqueous mixed waste.	HEPA Filters
Compactor/Vial Crusher and Chemical/Photo-oxidation Unit (Building 306)	Bulking of rad, mixed and organic wastes. Experimental Treatment of org. wastes	HEPA Filters

Radionuclide Emitting Unit	Description ^a	Emission Control Equipment
Waste Treatment Rooms (Building 306)	Rooms contain a tank system used to neutralize acidic transuranic waste	HEPA Filters
Service Floor Tank Area (Building 306)	15 storage tanks used to collect radioactive liquid waste for future processing.	HEPA Filters
High Bay Area with Evaporator/Concentrator (Building 306)	Evaporator/concentrator system processes aqueous radioactive waste.	HEPA Filters
CP-5 Reactor	Facility D & D complete - Awaiting final disposition	HEPA Filters
Melt Attack and Coolability Experiment (MACE) (Building 315)	Designed to evaluate the use of water to terminate progression of a core melt accident in a light water reactor system.	Water Scrubber and HEPA Filters
Intense Pulsed Neutron Source (IPNS)	A pulsed proton beam is delivered onto a heavy metal target which emits a large number of neutrons	HEPA Filters
NBL - Plutonium Lab Air Handling System	Routine chemical and instrumental analyses of nuclear materials and the preparation and/or characterization of nuclear standards and reference materials are conducted.	HEPA Filters
NBL - Uranium Lab Air Handling System	Same as for NBL plutonium lab	HEPA Filters
Radionuclide Hoods ^b	Experimentation involving the use of radioactive materials	HEPA Filters
Hot Cell D & D Project (Building 301)	Hot cell facility undergoing D & D	HEPA Filters
WMO Portable Filtration System	Filtration system for waste handling erected at equipment dismantlement sites.	HEPA Filters
Mixed Waste Storage Facility (Building 303)	Location where low-level radioactive waste generated by various R & D, D & D, and support activities are stored.	HEPA Filters
Radioactive Waste Facility (Building 331)	The building is used to store and process radioactive waste and mixed waste generated at ANL	HEPA Filters
Ventilation	Building 205 Counting Area Ventilation	HEPA Filters
Zero Power Reactor	Building 315 Zero Power Reactor (ZPR) D & D Project	HEPA Filters

Radionuclide Emitting Unit	Description ^a	Emission Control Equipment
Bulking Sheds	These sheds house a bulking process for organic and corrosive acid wastes into 55 gallon drums that may include radionuclides. VOM emissions are covered in Section 7.5	HEPA Filters
Wastewater Treatment Plant	Emits tritium. VOM emissions are covered in Section 7.6	None

^a Typically a construction date is provided in this table but these units are subject only to a NESHAP (Subpart H of 40 CFR 61) for radionuclides. This rule is applicable regardless of date constructed and none of the construction permits for such units included a lb/hr limit. The limit for radionuclides is a calculated dose rate for all units combined.

^b Although listed by the same name as the original permit, this renewal includes several hoods not included in the original permit. These include the Building 212 H-Wing Rad Hoods/Gloveboxes constructed on Permit No. 03040062 and the Building 203 Rad Hoods and Gloveboxes constructed on Permit No. 03090002.

7.1.3 Applicable Provisions and Regulations

- a. The "affected units" for the purpose of these unit-specific conditions, are collectively those units that emit any radionuclide other than radon-222 and radon-220 in to the air and are described in Conditions 7.1.1 and 7.1.2. The M-Wing hot cells in Building 200 are not included because they emit radon and thus not subject to 40 CFR 61 Subpart H.
- b. Emissions of radionuclides to the ambient air shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr. Compliance with this standard shall be determined by calculating the highest effective dose equivalent to any member of the public at any offsite point where there is a residence, school, business or office. (40 CFR 61.92)

7.1.4 Non-Applicability of Regulations of Concern

- a. The source is not subject to 40 CFR 61 Subpart I because that subpart covers emissions not subject to 40 CFR 61 Subpart H and this source is subject to Subpart H.

- b. The source is not subject to 40 CFR 61 Subpart K, Radionuclide Emissions for Elemental Phosphorus Plants because this source does not produce elemental phosphorus.
- c. This source is not subject to 40 CFR 61 Subpart Q although it is a Department of Energy Facility because it is not listed as an affected facility in 40 CFR 61.190.

7.1.5 Control Requirements and Work Practices

Control requirements are not set for the affected radionuclide emitting units. However, there may be requirements for source-wide control requirements set forth in Condition 5.5.

7.1.6 Production and Emission Limitations

Production and emission limitations are not set for the affected radionuclide emitting units. However, there are source-wide production and emission limitations set forth in Condition 5.6.

7.1.7 Testing Requirements

Testing requirements are not set for the affected radionuclide emitting units. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.1.8 Monitoring Requirements

- a. Radionuclide emissions shall be determined and effective dose equivalent values to members of the public calculated using USEPA approved sampling procedures, computer models CAP-88 or AIRDOS-PC, or other procedures for which USEPA has granted prior approval.
- b. The following units listed in Condition 7.1.2 are monitored point sources: Advanced Photon Source, Alpha Gamma Hot Cell Facility, and Intense Pulsed Neutron Source.

Radionuclide emission rates from point sources (stacks or vents identified in the paragraph above) shall be measured in accordance with the following requirements or other procedures for which the USEPA has granted prior approval:

- i. Effluent flow rate measurements shall be made using the following methods:
 - A. Reference Method 2 of Appendix A to 40 CFR 60 shall be used to determine velocity and volumetric flow rates for stacks and large vents.

- B. Reference Method 2A of Appendix A to 40 CFR 60 shall be used to measure flow rates through pipes and small vents.
 - C. The frequency of the flow rate measurements shall depend upon the variability of the effluent flow rate. For variable flow rates, continuous or frequent flow rate measurements shall be made. For relatively constant flow rates only periodic measurements are necessary.
- ii. Radionuclides shall be directly monitored or extracted, collected and measured using the following methods:
- A. Reference Method 1 of Appendix A part to 40 CFR 60 shall be used to select monitoring or sampling sites.
 - B. The effluent stream shall be directly monitored continuously with an in-line detector or representative samples of the effluent stream shall be withdrawn continuously from the sampling site following guidance presented in ANSI 13.1-1999 "Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities" (including the guidance presented in Appendix A of ANSI 13.1) (incorporated by reference). The requirements for continuous sampling are applicable to batch processes when the unit is in operation. Periodic sampling (grab samples) may be used only with USEPA's prior approval. Such approval may be granted in cases where continuous sampling is not practical and radionuclide emission rates are relatively constant. In such cases, grab samples shall be collected with sufficient frequency so as to provide a representative sample of the emissions.
 - C. Radionuclides shall be collected and measured using procedures based on the principles of measurement described in 40 CFR 61 Appendix B, Method 114. Use of methods based on principles of measurement different from those described in 40 CFR 61 Appendix B, Method 114 must have prior approval for the Administrator. USEPA reserves the right to approve measurement procedures.
 - D. A quality assurance program shall be conducted that meets the performance requirements described in 40 CFR 61 Appendix B, Method 114.

iii. When it is impractical to measure the effluent flow rate at an existing source in accordance with the requirements of paragraph (1) of this section or to monitor or sample an effluent stream at an existing source in accordance with the site selection and sample extraction requirements of paragraph (2) of this section, the Permittee or operator may use alternative effluent flow rate measurement procedures or site selection and sample extraction procedures provided that:

- A. It can be shown that the requirements of paragraph (1) and (2) of this section are impractical for the effluent stream.
- B. The alternative procedure will not significantly underestimate the emissions.
- C. The alternative procedure is fully documented.
- D. The owner or operator has received prior approval from USEPA.

iv. Release points which require measurements:

- A. Radionuclide emission measurements in conformance with the requirements of paragraph (a) and (b) of this section shall be made at all release points which have a potential to discharge radionuclides into the air in quantities which could cause an effective dose equivalent in excess of 1% of the standard. All radionuclides which could contribute greater than 10% of the potential effective dose equivalent for a release point shall be measured. As an alternative to periodic confirmatory measurements for low emissions, ANL shall account for these emissions in accordance with the March 3, 1993 agreement between DOE and USEPA Region V.
- B. To determine whether a release point is subject to the emission measurement requirements of paragraph (a) and (b) of this section, it is necessary to evaluate the potential for radionuclide emissions for that release point. In evaluating the potential of a release point to discharge radionuclides into the air for the purposes of this section, the estimated radionuclide release rates shall be based on the discharge of the effluent stream that would result if all pollution control equipment did not exist, but the facility's operations were otherwise normal.

- v. Environmental measurements of radionuclide air concentrations at critical receptor locations may be used as an alternative to air dispersion calculations in demonstrating compliance with the standard if the owner or operator meets the following criteria:
 - A. The air at the point of measurement shall be continuously sampled for collection of radionuclides.
 - B. Those radionuclides released from the facility, which are the major contributors to the effective dose equivalent must be collected and measured as part of the environmental measurement program.
 - C. Radionuclide concentrations which would cause an effective dose equivalent of 10% of the standard shall be readily detectable and distinguishable from background.
 - D. Net measured radionuclide concentrations shall be compared to the concentration levels in Table 2 or 40 CFR 61 Appendix E to determine compliance with the standard. In the case of multiple radionuclides being released from a facility, compliance shall be demonstrated if the value for all radionuclides is less than the concentration level in Table 2, and the sum of the fractions that result when each measured concentration value is divided by the value in Table 2 for each radionuclide is less than 1.
 - E. A quality assurance program shall be conducted that meets the performance requirements described in 40 CFR 61 Appendix B, Method 114.
 - F. Use of environmental measurements to demonstrate compliance with the standard is subject to prior approval of USEPA. Applications for approval shall include a detailed description of the sampling and analytical methodology and show how the above criteria will be met.
- c. All units listed in Condition 7.1.2 but not identified in Condition 7.1.8(b) as point sources with a specific monitoring method are to have radionuclide emissions calculated using the estimation method in 40 CFR 61 Appendix D.

