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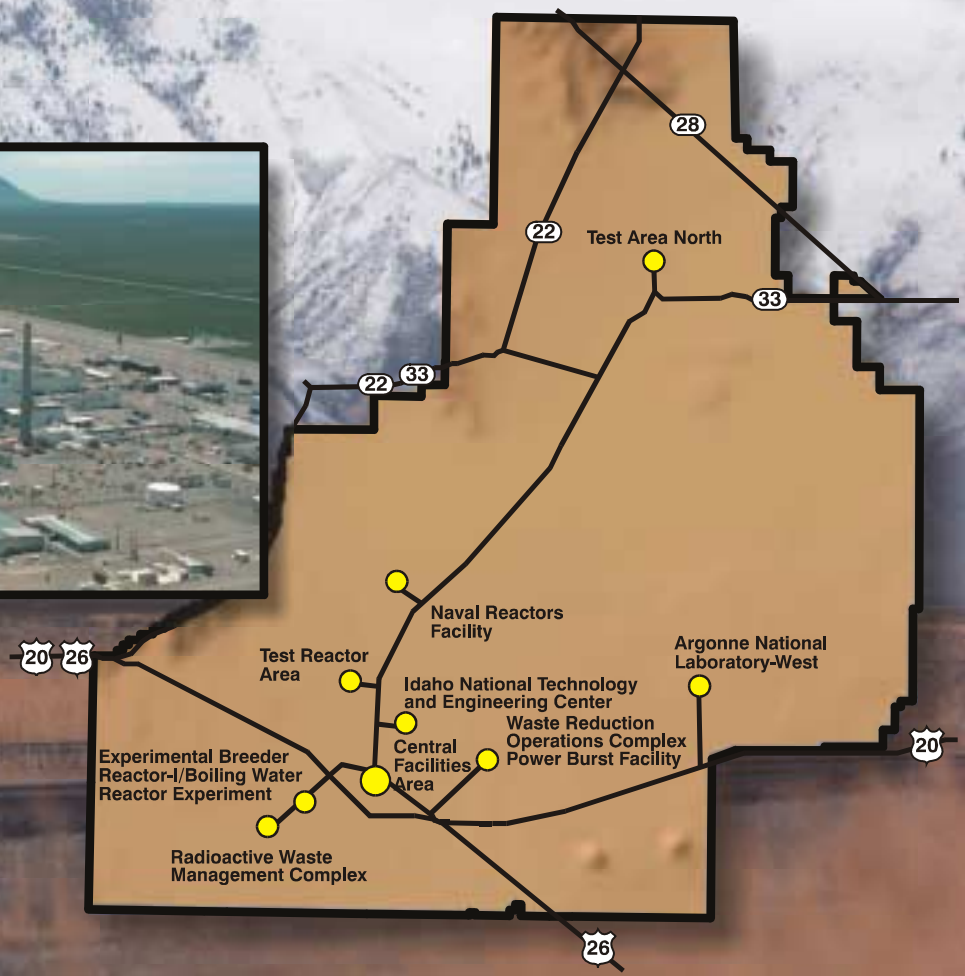
Application for a Title V Operating Permit for the Idaho National Engineering and Environmental Laboratory



Volume IV Idaho Nuclear Technology and Engineering Center

INEEL
Home of Science and Engineering Solutions
Idaho National Engineering and Environmental Laboratory

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Application for a Title V Operating Permit for the Idaho National Engineering and Environmental Laboratory

Volume IV
Idaho Nuclear and Technology Engineering Center

Published March 2001

Idaho National Engineering and Environmental Laboratory
Environmental Affairs
Bechtel BWXT Idaho, LLC
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FOREWORD

Volume IV is one of a total set of ten volumes prepared for the Application for a Title V Operating Permit for the Idaho National Engineering and Environmental Laboratory.

The volumes making up the INEEL operating permit application are numbered as follows.

Volume I	Sitewide Standards and Information, and Operating Permit Application Guide
Volume II	Argonne National Laboratory-West
Volume III	Central Facilities Area
Volume IV	Idaho Nuclear Technology and Engineering Center
Volume V	Waste Reduction Operations Complex
Volume VI	Naval Reactors Facility
Volume VII	Test Area North
Volume VIII	Test Reactor Area
Volume IX	Radioactive Waste Management Complex
Volume X[a]	Radioactive Waste Management Complex, Advanced Mixed Waste Treatment Project, is forthcoming.

This February 2001 application is an updated revision of the July 1995 application (INEL-95/0155, Rev. 1) written to include, but not limited to:

- Changes to the Idaho Administrative Procedures Act Air Regulation;
- Updating the name of the Idaho Chemical Processing Plant to Idaho Nuclear Technology and Engineering Center (Volume IV);
- Cessation of various programs; and
- Addition of Volume X (which is forthcoming) that reflects BNFL, Inc. as the operator for the Advanced Mixed Waste Treatment Project at the Radioactive Waste Management Complex.

a. Anticipated completion FY 2002 by BNFL, Inc.

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ACRONYMS

AEC	Atomic Energy Commission
AFBC	atmospheric fluidized bed combustion
AMWTF	Advanced Mixed Waste Treatment Facility
ANL-W	Argonne National Laboratory-West
ANSI	American National Standards Institute
AST	above-ground storage tank
ATR	Advanced Test Reactor
BBWI	Bechtel BWXT Idaho, LLC
BORAX	Boiling Water Reactor Experiment
BRC	below regulatory concern
CAM	continuous air monitor
CEMS	continuous emission monitoring system
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Central Facilities Area
CFR	Code of Federal Regulations
CSSF	Calcined Solids Storage Facility
CGS	Calcine Grinder Setup
COMS	continuous opacity monitoring system
CPP	Chemical Processing Plant (now known as INTEC)
CTF	Contained Test Facility (formerly LOFT)
DEQ	Department of Environmental Quality
DOE	Department of Energy
DOE-ID	Department of Energy-Idaho Operations Office
DOG	dissolver off-gas
DOP	dioctyl phthalate
DOT	Department of Transportation
DU	depleted uranium
DVF	Drum Venting Facility
ECF	Expended Core Facility
EDE	effective dose equivalent
EIS	environmental impact statement
EPA	Environmental Protection Agency
ETR	Engineering Test Reactor
FAA	Federal Aviation Administration
FDP	Fluorinel Dissolution Process
FSA	Fuel Storage Area
HAP	hazardous air pollutant
HEPA	high-efficiency particulate air
HFEF	Hot Fuel Examination Facility (located at ANL-W)
HLLWE	high level liquid waste evaporator
HQ	headquarters
HVAC	heating, ventilation, and air conditioning

ICPP	Idaho Chemical Processing Plant (now known as INTEC)
IDAPA	Idaho Administrative Procedures Act
IET	Initial Engine Test
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
JP-4	jet propulsion 4
JP-8	jet propulsion 8
LET&D	Liquid Effluent Treatment and Disposal (Facility)
LLW	low-level radioactive waste
LOFT	Loss-of-fluid Test
M&O	management and operations
MCR	maximum continuous rating
MDF	Material Development Facility
MTR	Materials Test Reactor
MWSF	Mixed Waste Storage Facility
NA	not applicable
NESHAP	National Emission Standards for Hazardous Air Pollutants
NRF	Naval Reactors Facility
NWCF	New Waste Calcining Facility
OCM	organic composite material
PBF	Power Burst Facility
PCS	petroleum-contaminated soil
PEW	process equipment waste
PM	particulate matter
PM-10	particulate matter with a diameter less than 10µ
PREPP	Process Experimental Pilot Plant
PRF	Process Reclamation Facility
PSD	prevention of significant deterioration
PTC	permit to construct
RAL	Remote Analytical Laboratory
RAM	remote area monitor
RCRA	Resource Conservation and Recovery Act
RCT	radiation control technician
RDF	refuse-derived fuel
RE	Retrieval Enclosure
RESL	Radiological Environmental Sciences Laboratory
RFP	Rocky Flats Plant
RWMC	Radioactive Waste Management Complex
SAL	Special Analysis Laboratory
SDA	Subsurface Disposal Area
SES	Special Equipment Services

SMC	Specific Manufacturing Capability (Facility)
SPING	stack particulate, iodine, and noble gas
SRT	special response team
SWEPP	Stored Waste Examination Pilot Plant
TAN	Test Area North
TMI-2	Three Mile Island Unit 2
TRA	Test Reactor Area
TRAHC	Test Reactor Area Hot Cell
TRU	transuranic
TSA	Transuranic Storage Area
TSF	Technical Support Facility
TSP	total suspended particulates
U.S.C.	United States Code
UST	underground storage tanks
UTM	Universal Transverse Mercator
VMT	vehicle miles traveled
VOC	volatile organic compound
VOCNM	Volatile organic compound-non methane
VOG	vessel off-gas
WCF	Waste Calcining Facility
WERF	Waste Experimental Reduction Facility
WIPP	Waste Isolation Pilot Plant
WMF	Waste Management Facility
WROC	Waste Reduction Operations Complex
WRRTF	Water Reactor Research Test Facility
WSF	Waste Storage Facility
WWTF	Warm Waste Treatment Facilities

SYMBOLS AND ABBREVIATIONS

α	alpha
β	beta
β/γ	beta/gamma
Btu	British thermal unit
Ci	curie
Ci/mo	curie per month
Ci/yr	curie per year
Cm^2	square centemeters
CO	carbon monoxide
g	gram
gr	grain
hp	horsepower
lb	pound
µm	micrometers (10^{-6} meters)
MBtu	million British thermal unit
mrem	thousandth of a roentgen equivalent man
mrem/yr	millirem per year
NO_x	nitrogen oxide
SO_x	sulfurous oxide
v/v	volume per volume
w.c.	water column

1. AREA SPECIFIC INFORMATION

1.1 Facility Description

The Idaho Nuclear Technology and Engineering Center (INTEC), formerly the Idaho Chemical Processing Plant (ICPP), is located near the TRA in the southwestern part of INEEL. The INTEC covers approximately 1 square kilometer (250 acres) and contains over 150 buildings.

The current purpose of INTEC is to (1) receive and store U.S. Department of Energy (DOE)-assigned nuclear fuels, (2) prepare sodium-bearing liquid and solid high level waste for disposition in a permanent repository, (3) develop technologies for the disposition of spent nuclear fuel, sodium-bearing waste, and high-level waste, and (4) develop and apply technologies to minimize waste generation and manage radioactive and hazardous wastes.

Major operating facilities at the INTEC include both storage and treatment facilities. Spent nuclear fuel is stored in pools and dry storage. Calcine (dry granular waste) in bins and liquid sodium-bearing waste in underground storage tanks is also present, this material results from the D&D of contaminated facilities. Treatment facilities include the New Waste Calcining Facility (NWCF), which treated liquid high-level waste and sodium-bearing waste, and an evaporator that concentrates low-level waste and mixed low-level waste. The Liquid Effluent Treatment and Disposal Facility prevents radioactive waste from being discharged to the percolation ponds and recovers nitric acid for reuse. Mixed waste and low-level waste are handled and stored in the hazardous and radioactive mixed waste staging area and the Hazardous Chemical and Radioactive Waste Facility. Other operating facilities include process development, analytical, and robotics laboratories. Support facilities such as utilities, maintenance, administrative, and engineering are also located at the INTEC. Figure IV-1-1, INTEC location map, shows the location of the INTEC at the INEEL. INTEC area plot plan (see Figure IV-1-2), shows the layout and facility locations.

ANL–W Argonne National Laboratory–West
CFA Central Facilities Area
INTEC Idaho Nuclear Technology and Engineering Center
NRF Naval Reactors Facility
WROC Waste Reduction Operations Complex
RWMC Radioactive Waste Management Complex
TAN Test Area North
TRA Test Reactor Area

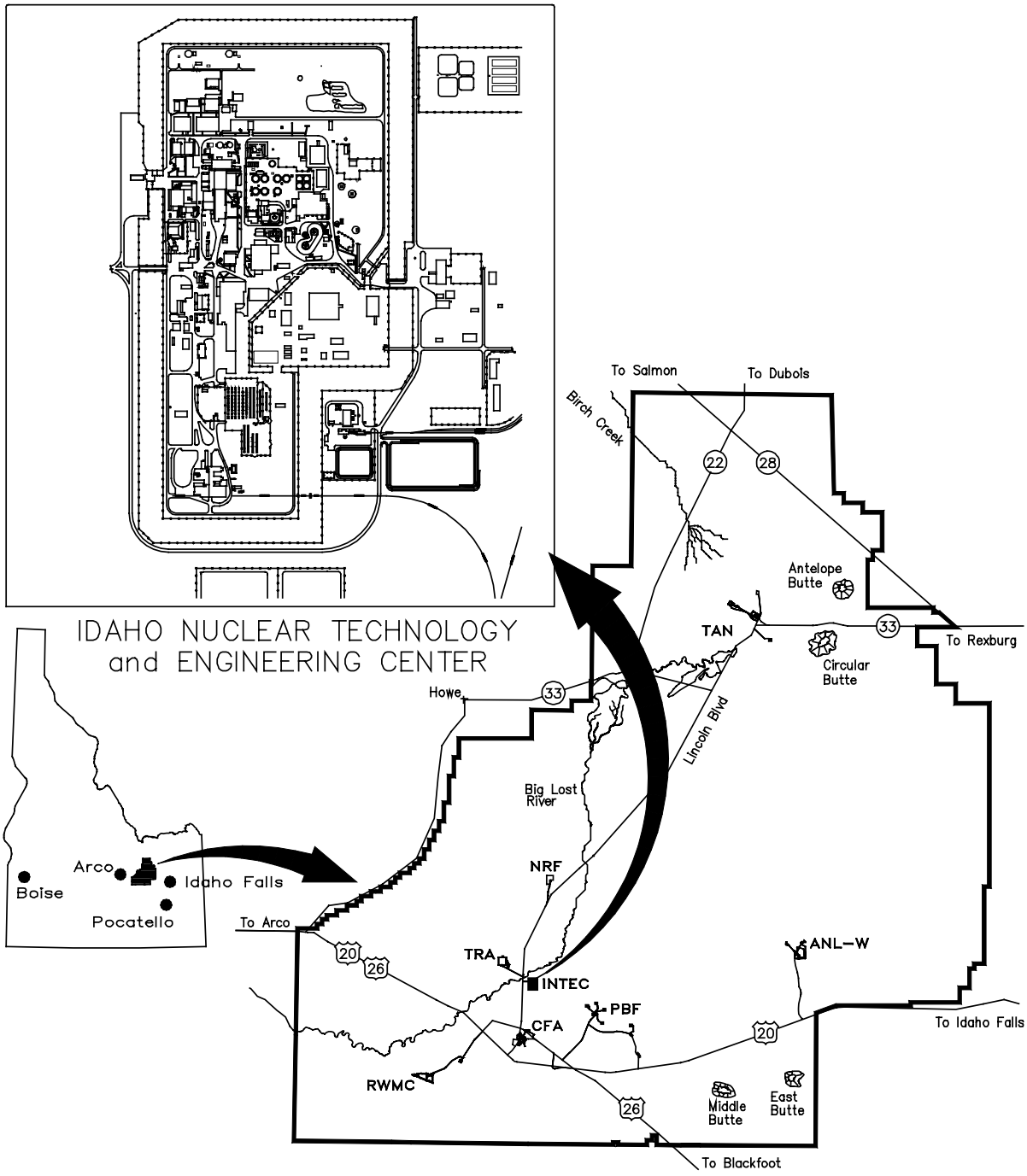

Figure IV-1-1. Map showing the location of the INTEC at the INEEL.

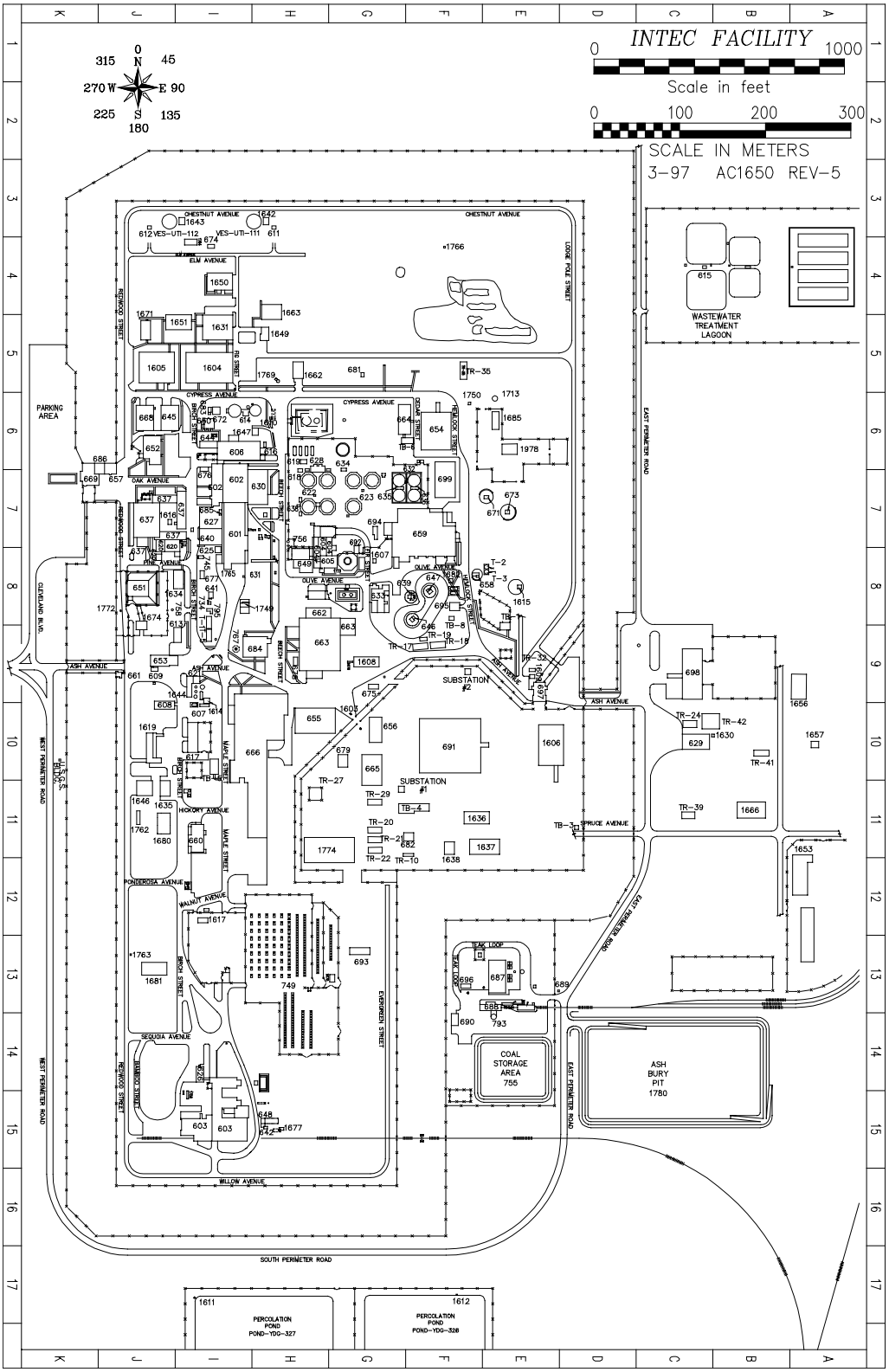

Figure IV-1-2. Plot plan view shows the layout and facility locations at INTEC.

1.2 Facility Air Emission Sources Listing

Tables IX-1-1, IX-1-2, and IX-1-3 below provide a comprehensive listing of significant and not-significant air emission sources at the INTEC. Table IX-1-1 is a list of significant sources that are detailed in this application. Table IX-1-2 presents a list of not-significant non-radiological sources that meet the not-significant criteria described in Volume I, Section 3.10.2. Not-significant, non-radiological sources will not be addressed in this permit application other than in this listing. Table IX-1-3 is a list of not-significant radiological sources that meet the not-significant criteria described in Volume I, Section 3.10.2.6. Source descriptions of not-significant radiological air emission sources are presented in Section 1.3.

Table IV-1-1. Significant air emission sources at the INTEC.

Building Number	Building Name	Vent/Stack Number	Source Description	Comments
CPP-606	Service Bldg. Powerhouse	061, 062, 063, 064, 065	Boiler-diesel	Nonradioactive
CPP-637	Process Improvement	032, 035, 036, 042, 045, 053, 056, 058	Pilot plants	Nonradioactive
CPP-637	Process Improvement	052	Pilot plants	Radioactive
CPP-659	NWCF	033	NWCF calciner exhaust area heating and ventilation stack	Radioactive
CPP-659	NWCF	036	NWCF decon exhaust area heating and ventilation stack	Radioactive
CPP-708	Main Stack	001[a]	Misc. processes	Radioactive and nonradioactive
CPP-666/767	FAST Stack	001	Wet fuel storage	Radioactive
CPP-1619	Hazardous Chemical and Radioactive Waste Storage Facility	001	Liquid waste unloading	Radioactive
Multiple[b]	Multiple		Internal combustion engines	These units are not specifically exempted by IDAPA 58.01.01.317

[a] This source has consumed PSD increment. General discussion of this program is included in Volume I, Section 6.6.

[b] This category includes multiple units at varying locations. They are addressed generally as a source category.

Table IV-1-2. Not-significant non-radiological air emission sources at INTEC.

Building Number	Building Name	ID# for Vent/Stack or Tank	Source Description	Justification
B21-620	Substation Control Building	00INTEC00002	6,400-gallon dielectric fluid AST	IDAPA 58.01.01.317.b.i.(30)
B21-620	Substation Control Building	00INTEC00003	6,400-gallon dielectric fluid AST	IDAPA 58.01.01.317.b.i.(30)
CPP-601	Process Building	98CPP00359	1,100-gallon HNO_3, AST	IDAPA 58.01.01.317.b.i.(19)
CPP-601	Process Building, CPP-601	98CPP00372	4,306-gallon aluminum nitrate AST	IDAPA 58.01.01.317.b.i.(30)
CPP-601	Process Building, CPP-601	98CPP00360	4,306-gallon nitric acid AST	IDAPA 58.01.01.317.b.i.(19)
CPP-601	Process Building, CPP-601	98CPP00089	864-gallon HNO_3, AST	IDAPA 58.01.01.317.b.i.(19)
CPP-601	Process Building, CPP-601	98CPP00406	528-gallon aluminum nitrate AST	IDAPA 58.01.01.317.b.i.(19)
CPP-602	Laboratory/Office	012, 014, 031	Laboratory/Office	IDAPA 58.01.01.317.b.i.(30)
CPP-602	CPP 602 Lab.	98CPP00021	500-gallon liquid nitrogen AST	IDAPA 58.01.01.317.b.i.(30)
CPP-604	Rare Gas Plant/ Waste	011	Decon tank	IDAPA 58.01.01.317.b.i.(19)
CPP-604	Waste Treat. Bldg.	98CPP00680	5,000-gallon evaporator condensate wastes AST	IDAPA 58.01.01.317.b.i.(30)
CPP-604	Waste Treat. Bldg.	98CPP00708	500-gallon aluminum nitrate AST	IDAPA 58.01.01.317.b.i.(19)
CPP-604	Waste Treat. Bldg.	98CPP00716	18,400-gallon mixed acid waste AST	IDAPA 58.01.01.317.b.i.(19)
CPP-606	Service/ Powerhouse	98CPP01609	6,700-gallon acid, sulfuric AST	IDAPA 58.01.01.317.b.i.(19)
CPP-615	Waste Water Treatment Plant	N/A	Waste Water Treatment Plant	IDAPA 58.01.01.317.b.i.(29)
CPP-620	Chem.Eng.Lab Hbf.	98CPP00903	500-gallon HNO_3 AST	IDAPA 58.01.01.317.b.i.(19)
CPP-620	Chem.Eng.Lab Hbf.	98CPP00905	500-gallon HNO_3 AST	IDAPA 58.01.01.317.b.i.(19)
CPP-620A	HCWNF	98CPP00920	630-gallon toxic metals/acid AST	IDAPA 58.01.01.317.b.i.(19)
CPP-620A	HCWNF	98CPP00921	630-gallon toxic metals/acid AST	IDAPA 58.01.01.317.b.i.(19)
CPP-620A	HCWNF	98CPP00922	750-gallon toxic metals/acid AST	IDAPA 58.01.01.317.b.i.(19)
CPP-621	Chem. Stor. Phse.	98CPP00928	18,500-gallon HNO_3, AST	IDAPA 58.01.01.317.b.i.(19)
CPP-627	Remote Analytical Facility	007, 008, 010, 013, 016	Laboratory	IDAPA 58.01.01.317.b.i.(16)

Table IV-1-2. (continued).

Building Number	Building Name	ID# for Vent/Stack or Tank	Source Description	Justification
CPP-628	Tank Farm Control House	98INTEC01666	380-gallon chromated water AST	IDAPA 58.01.01.317.b.i.(19)
CPP-630	Safety/ Spectrometry	011, 012	Laboratory	IDAPA 58.01.01.317.b.i.(17)
CPP-663	Safety/ Spectrometry	048 [a], 049 [a]	Paint booth	IDAPA 58.01.01.317.b.i.(17)
CPP-663	Safety/ Spectrometry	054[a]	Paint fumehood	IDAPA 58.01.01.317.b.i.(12)
CPP-637	Process Improvement Facility	010	Laboratory	IDAPA 58.01.01.317.b.i.(30)
CPP-637	Process Improvement Facility	021	Propane burner	IDAPA 58.01.01.317.b.i.(5)
CPP-637	Process Improvement Facility	064	Laboratory	IDAPA 58.01.01.317.b.i.(30)
CPP-641	W.Wst.Holdup Pphs	98CPP01113	5,000-gallon acid and metal waste AST	IDAPA 58.01.01.317.b.i.(19)
CPP-641	W.Wst.Holdup Pphs	98CPP01114	5,000-gallon acid and metal waste AST	IDAPA 58.01.01.317.b.i.(19)
CPP-N of 644	Emergency Generator	98CPP01479	3,000-gallon diesel AST	IDAPA 58.01.01.317.b.i.(30)
CPP-648	Basin Sludge Tank Control House	98CPP01127	25,000-gallon sand filter & resin backflushes UST	IDAPA 58.01.01.317.b.i.(30)
CPP-654	Receiving Warehouse/ Office	007, 008, 009, 010, 011, 012	Propane unit heater	IDAPA 58.01.01.317.b.i.(5)
CPP-655	Craft Shop/ Warehouse	018, 019, 026, 028, 030, 031	Propane unit heater	IDAPA 58.01.01.317.b.i.(5)
CPP-659	NWCF	033	HVAC	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01181	530-gallon HNO_3 AST	IDAPA 58.01.01.317.b.i.(19)
CPP-659	NWCF Subst.#50	98CPP01182	530-gallon acid waste (mixed waste) AST	IDAPA 58.01.01.317.b.i.(19)
CPP-659	NWCF Subst.#50	98CPP01186	120-gallon hepa filters, acid waste AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01153	4,000-gallon liquid mixed waste AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01195	5,000-gallon diesel UST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01163	4,800-gallon silica gel AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01198	1,360-gallon HNO_3 AST	IDAPA 58.01.01.317.b.i.(19)

Table IV-1-2. (continued).

Building Number	Building Name	ID# for Vent/Stack or Tank	Source Description	Justification
CPP-659	NWCF Subst.#50	98CPP01202	4,000-gallon calcium nitrate AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01203	4,000-gallon calcium nitrate AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01206	4,000-gallon boric acid AST	IDAPA 58.01.01.317.b.i.(19)
CPP-659	NWCF Subst.#50	98CPP01197	1,360-gallon HNO_3 AST	IDAPA 58.01.01.317.b.i.(19)
CPP-659	NWCF Subst.#50	98CPP01158	800-gallon dissolved calcine/acid AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01196	5,000-gallon diesel UST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01157	2,000-gallon dissolved calcine, acid (mixed waste) AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01159	500-gallon dissolved calcine/acid AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01161	4,800-gallon silica gel AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01162	4,800-gallon silica gel AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01164	450-gallon calcine dust/acid AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01165	6,525-gallon fluoride mixed waste AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01174	2,480-gallon liquid mixed waste AST	IDAPA 58.01.01.317.b.i.(30)
CPP-659	NWCF Subst.#50	98CPP01166	4,280-gallon non-fluoride mixed waste AST	IDAPA 58.01.01.317.b.i.(30)
CPP-660	Chem/Hazmat Stor.	98CPP01216	6,000-gallon gasoline UST	IDAPA 58.01.01.317.b.i.(30)
CPP-660	Chem/Hazmat Stor.	98CPP01215	2,500-gallon diesel UST	IDAPA 58.01.01.317.b.i.(30)
CPP-660	Chem/Hazmat Stor.	98CPP01214	11,000-gallon liquid nitrogen AST	IDAPA 58.01.01.317.b.i.(30)
CPP-660	Chem/Hazmat Stor.	98CPP01213	11,000-gallon liquid nitrogen AST	IDAPA 58.01.01.317.b.i.(30)
CPP-662	Maintenance/ Fabrication Shop	003 [a], 004 [a]	Welding booth	IDAPA 58.01.01.317.b.i.(9)
CPP-663	Maintenance/ Crafts/Warehouse	002 [a], 045[a],	Welding	IDAPA 58.01.01.317.b.i.(9)
CPP-666	FAST Facility	98CPP01341	4,274-gallon proplene glycol AST	IDAPA 58.01.01.317.b.i.(30)

Table IV-1-2. (continued).

Building Number	Building Name	ID# for Vent/Stack or Tank	Source Description	Justification
CPP-666	FAST Facility	98CPP01248	4,588-gallon liquid waste AST	IDAPA 58.01.01.317.b.i.(30)
CPP-666	FAST Facility	98CPP01326	5,150-gallon anion resin AST	IDAPA 58.01.01.317.b.i.(30)
CPP-666	FAST Facility	98CPP01266	1,400-gallon non-contaminated waste AST	IDAPA 58.01.01.317.b.i.(30)
CPP-666	FAST Facility	98CPP01325	5,150-gallon cation resin AST	IDAPA 58.01.01.317.b.i.(30)
CPP-666	FAST Facility	98CPP01327	5,150-gallon cation resin AST	IDAPA 58.01.01.317.b.i.(30)
CPP-666	FAST Facility	98CPP01328	5,150-gallon anion resin AST	IDAPA 58.01.01.317.b.i.(30)
CPP-666	FAST Facility	98CPP01331	3,268-gallon sodium hydroxide AST	IDAPA 58.01.01.317.b.i.(19)
CPP-679	Tent Fabrication Facility	002, 003	Propane unit heater	IDAPA 58.01.01.317.b.i.(5)
CPP-684	Remote Analytical Laboratory	001, 008	Laboratory	IDAPA 58.01.01.317.b.i.(30)
CPP-694	NWCF Bldg.	98CPP01387	5,000-gallon tbp/n-dodecane & rad AST	IDAPA 58.01.01.317.b.i.(30)
CPP-698	MK Complex	004[a], 006[a]	Welding	IDAPA 58.01.01.317.b.i.(9)
CPP-698		009, 010, 016, 017, 018	Propane unit heater	IDAPA 58.01.01.317.b.i.(5)
CPP-698	MK Complex	N/A		IDAPA 58.01.01.317.b.i.(30)
CPP-698	MK Warehouse and Office Building	00INTEC00001	1,000-gallon liquid propane gas AST	IDAPA 58.01.01.317.b.i.(4)
CPP-701	CPP-701	98CPP01606	244,000-gallon fuel oil AST	IDAPA 58.01.01.317.b.i.(30)
CPP-701	CPP-701	98CPP01607	50,000-gallon fuel oil AST	IDAPA 58.01.01.317.b.i.(30)
CPP-702	Fuel Oil Unload.	98CPP01390	20,000-gallon kerosene AST	IDAPA 58.01.01.317.b.i.(30)
CPP-702	Fuel Oil Unload.	98CPP01391	20,000-gallon kerosene AST	IDAPA 58.01.01.317.b.i.(30)
CPP-719-A	Nitric Acid Stor.	98CPP01401	30,119-gallon HNO_3 AST	IDAPA 58.01.01.317.b.i.(19)
CPP-720-B	Alum.Nitrate (102)	98CPP01403	6,000-gallon aluminum nitrate AST	IDAPA 58.01.01.317.b.i.(19)
CPP-720-C	Alum.Nitrate (152)	98CPP01404	16,116-gallon aluminum nitrate AST	IDAPA 58.01.01.317.b.i.(19)
CPP-775	Diesel Fuel Tank	98CPP01378	1,500 gallon AST	IDAPA 58.01.01.317.b.i.(30)

Table IV-1-2. (continued).

Building Number	Building Name	ID# for Vent/Stack or Tank	Source Description	Justification
CPP-796	Process Building	98CPP01474	Capacity n/a, service waste building process wastes AST	IDAPA 58.01.01.317.b.i.(30)
CPP-797	Process Building	98CPP01475	12,000-gallon service waste building process wastes AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1607	Auto Fire Protection	98CPP00033	500-gallon fire foam agent AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1610	Salt Pit Control House	98CPP00028	50,000-gallon sodium chloride UST	IDAPA 58.01.01.317.b.i.(19)
CPP-1618	Liq Eff.Treat/Disp.	98CPP00040	230-gallon pew condensate AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1618	Liq Eff.Treat/Disp.	98CPP00035	460-gallon pew condensate AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1618	Liq Eff.Treat/Disp.	98CPP00041	240-gallon 12 molar HNO_3 plus other trace chemicals (mixed waste) AST	IDAPA 58.01.01.317.b.i.(19)
CPP-1618	Liq Eff.Treat/Disp.	98CPP00042	230-gallon pew condensate AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1618	Liq Eff.Treat/Disp.	98CPP00034	460-gallon pew condensate AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1619	Haz Chem/Rad Wst Fac	98CPP00043	4,800-gallon waste destined for pew AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1642	Fire Pumphouse	98CPP00044	560-gallon diesel AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1643	Fire Pumphouse	98CPP00045	560-gallon diesel #2 AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1647	Demin.Wst Neut.Fac	98CPP00047	capacity n/a, NAOH AST	IDAPA 58.01.01.317.b.i.(19)
CPP-1684	Substation 60	99INTEC00011	10,000-gallon diesel #2 UST	IDAPA 58.01.01.317.b.i.(30)
CPP-1760	Kerosene Stor.Basin	98CPP00064	10,000-gallon kerosene AST	IDAPA 58.01.01.317.b.i.(30)
CPP-1760	Kerosene Stor.Basin	98CPP00063	10,000-gallon kerosene AST	IDAPA 58.01.01.317.b.i.(30)
CPP-Yard	Area C - High Bay Facility	98CPP01605	500-gallon kerosene AST	IDAPA 58.01.01.317.b.i.(30)
CPP-T6	Temporary Office	001	Propane unit heaters	IDAPA 58.01.01.317.b.i.(5)
CPP-T6	Temporary Office	004	Propane unit heaters	<300,000 BTU/hr

a. This source has consumed PSD increment. General discussion of this program is in Volume I.

1.3 Not-Significant Radiological Air Emission Source Descriptions

1.3.1 CPP-601-024, Hexone Storage and Fuel Tanks

The hexone tanks are located in the T-cell of the Fuel Process Building. Vessels include VES-T-100, VES-T-103, VES-T-102, and VES-T-101.

1.3.2 CPP-602-012, Laboratory Hoods, Glove Boxes, and Denitration Glove Boxes

Gaseous emissions from this release point are a combination of denitration glove boxes and ventilation exhausts, and exhausts from the laboratories, hoods, and glove boxes. No control equipment is required for this source. However, HEPA filtration is installed. No emission monitoring equipment is required for this source.

1.3.3 CPP-602-014, Laboratory 224 Cave

The spectrochemical cave and glove box in Lab 224 and two equipment vents in Lab 222 exhaust through this stack. No control equipment is required for this source; however, HEPA filtration is installed. No emission monitoring equipment is required for this source.

1.3.4 CPP-602-031, Perchloric Acid Hood Exhaust Vents

CPP-602-031 is the perchloric acid hood exhaust in Building 602. The hoods are used to prepare radiochemical samples for analysis. The control equipment for this source is the scrubber and water wash system (demister). No emission monitoring equipment is required for this source.

1.3.5 CPP-603-001, Irradated Fuel Storage Facility

Fuels requiring dry storage are received at the facility in fuel shipping casks. At the facility's receiving dock, the casks are removed from the transport vehicle, positioned in a cask transfer car, and moved into the fuel-handling cave. The cask-receiving area is equipped with a permanent contamination control barrier between the fuel-handling cave and the cask transfer pit. This barrier prevents the spread of contamination into the uncontaminated truck bay area. Once in the cave, fuel is transferred directly from the shipping cask to fuel storage canisters. The canisters are subsequently positioned in a shuttle bin for transfer to the storage area. Within the storage area, a 15-ton crane removes the canisters from the shuttle bin and inserts them into a predetermined slot in the storage rack. The entire operation, except for the placement of the cask into the transfer car outside of the cave, is performed remotely from within shielded operating areas. The sequence is reversed for removing fuel from storage.

If the fuels requiring dry storage are wet when received, they must go through the canning station process before they are put into the storage area. There is no separate HVAC system for this process; it is included with the facility system.

The HVAC system for the facility has four main functions: (1) remove decay heat generated by the stored fuel, (2) provide facility ventilation, (3) maintain desired negative pressure in facility areas, and (4) maintain facility airflow from less contaminated to more contaminated areas.

All cooling air from the irradiated fuel storage facility is discharged to the atmosphere through a 32-in.-diameter stack located on the storage facility roof. The top of the stack is approximately 65 ft above ground level. Single HEPA filtration systems are installed in redundant equipment configuration.

1.3.6 CPP-603-019, Underwater Storage Area

CPP-603-019 is the pool storage area that contains approximately 1.5 million gallons of water. Fuels requiring underwater storage are no longer placed in this area. All inventoried units have been removed. The pool water is sampled once a month for radioactivity.

This area produces only fugitive air emissions. Moist air that rises from the basins is vented directly to the atmosphere through rollup doors and other nonvent points. The radioactivity escaping to the atmosphere was assumed to be 1.0E-03 of the total activity of the basin water. There is no emission control equipment. No monitoring equipment is required. Monitoring will be performed using engineering NESHAP calculations.

1.3.7 CPP-627-007, Radioactive Glove Boxes

This is the shift lab-north bench exhaust system for fumehoods and gloveboxes in the Remote Analytical Facility.

1.3.8 CPP-627-008, Spectroscopy Cave Laboratory Hoods, Emissions

This is the spectroscopy cave/shift lab exhaust for hoods in the SAL and the emission spectroscopy cave of the Remote Analytical Facility.

1.3.9 CPP-627-010, Multicurie Cell

This is the multicurie cell of the Remote Analytical Facility.

1.3.10 CPP-627-013, Laboratory Hoods, Glove Boxes, and Dec Development Laboratory

This is the ventilation for the Hot Chemistry Lab and Decontamination Room supporting vessels, mix tanks, sink and hoods for the Remote Analytical Facility.

1.3.11 CPP-627-016, Laboratory Air Sampling System

This is the exhaust for the lab room air sampler of the Remote Analytical Facility. The sampler is a passive air monitoring system.

1.3.12 CPP-630-011, Laboratory Hoods and Other Exhausts

This release point exhausts fume hoods and glove boxes in CPP-630. The fume hoods and glove boxes are used for solid mass spectrometry, decontamination, and sample gases. No control equipment is required for this source; however, HEPA filtration is installed. No emission monitoring equipment is required for this source.

1.3.13 CPP-630-012, Laboratory Hoods, Glove Boxes and Exhausts

This release point exhausts fume hoods, glove boxes, and building air from parts of CPP-602. No control equipment is required for this source; however, HEPA filtration is installed. No emission monitoring equipment is required for this source.

1.3.14 CPP-637-010, Analytical Laboratory

The lab hoods vent through the single stack, CPP-637-010, on the top of CPP-637, at the south end. Some of the hoods have HEPA filters online, but very little radiation work is being done. Most of these labs are considered to be cold labs. In a few labs, experiments use minute quantities of radioactive materials. No control equipment is required for this source. However, HEPA filtration is installed on the hoods where radiological work is done. Those hoods that are not HEPA filtered have a warning label at the hood stating "Cold hood, no radioactive material in this hood. These are not HEPA filtered." No emission monitoring equipment is required for this source.

1.3.15 CPP-637-052, Tank

This tank is located on the south side of the High Bay in the center of the building in a two story tall support structure. The tank is connected to several transfer manifolds through pipes in the top and bottom of each tank.

Gaseous emissions from the storage tanks are collected in an off-gas pipe header and sent to the Solvent Extraction pilot plant module ventilation system and then exhausted to the atmosphere through the ICPP VOG system to the ICPP Main Stack or filtered and released through Stack CPP-637-052 during off-normal conditions.

1.3.16 CPP-648-002, Sludge Storage Tank Vent

The sludge storage tank (VES-SFE-106), located in vault CPP-648, typically receives spent ion exchange resin and basin water from treatment processes. The liquid fraction of the sludge (e.g., from settling or decanting) is transferred to the CPP-604 process equipment waste system.

1.3.17 CPP-663-002, Hot Shop Welding Area Vent

The hot shop area is designed for maintenance of radioactively contaminated equipment. The ventilation system comprises six flexible ventilation tubes, each of which is filtered. The six filtered streams combine in a single header prior to flowing to a central HEPA filter system. The central HEPA filter system contains one bank of 16 HEPA filters. This ventilation system also serves as the general room exhaust, creating a negative pressure contamination control area. The air is released to the atmosphere through stack CPP-663-002. The control equipment for this source is one HEPA filter. No emission monitoring equipment is required for this source.

1.3.18 CPP-684-001, Laboratory Hoods and Vents

CPP-684 has two points that release directly to the environment:

> CPP-684-001, warm laboratory and the hot cell exhaust—All nonradiological emissions are not-significant in accordance with Section 3.11.2 of Volume I. Radiological emissions are discussed below.
>
> CPP-684-002, cold laboratory exhaust—All emissions are not-significant in accordance with Section 3.11.2 of Volume I.

The Remote Analytical Laboratory (RAL) located in CPP-684 supports various INTEC processes and analysis of various environmental samples. The RAL consists of a cold laboratory, a warm laboratory and analytical hot cell, a waste handling cell, support areas for decontamination and

maintenance of hot cell equipment, and waste loadout area. High-level radioactive materials are handled remotely in cells, which are heavily shielded. Radioactive materials are isolated in the cells and warm laboratory by shielded walls and by the ventilation system.

The RAL is designed to receive, analyze, and dispose of environmental samples and samples from all INTEC processes. The RAL is also designed to perform various research and development activities (including but not limited to fuel dissolution, calcine dissolution, waste separation activities). Radioactive samples are transferred to the RAL by pneumatic transfer lines or are hand delivered, following appropriate radiological controls.

Two separate ventilation systems are used in the RAL. (One system exhausts air from the cold zone directly to the roof stack.) The cold zone consists primarily of offices, locker rooms, and a cold laboratory used for nonradioactive sample analysis. The cold zone exhaust consists of exempted sources and is unregulated. The second ventilation system in the RAL handles off-gas from the warm and hot zones. The hot zone consists of the analytical cell, waste handling cell, waste loadout area, and the shielded glove boxes. The combination of these areas is used for the remote analysis of highly radioactive samples. The warm zone surrounds the remote cells and shielded glove boxes and contains the support areas for the hot cells. It is also used for handling low-level radioactive samples. No control equipment is required for this source; however, HEPA filtration is installed. No emission monitoring equipment is required for this source.

1.3.19 CPP-694-007, Spent Solvent Storage Tank

This release point vents a tank, VES-NCE-184, which was used to store radioactively contaminated nonhazardous spent solvent, but now stores only a radioactively contaminated nonhazardous solvent and water heel. Vented gasses pass through two HEPA filters in series prior to release to the atmosphere. The vent is 3 ft above the roof and 23 ft above the ground. The control equipment for this source is two HEPA filters in series. No emission monitoring equipment is required for this source. These tanks are in closure and empty.

1.3.20 CPP-694-008, Spent Solvent Storage Tank

This vent exhausts VES-NCE-185, which was used to store radioactively contaminated spent solvent, but now stores only a radioactively contaminated water and nonhazardous solvent heel. Vented gasses pass through two HEPA filters in series prior to release to the atmosphere. The vent is 3 ft above the roof and 23 ft above the ground. The control equipment for this source is two HEPA filters in series. No emission monitoring equipment is required for this source. These tanks are empty and in closure.

1.3.21 CPP-694-009, Solvent Storage Building

This vent is for building ventilation. The building contains the spent solvent storage tanks (VES-NCE-184, VES-NCE-185, and VES-NCE-186). The exhaust flows through a single HEPA filter prior to release to the atmosphere. Normally only natural circulation exits from this vent; however, a blower automatically engages during high temperatures. The control equipment for this source is one HEPA filter (not tested). No emission monitoring equipment is required for this source.

1.3.22 CPP-694-010, Spent Solvent Storage Tank

This vent exhausts VES-NCE-186, which was used to store radioactively contaminated nonhazardous spent solvent, but now stores only a radioactively contaminated water and nonhazardous solvent heel. Vented gasses pass through two HEPA filters in series prior to release to the atmosphere.

The vent is 3 ft above the roof and 23 ft above the ground. The control equipment for this source is two HEPA filters in series. No emission monitoring equipment is required for this source. This tank is empty and in closure.

1.3.23 CPP-732-001, Bin Set #1

Bin set #1 is a vault surrounding the storage bins (not filtered). The vault area is no longer a source, storage bins have single HEPA-filtration in the process off gas atmospheric protection system.

1.3.24 CPP-742-001, Bin Set #2

Bin set #2 is a vault surrounding the storage bins (not filtered). The vault area is no longer a source, storage bins have single HEPA-filtration in the process off gas atmospheric protection system.

1.3.25 CPP-746-001, Bin Set #3

Bin set #3 is a vault surrounding the storage bins (not filtered). The vault area is no longer a source, storage bins have single HEPA-filtration in the process off gas atmospheric protection system.

1.3.26 CPP-749-001, Spent Fuel Storage Vaults

The scope of activities of the INTEC Underground Fuel Storage Facilities (CPP-749) is defined by the following activities

- Receipt, handling, and storage of Peach Bottom, Fermi, LWBR (irradiated and unirradiated) fuels.
- Cask handling operations associated with the above-listed fuel-based operations.
- Relocation activities for transfer of Peach Bottom fuels from first-generation to second-generation vaults.
- Preparations to support transfers of fuels from this facility to other fuel storage facilities, and eventual execution of the transfers, per applicable planning documents.
- Monitoring of fuel storage vault conditions and integrity

1.3.27 CPP-760-002, Bin Set #4

The fourth bin set contains three 12-ft diameter, 50-ft-high bins without cooling shrouds. Bin Set 4 was constructed partially below grade. The concrete is several feet thick to incorporate shielding considerations. The below grade vertical portions of the concrete containment vault were coated with pitch to provide a watertight seal. The bin set contains approximately 17,000 cubic feet of solids. Bin Set 4 is currently full and isolated from further transport of calcine to the vessel. The bin cooling air exits the stack on the top of the bin set without filtering. The cooling air system will be isolated from the atmosphere in FY-2001. The bins themselves are vented through two filters in series prior to exiting through the cooling air stack upstream of the cooling air isolation damper. The filters are not tested due to ALARA concerns. No control equipment exists for the vault area. Two filters are installed for the bins themselves. No emission monitoring equipment is required for this source.