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected radionuclide emitting units to demonstrate compliance with Condition 7.1.3 pursuant to Section 39.5(7) (b) of the Act:

The Permittee must maintain records documenting the source of input parameters including the results of all measurements upon which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine effective dose equivalent. This documentation should be sufficient to allow an independent auditor to verify the accuracy of the determination made concerning the source's compliance with the standard.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected radionuclide emitting units with the permit requirements as follows, pursuant to Section 39.5(7) (f) (ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. The Permittee shall submit an annual report to both USEPA headquarters and the appropriate regional office by June 30 which includes the results of the monitoring and the dose calculations required by the first paragraph of Condition 7.1.8 for the previous calendar year.
- b. In addition to the requirements of paragraph (a) of this section, an annual report shall include the following information:
 - i. The name and location of the source.
 - ii. A list of the radioactive materials used at the source.
 - iii. A description of the handling and processing that the radioactive materials undergo at the source.
 - iv. A list of the stacks or vents or other points where radioactive materials are released to the atmosphere.
 - v. A description of the effluent controls that are used on each stack, vent, or other release point and an estimate of the efficiency of each control device.
 - vi. Distances from the points of releases to the nearest residence, school, vent, or other release point and an estimate of the efficiency of each control device.

- vii. The values used for all other user-supplied input parameters for the computer models (e.g., meteorological data) and the source of these data.
 - viii. A brief description of all construction and modifications which were completed in the calendar year for which the report is prepared, but for which the requirement to apply for approval to construct or modify was waived under 40 CFR 61.96 and associated documentation developed by DOE to support the waiver. USEPA reserves the right to require that DOE send to USEPA all the information that normally would be required in an application to construct or modify, following receipt of the description and supporting documentation.
 - ix. Each report shall be signed and dated by a corporate officer or public official in charge of the source and contain the following declaration immediately above the signature line: "I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment." See, 18 U.S.C. 1001.
- c. If the source is not in compliance with the emission limits of Condition 7.1.3(b) in the calendar year covered by the report, then the source must commence reporting to the Administrator on a monthly basis the information listed in paragraph (b) of this section, for the preceding month. These reports will start the month immediately following the submittal of the annual report for the year in noncompliance and will be due 30 days following the end of each month. This increased level of reporting will continue until the Administrator has determined that the monthly reports are no longer necessary. In addition to all the information required in paragraph (b) of this section, monthly reports shall also include the following information:
- i. All controls or other changes in operation of the source that will be or are being installed to bring the source into compliance.
 - ii. If the source is under a judicial or administrative enforcement decree, the report will describe the facilities performance under the terms of the decree.

- iii. In those instances where the information requested is classified, such information will be made available to USEPA separate from the report and will be handled and controlled according to applicable security and classification regulations and requirements.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is hereby authorized to operate all radionuclide emitting units listed in Group 1. The Permittee may also operate new or modified units that would fit into this group (subject to regulations under 40 CFR 61 Subpart H) after obtaining a construction permit. The Permittee must at all times meet the requirements of Condition 7.1.3(b) considering all radionuclide emitting units that are operating.

7.1.12 Compliance Procedures

Compliance with the exposure limitations is determined by the monitoring and testing required by Condition 7.1.8, the recordkeeping requirements of Condition 7.1.9 and the reporting requirements of Condition 7.1.10.

7.2 Unit: Steam Plant Boilers (Gas/Oil-Fired)

7.2.1 Description

The Permittee operates a steam boiler plant which houses four dual fueled, natural gas and distillate oil, steam boilers used for heating the source.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Steam Boiler Unit	Description	Date Constructed	Emission Control Equipment
Boiler #1	85,000 Lb/Hr (106 mmBtu/Hr) Dual Fueled Steam Boiler	Pre-1972	None
Boiler #2	85,000 Lb/Hr (106 mmBtu/Hr) Dual Fueled Steam Boiler	Pre-1972	None
Boiler #3	85,000 Lb/Hr (106 mmBtu/Hr) Dual Fueled Steam Boiler	Pre-1972	None
Boiler #4	85,000 Lb/Hr (106 mmBtu/Hr) Dual Fueled Steam Boiler	Pre-1972	None

7.2.3 Applicable Provisions and Regulations

- a. An "affected boiler" for the purpose of these unit-specific conditions, is a dual fuel (natural gas or oil) fired, 85,000 lb/hr steam boiler and described in Conditions 7.2.1 and 7.2.2.
- b. The affected boilers shall comply with the standard in Condition 5.3.2(b) [35 IAC 212.123], which addresses the opacity of the emission of smoke or other particulate matter from the affected boilers.
- c. The emissions of PM from each affected boiler attributable to burning oil shall not exceed 0.10 lb/mmBtu of actual heat input in any one hour period, pursuant to 35 IAC 212.206.
- d. The emissions of SO₂ from each affected boiler from burning distillate fuel oil shall not exceed 0.3 lb/mmBtu of actual heat input in any one hour period, pursuant to 35 IAC 214.161(b) and 214.162.
- e. The emissions of carbon monoxide (CO) into the atmosphere from any affected boiler with actual heat input greater than 2.9 MW (10 mmBtu/hr) shall not exceed 200 ppm, corrected to 50 percent excess air. [35 IAC 216.121]

7.2.4 Non-Applicability of Regulations of Concern

- a. The affected boilers are not subject to 35 IAC 217.141, Existing Fuel Combustion Units in Major Metropolitan Areas, since the actual heat input of each of the boilers is less than 73.2 MW (250 mmBtu/hr).
- b. The affected boilers are not subject to 35 IAC 218.301, Use of Organic Material, as pursuant to 35 IAC 218.303, Fuel Combustion Emission Units are excluded from this requirement.
- c. The affected boilers are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected do not use an add-on control device to achieve compliance with an emission limitation or standard.
- d. The affected boilers are not subject to the Boiler MACT (40 CFR 63 Subpart DDDDD) because they are not located at a source that is major for HAPS. See Conditions 5.6.2.

Note: If the source were to emit HAP(s) at a major level, the affected boiler would have to comply with 40 CFR 63 Subpart DDDDD.

7.2.5 Control Requirements and Work Practices

- a. Natural gas and distillate fuel oil #2 shall be the only fuels fired in the affected boilers.
- b. When the affected boilers are operated in their alternative operating scenario of burning distillate fuel oil, the sulfur content of the distillate oil will be limited. The boilers will not utilize distillate (diesel) fuel with a sulfur content greater than the larger of the following two values:
 - i. 0.28 weight percent, or
 - ii. The weight percent given by the following formula:
$$\text{Maximum Weight Percent Sulfur} = (0.000015) \times (\text{Gross Heating Value of Oil, Btu/lb}).$$
- c. The Permittee shall perform an annual boiler inspection that follows the American Society of Mechanical Engineers (ASME) and/or National Board of Boiler and Pressure Vessel Guidelines.
- d. The Permittee shall perform a "combustion evaluation/analysis" on the affected boiler for each heating season (the period from October to March) in which oil is burned, pursuant to Section 39.5(7)(d) of the Act.

These evaluations shall consist of measurements of CO and other typical test measures such as CO₂, O₂, excess air, furnace temperature, furnace pressures, fan controls and combustion air and flue gas flows. This combustion analysis shall be consistent with the ASME Power Test Code for Boiler Efficiency.

Note that the combustion analysis is exclusively intended for fuel oil combustion and thus if oil is not being burned six months after the previous combustion evaluation, the next combustion evaluation may be postponed until fuel oil is burned again.

7.2.6 Production and Emission Limitations

Production and emission limitations are not set for the affected boilers. However, there are source-wide production and emission limitations set forth in Condition 5.6.

7.2.7 Testing Requirements

a. Opacity Testing

The Permittee shall have the opacity of the exhaust from the affected boilers read during representative fuel oil combustion operating conditions determined by a qualified observer in accordance with USEPA Test Method 9, as further specified below, pursuant to Section 39.5(7)(b) of the Act.

Upon written request by the Illinois EPA, such testing shall be conducted within 45 calendar days of the request, or on the date that the affected boilers next operate, or on the date agreed upon by the Illinois EPA, whichever is later.

b. Fuel Oil Sampling

i. The Permittee shall have the sulfur content of the oil supply to the affected boiler, in lb/mmBtu, determined from an analysis of representative sample of the oil supply, as follows, pursuant to Section 39.5(7)(d) of the Act:

A. From a sample taken no later than 90 days after first operating the affected boiler pursuant to this permit, provided, however, that if such sample is taken following operation of the affected boiler, the sample shall be taken prior to adding more oil to the storage tank.

B. From a sample taken no later than 30 days after acceptance of a shipment of fuel whose sulfur content would not meet Condition 7.2.3(d) based upon supplier data, provided however, that if

the affected boiler is operated following acceptance of such a shipment, the sample shall be taken prior to adding a subsequent shipment of oil to the relevant storage tank.

C. From a sample taken no later than 30 days after a request for such a sample is made by the Illinois EPA, provided, however, that such sample shall be taken prior to adding more oil to the relevant storage tank.

ii. Sampling and analysis, including that which forms the basis for the suppliers' data, shall be conducted using methods that would be acceptable under the federal New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60.46c(d) or the federal Acid Rain Program, 40 CFR 75, Appendix D, Optional SO₂ Emissions Data Protocol for Gas-Fired and Oil-Fired Units e.g., ASTM D4057-88 and ASTM D129-91.

c. Emissions Testing

Measurements of PM and CO emissions shall be made within 90 days (or such later date set by the Illinois EPA) following a request by the Illinois EPA for such measurements.

These measurements shall be performed while firing oil at the maximum operating load of the affected boiler(s) and other operating conditions that are representative of normal operation. In addition, the Permittee may perform measurements at other conditions to evaluate variation in emissions.

7.2.8 Monitoring Requirements

Monitoring requirements are not set for the affected boilers. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected boilers to demonstrate compliance with Condition 7.1.3, 7.1.5 and 5.6.1, pursuant to Section 39.5(7)(b) of the Act:

- a. Amount of natural gas (mmscf/mo) and distillate fuel (gal/mo) used;
- b. Sulfur content of distillate fuel. In lieu of analysis of fuel in the storage tank after each shipment, the Permittee may keep records of sulfur content analysis (% by wt.) and

gross heating value of the oil (mmBtu/lb) provided by the supplier for each shipment [See Condition 7.2.7(b)];

- c. Firing rates for each fuel;
- d. Hours of operation for each fuel;
- e. Annual SO₂, PM, NO_x, and CO emissions based on natural gas consumption and distillate oil consumption for each boiler and the applicable emission factors from Condition 7.2.12(d) with supporting calculations; and
- f. Results of all tests.

7.2.10 Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of an affected boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:
 - i. Emissions of PM from an affected boiler in excess of the limits specified in Condition 7.2.3(c) within 30 days of such occurrence.
 - ii. Emissions of SO₂ from an affected boiler in excess of the limits specified in Condition 7.2.3(d) within 30 days of such occurrence.
 - iii. Emissions of CO from an affected boiler in excess of the limits specified in Condition 7.2.3(e) within 30 days of such occurrence.
 - iv. Opacity from an affected boiler in excess of the limits specified in Condition 7.2.3(b) with 30 days of such occurrence.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

The units will be allowed to burn either natural gas or oil at any time during the year without limit to hours of operation on any one fuel.

7.2.12 Compliance Procedures

- a. Compliance with Conditions 7.2.3(b), (c), (d) and (e) are addressed by the testing requirements of Condition 7.2.7, the recordkeeping requirements in Condition 7.2.9, and the following formula for SO₂:

$$\text{SO}_2 \text{ Emissions (Lb/mmBtu)} = (2 \text{ SO}_2/\text{S}) \times (\text{Weight Percent Sulfur in the Fuel}) / (\text{Gross Heating Value of Oil, mmBtu/Lb})$$

b. Compliance with Condition 7.2.5(a) and (b), shall be addressed by the testing requirements of Condition 7.2.7 and on recordkeeping requirements in Condition 7.2.9(a) and (b).

c. To determine compliance with Condition 5.6.1, emissions from the affected boilers shall be based on the emission factors and formulas listed below:

i. A. Emission factors for the affected boiler when fired by natural gas:

<u>Pollutant</u>	<u>Emission Factors</u> <u>(lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100
CO	84

The emission factors (lb/mmscf) are for Natural Gas-Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.4 (dated 3/98).

B. Emission formula for the affected boiler when fired by natural gas:

$$(\text{Boiler Emissions, lb}) = (\text{The Appropriate Emission Factor, lb/mmscf}) \times (\text{Natural Gas Usage, mmscf})$$

ii. A. Emission factors for the affected boiler when fired by distillate fuel oil:

<u>Pollutant</u>	<u>Emission Factors</u> <u>(lb/1,000 gal)</u>
VOM	0.2
PM	2
SO ₂	142 (s)
NO _x	20
CO	5

The emission factors (lb/1000 gal) are for Distillate Oil Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.3 (dated 9/98). Note: (S) is the Sulfur content of the distillate fuel oil (wt.%).

B. Emission formula for the affected boiler when fired by distillate fuel oil:

(Boiler Emissions, lb) = (The Appropriate Emission Factor, lb/1,000 gal) x (Distillate Fuel Oil Consumed (1,000 gal))

7.3 Unit: Steam Plant - Boiler #5

7.3.1 Description

The Permittee operates a coal/gas-fired boiler to produce steam for heating the source. A baghouse is used to control PM emissions. Only low sulfur coal is burned.

Note: This narrative description is for informational purposes and is not enforceable.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Boiler #5	Boiler, Dual Fuel Fired (Natural Gas or Coal), Nominal Capacity 212 mmBtu/hr	Pre-1972	Baghouse (coal-firing only)

7.3.3 Applicable Provisions and Regulations

- a. The "affected boiler" for the purpose of these unit-specific conditions is the boiler described in Conditions 7.3.1 and 7.3.2.
- b. The affected boiler shall comply with the standard in Condition 5.3.2(b) [35 IAC 212.123], which addresses the opacity of the emission of smoke or other particulate matter from the affected boiler.
- c. The emissions of PM in any one hour period from the affected boiler when burning coal shall not exceed 0.10 lb/mmBtu of actual heat input from burning coal, pursuant to 35 IAC 212.201.
- d. The emissions of sulfur dioxide into the atmosphere in any one-hour period from the affected boiler shall not exceed 1.8 pounds per mmBtu (774 nanograms per joule) of actual heat input from burning coal [35 IAC 214.141 and 214.162].
- e. The emission of carbon monoxide (CO) into the atmosphere from the affected boiler shall not exceed 200 parts per million, corrected to 50 percent excess air [35 IAC 216.121].

7.3.4 Non-Applicability of Regulations of Concern

- a. The affected boiler is not subject to 35 IAC 218.301, Use of Organic Material, because 35 IAC 218.303 states that the provision of 35 IAC 218.301 do not apply to fuel combustion emission units.

- b. The affected boiler is not subject to 35 IAC 217.141, Existing Fuel Combustion Units in Major Metropolitan Areas, since the design heat input of the boiler is less than 73.2 MW (250 mmBtu/hr).
- c. The affected boiler is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because:
 - i. For PM emissions, the boiler does not have potential pre-control device emissions of PM that equals or exceeds major source threshold levels; and
 - ii. For emissions of SO₂ and other pollutants, the boiler does not use an add-on control device to achieve compliance with an emission limitation or standard.
- e. This permit is issued based on the affected boiler not being subject to 40 CFR Part 63, Subpart DDDDD, the NESHAP for Industrial, Commercial, and Institutional Boilers because the source is not a major source of HAPs. (Refer to Condition 5.6.2)

Note: If the source were to emit HAP(s) at a major level, the affected boiler would have to comply with 40 CFR 63 Subpart DDDDD.

7.3.5 Control Requirements and Work Practices

- a. Coal and natural gas shall be the only fuels burned in the affected boiler.
- b. The sulfur content of the coal burned in the affected boiler shall be low enough to assure compliance with 35 IAC 214.141 [Condition 7.3.3(d)].
- c. When coal is burned, the baghouse shall be operated according to manufacturer's instruction so as to reduce PM emissions to meet 35 IAC 212.201 [See Condition 7.3.3(c)].
- d. The Permittee shall perform the following inspections:
 - i. An annual boiler inspection that follows the American Society of Mechanical Engineers (ASME) and/or National Board of Boiler and Pressure Vessel Guidelines.
 - ii. An annual baghouse inspection
- e. The Permittee shall perform a "combustion evaluation/analysis" on the affected boiler for each heating season (the period from October to March) in which

coal is burned, pursuant to Section 39.5(7)(d) of the Act. These evaluations shall consist of the following:

- i. A combustion analysis including measurements of CO and other typical test measures such as CO₂, O₂, excess air, furnace temperature, furnace pressures, fan controls and combustion air and flue gas flows. This combustion analysis shall be consistent with the ASME Power Test Code for Boiler Efficiency.
 - ii. Damper controls inspections especially bypasses around the baghouse.
 - iii. These analyses shall be performed when burning coal and at a load that is representative of typical operation.
- f. Operation if the COMS indicates higher than normal opacity.

If the opacity as measured by the COMS required by Condition 7.3.8(a) exceeds 5.0 in a one hour block average, the Permittee shall perform an investigation to determine the likely cause for the increase in opacity and whether PM emissions may have exceeded the limit in Condition 7.3.3(c).

7.3.6 Production and Emission Limitations

The consumption of coal by the affected boiler shall not exceed 12,000 tons per calendar year.

Note: This limit has been established at the source's request and is intended to assure that the source is not a major source of HAPs.

7.3.7 Testing Requirements

Pursuant to Section 39.5(7)(d)(ii) of the Act, the Permittee shall have the PM and CO emissions of the affected boiler measured as specified below:

- a. i. PM and CO emission measurements when burning coal shall be made no later than two years after the effective date of this condition.

It should be noted that any PM and CO emissions tests conducted after January 1, 2006, even if conducted prior to issuance of this permit, will be accepted as meeting the above requirement provided that all other applicable requirements for testing are met.

- ii. Measurements of CO emissions shall be made in conjunction with the initial measurements of PM emissions as required above by Condition 7.3.7(a)(i)

(unless this PM measurement is conducted prior to the issuance of this permit).