1.3.28 CPP-764-002, Hot Waste Tank

This is a waste holding tank (VES-SFE-126) for the Fuel Receiving and Storage Facility. Process waste water with radiological contamination (mixed waste) is contained within.

Aqueous waste that could contain radioactive materials is processed through the hot waste tank (VES-SFE-126), a 3,400-gal waste tank. VES-SFE-126 receives waste from the Irradiated Fuel Storage Facility area. From the hot waste tank, the aqueous waste is processed through the CPP-604 process equipment waste system. This vessel is currently going through the RCRA closure process.

The hot waste tank is located in vault CPP-764. The tank vents to the vault, which vents to the atmosphere through a HEPA filter. One HEPA filter is required during normal operation. Emission monitoring equipment is not required.

1.3.29 CPP-765-003, Bin Set #5

The fifth bin set contains seven 12-ft diameter, 55-ft-high cylindrical bins. The 4-ft diameter central section is open for passage of cooling air. This design accommodates anticipated higher heat generation rate in the calcine. Bin Set 5 was constructed partially below grade. The concrete is several feet thick to incorporate shielding considerations. The below grade vertical portions of the concrete containment vault were coated with pitch to provide a watertight seal. The bin set contains approximately 35,000 cubic feet of calcined solids. Bin Set 5 is currently full and isolated from further transport of calcine to the vessel. The cooling air system has been isolated from the atmosphere and no longer is in operation. The bins themselves are vented through two filters in series prior to exiting through the cooling air stack above the storage vault. The filters are not tested periodically because of ALARA concerns. No control equipment exists for the vault area. Two filters are installed for the bins themselves. No emission monitoring equipment is required for this source.

1.3.30 CPP-791-004, Bin Set #6

The sixth bin set contains seven cylindrical bins 13.5 ft in diameter. Bin Set 6 was constructed partially belowgrade. The concrete is several feet thick to incorporate shielding considerations. The belowgrade vertical portions of the concrete containment vault were coated with pitch to provide a watertight seal. Bin Set 6 first received calcine in the 1993 NWCF campaign and is now partially full (23,000 ft^3). The bin vault cooling air normally flows directly to the atmosphere by natural convection. The bins are vented through two filters in series to the cooling air stack above the storage vault, except while the bin set is collecting solids. During solids collection, the bins vent through the calciner off-gas treatment system (two HEPA filters), then to the Atmospheric Protection System (one HEPA filter).

1.3.31 CPP-795-004, Bin Set #7

The seventh bin set contains seven cylindrical bins 13.5 ft in diameter. The design of the seventh is the same as for the sixth bin set (13.5-ft diameter, seven bin concept with an open central core). Bin Set 7 was constructed partially below grade. The concrete is several feet thick to incorporate shielding considerations. The below grade vertical portions of the concrete containment vault were coated with pitch to provide a watertight seal. The bin set was designed to contain approximately 63,000 cubic feet of solids. Bin Set 7 is scheduled to receive calcine after the sixth bin set is filled to design capacity. The bin set cooling air will normally flow directly to the atmosphere by natural convection. A booster fan can be used for exhaust air if the vault temperature is above normal. The bins will vent through two filters in series to the cooling air stack above the storage vault, except while the bin set is collecting calcine solids.

No control equipment exists for the vault. Two filters are installed for the bins themselves. No emission monitoring equipment is required for this source.

1.3.32 CPP-1608-001, Specific Information

Ventilation air flows from the equipment storage area to the clean manipulator repair area to the contaminated manipulator repair area. Air from the contaminated manipulator repair area is processed through the double HEPA filtration system and then exhausted through a stack (CPP-1608-001). The control equipment for this source is two HEPA filters in series. No emission monitoring equipment is required for this source.

1.3.33 CPP-1617-001, Waste Storage Area

Waste that is sorted, segregated, and recontainerized in CPP-1617 comprises debris (e.g., PPE, wood, metal) found in bags, wooden boxes, or burn boxes. These activities occur within a negative pressure temporary containment tent. Ventilation within the tent is maintained under negative pressure using two (2) portable blowers. Exit air is HEPA filtered and is exhausted outside the building via two (2) temporary elephant trunks lying horizontal at ground level.

1.3.34 CPP-1646-001, Anti Contamination/Safety Equipment Handling Facility

Under normal operating conditions, plastic bags containing several potentially contaminated respirators are opened in the fume hood (GBX-SAB-603), which provides the only vents to the atmosphere from the facility. Filter canisters are removed from the respirators and the respirators are repackaged in sealed bags for shipment to the offsite respirator cleaning facility. Potentially contaminated filter canisters, shipping bags, and clothing used by operators in the repackaging process are disposed of as radioactive waste. During years of budget restraint and manpower cutbacks, all used respirators and clothing are sent directly to the offsite facility, minimizing any handling at CPP-1646. No control equipment is required for this source. However, HEPA filtration is installed. No emission monitoring equipment is required for this source.

Table IV-1-3. Not-significant radionuclide air emission sources.

Source ID	Source description
CPP-601-024	Hexone storage and feed tanks
CPP-602-012	Laboratory hoods, glove boxes and denitrator boxes
CPP-602-014	Laboratory 224 cave
CPP-602-031	Perchloric acid hood
CPP-603-001	Irradiated Fuel Storage Facility
CPP-603-019	Underwater fuel storage area
CPP-627-007	laboratory hoods and radioactive glove boxes (special analysis lab, acid fume hoods)
CPP-627-008	laboratory hoods, emissions spectroscopy cave
CPP-627-010	Multicurie cell
CPP-627-013	Laboratory hoods, glove boxes, decon development lab
CPP-627-016	Laboratory air sampling system
CPP-630-011	Laboratory hoods, other exhausts from labs
CPP-630-012	Laboratory hoods, exhausts
CPP-637-010	Laboratory hoods (7 labs, 22 hoods)
CPP-637-052	Tank
CPP-648-002	Sludge storage tank (VES-SFE-106) vent
CPP-663-002	663 hot shop exhaust
CPP-684-001	Laboratory hood
CPP-694-007	Tank vents
CPP-694-008	Tank vents
CPP-694-009	Exhaust ventilation
CPP-694-010	Tank vents
CPP-732-001	Bin set #1 — vents the vault surrounding the storage bins (not filtered). vault area no longer a source. storage bins single hepa-filtered in pog aps.
CPP-742-001	Bin set #2 — vents the vault surrounding the storage bins (not filtered). vault area no longer a source. storage bins single hepa-filtered in pog aps.
CPP-746-001	Bin set #3 — vents the vault surrounding the storage bins (not filtered). vault area no longer a source. storage bins single hepa-filtered in pog aps.
CPP-749-001	Spent fuel storage vaults

Table IV-1-3. (continued.)

Source ID	Source description
CPP-760-002	Bin set #4 — vents the vault surrounding the storage bins (not hepa-filtered) and the storage bins (two hepa-filters installed but not tested)
CPP-764-002	Fuel receiving and storage hot waste tank (VES-SFE-126)
CPP-765-003	Bin set #5 — is currently full and isolated from further transport of calcine to the vessel
CPP-791-004	Bin set #6 — vents the vault surrounding the storage bins and the storage bins
CPP-795-004	Bin set #7 — inactive (potential source)
CPP-1608-001	Manipulator repair cell
CPP-1611-Area 1	Percolation pond 2 (nonpoint source)
CPP-1612-Area 1	Percolation pond 1 (nonpoint source)
CPP-1617-001	Radiological and hazardous waste accumulation area
CPP-1646-001	Anti-c/safety equipment handling facility
CPP-1774-001	NRC Permitted Facility
Various[a]	Diffuse soils contamination

a. Refer to annual NESHAP Report

All the above sources do the following:

- Annual emission determinations
- Periodic confirmatory monitoring to determine the need for continuous emission monitoring (point sources only)
- Keeping records of emission determinations and periodic confirmatory monitoring.

The annual radiological emissions from these sources are combined with all other radionuclide emissions from the INEEL to determine compliance with the 10 mrem/yr EDE as required in 40 CFR Part 61, Subpart H. The results are published in the INEEL National Emission Standard for Hazardous Air Pollutants.

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2. SOURCE-SPECIFIC INFORMATION

2.1 CPP-606, Service Building

2.1.1 General Description

The service building (CPP-606) houses equipment used to produce, treat, and distribute fire water, raw water, potable water, demineralized water, treated water, boiler feed water, steam, and compressed air. CPP-606 is located immediately north of the laboratory building (CPP-602).

CPP-606 has four oil-fired boilers and one portable boiler adjacent to CPP-606 to generate steam for building and process heating and for various jetting, sparging, and decontaminating operations. These boilers use only distilled fuel oil with a maximum of 0.3% sulfur content except during startup when propane may be used. Each boiler has an individual fuel meter that indicates the quantity of fuel oil burned. Fuel oil for all the boilers is stored in a 244,000-gal tank, CPP-701A, and in a 50,000-gal tank, CPP-701B. These tanks are across the street to the east of building CPP-606.

The significant emission release points for the service building are from the oil-fired boilers. These release points are:

CPP-606-061	INTEC CPP-606 Boiler 1 Exhaust
CPP-606-062	INTEC CPP-606 Boiler 2 Exhaust
CPP-606-063	INTEC CPP-606 Boiler 3 Exhaust
CPP-606-064	INTEC CPP-606 Boiler 4 Exhaust
CPP-606-065	INTEC Portable Boiler Exhaust

Figure IV-2-1, the plan view of CPP-606, shows the outline of the building and the location of the associated emission points.

2.1.2 CPP-606-061 Specific Information

See Figure IV-2-2 for the state operating permit application forms for this source.

2.1.2.1 Process Description

CPP-606 Boiler 1 produces steam for the INTEC facilities for space heating, jetting, sparging, decontamination, and process heating. Boiler description information is on the application forms.

This boiler is operated based on demand for steam. Actual operating times depend on other boiler operation, weather conditions, and the demand for steam at the INTEC.

See Figure IV-2-3 for the process flow diagram for this source. Control equipment used with this source includes flue gas recirculation (FGR) for the control of nitrogen oxide emissions. No emission monitoring equipment is required for this source.

2.1.2.2 Maximum Regulated Pollutant Emissions. The following list describes pollutants potentially emitted from this source. The quantities listed for nonradionuclide emissions represent releases based on the maximum allowable operating capacity associated with this emission point.

Pollutant	CAS	Maximum annual emission	Units	Criteria pollutant
Sulfur oxides	NA	49.2	ton/yr	X
Nitrogen oxides	NA	18.2	ton/yr	X
Particulate matter	NA	2.3	ton/yr	X
Carbon monoxide	NA	5.7	ton/yr	X
VOC	NA	0.2	ton/yr	X
Lead	7439-92-1	1.4E-03	ton/yr	X
Beryllium	440-41-7	0.00048	ton/yr	—

2.1.2.3 Compliance Requirements

2.1.2.3.1 Permitted Emission Limits—The source must comply with the following limits. Emission limits listed below include the operation of all fuel-burning sources at CPP-606, which include CPP-606-61, -62, -63, -64, and -65. These emission units are permitted under Idaho DEQ PSD PTC for Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (Permit No. 023-00001).

Pollutants	CAS	Emission limit	Units
Nitrogen oxide	—	599.5	lb/day
	—	98.6	ton/yr
Sulfur Dioxide	—	1295.0	lb/day
	—	213.0	ton/yr
Beryllium	440-41-7	1.26E-02	lb/day
	440-41-7	2.30E-03	ton/yr

2.1.2.3.2 Existing Permit Requirements—Following are the permit-related enforceable requirements specific to the four boilers inside CPP-606, as well as the INTEC portable boiler adjacent to CPP-606. These sources are regulated by conditions in State of Idaho Permit to Construct 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler PSD PTC. The most restrictive requirement identified in both IDAPA and EPA regulations will be applied.

- The boilers shall not have emissions of NO_x greater than 599.5 lb/day and 98.6 ton/yr.
- The boilers shall not have emissions of SO_2 greater than 1295.0 lb/day and 213.0 ton/yr.
- The boilers shall not have emissions of beryllium greater than 1.26E-02 lb/day and 2.30E-03 ton/yr.
- The boilers shall combust distillate oil containing no greater than 0.3 weight percent sulfur.
- The total amount of boiler fuel combusted for all boilers shall not exceed 29,976 gal/day.
- The boilers shall not discharge particulate matter emissions in excess of 0.050 grains per dry standard cubic foot corrected to 3% oxygen.
- The boilers shall not discharge into the atmosphere emissions that exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period.

2.1.2.3.3 *Other Enforceable Requirements—*The following requirements are identified by New Source Performance Standard (NSPS) 40 CFR 60 Subpart Dc. Note that the most restrictive requirement identified in either IDAPA or EPA regulations will be followed:

- Emissions shall not exhibit greater than 20% opacity (6 minute average), except for one 6-minute period per hour of not more than 27% opacity. This opacity standard is applicable at all times except startup, shutdown, or malfunction. See compliance methodology form in Section 5.1 of Volume I.

2.1.2.4 Compliance Methodology and Status

2.1.2.4.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as determined by methods described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.1.2.4.2 Compliance Methodology Forms—See Figure IV-2-4.

2.1.2.5 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.1.2.5.1 Nonradionuclide Emissions—The calculation methodologies used to determine the emissions from the boiler are detailed in Volume I, Appendix C. The emission factors taken from AP-42 and the maximum continuous rating of steam per hour pertaining to this boiler are described in the application forms. The maximum allowable sulfur content, 0.3%, was used as part of the SO_x calculation. NO_x calculations assumed an emissions control factor of 20% for the use of FGR burners. The boilers were assumed to operate 365 days per year and 24 hours each day.

Maximum fuel consumption for the four CPP-606 boilers and the INTEC portable boiler was calculated to be 29,976 gal/day. This fuel usage was factored into the emission factors to calculate the criteria pollutant quantities listed in the regulated pollutant table.

The boilers have a fuel meter that indicates actual number of gallons used. This quantity will be used to determine actual emissions.

2.1.2.5.2 Radionuclide Emissions—Not required since there are no radionuclide emissions from this emission unit.

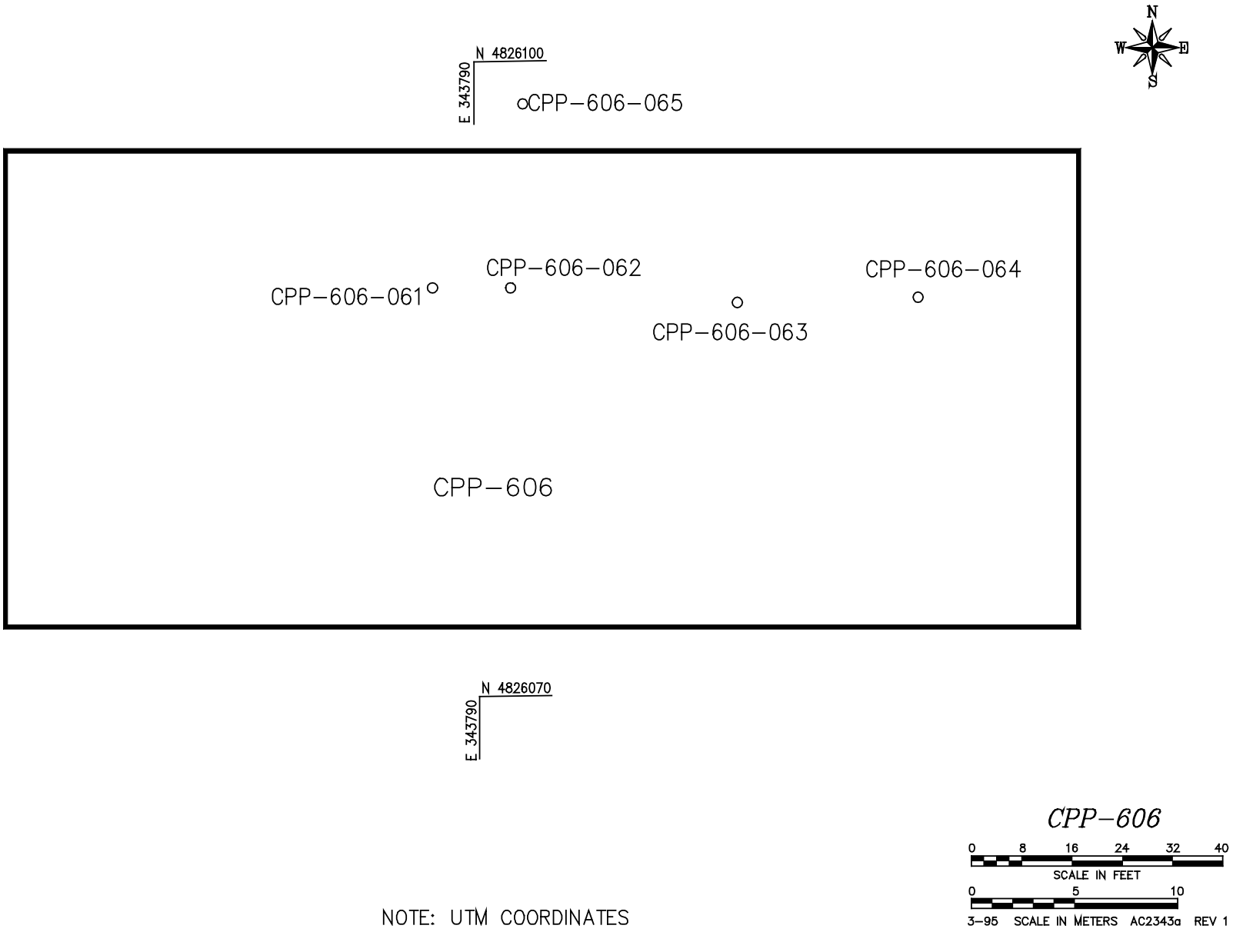


Figure IV-2-1. Plan view for CPP-606.

Figure IV-2-2. State Operating Permit Application Form.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A — GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION
CPP - 606 - 061	**Boiler**	CPP - 606
MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED
Cleaver Brooks	**CBLE 200-700-200**	**July 2000**

RATED CAPACITY (CHOOSE APPROPRIATE UNITS)

MILLION BTU/HOUR		THOUSAND LBS/HR STEAM		KILOWATTS		HORSEPOWER
36.4	OR		OR		OR	

BURNER TYPE	PERCENT USED FOR PROCESS	PERCENT USED FOR SPACE HEAT
Firetube	**50**	**50**

(1) BURNER TYPES: 01) SPREADER STOKER, 02) CHAIN OR TRAVELING GRATE, 03) HAND FIRED, 04) CYLONE FURNACE, 05) WET BOTTOM (PULVERIZED COAL), 06) DRY BOTTOM (PULVERIZED COAL), 07) UNDERFEED STOKER, 08) TANGENTIALLY FIRED, 09) HORIZONTALLY FIRED, 10) AXIALLY FIRED, 11) OTHER (SPECIFY TO THE RIGHT):

Air Atomizing

FUEL DATA

PARAMETER	PRIMARY FUEL	UNITS	SECONDARY FUEL	UNITS
FUEL CODE (2)	**02**		**NA**	
PERCENT SULFUR	**0.3**		**NA**	
PERCENT ASH	**—**		**NA**	
PERCENT NITROGEN	**—**		**NA**	
PERCENT CARBON	**—**		**NA**	
PERCENT HYDROGEN	**—**		**NA**	
PERCENT MOISTURE	**—**		**NA**	
HEAT CONTENT (BTU/UNIT)	**140000**	**Btu/gal**	**NA**	**NA**
MAXIMUM HOURLY COMBUSTION RATE (UNITS/HR)	**260**	**gallons**	**NA**	**NA**
NORMAL ANNUAL COMBUSTION RATE (UNITS/YR)	**2277600**	**gallons**	**NA**	**NA**

(2) FUEL CODES 01) NATURAL GAS, 02) #1 OR #2 FUEL OIL, 03) #4 FUEL OIL, 04) #5 FUEL OIL, 05) USED OIL, 06) WOOD CHIPS, 07) WOOD BARK, 08) WOOD SHAVINGS, 09) SANDER DUST, 10) SUBBITUMINOUS COAL, 11) BITUMINOUS COAL, 12) ANTHRACITE COAL, 13) LIGNITE COAL, 14) PROPANE, 15) OTHER (SPECIFY TO THE RIGHT):

Figure IV-2-2. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
41	27	5	27

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	39

POLLUTION CONTROL EQUIPMENT
Flue Gas Recirculation (FGR) - NO_x

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4,919	343.81	4,826.08	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (F)
50	24	14121	375

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ESTIMATED OR MEASURED EMISSIONS (TON/YR)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (LB/DAY)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (TON/YR)	REFERENCE
Carbon monoxide	NA	5 lb/1000 gal	NA	1.3 lb/hr	5.7 ton/yr	NA	—	NA
Nitrogen oxides	NA	20 lb/1000 gal	20	4.2 lb/hr	18.2 ton/yr	599.5	98.6	PSD PTC 023-00001
Particulate	NA	2 lb/1000 gal	NA	0.5 lb/hr	2.3 ton/yr	NA	—	NA
Sulfur oxides	NA	43.2 lb/1000 gal	NA	11.2 lb/hr	49.2 ton/yr	1295	213	PSD PTC 023-00001
Beryllium	440-41-7	3 lb/10^{12} Btu	NA	1.1E-04 lb/hr	4.8E-04 ton/yr	1.26E-02	2.30E-03	PSD PTC 023-00001
VOC-Nonmethane	NA	0.2 lb/1,000 gal	NA	0.05 lb/hr	0.2 ton/yr	NA	—	NA
Lead	7439-92-1	9 lb/10^{12} Btu	NA	3.3E-04 lb/hr	1.4E-03 ton/yr	NA	---	NA

a. IN LB/UNITS. Use same hourly UNITS given in PROCESSING DATA

Note: The normal INEEL heating season is 39 weeks. The maximum schedule shown allows for flexibility for unusual weather and off-season maintenance.

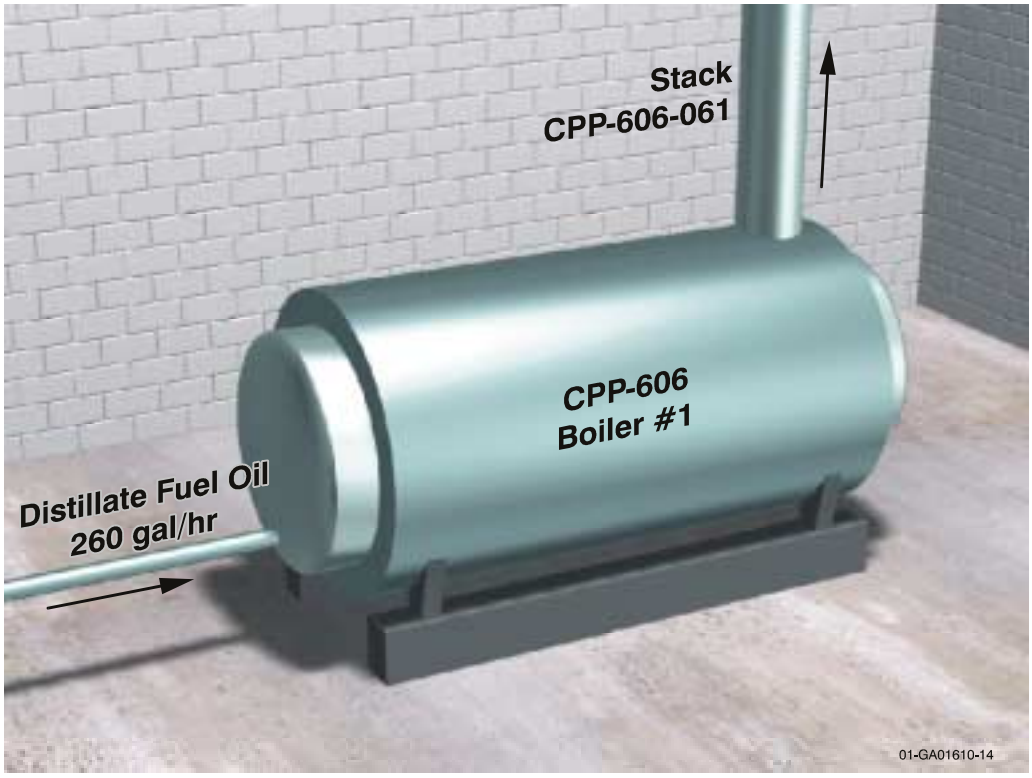


Figure IV-2-3. Process flow diagram for CPP-606-061.

Emission Point Number: CPP-606-061

REQUIREMENT 1

Requirement: Emission limit of 599.5 lbs/day NO_x; 109.4 tons/yr (at 8760 hours/yr) NO_x.[1] These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: NO_x

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: NO_x emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

[1] Numerical correction based on current permit to construct

Figure IV-2-4. Compliance Certification Form (method of compliance).

Emission Point Number: CPP-606-061

REQUIREMENT 2

Requirement: Emission limit of 1295.0 lbs/day SO_2; 236.33 tons/yr (at 8760 hours/yr) SO_2.[1] These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: SO_2

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, fuel oil vendor certifications for sulfur content, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, each fuel shipment for vendor certifications, annually for emissions

REPORTING

Generally describe what is reported: Fuel oil certifications from the fuel supplier, which document and verify fuel used in the boilers meet the 0.3% sulfur content. SO_2 emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Biannually for the fuel oil certifications, annually for the Air Emission Inventory.

Beginning date: TBD, May 2001 for Air Emissions Inventory

[1] Numerical correction based on current permit to construct

Figure IV-2-4. (continued).

Emission Point Number: CPP-606-061

REQUIREMENT 3

Requirement: Emission limit of 1.26E-02 lb/day beryllium; 2.30E-03 tons/yr beryllium. These are cumulative emission limits associated with the operation of five boilers as listed in permit PSD PTC 023-00001 “Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler.”

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: Beryllium

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: Beryllium emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

Figure IV-2-4. (continued).

2.1.3 CPP-606-062 Specific Information

See Figure IV-2-5 for the state operating permit application forms for this source.

2.1.3.1 Process Description. CPP-606 Boiler 2 produces steam for the INTEC facilities for space heating, jetting, sparging, decontamination, and process heating. Boiler description information is on the application forms.

This boiler is operated based on demand for steam. Actual operating times depend on other boiler operation, weather conditions, and the demand for steam at the INTEC.

See Figure IV-2-6 for the process flow diagram for this source. Control equipment used with this source includes FGR for the control of nitrogen oxide emissions. No emission monitoring equipment is required for this source.

2.1.3.2 Maximum Regulated Pollutant Emissions. The following list describes pollutants potentially emitted from this source. The quantities listed for nonradionuclide emissions represent releases based on the maximum allowable operating capacity associated with this emission point.

Pollutant	CAS	Maximum annual emission	Units	Criteria pollutant
Sulfur oxides	NA	49.2	ton/yr	X
Nitrogen oxides	NA	18.2	ton/yr	X
Particulate matter	NA	2.3	ton/yr	X
Carbon monoxide	NA	5.7	ton/yr	X
VOC	NA	0.2	ton/yr	X
Lead	7439-92-1	1.4E-03	ton/yr	X
Beryllium	440-41-7	0.00048	ton/yr	—

2.1.3.3 Compliance Requirements

2.1.3.3.1 Permitted Emission Limits—This source must comply with the following limits. Emission limits listed below include the operation of all fuel-burning sources at CPP-606, which include CPP-606-61, -62, -63, -64, and -65. These emission units are permitted under Idaho DEQ PSD PTC for Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (Permit No. 023-00001).

Pollutants	CAS	Emission limit	Units
Nitrogen oxide	—	599.5	lb/day
	—	98.6	ton/yr
Sulfur dioxide	—	1295.0	lb/day
	—	213.0	ton/yr
Beryllium	440-41-7	1.26E-02	lb/day
	440-41-7	2.30E-03	ton/yr

2.1.3.3.2 Existing Permit Requirements—The following are the permit-related enforceable requirements specific to the four (4) boilers located inside CPP-606 as well as the INTEC Portable Boiler located adjacent to CPP-606. These sources are regulated by conditions in State of Idaho Permit to Construct 023-00001, Building CPP-606 Distillate Oil-Fired Boilers, and INTEC Distillate Oil-Fired Portable Boiler PSD PTC. Note that the most restrictive requirement identified in both IDAPA and EPA regulations will be followed:

- The boilers shall not have emissions of NO_x greater than 599.5 lbs/day and 98.6 tons/yr.
- The boilers shall not have emissions of SO_2 greater than 1295.0 lbs/day and 213.0 tons/yr.
- The boilers shall not have emissions of beryllium greater than 1.26E-02 lbs/day and 2.30E-03 tons/yr.
- The boilers shall combust distillate oil containing no greater than 0.3 weight percent sulfur.
- The total amount of boiler fuel combusted for all boilers shall not exceed 29,976 gallons/day.
- The boilers shall not discharge particulate matter emissions in excess of 0.050 grains per dry standard cubic foot corrected to 3% oxygen.
- The boilers shall not discharge into the atmosphere emissions that exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period.

2.1.3.3.3 Other Enforceable Requirements—The following requirements are identified by NSPS 40 CFR 60 Subpart Dc. The most restrictive requirement identified in either IDAPA or EPA regulations will be applied.

- Emissions shall not exhibit greater than 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. This opacity standard is applicable at all times except startup, shutdown, or malfunction. See compliance methodology form in Section 5.1 of Volume I.

2.1.3.4 Compliance Methodology and Status

2.1.3.4.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as determined by methods described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.1.3.4.2 Compliance Methodology Forms—See Figure IV-2-7.

2.1.3.5 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.1.3.5.1 Nonradionuclide Emissions—The calculation methodologies used to determine the emissions from the boiler are detailed in Volume I, Appendix C. The emission factors taken from AP-42 and the maximum continuous rating of steam per hour pertaining to this boiler are described in the application forms. The maximum allowable sulfur content, 0.3%, was used as part of the SO_x calculation. NO_x calculations assumed an emissions control factor of 20% for the use of FGR burners. The boilers were assumed to operate 365 days per year and 24 hours each day.

Maximum fuel consumption for the four CPP-606 boilers and the INTEC portable boiler was calculated to be 29,976 gal/day. This fuel usage was factored into the emission factors to calculate the criteria pollutant quantities listed in the regulated pollutant table.

The boilers have a fuel meter that indicates actual number of gallons used. This quantity will be used to determine actual emissions.

2.1.3.5.2 Radionuclide Emissions—Not required since there are no radionuclide emissions from this emission unit.

Figure IV-2-5. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A — GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 606 - 062	**Boiler**	CPP - 606	
MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED	
Cleaver Brooks	**CBLE 200-700-200**	**July 2000**	

RATED CAPACITY (CHOOSE APPROPRIATE UNITS)

MILLION BTU/HOUR		THOUSAND LB/HR STEAM		KILOWATTS		HORSEPOWER
36.4	OR		OR		OR	
BURNER TYPE	PERCENT USED FOR PROCESS	PERCENT USED FOR SPACE HEAT				
Firetube	**50**	**50**				

(1) BURNER TYPES: 01) SPREADER STOKER, 02) CHAIN OR TRAVELING GRATE, 03) HAND FIRED, 04) CYLONE FURNACE, 05) WET BOTTOM (PULVERIZED COAL), 06) DRY BOTTOM (PULVERIZED COAL), 07) UNDERFEED STOKER, 08) TANGENTIALLY FIRED, 09) HORIZONTALLY FIRED, 10) AXIALLY FIRED, 11) OTHER (SPECIFY TO THE RIGHT):

Air Atomizing

FUEL DATA

PARAMETER	PRIMARY FUEL	UNITS	SECONDARY FUEL	UNITS
FUEL CODE (2)	**02**		**NA**	
PERCENT SULFUR	**0.3**		**NA**	
PERCENT ASH	**—**		**NA**	
PERCENT NITROGEN	**—**		**NA**	
PERCENT CARBON	**—**		**NA**	
PERCENT HYDROGEN	**—**		**NA**	
PERCENT MOISTURE	**—**		**NA**	
HEAT CONTENT (BTU/UNIT)	**140000**	**Btu/gal**	**NA**	**NA**
MAXIMUM HOURLY COMBUSTION RATE (UNITS/HR)	**260**	**gallons**	**NA**	**NA**
NORMAL ANNUAL COMBUSTION RATE (UNITS/YR)	**2277600**	**gallons**	**NA**	**NA**

(2) FUEL CODES 01) NATURAL GAS, 02) #1 OR #2 FUEL OIL, 03) #4 FUEL OIL, 04) #5 FUEL OIL, 05) USED OIL, 06) WOOD CHIPS, 07) WOOD BARK, 08) WOOD SHAVINGS, 09) SANDER DUST, 10) SUBBITUMINOUS COAL, 11) BITUMINOUS COAL, 12) ANTHRACITE COAL, 13) LIGNITE COAL, 14) PROPANE, 15) OTHER (SPECIFY TO THE RIGHT):

Figure IV-2-5. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
41	27	5	27

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT
Flue Gas Recirculation (FGR) - NO_x

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4919	343.81	4826.08	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (F)
50	24	14121	375

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ESTIMATED OR MEASURED EMISSIONS (TON/YR)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (LB/DAY)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (TON/YR)	REFERENCE
Carbon monoxide	NA	5 lb/1000 gal	NA	1.3 lb/hr	5.7 ton/yr	NA	—	NA
Nitrogen oxides	NA	20 lb/1000 gal	20	4.2 lb/hr	18.2 ton/yr	599.5	98.6	PSD PTC 023-00001
Particulate	NA	2 lb/1000 gal	NA	0.5 lb/hr	2.3 ton/yr	NA	—	NA
Sulfur oxides	NA	43.2 lb/1000 gal	NA	11.2 lb/hr	49.2 ton/yr	1295	213	PSD PTC 023-00001
Beryllium	440-41-7	3 lb/10^{12} Btu	NA	1.1E-04 lb/hr	4.8E-04 ton/yr	1.26E-02	2.30E-03	PSD PTC 023-00001
VOC-Nonmethane	NA	0.2 lb/1,000 gal	NA	0.05 lb/hr	0.2 ton/yr	NA	—	NA
Lead	7439-92-1	9 lb/10^{12} Btu	NA	3.3E-04 lb/hr	1.4E-03 ton/yr	NA	---	NA

a. IN LB/UNITS. Use same hourly UNITS given in PROCESSING DATA

Note: The normal INEEL heating season is 41 weeks. The maximum schedule shown allows for flexibility for unusual weather and off-season maintenance.

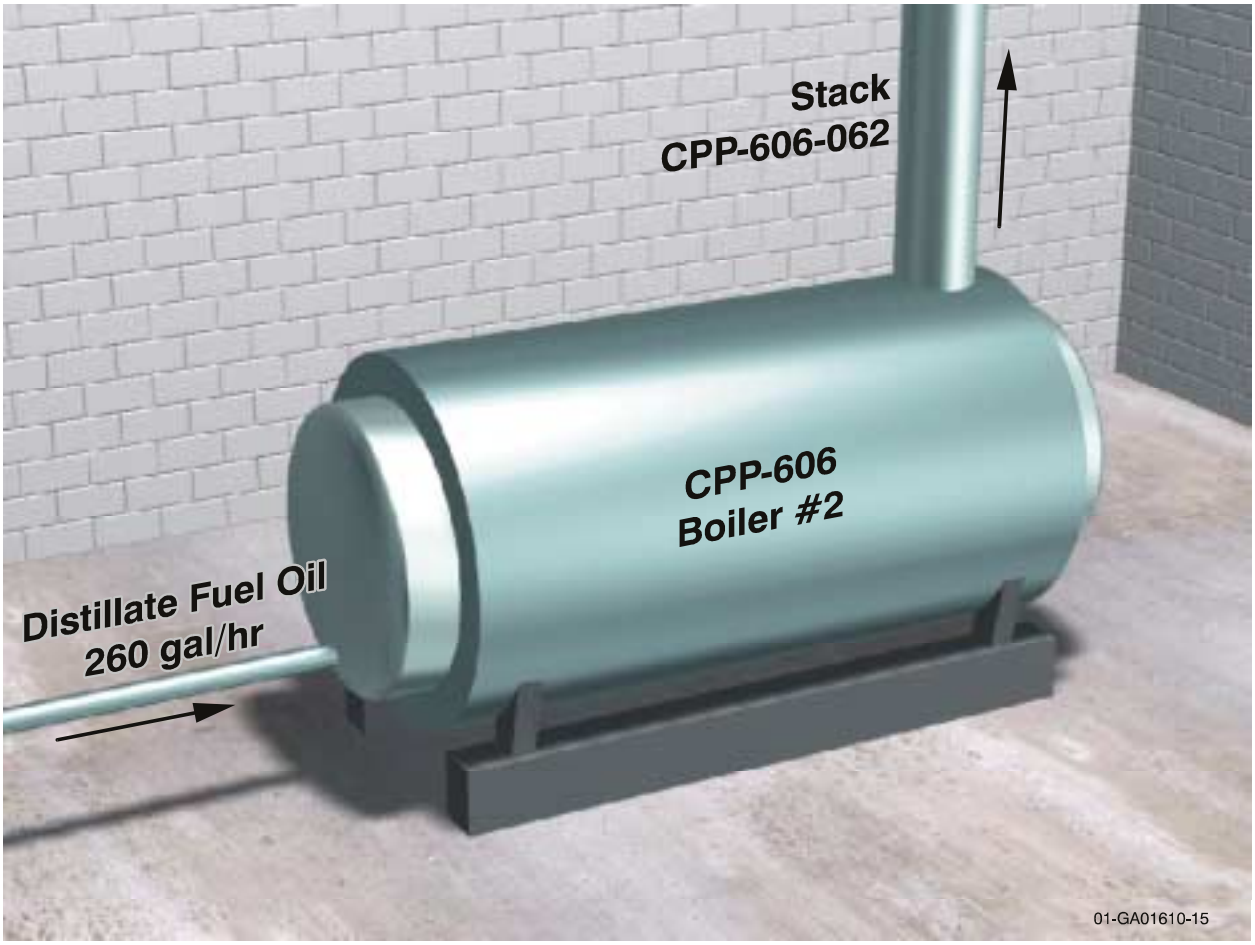


Figure IV-2-6. Process flow diagram for CPP-606-062.

Emission Point Number: CPP-606-062

REQUIREMENT 1

Requirement: Emission limit of 599.5 lbs/day NO_x; 109.4 tons/yr (at 8760 hours/yr) NO_x.[1] These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: NO_x

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: NO_x emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

[1] Numerical correction based on current permit to construct

Figure IV-2-7. Compliance Certification Form (method of compliance).

Emission Point Number: CPP-606-062

REQUIREMENT 2

Requirement: Emission limit of 1295.0 lbs/day SO_2, 236.33 tons/yr (at 8760 hours/yr) SO_2.[1] These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: SO_2

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, fuel oil vendor certifications for sulfur content, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, each fuel shipment for vendor certifications, annually for emissions

REPORTING

Generally describe what is reported: Fuel oil certifications from the fuel supplier, which document and verify fuel used in the boilers meet the 0.3% sulfur content. SO_2 emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Biannually for the fuel oil certifications, annually for the Air Emission Inventory.

Beginning date: TBD, May 2001 for Air Emissions Inventory

[1] Numerical correction based on current permit to construct

Figure IV-2-7. (continued).

Emission Point Number: CPP-606-062

REQUIREMENT 3

Requirement: Emission limit of 1.26E-02 lb/day beryllium; 2.30E-03 tons/yr beryllium. These are cumulative emission limits associated with the operation of five boilers as listed in permit PSD PTC 023-00001 “Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler.”

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: Beryllium

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: Beryllium emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

Figure IV-2-7. (continued).

2.1.4 CPP-606-063 Specific Information

See Figure IV-2-8 for the state operating permit application forms for this source.

2.1.4.1 Process Description. CPP-606 Boiler 3 produces steam for the INTEC facilities for space heating, jetting, sparging, decontamination, and process heating. Boiler description information is on the application forms.

This boiler is operated based on demand for steam. Actual operating times depend on other boiler operation, weather conditions, and the demand for steam at the INTEC.

See Figure IV-2-9 for the process flow diagram for this source. Control equipment used with this source includes FGR for the control of nitrogen oxide emissions. No emission monitoring equipment is required for this source.

2.1.4.2 Maximum Regulated Pollutant Emissions. The following list describes pollutants potentially emitted from this source. The quantities listed for nonradionuclide emissions represent releases based on the maximum allowable operating capacity associated with this emission point.

Pollutant	CAS	Maximum annual emission	Units	Criteria pollutant
Sulfur oxides	NA	49.2	ton/yr	X
Nitrogen oxides	NA	18.2	ton/yr	X
Particulate matter	NA	2.3	ton/yr	X
Carbon monoxide	NA	5.7	ton/yr	X
VOC	NA	0.2	ton/yr	X
Lead	7439-92-1	1.4E-03	ton/yr	X
Beryllium	440-41-7	0.00048	ton/yr	—

2.1.4.3 Compliance Requirements

2.1.4.3.1 Permitted Emission Limits—This source must comply with the following limits. Emission limits listed below include the operation of all fuel-burning sources at CPP-606, which include CPP-606-61, -62, -63, -64, and -65. These emission units are permitted under Idaho DEQ PSD PTC for Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (Permit No. 23-00001).

Pollutants	CAS	Emission limit	Units
Nitrogen oxide	—	599.5	lb/day
	—	98.6	ton/yr
Sulfur dioxide	—	1295.0	lb/day
	—	213.0	ton/yr
Beryllium	440-41-7	1.26E-02	lb/day
	440-41-7	2.30E-03	ton/yr

2.1.4.3.2 Existing Permit Requirements—Following are the permit-related enforceable requirements specific to the four boilers inside CPP-606, as well as the INTEC portable boiler adjacent to CPP-606. These sources are regulated by conditions in State of Idaho Permit to Construct 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler PSD PTC. The most restrictive requirement identified in both IDAPA and EPA regulations will be followed:

- The boilers shall not have emissions of NO_x greater than 599.5 lbs/day and 98.6 tons/yr.
- The boilers shall not have emissions of SO_2 greater than 1295.0 lbs/day and 213.0 tons/yr.
- The boilers shall not have emissions of beryllium greater than 1.26E-02 lbs/day and 2.30E-03 tons/yr.
- The boilers shall combust distillate oil containing no greater than 0.3 weight percent sulfur.
- The total amount of boiler fuel combusted for all boilers shall not exceed 29,976 gallons/day.
- The boilers shall not discharge particulate matter emissions in excess of 0.050 grains per dry standard cubic foot corrected to 3% oxygen.
- The boilers shall not discharge into the atmosphere emissions that exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period.

2.1.4.3.3 Other Enforceable Requirements—The following requirements are identified by New Source Performance Standard (NSPS) 40 CFR 60 Subpart Dc. The most restrictive requirement identified in either IDAPA or EPA regulations will be applied.

- Emissions shall not exhibit greater than 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. This opacity standard is applicable at all times except startup, shutdown, or malfunction. See compliance methodology form in Section 5.1 of Volume I.
- The boilers shall combust distillate oil containing no greater than 0.5 weight percent sulfur.

2.1.4.4 Compliance Methodology and Status

2.1.4.4.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as determined by methods described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.1.4.4.2 Compliance Methodology Forms—See Figure IV-2-10.

2.1.4.5 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.1.4.5.1 Nonradionuclide Emissions—The calculation methodologies used to determine the emissions from the boiler are detailed in Volume I, Appendix C. The emission factors taken from AP-42 and the maximum continuous rating of steam per hour pertaining to this boiler are described in the application forms. The maximum allowable sulfur content, 0.3%, was used as part of the SO_x calculation. NO_x calculations assumed an emissions control factor of 20% for the use of FGR burners. The boilers were assumed to operate 365 days per year and 24 hours each day.

Maximum fuel consumption for the four CPP-606 boilers and the INTEC portable boiler was calculated to be 29,976 gal/day. This fuel usage was factored into the emission factors to calculate the criteria pollutant quantities listed in the regulated pollutant table.

The boilers have a fuel meter that indicates actual number of gallons used. This quantity will be used to determine actual emissions.

2.1.4.5.2 Radionuclide Emissions—Not required since there are no radionuclide emissions from this emission unit.

Figure IV-2-8. State Operating Permit Application Form.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A — GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION
CPP - 606 - 063	**Boiler**	CPP - 606
MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED
Cleaver Brooks	**CBLE 200-700-200**	**July 2000**

RATED CAPACITY (CHOOSE APPROPRIATE UNITS)

MILLION BTU/HOUR		THOUSAND LB/HR STEAM		KILOWATTS		HORSEPOWER
36.4	OR		OR		OR	

BURNER TYPE	PERCENT USED FOR PROCESS	PERCENT USED FOR SPACE HEAT
Firetube	**50**	**50**

(1) BURNER TYPES: 01) SPREADER STOKER, 02) CHAIN OR TRAVELING GRATE, 03) HAND FIRED, 04) CYLONE FURNACE, 05) WET BOTTOM (PULVERIZED COAL), 06) DRY BOTTOM (PULVERIZED COAL), 07) UNDERFEED STOKER, 08) TANGENTIALLY FIRED, 09) HORIZONTALLY FIRED, 10) AXIALLY FIRED, 11) OTHER (SPECIFY TO THE RIGHT):

Air Atomizing

FUEL DATA

PARAMETER	PRIMARY FUEL	UNITS	SECONDARY FUEL	UNITS
FUEL CODE (2)	**02**		**NA**	
PERCENT SULFUR	**0.3**		**NA**	
PERCENT ASH	—		**NA**	
PERCENT NITROGEN	—		**NA**	
PERCENT CARBON	—		**NA**	
PERCENT HYDROGEN	—		**NA**	
PERCENT MOISTURE	—		**NA**	
HEAT CONTENT (BTU/UNIT)	**140000**	**Btu/gal**	**NA**	**NA**
MAXIMUM HOURLY COMBUSTION RATE (UNITS/HR)	**260**	**gallons**	**NA**	**NA**
NORMAL ANNUAL COMBUSTION RATE (UNITS/YR)	**2277600**	**gallons**	**NA**	**NA**

(2) FUEL CODES 01) NATURAL GAS, 02) #1 OR #2 FUEL OIL, 03) #4 FUEL OIL, 04) #5 FUEL OIL, 05) USED OIL, 06) WOOD CHIPS, 07) WOOD BARK, 08) WOOD SHAVINGS, 09) SANDER DUST, 10) SUBBITUMINOUS COAL, 11) BITUMINOUS COAL, 12) ANTHRACITE COAL, 13) LIGNITE COAL, 14) PROPANE, 15) OTHER (SPECIFY TO THE RIGHT):

Figure IV-2-8. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
41	27	5	27

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT
Flue Gas Recirculation (FGR) - NO_x

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4,919	343.81	4,826.08	02

STACK EXIT HEIGHT ROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (F)
50	24	14121	375

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ESTIMATED OR MEASURED EMISSIONS (TON/YR)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (LB/DAY)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (TON/YR)	REFERENCE
Carbon monoxide	NA	5 lb/1000 gal	NA	1.3 lb/hr	5.7 ton/yr	NA	—	NA
Nitrogen oxides	NA	20 lb/1000 gal	20	4.2 lb/hr	18.2 ton/yr	599.5	98.6	PSD PTC 023-00001
Particulate	NA	2 lb/1000 gal	NA	0.5 lb/hr	2.3 ton/yr	NA	—	NA
Sulfur oxides	NA	43.2 lb/1000 gal	NA	11.2 lb/hr	49.2 ton/yr	1295	213	PSD PTC 023-00001
Beryllium	440-41-7	3 lb/10^{12} Btu	NA	1.1E-04 lb/hr	4.8E-04 ton/yr	1.26E-02	2.30E-03	PSD PTC 023-00001
VOC-Nonmethane	NA	0.2 lb/1,000 gal	NA	0.05 lb/hr	0.2 ton/yr	NA	—	NA
Lead	7439-92-1	9 lb/10^{12} Btu	NA	3.3E-04 lb/hr	1.4E-03 ton/yr	NA	---	NA

a. IN LB/UNITS. Use same hourly UNITS given in PROCESSING DATA

Note: The normal INEEL heating season is 41 weeks. The maximum schedule shown allows for flexibility for unusual weather and off-season maintenance.