- iii. Measurements of PM and CO emissions when firing coal and/or CO emissions when firing natural gas shall be made within 90 days (or such later date set by the Illinois EPA) following a request by the Illinois EPA for such measurements.
- b. i. These measurements shall be performed at an operating load that is in the normal range of operation of the affected boiler.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Particulate Matter (PM)	USEPA Methods 5 & 202*
Carbon Monoxide (CO)	USEPA Method 10

Other Test Methods adopted by USEPA may be used in place of the above methods with the approval of the Illinois EPA

* Measurements of condensable PM are also required by USEPA Method 202 (40 CFR Part 51, Appendix M) or other established test method approved by the Illinois EPA, except for a test conducted prior to issuance of this permit.

- c. Except for minor deviations in test methods, as defined by 35 IAC 283.130, emission testing shall be conducted in accordance with a test plan prepared by the testing service or the Permittee and submitted to the Illinois EPA for review prior to emission testing, and the conditions, if any, imposed by the Illinois EPA as part of its review and approval of the test plan, pursuant to 35 IAC 283.220 and 283.230.
 - i. The Permittee shall submit this test plan at least 60 days prior to the actual date of testing and the test plan shall include the information specified by Condition 8.6.2.
 - ii. Notwithstanding the above, as provided by 35 IAC 283.220(d), the Permittee need not submit a test plan for emission testing that will be conducted in accordance with the procedures used for previous tests accepted by the Illinois EPA or the previous test plan submitted to and approved by the Illinois EPA, provided that the Permittee's notification for testing, as required below, contains the information specified by 35 IAC 283.220(d) (1) (A), (B) and (C).

- d. The Permittee shall notify the Illinois EPA prior to conducting emission tests to enable the Illinois EPA to observe testing. Notification for the expected test date shall be submitted a minimum of 30 days prior to the expected date of testing. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual test date. The Illinois EPA may on a case-by-case basis accept shorter advance notice if it would not interfere with the Illinois EPA's ability to observe testing.
- e. The Permittee shall submit the Final Report(s) for any required emission testing to the Illinois EPA within 45 days after the test results are compiled and finalized but no later than 120 days after the date of testing. The Final Report shall include the information specified in Condition 8.6.3 and the following information:
 - i. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.
 - ii. A description of any minor deviations from the test plan, as provided by 35 IAC 283.230(a).
 - iii. Detailed description of operating conditions during testing, including:
 - A. Source(s) of fuel and specifications (ash, sulfur and heat content).
 - B. Boiler operating information, i.e., firing rate of the affected boiler(s) (mmBtu/hr), composition of fuel as burned (ash, sulfur and heat content), and fuel blending ratio (%), if a blend of fuels is burned.
 - C. Combustion system information, i.e., settings for distribution of primary and secondary combustion air, target level for O₂ in the flue gas, and levels of CO, CO₂ or O₂ in the flue gas, as determined by any diagnostic measurements.
 - D. Baghouse information, i.e., pressure drop during testing.
 - E. Load during testing (steam flow).
 - iv. Data and calculations, including copies of all raw data sheets and records of laboratory and analyses, sample calculations, and data on equipment calibration.

- v. The SO₂ (hourly averages) and opacity data (6-minute averages) measured during testing.

7.3.8 Monitoring Requirements

- a. The Permittee shall maintain a Continuous Opacity Monitoring System (COMS) on the affected boiler, which shall be operated whenever coal is burned for use in demonstrating compliance with Condition 7.3.3(b).
- b. The Permittee shall maintain a Continuous Emissions Monitoring System (CEMS) on the affected boiler for the measurement of SO₂ for use in demonstrating compliance with Condition 7.3.3(d). This CEMS shall be operated whenever coal is burned.

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected boiler, pursuant to Section 39.5(7) (b) of the Act:

- a. Records of all tests that are performed for the measurement of opacity or PM, CO, or SO₂ emissions.
- b. Records on the operation of the COMS and SO₂ CEMS.
- c. Copy of the manufacturer's instructions for the baghouse.
- d. Records of boiler and baghouse inspections and combustion analysis results.
- e. A log or other records of the following:
 - i. Each startup and shutdown of the affected boiler;
 - ii. Periods of time when coal is burned so that operation of the baghouse and COMS and CEMS for SO₂ may be correlated with the burning of coal;
 - iii. When coal is being burned, the pressure drop across the baghouse at least once/shift; and
 - iv. Each period of time when burning coal when required monitoring equipment was not in operation, with an explanation.
- f. Monthly and annual SO₂, PM, NO_x, and CO emissions with supporting calculations.
- g. Amount of coal and natural gas used per calendar year.
- h. The Permittee shall keep a record for each time the opacity exceeds 5% for a one-hour block average that includes:

- i. The date, time and duration of the incident;
- ii. The one-hour block average opacity;
- iii. The likely cause of the elevated levels of opacity, with explanation;
- iv. A description of any corrective actions that were initiated; and
- v. A determination as to whether the PM limit was exceeded with justification based on the findings of the investigation.

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA within 30 days unless otherwise specified of deviations of the affected boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Operation while burning coal with exhaust gases passing through the bypass duct or a baghouse compartment that has failed for more than 12 minutes shall be reported to the Illinois EPA within 5 working days unless corrective action has been taken or boiler shutdown has been initiated.
- b. Usage of coal exceeding 12,000 tons per calendar year.
- c. Within 45 days of the end of each calendar quarter, the Permittee will submit to Illinois EPA a report for the preceding quarter that includes:
 - i. Any and all opacity measurements which exceed 30 percent, averaged over a six minute period. These excess opacity reports will provide, for each incident, the percent opacity measured as well as the date and span of each incident. The report will also specify whether it occurred during startup, shutdown, or malfunction. If a malfunction is indicated in the report, all corrective actions taken by the Permittee will be documented. The report will also document the periods during the preceding calendar quarter that the continuous monitoring system was not in operation;
 - ii. Any and all SO₂ measurements that exceed Condition 7.3.3(d). These reports will provide, for each incident, the sulfur dioxide measurement as well as the date and span of each incident. The report will also specify all corrective action taken by the

Permittee. The report will also document the periods during the preceding calendar quarter that the CEMS was not in operation;

- iii. Any exceedance of the PM limit in Condition 7.3.3(c) as determined by the control requirement in Condition 7.3.5(e) and the records required by Condition 7.3.9(e) (iii) or by any other means;
- iv. Any other deviations from permit requirements for the affected boiler not addressed above.

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected boiler. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.3.12 Compliance Procedures

- a. Compliance with Condition 7.3.3(b) and (c) are addressed by the requirements of Condition 7.3.5(c) through (f), the testing requirements of Condition 7.3.7, the monitoring requirements of Condition 7.3.8(a) and the records required in Condition 7.3.9.
- b. Compliance with Condition 7.3.3(d) is addressed by the requirements of Condition 7.3.5(b), the monitoring requirements of Condition 7.3.8(b) and the records required in Condition 7.3.9(b).
- c. Compliance with Condition 7.3.3(e) is addressed by the requirements of Condition 7.3.5(d) and (e), the testing requirements of Condition 7.3.7 and the records required in Condition 7.3.9.
- d. For purposes of determining compliance with Condition 5.6.1, emissions from the affected boiler shall be determined as follows:
 - i. Appropriate emission factors for the affected boiler when fired by natural gas:

<u>Pollutant</u>	<u>Emission Factors</u> <u>(lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	122 ^a
CO	84 ^a

^a Special emission factor for the burners in this boiler.

- A. The emission factors (lb/mmscf) are for Natural Gas-Fired Large Boilers (>100 mmBtu/hr Heat Input with a low NO_x burner) from AP-42 Section 1.4 (dated 7/98).

If an emissions test has been performed for these values the emission test factors may be used in place of these values.

- B. Emission formula for the affected boiler when fired by natural gas:

(Boiler Emissions, lb) = (The Appropriate Emission Factor, lb/mmscf) x (Natural Gas Usage, mmscf)

- ii. The following emission factors, based on emissions testing prior to 2006, shall be used for calculating emissions when firing low sulfur coal.

<u>Pollutant</u>	<u>Emission Factor (lb/mmBtu)</u>
NO _x	0.423
CO	0.20
PM ₁₀	0.003
VOM	0.0014

- A. SO₂ emissions shall be calculated from the SO₂ continuous emission monitoring data required by Condition 7.3.8(b).

After the emissions test required by Condition 7.3.7 the new values from the test shall be used in place of these values.

- B. Emission (lb) = Fuel Usage (lb) x Coal Heat Value (mmBtu/lb) x Emission Factor (lb/mmBtu)

7.4 Unit: PCB Cleanup

7.4.1 Description

The Permittee operates a process for removing PCB contaminated sediments from waste retention tanks in a number of buildings at the source. Following the removal of the contaminated sediments, each tank is cleaned three times with 150 gallons of biodegradable solvent. The tanks are used for the collection of wastewater from various R & D activities.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
PCB Cleanup	PCB contaminated sediments are removed from various tanks at the source. After removal the tanks are cleaned with biodegradable solvent.	1995	None (portable HEPA filter system to control radionuclide emissions during the sludge removal process).

7.4.3 Applicable Provisions and Regulations

- a. The "affected units" for the purpose of these unit-specific conditions, are collectively those units which emit organic material during cleanup. The affected units are those identified in Condition 7.4.2.
- b. No person shall cause or allow the emission of more than 8 lb/hr of organic material into the atmosphere from any emission unit except as specified in 218.301, 218.302, 218.303 and 218.304. If no odor nuisance the limitations shall only apply to photochemically reactive material as defined in 35 IAC 211.4690. (35 IAC 218.301 and 218.302) Since there is no control equipment, and the photochemical nature of the organic material has not been established, the Permittee has agreed to limit VOM emissions to less than 8 lb/hr, calculated as an average rate during each cleaning process.

7.4.4 Non-Applicability of Regulations of Concern

Non-applicability of regulations of concern are not set for the affected PCB Cleanup operation. However, there may be source-wide non-applicability of regulations of concern set forth in Condition 5.4.

7.4.5 Control Requirements and Work Practices

Control requirements are not set for the affected PCB Cleanup operation. However, there may be requirements for source-wide control requirements set forth in Condition 5.5.

7.4.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected PCB Cleanup operation is subject to the following:

- a. VOM emissions from the affected PCB Cleanup operation shall not exceed 4.7 pounds per hr and 3.53 tons per year. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
- b. The above limitations were established in Permit 95070035, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

7.4.7 Testing Requirements

Testing requirements are not set for the affected PCB Cleanup operation. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.4.8 Monitoring Requirements

Monitoring requirements are not set for the affected PCB Cleanup operation. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected PCB Cleanup operation to demonstrate compliance with Conditions 5.6.1 and 7.1.3(b), pursuant to Section 39.5(7)(b) of the Act:

- a. Usage of solvent for cleanup (gal/day and gal/yr);
- b. VOM content of cleanup solvent;

c. Record of time for a typical cleanup so that VOM per hour may be calculated. A record for each individual cleanup does not have to be kept; and

d. VOM emissions (lb/hr).

7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected PCB Cleanup operation with the permit requirements as follows within 30 days, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

a. Exceedance of the limits in Condition 7.4.6; and

b. Exceedance of the limit in Condition 7.4.3(b).

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected PCB Cleanup operation. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.4.12 Compliance Procedures

a. Compliance with Conditions 7.4.3(b) and 7.4.6 are addressed by the records required in Condition 7.4.9(a)-(d).

b. VOM Emissions (lb/mo) = Usage (Loss) rate of VOM containing cleaning solvent times VOM content.

7.5 Unit: WMO Waste Bulking Sheds

7.5.1 Description

The Permittee operates waste bulking sheds for the bulking of organic and corrosive acid wastes into 55 gallon drums. These prefabricated buildings are specifically designed for hazardous waste handling and storage. This unit was included in Section 7.1 as it can also emit radionuclides, but VOM emissions are addressed in this section.

7.5.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Bulking Sheds	These sheds house a bulking process for organic and corrosive acid wastes into 55 gallon drums.	1994	HEPA Filters ^a

^a Although usually considered to be pollution control equipment, operation of the filters is not required to comply with any of the applicable rules of this section. See Section 7.1

7.5.3 Applicable Provisions and Regulations

- a. The "affected bulking shed operation" for the purpose of these unit-specific conditions, is an operation in which organic or corrosive acids are transferred into 55 gallon drums. The operation is described in Conditions 7.5.1 and 7.5.2.
- b. Each transfer into drums is subject to 35 IAC 218.301. This rule requires that emissions of VOM not exceed 8 lb/hr if, but if there is no odor nuisance the limitation only applies to photochemically reactive material pursuant to the definition in 35 IAC 211.4690. Although subject to the rule, the specialized nature of the process is unlikely to ever approach an emission rate of 8 lb/hr and therefore special records of loading rate per hour are not required. Records of annual loading must be kept. See Condition 7.5.9.

7.5.4 Non-Applicability of Regulations of Concern

Non-applicability of regulations of concern are not set for the affected bulking shed operation. However, there may be source-wide non-applicability of regulations of concern set forth in Condition 5.4.

7.5.5 Control Requirements and Work Practices

Control requirements are not set for the affected bulking shed operation. However, there may be requirements for source-wide control requirements set forth in Condition 5.5.

7.5.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected bulking shed operation are subject to the following:

Negligible emissions of particulate matter (PM) from the WMO bulking shed operation. For this purpose emissions from each unit shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year. This limit was established in Permit 97050054 [T1].

7.5.7 Testing Requirements

Testing requirements are not set for the affected bulking shed operation. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.5.8 Monitoring Requirements

Monitoring requirements are not set for the affected bulking shed operation. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected bulking shed operation to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act:

The throughput of organic and acid wastes on an annual basis.

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected bulking shed operation with the permit requirements as follows within 30 days, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected bulking shed operation. However, there may be provisions for source-wide

operational flexibility set forth in Condition 5.11 of this permit.

7.5.12 Compliance Procedures

Compliance with Condition 7.5.3(b) is addressed by the records required in Condition 7.5.9.

7.6 Unit: Laboratory Wastewater Treatment Plant

7.6.1 Description

The Permittee operates a continuous flow wastewater treatment plant with treatment capabilities as needed for a variety of contaminants found in the laboratory wastewater (heavy metals, suspended solids and organic compounds). The treatment plant consists of 21 tanks used for wastewater aeration, equalization, mixing and cationic and anionic polymer storage. In addition, there are sulfuric acid, sodium hydroxide and alum storage tanks as well as a filter press. This unit was included in Section 7.1 as it can also emit radionuclides, but VOM emissions are addressed in this section.

7.6.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Wastewater Treatment Plant	The continuous flow wastewater treatment plant has the capability to treat wastewater for metals, suspended solids and organic compounds.	1995	None

7.6.3 Applicable Provisions and Regulations

The "affected laboratory wastewater treatment plant" for the purpose of these unit-specific conditions, is a treatment plant that processes only wastewater generated on site. The plant includes equipment described in Conditions 7.6.1 and 7.6.2.

7.6.4 Non-Applicability of Regulations of Concern

- a. The affected laboratory wastewater treatment plant is not subject to 35 IAC 218 Subpart TT because the source potential to emit VOM is less than 25 tons/yr.
- b. Although the treatment plant is not exempt from 35 IAC 212 Subpart L, the treatment plant is not considered to be a PM emitting unit.

7.6.5 Control Requirements and Work Practices

Control requirements are not set for the affected laboratory wastewater treatment plant. However, there may be requirements for source-wide control requirements set forth in Condition 5.5.

7.6.6 Production and Emission Limitations

Production and emission limitations are not set for the affected laboratory wastewater treatment plant. However, there are

source-wide production and emission limitations set forth in Condition 5.6.

7.6.7 Testing Requirements

Testing requirements are not set for the affected laboratory wastewater treatment plant. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.6.8 Monitoring Requirements

Monitoring requirements are not set for the affected laboratory wastewater treatment plant. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected laboratory wastewater treatment plant to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act:

Annual emissions of VOM and HAPs, using the method specified in Condition 7.6.12.

7.6.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected laboratory wastewater treatment plant with the permit requirements as follows, within 30 days pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected laboratory wastewater treatment plant. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.6.12 Compliance Procedures

Emissions of VOM, including specific HAP species, shall be calculated using the USEPA Water8 Modeling procedure or a later Model if it is updated.

7.7 Emission Unit - APS Emergency Generators and 200/202 Peak Shaving Generators

7.7.1 Description

The Permittee operates three emergency diesel generators when normal power sources are interrupted and for limited times during the peak ozone season in periods of high electrical demand. Two additional diesel generators (500 kW each) may also be operated during high demand periods. These units, are process emission units and not fuel combustion units.

7.7.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
APS Emergency Generator #1	1250 kW Caterpillar Diesel Generator	1994	None
APS Emergency Generator #2	1250 kW Kohler Diesel Generator	1994	None
APS Emergency Generator #3	1250 kW Kohler Diesel Generator	1994	None
ANL Peak Shaving Generator (Building 200)	500 kW Diesel Generator	1989	None
ANL Peak Shaving Generator (Building 202)	500 kW Diesel Generator	1989	None

7.7.3 Applicable Provisions and Regulations

- a. An "affected generator" for the purpose of these unit-specific conditions, is a generator described in Conditions 7.7.1 and 7.7.2.
- b. The affected generators shall comply with the standard in Condition 5.3.2(b) [35 IAC 212.123], which addresses the opacity of the emissions of smoke or other particulate matter from the affected generators.
- c. 35 IAC 214.304 requires that process emissions units in the Chicago area that burn distillate fuel oil comply with the same limit for SO₂ emissions as fuel combustion units. The applicable referenced rule is 35 IAC 214.161(b) which requires that SO₂ emissions not exceed 0.3 lbs/mmBtu. This limit is complied with by using fuel that meets the sulfur content limits specified in Condition 7.7.6(c).

7.7.4 Non-Applicability of Regulations of Concern

Although as process emission units, the units could be subject to 212.321, the term process weight rate cannot be reasonably applied to these units and thus no allowable rate can be calculated.

7.7.5 Control Requirements and Work Practices

Control requirements are not set for the affected generators. However, there may be requirements for source-wide control requirements set forth in Condition 5.5.

7.7.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected generators are subject to the following:

- a. Operation of the affected APS emergency generators shall not exceed the following limits:

<u>Unit</u>	<u>Hours of Operation for Disrupted Power and Maintenance</u>	<u>Hours of Operation During Ozone Season, May-September</u>
Caterpillar	124	80
Kohler (Each)	148	80

These limits are at the Permittee's request in previously issued Permit 94030044.