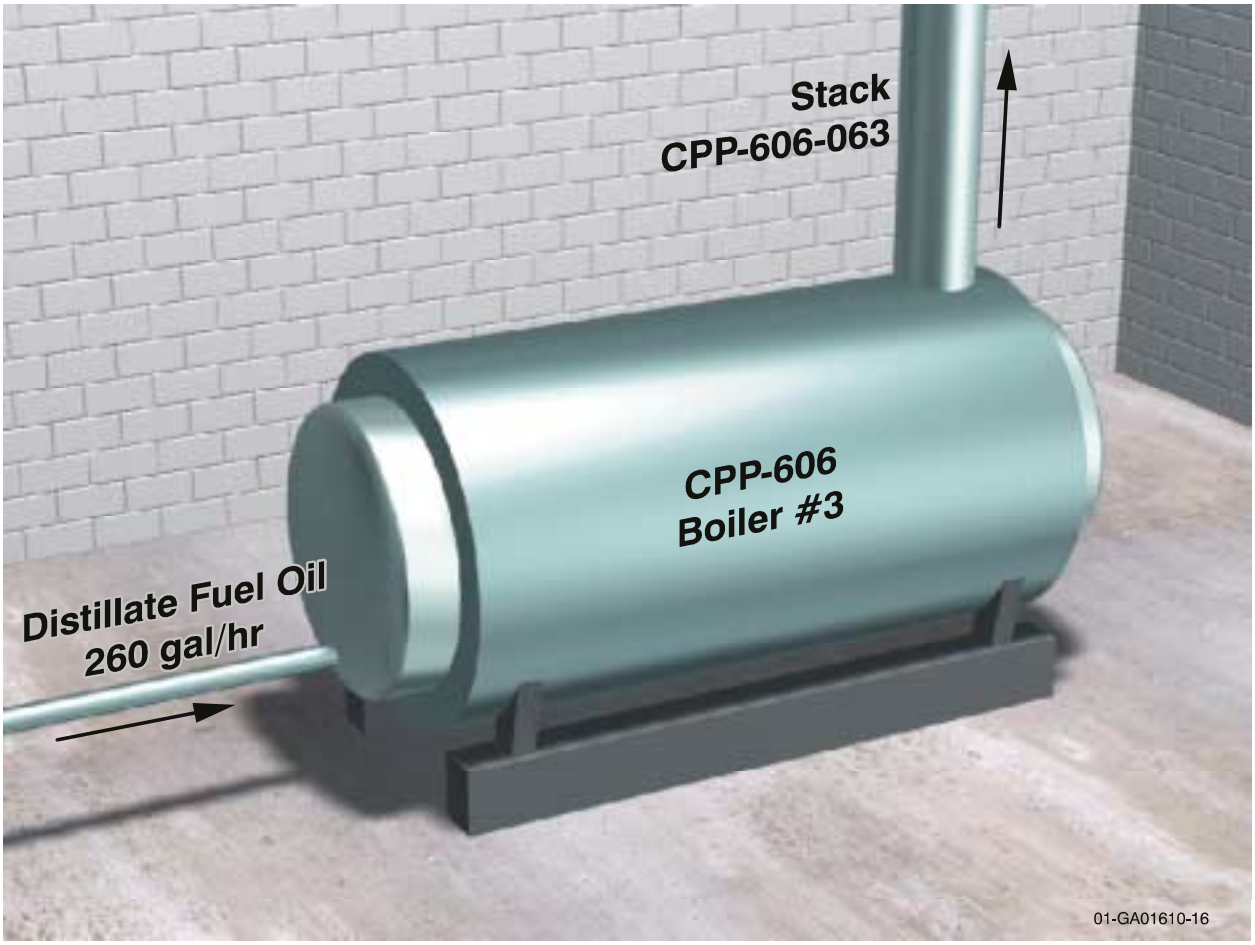


Figure IV-2-9. Process flow diagram for CPP-606-063.

Emission Point Number: CPP-606-063

REQUIREMENT 1

Requirement: Emission limit of 599.5 lbs/day NO_x, 109.4 tons/yr (at 8760 hours/yr) NO_x.[1] These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: NO_x

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: NO_x emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

[1] Numerical correction based on current permit to construct

Figure IV-2-10. Compliance Certification Form (method of compliance).

Emission Point Number: CPP-606-063

REQUIREMENT 2

Requirement: Emission limit of 1295.0 lbs/day SO_2; 236.33 tons/yr (at 8760 hours/yr) SO_2.[1] These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: SO_2

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, fuel oil vendor certifications for sulfur content, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, each fuel shipment for vendor certifications, annually for emissions

REPORTING

Generally describe what is reported: Fuel oil certifications from the fuel supplier, which document and verify fuel used in the boilers meet the 0.3% sulfur content. SO_2 emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Biannually for the fuel oil certifications, annually for the Air Emission Inventory.

Beginning date: TBD, May 2001 for Air Emissions Inventory

[1] Numerical correction based on current permit to construct

Figure IV-2-10. (continued).

Emission Point Number: CPP-606-063

REQUIREMENT 3

Requirement: Emission limit of 1.26E-02 lbs/day Beryllium; 2.30E-03 tons/yr Beryllium. These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 “Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler.”

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: Beryllium

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: Beryllium emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

Figure IV-2-10. (continued).

2.1.5 CPP-606-064 Specific Information

See Figure IV-2-11 for the state operating permit application forms for this source.

2.1.5.1 Process Description. CPP-606 Boiler 4 produces steam for the INTEC facilities for space heating, jetting, sparging, decontamination, and process heating. Boiler description information is on the application forms.

This boiler is operated based on demand for steam. Actual operating times depend on other boiler operation, weather conditions, and the demand for steam at the INTEC.

See Figure IV-2-12 for the process flow diagram for this source. Control equipment used with this source includes FGR for the control of nitrogen oxide emissions. No emission monitoring equipment is required for this source.

2.1.5.2 Maximum Regulated Pollutant Emissions. The following list describes pollutants potentially emitted from this source. The quantities listed for nonradionuclide emissions represent releases based on the maximum allowable operating capacity associated with this emission point.

Pollutant	CAS	Maximum annual emission	Units	Criteria pollutant
Sulfur oxides	NA	49.2	ton/yr	X
Nitrogen oxides	NA	18.2	ton/yr	X
Particulate matter	NA	2.3	ton/yr	X
Carbon monoxide	NA	5.7	ton/yr	X
VOC	NA	0.2	ton/yr	X
Lead	7439-92-1	1.4E-03	ton/yr	X
Beryllium	440-41-7	0.00048	ton/yr	—

2.1.5.3 Compliance Requirements

2.1.5.3.1 Permitted Emission Limits—This source must comply with the following limits. Emission limits listed below include the operation of all fuel-burning sources at CPP-606, which include CPP-606-61, -62, -63, -64, and -65. These emission units are permitted under Idaho DEQ PSD PTC for Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (Permit No. 023-00001).

Pollutants	CAS	Emission limit	Units
Nitrogen oxide	—	599.5	lb/day
	—	98.6	ton/yr
Sulfur dioxide	—	1295.0	lb/day
	—	213.0	ton/yr
Beryllium	440-41-7	1.26E-02	lb/day
	440-41-7	2.30E-03	ton/yr

2.1.5.3.2 Existing Permit Requirements—Following are the permit-related enforceable requirements specific to the four boilers inside CPP-606, as well as the INTEC portable boiler adjacent to CPP-606. These sources are regulated by conditions in State of Idaho Permit to Construct 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler PSD PTC. The most restrictive requirement identified in both IDAPA and EPA regulations will be applied.

- The boilers shall not have emissions of NO_x greater than 599.5 lb/day and 98.6 ton/yr.
- The boilers shall not have emissions of SO_2 greater than 1295.0 lb/day and 213.0 ton/yr.
- The boilers shall not have emissions of beryllium greater than 1.26E-02 lb/day and 2.30E-03 ton/yr.
- The boilers shall combust distillate oil containing no greater than 0.3 weight percent sulfur.
- The total amount of boiler fuel combusted for all boilers shall not exceed 29,976 gal/day.
- The boilers shall not discharge particulate matter emissions in excess of 0.050 grains per dry standard cubic foot corrected to 3% oxygen.
- The boilers shall not discharge into the atmosphere emissions that exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period.

2.1.5.3.3 Other Enforceable Requirements—The following requirements are identified by New Source Performance Standard (NSPS) 40 CFR 60 Subpart Dc. The most restrictive requirement identified in either IDAPA or EPA regulations will be applied.

- Emissions shall not exhibit greater than 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. This opacity standard is applicable at all times except startup, shutdown, or malfunction. See compliance methodology form in Section 5.1 of Volume I.
- The boilers shall combust distillate oil containing no greater than 0.5 weight percent sulfur.

2.1.5.4 Compliance Methodology and Status

2.1.5.4.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as determined by methods described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.1.5.4.2 Compliance Methodology Forms—See Figure IV-2-13.

2.1.5.5 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.1.5.5.1 Nonradionuclide Emissions—The calculation methodologies used to determine the emissions from the boiler are detailed in Volume I, Appendix C. The emission factors taken from AP-42 and the maximum continuous rating of steam per hour pertaining to this boiler are described in the application forms. The maximum allowable sulfur content, 0.3%, was used as part of the SO_x calculation. NO_x calculations assumed an emissions control factor of 20% for the use of FGR burners. The boilers were assumed to operate 365 days per year and 24 hours each day.

Maximum fuel consumption for the four CPP-606 boilers and the INTEC portable boiler was calculated to be 29,976 gal/day. This fuel usage was factored into the emission factors to calculate the criteria pollutant quantities listed in the regulated pollutant table.

The boilers have a fuel meter that indicates actual number of gallons used. This quantity will be used to determine actual emissions.

2.1.5.5.2 Radionuclide Emissions—Not required since there are no radionuclide emissions from this emission unit.

Figure IV-2-11. State Operating Permit Application Form.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A — GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 606 - 064	**Boiler**	CPP - 606	
MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED	
Cleaver Brooks	**CBLE 200-700-200**	**July 2000**	

RATED CAPACITY (CHOOSE APPROPRIATE UNITS)

MILLION BTU/HOUR		THOUSAND LB/HR STEAM		KILOWATTS		HORSEPOWER
36.4	OR		OR		OR	
BURNER TYPE	PERCENT USED FOR PROCESS	PERCENT USED FOR SPACE HEAT				
Firetube	**50**	**50**				

(1) BURNER TYPES: 01) SPREADER STOKER, 02) CHAIN OR TRAVELING GRATE, 03) HAND FIRED, 04) CYLONE FURNACE, 05) WET BOTTOM (PULVERIZED COAL), 06) DRY BOTTOM (PULVERIZED COAL), 07) UNDERFEED STOKER, 08) TANGENTIALLY FIRED, 09) HORIZONTALLY FIRED, 10) AXIALLY FIRED, 11) OTHER (SPECIFY TO THE RIGHT):

Air Atomizing

FUEL DATA

PARAMETER	PRIMARY FUEL	UNITS	SECONDARY FUEL	UNITS
FUEL CODE (2)	**02**		**NA**	
PERCENT SULFUR	**0.3**		**NA**	
PERCENT ASH	—		**NA**	
PERCENT NITROGEN	—		**NA**	
PERCENT CARBON	—		**NA**	
PERCENT HYDROGEN	—		**NA**	
PERCENT MOISTURE	—		**NA**	
HEAT CONTENT (BTU/UNIT)	**140000**	**Btu/gal**	**NA**	**NA**
MAXIMUM HOURLY COMBUSTION RATE (UNITS/HR)	**260**	**gallons**	**NA**	**NA**
NORMAL ANNUAL COMBUSTION RATE (UNITS/YR)	**2277600**	**gallons**	**NA**	**NA**

(2) FUEL CODES 01) NATURAL GAS, 02) #1 OR #2 FUEL OIL, 03) #4 FUEL OIL, 04) #5 FUEL OIL, 05) USED OIL, 06) WOOD CHIPS, 07) WOOD BARK, 08) WOOD SHAVINGS, 09) SANDER DUST, 10) SUBBITUMINOUS COAL, 11) BITUMINOUS COAL, 12) ANTHRACITE COAL, 13) LIGNITE COAL, 14) PROPANE, 15) OTHER (SPECIFY TO THE RIGHT):

Figure IV-2-11. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
41	27	5	27

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT
Flue Gas Recirculation (FGR) - NO_x

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4,919	343.81	4,826.08	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (F)
50	24	14121	375

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ESTIMATED OR MEASURED EMISSIONS (TON/YR)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (LB/DAY)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (TON/YR)	REFERENCE
Carbon monoxide	NA	5 lb/1000 gal	NA	1.3 lb/hr	5.7 ton/yr	NA	—	NA
Nitrogen oxides	NA	20 lb/1000 gal	20	4.2 lb/hr	18.2 ton/yr	599.5	98.6	PSD PTC 023-00001
Particulate	NA	2 lb/1000 gal	NA	0.5 lb/hr	2.3 ton/yr	NA	—	NA
Sulfur oxides	NA	43.2 lb/1000 gal	NA	11.2 lb/hr	49.2 ton/yr	1295	213	PSD PTC 023-00001
Beryllium	440-41-7	3 lb/10^{12} Btu	NA	1.1E-04 lb/hr	4.8E-04 ton/yr	1.26E-02	2.30E-03	PSD PTC 023-00001
VOC-Nonmethane	NA	0.2 lb/1,000 gal	NA	0.05 lb/hr	0.2 ton/yr	NA	—	NA
Lead	7439-92-1	9 lb/10^{12} Btu	NA	3.3E-04 lb/hr	1.4E-03 ton/yr	NA	---	NA

a. IN LB/UNITS. Use same hourly UNITS given in PROCESSING DATA

Note: The normal INEEL heating season is 41 weeks. The maximum schedule shown allows for flexibility for unusual weather and off-season maintenance.

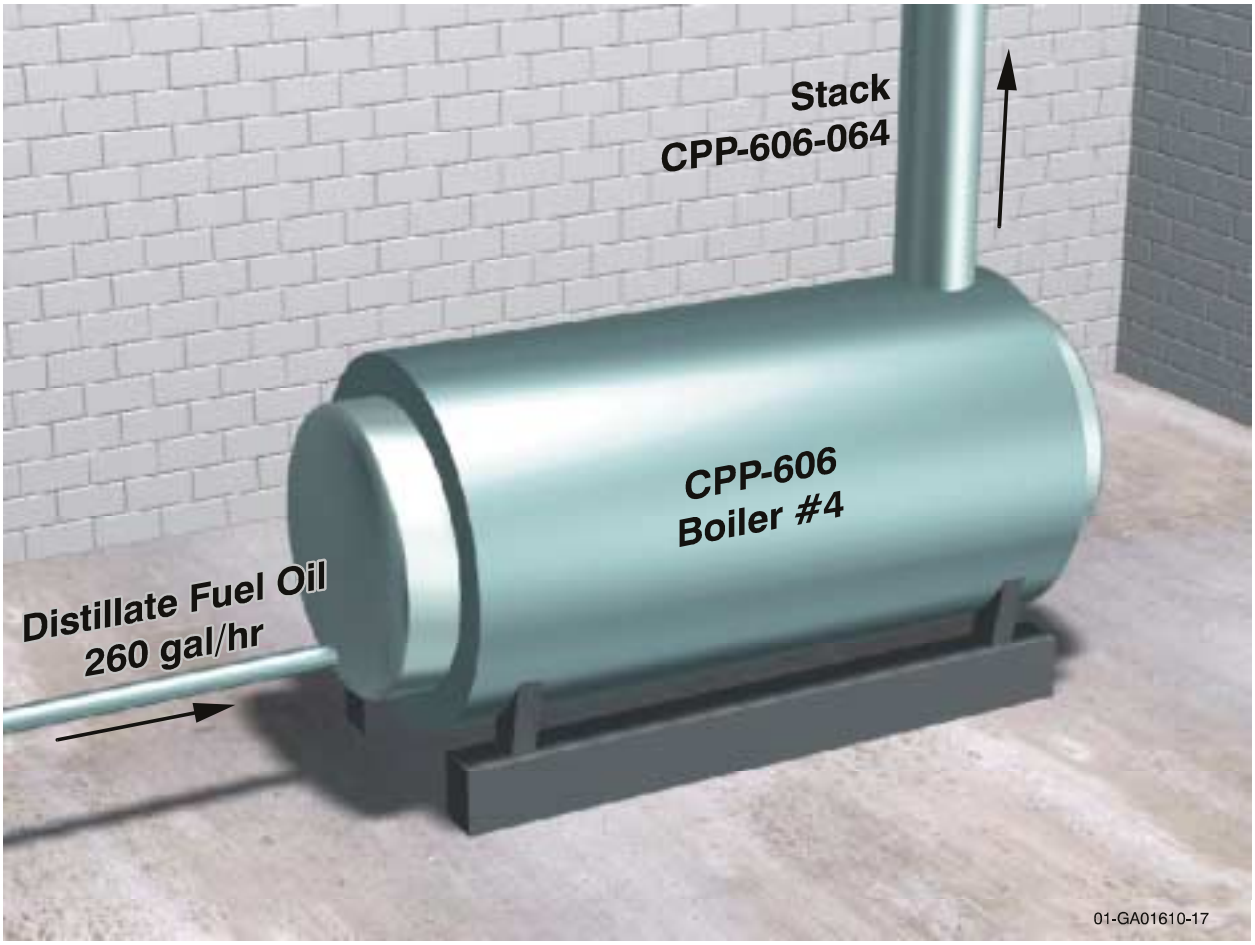


Figure IV-2-12. Process flow diagram for CPP-606-064.

Emission Point Number: CPP-606-064

REQUIREMENT 1

Requirement: Emission limit of 599.5 lbs/day NO_x; 109.4 ton/yr (at 8760 hours/yr) NO_x.[1] These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: NO_x

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: NO_x emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

[1] Numerical correction based on current permit to construct

Figure IV-2-13. Compliance Certification Form (method of compliance).

Emission Point Number: CPP-606-064

REQUIREMENT 2

Requirement: Emission limit of 1295.0 lbs/day SO_2; 236.33 tons/yr (at 8760 hours/yr) SO_2.[1] These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: SO_2

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, fuel oil vendor certifications for sulfur content, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, each fuel shipment for vendor certifications, annually for emissions

REPORTING

Generally describe what is reported: Fuel oil certifications from the fuel supplier, which document and verify fuel used in the boilers meet the 0.3% sulfur content. SO_2 emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Biannually for the fuel oil certifications, annually for the Air Emission Inventory.

Beginning date: TBD, May 2001 for Air Emissions Inventory

[1] Numerical correction based on current permit to construct

Figure IV-2-13. (continued).

Emission Point Number: CPP-606-064

REQUIREMENT 3

Requirement: Emission limit of 1.26E-02 lbs/day Beryllium; 2.30E-03 tons/yr Beryllium. These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 “Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler.”

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: Beryllium

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: Beryllium emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

Figure IV-2-13. (continued).

2.1.6 CPP-606-065 Specific Information

See Figure IV-2-14 for the state operating permit application forms for this source.

2.1.6.1 Process Description. The INTEC portable boiler produces steam for the INTEC facilities for space heating, jetting, sparging, decontamination, and process heating. The boiler is on the north side of CPP-606. Boiler description information is on the application forms.

This boiler is operated based on demand for steam. Actual operating times depend on other boiler operation, weather conditions, and the demand for steam at the INTEC.

See Figure IV-2-15 for the process flow diagram for this source. Control equipment used with this source includes FGR for the control of nitrogen oxide emissions. No emission monitoring equipment is required for this source.

2.1.6.2 Maximum Regulated Pollutant Emissions. The following list describes pollutants potentially emitted from this source. The quantities listed for nonradionuclide emissions represent releases based on the maximum allowable operating capacity associated with this emission point.

Pollutant	CAS	Maximum annual emission	Units	Criteria pollutant
Sulfur oxides	NA	39.5	ton/yr	X
Nitrogen oxides	NA	14.6	ton/yr	X
Particulate matter	NA	1.8	ton/yr	X
Carbon monoxide	NA	4.6	ton/yr	X
VOC	NA	0.2	ton/yr	X
Lead	7439-92-1	1.2E-03	ton/yr	X
Beryllium	440-41-7	3.9E-04	ton/yr	—

2.1.6.3 Compliance Requirements

2.1.6.3.1 Permitted Emission Limits—This source must comply with the following limits. Emission limits listed below include the operation of all fuel burning sources at CPP-606, which include CPP-606-61, -62, -63, -64, and -65. These emission units are permitted under Idaho DEQ PSD PTC for Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (Permit No. 023-00001).

Pollutants	CAS	Emission limit	Units
Nitrogen oxide	—	599.5	lb/day
	—	98.6	ton/yr
Sulfur dioxide	—	1295.0	lb/day
	—	213.0	ton/yr
Beryllium	440-41-7	1.26E-02	lb/day
	440-41-7	2.30E-03	ton/yr

2.1.6.3.2 Existing Permit Requirements—Following are the permit-related enforceable requirements specific to the four boilers inside CPP-606, as well as the INTEC portable boiler adjacent to CPP-606. These sources are regulated by conditions in State of Idaho Permit to Construct 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler PSD PTC. The most restrictive requirement identified in both IDAPA and EPA regulations will be applied.

- The boilers shall not have emissions of NO_x greater than 599.5 lb/day and 98.6 ton/yr.
- The boilers shall not have emissions of SO_2 greater than 1295.0 lb/day and 213.0 ton/yr.
- The boilers shall not have emissions of beryllium greater than 1.26E-02 lb/day and 2.30E-03 ton/yr.
- The boilers shall combust distillate oil containing no greater than 0.3 weight percent sulfur.
- The total amount of boiler fuel combusted for all boilers shall not exceed 29,976 gal/day.
- The boilers shall not discharge particulate matter emissions in excess of 0.050 grains per dry standard cubic foot corrected to 3% oxygen.
- The boilers shall not discharge into the atmosphere emissions that exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period.

2.1.6.3.3 Other Enforceable Requirements—The following requirements are identified by New Source Performance Standard (NSPS) 40 CFR 60 Subpart Dc. The most restrictive requirement identified in either IDAPA or EPA regulations will be applied.

- Emissions shall not exhibit greater than 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. This opacity standard is applicable at all times except startup, shutdown, or malfunction. See compliance methodology form in Section 5.1 of Volume I.
- The boilers shall combust distillate oil containing no greater than 0.5 weight percent sulfur.

2.1.6.4 Compliance Methodology and Status

2.1.6.4.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as determined by methods described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.1.6.4.2 Compliance Methodology Forms—See Figure IV-2-16.

2.1.6.5 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.1.6.5.1 Nonradionuclide Emissions—The calculation methodologies used to determine the emissions from the boiler are detailed in Volume I, Appendix C. The emission factors taken from AP-42 and the maximum continuous rating of steam per hour pertaining to this boiler are described in the application forms. The maximum allowable sulfur content, 0.3%, was used as part of the SO_x calculation. NO_x calculations assumed an emissions control factor of 20% for the use of FGR burners. The boilers were assumed to operate 365 days per year and 24 hours each day.

Maximum fuel consumption for the four CPP-606 boilers and the INTEC portable boiler was calculated to be 29,976 gal/day. This fuel usage was factored into the emission factors to calculate the criteria pollutant quantities listed in the regulated pollutant table.

The boilers have a fuel meter that indicates actual number of gallons used. This quantity will be used to determine actual emissions.

2.1.6.5.2 Radionuclide Emissions—Not required since there are no radionuclide emissions from this emission unit.

Figure IV-2-14. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 606 - 065	**Boiler**	CPP - 606	
MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED	
Donlee	**Model #582**	**July 2000**	

RATED CAPACITY (CHOOSE APPROPRIATE UNITS)

MILLION BTU/HOUR		THOUSAND LB/HR STEAM		KILOWATTS		HORSEPOWER
29.3	OR		OR		OR	

BURNER TYPE	PERCENT USED FOR PROCESS	PERCENT USED FOR SPACE HEAT
Firetube	**50**	**50**

(1) BURNER TYPES: 01) SPREADER STOKER, 02) CHAIN OR TRAVELING GRATE, 03) HAND FIRED, 04) CYLONE FURNACE, 05) WET BOTTOM (PULVERIZED COAL), 06) DRY BOTTOM (PULVERIZED COAL), 07) UNDERFEED STOKER, 08) TANGENTIALLY FIRED, 09) HORIZONTALLY FIRED, 10) AXIALLY FIRED, 11) OTHER (SPECIFY TO THE RIGHT):

Air Atomizing

FUEL DATA

PARAMETER	PRIMARY FUEL	UNITS	SECONDARY FUEL	UNITS
FUEL CODE (2)	**02**		**NA**	
PERCENT SULFUR	**0.3**		**NA**	
PERCENT ASH	—		**NA**	
PERCENT NITROGEN	—		**NA**	
PERCENT CARBON	—		**NA**	
PERCENT HYDROGEN	—		**NA**	
PERCENT MOISTURE	—		**NA**	
HEAT CONTENT (BTU/UNIT)	**140000**	**Btu/gal**	**NA**	**NA**
MAXIMUM HOURLY COMBUSTION RATE (UNITS/HR)	**209**	**gallons**	**NA**	**NA**
NORMAL ANNUAL COMBUSTION RATE (UNITS/YR)	**1830840**	**gallons**	**NA**	**NA**

(2) FUEL CODES 01) NATURAL GAS, 02) #1 OR #2 FUEL OIL, 03) #4 FUEL OIL, 04) #5 FUEL OIL, 05) USED OIL, 06) WOOD CHIPS, 07) WOOD BARK, 08) WOOD SHAVINGS, 09) SANDER DUST, 10) SUBBITUMINOUS COAL, 11) BITUMINOUS COAL, 12) ANTHRACITE COAL, 13) LIGNITE COAL, 14) PROPANE, 15) OTHER (SPECIFY TO THE RIGHT):

Figure IV-2-14. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
41	27	5	27

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT
Flue Gas Recirculation (FGR) - NO_x

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4,919	343.81	4,826.08	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (F)
25	24	11367	375

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ESTIMATED OR MEASURED EMISSIONS (TON/YR)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (LB/DAY)	ALLOWABLE EMISSIONS (all permitted CPP-606 boilers combined) (TON/YR)	REFERENCE
Carbon monoxide	NA	5 lb/1000 gal	NA	1.0 lb/hr	4.6 ton/yr	NA	—	NA
Nitrogen oxides	NA	20 lb/1000 gal	20	3.3 lb/hr	14.6 ton/yr	599.5	98.6	PSD PTC 023-00001
Particulate	NA	2 lb/1000 gal	NA	0.4 lb/hr	1.8 ton/yr	NA	—	NA
Sulfur oxides	NA	43.2 lb/1000 gal	NA	9.0 lb/hr	39.5 ton/yr	1295	213	PSD PTC 023-00001
Beryllium	440-41-7	3 lb/10^{12} Btu	NA	8.8E-05 lb/hr	3.9E-04 ton/yr	1.26E-02	2.30E-03	PSD PTC 023-00001
VOC-Nonmethane	NA	0.2 lb/1,000 gal	NA	0.04 lb/hr	0.2 ton/yr	NA	—	NA
Lead	7439-92-1	9 lb/10^{12} Btu	NA	2.6E-04 lb/hr	1.2E-03 ton/yr	NA	---	NA

a. IN LB/UNITS. Use same hourly UNITS given in PROCESSING DATA

Note: The normal INEEL heating season is 41 weeks. The maximum schedule shown allows for flexibility for unusual weather and off-season maintenance.

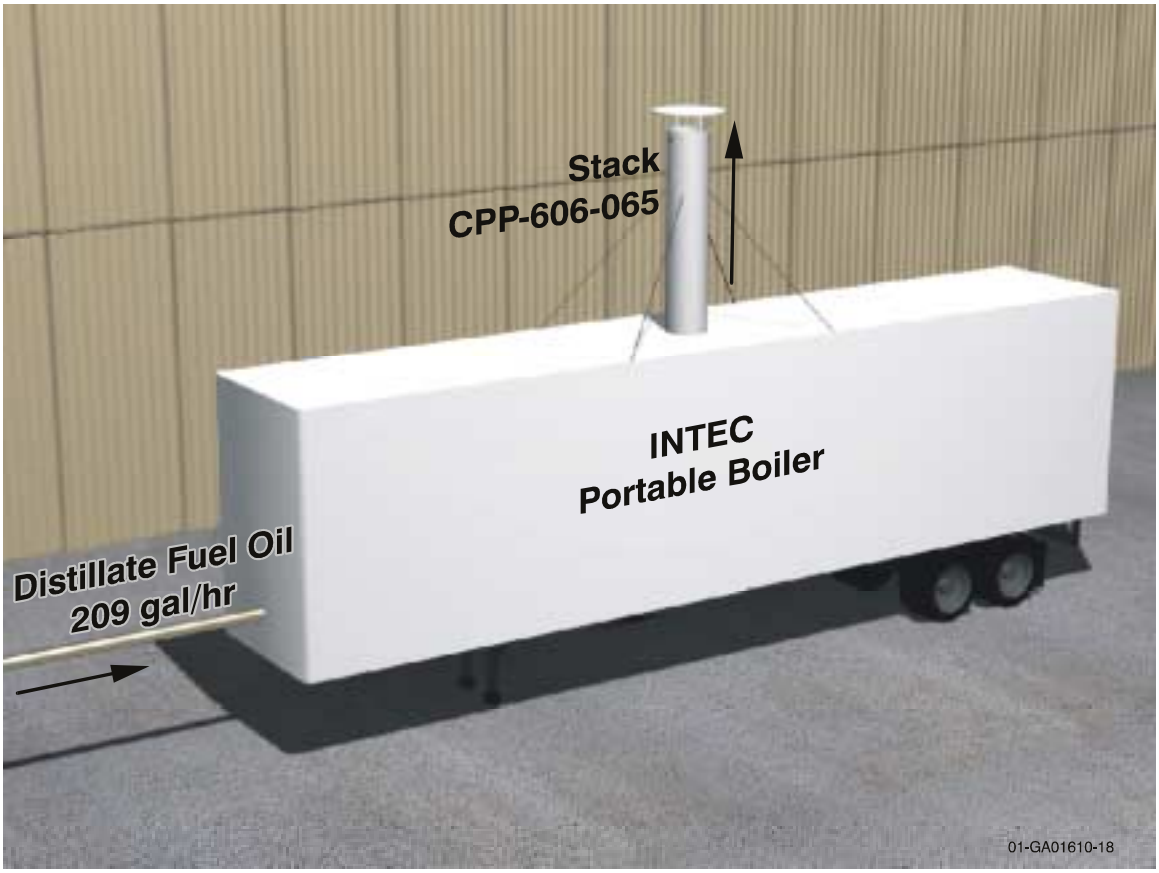


Figure IV-2-15. Process flow diagram for CPP-606-065.

Emission Point Number: CPP-606-065

REQUIREMENT 1

Requirement: Emission limit of 599.5 lbs/day NO_x; 98.6 tons/yr NO_x. These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: NO_x

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: NO_x emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

Figure IV-2-16. Compliance Certification Form (method of compliance).

Emission Point Number: CPP-606-065

REQUIREMENT 2

Requirement: Emission limit of 1295.0 lbs/day SO_2; 213.0 tons/yr SO_2. These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 "Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler."

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: SO_2

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, fuel oil vendor certifications for sulfur content, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, each fuel shipment for vendor certifications, annually for emissions

REPORTING

Generally describe what is reported: Fuel oil certifications from the fuel supplier, which document and verify fuel used in the boilers meet the 0.3% sulfur content. SO_2 emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Biannually for the fuel oil certifications, annually for the Air Emission Inventory.

Beginning date: TBD, May 2001 for Air Emissions Inventory

Figure IV-2-16. (continued).

Emission Point Number: CPP-606-062

REQUIREMENT 3

Requirement: Emission limit of 1.26E-02 lbs/day Beryllium; 2.30E-03 tons/yr Beryllium. These are cumulative emission limits associated with the operation of five (5) boilers as listed in permit PSD PTC 023-00001 “Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler.”

Requirement basis: PSD PTC 023-00001, Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler (06/26/2000)

Compliance method type: Recordkeeping, calculations

REFERENCE TEST METHOD

Reference test method description: NA

MONITORING

Monitoring device type: Fuel use meter

Monitor location description: Burner fuel feed line

Regulated air pollutant being monitored: Beryllium

Generally describe the frequency and duration of sampling and how the data will be reported: Fuel use will be continuously monitored and monitoring results used for yearly emissions estimates. Fuel use data will be available upon request.

RECORDKEEPING

Data (parameter) being recorded: Gallons of fuel used, results of emission calculations

Frequency of recordkeeping (how often data recorded): Continuously for fuel use, annually for emissions

REPORTING

Generally describe what is reported: Beryllium emissions will be reported annually in the Air Emissions Inventory Report.

Frequency of reporting: Annually

Beginning date: May 2001

Figure IV-2-16. (continued).

2.2 CPP-637, Technical Process Development Complex

2.2.1 General Description

The technical process development complex (CPP-620/637/CPP-1634) consists of experimental facilities including pilot plants and laboratories. The experimental facilities at INTEC are used to test and evaluate new equipment, processes, current equipment process modifications, improvements, and to provide solutions for INTEC technical problems. The specific process development facilities in this section encompass the following:

- Chemical engineering lab high-bay facility/pilot plant area (CPP-620)
- Hazardous chemical waste handling and neutralization facility (CPP-620 Annex)
- Process improvement facility including the low-bay/pilot plant area (CPP-637)
- Technology development facility (CPP-1634).

CPP-620 and CPP-637 are physically the same building, but the names of building areas have varied in the past. The buildings listed above include the high bay (CPP-620), the low bay (CPP-637), and the high-low bay (CPP-620) as shown in Figure IV-2-17. The high-low bay and the high bay can collectively be called CPP-620 high-low bay and high bay. The high-low bay is also called the waste management development laboratories. The low bay can be referred to as CPP-637. For this permit and future use the pilot-plant stack identification numbers will all be referred to as 637.

Mockups, pilot plants, and experiments in the above facilities may include but are not limited to sampling, reacting, mixing, heating, dissolving, pumping or jetting, complexing, settling, and calcining. The types of experiments in these laboratories evolve as INTEC requirements dictate and programs change. After equipment is developed or a pilot-plant demonstration is done, the module is usually dismantled to make way for other experiments. The following examples of processes and/or operations are typical CPP-637 programs.

Aqueous Research

- Dissolution
- Solvent Extraction
- Liquid-Solid Studies
- Neutralization
- Separation for Waste Treatment

Fluidized Bed Research

- Calcination
- Combustion
- Particulate Studies
- Solid-Gas Studies
- Immobilization Studies

Miscellaneous Tests and Evaluations

- Nozzle and Atomization Tests
- Particle Property Measurements
- Instrument and Equipment Evaluations
- Computer Applications
- Corrosion Tests
- NO_x Abatement Tests
- Waste Handling for Pilot Plant and Lab Waste

The INTEC permit to construct (PTC) 023-00001, "Idaho Chemical Processing Plant Pilot Plants" regulates the pilot plants by specific pilot plant and enclosure, but several of these sources in CPP-620/637 have been physically dismantled or they were constructed differently than stated in the PTC. Consistent with policy, modifying the PTC to reflect the changes was not required because the changes did not affect emissions. An application to modify the original PTC (PTC 0340-0001) was submitted to update and clarify process descriptions and to remove emission limits on pollutants emitted in quantities below regulatory concern. This section (Section 2.2) reflects the DEQ-approved changes and BRC determinations in the modified PTC 023-00001, "Idaho Chemical Processing Plant Pilot Plants" of August 8, 1996. As a result of the requested modification to the PTC, HEPA filter requirements were also removed since use of radionuclides in the processes is no longer required. Since there are no

requirements for HEPA filters, this section does not address HEPA filters except by including them in the process flow diagrams and only because they have not been removed from the process.

Figure IV-2-17 shows the CPP-620/637 plan view with the stack locations. The hazardous chemical waste handling facility located in CPP-620 Annex has never operated. It currently is in the process of administrative closure.

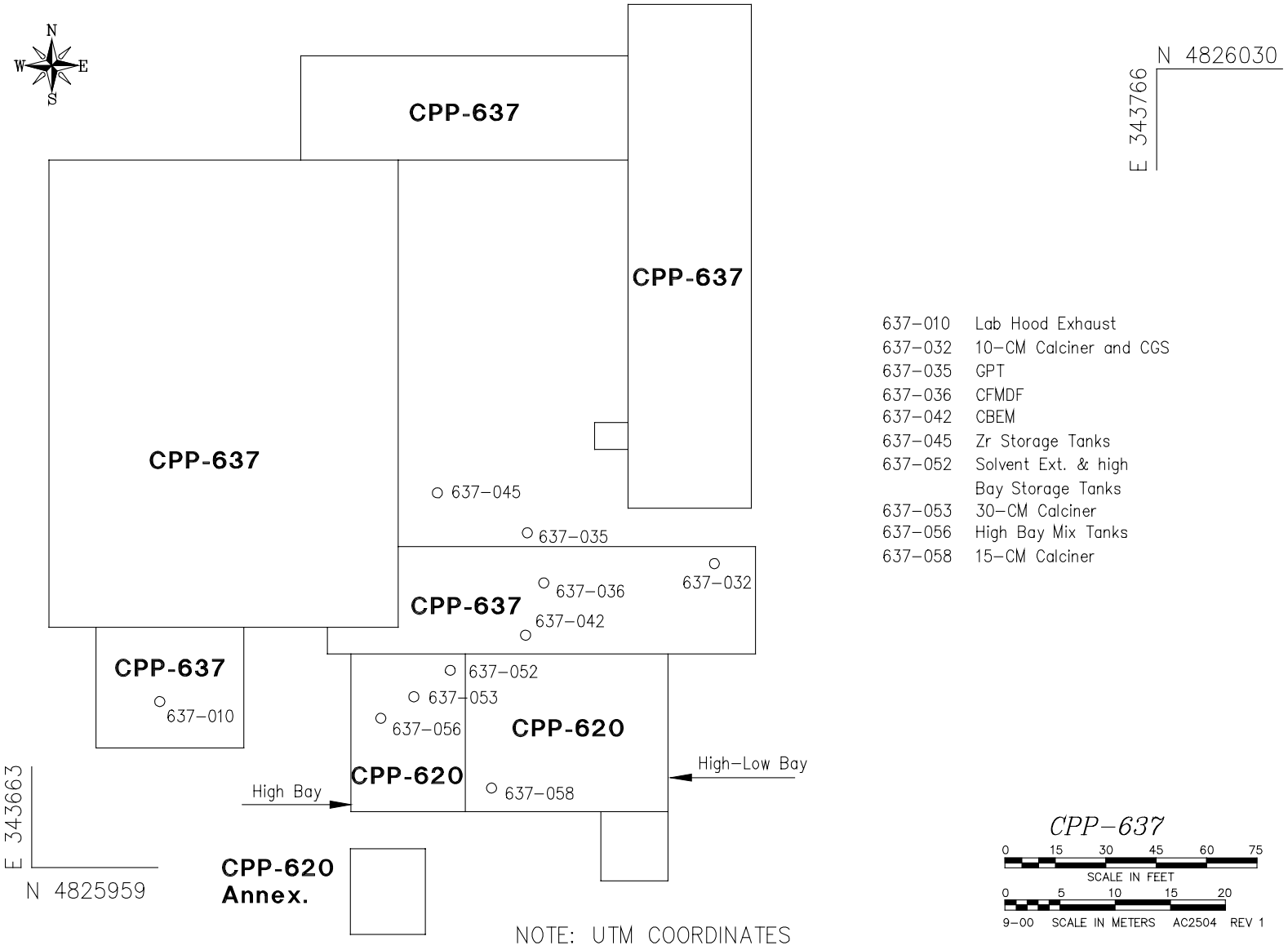


Figure IV-2-17. Plan view of CPP-620/637.

2.2.2 CPP-637-032 Specific Information

CPP-637-032 exhausts the 10-cm calciner module pilot plant and the calcine grinder setup (CGS). See Figure IV-2-18 for the state operating permit application forms for this source.

2.2.2.1 Process Description. The CPP-637 low-bay laboratory contains the enclosed 10-cm calciner pilot plant. The enclosed 10-cm calciner pilot plant is used for calcination flow sheet development studies related to the conversion of liquid radioactive waste to solid calcine. The pilot plant uses only simulated (nonradioactive) waste and is fueled by kerosene. It is also used to produce simulated calcine for other experiments. Figure IV-2-19 shows the process flow diagram for this source.

In the fluidizing bed calcination process, a heated bed of particles is fluidized by blowing air up through a distributor plate. Simulated liquid waste solution (up to 3 liters per hour) is sprayed through atomizing nozzles into the bed. As the feed solution contacts the hot bed particles the liquid quickly evaporates and the remaining solid nitrate salts are converted to an oxide form. Chemical additives may also be mixed with the simulated waste feed prior to calcination to aid in the conversion of nitrate salts to oxides. The solid material coats the particles, causing them to increase in size. To provide process heat, kerosene and oxygen are sprayed into the bed through a second set of atomizing nozzles. The off-gas from the 10-cm calciner passes through a cyclone to remove larger particles and then flows to a venturi scrubber. The venturi scrubber has nitric acid solution circulated through it to cool the hot off-gas leaving the cyclone and remove additional particulate. The cooled off-gas then passes through another cyclone to remove entrained particles and droplets. Finally, the off-gas passes through a partial condenser and a final condenser to cool the off-gas and remove water vapor.

The 10-cm calciner process offgas can be vented any of three ways: (a) to the main stack (CPP-708-001) through the plant vessel off-gas (VOG) line, (b) to the main stack through the pilot plant VOG line, or (c) through the 10-cm calciner module, through a HEPA filter and then through the roof vent (CPP-637-032, see Figure IV-2-19). The plant VOG stream passes through a mist eliminator, a superheater, and a HEPA filter before entering the process atmospheric protection system and then the main stack. The pilot plant VOG passes through a superheater and a HEPA filter before entering the main stack.

The module ventilation, under normal operating conditions, contains no hazardous materials and is released directly through a HEPA Filter and the roof vent (CPP 637-032). The CGS is included in the process flow diagram. No control equipment is required for this source.

2.2.2.2 Maximum Regulated Pollutant Emissions—The following list describes regulated pollutants potentially emitted from this source

Pollutant	CAS	Maximum Annual Emissions	Annual	Criteria Pollutant
PM-10	NA	94E—07	tons/yr	X
NO_x	NA	1.03	tons/yr	X
CO	630-08-0	0.8	tons/yr	X
SO_x	NA	0.013	tons/yr	X
VOC_s	NA	0.33	tons/yr	X
HF/F	NA	2.04E—06	tons/yr	—
HNO_3	7697-37-2	5.71E—06	tons/yr	—

2.2.2.2.1 Existing Permit Requirements—Following is a list of all permit-related enforceable requirements specific to this source. This source is regulated by conditions in State of Idaho Permit to Construct 023-00001, 8/8/96, "10-cm, 15-cm and 30-cm Calciners."

- The simulated liquid waste solution feed rate to the 10-cm calciner shall not exceed any of the following: seventy-two liters per day (72 L/day); two thousand eight hundred eighty liters per year (2,880 L/yr).

- The permittee shall monitor and record, on a daily basis during operation, the daily feed rate of simulated liquid waste solution to the 10-cm calciner. The permittee shall also record, annually, the total amount of simulated liquid waste solution fed to the 10-cm calciner during the previous calendar year. All data shall be maintained on-site for the most recent two-year period and be made available to Department representatives upon request.

- The permittee shall submit a written report to the Department of all exceedences of any emission limit or operational requirement within five (5) days of the exceedence. The report shall contain the date, time and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

- All documents including but not limited to records, monitoring data, supporting information, testing records, or compliance certifications submitted to the Department shall contain a certification by a responsible official in accordance with IDAPA 58.01.01.123. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

2.2.2.2.2 Other Enforceable Requirements—The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I.

2.2.2.3 Compliance Methodology and Status

2.2.2.3.1 Compliance Plan—This source is in compliance, and will continue to comply, with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.2.2.3.2 Compliance Methodology Forms—See Figure IV-2-20.

2.2.2.4 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.2.2.4.1 Nonradionuclide Emissions—The calciner pilot plants reduce nitrates of metal salts in the feed solution to gaseous NO_x that is discharged in the off-gas, and metal oxides are retained as calcine. Water from the feed solution is vaporized and also goes into the off-gas. However, this water vapor is mostly condensed from the off-gas in the pilot plant. Emissions shown in section 2.2.2.2 are based on the emission summary located in Appendix A of the IDEQ Permit to Construct Technical Analysis dated June 12, 1996.

2.2.2.4.2 Radionuclide Emissions—Not required since there are no radionuclide emissions from this emission unit.

Figure IV-2-18. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 637 - 032	**Calcine Grinder/10-cm Calciner**	CPP - 637	
MANUFACTURER	MODEL		DATE INSTALLED OR LAST MODIFIED
NA	**NA**		**1992**

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPs IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-18. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25	25	25	25

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
10 CM CALC = 960 HRS/YRCGS = 800 HRS/YR		

POLLUTION CONTROL EQUIPMENT

PARAMETER	PRIMARY	SECONDARY
TYPE	HEPA Filters (10 cm) 2 HEPA (CGS)	NA
TYPE CODE (APPENDIX H)	101	NA
MANUFACTURER	Flanders or equivalent	NA
MODEL NUMBER	NA	NA
INLET TEMPERATURE (°F)	~86	NA
PRESSURE DROP (INCHES H_2O)	3 max	NA
WET SCRUBBER FLOW (GPM)	NA	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA	NA

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4,915	343.72	4,825.98	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
27	14	2400	~86

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (TONS/YR)	ALLOWABLE EMISSIONS (LB/HR)	ALLOWABLE EMISSIONS (TON/YR)	REFERENCE
PM-10	NA			9.4E—07			
NO_x	NA			1.03			
CO	630-08-0			0.8			
SO_x	NA			0.013			
VOCs	NA			0.33			
HF/F	NA			2.04E—06			
HNO_3	7697-37-2			5.71E—06			

a. Emissions for particulates have been totaled to include both the CGS and 10-cm calciner. The CGS has double HEPA filtration.

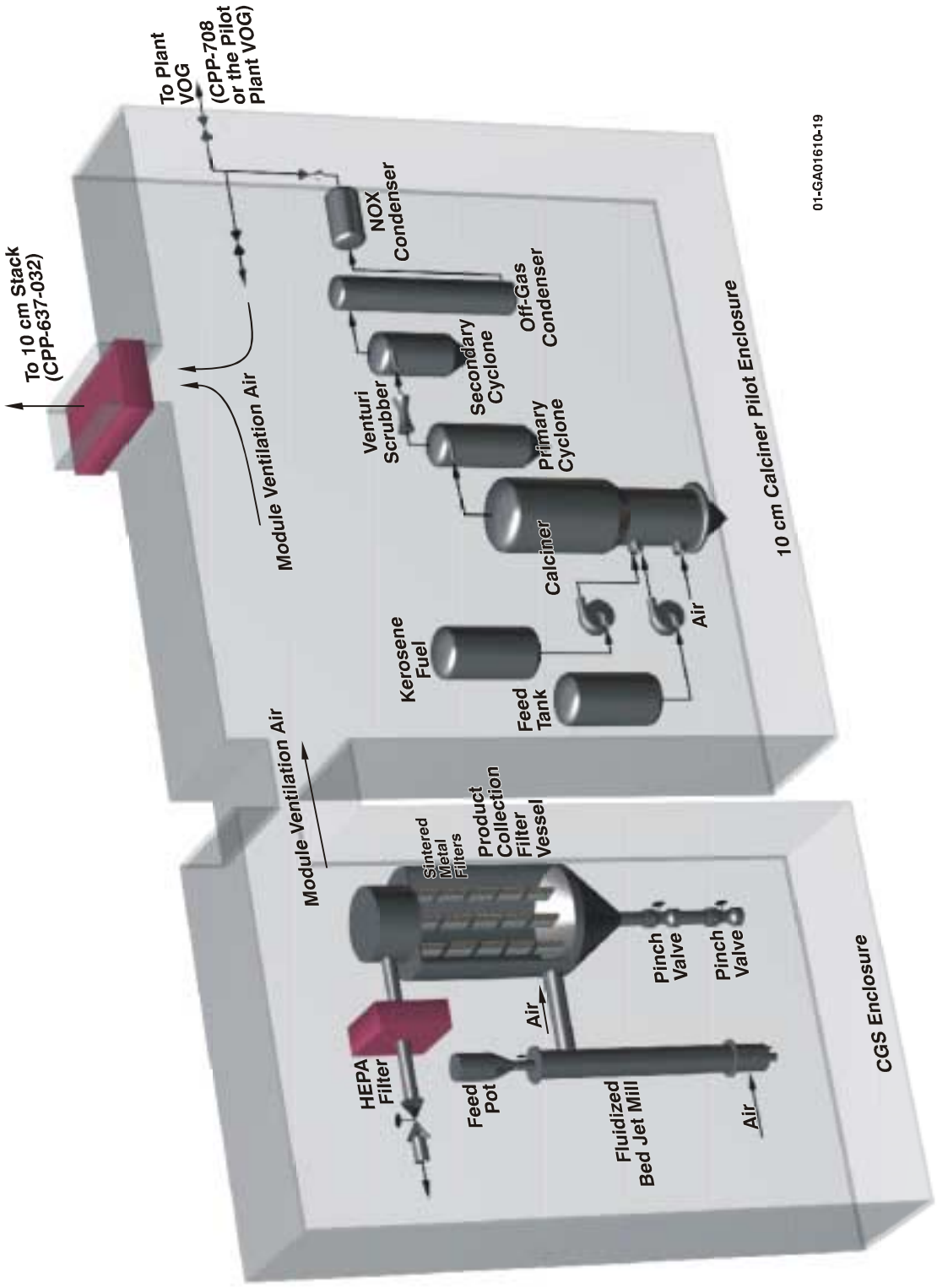


Figure IV-2-19. Process flow diagram for CPP-637-032.

Emission Point Number: CPP-637-032

REQUIREMENT

Applicable Requirement: Simulated waste feed rate shall not exceed 72 L/day or 2880 L/yr.

Requirement basis: INTEC Pilot Plants Permit to Construct 023-00001, “10-cm, 15-cm and 30-cm Calciners.” (8/8/96)

Compliance method type: Recordkeeping.

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutants being monitored: NO_x, NO_2, NO, O_2, CO, AM/PM-10

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Daily feed rate of liquid waste feed solution and total for previous year.

Frequency of recordkeeping (how often are data recorded): Daily during operation.

REPORTING

General description of what is reported: The permittee shall submit a written report to the DEQ of all exceedences of any emission limit or operational requirement within 5 days of the exceedence. The report shall contain the date, time and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

Frequency of reporting: Any exceedence of permitted limits.

Beginning date: NA

Figure IV-2-20. Compliance Certification Form (method of compliance).

2.2.3 CPP-637-058 Specific Information

See Figure IV-2-21 for the state operating permit application forms for this source.

2.2.3.1 Process Description. The 15-cm enclosure calciner pilot plant is located in CPP-637 high-low bay laboratory. The pilot plant is used for calcination flow sheet development studies related to converting liquid radioactive waste to solid calcine. The pilot plant uses only simulated (nonradioactive) waste and is fueled by kerosene. It is also used to produce simulated calcine for other experiments.

In the fluidizing bed calcination process, a heated bed of particles is fluidized by blowing air up through a distributor plate. Simulated liquid waste solution (up to 12 liters per hour) is sprayed through atomizing nozzles into the bed. As the feed solution contacts the hot bed particles, the liquid quickly evaporates, and the remaining solid nitrate salts are converted to an oxide form. The solid material coats the particles causing them to increase in size. Chemical additives may also be mixed with the simulated waste feed prior to calcination to aid in the conversion of nitrate salts to oxides but not in quantities that would cause emissions to go over those specified in the PTC application.

Kerosene or dodecane/tributyl phosphate and oxygen are sprayed into the bed through a second set of atomizing nozzles to provide process heat. The flow of fuel and oxygen is controlled using thermocouple readings in the bed. Process temperatures may range from 340^{o}C to 850^{o}C.

The off-gas from the 15-cm calciner passes through a cyclone to remove larger particles. Nitric acid solution is circulated in the quench tower to cool the hot off-gas leaving the cyclone. The cooled off-gas then passes through a venturi scrubber and mist eliminator to further remove entrained particulates. Finally, the off-gas passes through a partial condenser to be cooled and to remove water vapor.

The 15-cm calciner process off-gas is discharged to the main stack through either the INTEC vessel off-gas (VOG) line or the pilot plant VOG line. The Pilot Plant VOG line is the preferred discharge line. The INTEC VOG stream passes through a mist eliminator and superheater before entering the process atmospheric protection system and then the main stack. The pilot plan VOG passes through a superheater and a HEPA filter before entering the main stack. The module ventilation, under normal operating conditions, contains no hazardous materials and is released directly through the roof vent (CPP-637-058). Process off-gas does not discharge through vent #CPP-637-058.

See Figure IV-2-22 for the process flow diagram. No control equipment is required for this source. No emission monitoring equipment is required for this source.

2.2.3.1.1 Maximum Regulated Pollutant Emissions—The following list describes pollutants potentially emitted from this source.

Pollutant	CAS	Hourly	Maximum Annual Emissions	Criteria Pollutant
PM-10	NA	3.7E—06	tons/yr	X
NO_x	NA	4.13	tons/yr	X
CO	630-08-0	1.77	tons/yr	X
SO_x	NA	0.029	tons/yr	X
VOC_s	NA	0.64	tons/yr	X
HF/F	NA	8.16E—06	tons/yr	—
HNO_3	7697-37-2	2.28E—05	tons/yr	—

2.2.3.2 Compliance Requirements

2.2.3.2.1 Permitted Emission Limits—None.

2.2.3.2.2 Existing Permit Requirements—Following is a list of all permit-related enforceable requirements specific to this source. This source is regulated by conditions in State of Idaho Permit to Construct 023-00001, 8/8/96, "10-cm, 15-cm and 30-cm Calciners."

- The simulated liquid waste solution feed rate to the 15-cm calciner shall not exceed any of the following: two hundred eighty-eight liters per day (288 L/day); eleven thousand five hundred twenty liters per year (11,520 L/yr).

- The permitee shall monitor and record, on a daily basis during operation, the daily feed rate of simulated liquid waste solution to the 15-cm calciner. The permittee shall also record, annually, the total amount of simulated liquid waste solution fed to the 15-cm calciner during the previous calendar year. All data shall be maintained on-site for the most recent two-year period and be made available to department representatives upon request.

- The permittee shall submit a written report to the Department of all exceedences of any emission limit or operational requirement within five (5) days of the exceedence. The report shall contain the date, time, and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

- All documents including but not limited to records, monitoring data, supporting information, testing records, or compliance certifications submitted to the Department shall contain a certification by a responsible official in accordance with IDAPA 58.01.01.123. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

2.2.3.2.3 Other Enforceable Requirements—The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I.

2.2.3.3 Compliance Methodology and Status

2.2.3.3.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.2.3.3.2 Compliance Methodology Forms—See Figure IV-2-23.

2.2.3.4 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.2.3.4.1 ***Nonradionuclide Emissions—***Emissions shown in section 2.2.3.1.1 are beased on the emission summary located in Appenidx A of the IDEQ Permit to construct Technical Analysis dated June 12, 1996.

2.2.3.4.2 ***Radionuclide Emissions—***Not required since there are no radionuclide emissions from this emission unit.

Figure IV-2-21. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 637 - 058	**15-cm Calciner Pilot Plant Module**	CPP - 637	
MANUFACTURER	MODEL		DATE INSTALLED OR LAST MODIFIED
NA	**NA**		**1992**

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPs IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-21. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25	25	25	25

NORMAL OPERATING SCHEDULE
HRS/YR
960

POLLUTION CONTROL EQUIPMENT

PARAMETER	PRIMARY	SECONDARY
TYPE	HEPA	NA
TYPE CODE (APPENDIX H)	101	NA
MANUFACTURER	Flanders or equivalent	NA
MODEL NUMBER	NA	NA
INLET TEMPERATURE (°F)	~86	NA
PRESSURE DROP (INCHES H_2O)	3 max	NA
WET SCRUBBER FLOW (GPM)	NA	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA	NA

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4,910	343.70	4,825.96	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
42	8	4680	~86

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (TON/YR)	ALLOWABLE EMISSIONS (LB/HR) (TON/YR)	REFERENCE
PM-10	NA			3.74E—06		
NO_x	NA			4.13		
CO	630-08-0			1.77		
SO_x	NA			0.029		
VOCs	NA			0.64		
HF/F	NA			8.16E—06		
HNO_3	7697-37-2			2.28E—05		

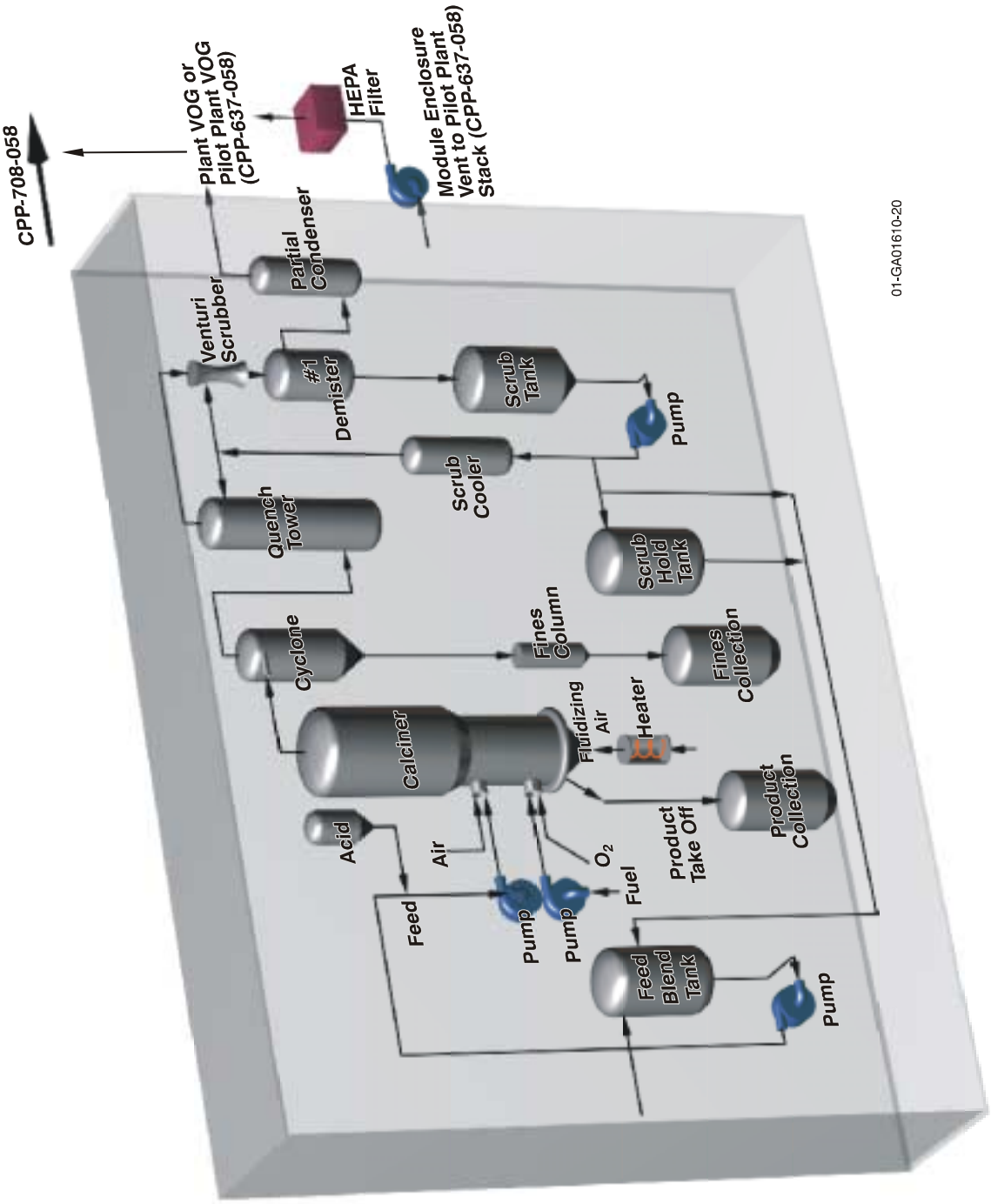


Figure IV-2-22. Process flow diagram for CPP-637-058.

Emission Point Number: CPP-637-058

REQUIREMENT

Applicable Requirement: 15-cm Pilot Plant -- Simulated liquid waste feed rate shall not exceed 288 L/day or 11,520 L/year.

Requirement basis: INTEC Pilot Plants Permit to Construct 023-00001, 10-cm, 15-cm, and 30-cm Calciners (8/8/96)

Compliance method type: Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutants being monitored: NO_x, NO_2, NO, O_2, CO, AM/PM-10

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Daily feed rate of simulated liquid waste solution and total for the previous year.

Frequency of recordkeeping (how often are data recorded): Daily during operation.

REPORTING

General description of what is reported: The permittee shall submit a written report to the DEQ of all exceedences of any emission limit or operational requirement within 5 days of the exceedence. The report shall contain the date, time and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

Frequency of reporting: Any exceedence of permitted limits.

Beginning date: NA

Figure IV-2-23. Compliance Certification Form (method of compliance).

2.2.4 CPP-637-053 Specific Information

See Figure IV-2-24 for the state operating permit application forms for this source.

2.2.4.1 Process Description. The enclosed 30-cm calciner pilot plant is in the CPP-637 high-low bay laboratory. The pilot plant is used for calcination flow sheet development studies related to converting liquid radioactive waste to solid calcine. The pilot plant uses only simulated (nonradioactive) waste and is fueled by kerosene. It is also used to produce simulated calcine for other experiments.

In the fluidizing bed calcination process, a heated bed of particles is fluidized by blowing air up through a distributor plate. Simulated liquid waste solution (up to 45 liters per hour) is sprayed through atomizing nozzles into the bed. As the feed solution contacts the hot bed particles, the liquid quickly evaporates, and the remaining solid nitrate salts are converted to an oxide form. The solid material coats the particles causing them to increase in size. Chemical additives may also be mixed with the simulated waste feed prior to calcination to aid in the conversion of nitrate salts to oxides but not in quantities that would cause emissions to go over those specified in the PTC application.

Kerosene and oxygen are sprayed into the bed through a second set of atomizing nozzles to provide process heat. The flow of fuel and oxygen is controlled using thermocouple readings in the bed. Process temperatures may range from 340°C to 850°C.

The off-gas from the 30-cm calciner passes through one or more cyclones to remove larger particles. Nitric acid solution is circulated in the quench tower to cool the hot off-gas leaving the cyclone. The cooled off-gas then passes through a venturi scrubber and mist eliminator to further remove entrained particulates. Finally, the off-gas passes through a partial condenser to be cooled and remove water vapor.

The 30-cm calciner process off-gas is discharged to the main stack (CPP-708-001) through either the INTEC VOG line or the pilot plant VOG line. The INTEC VOG stream passes through a mist eliminator and superheater before entering the process atmospheric protection system and then the main stack. The pilot plant VOG passes through a superheater and a HEPA filter before entering the main stack. The pilot plant VOG line is the preferred discharge line for the 30-cm enclosed calciner pilot plant. The module ventilation, under normal operating conditions, contains no process emissions and is released directly through the roof vent (CPP-637-053). The process off-gas cannot discharge through vent #CPP-637-053.

See Figure IV-2-25 for the process flow diagram. No emission monitoring equipment is required for this source.

2.2.4.1.1 Maximum Regulated Pollutant Emissions—The following data lists pollutants potentially emitted for this source.

Pollutant	CAS	Maximum Annual Emissions	Annual	Criteria Pollutant
PM-10	NA	1.06E—05	tons/yr	X
NO_x	NA	11.6	tons/yr	X
CO	630-08-0	4.66	tons/yr	X
SO_x	NA	0.076	tons/yr	X
VOC_s	NA	1.68	tons/yr	X
HF/F	NA	2.3E—05	tons/yr	—
HNO_3	7697-37-2	6.42E—05	tons/yr	—

2.2.4.2 Compliance Requirements

2.2.4.2.1 Permitted Emission Limits—None

2.2.4.2.2 Existing Permit Requirements—Following is a list of all permit-related enforceable requirements specific to this source. This source is regulated by conditions in sate of Idaho PT(023-00001, 8/8/96 "10=cm, 15-cm, 3—cm calciners"

- The simulated liquid waste solution feed rate to the 30-cm calciner shall not exceed any of the following: One thousand eighty liters per day (1,080 L/day); thirty-two thousand four hundred liters per year (32,400 L/yr).

- The permittee shall monitor and record, on a daily basis during operation, the daily feed rate of simulated liquid waste solution to the 30-cm calciner. The permittee shall also record, annually, the total amount of simulated liquid waste solution fed to the 30-cm calciners during the previous calendar year. All data shall be maintained on-site for the most recent two-year period and be made available to department representatives upon request.

- The permittee shall submit a written report to the Department of all exceedences of any emission limit or operational requirement within five (5) days of the exceedence. The report shall contain the date, time, and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

- All documents including but not limited to records, monitoring data, supporting information, testing records, or compliance certifications submitted to the Department shall contain a certification by a responsible official in accordance with IDAPA 58.01.01.123. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

2.2.4.2.3 Other Enforceable Requirements— The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I.

2.2.4.3 Compliance Methodology and Status

2.2.4.3.1 Compliance Plan—This source is in compliance, and will continue to comply, with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.2.4.3.2 Compliance Methodology Forms—See Figure IV-2-26.

2.2.4.4 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.2.4.4.1 Nonradionuclide Emissions—Emissions shown in Section 2.2.4.1.1 are based on the emission summary located in Appendix A of the IDEQ Permit to Construct Technical Analysis dated June 12, 1996.

2.2.4.4.2 Radionuclide Emissions—Not required since there are no radionuclide emissions from this emission unit.

Figure IV-2-24. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 637 - 053	**30-cm Calciner Pilot Plant Module**	CPP - 637	
MANUFACTURER	MODEL		DATE INSTALLED OR LAST MODIFIED
NA	**NA**		**1991**

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPs IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-24. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER				NORMAL OPERATING SCHEDULE	
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV	HRS/YR	
25	25	25	25	720	

POLLUTION CONTROL EQUIPMENT

PARAMETER	PRIMARY	SECONDARY
TYPE	HEPA	NA
TYPE CODE (APPENDIX H)	101	NA
MANUFACTURER	Flanders or equivalent	NA
MODEL NUMBER	NA	NA
INLET TEMPERATURE (°F)	~86	NA
PRESSURE DROP (INCHES H_2O)	3 max	NA
WET SCRUBBER FLOW (GPM)	NA	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA	NA

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4,910	343.70	4,825.97	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
42	8	4,900	86

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS	ALLOWABLE EMISSIONS	REFERENCE
PM-10	NA			1.06E—05		
NO_x	NA			11.6		
CO	630-08-0			4.66		
SO_x	NA			0.076		
VOCs	NA			1.68		
HF/F	NA			2.3E—05		
HNO_3	7697-37-2			6.42E—05		

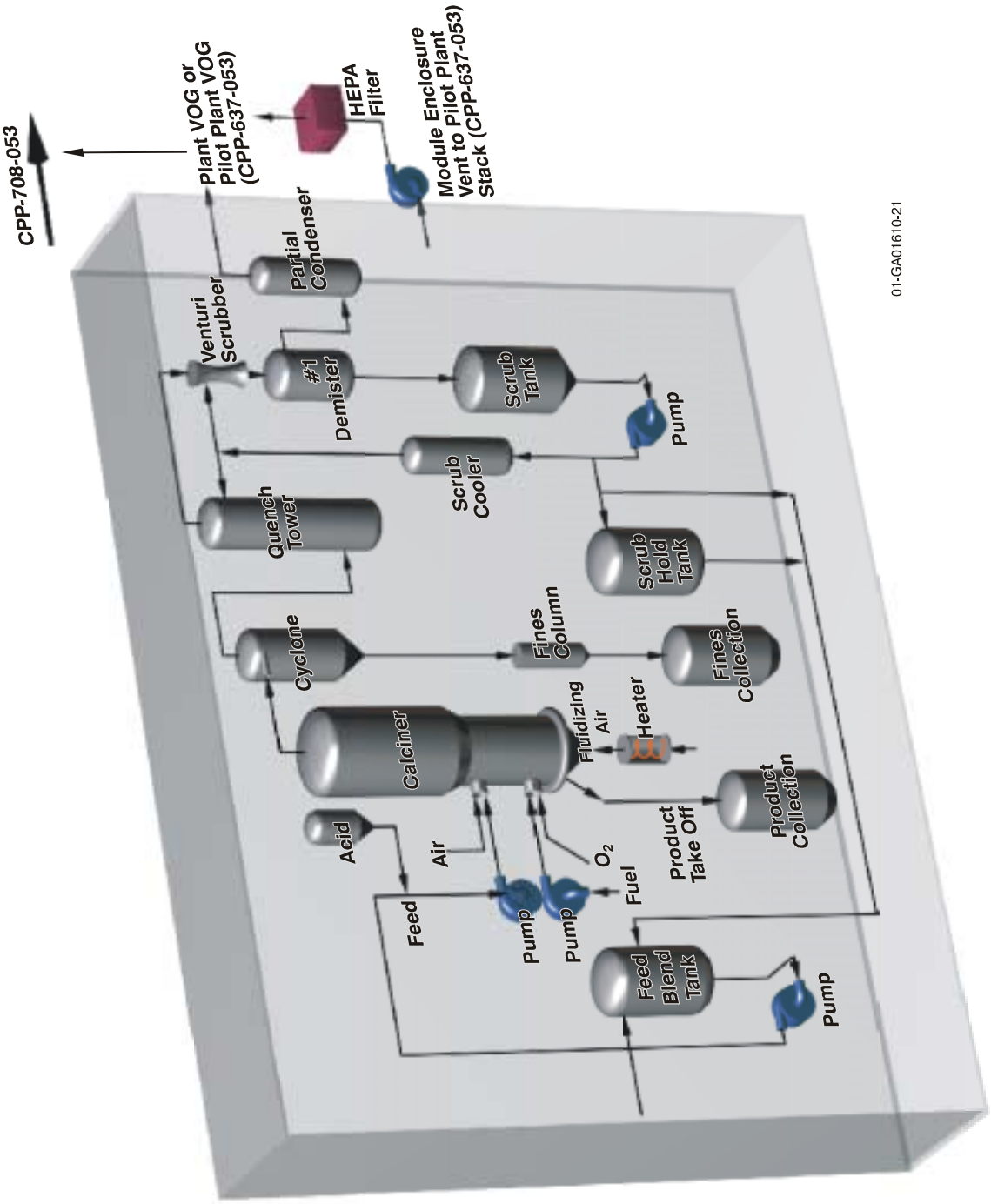


Figure IV-2-25. Process flow diagram for CPP-637-053.

Emission Point Number: CPP-637-053

REQUIREMENT

Applicable Requirement: 30-cm pilot plant -- Simulated liquid waste feed rate shall not exceed 1080 L/day or 32,400 L/year.

Requirement basis: INTEC Pilot Plants Permit to Construct 023-00001, *"10-cm, 15-cm and 30-cm Calciners."* (8/8/96)

Compliance method type: Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutants being monitored: NO_x, NO_2, NO, O_2, CO, AM/PM-10

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Daily feed rate of simulated liquid waste solution and total for previous year.

Frequency of recordkeeping (how often are data recorded): Daily during operation.

REPORTING

General description of what is reported: The permittee shall submit a written report to the DEQ of all exceedences of any emission limit or operational requirement within 5 days of the exceedence. The report shall contain the date, time and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

Frequency of reporting: Any exceedence of permitted limits.

Beginning date: NA

Figure IV-2-26. Compliance Certification Form (method of compliance).

2.2.5 CPP-637-056 Specific Information

See Figure IV-2-27 for the state operating permit application forms for this source.

2.2.5.1 Process Description. Three mixing tanks are on the west wall, where final adjustments to the simulated waste stream are made. Two tanks have a capacity for 400 liters of solution and one 100 liters. Solution is pumped to and from these tanks as needed. Emissions from the mixing tanks vent through a hood to a stack CPP-637-056.

See Figure IV-2-28 for the process flow diagram. No control equipment is required for this source. No emission monitoring equipment is required for this source.

2.2.5.1.1 Maximum Regulated Pollutant Emissions—The following list describes pollutants potentially emitted from this source.

Pollutant	CAS	Maximum Annual Emissions	Annual	Criteria Pollutant
PM-10	NA	4.6E—03	tons/yr	X
NO_x	NA	3.06	tons/yr	X
HF/F	NA	6.9E—06	tons/yr	—
HNO_3	7697-37-2	0.192	tons/yr	—

2.2.5.2 Compliance Requirements

2.2.5.2.1 ***Permitted Emission Limits—***None.

2.2.5.2.2 Existing Permit Requirements—

- The combined throughput of simulated waste solutions that are denitrated within the high-bay facility mixing tanks shall not exceed any of the following: three thousand two hundred liters per month (3,200 L/mo) or fifteen thousand two hundred liters per year (15,200 L/yr).
- The permittee shall monitor and record the combined monthly and annual throughput rate of simulated liquid waste solutions that are denitrated within the high-bay facility mixing tanks. All data shall be maintained on-site for the most recent two-year period and be made available to department representatives upon request.
- The permittee shall submit a written report to the department of all exceedences of any emission limit or operational requirement within five (5) days of the exceedence. The report shall contain the date, time and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

– All documents including but not limited to records, monitoring data, supporting information, testing records, or compliance certifications submitted to the department shall contain a certification by a responsible official in accordance with IDAPA 58.01.01.123. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

***2.2.5.2.3 Other Enforceable* Requirements—**The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I.

2.2.5.3 Compliance Methodology and Status

2.2.5.3.1 Compliance Plan—This source is in compliance, and will continue to comply, with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.2.5.3.2 Compliance Methodology Forms—See Figure IV-2-29.

2.2.5.4 Emission Calculations. The following section describes calculations of emissions listed in the regulated pollutant table.

2.2.5.4.1 Nonradionuclide Emissions—Emissions shown in Section 2.2.5.1.1 are based on the emission summary located in Appendix A of the IDEQ Permit to Construct Technical Analysis dated June 12, 1996.

2.2.5.4.2 Radionuclide Emissions—Not required since there are no radionuclide emissions from this emission unit.

Figure IV-2-27. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 637 - 056	**High-Bay Mix Tanks**	CPP - 637	
MANUFACTURER	MODEL		DATE INSTALLED OR LAST MODIFIED
NA	**NA**		**1992**

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPs IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-27. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25	25	25	25

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT

PARAMETER	PRIMARY	SECONDARY
TYPE	None	NA
TYPE CODE (APPENDIX H)	NA	NA
MANUFACTURER	NA	NA
MODEL NUMBER	NA	NA
INLET TEMPERATURE (°F)	NA	NA
PRESSURE DROP (INCHES H_2O)	NA	NA
WET SCRUBBER FLOW (GPM)	NA	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA	NA

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4,910	343.712	4,826.0	02

STACK EXIT HEIGHT ROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
71	12	12875	70

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (TON/YR)	ALLOWABLE EMISSIONS (LB/HR)	ALLOWABLE EMISSIONS (TON/YR)	REFERENCE
PM-10	NA			4.6E—03			
NO_x	NA			3.06			
HF/F	NA			6.9E—06			
HNO_3	7697-37-2			0.192			

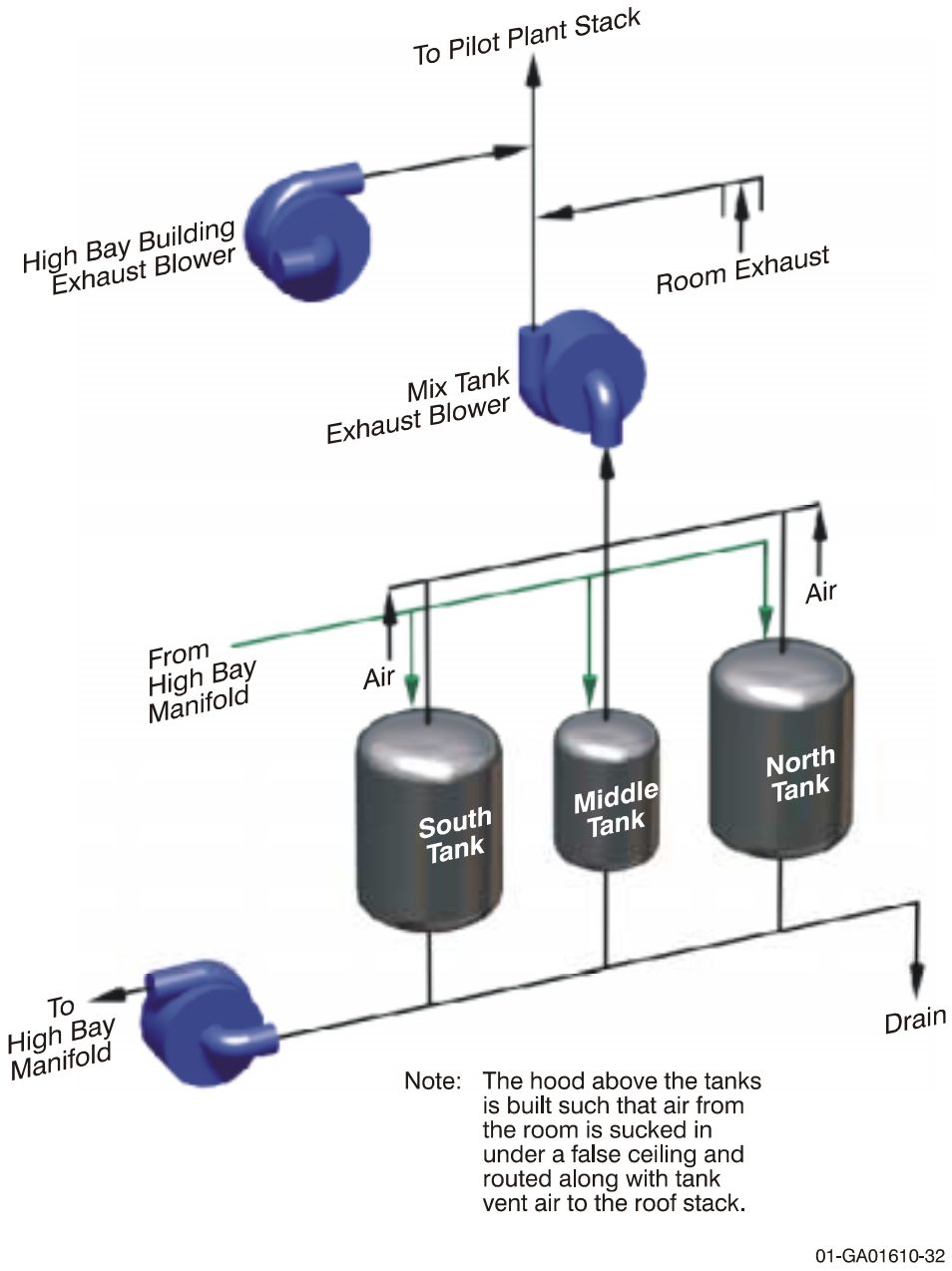


Figure IV-2-28. Process flow diagram for CPP-637-056.

Emission Point Number: CPP-637-056

REQUIREMENT

Applicable Requirement: High-bay mixing tanks combined throughput for simulated waste solutions that are denitrated within the high bay facility shall not exceed 3,200L/mo or 15,200 L/yr.

Requirement basis: INTEC Pilot Plants Permit to Construct 023-00001, 10-cm, 15-cm and 30-cm Calciners (8/8/96).

Compliance method type: Recordkeeping.

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutants being monitored: NO_x, NO_2, NO, O_2, CO, AM/PM-10

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Tank throughput.

Frequency of recordkeeping (how often are data recorded): Monthly and annual throughput rate.

REPORTING

General description of what is reported: The permittee shall submit a written report to the DEQ of all exceedences of any emission limit or operational requirement within 5 days of the exceedence. The report shall contain the date, time and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

Frequency of reporting: Any exceedence of permitted limits.

Beginning date: NA

Figure IV-2-29. Compliance Certification Form (method of compliance).

2.3 CPP-659, New Waste Calcining Facility

2.3.1 General Description

The New Waste Calcining Facility (NWCF) has converted aqueous radioactive mixed waste from the INTEC tank farm into a noncorrosive, dry granular substance known as calcine. Calcination concentrated the waste, thus reducing the storage volume and converting it to a more stable waste form that poses less environmental risk than storing liquid radioactive waste in underground tanks. A heated and fluidized bed was used to evaporate the water from the feed solution and decompose the nitrate salts to produce a product composed of metallic oxides and salts. All of the mixed high level liquid waste (waste from reprocessing spent nuclear fuel) that can be removed from the INTEC tank farm has been calcined. As of January 2001, approximately 1.2 million gallons of transuranic/sodium-bearing liquid waste (radioactive liquid waste from activities other than spent fuel reprocessing) is still stored in the INTEC tank farm awaiting a decision regarding its disposal.

The NWCF calciner was shut down June 1, 2000, under a consent order with the State of Idaho. The calciner will remain shut down until a decision is made to either upgrade the facility to MACT standards and obtain the necessary permits or to deactivate the facility. This decision is awaiting completion of the Environmental Impact Statement for the Idaho High-Level Waste and Facilities Disposition, expected in calendar year 2001.

The NWCF also has decontamination facilities that can be used for the treatment of spent HEPA filters and the decontamination and debris treatment of a variety of materials. The NWCF also contains the high-level liquid waste evaporator (HLLWE), which is a thermosiphon evaporator used to concentrate dilute tank farm waste prior to calcination and to reduce the volume of liquid in the tank farm.

Figure IV-2-30 show the plan view for CPP-659.

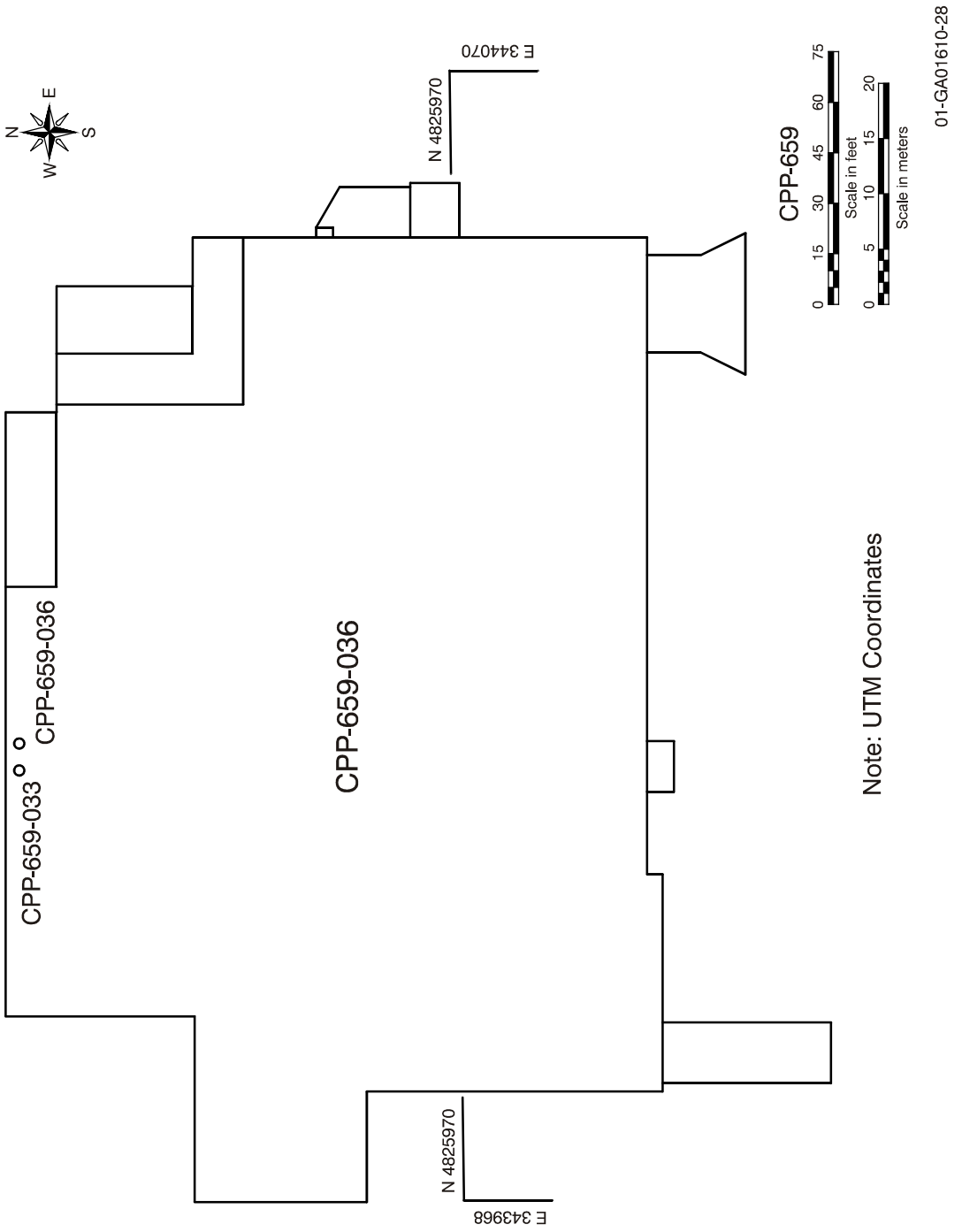


Figure IV-2-30. Plan view for CPP-659.

2.3.2 CPP-659-033 Specific Information

See Figure IV-2-31 for the state operating permit application forms for this source.

2.3.2.1 Process Description. The NWCF calciner exhaust area heating and ventilation stack (CPP-659-033) is located in the northeast corner of the NWCF at the INTEC. The main function of the NWCF calciner exhaust area HVAC system is to provide contamination control by drawing air from uncontaminated areas of the facility to areas of potentially increasing contamination. Ambient air is drawn into the facility through a series of filters to ensure that dust is not carried into any contaminated areas. The air progresses through the facility from personnel areas to maintenance areas and, finally, to operating areas. Prior to exiting the facility, the ventilation air is drawn through the cells that contain process equipment. With the blowers downstream of the cells, the cells are kept at a vacuum so that any potential source of contamination will be exhausted out of the building through HEPA filters and will not spread to personnel areas. The NWCF gaseous process equipment and associated lines are also kept at a vacuum, but are vented through the main stack, CPP-708-001. Figure IV-2-32 shows the process flow diagram for this source.

The NWCF calciner exhaust area HVAC exhausts the calciner operating areas and process cells. It also exhausts the decontamination facility lower level operating areas and some decontamination areas that use nitric acid, including two decontamination solution makeup tanks and various decontamination sinks and basins. Solutions for decontamination area activities are made up in two 530-gal vessels, VES-NCD-127 and -128. The solutions in these vessels can be heated up to 212ºF and are mixed. Solutions made in these vessels include nitric acid, Turco alkaline rust remover, and kerosene. The solutions are transferred to various decontamination sinks and basins where they also undergo heating to 212ºF. However, this source is considered not-significant for nonradionuclides.

The calciner exhaust area HVAC system utilizes two banks of HEPA filters in series for pollution control. Each bank has two stages of filters, with 42 filters in each stage. One bank must be on line at all times.

Required monitoring of this source must meet the criteria of 40 CFR 61, Subpart H, after the RCRA permit for the debris treatment is issued as expected in FY 2001. See "Emission Calculations."

2.3.2.2 Maximum Regulated Pollutant Emissions—The following information describes regulated pollutants potentially emitted from this source. The quantities listed represent emission releases based on the normal operating capacity associated with this emission point. These quantities are not enforceable limits, but merely represent an accounting of the pollutants associated with this source.

Pollutant	CAS	Maximum annual emission	Units
Radionuclides	NA	10[a]	mrem/yr
Nonradionuclides	Not significant[b]		

a. This is an aggregate for all radionuclides at the INEEL.

b. All nonradionuclide emissions from this source are listed in Section 1.2 of this volume.

2.3.2.3 Compliance Requirements

2.3.2.3.1 Permitted Emission Limits—This source must comply with the following limits.

Pollutants	CAS	Emission limit	Units
Radionuclides	—	10[a]	mrem/yr
Radionuclides solely from debris treatment	—	0.1	mrem/yr

a. This is an aggregate for all radionuclides at the INEEL.

2.3.2.3.2 Existing Permit Requirements—Following is a list of all permit-related enforceable requirements specific to this source. This source is regulated by conditions in State of Idaho Permit to Construct 023-0001 (New Waste Calcining Facility/Doncontamination Area, December 17, 1997).

- Testable HEPA filter, or HEPA filter stage particle removal, efficiency shall be maintained at or above 99.97% removal efficiency as determined by guidelines of the American Society of Mechanical Engineers (ASME) N510, Section 10.
- If the removal efficiency of the testable HEPA filter or HEPA filter stage elements falls below 99.97%, as determine by the guidelines of N510, Section 10, the testable HEPA filter or HEPA filter stage shall be isolated or replaced within ten (10) days until the required efficiency is achieved.
- Each testable HEPA filter or filter stage shall be operated at a pressure drop that is limited to a maximum of 5.0 inches water column. If the total pressure drop across a HEPA filter or HEPA filter stage exceeds 5.0 inches water column, the permittee shall isolate it or replace it within ten (10) days.
- Pressure monitoring devices shall be maintained in good working order to enable monitoring of operating pressure drop across the testable HEPA filter stages.
- Operators shall be alerted of a degraded HEPA filter (breached, plugged, or leaking) by a monitor alarm or by differential pressure readings across the HEPA filters.
- The facility shall process, within a 12-month period, a maximum of 600 m^3 of INEEL-generated debris in the existing cells, decontamination cubicles, and glove box.
- Debris generated outside the INEEL shall be processed in the facility only upon written consent of the DEQ.
- The permittee shall conduct an in-place efficiency test on the testable HEPA filters or filter stages, as applicable. The periodic in-place efficiency test shall be conducted at least once every 12 months, per Nuclear Air Cleaning Handbook, ERDA 76-21, Section 8.3.5, "Frequency of Testing." Testing shall be conducted using guidelines of ASME N510, Section 10, "HEPA Filter Bank In-Place Test." In addition, after replacement or installation of

a HEPA filter, an in-place efficiency test shall be conducted within 90 days of the date that the HEPA filter is placed in operation.

- Pressure monitoring devices shall be installed to enable monitoring of pressure drop across the testable HEPA filters. An alarm system shall be activated by the pressure monitoring system when the pressure drop reaches or exceeds 5.0 inches water column. The pressure drop monitoring equipment shall be maintained in good working order. Pressure drop shall be checked daily.

- The permittee shall monitor and test emissions of radionuclides from the NWCF calciner subsystem HVAC stack pursuant to 40 CFR 61.93 (b) (2) requirements.

- Radionuclide emissions emanating from the debris treatment exclusive of all other DOE/INEEL emissions shall not result in an effective dose equivalent to the maximally exposed off-site member of the public located at any business, school, or residence which equals or exceeds 0.10 mrem/yr.

- Radionuclide emissions emanating from the debris treatment inclusive of all other DOE/INEEL emissions shall not result in an effective dose equivalent at any business, school, or residence which exceeds 10 mrem/yr.

- The amount of mixed debris processed shall be monitored and recorded on a quarterly basis and the most recent two (2) years compilation of data shall be kept on site, in a log, and be made available to DEQ representatives upon request.

- The results of the initial performance test of the HEPA filter shall be reported to the DEQ within 30 days of performing the test.

- The permittee shall compile, keep on site, and make available to the DEQ upon request, a quarterly record of the following:

    - The dates and results of all HEPA filter efficiency tests using the ASME N510, Section 10 guidelines.

    - The dates of replacement of HEPA filter elements.

    - All HEPA filters or HEPA filter stage alarms and a record of pressure readings above 5.0 inches water column.

    - The permittee shall submit an annual report to the DEQ indicating the highest dose equivalent as required in 40 CFR 61.94.

2.3.2.3.3 Other Enforceable Requirements—Periodic confirmatory measurements must be conducted in accordance 40 CFR Part 61.93 (b) to determine radionuclide emissions used to demonstrate compliance with emissions limit. All emissions from this source must be included in the facilitywide INEEL Annual NESHAPs Report (40 CFR Part 61.94) and records supporting the emissions measurements must be kept as stated in 40 CFR Part 61.95. See compliance methodology form in Section 5.5.1 in Volume I.

The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I.

2.3.2.4 Compliance Methodology and Status

2.3.2.4.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.3.2.4.2 Compliance Methodology Forms—See Figure IV-2-33.

2.3.2.5 Emission Calculations. The following section qualitatively describes calculations used to report regulated pollutant emissions. This section does not address pollutants that are continuously monitored under federal or State of Idaho requirements.

2.3.2.5.1 Nonradionuclide Emissions—This source is considered not-significant for nonradionuclides.

2.3.2.5.2 Radionuclide Emissions—For annual reporting, an isokinetic sampler determines radionuclide emissions as described below.

Method 4: Grab or Continuous Sampler

The NWCF currently has a continuous sampler. This sampler is the method of calculating emissions from CPP-659-033. This sampler meets the monitoring requirements of 40 CFR 61, Subpart H.

Parameters:

Sampler: The sampler collects a sample on HEPA grade filter media. The filter is removed quarterly or semiannually for a gross beta/gamma analysis.

Flow rates: The stack flow does not change significantly; sample flow is adjusted so that an isokinetic sample is taken based on the average stack flow and remains constant during the sampling period. This isokinetic ratio is used to determine releases.