- b. Emissions from the affected emergency generators shall not exceed the following limits:

<u>Item of Equipment</u>	E M I S S I O N S					
	NO _x		CO		SO ₂	
	<u>(lbs/hr)</u>	<u>(T/yr)</u>	<u>(lbs/hr)</u>	<u>(T/yr)</u>	<u>(lbs/hr)</u>	<u>(T/yr)</u>
Caterpillar	31.1	3.17	5.97	0.61	2.57	0.26
Kohler 1	28.2	3.21	10.90	2.38	5.79	0.66
Kohler 2	28.2	<u>3.21</u>	20.90	<u>2.38</u>	5.79	<u>0.66</u>
Totals:		<u>9.59</u>		<u>5.37</u>		<u>1.58</u>

These limits are based on the maximum operating rate and the hours listed in Condition 7.7.7.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations were established in Permit 94030044, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

- c. Diesel fuel used in the generators shall comply with the following limits on sulfur content in order to comply with 35 IAC 214.161(b) [See Condition 7.7.3(c)].
 - i. Distillate fuel oil (Grades No. 1 and 2) with a sulfur content less than the larger of the following two values:
 - A. 0.28 weight percent, or
 - B. The wt. percent given by the formula: Maximum wt. percent sulfur = $(0.000015) \times (\text{Gross heating value of oil, Btu/lb})$.
 - ii. Organic liquid by-products or waste materials shall not be used in these fuel combustion emission sources without written approval from the Illinois EPA.
 - iii. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- d. The peak-shaving generators were not required to have state construction/operating permits because they were exempt under 35 IAC 201.146(i), but are not insignificant emission units pursuant to 35 IAC 201.210 or 201.211. The Permittee has voluntarily agreed to limit the hours of operation of the peak-shaving generators to 120 hours per year (each), but that limit is not from a construction permit.

7.7.7 Testing Requirements

Testing requirements are not set for the affected generators. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.7.8 Monitoring Requirements

Monitoring requirements are not set for the affected generators. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.7.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected generators to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act:

- a. Hours of operation of each generator;
- b. Usage of oil in each unit and sulfur content of the oil;
and
- c. Emissions of NO_x, CO, PM, SO₂ and VOM (combined by pollutant for all units).

7.7.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected generators with the permit requirements as follows within 30 days, pursuant to Section 39.5(7) (f) (ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Hours of operation in excess of limits in Condition 7.7.6(a) or (d).
- b. Use of an oil exceeding the sulfur content limit in Condition 7.7.6(c).

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected generators. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.7.12 Compliance Procedures

- a. Compliance with Conditions 7.7.6(a) and 7.7.6(d) are addressed by the records required in Condition 7.7.9(a).
- b. Compliance with Condition 7.7.6(b) is addressed by the records required in Condition 7.7.9(a)-(c) and the following emission factors and formula.

Distillate Fuel Oil - Use of the following emission factors from manufacturer's specifications:

<u>Pollutant</u>	<u>Factor (lb/hr)</u>	
	<u>Caterpillar</u>	<u>Kohler</u>
NO _x	31.1	28.2
CO	5.97	20.9
SO ₂	2.57	5.79
VOM	0.84	1.0
PM	1.10	1.10

Emissions = Engine Run-Time (hr) x Emission Factor (lb/hr)
x (1 ton/2000 lb)

- c. Compliance with Condition 7.7.3(c) is addressed by the requirements of Condition 7.7.6(c) and the records required in Condition 7.7.9(b).

7.8 Unit: Transportation Research Facility

7.8.1 Description

The Transportation Research Facility (TRF) is designed to conduct research on a variety of internal combustion engines. Research efforts are to evaluate methods of emission reduction and efficiency as well as to conduct studies on improving durability for both engines using a variety of fuels. The gasoline drums used to fuel these engines is an insignificant emission unit listed in Section 3.0 of this permit.

7.8.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
TRF Buildings Containing Test Engines	Various Internal Combustion Engines	1996	None ^a

^a Some engines may be equipped with passive catalytic converters similar to those on passenger cars.

7.8.3 Applicable Provisions and Regulations

a. The "affected internal combustion engines" for the purpose of these unit-specific conditions, are engines burning gasoline, diesel fuel, ethanol/gasoline (E85), hydrogen, hydrogen-natural gas blends, or compressed natural gas for purposes of testing or research on engine performance. The engines are described in Conditions 7.8.1 and 7.8.2.

b. Each engine is subject to 35 IAC 218 Subpart TT. Since the engines do not have control equipment that comply with 35 IAC 218.986(a), the Permittee employs the provisions in 35 IAC 218.980(d) which states that:

No limits under Subpart TT shall apply to emission units with emissions of VOM to the atmosphere less than or equal to 2.3 Mg (2.5 tons) per calendar year if the total emissions from such emission units not complying with Section 218.986 of this Part does not exceed 4.5 Mg (5.0 tons) per calendar year. Each engine is considered to be an emission unit.

7.8.4 Non-Applicability of Regulations of Concern

This source is not subject to 40 CFR Part 63, Subpart P P P P P for Engine Test Cells, because the source is not a major source of HAPs. (See also Condition 5.6.2)

7.8.5 Control Requirements and Work Practices

Control requirements are not set for the affected internal combustion engines. However, there may be requirements for source-wide control requirements set forth in Condition 5.5.

7.8.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected internal combustion engines are subject to the following:

Emissions from the affected engines shall not exceed the following limits:

<u>Pollutant</u>	E M I S S I O N S	
	<u>(ton/mo)</u>	<u>(ton/year)</u>
NO _x	7.5	30.0
CO	7.5	30.0
VOM	0.75	3.0
SO ₂	0.75	3.0
PM ₁₀	0.50	2.0

These limits are based on the maximum expected operating rate.

Compliance with annual limits shall be determined from a rolling total of 365 days. [T1].

The above limitations were established in Permit 96050057, pursuant to 35 IAC Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically 35 IAC Part 203 [T1].

7.8.7 Testing Requirements

Testing requirements are not set for the affected internal combustion engines. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.8.8 Monitoring Requirements

Monitoring requirements are not set for the affected internal combustion engines. However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.8.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected internal combustion engines to demonstrate compliance

with Conditions 5.6.1 and 7.8.6, pursuant to Section 39.5(7) (b) of the Act:

- a. Operating hours (hr/day, hr/mo, and hr/yr) for each engine type;
- b. Horsepower and the type of fuel (i.e., gasoline, diesel, natural gas) for each engine type; and
- c. Emissions from engine testing source (lb/day, ton/mo, and ton/yr).

7.8.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected internal combustion engines with the permit requirements as follows, within 30 days, pursuant to Section 39.5(7) (f) (ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Annual emissions (i.e., total of any 365 day period) of any pollutant exceeding the limits in Condition 7.8.6.

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected internal combustion engines without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Individual engines may be replaced provided that the limit in Condition 7.8.6 is not exceeded.

7.8.12 Compliance Procedures

Compliance with Condition 7.8.6 is addressed by the records required in Condition 7.8.9(a)-(c) and the following emission factors and formula:

Pollutant	Emissions (lb/hp-hr) Type of Engine				
	Gasoline	Diesel	Natural Gas/Hydrogen-Blends	Ethanol/Gasoline (E85)	Hydrogen
CO	0.439	0.0067	0.0035	0.81435	No Emissions
NO _x	0.011	0.031	0.026	0.0396	0.098
PM ₁₀	0.00072	0.0022	0.0035	0.00072	No Emissions
SO ₂	0.00059	0.0020	0.0020	0.00059	No Emissions
VOM	0.022	0.0025	0.0016	0.0574	No Emissions

Emissions (lb/hr) = Operating Hours (hr/mo) x Horsepower rating
x Appropriate Emission Factor (lb/hp-hr)

7.9 Unit: Gasoline Dispensing Operation

7.9.1 Description

The Permittee operates two storage tanks at the source that are used to store gasoline and ethanol/gasoline. Two storage tanks are at the gasoline dispensing operation (Building 46): a 10,000 gallon underground gasoline tank and a 10,000 gallon underground ethanol/gasoline tank.

7.9.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Tank #2 (Building 46)	10,000 gallon gasoline underground storage tank	1990	Submerged filling pipe; Stage I and II vapor recovery
Tank #3 (Building 46)	10,000 gallon ethanol/gasoline underground storage tank	1990	Submerged filling pipe; Stage I and II vapor recovery

7.9.3 Applicable Provisions and Regulations

- a. The "affected storage tanks" for the purpose of these unit-specific conditions, are tanks storing gasoline or a gasoline alcohol blend and used to dispense fuel to a motor vehicle. The affected tanks are described in Conditions 7.9.1 and 7.9.2.
- b. Each affected tank is subject to 35 IAC 218.122(b) because the capacity of each tank is greater than 250 gallons and the material stored has a vapor pressure exceeding 2.5 psia. Each tank is required to have a submerged loading pipe.
- c. Each affected tank is subject to 35 IAC 218.583. These requirements are as follows. The list only includes the option the Permittee complies with and not alternatives that are not relevant if one option is acceptable for compliance. This list also does not include past dates of notification of compliance.
 - i. The tank is equipped with a submerged loading pipe.
 - ii. The vapors displaced from the storage tank during filling are processed by a vapor control system that includes a vapor collection system in conjunction with a delivery vessel operates to meet the following requirements:

- A. Prevent a reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when testing in accordance with the procedure described in EPA 450/2-78-051 Appendix B.
 - B. Prevent avoidable leaks of liquid during the filling of storage tanks.
 - C. Within 15 business days after discovery of the leak by the owner operator, or the Illinois EPA, repair and retest a vapor collection system which exceeds the limits of (A) above.
 - D. Provide instructions to the operator of the gasoline dispensing operation describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system.
 - E. Repair, replace or modify any worn out or malfunctioning component or element of design.
 - F. Maintain and operate each vapor control system in accordance with the owner's instructions.
 - G. Promptly perform any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system.
 - H. Maintain gauges, meters or other specified testing devices in proper working order.
- d. The transfer of gasoline from an affected storage tank to a motor vehicle is a gasoline dispensing operation subject to 35 IAC 218.586. This rule requires that no owner or operator of a gasoline dispensing operation shall cause or allow the dispensing of motor vehicle fuel at any time from a motor fuel dispenser unless the dispenser is equipped with and utilizes a vapor collection and control system which is properly installed and operated as provided below:
- i. Any vapor collection and control system installed, used or maintained has been CARB certified.
 - ii. Any vapor collection and control system utilized is maintained in accordance with the manufacturer's specifications and the certification.
 - iii. No elements or components of a vapor collection and control system are modified, removed, replaced or otherwise rendered inoperative in a manner which

prevents the system from performing in accordance with its certification and design specifications.