Time: Samples are collected continuously. However, should a filter sample become unusable or the monitor need repair, the time offline would be factored into the yearly dose calculation.

Figure IV-2-31. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 659 - 033	**Building Ventilation System**	CPP - 659	
MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED	
NA	**NA**	**1978**	

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPs IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
NA	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-31. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25	25	25	25

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT

CONTROL EQUIPMENT	
TYPE	HEPA filters
TYPE CODE (APPENDIX H)	101
MANUFACTURER	Flanders or equivalent
MODEL NUMBER	NA
INLET TEMPERATURE (°F)	85
PRESSURE DROP (INCHES H20)	5.0 max
WET SCRUBBER FLOW (GPM)	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA

CONTROL EQUIPMENT	
TYPE	HEPA filters
TYPE CODE (APPENDIX H)	101
MANUFACTURER	Flanders or equivalent
MODEL NUMBER	NA
INLET TEMPERATURE (°F)	85
PRESSURE DROP (INCHES H20)	5.0
WET SCRUBBER FLOW (GPM)	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	30,000	99.97

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4915	344.008	4826.010	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
100	72	80,000	~65

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ALLOWABLE EMISSIONS	REFERENCE
Radionuclide	NA	NA	99.9991 for particulate	NA	10 mrem/yr in aggregate with other INEEL sources	40 CFR 61.92

IN LBS/UNITS. Use same hourly UNITS given in PROCESSING DATA.

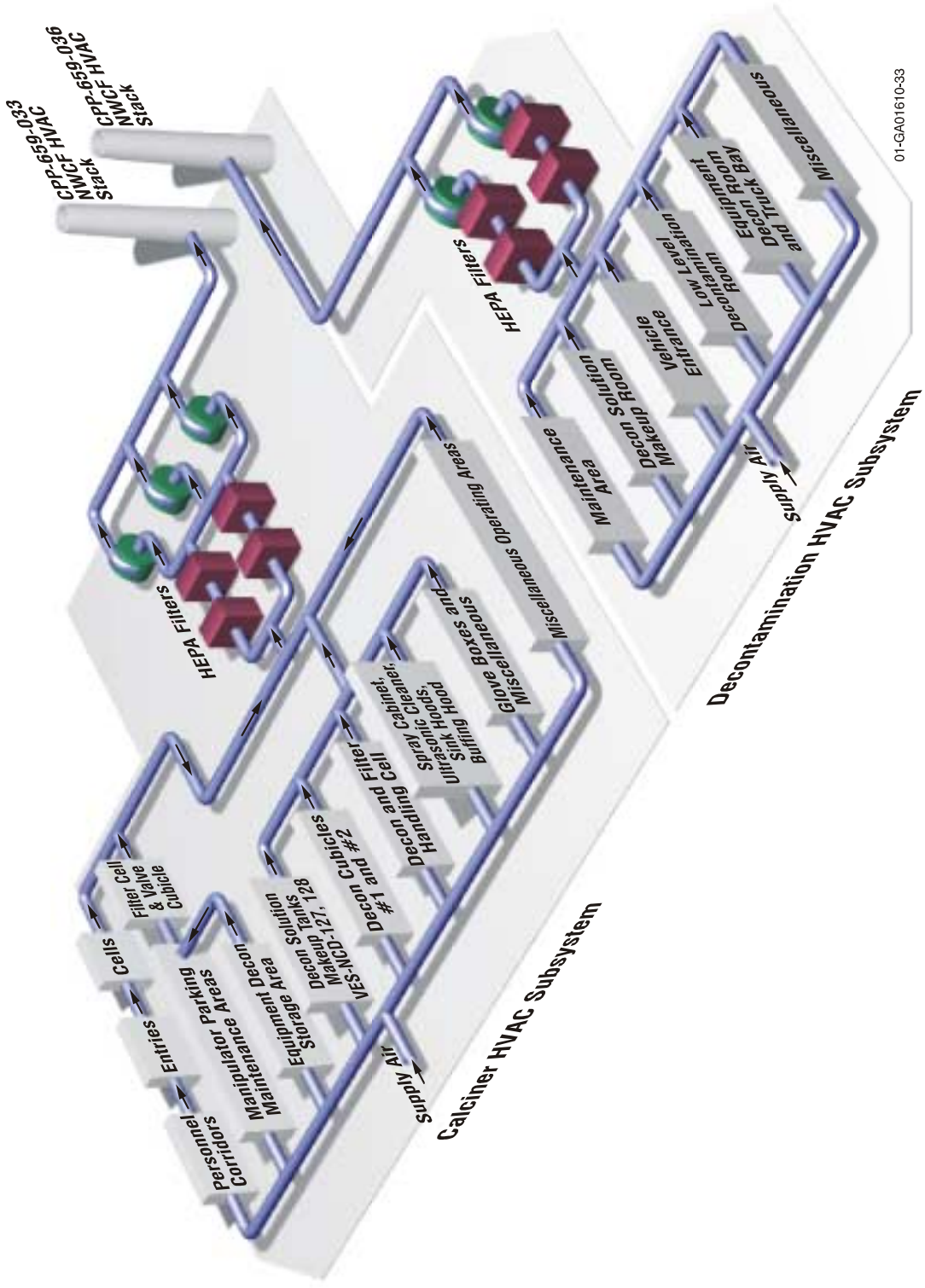


Figure IV-2-32. Process flow diagram for CPP-659-033.

Emission Point Number: CPP-659-033

REQUIREMENT 1

Applicable Requirement: Testable HEPA filter, or HEPA filter stage particle removal, efficiency shall be maintained at or above 99.97% removal efficiency. At a minimum a periodic in-place efficiency test shall be conducted at least once every twelve months for existing filters or within 90 days for newly replaced filters.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Testing/Recordkeeping.

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: ANSI N510, Section 10

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: The dates and results of all HEPA filter efficiency tests.

Frequency of recordkeeping (how often are data recorded): When each test is completed. Quarterly record shall be maintained.

REPORTING

General description of what is reported: The dates and results of all HEPA filter efficiency tests.

Frequency of reporting: Upon DEQ request.

Beginning date: NA

Figure IV-2-33. Compliance Certification Form (method of compliance).

Emission Point Number: CPP-659-033

REQUIREMENT 2

Applicable Requirement: If the removal efficiency of the testable HEPA filter or HEPA filter stage elements falls below 99.97% the testable HEPA filter of HEPA filter stage shall be isolated or replaced within 10 days until the required efficiency is achieved.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Replacement of filter.

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Dates of HEPA filter element replacement .

Frequency of recordkeeping (how often are data recorded): When the HEPA filter element has been replaced. Quarterly record shall be maintained

REPORTING

General description of what is reported: The dates of each HEPA filter element replacement.

Frequency of reporting: Upon DEQ request.

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 3

Applicable Requirement: Each testable HEPA filter or HEPA filter stage shall be operated at a pressure drop that is limited to a maximum of 5.0 inches water column.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Monitoring

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: Pressure monitoring device

Monitor location description: On testable HEPA filters

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: Pressure drop shall be checked daily.

RECORDKEEPING

Data (parameter) being recorded: Pressure drop in inches of water column

Frequency of recordkeeping (how often are data recorded): Daily

REPORTING

General description of what is reported: Quarterly record of all HEPA filters or HEPA filter stage alarms and pressure readings above 5.0 inches water column.

Frequency of reporting: Upon DEQ request.

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 4

Applicable Requirement: Pressure monitoring devices shall be maintained in good working order to enable monitoring of operating pressure drop across the testable HEPA filter stages.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Daily inspections.

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Differential pressure information

Frequency of recordkeeping (how often are data recorded): Daily

REPORTING

General description of what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 5

Applicable Requirement: Operators shall be alerted of a degraded HEPA filter (breached, plugged, or leaking) by a monitor alarm or by differential pressure readings across the HEPA filters.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Daily pressure readings

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Differential pressure information.

Frequency of recordkeeping (how often are data recorded): Daily

REPORTING

General description of what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 6

Applicable Requirement: A maximum of 600 m^3 of INEEL-generated debris shall be processed within a 12-month period in the existing NWCF cells, decontamination cubicles, and glove box.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutant being monitored: NA

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Amount of debris processed

Frequency of recordkeeping (how often are data recorded): Quarterly; the most recent 2 years of data shall be kept onsite.

REPORTING

General description of what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 7

Applicable Requirement: Debris generated outside the INEEL shall be processed in the facility only with written consent from the DEQ.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutant being monitored: NA

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Letter from DEQ granting approval to treat non-INEEL waste.

Frequency of recordkeeping (how often are data recorded): NA

REPORTING

General description of what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 8

Applicable Requirement: The permittee shall conduct an in-place efficiency test on the testable HEPA filters or filter stages, as applicable. The periodic in-place efficiency test shall be conducted at least once every 12 months, per Nuclear Air Cleaning Handbook, ERDA 76-21, Section 8.3.5, "Frequency of Testing." Testing shall be conducted using guidelines of ASME N510, Section 10, "HEPA Filter Bank In-Place Test." In addition, after replacement or installation of a HEPA filter, an in-place efficiency test shall be conducted within 90 days of the date that the HEPA filter is placed in operation.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Testing/Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: ANSI N510, Section 10

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: HEPA filter efficiency.

Frequency of recordkeeping (how often are data recorded): At the completion of each test.

REPORTING

General description of what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 9

Applicable Requirement: Pressure monitoring devices shall be installed to enable monitoring of pressure drop across the testable HEPA filters. An alarm system shall be activated by the pressure monitoring system when the pressure drop reaches or exceeds 5.0 inches water column. The pressure drop monitoring equipment shall be maintained in good working order. Pressure drop shall be checked daily.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Differential pressure drop.

Frequency of recordkeeping (how often are data recorded): Daily

REPORTING

General description of what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 10

Applicable Requirement: Radionuclide emissions emanating from the debris treatment exclusive of all other DOE/INEEL emissions shall not result in an effective dose equivalent to the maximally exposed off-site member of the public located at any business, school, or residence which equals or exceeds 0.10 mrem/yr.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Monitoring/Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: 40 CFR 61.93 (b) (2)

MONITORING

Monitoring device type: Continuous sampler

Monitor location description: In stack

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: Continuous, curies.

RECORDKEEPING

Data (parameter) being recorded: Curies

Frequency of recordkeeping (how often are is data recorded): Annually

REPORTING

General description of what is reported: Effective dose equivalent

Frequency of reporting: Annually

Beginning date: NA

Figure IV-2-33. (continued).

Emission Point Number: CPP-659-033

REQUIREMENT 11

Applicable Requirement: Radionuclide emissions emanating from the debris treatment inclusive of all other DOE/INEEL emissions shall not result in an effective dose equivalent at any business, school, or residence which exceeds 10 mrem/yr.

Requirement basis: New Waste Calcining Facility/Decontamination Area Permit to Construct 023-00001 (modification to PTC 023-00001), dated December 17, 1997.

Compliance method type: Monitoring/Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: 40 CFR 61.93 (b) (2)

MONITORING

Monitoring device type: Continuous sampler

Monitor location description: In stack

Regulated pollutant being monitored: Radionuclides

General description of frequency and duration of sampling and how data will be reported: Continuous, curies.

RECORDKEEPING

Data (parameter) being recorded: Curies

Frequency of recordkeeping (how often are data recorded): Annually

REPORTING

General description of what is reported: Effective dose equivalent

Frequency of reporting: Annually

Beginning date: NA

Figure IV-2-33. (continued).

2.3.3 CPP-659-036 Specific Information

See Figure IV-2-34 for the state operating permit application forms for this source.

2.3.3.1 Process Description. The NWCF decon exhaust area heating and ventilation stack (CPP-659-036) is located in the northeast corner of the NWCF at the INTEC. The NWCF decon exhaust area HVAC stack exhausts the decon facility upper level personnel, maintenance, and decontamination areas. The main function of the NWCF decon exhaust area HVAC system is to provide contamination control by drawing air from uncontaminated areas of the facility to areas of potentially increasing contamination. Ambient air is drawn into the facility through a series of filters to ensure that dust is not carried into any contaminated areas. The air progresses through the facility from personnel areas to maintenance areas and, finally, to operating areas. The decon exhaust area HVAC system utilizes two banks of HEPA filters in series for pollution control. Each bank has two stages of filters, with 21 filters in each stage. One bank must be online at all times. Figure IV-2-35 shows the process flow diagram for this source.

This source is not currently required to have monitoring that meets the criteria of 40 CFR 61, Subpart H. See "Emission Calculations."

2.3.3.2 Maximum Regulated Pollutant Emissions—The following information describes regulated pollutants potentially emitted from this source. The quantities listed represent emission releases based on the normal operating capacity associated with this emission point. These quantities are not enforceable limits, but merely represent an accounting of the pollutants associated with this source.

Pollutant	CAS	Maximum annual emission	Units	Criteria pollutant
Radionuclides	NA	10[a]	mrem/yr	—
Nonradionuclides		Not significant[b]		

a. This is an aggregate for all radionuclides at the INEEL.

2.3.3.3 Compliance Requirements

2.3.3.3.1 Permitted Emission Limits—This source, in aggregate with all other radiological sources at the INEEL, has a radionuclide emission limit of 10 mrem/yr EDE in accordance with 40 CFR 61, Subpart H.

2.3.3.3.2 Existing Permit Requirements—None.

2.3.3.3.3 Other Enforceable Requirements—Periodic Confirmatory Measurements must be conducted in accordance 40 CFR Part 61.93 (b) to determine radionuclide emissions used to demonstrate compliance with emissions limit. All emissions from this source must be included in the facilitywide INEEL Annual NESHAPs Report (40 CFR Part 61.94) and records supporting the emissions measurements must be kept as stated in 40 CFR Part 61.95. See compliance methodology form in Section 5.5.1 in Volume I.

The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I.

2.3.3.4 Compliance Methodology and Status

2.3.3.4.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.3.3.4.2 Compliance Methodology Forms—Compliance form for the radionuclide emission is in Volume I, Section 5.5.

2.3.3.5 Emission Calculations. The following section qualitatively describes calculations used to report regulated pollutant emissions. This section does not address pollutants that are continuously monitored under federal or State of Idaho requirements.

2.3.3.5.1 Nonradionuclide Emissions—This source is considered not-significant for nonradionuclides.

2.3.3.5.2 Radionuclide Emissions—Based upon periodic confirmatory measurement findings, this source is not currently required to have continuous monitoring that meets the requirements of 40 CFR 61, Subpart H. Methods 1A, 1B, or 4, outlined in Volume I, Appendix E, are used to calculate emissions from this source, and the calculations are included in the annual report.

Method 1A: Destructive Assessment of Filter

A core sample is gathered from one or both HEPA filter banks associated with the pollution control equipment for this source.

Parameters

Sample: Curies determined by laboratory analysis

Area (media): The surface area of the HEPA filter bank is measured or calculated

Area (sample): The surface area of the core sample is measured

Efficiency: Efficiency for each stage of HEPA filters is 99.97%

Time: Records of the time online are kept for each HEPA filter bank

Method 1B: Nondestructive Assessment of Filter Media

Parameters

Radiation: The radiation field is determined using a portable radiation detector of known efficiency.

Conversion Factor: Dimensions of the HEPA filter banks are calculated relative to the location of radiation readings. The geometry and shielding of the HEPA media are used to determine the representation of the radiation reading.

Efficiency: HEPA filters are tested annually

Time: The NWCF has two filter plenums, one of which is operational at all times. The time online is recorded for each bank to determine the yearly emissions.

Method 4: Grab or Continuous Sampler

A filtered sampler is connected to the decon exhaust duct downstream of the HEPA filters and a sample is taken over a period of time. The filter is analyzed to determine the releases for the time period. The total release is determined based on this sample. A grab sample may be collected from the decon HVAC exhaust system to provide yearly release reporting data.

This source is not currently required to have a monitor that meets the specifications found in 40 CFR 61, Subpart H. However, should the unmitigated source term approach 0.1 mrem/yr for an offsite dose to the maximally exposed individual, a continuous compliance monitor would be installed.

Figure IV-2-34. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION
C - 659 - 036	**Building Ventilation System**	CPP - 659
MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED
NA	**NA**	**1996**

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPs IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
NA	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-34. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25	25	25	25

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT

CONTROL EQUIPMENT	
TYPE	HEPA filters
TYPE CODE (APPENDIX H)	101
MANUFACTURER	Flanders or equivalent
MODEL NUMBER	NA
INLET TEMPERATURE (°F)	85
PRESSURE DROP (INCHES H20)	10 max
WET SCRUBBER FLOW (GPM)	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA

CONTROL EQUIPMENT	
TYPE	HEPA filters
TYPE CODE (APPENDIX H)	101
MANUFACTURER	Flanders or equivalent
MODEL NUMBER	NA
INLET TEMPERATURE (°F)	85
PRESSURE DROP (INCHES H20)	10.0
WET SCRUBBER FLOW (GPM)	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	30,000	99.97

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4915	344.008	4826.010	

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
55	72	50,000	~65

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ALLOWABLE EMISSIONS	REFERENCE
Radionuclide	NA	NA	99.97 for particulate	NA	10 mrem/yr in aggregate with other INEEL sources	40 CFR 61.92

IN LBS/UNITS. Use same hourly UNITS given in PROCESSING DATA.

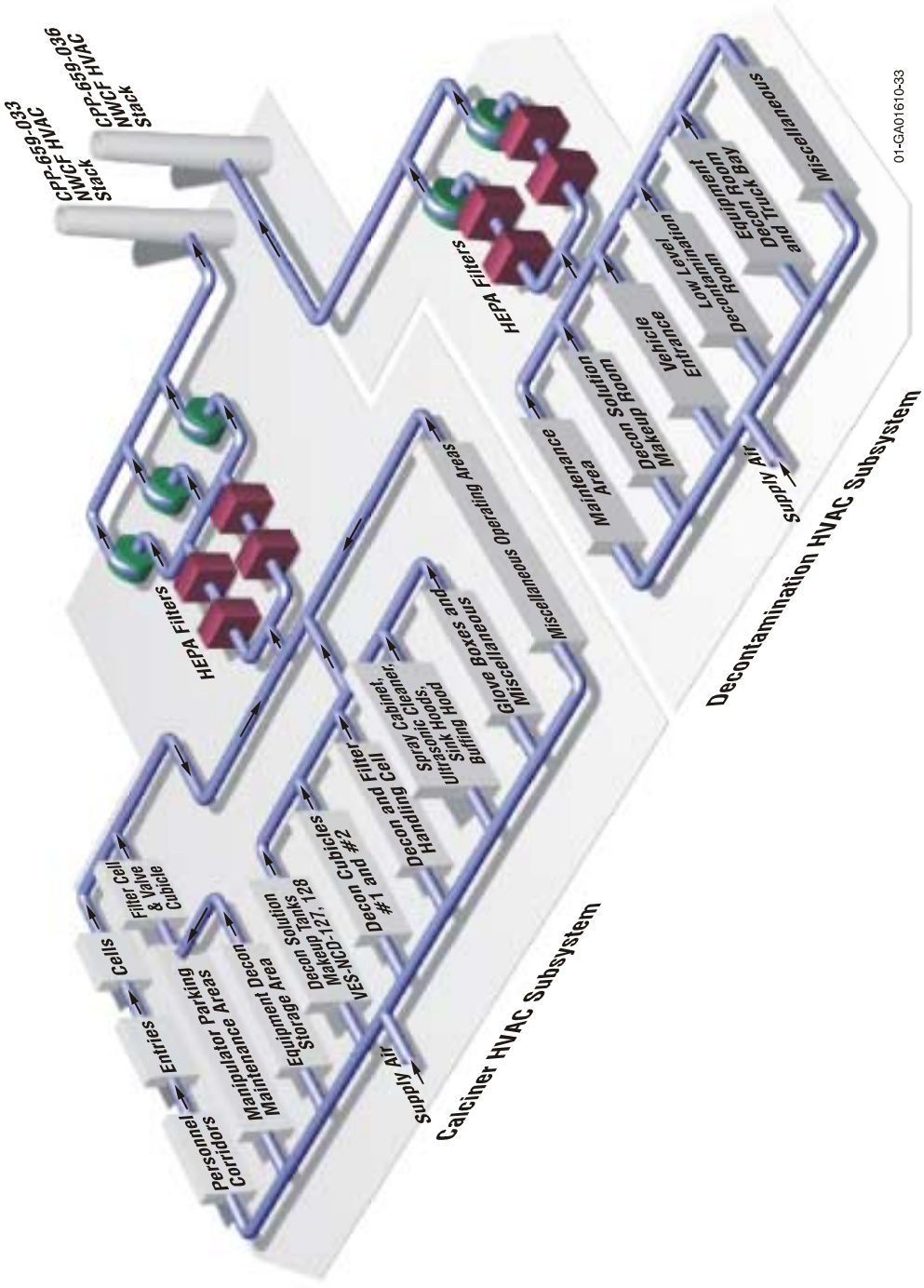


Figure IV-2-35. Process flow diagram for CPP-659-036.

2.4 CPP-666/767, Fluorinel and Storage Facility

2.4.1 General Description

The fluorinel and storage (FAST) facility consists of building CPP-666 and a 50-m-high exhaust stack (CPP-767). The FAST facility is a major facility at the INTEC for storing nuclear fuel.

The FAST facility consists of two functional areas: the fuel storage area (FSA) and the fluorinel dissolution process area (FDP). The FSA is the area for underwater storage of irradiated nuclear fuels. The FDP is the area for chemical dissolution of enriched uranium nuclear fuels; however, fuel is no longer dissolved in FDP. Included in the FSA are several essential support areas such as change rooms, offices, and the control room. These areas are shared by both the FSA and FDP as are the final exhaust HEPA filters, an underground tunnel to the CPP-767 stack, and the emergency stack bypass.

The FSA consists of the truck receiving area, the cask receiving area (including decontamination rooms), the fuel unloading area (including the fuel isolation pools), and the fuel storage pool area. When fuel is to be removed from the facility it is packaged, loaded into a shipping cask and shipped from the facility. Other support areas include the HVAC area, water treatment area, general support area, and offices. Fuel received from other locations is transported to the FAST facility, where it is unloaded and stored underwater in the FSA.

FDP dissolution activities have been discontinued and the associated process vessels have been emptied and rinsed to remove hazardous substances. The dissolver off-gas has been isolated. No gaseous effluent is expected from these areas except as a result of FDP HEPA filter removal (used filters stored in FDP cell) and decontamination and decommissioning of the process equipment.

The FAST facility is designed so that air flows from clean areas to progressively more contaminated areas before it is cleaned and released through the FAST stack. All building ventilation within the FAST facility is filtered by at least one stage of HEPA filtration prior to being released from the FAST stack, CPP-767. Figures IV-2-36 and IV-2-37 show the plan view of the FAST facility.

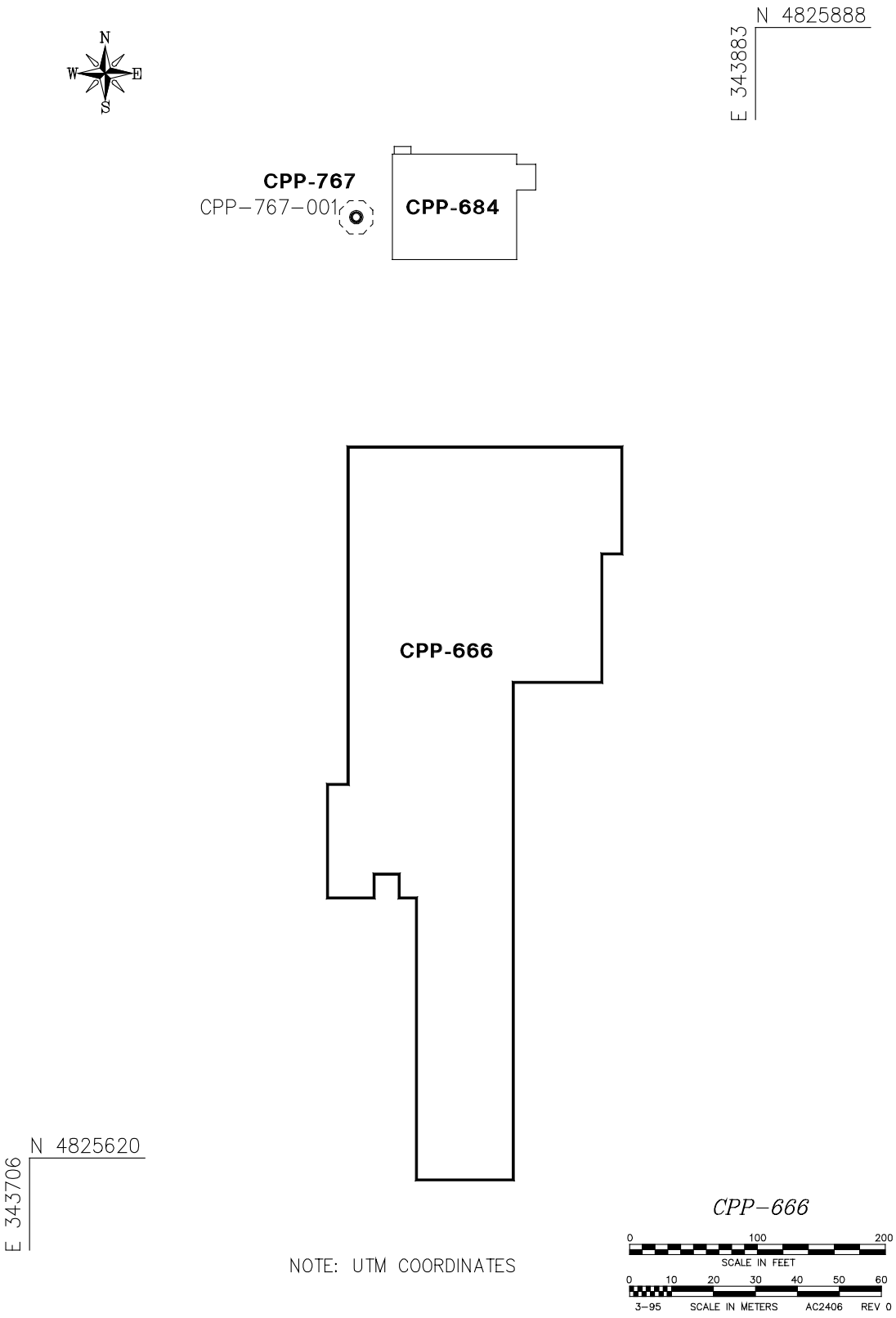


Figure IV-2-36. Plan view for CPP-666.

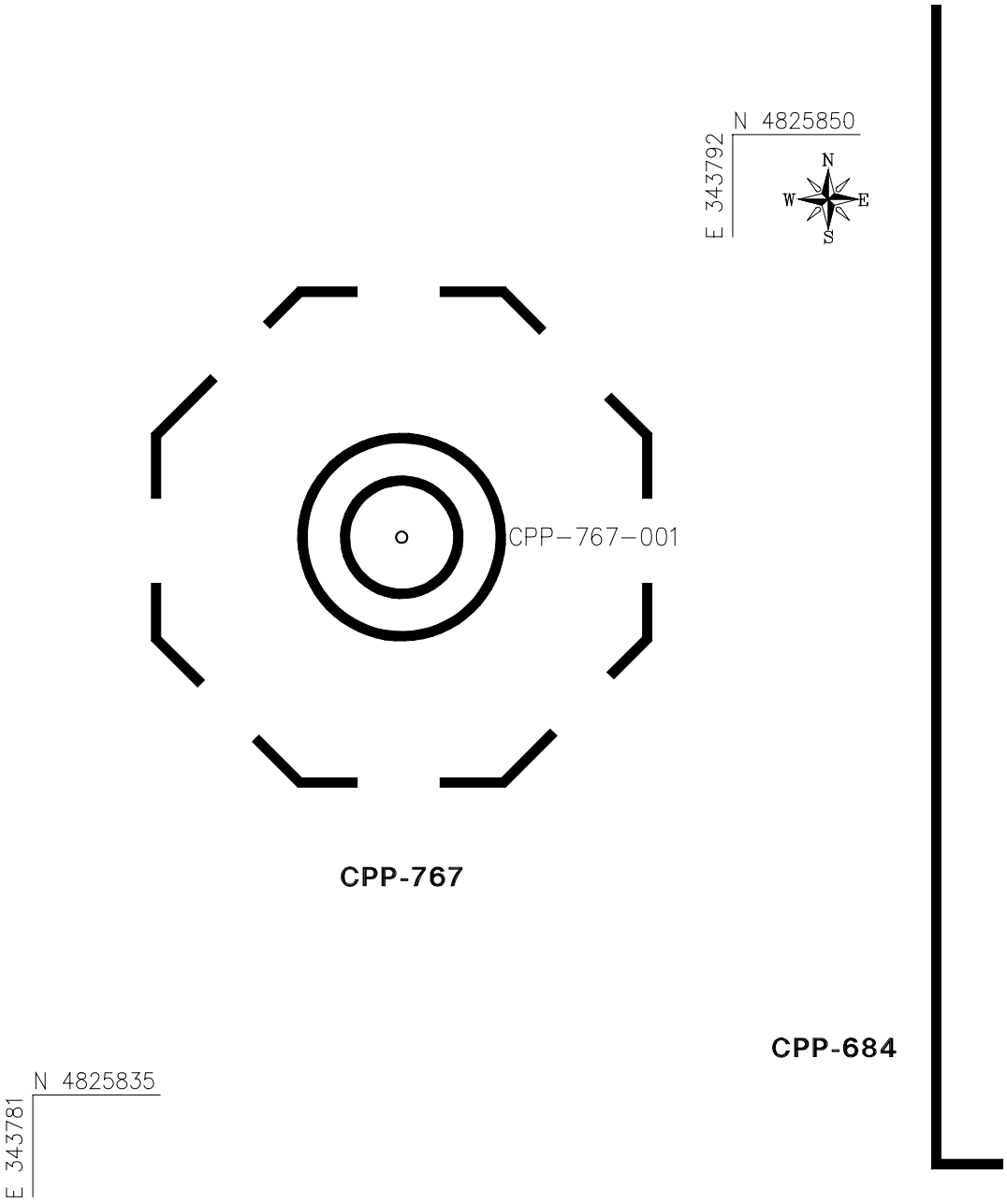


Figure IV-2-37. Plan view for CPP-767.

2.4.2 CPP-767-001 Specific Information

See Figure IV-2-38 for the state operating permit application forms for this source.

2.4.2.1 Process Description. Receipt, movement, shipment, and general handling of nuclear fuel are associated with the storage of fuel in the FAST facility. Fuel is stored in large water-filled basins. Areas in the building and equipment associated with dissolving fuel are shut down. However, ventilation is still provided to these areas for contamination control. Figure IV-2-39 shows the process flow diagram for this source.

All building ventilation is released to the environment through the FAST stack. The FAST stack (CPP-767-001) is located 50 m north of CPP-666. Exhaust air is sent to the stack from building CPP-666 via an underground tunnel. Effluent sources exhausted through the FAST stack are described below.

Building Ventilation—All ventilation air that enters CPP-666, except for small amounts introduced through personnel and vehicle entries, is filtered at a common inlet and distributed throughout the building. Air flow is directed from clean areas through progressively more contaminated areas. Air leaving the facility is directed to a common duct for routing through the final filtration system before release to the atmosphere.

Fluorinel Dissolution Process Area (FDP)—The fuel dissolution process is no longer in operation and the process vessels have been emptied and rinsed. Gaseous effluent is not expected to be generated by the FDP, except as a result of decontamination or dismantling FDP equipment.

The FDP cell is currently used to store containers of used process HEPA filters. A Resource Conservation and Recovery Act (RCRA) Part B application has been submitted for this activity.

Fuel Storage Area (FSA)—Ventilation exhaust air from the FSA area is normally below EPA and DOE concentration guidelines without filtration. However, to ensure releases are minimal, the air is passed through the FAST facility final filtration system. All gaseous effluents produced by the FSA are handled by the building ventilation system.

2.4.2.1.1 Emission Control Equipment—The FAST final exhaust is vented through four parallel filter banks. Each filter bank consists of one prefilter stage and one HEPA filter stage. Depending on operational needs, the final filtration system can operate with as little as one bank of filters and as many as four banks.

2.4.2.1.2 Emission Monitoring Equipment—Prior to discharge through the FAST tunnel and stack, the effluent is monitored per the applicable requirements of 40 CFR 61, Subpart H. For a discussion of radiological monitoring refer to Volume I, Section 5.5.

2.4.2.1.3 Maximum Regulated Pollutant Emissions—The following information describes regulated pollutants potentially emitted from this source. These quantities are not enforceable limits, but merely represent an accounting of the pollutants associated with this source for reference. Permit limits are addressed in the next section.

Pollutant	CAS	Annual emission	Units
Radionuclides in aggregate with all other sources at the INEEL	NA	10	mrem/yr

2.4.2.2 Compliance Requirements

2.4.2.2.1 Permitted Emission Limits—This source, in aggregate with all other radiological sources at the INEEL, has a radionuclide emission limit of 10 mrem/yr EDE in accordance with 40 CFR 61, Subpart H.

2.4.2.2.2 Existing Permit Requirements—The following information describes limits for the public at any point offsite where there is a residence, school, business, or office for which this source must maintain compliance. Only pollutants listed in this table will be permitted.

Pollutant	CAS	Emission limit	Units
Radionuclides in aggregate with all other sources at the INEEL	NA	10	mrem/yr
Radionuclides from Fuel Storage Area	NA	4.2E-05	mrem/yr

- All radionuclide requirements found in PTC No. 023-00001 (INTEC NO_x Source, October 18, 1999) and PTC No. 023-00001 (Fuel Storage Area, Rack Reconfiguration Project, April 5, 1996), are accounted for by the requirements for radionuclides sources found in Volume I, Section 5.5.

- According to PTC 023-00001 (INTEC NO_x Source, October 18, 1999) and PTC 023-00001 (Fuel Storage Area, Rack Reconfiguration Project, April 5, 1996), the permittee shall install, operate, and maintain at least one stage of HEPA filters having a minimum particle removal efficiency of no less than 99.97%. The permittee shall maintain and operate instrumentation to measure the pressure drop across the filter stages. HEPA filter efficiency shall be tested after installation and on an annual basis according to the ANSI N510 testing standard. All HEPA filters must be pretested and certified prior to installation and must meet government performance specifications and overpressure and rough handling requirements per MIL-F-51068. The permittee shall maintain written procedures in place that specify the conditions, which require changeout of the filters. The permittee shall monitor the pressure drop across all HEPA filter stages. Appendix A of PTC 023-00001 (Fuel Storage Area, Rack Reconfiguration Project, April 5, 1996) specifies the following additional requirements:

- HEPA filters which fail the minimum removal efficiency of 99.97% shall be either isolated or replaced within 10 days until the required efficiency is achieved.

- Each certified HEPA filter shall be operated at a pressure drop of less than 5.0 inches water column. If a HEPA filter bank exceeds a pressure drop of 5.0 inches water column, it shall be either isolated or the HEPA filters replaced within 10 days. The Idaho DEQ shall be notified in writing within 5 days of all instances of a pressure drop exceeding 5.0 inches water column.

2.4.2.2.3 Other Enforceable Requirements—Periodic Confirmatory Measurements must be conducted in accordance 40 CFR Part 61.93 (b) to determine radionuclide emissions used to demonstrate compliance with emissions limit. All emissions from this source must be included in the facility wide INEEL Annual NESHAPs Report (40 CFR Part 61.94) and records supporting the emissions measurements must be kept as stated in 40 CFR Part 61.95. See compliance methodology form in Section 5.5.1 in Volume I.

The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I.

2.4.2.3 Compliance Methodology and Status

2.4.2.3.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.4.2.3.2 Compliance Methodology Forms—For current PTC requirements, refer to Figure IV-2-40. Additionally, quality assurance and operations and maintenance procedures have been developed ("HEPA Filter Quality Assurance Program for the ICPP Fuel Storage Area Rack Reconfiguration" and "HEPA Filter Operating and Maintenance Manual for the ICPP Fuel Storage Area Rack Reconfiguration Project") for this source per the requirements of PTC 023-00001 (Fuel Storage Area, Rack Reconfiguration Project, April 5, 1996) "Fuel Storage Area, Rack Reconfiguration Project." For the radiological requirements refer to Volume I, Section 5.5.1.

2.4.2.4 Emission Calculations. The following section describes calculations used to report regulated pollutant emissions. This section does not address pollutants that are continuously monitored per federal or State of Idaho requirements. For those pollutants refer to the Process Description section.

2.4.2.4.1 Nonradionuclide Emissions—There are no nonradionuclide emissions from this source.

2.4.2.4.2 Radionuclide Emissions—This source is monitored per the regulations found in 40 CFR 61, Subpart H. Because this source is monitored, no calculations are done.

Figure IV-2-38. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION	
CPP - 767 - 001	**Building Ventilation System**	CPP - 767	
MANUFACTURER	MODEL		DATE INSTALLED OR LAST MODIFIED
NA	**NA**		**1996**

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPs IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
NA	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-38. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25	25	25	25

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT

CONTROL EQUIPMENT	
TYPE	HEPA Filter
TYPE CODE (APPENDIX H)	101
MANUFACTURER	Flanders or equivalent
MODEL NUMBER	NA
INLET TEMPERATURE (°F)	85
PRESSURE DROP (INCHES H20)	5 max
WET SCRUBBER FLOW (GPM)	NA
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	NA

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4918	343.79	4825.84	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
164	72	90,000	~85

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ALLOWABLE EMISSIONS	REFERENCE
Radionuclide	NA	NA	99.97 for particulate	NA	10 mrem/yr in aggregate with other INEEL sources	40 CFR 61.92
Radionuclide	NA	NA	99.97 for particulate	NA	4.2E—05 mrem/yr	FSA PTC-4/5/96

IN LBS/UNITS. Use same hourly UNITS given in PROCESSING DATA.

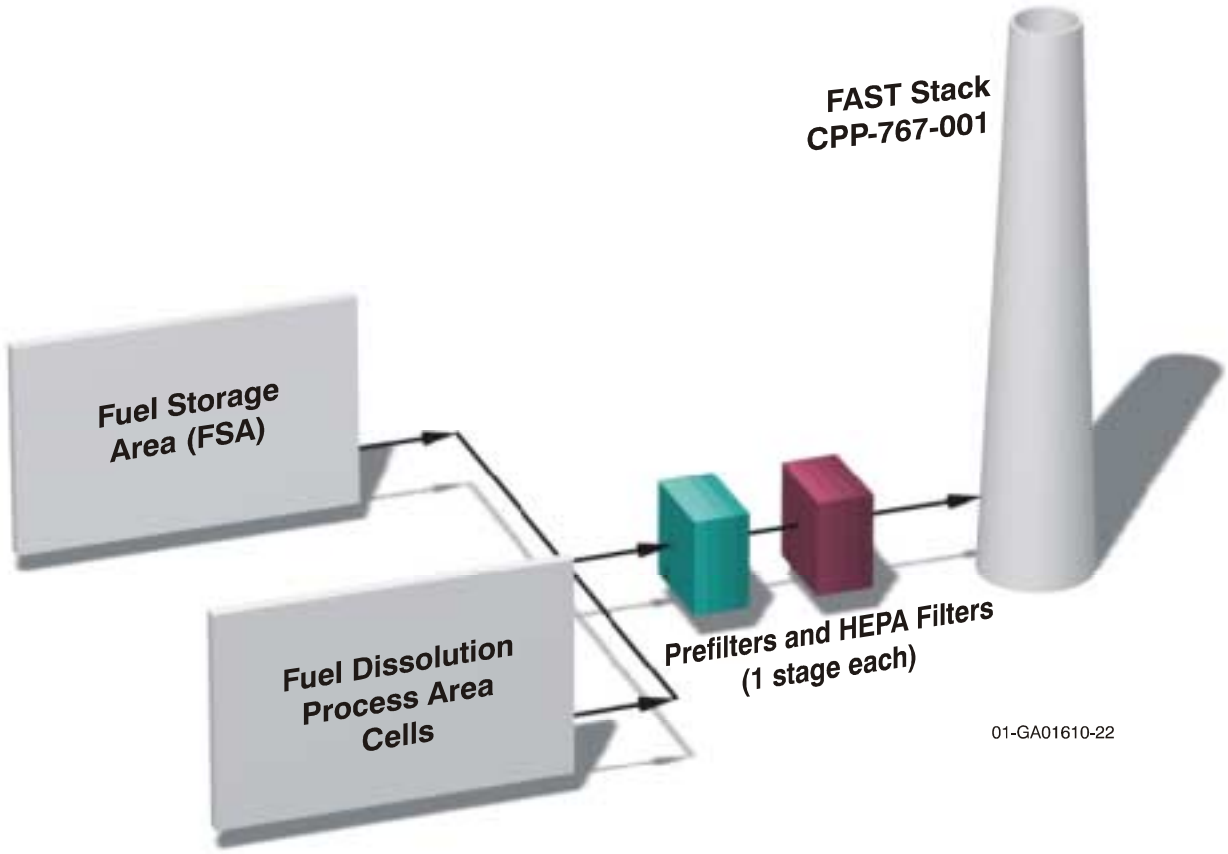


Figure IV-2-39. Process flow diagram for CPP-767-001.

Emission Point Number: CPP-767-001

REQUIREMENT 1

Requirement: Install, operate, and maintain a minimum of one (1) HEPA filter stage having a minimum particle removal efficiency of no less than 99.97%

Requirement basis: State of Idaho PTC No. 023-00001 "Idaho Chemical Processing Plant Nitrogen Oxide Sources" and PTC No. 023-00001 (Fuel Storage Area, Rack Reconfiguration Project), 4/5/96.

Compliance method type: Monitoring and recordkeeping

REFERENCE TEST METHOD

Reference test method description: HEPA filter testing shall be performed upon procurement, within 90 days of installation, and at least annually thereafter, according to the testing section of ANSI N510. All newly installed filters shall be pretested and certified prior to installation and meet the government performance specification and overpressure and rough handling requirements per MIL-F-51068.

Reference test method citation: Testing Section of ANSI N510

MONITORING

Monitoring device type: Pressure differential gauge or sensor, DOP Test Equipment

Monitor location description: DOP material is fed into the inlet of the filter and monitored at the outlet of the filter, with the filter bank isolated from the system. Pressure drop is monitored across HEPA flter stages.

Regulated air pollutant being monitored: Radionuclides

Generally describe the frequency and duration of sampling and how the data will be reported: Dates and results of all in-place efficiency tests using guidelines of ANSI N510. In addition, the permitee shall continuously monitor the pressure drop across the HEPA filter stages. If total pressure drop across the HEPA filter bank drops to 0.25 inch water column or less, indicating a breach filter, the filter bank will be isolated, or the filters replaced within 10 days.

RECORDKEEPING

Data (parameter) being recorded: HEPA filter efficiency and HEPA filter pressure drop. Procedures that specify conditions requiring HEPA filter changeout must be maintained. Dates and results of all in-place efficiency tests using guidelines of ANSI N510, dates of replacement of HEPA filters, and corrective actions taken. Records of all instances where pressure drop falls to 0.25 inch water column or less and corrective actions.

Frequency of recordkeeping (how often data recorded): Efficiency upon procurement, installation, and at least annually thereafter. Continuous pressure drop monitors are set to alarm if the pressure drop reaches 0.25 inch water column or less. Conduct of Operations requires that shift personnel to indicate in operating logs whenever the continuous pressure drop monitors "alarms." In addition, incidents are recorded via computerized system tracking.

Figure IV-2-40. Compliance Certification Form (method of compliance).

REPORTING

Generally describe what is reported:

- Annual statement to Idaho DEQ based on calendar year and due 30 days after end of calendar year, stating that all the requirements of Appendix A of PTC No. 023-00001 (Fuel Storage Area, Rack Reconfiguration Project), have been met.

- Per PTC No. 023-00001 (Fuel Storage Area, Rack Reconfiguration Project), submit annual report to Idaho DEQ indicating results of monitoring of the FAST stack emissions and the highest calculated dose equivalent as required in 40 CFR 61.94.

Frequency of reporting: Annual

Beginning date: NA

Figure IV-2-40. (continued).

Emission Point Number: CPP-767-001

REQUIREMENT 2

Requirement: Each certified HEPA filter shall be operated at a pressure drop that is limited to less than 5.0 inches water column.

Requirement basis: State of Idaho PTC No. 023-00001 (Fuel Storage Area, Rack Reconfiguration Project), 4/5/96.

Compliance method type: Monitoring and recordkeeping

REFERENCE TEST METHOD

Reference test method description: HEPA Filter Quality Assurance Program for the ICPP Fuel Storage Area Rack Reconfiguration Project.

Reference test method citation: NA

MONITORING

Monitoring device type: Pressure differential gauge or sensor

Monitor location description: Readings taken across HEPA filter stages

Regulated air pollutant being monitored: Radionuclides

Generally describe the frequency and duration of sampling and how the data will be reported: Instrumentation must be maintained and operated to measure the pressure drop across the filter stages. The permittee shall continuously monitor the pressure drop across the HEPA filter stages. If total pressure drop across the HEPA filter bank exceeds 5.0 inches water column, the filter will be isolated or the filters replaced within 10 days.

RECORDKEEPING

Data (parameter) being recorded: HEPA filter pressure drop. Procedures that specify the conditions requiring HEPA filter changeout must be maintained. Records of all instances where pressure drop exceeded 5.0 inches water column, and corrective actions.

Frequency of recordkeeping (how often data recorded): Conduct of operations requires shift personnel to indicate in operating logs whenever the continuous pressure drop monitor “alarms.” In addition, incidents are recorded via computerized system tracking.

REPORTING

Generally describe what is reported: DEQ shall be notified in writing within 5 days of all instances that pressure drop exceeds 5.0 inches water column.

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-40. (continued).

2.5 CPP-708, INTEC Main Stack

2.5.1 General Description

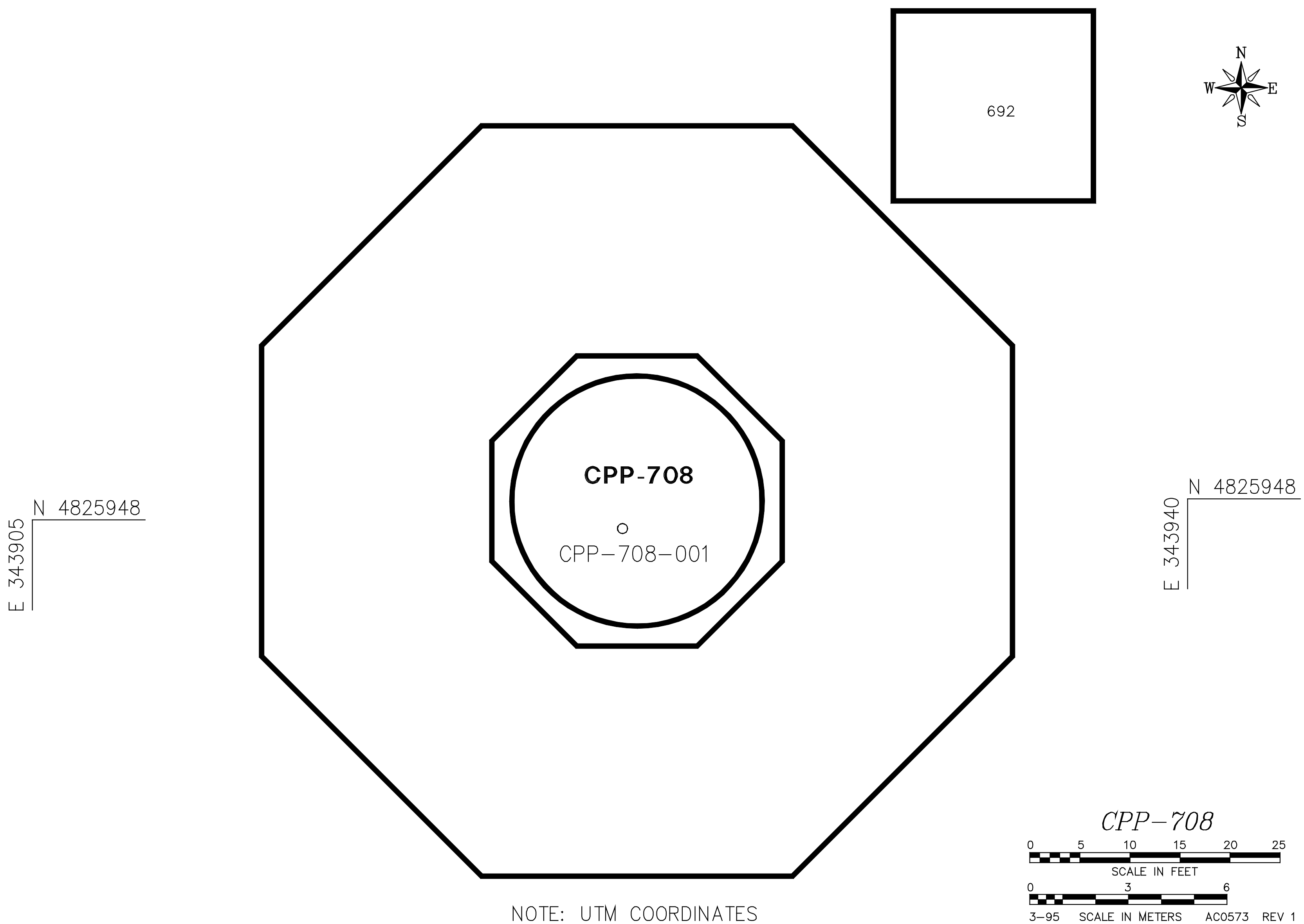
Throughout the INTEC, gaseous effluents are collected and exhausted to the main stack, where emissions are monitored and then released to the environment. The streams leading to the main stack can be classified according to their origin as well as to the activities from which they come. These sources are discussed in Section 2.5.2.1. The effluent from the main stack is monitored for oxides of nitrogen, NO_x (when the New Waste Calcining Facility [NWCF] is operating), and radionuclide emissions. Releases of NO_x and radionuclides from the main stack are regulated by the INTEC Chemical Processing Plant Nitrogen Oxide Sources Permit to Construct issued by the State of Idaho (Permit 023-00001, dated October 18, 1999).

The main stack (CPP-708-001) is located in the northeast quadrant of the INTEC, UTM Sector 12 at coordinates 343.9 km east and 4826.0 km north. The main stack is identified in Figure IV-2-41 as a circle with INTEC facility number 708. The main stack is approximately 250 ft high and has an exit diameter of 6.5 ft. The volumetric flow rate from the main stack is typically 90,000-100,000 scfm, resulting in an exit velocity of approximately 4,000 ft/min.

The unmonitored emissions being released through the main stack are calculated according to the facility or process in which they are created. However, facilities and processes dealing with radioactive liquid treatment (NWCF, process equipment waste evaporator, high-level liquid waste evaporator, and liquid effluent treatment and disposal facility) are interrelated. While the process equipment and high-level liquid waste evaporators do not contribute significantly to main stack emissions, the feed to these processes affects the resultant emissions from the NWCF and liquid effluent treatment and disposal facility to the main stack. The ASPEN computer model is used for calculating main stack emissions. With ASPEN, a maximum normal emission scenario can be modeled by looking at maximum normal feed rates, maximum throughputs, and the most efficient interaction between the processes. A list of emissions and a description of ASPEN are in Section 2.5.2.4.1.

The NWCF was shut down June 1, 2000, under a consent order with the State of Idaho. The calciner will remain shut down until a decision is made to either upgrade the facility to MACT standards and obtain the necessary permits or to deactivate the facility. This decision is awaiting completion of the Environmental Impact Statement for the Idaho High-Level Waste and Facilities Disposition, expected in calendar year 2001.

Figure IV-2-41. Plot plan for CPP-708.



2.5.2 CPP-708-001 Specific Information

See Figure IV-2-42 for the state operating permit application forms for this source.

2.5.2.1 Process Description. While the INTEC main stack is a single emission point, its effluents come from a wide variety of processes and subsystems. In addition to the attached operating permit application forms, this section includes flow diagrams showing the subsystems. Some of these subsystems in these figures are ventilation systems but are described on process application forms for lack of a more fitting form.

1. Process Atmospheric Protection System Sources

a. Dissolver Off-Gas (DOG)

The DOG is composed of effluent from E-cell and the continuous process modification system vessels. The DOG system was designed to vent gases evolved during spent fuel dissolution. Due to a mission change, spent fuel is no longer dissolved, so no gases vent to the DOG. Both DOG systems are shut down and valved out. For contamination control, the equipment previously vented to the DOG system is now vented to the vessel off-gas (VOG) system.

b. Vessel Off-Gas (VOG)

The flow in the VOG system is composed of off-gas from the high-level liquid waste tank farm tanks and steam jets, the process equipment waste evaporator systems and tanks in CPP-604, fuel processing dissolvers, vessels and tanks in CPP-601, -602, and -640, the west side waste holdup tank system in CPP-641, and the pilot plants in CPP-620 and CPP-637. The VOG filtering system consists of a mist eliminator, a superheater, and a HEPA filter. Effluents from the VOG system are discharged to the pollution control equipment associated with the process atmospheric protection system.

Below are descriptions of the processes that make up the VOG system:

- Tank Farm Facility

The tank farm facility provides interim storage space for sodium bearing waste. The eleven 300,000 gallon tanks, housed in underground vaults, are used for interim storage of highly radioactive liquid waste. One of these tanks (normally WM-190) is designated as a spare for emergency use and kept empty. The four 30,000-gal tanks (WM-103 through -106) could also be used for emergency storage, but only with special DOE authorization since they do not have a secondary containment vault. Since these four tanks are not used for normal waste storage they are not included in the emission calculations.

- Process Equipment Waste (PEW) Evaporator

The PEW evaporators are used to separate liquid mixed/low-level waste into two parts. The overheads contain low-temperature boiling point constituents suitable for further processing in the liquid effluent treatment and disposal facility. The evaporator bottoms contain high-temperature boiling point constituents suitable

for further processing in the NWCF. All tanks and vessels within the PEW evaporator system, including the noncondensible overheads, are vented to the VOG system or the building ventilation system.

- Fuel Processing Facilities (CPP-601, -602, -640)

  CPP-601, -602, and -640 contain equipment for processing spent nuclear fuel elements. The CPP-601 facility contains the 25 process cells (A through H and J through Z) that form two rows down the length of the building. The CPP-602 basement houses the denitration room, product handling room, liquid product storage (Z-Cell), and UO_3 product storage vault. The CPP-640 area contains the hot pilot plant used for fuel dissolution. Due to a change in mission, the fuel processing equipment in these facilities is no longer operating.

  The CPP-601/-602/-640 facilities contribute both ventilation air and process off gas (POG) to the CPP- 708 Main Stack atmospheric protection system (APS) flow. Typically, the process off gas exhausts from vessels and the ventilation exhausts from the secondary confinement areas within the facilities. Ventilation air-flow consists of ventilation from cells, rooms, sample stations, access corridors, operating areas, laboratories, etc. The POG system is designed to handle the more radioactive and corrosive process and vessel off gas. This system consists of off-gas flows from vessels (VOG) and dissolver systems (DOG, E-DOG, CPMDOG) within the above mentioned facilities. The POG system is the emission control system for the fuel processing facilities and is currently maintained to provide a vacuum for contamination control. Any emissions from this system from 601, 602, and 640 are considered negligible and will not be addressed separately since they are part of the VOG system.

  Two exceptions to ventilation exhausts to the CPP-708 Main Stack include the denitration area (non-vessels) and Process Makeup Area; these two areas are not routed through the main stack. Room ventilation form the denitrator room, product handling room, control room, and both gloveboxes (LC-159 and LC-164) exhaust through HEPA filtration via blowers in the CPP-602 fan loft and are then vented out the roof of CPP-602. Blower BLO-PM-218 collects off gas from the PM area vessels and then exhausts out the PM area roof. The PM area room ventilation is exhausted through the roof via blowers BLO-UTI-3500 through 3504.

- Pilot Plant Facilities (CPP-620/637)

  The pilot plant facilities, associated with buildings CPP-620 and CPP-637, are used to test and evaluate new equipment and processes, to test and evaluate current equipment and process modifications and improvements, and to provide solutions to other INTEC technical challenges. For more detail, refer to Section 1.3. The specific process development facilities encompass:

  - Chemical engineering lab high-bay facility (CPP-620)
  - High-and low-bay process improvement facility office/labs (CPP-637).

Mockups, pilot plants, and experiments in the facilities may include but are not limited to sampling, mixing, heating, dissolving, pumping or jetting, complexing, settling, and calcining. The types of experiments in these laboratories evolve as requirements dictate and programs change. After equipment completion or pilot-plant scale demonstration, modules are usually dismantled to make way for other experiments. The following examples of processes and/or operations are typical experimental programs:

- Aqueous Research
  - Dissolution
  - Solvent extraction
  - Liquid-solid studies
  - Neutralization.
- Fluidized Bed Research
  - Calcination
  - Combustion
  - Particulate studies
  - Solid-gas studies.
- Miscellaneous Tests and Evaluations
  - Nozzle and atomization tests
  - Particle property measurements
  - Instrument and equipment evaluations
  - Computer applications
  - Corrosion tests
  - NOx abatement tests.

The permit to construct established emission limits for several facilities in CPP-620/637 that have been physically dismantled. These facilities will not be addressed in this application. The disassembled facilities include solvent cleanup, PEW evaporator pilot plant, electrolytic dissolver, FPR evaporator, and the Fluor/INEEL/fountain dissolver.

c. Waste Calcining Off-Gas

The flow in the waste calcining off-gas system is composed of off-gas from the New Waste Calcining Facility (NWCF) and previously the Waste Calcining Facility (WCF). The NWCF and the WCF were built to reduce high-level liquid waste to a smaller volume and a more stable solid known as calcine. The NWCF replaced the WCF. The NWCF calciner was shut down June 1, 2000, under a consent order with the State of Idaho. The calciner will remain shut down until a decision is made to either upgrade the facility to MACT standards and obtain the necessary permits or to deactivate the facility. This decision is awaiting completion of the Environmental Impact Statement for the Idaho High-Level Waste and Facilities Disposition, expected in calendar year 2001.

- NWCF

  The NWCF calcination process has four subsystems: (1) feed preparation, (2) calcination, (3) off-gas cleanup, (4) liquid waste handling, and (5) the high-level liquid waste evaporator system. These subsystems are described below. Normal operational activities at NWCF are also described.

  (1) Feed Preparation

  The blend tank (VES-NCC-101), the hold tanks (VES-NCC-102 and VES-NCC-103), and the feed tank (VES-NCC-104) compose the feed preparation system at the NWCF. The purpose of the feed preparation system is to blend waste solutions prior to calcination.

  There are many possible feed types for the calciner, but the source of waste solution for calcination is the tank farm facility. In addition, the liquid waste generated during calcination may be recycled. Batches of specified waste solutions are transferred to the feed preparation equipment, where the waste solutions are blended in accordance with process specifications, and then mixed with other additives (e.g., boric acid and calcium nitrate) to optimize the calcination process.

  Zirconium/fluoride-bearing, aluminum-bearing, and sodium-bearing waste solutions from fuel dissolution, processing, and decontamination activities are the major radioactive mixed waste types stored at the INTEC tank farm facility, and therefore account for most of the radioactive mixed waste liquids received for feed preparation. Zirconium/fluoride-bearing and aluminum-bearing wastes were from fuel dissolution and processing. Sodium-bearing wastes are primarily generated by decontamination activities.

  Zirconium/fluoride-bearing and aluminum-bearing waste solutions from the tank farm facility may be prepared and calcined alone or mixed with other types of waste solutions. The sodium-bearing waste from the facility and the liquid process waste solutions generated by the calcination processes must be blended with the zirconium/fluoride-bearing or aluminum-bearing solution to prevent agglomeration

(clustering) of the particles in the fluidized bed during calcination and in the calcined solids storage facility.

Calcium nitrate is added to the fluoride-bearing wastes to prevent corrosion of the stainless steel off-gas equipment. Calcium nitrate is also added to the waste feed to enhance the formation of stable calcium fluoride during calcination and to minimize fluoride volatization.

Waste solutions from the calcination processes that are, or may be, recycled to the feed preparation vessels are usually from the following sources:

- Off-gas scrub solution from the scrub hold tank, VES-NCC-108
- Process waste solution from the fluoride hot sump tank, VES-NCC-119
- Process waste solution from the nonfluoride hot sump tank, VES-NCC-122
- Decontamination solutions from the decontamination area hold tank, VES-NCC-123.

(2) Calcination System

The calcination system consisted of the calciner (VES-NCC-105), the feed and fuel supply systems, the fluidized air system, the high-efficiency cyclone (VES NCC-107), and the product transport system. The calcination system treated wastes received from the feed preparation system. The process generated calcine solids that were stored in the calcined solids storage facility (CSSF).

Calcination is a process in which the waste solution is evaporated, the dissolved metals and fission products are converted to metal oxides and salts, and nitric acid is decomposed to NO_x. The process at the NWCF used a fluidized bed wherein the waste solution was evaporated and solidified on a heated bed of particles in the calciner vessel.

Radioactive solutions at the NWCF were calcined by spraying the waste solution from the feed tank through atomizing nozzles into a heated, fluidized bed of granular particles maintained at approximately 500°C. The bed was heated by combustion of oxygen and atomized kerosene and/or spent organic solvent, and fluidized by an electrically heated flow of fluidizing air from the bottom of the vessel. The upward-flowing airstream kept the solid particles suspended and in motion (fluidized).

At the start of a processing campaign or after emptying out the bed, startup bed material was added to the calciner vessel. The startup bed material was usually dolomite [$CaMg(CO_3)_2$] because it is very stable at 500°C and is soluble in nitric acid.

The 500°C calcination temperature rapidly evaporated the waste solution, leaving the dissolved metals and fission products to form a coating on the fluidized bed of solid particles. As more waste solution

was calcined, the bed particles grew in size. Due to the fluidizing action, small pieces broke off from the large particles and continued to grow. Excess bed material was withdrawn from the bed and was pneumatically transported to stainless-steel storage bins in the CSSF for long-term storage. The high-efficiency cyclone at the exit of the calciner vessel removed particulate fines carried into the off-gas. These fines were also transported to the CSSF.

The CSSF consists of seven bin sets. The air used to transport the calcine was vented back through the NWCF off-gas cleanup system. There are currently five sets of filled bins. The sixth bin set is being filled, and the seventh bin set has the potential to receive non-calcined liquid waste. Each bin set consists of stainless steel bins (up to seven) inside a concrete vault. Bin sets 1, 2, and 3 are vented through the process atmospheric protection system via the WCF off-gas line. Bin sets 4, 5, 6, and 7 are connected to the NWCF off-gas line when being filled, but are otherwise isolated and vented to the atmosphere. Bin sets 4, 5, 6, and 7 will be addressed in this permit as separate emission points.

(3) Off-Gas Cleanup System

The NWCF process off-gas consists largely of CO_2, CO, radionuclides, and NO_x, which is formed when the nitrate tank farm facility wastes are decomposed as they are calcined. Other constituents present in much smaller quantities include metals, volatile organics, and semivolatile organics. The emission rate of NO_x and radionuclides from the main stack is permitted. The amount of waste processed at the NWCF is controlled to ensure that these limits are not exceeded. In addition, the off-gas cleanup system for the NWCF is maintained to ensure control of radionuclide emissions.

Radioactive gaseous wastes generated in the calcination process are routed through the NWCF off-gas cleanup system before being discharged to the INTEC main stack via the process atmospheric protection system. The off-gas cleanup system performs three main functions:

- Quenches and scrubs process off-gas
- Filters off-gas
- Transfers off-gas to the Process Atmospheric Protection System.

The off-gas cleanup system is composed of the following major equipment:

- High-efficiency cyclone (VES-NCC-107)
- Wet scrubber system

- Off-gas HEPA filters (F-NCC-130-1, -2, -3, -4).

The high-efficiency cyclone, located near the top of the calciner vessel, removes most of the solid fines generated in the fluidized bed of the calciner and adds them to the product transport line for transport to the CSSF. The off-gas, containing particles not removed by the cyclone, leaves the cyclone and flows to the quench tower and venturi scrubber where it is contacted with scrub solution. The scrub solution (containing nitric acid) cools the off-gas and dissolves most of the entrained solid particles. The scrub solution containing the dissolved particulate matter is recirculated back to the calciner feed system or to the tank farm facility.

From the quench tower and venturi scrubber, off-gas is routed to the HEPA filter banks. Prior to entering the HEPA filters, the process off-gas is joined by the NWCF vessel off-gas, which is the off-gas from various tanks related to the process. These tanks include the scrub hold tank, the feed tanks, and the blend and hold tanks. Any uncondensed off-gas from the high-level liquid waste evaporator also combines with the process off-gas at this point. The combined off-gases flow through the HEPA filters to remove any remaining particulate.

The HEPA filters are in a configuration of four parallel banks of filters (VES-NCC-130-1, -2, -3, -4). Two banks are usually online, but when necessary the process is run with only one bank. Each filter bank consists of a prefilter and two HEPA filters in series, each with two HEPA filters in parallel. Although each filter bank contains three stages of filters, these banks are tested to demonstrate the filter removal efficiency of only two stages of filters in series (i.e., two stages of filters with a removal efficiency of 99.97% each).

Each filter bank is tested upon installation and at least annually thereafter. The output of the four filter banks combines into a common header where it is discharged to the process atmospheric protection system and from there to the INTEC main stack (CPP-708-001).

(4) Process Liquid Waste System

Process liquid waste generated in the NWCF calcination and decontamination operations collects in a liquid waste handling system until it can be (1) recirculated through the calcination process, (2) transferred to the PEW evaporator, or (3) transferred to the tank farm facility. The principal liquid waste handling equipment is in the hot sump tank cell (102) at the lowest point of CPP-659. The fluoride hot sump tank (VES-NCC-119) and the nonfluoride hot sump tank (VES-NCC-122) are the storage vessels in the hot sump tank cell. In addition, interim hold tanks collect liquid waste generated at the source areas until a transfer to the hot sump tank cell can be made. The tanks vent to the NWCF vessel off-gas system upstream of the NWCF HEPA filters.

(5) High-Level Liquid Waste Evaporator

Many of the solutions that the NWCF might calcine in the future will not contain enough dissolved solids to achieve proper calcination conditions. Solutions can come from the tank farm, NWCF, PEW, or liquid effluent treatment and disposal facility (LET&D). In the past, cold chemicals such as aluminum nitrate were added to boost the dissolved solid content to the point where the liquid waste could be calcined. With the evaporator, solutions will be evaporated to a point where the addition of cold chemicals will not necessarily be required. The net result will be that a smaller volume of calcined waste will be generated. The high-level liquid waste evaporator will operate at a feed rate of no greater than 1,080,000 gal/yr and an operating time of no greater than 5,400 hr/yr.

d. WCF

The WCF, building CPP-633, has been closed and all off-gas lines are cut and capped. Off-gas effluents from WCF have been terminated.

2. LET&D

The LET&D Facility (CPP-1618) is part of the liquid mixed/low-level waste treatment system at the INTEC. The PEW evaporator system receives liquid mixed/low-level waste from the various INTEC processes and separates them, by distillation, into low-activity and high-activity waste fractions. The high-activity concentrated bottoms fraction is transferred to the tank farm facility and the low-activity overheads are condensed and transferred to the LET&D Facility. These condensed overheads are slightly radioactive and acidic.

At the LET&D Facility, the condensate is concentrated by acid fractionation to reduce the volume of waste requiring treatment or storage. Fractionating the waste distills the PEW condensate, concentrating the nitric acid and nonvolatile radionuclides and chemicals. The high acid bottoms solution collected from the fractionation process is transferred to the NWCF acid recycle tank, to the tank farm facility, or to the PEW system for reuse of the acid.

LET&D process off-gas consists of low acid water vapor from the fractionator vessels. This off-gas passes through one of two identical, parallel, and independent off-gas systems, or "trains." Each train consists of a mist eliminator, superheater, HEPA filter, and blower. Off-gas from either fractionator may be processed through either off-gas train, and is then discharged to the main stack.

Ventilation off-gas from the LET&D Facility is routed through the building ventilation system, then to the ventilation atmospheric protection system (VAPS).

3. Ventilation Atmospheric Protection System Sources

The ventilation air system is composed of ventilation air from CPP-601, -602, -604, -640, -649, and -1618. This air is used to heat, ventilate, and control contamination for the above facilities. Effluents from laboratory hoods and processes are not included in the normal ventilation air. The ventilation air, which comprises the bulk of the flow to the main stack,

flows from the occupied office/laboratory areas, through the operating corridors, through the cells, and finally passes through the VAPS.

The VAPS off-gas cleanup system consists of a packed bed fiberglass prefilter and HEPA filters arranged in 26 parallel banks of four parallel filters.

2.5.2.1.1 Emission Control Equipment—The systems and facilities that collect and transport off-gas to the main stack consist of the following: (1) the process off-gas system, (2) the LET&D system, and (3) the ventilation air system. In addition to these pollution control systems for the main stack, individual processes have additional pollution control equipment.

1. Process Off-Gas System

The process off-gas system is composed of three individual off-gas streams: dissolver off-gas (now shut down), vessel off-gas, and waste calcining off-gas (consisting of the NWCF off-gas and a vent from bin sets 1, 2, and 3). Off-gas from these three streams flows through the process atmospheric protection system (PAPS). The system consists of a mist eliminator, a superheater, a single stage of five parallel HEPA filters, and two blowers. The blower effluent is discharged to the main stack. Each of the streams that compose the main stack process off-gas system has pollution control equipment upstream of the PAPS. Some pilot-plant facilities in CPP-620/637 can bypass the PAPS, passing through a separate HEPA filter and blower.

2. LET&D Facility

Each LET&D off-gas train consists of a mist eliminator, a superheater, a HEPA filter bank, and a blower. The function of the mist eliminators is to remove liquid droplets entrained in the off-gas stream, and the HEPA filters remove any particulates. Each superheater, HEPA filter bank, and blower combination (train) can be used with either fractionator. There are two banks of HEPA filters, one of which is required to be operating whenever a fractionator is operated. Each filter bank consists of two filter stages in series, each stage consisting of two filters in parallel.

3. The Ventilation Air System

The ventilation air system consists of heating, cooling, and contamination control flows from several facilities. All ventilation streams that are part of this system pass through the VAPS prior to entering the main stack. The gas cleanup system consists of a packed bed fiberglass prefilter, 104 HEPA filters arranged in 26 parallel banks of four parallel filters, and three blowers. The blowers can be operated in different configurations depending on the needs of the system. The blowers provide the motive force for the effluent and exhaust the air to the main stack

2.5.2.1.2 Emission Monitoring Equipment—The main stack monitoring system can monitor for particulate and gaseous radionuclides as well NO_x emissions. This monitoring system consists of a sample nozzle rake, a thermal mass flow sensor rake, a heated transport line, an NO_x monitor, an online radionuclide particulate monitor, a gaseous radionuclide sampler, and a bulk filter particulate collector. Monitoring equipment for the main stack is located in facility CPP-692 at the base of the main stack. Monitoring equipment on the main stack complies with the requirements of 40 CFR 60, Appendix B, for NO_x emission monitoring and 40 CFR 61, Subpart H, for radionuclide emission monitoring.

1. Nonradioactive Emissions

Currently NO_x is the only nonradioactive emission from the main stack that requires continuous emission monitoring per the requirements of 40 CFR 60. This monitoring system has undergone its initial relative accuracy test and received approval from the State of Idaho DEQ. Data from the NO_x monitor are continuously archived to a distributive control system at the NWCF, CPP-659. This system generates reports and sets off alarms if hourly averages exceed permit limits. The distributive control system can also calculate projected hourly averages based on current NWCF feed rates. The NWCF is the only significant source of NO_x emissions to the main stack. Therefore, NO_x monitoring is required only when the NWCF is operating.

2. Radionuclide Emissions

The potential unmitigated source term for the INTEC main stack exceeds a dose of 0.1 mrem/yr to the maximally exposed individual beyond the INEEL Site boundary. Per the requirements of 40 CFR 61, Subpart H, the main stack is monitored for radionuclides contributing greater than 10% to the unmitigated source term. However, the main stack radionuclide monitoring system can monitor for a wide range of particulate and gaseous radionuclides.

The online particulate monitor consists of a 2-in.-diameter HEPA filter and a scintillation detector. The detector monitors the HEPA filter to ensure real-time detection of any accidental releases. The bulk filter particulate collector is a 6-in.-diameter HEPA-rated filter. The bulk filter and the filter from the online particulate monitor are replaced weekly and are analyzed for gamma-emitting particulates. The weekly filters are composited and each month are analyzed for radiostrontium and plutonium isotopic composition.

A gaseous radionuclide sampler is also part of the main stack monitoring system. The gaseous radionuclide sampler is used for process knowledge and is not intended to fulfill any environmental monitoring requirements. Should the main stack begin to emit a gaseous radionuclide that contributes greater than 10% of the unmitigated effective dose equivalent, that radionuclide would be monitored under the requirements of 40 CFR 61, Subpart H.

2.5.2.1.3 Maximum Regulated Pollutant Emissions—Following is a list of regulated pollutants potentially emitted from this source. The quantities listed represent emission releases based on the normal operating capacity associated with this emission point. These quantities are not enforceable limits, but merely represent an accounting of the pollutants associated with this source. The liquid waste system, which is processed and contributes to the emissions from this source, can and does accept any of the federally or State of Idaho regulated pollutants. However, those federally regulated HAPs not found on the list are considered insignificant because they are emitted at a rate of less than 1 ton/yr individually.

Collectively, HAPs from this source are emitted at a rate of less than 12.5 ton/yr. Minor quantities of ozone-depleting chemicals are also emitted from this source at a rate less than 10 lb/yr.

Pollutant	CAS	Annual emission	Units	Criteria pollutant
radionuclides	—	10	mrem	—
NO_x	—	4.1E + 02	ton/yr	X
carbon monoxide	630-08-0	2.1E + 02	ton/yr	X
sulfur dioxide	7446-09-5	2.4E – 01	ton/yr	X
lead	13171368	6.5E - 08	ton/yr	X
VOCs (total organic)	—	1.4E + 01	ton/yr	X
mercury	7439-97-6	7.5E - 03	ton/yr	—
hydrogen chloride	7647-01-0	1.1E + 00	ton/yr	—
nitric acid	7697-37-2	2.6E + 01	ton/yr	—

2.5.2.2 Compliance Requirements

2.5.2.2.1 Permitted Emission Limits—This source must comply with the following limits.

Pollutant	CAS	Emission limit	Units
Radionuclides in aggregate with all other sources at the INEEL	NA	10	mrem/yr
Nitrogen oxides	NA	472 1700	lb/hr ton/yr

2.5.2.2.2 Existing Permit Requirements—PTC 023-00001 (INTEC, NO_x Sources, October 18, 1999).

1. NO_x emissions shall not exceed 472 lb/hr or 1,700 ton/yr, as determined by the in-stack continuous emission monitoring system, by approved Environmental Protection Agency reference methods, or approved alternatives. Because the NWCF is the only significant contributor of NO_x emissions to the main stack, continuous emission monitoring for NO_x is required only when the NWCF is operating.

2. The permittee shall install, operate, and maintain at least one stage of HEPA filters having a minimum particle removal efficiency of no less than 99.97%. The permittee shall maintain and operate instrumentation to measure the pressure drop across the filter stages. HEPA filter efficiency shall be tested after installation and on an annual basis according to the ANSI N510 standard. All HEPA filters must be pretested and certified prior to installation and must meet government performance specifications and overpressure and rough handling requirements per MIL-F-51068. The permittee shall maintain written procedures in place that specify the conditions that require change out of the filters. The permittee shall monitor pressure drop across the HEPA filter stages.

3. Maintain and operate an in-stack continuous emission monitoring system, for the measurement of NO_x and gas flow rate, which meets the requirements of 40 CFR 60 Appendix B, Specification 2. For the purposes of NO_x monitoring, this monitoring system is required only to operate when the NWCF is operating.

4. For NO_x compliance monitoring, have in place a quality assurance program meeting the requirements of 40 CFR 60, Appendix F.

5. Monitor the water flow rate and pressure drop across all scrubbers (NWCF wet scrubber system).

6. All radionuclide requirements found in PTC 023-00001 (INTEC NO_x Sources, October 18, 1999) are accounted for by the requirements for radionuclide sources found in Volume I, Section 5.5.1, of this permit. This source must be in compliance with all radionuclide source requirements found on the compliance form in Volume I, Section 5.5.1.

7. Periodic confirmatory measurements must be conducted in accordance 40 CFR Part 61.93 (b) to determine radionuclide emissions used to demonstrate compliance with emissions limit. All emissions from this source must be included in the facilitywide INEEL Annual NESHAPs Report (40 CFR Part 61.94) and records supporting the emissions measurements must be kept as stated in 40 CFR Part 61.95. See compliance methodology form in Section 5.5.1 in Volume I.

2.5.2.2.3 Other Enforceable Requirements—The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I. This requirement shall not apply when the presence of uncombined water, nitrogen oxides and/or chlorine gas are the only reason(s) for the failure of the emission to comply.

2.5.2.3 Compliance Methodology and Status

2.5.2.3.1 Compliance Plan—This source is in compliance and will continue to comply with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operation permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

Requirement 4 of Section 2.5.2.2.2 refers to quality assurance documentation that is not currently available. However, the main stack NO_x monitoring system is only required to operate during NWCF operation, which is currently in a planned shutdown mode. Under an agreement with the State of Idaho DEQ, this documentation will be prepared and approved prior to the next NWCF startup.

2.5.2.3.2 Compliance Methodology Forms—For current PTC requirements refer to the compliance forms found in Figure IV-2-49. For the radiological requirements refer to Volume I, Section 5.5.1.

2.5.2.4 Emission Calculations. The following section describes calculations used to report regulated pollutant emissions. This section does not address pollutants that are continuously monitored

under federal or State of Idaho requirements. For continuously monitored pollutants, refer to Section 2.5.2.1.2.

2.5.2.4.1 Nonradionuclide Emissions—

1. NO_x Emissions

The main stack, CPP-708-001, is continuously monitored for NO_x emissions. For a discussion of the monitoring system and calculation parameters, refer to Section 2.5.2.1.2 of this source-specific section.

2. Hazardous Air Pollutants

The INTEC waste processing units, which emit to the main stack, CPP-708-001, are operated as an integral system. These units include the LET&D Facility, the PEW evaporator system, the high-level liquid waste evaporator, and the NWCF. To calculate annual emissions of hazardous air pollutants, it is necessary to model the waste processing units as an integral system. The steady-state model used was developed with commercially available and EPA-recognized process simulation software (ASPEN Plus).

The INTEC liquid wastes are mixed (radioactive-hazardous) aqueous wastes typically composed of solutions of nitric acid, sodium nitrate, and aluminum nitrate contaminated with low concentrations of chloride, fluoride, hazardous metals, hazardous organic chemicals, and radionuclides. The aqueous wastes can be divided into two groups: (1) wastes from past reprocessing operations that are stored in large stainless steel tanks, and (2) low-level wastes generated by current laboratory and cleanup operations. HLW remains in Tank WM-188.

The INTEC solidifies and vaporizes liquid wastes with an integrated system that interconnects the waste calciner (NWCF), two evaporator systems (PEW and high-level liquid waste), and an acid fractionation system (LET&D). The core of the waste processing system is the calciner, which solidifies concentrated aqueous wastes for storage in the CSSF. The PEW evaporator separates the wastes and sends the bottoms (high boiling point fraction) to liquid waste storage before the bottoms are solidified by the calciner. The condensate (low boiling point fraction) from the PEW evaporator goes to the LET&D system, which uses an acid fractionator to vaporize most of the liquid for atmospheric discharge. The high-level liquid waste evaporator concentrates the more dilute of the liquid wastes in storage, thereby improving calciner operation and reducing waste volumes. Condensable off-gas from the evaporator is sent back to the PEW or tank farm facility. All gaseous effluents are treated with two or more HEPA filters before being released from the main stack.

The waste processing system is modeled as an integral system (rather than modeling individual processes) because of the many interactions among individual processing units. The simulation strategy is to provide an extensive simulation covering every significant process and stream. Wherever feasible, relatively simple simulation blocks are used to represent process steps. The chemistry is restricted to the most significant reactions. A steady-state approximation, which appears conservative, is used to model the many batch processes.

The model is designed to provide maximum normal emissions. Hazardous species concentrations in feed streams are specified at maximum feasible values. The model is centered on the NWCF, which is operated to an NO_x limit of 472 lb/hr. The NWCF flowsheet used (for calcine containing 11.5% Na + K) is the one giving a feed with the highest anticipated concentrations of hazardous species.

The calculated emissions are a combination of specified and calculated emissions.

- The NO_x emission is based on a permit limit. The feed rates for the simulation are adjusted to provide the emission.
- The emissions of CO, Hg, and unburned hydrocarbons are based on extrapolations to maximum feed rate of emissions for worst observed operation.
- The emissions of HCl, HF, Cl_2, HNO_3 and hydrocarbons are based on vapor-liquid equilibria in the evaporators, the NWCF scrub system, the sparged vessels, and the air lifts.
- The emissions of nonvolatile metal ions are based on entrainment from airlifts, sparged vessels, evaporators, and the calciner.

The resulting simulation is a complex array with many process blocks, many streams, and five internal recycle loops. The simulation is able to converge the recycle loops, calculate emissions, and show the disposition of all the species. The recycle loops of concern are:

- Transport air returning from the calcine bins to the calciner
- NWCF scrub recycle from the scrub system to a feed vessel (this loop is particularly significant because of the metal ions, which tend to build up in the scrub system over time)
- Liquid draining from the NWCF mist eliminator to the scrubber
- Acid vapors venting from the NWCF feed vessels to the equipment vent condenser, which drains condensate to the nonfluoride waste collection tank and is normally transferred to the PEW evaporator and LET&D for processing. The nitric acid in the LET&D bottoms is recycled to the NWCF scrub system.
- Acid vapors venting from the acid recycle vessel to the equipment vent condenser also are returned to the PEW evaporator and LET&D.

The emissions from the waste processing system to the main stack are listed in Section 2.5.2.1.3. The calculated emissions of cadmium to the atmosphere are particularly low because of the multiple HEPA filters on each discharge stream. The calculated emissions of the hazardous gases and acid vapors are higher than the metal ions because these species are relatively volatile and HEPA filters do not retain them.

2.5.2.4.2 Radionuclide Emissions—The INTEC main stack, CPP-708-001, is a continuously monitored source per the requirements of 40 CFR 61, Subpart H. For a general discussion of the monitoring requirements refer to Volume I, Section 5.5.1. For a discussion of monitoring hardware for this source, refer to Section 2.5.2.1.2.

Figure IV-2-42. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A — GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION
CP - 708 - 001	**Main stack off-gas emissions**	CPP - 708

MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED
WINCO	**NA**	**04/03/95**

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**Off-gas**	**9.6×10^6 SCF**	**6.3×10^6 SCF**	**55.188×10^9 SCF**	**SCF**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPs IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
NA	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-42. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25	25	25	25

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT

PARAMETER	PRIMARY	SECONDARY
TYPE	See subsystems descriptions	
TYPE CODE (APPENDIX H)	NA	
MANUFACTURER	NA	
MODEL NUMBER	NA	
INLET TEMPERATURE (°F)	NA	
PRESSURE DROP (INCHES H_2O)	NA	
WET SCRUBBER FLOW (GPM)	NA	
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA	

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
Y	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4916	343.92	4825.94	02

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
250	78	100,000 (nominal)	~85

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ESTIMATED OR MEASURED EMISSIONS (TON/YR)	ALLOWABLE EMISSIONS (LB/HR)	ALLOWABLE EMISSIONS (TON/YR)	REFERENCE
Radionuclides	—	—	99.97 per HEPA for particulates	10 mrem/yr aggregate with other INEEL sources		10 mrem/yr in aggregate with other INEEL sources		40 —FR 61.92
NO_x	—	—	0.0	—	4.1E + 02*	472 lb/hr	1700 ton/yr	PTC— 023-00001
Carbon monoxide	630-08-0	—	0.0	—	2.1E + 02*	—	—	—
Sulfur dioxide	7446-09-5	—	0.0	—	2.4E – 01*	—	—	—
Lead	13171368	—	0.0	—	6.5E – 08*	—	—	—
VOC (total organic)	—	—	0.0	—	1.4E + 01*	—	—	—
Mercury	7439-97-6	—	0.0	—	7.5E – 03*	—	—	—
Hydrogen chloride	7647-10-0	—	0.0	—	1.1E + 00*	—	—	—
Nitric acid	7697-37-2	—	0.0	—	2.6E + 01*	—	—	—

IN LBS/UNITS. Use same hourly UNITS given in PROCESSING DATA

*Data from 1999 AEI actual emissions

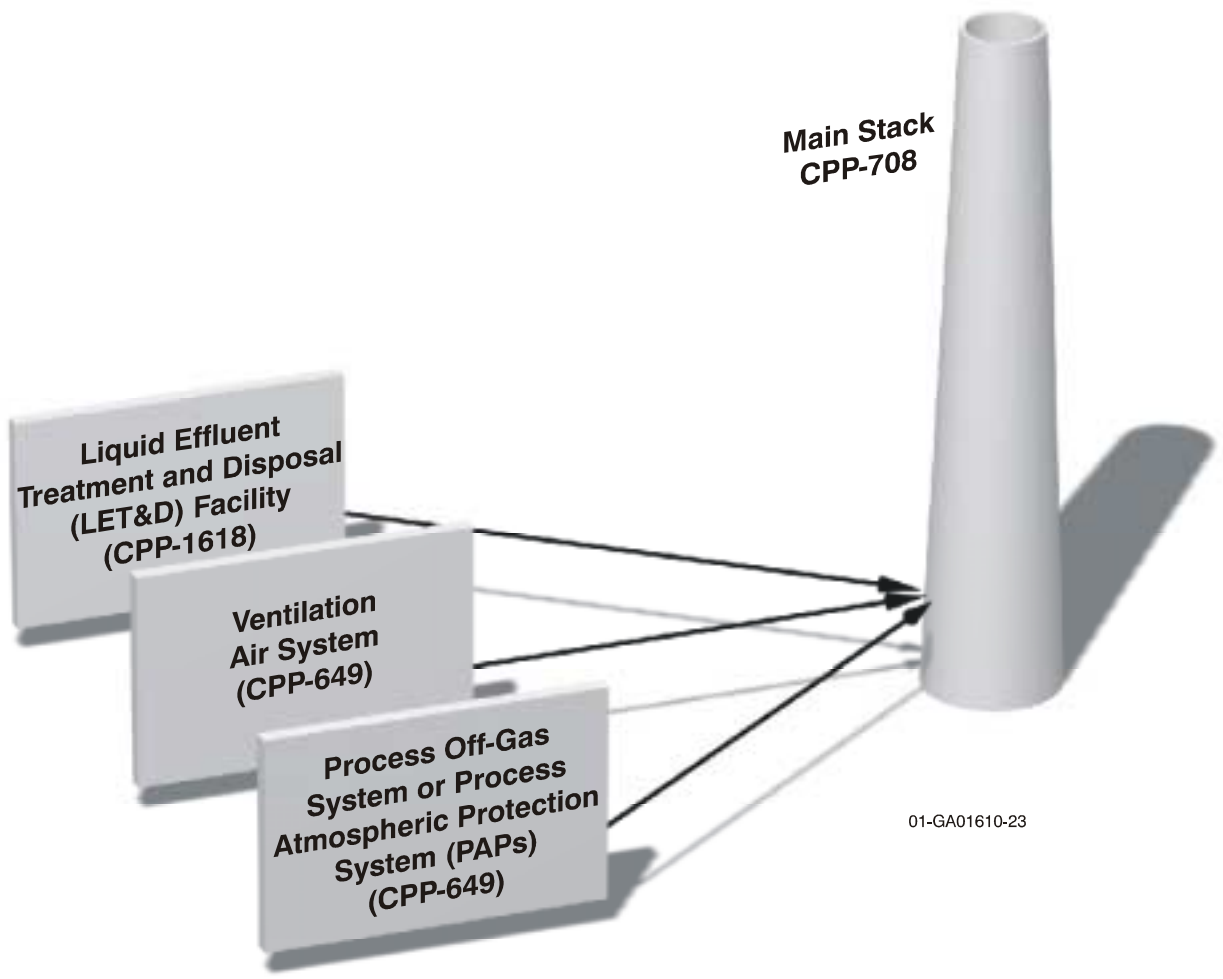


Figure IV-2-43. Process flow diagram for CPP-708.

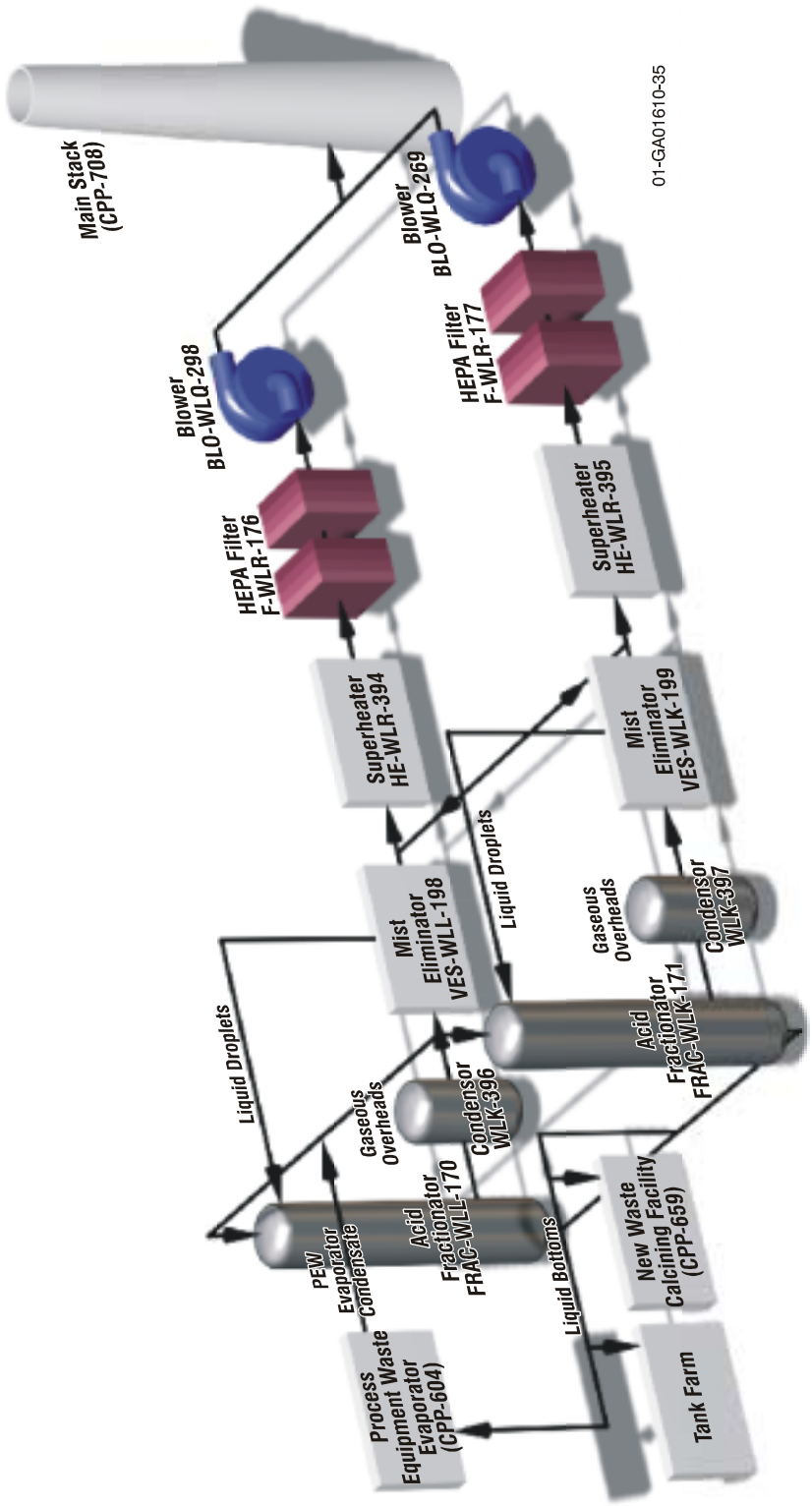


Figure IV-2-44. Process Flow diagram for CPP-1618.

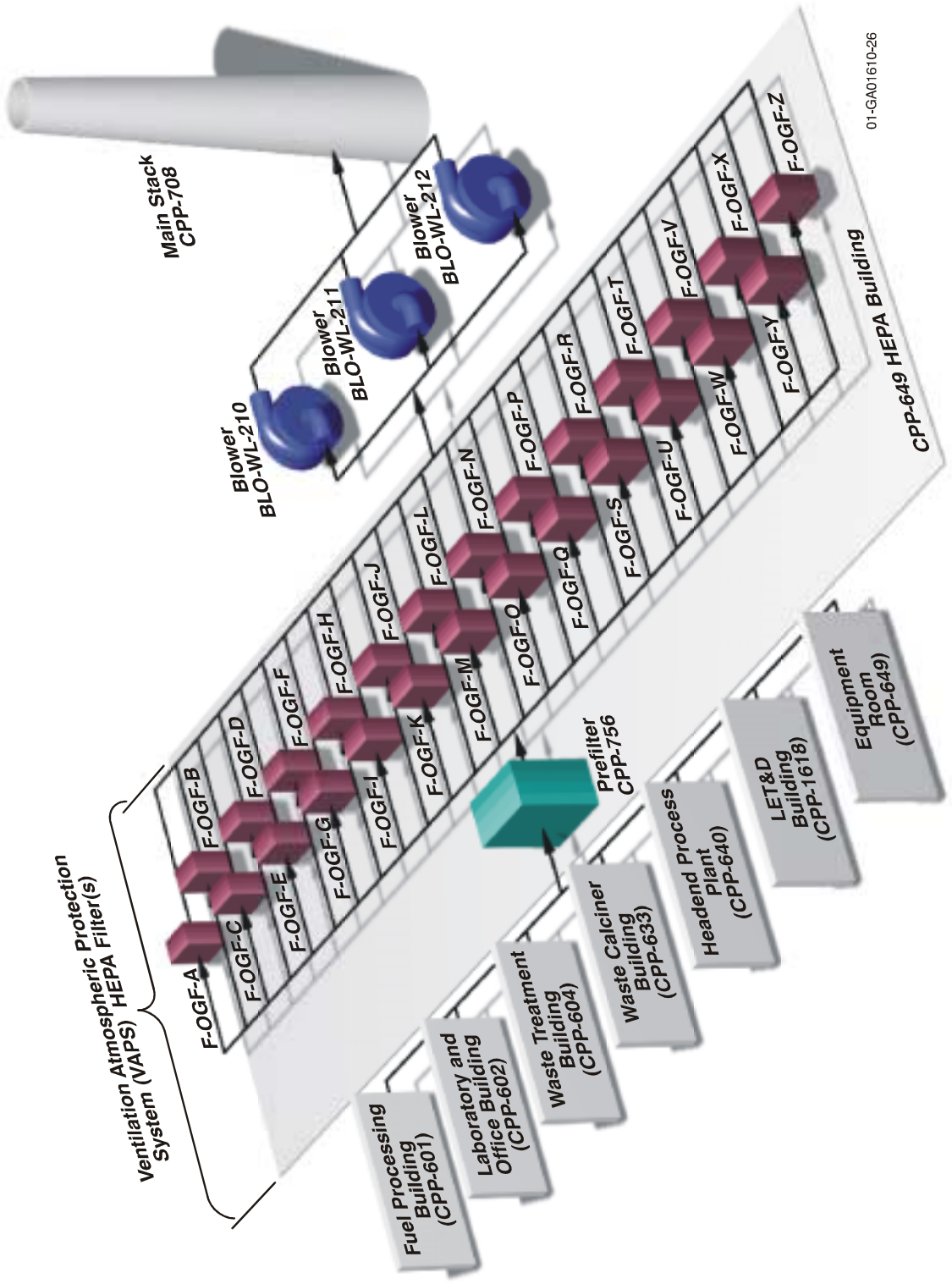


Figure IV-2-45. Process flow diagram for ventilation air system (VAPs).