- iv. A vapor collection and control system has no defective, malfunctioning or missing components.
- v. Operators and employees of the gasoline dispensing operation are trained and instructed in the proper operation and maintenance of a vapor collection and control system.
- vi. Instructions are posted in a conspicuous and visible place within the motor fuel dispensing area and described the proper method of dispensing motor vehicle fuel with the use of the vapor collection and control system.

7.9.4 Non-Applicability of Regulations of Concern

The affected storage tanks are not subject to the New Source Performance Standards (NSPS) for storage tanks, 40 CFR Part 60, Subpart Kb, because the affected tanks have a smaller capacity than tanks subject to Kb even if constructed after the applicable date.

7.9.5 Control Requirements and Work Practices

- a. Each affected tank shall be equipped and operated with a submerged loading pipe, submerged fill, or an equivalent device approved by the Illinois EPA, pursuant to 35 IAC 218.122(b) and/or 128.583(a). (The Illinois EPA has not approved use of other equivalent equipment in lieu of a submerged loading pipe or submerged loading fill.)
- b. Within 180 days of CARB certified E-85 equipment becoming commercially available in Illinois, the Permittee shall have the existing dispensing equipment on the E-85 storage tank replaced.

7.9.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected storage tanks are subject to the following:

VOM emissions shall not exceed 0.44 tons/year from each tank in Building 46. Construction Permits 86020043 and 90030016. [T1]

7.9.7 Testing Requirements

Testing requirements are not set for the affected storage tanks. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.9.8 Monitoring Requirements

On an annual basis, the Permittee shall conduct an inspection of the affected storage tank to review its physical condition and ability to comply with the applicable equipment requirements of Condition 7.9.3(c) and (d), pursuant to Sections 39.5(7) (a) and (d) of the Act.

7.9.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected storage tanks to demonstrate compliance with Conditions 5.6.1 and 7.9.3, pursuant to Section 39.5(7) (b) of the Act:

- a. Gasoline throughput (gal/mo);
- b. Maintenance and repair of Stage I and Stage II vapor recovery systems;
- c. VOM emissions (lb/mo); and
- d. Information documenting performance of the inspections that are required by Condition 7.9.8, including date and description of the inspection, confirmation of the adequacy of the specific features of the tanks required for control of emissions, and identification of any such features that are not in proper working order or otherwise deficient, with recommendations for maintenance, repair or replacement.

7.9.10 Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected storage tanks with the permit requirements as follows within 30 days, pursuant to Section 39.5(7) (f) (ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:
 - i. Compliance with the requirements of Condition 7.9.3
- b. The Permittee shall report on the status of installation of CARB certified dispensing equipment on the E-85 storage tank in the annual compliance certification.
- c. Within 30 days of replacing the current E-85 dispensing equipment with CARB certified equipment, the Permittee shall notify the Illinois EPA that the replacement is complete.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected storage tanks. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.9.12 Compliance Procedures

Compliance with Conditions 7.9.3(b)-(d) are addressed by the records required in Conditions 7.9.9(a)-(c).

7.10 Surface Treatment Facility

7.10.1 Description

In conducting research on superconducting resonators the source must etch the surface of certain components using an acid gas. The emissions are first vented to a packed bed scrubber. One of the acids is nitric which may result in nitrogen oxide emissions. Another gas is hydrofluoric which results in a HAP but the emissions rates for this process are very low. The process is referred to as buffered chemical polishing. The materials used are in research level quantities and not a manufacturing operation.

7.10.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Superconducting Cavity Surface Treatment	Surface Treatment with Acid Gases	2004	Packed Bed Scrubber

7.10.3 Applicable Provisions and Regulations

- a. The "affected surface treatment operation" for the purpose of these unit-specific conditions, is an operation used to etch a metal surface with various acids. This operation is described in Conditions 7.10.1 and 7.10.2.
- b. The affected surface treatment operation is subject to 35 IAC 212.321. This rule is written out in Attachment 2. However, the only PM emitted would be acid mists and well below the allowable rate of 0.55 lb/hr at the lowest process weight rate even prior to the control device.

7.10.4 Non-Applicability of Regulations of Concern

- a. The affected surface treatment operation is not subject to 35 IAC 217.301, because the affected surface treatment operation the process does not use nitric acid for nitrifications or oxidation and it also complies for the exemption in 217.301(c) since it uses well under 100 tons per year of acid.
- b. The affected surface treatment operation is not subject to 35 IAC 214.303, because the affected surface treatment operation the process does not result in emissions of sulfuric acid or sulfur trioxide.
- c. The affected surface treatment operation is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected surface treatment operation does not have potential pre-control

device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.10.5 Control Requirements and Work Practices

The packed bed scrubber shall be operated in accordance with the manufacturer's instructions so as to achieve the emission rate or emission reduction that it was designed to achieve. And thus comply with the emissions listed in Condition 7.10.6.

7.10.6 Production and Emission Limitations

In addition to Condition 5.3.2 and the source-wide emission limitations in Condition 5.6, the affected surface treatment operation is subject to the following:

Emissions from the affected surface treatment operation shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions (tons/year)</u>
PM	0.005
NO _x	0.10
HF	0.003

These limits are based on the rates and calculations in the application and proper operation of the control device.

An annual compliance determination is sufficient.

The above limitations were established in Permit 03090002, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.10.7 Testing Requirements

Testing requirements are not set for the affected surface treatment operation. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.10.8 Monitoring Requirements

- a. The pH of the scrubbant shall be determined weekly when the facility is in operation to verify that the caustic scrubbant has the proper pH to neutralize the acid gases.

- b. The scrubber shall be equipped with a device that assures that the scrubbant is flowing when a surface is being treated.

7.10.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected surface treatment operation to demonstrate compliance with Conditions 5.6.1, 7.10.6 and 7.10.8, pursuant to Section 39.5(7) (b) of the Act:

- a. Usages of nitric and hydrofluoric acids (tons/year);
- b. Weekly pH readings when facility is in operation; and
- c. PM, NO_x and HF emissions (tons/year).

7.10.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected surface treatment operation with the permit requirements as follows, pursuant to Section 39.5(7) (f) (ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from the affected surface treatment operation in excess of the limits specified in Condition 7.10.6 within 30 days of such occurrence.

7.10.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected surface treatment operation. However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.10.12 Compliance Procedures

Compliance with Conditions 7.10.6 and 7.10.8 are addressed by the records required in Condition 7.10.9(a)-(c) and the calculation methodology in the application.

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after December 21, 2005 (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

- a. The changes do not violate applicable requirements;
- b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test

methods), recordkeeping, reporting, or compliance certification requirements;

- c. The changes do not constitute a modification under Title I of the CAA;
- d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and
- e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:
 - i. Describe the physical or operational change;
 - ii. Identify the schedule for implementing the physical or operational change;
 - iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
 - iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
 - v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods if applicable test methods are not specified by the applicable regulations or otherwise identified in the conditions of this permit.

Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Conditions 8.6.3 and 8.6.4.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

Reports summarizing required monitoring as specified in the conditions of this permit shall be submitted to the Illinois EPA

every six months as follows, unless more frequent submittal of such reports is required in Sections 5 or 7 of this permit [Section 39.5(7)(f) of the Act]:

<u>Monitoring Period</u>	<u>Report Due Date</u>
January - June	September 1
July - December	March 1

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

The only two monitoring reports required by this CAAPP permit have special reporting periods. Boiler #5 requires quarterly reports and the NESHAP for radionuclides only requires an annual report.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

- a. The name and identification of the affected unit(s);
- b. The person(s) who will be performing sampling and analysis and their experience with similar tests;
- c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;
- d. The specific determinations of emissions and operation that are intended to be made, including sampling and monitoring locations;
- e. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods;
- f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and
- g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7) (e) (i) of the Act]:

- a. The name and identification of the affected unit(s);
- b. The date and time of the sampling or measurements;
- c. The date any analyses were performed;
- d. The name of the company that performed the tests and/or analyses;
- e. The test and analytical methodologies used;
- f. The results of the tests including raw data, and/or analyses including sample calculations;
- g. The operating conditions at the time of the sampling or measurements; and
- h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

- a. Unless otherwise specified in the particular provision of this permit or in the written instructions distributed by the Illinois EPA for particular reports, reports and notifications shall be sent to the Illinois EPA - Air Compliance Unit with a copy sent to the Illinois EPA - Air Regional Field Office.
- b. As of the date of issuance of this permit, the addresses of the offices that should generally be utilized for the submittal of reports and notifications are as follows:

- i. Illinois EPA - Air Compliance Unit

Illinois Environmental Protection Agency
Bureau of Air
Compliance & Enforcement Section (MC 40)
P.O. Box 19276
Springfield, Illinois 62794-9276

ii. Illinois EPA - Air Quality Planning Section

Illinois Environmental Protection Agency
Bureau of Air
Air Quality Planning Section (MC 39)
P.O. Box 19276
Springfield, Illinois 62794-9276

iii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

iv. USEPA Region 5 - Air Branch

USEPA (AR - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604

- c. Permit applications should be addressed to the Air Permit Section. As of the date of issuance of this permit, the address of the Air Permit Section is as follows:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
P.O. Box 19506
Springfield, Illinois 62794-9506

8.7 Title I Conditions

Notwithstanding the expiration date on the first page of this CAAPP permit, Title I conditions in this permit, which are identified by a T1, T1N, or T1R designation, remain in effect until such time as the Illinois EPA takes action to revise or terminate them in accordance with applicable procedures for action on Title I conditions. This is because these conditions either: (a) incorporate conditions of earlier permits that were issued by the Illinois EPA pursuant to authority that includes authority found in Title I of the CAA (T1 conditions), (b) were newly established in this CAAPP permit pursuant to authority that includes such Title I authority (T1N conditions), or (c) reflect a revision or combination of conditions established in this CAAPP permit (T1R conditions). (See also Condition 1.5.)