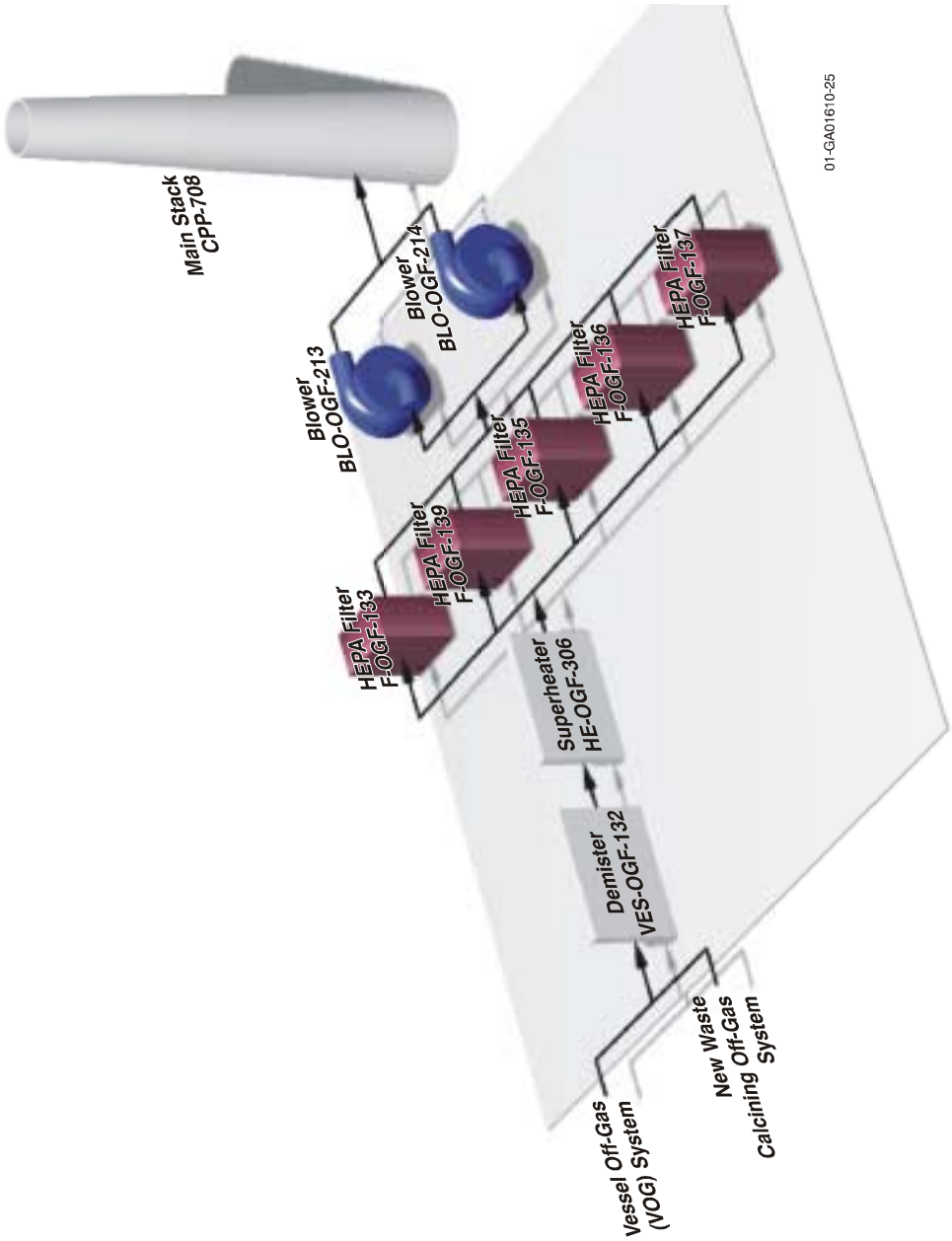


Figure IV-2-46. Process flow diagram for process off-gas system. Also referred to as the Process Atmospheric Protection System (PAPs).

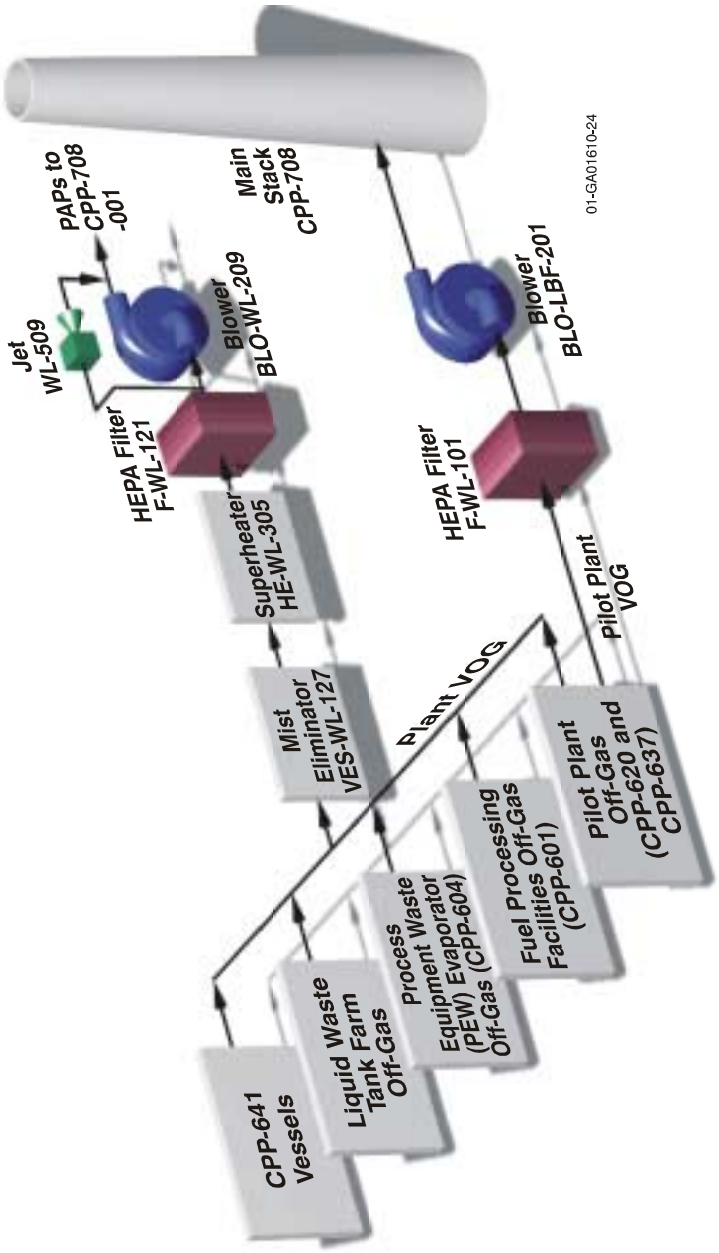


Figure IV-2-47. Process flow diagram for vessel off-gas system

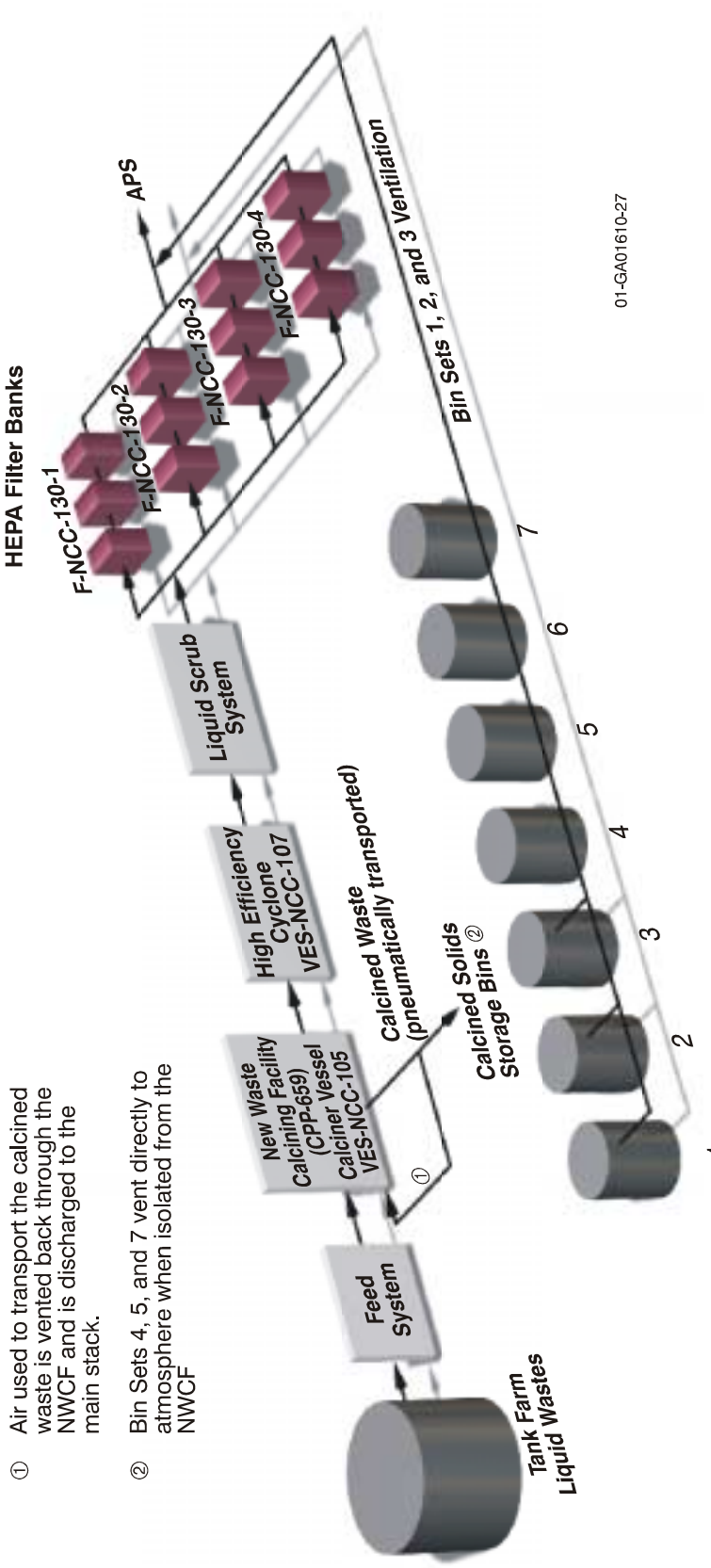


Figure IV-2-48. Process flow diagram for Waste Calcining off-gas system.

Emission Point Number: CPP-708-001

REQUIREMENT 1

Requirement: NO_x emissions from the main stack, CPP-708-001, shall not exceed 472 lb/hr or 1700 tons/yr, as determined by the in-stack continuous emission monitoring system, by approved EPA reference methods, or an approved alternate.

Requirement basis: State Permit to Construct No. 023-00001 Idaho Chemical Processing Plant Nitrogen Oxide Sources 10/18/99.

Compliance method type: Monitoring/Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NO_x monitors are given quarterly cylinder gas audits and an annual relative accuracy test audit.

Reference test method citation: 40 CFR 60, Appendix A, Methods 1, 2, 7, 7a, or 7e and 40 CFR 60 Appendix B, Specification 2.

MONITORING

Monitoring device type: Beckman Industrial NO/NO_x Analyzer Model 951A or equivalent

Monitor location description: CPP-692

Regulated air pollutant being monitored: NO_x

Generally describe the frequency and duration of sampling and how the data will be reported: Continuous emission monitoring for NO_x is required only when the NWCF is operating. The air sample passes through a gas conditioner, which removes water, then through the NO/NO_x analyzer, which determines the NO_x in parts per million (ppm). The ppm of NO_x is read into the distributed control system, located in CPP-659, which converts the ppm of NO_x into pounds per hour of NO_x. This information is collected and reported annually.

RECORDKEEPING

Data (parameter) being recorded: Pounds of NO_x in an hour and tons per year

Frequency of recordkeeping (how often data recorded): Data is recorded continuously when the NWCF is operating.

REPORTING

Generally describe what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-49. Compliance Certification Form (method of compliance).

Emission Point Number: CPP-708-001

REQUIREMENT 2

Requirement: Install, operate, and maintain HEPA filter stages for the VAPS, PAPS, and NWCF having a minimum particle removal efficiency of no less than 99.97%

Requirement basis: State Permit to Construct No. 023-00001 Idaho Chemical Processing Plant Nitrogen Oxide Sources 10/18/99.

Compliance method type: Monitoring/Recordkeeping

REFERENCE TEST METHOD

Reference test method description: HEPA filter testing shall be done upon installation, and at least annually thereafter, according to the testing section of ANSI N510. All newly installed filters shall be pretested and certified prior to installation and meet the government performance specification and overpressure and rough handling requirements per MIL-F-51068.

Reference test method citation: Testing Section of ANSI N510

MONITORING

Monitoring device type: Pressure differential gauge or sensor

Monitor location description: Readings taken across HEPA filter stages

Regulated air pollutant being monitored: Radionuclides

Generally describe the frequency and duration of sampling and how the data will be reported: Instrumentation must be maintained and operated to measure the pressure drop across the filter stages. The permittee shall monitor the pressure drop across the HEPA filter stages.

RECORDKEEPING

Data (parameter) being recorded: HEPA filter efficiency. Procedures that specify conditions requiring HEPA filter changeout.

Frequency of recordkeeping (how often data recorded): Efficiency upon procurement, installation, and at least annually thereafter.

REPORTING

Generally describe what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-49. (continued).

Emission Point Number: CPP-708-001

REQUIREMENT 3

Requirement: Maintain and operate an in-stack CEMS, for the measurement of NO_x and gas flow rate, which meets the requirements of 40 CFR 60 Appendix B, Specification 2. For the purposes of NO_x monitoring, this CEMS is only required to operate when the NWCF is operating.

Requirement basis: State Permit to Construct No. 023-00001 Idaho Chemical Processing Plant Nitrogen Oxide Sources 10/18/99

Compliance method type: Recordkeeping/Testing

REFERENCE TEST METHOD

Reference test method description: The main stack CEMS will be challenged with EPA Protocol 1 gases during a cylinder gas audit (CGA) and/or compared to samples taken on a reference CEMS during a relative accuracy T\test audit (RATA).

Reference test method citation: 40 CFR 60, Appendix A, Methods 1, 2, and 7,7a,or 7e. Cylinder gas audits and relative accuracy test audits are defined in 40 CFR 60 Appendix B.

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated air pollutant being monitored: NO_x

Generally describe the frequency and duration of sampling and how the data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Operating times for NWCF, quality assurance procedures, and maintenance procedures.

Frequency of recordkeeping (how often data recorded): Continuously

REPORTING

Generally describe what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-49. (continued).

Emission Point Number: CPP-708-001

REQUIREMENT 4

Requirement: For NO_x monitoring, have in place a quality assurance program meeting the requirements of 40 CFR 60, Appendix F.

Requirement basis: Correspondence with the State of Idaho DEQ

Compliance method type: Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated air pollutant being monitored: NA

Generally describe the frequency and duration of sampling and how the data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Quality assurance documentation

Frequency of recordkeeping (how often data recorded): Continuous

REPORTING

Generally describe what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-49. (continued).

Emission Point Number: CPP-708-001

REQUIREMENT 5

Requirement: Monitor the water flow rate and pressure drop across all scrubbers (NWCF Liquid Scrub System).

Requirement basis: State Permit to Construct No. 023-00001 Idaho Chemical Processing Plant Nitrogen Oxide Sources 10/18/99.

Compliance method type: Recordkeeping/Monitoring

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: Water flow rate and pressure drop instruments.

Monitor location description: At the location of the NWCF wet scrubber.

Regulated air pollutant being monitored: NA

Generally describe the frequency and duration of sampling and how the data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Water flow rate and pressure drop across the NWCF wet scrubber system.

Frequency of recordkeeping (how often data recorded): Daily

REPORTING

Generally describe what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-49. (continued).

2.6 CPP-1619, Hazardous Chemical and Radioactive Waste Storage Facility

2.6.1 General Description

The Hazardous Chemical/Radioactive Waste Building (CPP-1619) is divided into two sections, one a hazardous chemical storage area and the other a low-level liquid waste unloading and transfer area. The storage area provides a centralized location for the INEEL management and handling of various radioactive, mixed, or hazardous waste. The storage portion of the building is not included in the PTC for this facility. The Liquid Waste Unloading Bay receives liquid low-level radioactive waste from the TRA or other INEEL facilities. The waste is unloaded in the tanker unloading area and is transferred to CPP-604 where it is put through an evaporator. Only the Liquid Waste Unloading Bay is discussed in this section. A plan view for this facility is found in Figure IV-2-50.

2.6.2 CPP-1619-001 Specific Information

See Figure IV-2-51 for the state operating permit application forms for this source.

2.6.2.1 Process Description. This area is enclosed and has two bay doors. Trucks containing liquid low-level radioactive waste enter the area. The trucks are coupled with the feed pipe of the process equipment waste evaporator storage tank, and the waste is transferred to the storage tank. For truck unloading, the tanker is pressurized to evacuate the liquid that is then transferred to the storage tanks. A bag containing absorbent materials is placed around the end of the hose to control residual liquid exposed to the air during coupling and uncoupling. Residual liquid in the absorbent is a potential source of radionuclide emissions. A flexible hose placed near the truck hose coupling draws emissions through a HEPA filter. The HEPA filter is vented inside the bay. The bay doors are closed during unloading so any airborne pollutants are emitted through the wall vent. Before entering and after leaving this area, the trucks are checked for radioactive contamination and leaks.

Maintained records identify the source of each waste shipment, date and time each shipment is unloaded, quantity of waste unloaded, identification and concentration of radionuclides in each shipment, and the handling of materials that were contaminated during the unloading. See Figure IV-2-52 for the process flow diagram. No control equipment is required for this source. No emission monitoring equipment is required for this source.

2.6.2.2 Maximum Regulated Pollutant Emissions. The following information describes regulated pollutants potentially emitted from this source.

Pollutant	CAS	Maximum annual emission	Units	Criteria pollutant
Radionuclides	NA	10[a]	mrem/yr	—

a. This is an aggregate limit for all radionuclides at the INEEL.

2.6.2.2.1 Permitted Emission Limits—The source must comply with the following limits.

Pollutant	CAS	Emission limit	Units
Radionuclides in aggregate with all other sources at the INEEL	NA	10	mrem/yr
Radionuclides	NA	0.1	mrem/yr

2.6.2.2.2 Existing Permit Requirements—The following is a list of all permit-related enforceable requirements specific to this source. This source is regulated by conditions in State of Idaho Permit to Construct 023-00001, CPP-1619, Waste Storage Facility.

1. Permittee shall monitor and record the following for each shipment unloaded in this area.
    a. Identify the source of each waste shipment
    b. Date and time each shipment is unloaded
    c. Total quantity of radioactive waste unloaded
    d. Identification and concentration of radionuclides in each shipment
2. Testable HEPA filter efficiency shall be maintained at or above 99.97% removal efficiency for particle sizes 0.3 micron or larger as determined by the use of DOP inlet/outlet test.
3. The testable HEPA filter element shall be replaced within 10 days if the removal efficiency falls below 99.97% of particle sizes 0.3 micron or larger as determined by the DOP test procedures.
4. Records required under requirement 1 shall be maintained for a minimum of two years from the date the data were recorded and shall be made available to DEQ personnel upon request. All records submitted to the Department shall be certified by a responsible corporate official to be true, accurate, and complete.
5. Emissions of radionuclides from the CPP-1619-001 stack shall not cause any individual to receive a dose of greater than 0.1 mrem per year effective dose equivalent nor shall these emissions in combination with emissions from other INEEL sources, cause any individual to receive a dose of greater than 10 mrem per year effective dose equivalent.

2.6.2.2.3 Other Enforceable Requirements—Periodic Confirmatory Measurements must be conducted in accordance 40 CFR Part 61.93 (b) to determine radionuclide emissions used to demonstrate compliance with emissions limit. All emissions from this source must be included in the facility wide INEEL Annual NESHAPs Report (40 CFR Part 61.94) and records supporting the emissions measurements must be kept as stated in 40 CFR Part 61.95. See compliance methodology form in Section 5.5.1 in Volume I.

The State of Idaho regulates visible emissions as determined by emission opacity. Visible emissions shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes in any 60-minute period. See compliance methodology form in Section 5.1 of Volume I.

2.6.2.3 Compliance Methodology and Status

2.6.2.3.1 Compliance Plan—This source is in compliance, and will continue to comply, with the indicated applicable requirements as determined in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, this source will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, this source will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.6.2.3.2 Compliance Methodology Forms—See Figure IV-2-53.

The compliance form for the requirement "This source in aggregate with all other radiological sources at the INEEL has a radionuclide emission limit of 10 mrem/yr effective dose equivalent in accordance with 40 CFR 61, Subpart H," can be found in Volume I, Section 5.5. This form is for sources with doses less than 0.1 mrem/yr, and includes CPP-1619.

2.6.2.4 Emission Calculations. The following section describes the calculations of emissions listed in the regulated pollutant table and the annual NESHAP report.

2.6.2.4.1 Radionuclide Emissions—This section provides calculation parameters for methodologies specific to this source. For a detailed discussion of radionuclide emission calculation methodologies, refer to Volume I, Appendix E, Method III.

Each shipment to this unloading facility will be analyzed prior to arriving to determine the significant isotopes and their concentration in curies per milliliter.

Particulate releases will be estimated by the following methodology:

- Resuspension factor = 1E-03
- Estimated release volume = 1 mL.

This volume increases in the winter months when the freeze protection equipment is used during unloading. Each time this equipment is used, the release volume increases by an additional milliliter.

- HEPA removal efficiency = 99.97%.

Gaseous radionuclide concentrations are used, if present, with the same methodology but without the HEPA filter removal efficiency factor.

(Total Radionuclide Concentration) (Volume) (Resuspension) (1 - HEPA efficiency) = Curies released.

Dose in mrem/yr is determined by inputting the curies of each significant radionuclide emitted per year into an approved computer code. This is done as described in Volume I, Section 5.5.

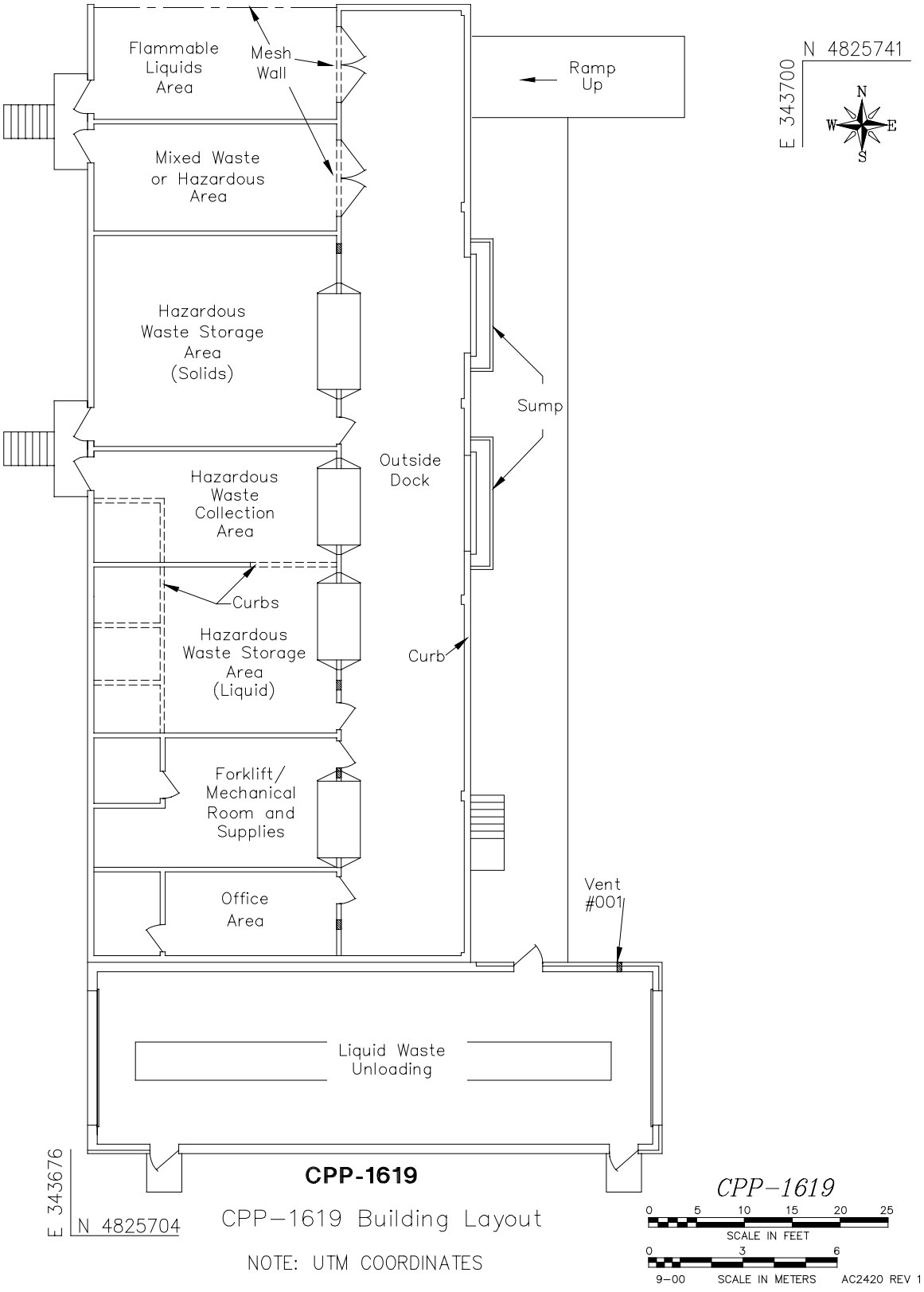


Figure IV-2-50. Plan view for CPP-1619.

Figure IV-2-51. State Operating Permit Application Forms.

DEQ USE ONLY		DEQ USE ONLY	
DEQ PLANT ID CODE	DEQ PROCESS CODE	DEQ STACK ID CODE	DEQ BUILDING ID CODE
PRIMARY SCC	SECONDARY SCC	DEQ SEGMENT CODE	

PART A

GENERAL INFORMATION

PROCESS CODE OR DESCRIPTION	STACK DESCRIPTION	BUILDING DESCRIPTION
CPP - 1619 - 001	**Unloading and transferring low-level radioactive waste**	CPP - 1619
MANUFACTURER	MODEL	DATE INSTALLED OR LAST MODIFIED
NA	**NA**	**1991**

PROCESSING DATA

PROCESS STREAM	MATERIAL DESCRIPTION	MAXIMUM HOURLY RATE	ACTUAL HOURLY RATE	ACTUAL ANNUAL RATE	UNITS
INPUT	**NA**	**NA**	**NA**	**NA**	**NA**
PRODUCT OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
WASTE OUTPUT	**NA**	**NA**	**NA**	**NA**	**NA**
RECYCLE	**NA**	**NA**	**NA**	**NA**	**NA**

POTENTIAL HAPS IN PROCESS STREAMS

HAP DESCRIPTION	HAP CAS NUMBER	FRACTION IN INPUT STREAM BY WEIGHT	FRACTION IN PRODUCT STREAM BY WEIGHT	FRACTION IN WASTE STREAM BY WEIGHT	FRACTION IN RECYCLE STREAM BY WEIGHT
Radionuclides	**NA**	**NA**	**NA**	**NA**	**NA**

Figure IV-2-51. (continued).

PART B

OPERATING DATA

PERCENT OPERATIONS PER QUARTER			
DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25	25	25	25

NORMAL OPERATING SCHEDULE		
HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
24	7	52

POLLUTION CONTROL EQUIPMENT

PARAMETER	PRIMARY	SECONDARY
TYPE	Portable HEPA Filter	
TYPE CODE (APPENDIX H)	101	
MANUFACTURER	Flanders or equivalent	
MODEL NUMBER	NA	
INLET TEMPERATURE (°F)	~68	
PRESSURE DROP (INCHES H20)	10	
WET SCRUBBER FLOW (GPM)	NA	
BAGHOUSE AIR/CLOTH RATIO (FPM)	NA	

POLLUTION CONTROL EQUIPMENT

VENTILATION AND BUILDING/AREA DATA

ENCLOSED? (Y/N)	HOOD TYPE (APP I)	MINIMUM FLOW (ACFM)	% CAPTURE EFFICIENCY
N	NA	NA	100

BUILDING HEIGHT (FEET)	BUILDING/AREA LENGTH (FEET)	BUILDING/AREA WIDTH (FEET)
NA	NA	NA

STACK DATA

GROUND ELEVATION (FT)	UTM X COORDINATE (KM)	UTM Y COORDINATE (KM)	STACK[a] TYPE
4917	343.9	4825.7	04

STACK EXIT HEIGHT FROM GROUND LEVEL (FT)	STACK EXIT DIAMETER (IN)	STACK EXIT GAS FLOW RATE (ACFM)	STACK EXIT TEMP (°F)
17	6	1520	~68

a. 01) DOWNWARD, 02) VERTICAL (UNCOVERED), 03) VERTICAL COVERED, 04) HORIZONTAL, 05) FUGITIVE

AIR POLLUTANT EMISSIONS

POLLUTANT	CAS NUMBER	EMISSION FACTOR	PERCENT CONTROL EFFICIENCY	ESTIMATED OR MEASURED EMISSIONS (LB/HR)	ESTIMATED OR MEASURED EMISSIONS (T/YR)	ALLOWABLE EMISSIONS (LB/HR)	ALLOWABLE EMISSIONS (T/YR)	REFERENCE
Radionuclide	NA	NA	99.97 for particulates	NA	NA	10 mrem/yr in aggregate with other INEEL sources		40 CFR 61.92
Radionuclide	NA	NA	99.97 for particulates	NA	NA	3.6E-9 curies/yr		PTC 023-00001

IN LBS/UNITS. Use same hourly UNITS given in PROCESSING DATA

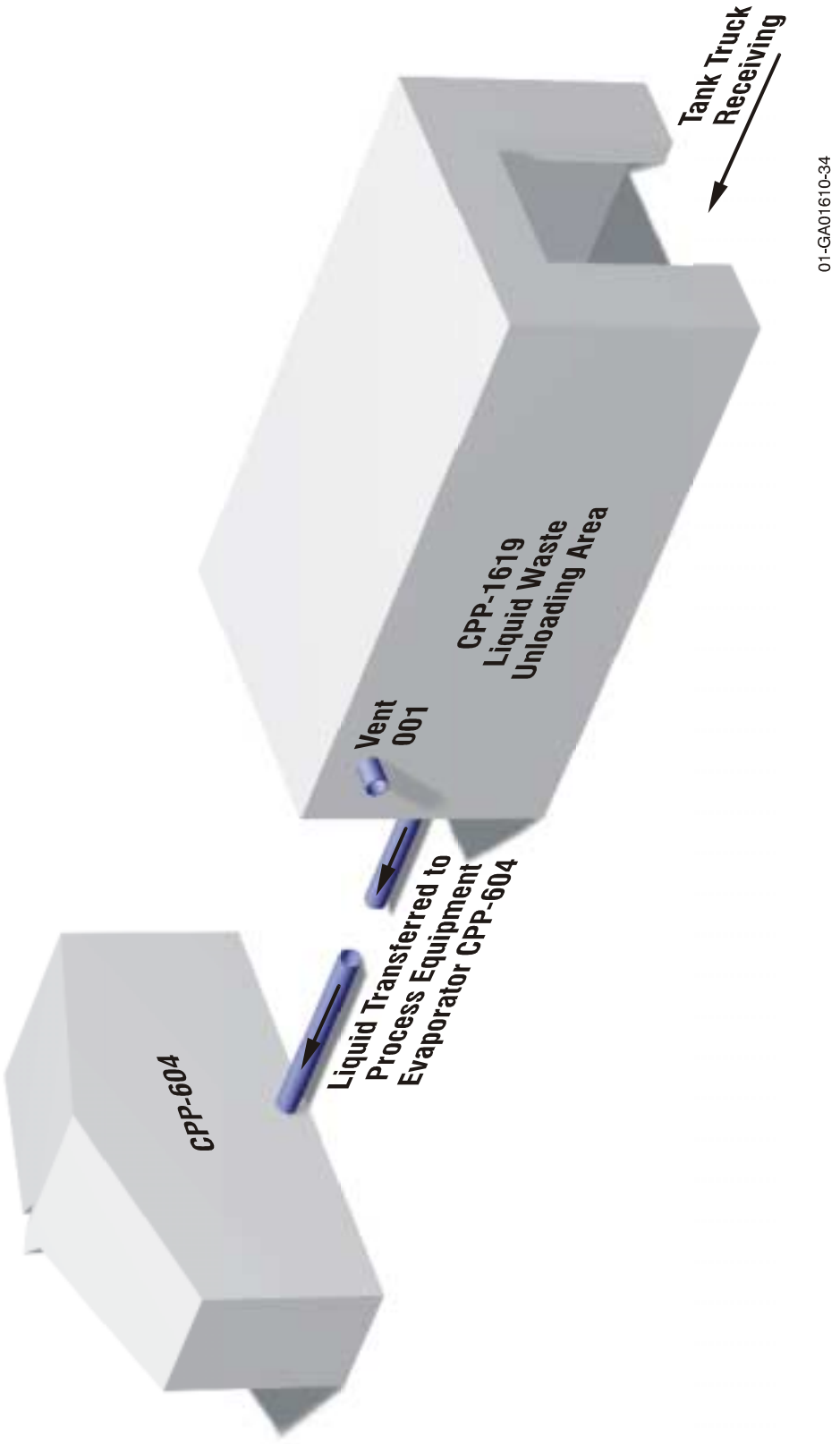


Figure IV-2-52. Process flow diagram for Waste Calcining off-gas system.

Emission Point Number: CPP-1619-001

REQUIREMENT 1

Requirement: Monitor and record the following for each shipment; 1) Identify source of each waste shipment; 2) date and time each shipment is unloaded; 3) total quantity of radioactive waste unloaded; 4) identification and concentration of radionuclides in each shipment.

Requirement basis: PTC 023-00001, CPP-1619 Waste Storage Facility, 3/4/98

Compliance method type: Recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated air pollutant being monitored: Radionuclides

Generally describe the frequency and duration of sampling and how the data will be reported: NA

RECORDKEEPING

The required records will be maintained for a minimum of 2 years and will be made available to DEQ personnel upon request.

Frequency of recordkeeping (how often data recorded): Each tanker unloading

REPORTING

Generally describe what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-53. Compliance Certification Form (method of compliance).

Emission Point Number: CPP-1619-001

REQUIREMENT 2

Requirement: Testable HEPA filter efficiency shall be maintained at or above 99.97 percent removal efficiency for particle sizes 0.3 micron or larger as determined by the use of DOP inlet/outlet test.

Requirement basis: PTC 023-00001, CPP-1619 Waste Storage Facility, 3/4/98

Compliance method type: Testing/Recordkeeping

REFERENCE TEST METHOD

Reference test method description: Use of DOP chemical particles for inlet/outlet removal efficiency tests

Reference test method citation: ANSI N510, Sections 10.5 and 10.4

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated air pollutant being monitored: Radionuclides

Generally describe the frequency and duration of sampling and how the data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Date of test, removal efficiency of filter as determined by test

Frequency of recordkeeping (how often data recorded): When the test is done

REPORTING

Generally describe what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-53. (continued).

Emission Point Number: CPP-1619-001

REQUIREMENT 3

Requirement: The testable HEPA filter elements shall be replaced within 10 days if the removal efficiency falls below 99.97 percent of particle sizes 0.3 micron or larger as determined by the DOP test procedures.

Requirement basis: PTC 023-00001, CPP-1619 Waste Storage Facility, 3/4/98

Compliance method type: Maintenance, recordkeeping

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated air pollutant being monitored: Radionuclides

Generally describe the frequency and duration of sampling and how the data will be reported: NA

RECORDKEEPING

Data (parameter) being recorded: Date of filter changeout

Frequency of recordkeeping (how often data recorded): When the filter is changed

REPORTING

Generally describe what is reported: NA

Frequency of reporting: NA

Beginning date: NA

Figure IV-2-53. (continued).

Emission Point Number: CPP-1619-001

REQUIREMENT 4

Requirement: Emissions of radionuclides from the CPP-1619-001 stack shall not cause any individual to receive a dose of greater than 0.1 mrem/yr effective dose equivalent nor shall these emissions in combination with emissions from other INEEL sources cause any individual to receive a dose of greater than 10 mrem/yr effective dose equivalent.

Requirement basis: PTC 023-00001, CPP-1619 Waste Storage Facility, 3/4/98

Compliance method type: Calculation

REFERENCE TEST METHOD

Reference test method description: NA

Reference test method citation: NA

MONITORING

Monitoring device type: NA

Monitor location description: NA

Regulated air pollutant being monitored: Radionuclides

Generally describe the frequency and duration of sampling and how the data will be reported: NA

RECORDKEEPING

Data (parameters) being recorded: Quantity of liquid unloaded, identification and concentration of radionuclides in the liquid, date of unloading, calculation results.

Frequency of recordkeeping (how often data recorded): Each tanker unloading

REPORTING

Generally describe what is reported: INTEC aggregate radionuclide emissions

Frequency of reporting: NESHAP Annual Report

Beginning date: NA

Figure IV-2-53. (continued).

2.7 Internal Combustion Engines

2.7.1 General Description

Internal combustion engines of various sizes and configurations are utilized at INTEC. These engines are exempt from PTC requirements by IDAPA 58.01.01.220 or they are grandfathered. Engines may be gasoline, propane, or diesel-fired. Uses for these units include but are not limited to emergency generators, stand-by generators, fire-water pumps, and air compressors. Table IV-2-1 provides examples of the types of engines currently in use at INTEC. It should be noted that this is not intended to be a comprehensive list of all engines currently used at INTEC. A complete listing is not provided because the units in use are continually changing and there are no unit-specific applicable requirements associated. The general requirements are listed below.

2.7.2 Engine Specific Information

Table IV-2-1. Internal combustion engines currently in use at INTEC.

Building Number	Building Name	Vent/stack number	Source description
CPP-603	Fuel Storage	008	Propane generator 150 hp
CPP-614	Pumphouse	002	Diesel fire pump, 300 hp
CPP-616	Compressor Building	004	Diesel air compressor, 360 hp
CPP-644	Emergency Power Building	002	Diesel generator, 2,000 hp
CPP-644	Emergency Power Building	005	Gasoline air compressor, 14 hp
CPP-659	NWCF Substation	006[a]	Diesel generator, 1,740 hp
CPP-659	NWCF Substation	007	Gasoline air compressor, 8 hp
CPP-659	NWCF Substation	008	Diesel generator, 1616 hp
CPP-687	Coal Fired Steam Generator Facility	026	Diesel generator, 2,535 hp
CPP-687	Coal Fired Steam Generator Facility	050[a]	Diesel air compressor, 14 hp
CPP-1642	Pump House	007[a]	Diesel fire pump, 370 hp
CPP-1643	Pump House	007[a]	Diesel fire pump, 370 hp
CPP-1749	Pump Station	004[a]	Diesel water pump, 50 hp

a. This source consumes a prevention of significant deterioration (PSD) increment (see Volume I, Section 6.6).

2.7.2.1 Process Description—These units are utilized for various support functions at INTEC.

2.7.2.2 Maximum Regulated Pollutant Emissions—Emissions are not quantified here because type and number of units may be continually changing and there are no associated emission limits.

2.7.2.3 Compliance Requirements

*2.7.2.3.1 Permitted Emission Limits—*None

*2.7.2.3.2 Existing Permit Requirements—*None

2.7.2.3.3 Other Enforceable Requirements

- Emissions from these units shall not cause opacity, which is greater than 20% of more than three minutes in any 60-minute period.
- Diesel engines shall not burn fuel with a sulfur content greater than 0.5% by weight.

2.7.2.3.4 Request for Permit Changes/Exemption/Nonapplicabilities

None.

2.7.2.4 Compliance Methodology and Status

2.7.2.4.1 Compliance Plan—These sources are in compliance and will continue to comply with the indicated applicable requirements as described in this application. For each applicable requirement that will become effective during the term of the Tier I operating permit that does not contain a more detailed schedule, these sources will meet the applicable requirement on a timely basis. For each applicable requirement that will become effective during the term of the Tier I operating permit that contains a more detailed schedule, these sources will comply with the applicable requirement on the schedule provided in the applicable requirement.

2.7.2.4.2 Compliance Methodology Forms—Not required for these units.

2.7.2.5 Emission Calculations—N/A

Appendix A

Permits

STATE OF IDAHO
DIVISION OF
ENVIRONMENTAL QUALITY

900 North Skyline Drive, Suite B • Idaho Falls, Idaho 83402-1718 • (208) 528-2650

Dirk Kempthorne, Governor
C. Stephen Allred, Administrator

June 26, 2000

CERTIFIED MAIL # 7000 0520 0015 7057 1738

Teresa Perkins
Director, DOE ETSD
850 Energy Drive
Idaho Falls, ID 83401

RE: P-000500, INEEL, INTEC
(Permit to Construct Modification; PTC #023-00001 "Idaho Chemical Processing Plant NO_x Sources", and PTC #023-00001 "INTEC Portable Boiler")

Dear Mrs. Perkins:

On January 13, 2000, the Idaho Division of Environmental Quality (DEQ) received a Prevention of Significant Deterioration/Permit to Construct (PSD/PTC) application from Bechtel BWXT Idaho, on behalf of the Department of Energy and the Idaho National Engineering and Environmental Laboratory (INEEL), for the construction of four (4) 36.4 MMBtu/hr distillate fuel oil-fired boilers and the modification of one (1) 29.3 MMBtu/hr portable distillate fuel oil-fired boiler at the Idaho Nuclear Technology and Engineering Center (INTEC). The application was determined complete on February 18, 2000.

Based on review of your application, and state and federal rules and regulations, DEQ finds this project meets the provisions of IDAPA 16.01.01.200 (Rules for the Control of Air Pollution in Idaho) (Rules). Enclosed is the PSD/PTC (#023-00001) for the modification identified above. This PTC, dated June 26, 2000, supersedes any previous PTC 023-00001 issued by DEQ for INEEL, INTEC for these four distillate fuel oil- fired boilers and the portable fuel oil-fire boiler. This permit does not release the permittee from compliance with all other applicable federal, state, local, or tribal laws, regulations, or ordinances.

You, as well as any other entity, may have the right to appeal this final agency action pursuant to the Idaho Department of Health and Welfare Rules, Title 5, Chapter 3, "Rules Governing Contested Case Proceedings and Declaratory Rulings," by filing a petition with the Hearings Coordinator, Department of Health and Welfare, Administrative Procedures Section, 450 West State Street, Tenth Floor, Boise, Idaho 83720-5450, within thirty-five (35) days of the date of this decision. However, DEQ encourages you to contact the Air Quality Permit Program to address any concerns you may have with the enclosed permit prior to filing a petition for a contested case.

If you have any questions regarding the terms or conditions of the enclosed proposed permit, please contact Jeff Trasure or Jorge Garcia at (208) 528-2650.

Sincerely,

James Johnston
Regional Administrator
Idaho Falls Regional Office

JJ/WR: hs 57255 E:\PERMITS\INTEC\000500PL.WPD

Enclosures

cc: Catherine Reno, Regional Manager
DEQ State Office (023-00001)
Source File

STATE OF IDAHO

PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE

PERMIT NUMBER 023-00001

AQCR	CLASS	SIC
061	A1	9999

ZONE 12

UTM COORDINATE (km) 342.5, 4827.2

1. **PERMITTEE**

Department of Energy / Idaho National Engineering and Environmental Laboratory / Idaho Nuclear Technology and Engineering Center

2. **PROJECT**

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler PSD PTC

3. MAILING ADDRESS	CITY	STATE	ZIP CODE
850 Energy Drive	Idaho Falls	ID	83401

4. SITE LOCATION COUNTY	NO. OF FULL-TIME EMPLOYEES	PROPERTY AREA AT SITE (Acreage)
Butte	10,800	569,000

5. PERSON TO CONTACT	TITLE	TELEPHONE
Teresa Perkins	Director, DOE ETSD	208-526-1483

6. **EXACT PLANT LOCATION**

INTEC Facility, Building CPP-606; E 343812, N 4826008

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**

Nuclear and Environmental Research and Development

8. **GENERAL CONDITIONS**

This permit is issued according to the *Rules for the Control of Air Pollution in Idaho*, Section 16.01.01.200, and pertains only to emissions of air contaminants that are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require Department approval pursuant to the *Rules for the Control of Air Pollution in Idaho*, IDAPA 16.01.01.200 et seq.

ADMINISTRATOR
DIVISION OF ENVIRONMENTAL QUALITY
IDAHO FALLS REGIONAL OFFICE

DATE: 06/26/2000

WR: ha 87255 E:\PERMITS\INTEC\000500.PMT

PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

PERMIT NUMBER

Department of Energy
INEEL - INTEC
Idaho Falls, ID

0 2 3 - 0 0 0 0 1

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

1. EMISSION LIMITS

1.1 Emission Limits

The Permittee shall not discharge into the atmosphere from the Building CPP-606 Boilers stacks and the INTEC Portable Boiler stack any gases that contain sulfur dioxide (SO_2), oxides of nitrogen (NO_x), and beryllium emissions that exceed any corresponding emission rate limit listed in Appendix A of this permit.

1.2 Fuel Burning Equipment - Particulate Matter Emission Standard

In accordance with IDAPA 16.01.01.676 (*Rules for the Control of Air Pollution in Idaho*), the Permittee shall not discharge into the atmosphere from the Building CPP-606 Boilers stacks and the INTEC Portable Boiler stack any gases that contain particulate matter emissions in excess of 0.050 grains per dry standard cubic foot (gr/dscf) corrected to three percent (3%) oxygen.