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule.

9.1.2 In particular, this permit does not alter or affect the following [Section 39.5(7)(j)(iv) of the Act]:

- a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;
- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and
- d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, pursuant to Section 39.5(7)(j) and (p) of the Act, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless this permit provides for such continued operation consistent with the Act and applicable Illinois Pollution Control Board regulations [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated there under.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents as may be required by law and in accordance with constitutional limitations, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Sections 4 and 39.5(7)(a) and (p)(ii) of the Act]:

- a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control equipment),

practices, or operations regulated or required under this permit;

- d. Sample or monitor any substances or parameters at any location:
 - i. At reasonable times, for the purposes of assuring permit compliance or applicable requirements; or
 - ii. As otherwise authorized by the CAA, or the Act.
- e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any regulated activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. At a minimum, this record shall show the dates of performance and nature of preventative maintenance activities. Maintenance records are not required for control equipment on units for which the pre-control emission rate classifies the units as insignificant emission units.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].
- b. Other records required by this permit including any logs, plans, procedures, or instructions required to be kept by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Air Quality Planning Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Unit, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.
- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act and applicable regulations [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as Attachment 1 to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

- a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence [Section 39.5(7)(k) of the Act]:

- i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency.

Note: For this purpose, emergency means a situation arising from sudden and reasonably unforeseeable events beyond the control of the source, as further defined by Section 39.5(7)(k)(iv) of the Act.

- ii. The permitted source was at the time being properly operated;

- iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and
 - iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.
- b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations [Section 39.5(7)(k)(iv) of the Act].

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, revoked, reopened and reissued, or terminated for cause in accordance with applicable provisions of Section 39.5 of the Act. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

- a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit.
- b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program.

- c. The Illinois EPA or USEPA determines that this permit contains a material mistake or that inaccurate statement were made in establishing the emission standards or limitations, or other terms or conditions of this permit.
- d. The Illinois EPA or USEPA determines that this permit must be revised or revoked to ensure compliance with the applicable requirements.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation and reissuance under Section 39.5(15) of the Act, pursuant to Sections 39.5(5) (e) and (i) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7) (o) (v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable. In the event of a challenge to any portion of the permit, other portions of the permit may continue to be in effect. Should any portion of this permit be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected and the rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7) (i) of the Act].

9.14 Permit Expiration and Renewal

Upon the expiration of this permit, if the source is operated, it shall be deemed to be operating without a permit unless a timely and complete CAAPP application has been submitted for renewal of this permit. However, if a timely and complete application to renew this CAAPP permit has been submitted, the terms and all conditions of this CAAPP permit will remain in effect until the issuance of a renewal permit [Section 39.5(5) (1) and (o) of the Act].

Note: Pursuant to Sections 39.5(5)(h) and (n) of the Act, upon submittal of a timely and complete renewal application, the permitted source may continue to operate until final action is taken by the Illinois EPA on the renewal application, provided, however, that this protection shall cease if the applicant fails to submit any additional information necessary to evaluate or take final action on the renewal application as requested by the Illinois EPA in writing. For a renewal application to be timely, it must be submitted no later than 9 months prior to the date of permit expiration.

9.15 General Authority for the Terms and Conditions of this Permit

The authority for terms and conditions of this permit that do not include a citation for their authority is Section 39.5(7)(a) of the Act, which provides that the Illinois EPA shall include such provisions in a CAAPP permit as are necessary to accomplish the purposes of the Act and to assure compliance with all applicable requirements. Section 39.5(7)(a) of the Act is also another basis of authority for terms and conditions of this permit that do include a specific citation for their authority.

Note: This condition is included in this permit pursuant to Section 39.5(7)(n) of the Act.

10.0 ATTACHMENTS

Attachment 1 Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: _____

Official Title: _____

Telephone No.: _____

Date Signed: _____

Attachment 2 Emissions of Particulate Matter from Process Emission Units

- a. New Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321].
- i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].
- ii. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.321(b)]:

$$E = A(P)^B$$

where:

P = Process weight rate; and
 E = Allowable emission rate; and,

A. Up to process weight rates of 408 Mg/hr (450 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	1.214	2.54
B	0.534	0.534

B. For process weight rate greater than or equal to 408 Mg/hr (450 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	11.42	24.8
B	0.16	0.16

iii. Limits for Process Emission Units For Which Construction or Modification Commenced On or After April 19, 1972 [35 IAC 212.321(c)]:

Metric P <u>Mg/hr</u>	E <u>kg/hr</u>	English P <u>T/hr</u>	E <u>lb/hr</u>
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77
0.2	0.42	0.2	1.10
0.3	0.64	0.30	1.35
0.4	0.74	0.40	1.58
0.5	0.84	0.50	1.75
0.7	1.00	0.75	2.40
0.9	1.15	1.00	2.60
1.8	1.66	2.00	3.70
2.7	2.1	3.00	4.60
3.6	2.4	4.00	5.35
4.5	2.7	5.00	6.00
9.0	3.9	10.00	8.70
13.0	4.8	15.00	10.80
18.0	5.7	20.00	12.50
23.0	6.5	25.00	14.00
27.0	7.1	30.00	15.60
32.0	7.7	35.00	17.00
36.0	8.2	40.00	18.20
41.0	8.8	45.00	19.20
45.0	9.3	50.00	20.50
90.0	13.4	100.00	29.50
140.0	17.0	150.00	37.00
180.0	19.4	200.00	43.00
230.0	22.0	250.00	48.50
270.0	24.0	300.00	53.00
320.0	26.0	350.00	58.00
360.0	28.0	400.00	62.00
408.0	30.1	450.00	66.00
454.0	30.4	500.00	67.00

b. Existing Process Emission Units for Which Construction or Modification Prior to April 14, 1972 [35 IAC 212.322].

- i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 [35 IAC 212.322(a)].
- ii. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.322(b)]:

$$E = C + A(P)^B$$

where:

P = Process weight rate; and
 E = Allowable emission rate; and,

A. Up to process weight rates up to 27.2 Mg/hr (30 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

B. For process weight rate in excess of 27.2 Mg/hr (30 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	25.21	55.0
B	0.11	0.11
C	- 18.4	- 40.0

iii. Limits for Process Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972 [35 IAC 212.322(c)]:

Metric P <u>Mg/hr</u>	E <u>kg/hr</u>	English P <u>T/hr</u>	E <u>lb/hr</u>
0.05	0.27	0.05	0.55
0.1	0.42	0.10	0.87
0.2	0.68	0.2	1.40
0.3	0.89	0.30	1.83
0.4	1.07	0.40	2.22
0.5	1.25	0.50	2.58
0.7	1.56	0.75	3.38
0.9	1.85	1.00	4.10
1.8	2.9	2.00	6.52
2.7	3.9	3.00	8.56
3.6	4.7	4.00	10.40
4.5	5.4	5.00	12.00
9.0	8.7	10.00	19.20
13.0	11.1	15.00	25.20
18.0	13.8	20.00	30.50
23.0	16.2	25.00	35.40
27.2	18.15	30.00	40.00
32.0	18.8	35.00	41.30
36.0	19.3	40.00	42.50
41.0	19.8	45.00	43.60
45.0	20.2	50.00	44.60
90.0	23.2	100.00	51.20
140.0	25.3	150.00	55.40
180.0	26.5	200.00	58.60
230.0	27.7	250.00	61.00
270.0	28.5	300.00	63.10
320.0	29.4	350.00	64.90
360.0	30.0	400.00	66.20
400.0	30.6	450.00	67.70
454.0	31.3	500.00	69.00

Attachment 3 Compliance Assurance Monitoring (CAM) Plan

There are no specific emission units that require a CAM plan as identified in the Monitoring Requirements of Subsection 8 for each Section 7, Unit Specific Conditions for Specific Emission Units.

Attachment 4 Guidance

The Illinois has prepared guidance for sources on the Clean Air Act Permit Program (CAAPP) that is available on the Internet site maintained by the Illinois EPA, www.epa.state.il.us. This guidance includes instructions on applying for a revision or renewal of the CAAPP permit.

Guidance On Revising A CAAPP Permit:

www.epa.state.il.us/air/caapp/caapp-revising.pdf

Guidance On Renewing A CAAPP Permit:

www.epa.state.il.us/air/caapp/caapp-renewing.pdf

The application forms prepared by the Illinois EPA for the CAAPP are also available from the Illinois EPA's Internet site:

www.epa.state.il.us/air/caapp/index.html

These CAAPP application forms should also be used by a CAAPP source when it applies for a construction permit. For this purpose, the appropriate CAAPP application forms and other supporting information, should be accompanied by a completed Application For A Construction Permit form (199-CAAPP) and Fee Determination for Construction Permit Application form (197-FEE):

www.epa.state.il.us/air/caapp/199-caapp.pdf

www.epa.state.il.us/air/permits/197-fee.pdf

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