1.3 Opacity Limit

The Permittee shall not discharge into the atmosphere from the Building CPP-606 Boilers stacks and the INTEC Portable Boiler stack, or any other stack, vent, or functionally equivalent opening, emissions that exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period, as required by IDAPA 16.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 16.01.01.625.

1.4 Opacity Limit

In accordance with 40 CFR 60.43c, the Permittee shall not discharge into the atmosphere from the Building CPP-606 Boilers stacks any gases that exhibit greater than 20 percent (20%) opacity (6-minute average), except for one 6-minute period per hour of not more than 27 (27%) percent opacity. The opacity standard shall apply at all times except during periods of startup, shutdown, or malfunction. Opacity shall be determined by the procedures contained in IDAPA 16.01.01.625 and as specified in 40 CFR Part 60.

PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

PERMIT NUMBER

Department of Energy
INEEL - INTEC
Idaho Falls, ID

0 2 3 - 0 0 0 0 1

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

2. OPERATING REQUIREMENTS

2.1 Boiler Fuel

The Permittee shall combust distillate oil exclusively in the Building CPP-606 Boilers and the INTEC Portable Boiler. The distillate oil combusted in these boilers shall not contain greater than 0.3 weight percent sulfur.

2.2 Boiler Fuel

In accordance with 40 CFR 60.42c(d), the Permittee shall not combust distillate oil that contains greater than 0.5 weight percent sulfur in the Building CPP-606 Boilers. In accordance with 40 CFR 60.41c, distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specification for Fuel Oils".

2.3 Boiler Fuel Throughput Limit

The total amount of boiler fuel combusted for all Building CPP-606 Boilers and the INTEC Portable Boiler shall not exceed twenty-nine thousand, nine hundred seventy-six gallons per day (29,976 gal/day).

3. MONITORING REQUIREMENTS

3.1 Boiler Fuel Sulfur Content

To demonstrate compliance with Sections 2.1 and 2.2 of this permit, all boiler fuel combusted in the Building CPP-606 Boilers and the INTEC Portable Boiler shall be certified by the fuel oil supplier. In accordance with 40 CFR 60.48c(f), fuel oil supplier certification shall include the name of the fuel oil supplier, and a statement from the fuel oil supplier that the fuel oil complies the specifications under the definition of distillate oil in 40 CFR 60.41c.

3.2 Boiler Fuel Throughput

In accordance with 40 CFR 60.48.c(g), the Permittee shall monitor and record the amount of boiler fuel combusted in the Building CPP-606 Boilers and the INTEC Portable Boiler each day. The amount of boiler fuel combusted shall be recorded as gallons per day (gal/day), in a log, kept at the facility for the most recent two (2) year period. The log shall be available to DEQ representatives upon request.

3.3 Opacity Performance Test

In accordance with 40 CFR 60.45c(a), within sixty (60) days after achieving the maximum production rate at which the Building CPP-606 Boilers and the INTEC Portable Boiler will be operated, but not later than one hundred eighty (180) days after initial startup of the Building CPP-606 Boilers and the INTEC Portable Boiler, the Permittee shall conduct a performance test to measure opacity from the Building CPP-606 Boilers and the INTEC Portable Boiler stacks. Opacity shall be determined using the procedures contained in IDAPA 16.01.01.625. This initial performance test, and any subsequent performance tests conducted to demonstrate compliance, shall be performed in accordance with IDAPA 16.01.01.157 and General Provision F of this permit.

DATE: 06/26/2000

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PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

PERMIT NUMBER

Department of Energy
INEEL - INTEC
Idaho Falls, ID

0 2 3 - 0 0 0 0 1

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

3.4 Boiler Performance Test

In accordance with IDAPA 16.01.01.157, the Permittee shall conduct a performance test using the methods and procedures specified in IDAPA 16.01.01.157.02 on one (1) CPP-606 Boiler stack to measure the particulate matter grain loading to demonstrate compliance with Section 1.2 of this permit. If compliance with the fuel burning equipment grain loading standard is demonstrated, performance testing is not required for any other boiler subject to this permit. If compliance with the fuel burning equipment grain loading standard is not demonstrated, performance testing of all other boilers subject to this permit is required.

3.5 Sulfur Dioxide Performance Test

In accordance with 40 CFR 60.44c(h), the performance test to demonstrate compliance with Section 2.1 of this permit shall consist of certification from the fuel supplier. In accordance with 40 CFR 60.48c(f), fuel supplier certification shall include the following information for distillate oil: (1) the name of the oil supplier; and (2) a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41.c.

REPORTING REQUIREMENTS

4.1 Performance Test Protocol

Prior to conducting any emission test, the Permittee is strongly encouraged to submit in writing to DEQ, at least thirty (30) days in advance, a performance test protocol in accordance with IDAPA 16.01.01.157.01.a.

4.2 Performance Test Report

In accordance with IDAPA 16.01.01.157.04, the Permittee shall submit a written report of the performance test results to DEQ within thirty (30) days of completion of the test.

4.3 Notification

In accordance with 40 CFR 60.48c(a), the Permittee shall provide notification of construction, anticipated startup, and actual startup as provided by 40 CFR 60.7.

DATE: 06/26/2000

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PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

PERMIT NUMBER

Department of Energy
INEEL - INTEC
Idaho Falls, ID

023 - 00001

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

4.4 Semi-Annual Reporting

In accordance with 40 CFR 60.48c(d), the Permittee shall submit semi-annual reports to EPA Region X and to DEQ. In accordance with 40 CFR60.48c(j), the reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to EPA Region X and to DEQ and shall be postmarked by the 30th day following the end of the reporting period. Each submitted semi-annual report shall contain the information required by 40 CFR 60.48c(e), as applicable.

4.5 Recordkeeping

In accordance with 40 CFR 60.48c(i), the Permittee shall maintain all records of the information required by 40 CFR 60.48c(e). The records shall be maintained by the Permittee for a period of two (2) years following the date of such record.

4.6 Certification of Documents

All documents, including but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, and compliance certifications submitted to DEQ shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

DATE: 06/26/2000

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PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

Department of Energy
INEEL - INTEC
Idaho Falls, ID

PERMIT NUMBER

0 2 3 - 0 0 0 0 1

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

APPENDIX A

Idaho National Engineering and Environmental Laboratory

Idaho Nuclear Technology and Engineering Center

CPP-606 Boilers and INTEC Portable Boiler Emissions Limits[a] – Daily and Annual

SOURCE DESCRIPTION	SO_x		NO_x		beryllium	
	lb/day	T/yr	lb/day	T/yr	lb/day	T/yr
CPP-606 Boilers and INTEC Portable Boiler	1,295.0	213.0	599.5	98.6	1.26E-02	2.30E-03

a. As determined by a pollutant specific U.S. EPA reference method, or DEQ approved alternative, or as determined by the DEQ's emission estimation methods used in this permit analysis.

DATE: 06/26/2000

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PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules for the Control of Air Pollution in Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules for the Control of Air Pollution in Idaho**, and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules for the Control of Air Pollution in Idaho**) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack emission testing in conformance with the DEQ's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the DEQ, in writing, of the required information for the following events within five working days after occurrence;

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Start up - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one hundred and eighty (180) days after initial start up. Such testing must strictly adhere to the procedures outlined in the DEQ's **Procedures Manual for Air Pollution Control**, and shall not be conducted on weekends or state holidays without prior written DEQ approval. Testing procedures and specific time limitations may be modified by the DEQ by prior negotiation if conditions warrant adjustment. The DEQ shall be notified at least fifteen (15) days prior to the scheduled performance test. Any records or data generated as a result of such performance test shall be made available to the DEQ upon request.

The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during the performance test period, unless (1) a more restrictive operating limit is specified elsewhere in this permit, or (2) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

DATE: 06/26/2000

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STATE OF IDAHO PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE	PERMIT NUMBER 023-00001 AQCR 061 CLASS A1 SIC 9999 ZONE 12 UTM COORDINATE (km) 343.9, 4825.6

1. **PERMITTEE**
   Department of Energy, Idaho Falls Office

2. **PROJECT**
   CPP-1619, Waste Storage Facility

3. MAILING ADDRESS	CITY	STATE	ZIP CODE
850 Energy Drive	Idaho Falls	Idaho	83401-1563

4. SITE LOCATION COUNTY	NO. OF FULL-TIME EMPLOYEES	PROPERTY AREA AT SITE (Acreage)
Bonneville	10,800	569,600

5. PERSON TO CONTACT	TITLE	TELEPHONE
R. C. Cullison	Manager	(208) 526-2181

6. **EXACT PLANT LOCATION** Idaho National Engineering and Environmental Laboratory, Plant 1, ID
   Latitude North 43°, 34', 07.69", Longitude West 112°, 56', 00.26"

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**
   ederally owned facility involved in research and development

8. **GENERAL CONDITIONS**

   This permit is issued according to the *Rules for the Control of Air Pollution in Idaho*, Section 16.01.01.200, and pertains only to emissions of air contaminants that are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

   This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

   This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

   This permit has been granted on the basis of design information presented with its application. Changes of design or equipment that result in any change in the nature or amount of emissions must be approved in advance by DEQ unless exempted by the *Rules for the Control of Air Pollution in Idaho* Sections 220 through 225.

David D. Green

ASSISTANT ADMINISTRATOR
DIVISION OF ENVIRONMENTAL QUALITY

DATE: July 16, 1998

PERMIT TO CONSTRUCT

PERMITTEE, PROJECT, AND LOCATION

Department of Energy, Idaho Field Office
Canister Dewatering/ Vacuum Drying
Test Area North, Butte County

PERMIT NUMBER

0	2	3	-	0	0	0	0	1

SOURCE

TAN-734-001 (Dewatering/Drying)

1. EMISSION LIMIT

Radionuclide emissions from stack TAN-734-001 shall not, by themselves, cause any individual to receive a dose of greater than 0.1 millirem-per-year effective dose equivalent nor shall these emissions, in combination with emissions from other INEEL sources, cause any individual to receive a dose of greater than 10 millirem-per-year effective dose equivalent. Doses due to radon-220 and radon-222, and their respective decay products are excluded from this limit.

2. MONITORING REQUIREMENTS

2.1 Radionuclide emissions from the TAN-734-001 stack shall be monitored and recorded in accordance with 40 CFR 61.93 paragraph (b) and 40 CFR Subpart A.

2.2 The permittee shall monitor and maintain the HEPA filters as specified in Appendix A of this permit.

3. OPERATING REQUIREMENTS

3.1 For the TAN Pool Stabilization Project, the current contents in the TAN Pool shall be dewatered, vacuum dried, and/or loaded into dry storage canisters for transport to the ICPP Independent Spent Fuel Storage Installation (ISFSI).

3.2 The permittee shall operate the HEPA filters as specified in Appendix A of this permit.

4. REPORTING AND RECORDKEEPING REQUIREMENTS

4.1 The permittee shall submit a report to the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) on HEPA filter operation as specified in Appendix A of this permit.

4.2 Records required under Section 2 shall be maintained for a minimum of two (2) years from the date the data was recorded and shall be made available to DEQ representatives upon request. All records submitted to DEQ shall be certified by a responsible official to be true, accurate, and complete.

4.3 A copy of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) annual report shall be submitted to DEQ each year. If the NESHAP report does not demonstrate compliance with Section 1 of this permit, a more detailed report shall be submitted to demonstrate compliance.

DATE: July 16, 1998

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APPENDIX A

HEPA FILTER GENERAL REQUIREMENTS

MONITORING REQUIREMENTS

1. The permittee shall conduct periodic in-place efficiency tests on each certified HEPA filter or HEPA filter bank, as applicable. The first test shall be conducted within 90 days of startup and subsequent tests shall be conducted at least every 12 months thereafter, per Nuclear Air Cleaning Handbook, ERDA 76-21, Section 8.3.5, "Frequency of Testing." Testing will be conducted using guidelines of ASME N510, Section 10, "HEPA Filter Bank In-Place Test." In addition, after replacement or installation of a HEPA filter, an in-place efficiency test shall be conducted within 90 days of the date that the HEPA filter is placed in operation.

2. A pressure monitoring device shall be maintained to enable monitoring of the pressure drop across each certified HEPA filter bank. The pressure drop monitoring equipment shall be maintained in good working order. Pressure drop shall be monitored daily when the HEPA filter bank is in use.

OPERATING REQUIREMENTS

1. Certified HEPA filter efficiency shall be maintained at or above 99.97 percent removal efficiency as determined by the guidelines of ASME N510, Section 10.

2. If the removal efficiency of a certified HEPA filter or HEPA filter bank, as applicable, falls below 99.97 percent for particle sizes of 0.30 micron or larger, as determined by ASME N510, Section 10, certified filters shall be isolated or replaced within 10 days until the required efficiency is achieved.

3. Each certified HEPA filter shall be operated at a pressure drop that is limited to less than 5.0 inches water column. If the total pressure drop across the HEPA filter bank exceeds 5.0 inches water column, the permittee shall isolate it or replace it within 10 days.

4. Within 90 days of issuance, the permittee shall submit to DEQ an operating and maintenance (O&M) manual which describes the procedures which will be followed to assure compliance with Sections 1 and 2 of this permit Appendix.

5. Within 90 days of issuance, the permittee shall submit to DEQ a quality assurance program, based on ASME N510 guidelines, which defines methods and procedures that will be used to assure that quality and representative data are collected while performing in-place HEPA filter tests and measuring pressure drops across HEPA filters banks.

DATE: July 16, 1998

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PERMIT TO CONSTRUCT GENERAL PROVISIONS

All emissions authorized herein shall be consistent with the terms and conditions of this permit and the *Rules for the Control of Air Pollution in Idaho*. The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the *Rules for the Control of Air Pollution in Idaho*, and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the *Rules for the Control of Air Pollution in Idaho*) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or the authorized representative(s), upon the presentation of credentials:

1. To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and
2. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack emission testing in conformance with the DEQ's "Procedures Manual for Air Pollution Control" when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify DEQ, in writing, of the required information for the following events within five (5) working days after occurrence:

1. Initiation of Construction - Date
2. Completion/Cessation of Construction - Date
3. Actual Production Start-up - Date
4. Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one hundred and eighty (180) days after initial start-up. Such testing must **strictly** adhere to the procedures outlined in the DEQ's "Procedures Manual for Air Pollution Control," and shall not be conducted on weekends or state holidays without prior written DEQ approval. Testing procedures and specific time limitations may be modified by DEQ by prior negotiation if conditions warrant adjustment. DEQ shall be notified at least fifteen (15) days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to DEQ upon request.

The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during any performance test period, for which a test protocol has been granted prior approval by DEQ, unless (1) the test demonstrates noncompliance, (2) a more restrictive operating limit is specified elsewhere in this permit, or (3) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.

The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

DATE: July 16, 1998

STATE OF IDAHO

PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE

PERMIT NUMBER 023 - 00001

AQCR	CLASS	SIC
061	A1	9999

ZONE 12 **UTM COORDINATE (km)** 335.1, 4818.2

1. **PERMITTEE**

Department of Energy / Idaho National Engineering and Environmental Laboratory / Radioactive Waste Management Complex

2. **PROJECT**

Transuranic Storage Area Retrieval Enclosure

3. MAILING ADDRESS	CITY	STATE	ZIP CODE
850 Energy Drive	Idaho Falls	ID	83401

4. SITE LOCATION COUNTY	NO. OF FULL-TIME EMPLOYEES	PROPERTY AREA AT SITE (Acreage)
Butte	8,100	569,000

5. PERSON TO CONTACT	TITLE	TELEPHONE
Richard C. Cullison	Manager, DOE Environmental Programs	208-526-2181

6. **EXACT PLANT LOCATION**

INEEL, Scoville, ID, Latitude North 43° 30' 02.56" :Longitude West 113° 02' 24'6" UTM Coordinates N 4, 818, 226.5 meters and E 335, 9.2 meters

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**

Government research and support facilities.

8. **GENERAL CONDITIONS**

This permit is issued according to the *Rules for the Control of Air Pollution in Idaho*, Section 16.01.01.200, and pertains only to emissions of air contaminants that are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require Department approval pursuant to the *Rules for the Control of Air Pollution in Idaho,* IDAPA 16.01.01.200, et.seq.

ADMINISTRATOR
DIVISION OF ENVIRONMENTAL QUALITY
IDAHO FALLS REGIONAL OFFICE

DATE: October 13, 2000

PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

Department of Energy
INEEL - RWMC
Idaho Falls, ID

PERMIT NUMBER

0 2 2 - 0 0 0 0 1

SOURCE

Government research and support facilities.

1. **EMISSION LIMITS**

1.1 Radionuclide emissions from the retrieval enclosure (RE) stack and the RE soil vacuum unit shall not, by themselves or, in combination with emissions from other INEEL sources, exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent in excess of ten (10) millirem in accordance with 40 CFR 61, Subpart H. Doses due to radon-220 and radon-222 and their respective decay products are excluded from this limit. The dose from aggregate RE ventilation stack and soil vacuum emissions shall not exceed the value listed in Appendix A of this Permit.

2. **OPERATING REQUIREMENTS**

2.1 This source shall operate within the requirements of the U.S. Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants for radionuclide emissions from Department of Energy facilities (Code of Federal Regulations, 40 Part 61.90).

2.2 Testable high efficiency particulate air (HEPA) filters efficiency shall be maintained at or above 99.97 percent removal efficiency as determined by guidelines of the American Society of Mechanical Engineers (ASME) N510, Section 10.

2.3 If the removal efficiency of the testable HEPA filter or HEPA filter bank falls below 99.97 percent as determined by the guidelines of ASME N510, Section 10, the testable HEPA filter or HEPA filter bank shall be isolated or replaced within 10 days until the required efficiency is achieved.

2.4 Each testable HEPA filter or filter bank shall be operated at a pressure drop that is limited to a maximum of 5.0 inches water column. If the total pressure drop across a HEPA filter or HEPA filter bank exceeds 5.0 inches water column, the permittee shall isolate it or replace it within 10 days.

2.5 Operators shall be alerted of a degraded HEPA filter (breached, plugged or leaking) by a monitor alarm or by a decrease in the differential pressure readings across the HEPA filter in accordance with the applicant's submittal.

2.6 Fugitive dust and radionuclide particulate from the disposed baghouse fines shall be placed in appropriate containers and disposed of properly, in accordance with the applicant's submittal.

2.7 The facility shall retrieve a maximum of 25,000 fifty-five gallon drum equivalents of contact handled (CH) waste per year.

DATE: 10/03/2000

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PERMIT TO CONSTRUCT PERMITTEE, PROJECT, AND LOCATION	PERMIT NUMBER
Department of Energy INEEL - RWMC Idaho Falls, ID	022 - 00001
SOURCE	
Government research and support facilities.	

2.8 The gas burner heater for the retrieval enclosure (RE) shall operate within the following operating parameters:

2.8.1	Maximum Operating Time per year	2000 Hours
2.8.2	Maximum Fuel Consumption	34.3 GPH
2.8.3	Fuel for the gas burner heater shall be propane fuel.	

2.9 The emergency generator shall operate within the following operating parameters:

2.9.1	Maximum operating time per year	500 Hours
2.9.2	Maximum fuel consumption	40 GPH
2.9.3	Fuel for the emergency generator shall be Diesel #2 with a maximum sulfur content of 0.5 percent.	

2.10 The RE soil vacuum shall operate within the following parameters:

2.10.1	Maximum operating time per year	2700 Hours
2.10.2	Maximum fuel consumption	17.9 GPH
2.10.3	Fuel for the vacuum engine shall be Diesel #2 with a maximum sulfur content of 0.5 percent.	

3. MONITORING REQUIREMENTS

3.1 The permittee shall conduct an initial in-place efficiency test on the testable HEPA filters or filter bank within 90 days of startup, as applicable. Periodic in-place efficiency test shall be conducted thereafter at least once every twelve (12) months, per Nuclear Air Cleaning Handbook, ERDA 76-21, Section 8.3.5, "Frequency of Testing". Testing shall be conducted using guidelines of ASME N510, Section 10, "HEPA Filter Bank In-Place Test". In addition, after replacement or installation of a HEPA filter, an in-place efficiency test shall be conducted within 90 days of the date that the HEPA filter is placed in operation.

3.2 Pressure monitoring devices shall be installed to enable monitoring of pressure drop across the testable HEPA filters. The pressure drop monitoring equipment shall be maintained in good working order. Pressure drop shall be checked daily when the HEPA filters are in operation.

3.3 The permittee shall monitor and test emissions of radionuclides from the RE pursuant to Code of Federal Regulations, 40 Part 61.93.

DATE: 10/03/2000

DH/tk Q:\PERMITS\RWMC\990135.PTC

PERMIT TO CONSTRUCT PERMITTEE, PROJECT, AND LOCATION	PERMIT NUMBER
Department of Energy INEEL - RWMC Idaho Falls, ID	022 - 00001
SOURCE	
Government research and support facilities.	

3.4 The permittee shall monitor and record the following:

3.4.1 The number of waste containers retrieved, and the number of breached waste containers;

3.4.2 Hours of operation and Fuel Consumption of the following:

a. Gas burner heating unit,

b. Emergency generator unit, and

c. The RE diesel vacuum unit.

4. **REPORTING REQUIREMENTS**

4.1 The permittee shall submit the following information to the DEQ in a yearly report (due January 31 after the end of each year).

4.1.1 The dates and results of all HEPA filter efficiency tests using the ASME N510, Section 10 guidelines.

4.1.2 The dates of replacement of HEPA filter elements.

4.1.3 All HEPA filter or HEPA filter bank alarms and a record of pressure readings over 5 inches water column.

4.2 The number of waste containers retrieved shall be recorded. Breached waste containers shall be identified by visual inspection. The number of breached waste containers and total waste containers retrieved each calendar year shall be submitted to the DEQ in a yearly report prior to January 31.

4.3 The permittee shall record the hours of operation and fuel consumption of all equipment listed in sections 2.8 to 2.10 of this PTC. The recorded data shall be submitted to the DEQ as part of the yearly report required in section 4.2 of this PTC.

DATE: 10/03/2000

DH/tk Q:\PERMITS\RWMC\990135.PTC

PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

Department of Energy
INEEL - RWMC
Idaho Falls, ID

PERMIT NUMBER

0 2 2 - 0 0 0 0 1

SOURCE

Government research and support facilities.

APPENDIX A

Idaho National Engineering and Environmental Laboratory

Radioactive Waste Management Complex

Transuranic Storage Area Retrieval Enclosure

Dose and Radionuclide Emissions Limits[a] -- Annual

SOURCE DESCRIPTION	RADIONUCLIDES
	mrem/yr
Retrieval Enclosure	0.01

a As determined by a pollutant specific U.S. EPA reference method, or DEQ approved alternative, or as determined by the DEQ's emission estimation methods used in this permit analysis.

DATE: 10/03/2000

DH/tk Q:\PERMITS\RWMC\990135.PTC

PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules for the Control of Air Pollution in Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules for the Control of Air Pollution in Idaho**, and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules for the Control of Air Pollution in Idaho**) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack emission testing in conformance with the DEQ's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the DEQ, in writing, of the required information for the following events within five working days after occurrence;

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Start up - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one hundred and eighty (180) days after initial start up. Such testing must strictly adhere to the procedures outlined in the DEQ's **Procedures Manual for Air Pollution Control**, and shall not be conducted on weekends or state holidays without prior written DEQ approval. Testing procedures and specific time limitations may be modified by the DEQ by prior negotiation if conditions warrant adjustment. The DEQ shall be notified at least fifteen (15) days prior to the scheduled performance test. Any records or data generated as a result of such performance test shall be made available to the DEQ upon request.

The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during the performance test period, unless (1) a more restrictive operating limit is specified elsewhere in this permit, or (2) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

DATE: 10/03/2000

DH/tk Q:\PERMITS\RWMC\990135.PTC

STATE OF IDAHO
DIVISION OF
ENVIRONMENTAL QUALITY

900 North Skyline Drive, Suite B • Idaho Falls, Idaho 83402-1718 • (208) 528-2650

Dirk Kempthorne, Governor
C. Stephen Allred, Administrator

June 26, 2000

CERTIFIED MAIL # 7000 0520 0015 7057 1738

Teresa Perkins
Director, DOE ETSD
850 Energy Drive
Idaho Falls, ID 83401

RE: P-000500, INEEL, INTEC
(Permit to Construct Modification; PTC #023-00001 "Idaho Chemical Processing Plant NO_x Sources", and PTC #023-00001 "INTEC Portable Boiler")

Dear Mrs. Perkins:

On January 13, 2000, the Idaho Division of Environmental Quality (DEQ) received a Prevention of Significant Deterioration/Permit to Construct (PSD/PTC) application from Bechtel BWXT Idaho, on behalf of the Department of Energy and the Idaho National Engineering and Environmental Laboratory (INEEL), for the construction of four (4) 36.4 MMBtu/hr distillate fuel oil-fired boilers and the modification of one (1) 29.3 MMBtu/hr portable distillate fuel oil-fired boiler at the Idaho Nuclear Technology and Engineering Center (INTEC). The application was determined complete on February 18, 2000.

Based on review of your application, and state and federal rules and regulations, DEQ finds this project meets the provisions of IDAPA 16.01.01.200 (Rules for the Control of Air Pollution in Idaho) (Rules). Enclosed is the PSD/PTC (#023-00001) for the modification identified above. This PTC, dated June 26, 2000, supersedes any previous PTC 023-00001 issued by DEQ for INEEL, INTEC for these four distillate fuel oil- fired boilers and the portable fuel oil-fire boiler. This permit does not release the permittee from compliance with all other applicable federal, state, local, or tribal laws, regulations, or ordinances.

You, as well as any other entity, may have the right to appeal this final agency action pursuant to the Idaho Department of Health and Welfare Rules, Title 5, Chapter 3, "Rules Governing Contested Case Proceedings and Declaratory Rulings," by filing a petition with the Hearings Coordinator, Department of Health and Welfare, Administrative Procedures Section, 450 West State Street, Tenth Floor, Boise, Idaho 83720-5450, within thirty-five (35) days of the date of this decision. However, DEQ encourages you to contact the Air Quality Permit Program to address any concerns you may have with the enclosed permit prior to filing a petition for a contested case.

If you have any questions regarding the terms or conditions of the enclosed proposed permit, please contact Jeff Trasure or Jorge Garcia at (208) 528-2650.

Sincerely,

James Johnston
Regional Administrator
Idaho Falls Regional Office

JJ/WR: hs 57255 E:\PERMITS\INTEC\000500PL.WPD

Enclosures

cc: Catherine Reno, Regional Manager
DEQ State Office (023-00001)
Source File

STATE OF IDAHO

PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE

PERMIT NUMBER 023-00001

AQCR 061

CLASS A1

SIC 9999

ZONE 12

UTM COORDINATE (km) 342.5, 4827.2

1. **PERMITTEE**

Department of Energy / Idaho National Engineering and Environmental Laboratory / Idaho Nuclear Technology and Engineering Center

2. **PROJECT**

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler PSD PTC

3. MAILING ADDRESS	CITY	STATE	ZIP CODE
850 Energy Drive	Idaho Falls	ID	83401

4. SITE LOCATION COUNTY	NO. OF FULL-TIME EMPLOYEES	PROPERTY AREA AT SITE (Acreage)
Butte	10,800	569,000

5. PERSON TO CONTACT	TITLE	TELEPHONE
Teresa Perkins	Director, DOE ETSD	208-526-1483

6. **EXACT PLANT LOCATION**

INTEC Facility, Building CPP-606; E 343812, N 4826008

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**

Nuclear and Environmental Research and Development

8. **GENERAL CONDITIONS**

This permit is issued according to the *Rules for the Control of Air Pollution in Idaho*, Section 16.01.01.200, and pertains only to emissions of air contaminants that are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require Department approval pursuant to the *Rules for the Control of Air Pollution in Idaho*, IDAPA 16.01.01.298 et seq.

ADMINISTRATOR
DIVISION OF ENVIRONMENTAL QUALITY
IDAHO FALLS REGIONAL OFFICE

DATE: 06/26/2000

WR: hs 87255 E:\PERMITS\INTEC\000500.PMT

PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

Department of Energy
INEEL - INTEC
Idaho Falls, ID

PERMIT NUMBER
0 2 3 - 0 0 0 0 1

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

1. EMISSION LIMITS

1.1 Emission Limits

The Permittee shall not discharge into the atmosphere from the Building CPP-606 Boilers stacks and the INTEC Portable Boiler stack any gases that contain sulfur dioxide (SO_2), oxides of nitrogen (NO_x), and beryllium emissions that exceed any corresponding emission rate limit listed in Appendix A of this permit.

1.2 Fuel Burning Equipment - Particulate Matter Emission Standard

In accordance with IDAPA 16.01.01.676 (*Rules for the Control of Air Pollution in Idaho*), the Permittee shall not discharge into the atmosphere from the Building CPP-606 Boilers stacks and the INTEC Portable Boiler stack any gases that contain particulate matter emissions in excess of 0.050 grains per dry standard cubic foot (gr/dscf) corrected to three percent (3%) oxygen.

1.3 Opacity Limit

The Permittee shall not discharge into the atmosphere from the Building CPP-606 Boilers stacks and the INTEC Portable Boiler stack, or any other stack, vent, or functionally equivalent opening, emissions that exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period, as required by IDAPA 16.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 16.01.01.625.

1.4 Opacity Limit

In accordance with 40 CFR 60.43c, the Permittee shall not discharge into the atmosphere from the Building CPP-606 Boilers stacks any gases that exhibit greater than 20 percent (20%) opacity (6-minute average), except for one 6-minute period per hour of not more than 27 (27%) percent opacity. The opacity standard shall apply at all times except during periods of startup, shutdown, or malfunction. Opacity shall be determined by the procedures contained in IDAPA 16.01.01.625 and as specified in 40 CFR Part 60.

DATE: 06/26/2000

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PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

Department of Energy
INEEL - INTEC
Idaho Falls, ID

PERMIT NUMBER

0 2 3 - 0 0 0 0 1

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

2. OPERATING REQUIREMENTS

2.1 Boiler Fuel

The Permittee shall combust distillate oil exclusively in the Building CPP-606 Boilers and the INTEC Portable Boiler. The distillate oil combusted in these boilers shall not contain greater than 0.3 weight percent sulfur.

2.2 Boiler Fuel

In accordance with 40 CFR 60.42c(d), the Permittee shall not combust distillate oil that contains greater than 0.5 weight percent sulfur in the Building CPP-606 Boilers. In accordance with 40 CFR 60.41c, distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specification for Fuel Oils".

2.3 Boiler Fuel Throughput Limit

The total amount of boiler fuel combusted for all Building CPP-606 Boilers and the INTEC Portable Boiler shall not exceed twenty-nine thousand, nine hundred seventy-six gallons per day (29,976 gal/day).

3. MONITORING REQUIREMENTS

3.1 Boiler Fuel Sulfur Content

To demonstrate compliance with Sections 2.1 and 2.2 of this permit, all boiler fuel combusted in the Building CPP-606 Boilers and the INTEC Portable Boiler shall be certified by the fuel oil supplier. In accordance with 40 CFR 60.48c(f), fuel oil supplier certification shall include the name of the fuel oil supplier, and a statement from the fuel oil supplier that the fuel oil complies the specifications under the definition of distillate oil in 40 CFR 60.41c.

3.2 Boiler Fuel Throughput

In accordance with 40 CFR 60.48.c(g), the Permittee shall monitor and record the amount of boiler fuel combusted in the Building CPP-606 Boilers and the INTEC Portable Boiler each day. The amount of boiler fuel combusted shall be recorded as gallons per day (gal/day), in a log, kept at the facility for the most recent two (2) year period. The log shall be available to DEQ representatives upon request.

3.3 Opacity Performance Test

In accordance with 40 CFR 60.45c(a), within sixty (60) days after achieving the maximum production rate at which the Building CPP-606 Boilers and the INTEC Portable Boiler will be operated, but not later than one hundred eighty (180) days after initial startup of the Building CPP-606 Boilers and the INTEC Portable Boiler, the Permittee shall conduct a performance test to measure opacity from the Building CPP-606 Boilers and the INTEC Portable Boiler stacks. Opacity shall be determined using the procedures contained in IDAPA 16.01.01.625. This initial performance test, and any subsequent performance tests conducted to demonstrate compliance, shall be performed in accordance with IDAPA 16.01.01.157 and General Provision F of this permit.

DATE: 06/26/2000

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PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

Department of Energy
INEEL - INTEC
Idaho Falls, ID

PERMIT NUMBER

0 2 3 - 0 0 0 0 1

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

3.4 Boiler Performance Test

In accordance with IDAPA 16.01.01.157, the Permittee shall conduct a performance test using the methods and procedures specified in IDAPA 16.01.01.157.02 on one (1) CPP-606 Boiler stack to measure the particulate matter grain loading to demonstrate compliance with Section 1.2 of this permit. If compliance with the fuel burning equipment grain loading standard is demonstrated, performance testing is not required for any other boiler subject to this permit. If compliance with the fuel burning equipment grain loading standard is not demonstrated, performance testing of all other boilers subject to this permit is required.

3.5 Sulfur Dioxide Performance Test

In accordance with 40 CFR 60.44c(h), the performance test to demonstrate compliance with Section 2.1 of this permit shall consist of certification from the fuel supplier. In accordance with 40 CFR 60.48c(f), fuel supplier certification shall include the following information for distillate oil: (1) the name of the oil supplier; and (2) a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41.c.

4. REPORTING REQUIREMENTS

4.1 Performance Test Protocol

Prior to conducting any emission test, the Permittee is strongly encouraged to submit in writing to DEQ, at least thirty (30) days in advance, a performance test protocol in accordance with IDAPA 16.01.01.157.01.a.

4.2 Performance Test Report

In accordance with IDAPA 16.01.01.157.04, the Permittee shall submit a written report of the performance test results to DEQ within thirty (30) days of completion of the test.

4.3 Notification

In accordance with 40 CFR 60.48c(a), the Permittee shall provide notification of construction, anticipated startup, and actual startup as provided by 40 CFR 60.7.

DATE: 06/26/2000

WR/hs E:\PERMITS\INTEC\000500.PMT

PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

PERMIT NUMBER

Department of Energy
INEEL - INTEC
Idaho Falls, ID

0 2 3 - 0 0 0 0 1

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

4.4 Semi-Annual Reporting

In accordance with 40 CFR 60.48c(d), the Permittee shall submit semi-annual reports to EPA Region X and to DEQ. In accordance with 40 CFR60.48c(j), the reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to EPA Region X and to DEQ and shall be postmarked by the 30th day following the end of the reporting period. Each submitted semi-annual report shall contain the information required by 40 CFR 60.48c(e), as applicable.

4.5 Recordkeeping

In accordance with 40 CFR 60.48c(i), the Permittee shall maintain all records of the information required by 40 CFR 60.48c(e). The records shall be maintained by the Permittee for a period of two (2) years following the date of such record.

4.6 Certification of Documents

All documents, including but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, and compliance certifications submitted to DEQ shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

DATE: 06/26/2000

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PERMIT TO CONSTRUCT
PERMITTEE, PROJECT, AND LOCATION

PERMIT NUMBER

Department of Energy
INEEL - INTEC
Idaho Falls, ID

023 - 00001

SOURCE

Building CPP-606 Distillate Oil-Fired Boilers and INTEC Distillate Oil-Fired Portable Boiler

APPENDIX A

Idaho National Engineering and Environmental Laboratory

Idaho Nuclear Technology and Engineering Center

CPP-606 Boilers and INTEC Portable Boiler Emissions Limits[a] – Daily and Annual

SOURCE DESCRIPTION	SO_2		NO_x		beryllium	
	lb/day	T/yr	lb/day	T/yr	lb/day	T/yr
CPP-606 Boilers and INTEC Portable Boiler	1,295.0	213.0	599.5	98.6	1.26E-02	2.30E-03

a. As determined by a pollutant specific U.S. EPA reference method, or DEQ approved alternative, or as determined by the DEQ's emission estimation methods used in this permit analysis.

DATE: 06/26/2000

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PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules for the Control of Air Pollution in Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules for the Control of Air Pollution in Idaho**, and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules for the Control of Air Pollution in Idaho**) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack emission testing in conformance with the DEQ's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the DEQ, in writing, of the required information for the following events within five working days after occurrence;

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Start up - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one hundred and eighty (180) days after initial start up. Such testing must strictly adhere to the procedures outlined in the DEQ's **Procedures Manual for Air Pollution Control**, and shall not be conducted on weekends or state holidays without prior written DEQ approval. Testing procedures and specific time limitations may be modified by the DEQ by prior negotiation if conditions warrant adjustment. The DEQ shall be notified at least fifteen (15) days prior to the scheduled performance test. Any records or data generated as a result of such performance test shall be made available to the DEQ upon request.

The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during the performance test period, unless (1) a more restrictive operating limit is specified elsewhere in this permit, or (2) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

DATE: 06/26/2000

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STATE OF IDAHO PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE	PERMIT NUMBER 023-00001 AQCR 061 CLASS A1 SIC 9999 ZONE 12 UTM COORDINATE (km) 344.3, 4825.8

1. **PERMITTEE**

   Department of Energy - Idaho Field Office, Westinghouse Idaho Nuclear Company, Inc.

2. **PROJECT**

   CPP-1619 Waste Storage Facility

3. MAILING ADDRESS	CITY	STATE	ZIP CODE
850 Energy Drive	Idaho Falls	ID	83401-1563

4. SITE LOCATION COUNTY	NO. FULL TIME EMPLOYEES	PROPERTY AREA AT SITE (Acreage)
Butte	10,800	569,600

5. PERSON TO CONTACT	TITLE	TELEPHONE NUMBER
Mr. R. C. Cullison	Manager	(208) 526-2181

6. **EXACT PLANT LOCATION**

   West side of ICPP Complex, INEL

7. **GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS**

   Nuclear Research and Development

8. **GENERAL CONDITIONS**

This permit is issued according to the **Rules and Regulations for the Control of Air Pollution In Idaho,** Section 16.01.01.200, and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Department of Health and Welfare or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

THIS PERMIT HAS BEEN GRANTED ON THE BASIS OF DESIGN INFORMATION PRESENTED WITH ITS APPLICATION. CHANGES Of DESIGN OR EQUIPMENT THAT RESULT IN ANY CHANGE IN THE NATURE OR AMOUNT OF EMISSIONS MUST BE APPROVED IN ADVANCE BY THE DEQ UNLESS EXEMPTED BY THE RULES FOR CONTROL OF AIR POLLUTION IN IDAHO SECTION 220 THROUGH 225.

ASSISTANT ADMINISTRATOR
DIVISION OF ENVIRONMENTAL QUALITY /S/ Orville D. Green **DATE** March 4 , 1998

1. EMISSION LIMIT

This source shall operate within the requirements of the U.S. Environmental Protection Agency (EPA) National Emission Standards for Radionuclide emissions from Department of Energy Facilities (Code of Federal Regulations 40 Part 61.90). Radionuclide emissions from stack CPP-1619-001 shall not, by themselves, cause any individual to receive a dose of greater than 0.1 millirem per year effective dose equivalent nor shall these emissions in combination with emissions from other INEEL sources, cause any individual to receive a dose of greater than 10 millirem per year effective dose equivalent.

2. MONITORING REQUIREMENTS

2.1 Identity and source of each waste shipment;

2.2 Date and time each shipment is unloaded;

2.3 Total quantity of radioactive waste unloaded;

2.4 Identification and concentration of radionuclides in each shipment;

3. OPERATING REQUIREMENTS

3.1 Testable HEPA filters efficiency shall be maintained at or above 99.97 percent removal efficiency for particle sizes 0.3 micron or larger as determined by the use of DOP inlet/outlet test.

3.2 The testable HEPA filter elements shall be replaced within 10 days if the removal efficiency falls below 99.97 percent for particle sizes 0.3 micron or larger as determined by the DOP test procedures.

4. REPORTING REQUIREMENTS

4.1 Records required under Section 3.1 shall be maintained for a minimum of two (2) years from the date the data were recorded and shall be made available to DEQ personnel upon request. All records submitted to the Department shall be certified by a responsible corporate official to be true, accurate and complete.

4.2 A copy of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) annual report shall be submitted to the DEQ each year. If the NESHAP report does not demonstrate compliance with Section 1 of this permit, a more detailed report shall be submitted to demonstrate compliance.

PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules and Regulations for the Control of Air Pollution In Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules and Regulations for the Control of Air Pollution In Idaho,** and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules and Regulations for the Control of Air Pollution In Idaho)** maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing in conformance with the Department's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the Idaho Air Quality Bureau, in writing, of the required information for the following events within five working days after occurrence:

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Startup - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one-hundred and eighty (180) days after initial startup. Such testing must **strictly** adhere to the procedures outlined in the Department's **Procedures Manual for Air Pollution Control,** and will not be conducted on weekends or state holidays. Testing procedures and specific time limitations may be modified by the Idaho Air Quality Bureau by prior negotiation if conditions warrant adjustment. The Idaho Air Quality Bureau shall be notified at least fifteen (15) working days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to the Department upon request.

The performance tests will be performed at the **maximum** production rate. If this maximum rate is not achieved during testing, the allowable production rate will be limited to the production rate attained during testing.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

STATE OF IDAHO PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE	PERMIT NUMBER 023-00001 AQCR: 061 CLASS: A1 SIC: 9999 ZONE: 12 UTM COORDINATE (km): 343.9, 4826.0

1. PERMITTEE
U.S. Department of Energy, Idaho Operations Office

2. PROJECT
Idaho Chemical Processing Plant Nitrogen Oxide Sources

3. MAILING ADDRESS	CITY	STATE	ZIP CODE
785 DOE Place	Idaho Falls	ID	83401-1562

4. SITE LOCATION COUNTY	NO. FULL TIME EMPLOYEES	PROPERTY AREA AT SITE (Acreage)
Butte	10,000	569,600

5. PERSON TO CONTACT	TITLE	TELEPHONE NUMBER
W. D. Jensen	ICPP Facility Manager	(208) 526-7500

6. EXACT PLANT LOCATION
Eight (8) miles north of the southern border of INEL on Lincoln Blvd., INEL.

7. GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS
Energy Research and Development

8. **GENERAL CONDITIONS**

This permit is issued according to the **Rules and Regulations for the Control of Air Pollution In Idaho,** Section 16.01.01.200, and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Department of Health and Welfare or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

THIS PERMIT HAS BEEN GRANTED ON THE BASIS OF DESIGN INFORMATION PRESENTED WITH ITS APPLICATION. CHANGES Of DESIGN OR EQUIPMENT THAT RESULT IN ANY CHANGE IN THE NATURE OR AMOUNT OF EMISSIONS MUST BE APPROVED IN ADVANCE BY THE DEPARTMENT.

ASSISTANT ADMINISTRATOR
PERMITS AND ENFORCEMENT /S/ Orville D. Green

DATE
February 13, 1995

1. SOURCE DESCRIPTION

1.1 FAST Process Description. Receipt, movement and general handling of nuclear fuel is associated with the storage of fuel in the FAST (Fluorinal and Storage) Facility. Storage of fuel is maintained in large water-filled basins. Areas in the building and equipment associated with the past practice of dissolving fuel are shutdown.

1.2 FAST Control Description. The FAST final exhaust is vented through four parallel sets of filters consisting of pre-filters and a stage of HEPA filters. Each stage is made up of twenty-four (24) individual HEPA filters. Normally all four (4) separate air streams are on-line going through the filters. Any one of the separate filter banks may be isolated to allow maintenance or other activities. All gases emitted from the FAST go through these final stages of HEPA filtration before entering the FAST stack.

1.3 FAST Equipment Listing

1.3.1 FAST stack
1.3.2 FAST fuel storage basin
1.3.3 FAST dissolution cell
1.3.4 HEPA filters (2 in series) at the FAST dissolution cell
1.3.5 FAST FM area vessels
1.3.6 Pre-filter stages (4 in parallel)
1.3.7 HEPA filtration stages (4 in parallel)

1.4 FAST Stack Specifications

1.4.1 The FAST stack (CPP-676-001) has the following specifications:

Stack Height	--	160.0 feet
Stack Diameter	--	5.4 feet
Flow Rate	--	92,000 acfm (actual cubic feet per minute)

2. EMISSION LIMITS

2.1 Radionuclide Limits. Emissions of radionuclides from the FAST stack shall not, by themselves, or in combination with emissions from other INEL sources, exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent in excess of ten (10) millirem per year, in accordance with 40 CFR 61, Subpart H. Doses due to radon-220 and radon-222, and their respective decay products are excluded from this limit.

3. OPERATING REQUIREMENTS

3.1 Radionuclide Requirements. The permittee shall maintain and operate instrumentation in accordance with 40 CFR 60, Subpart H, to verify proper operation of the air pollution control equipment installed and ensure that the limits specified in Section 2.1 are met.

3.2 HEPA Filter Requirements. The permittee shall install, operate and maintain at least one (1) stage of High Efficiency Particulate Air (HEPA) filters having a minimum particle removal efficiency of no less than 99.97%. The permittee shall maintain and operate instrumentation to measure the pressure drop across the filter stages. HEPA filter efficiency shall be tested after installation and on an annual basis according to the ANSI N510 testing standard. All HEPA filters must be pretested and certified prior to installation and must meet government performance specifications and overpressure and rough handling requirements per MIL-F-51068. The permittee shall maintain written procedures in place which specify the conditions which require change out of the filters.

4. MONITORING REQUIREMENTS

4.1 Radionuclide Monitoring. The permittee shall perform radionuclide sampling and dose calculations as specified by 40 CFR 61, Subpart H. Effective dose equivalents to members of the public shall be calculated using EPA approved sampling procedures and EPA model CAP-88PC or other EPA approved models.

4.2 HEPA Filter Monitoring. The permittee shall monitor the pressure drop across the HEPA filter stages.

5. REPORTING REQUIREMENTS

5.1 Annual Reporting. The permittee shall submit an annual report by July 1 that provides the results of dose calculations based on collected INEL emissions during the preceding calendar year (January 1 to December 31).

1. SOURCE DESCRIPTION

The emissions exhausting from the main stack are derived from three (3) separate systems: the Liquid Effluent Treatment and Disposal (LET&D) facility, the ventilation air system and the process off-gas system.

1.1 LET&D Process and Control Description. The LET&D facility treats the Process Equipment Waste (PEW) Evaporator condensate, which is a low level liquid waste (LLLW), by an acid fractionation process. The acid portion or bottoms are used at the New Waste Calcining Facility (NWCF) or stored in the Tank Farm. The remaining gaseous overheads are discharged to the main stack.

The gaseous overheads, produced in the fractionation process, are processed through one of two parallel off-gas trains. The LET&D off-gas trains consist of a mist eliminator, a superheater, two banks of HEPA filters and a blower. Liquid droplets are removed by mist eliminators and returned to the fractionators. The gas is then heated to ensure there is no liquid water in the stream. Any solids are removed by HEPA filters. There are two (2) HEPA filter banks, one (1) of which is required to be operating whenever a fractionator is operated. Each bank consists of two (2) filter stages in series, each stage consisting of two (2) filters. The blower provides the motive force for the effluent. After the blower, the effluent is discharged to the main stack.

1.2 Ventilation Air System Process and Control Description. The ventilation air system is comprised of ventilation air from CPP-601, 602, 604, 640 and 1618. This air is used to heat, ventilate and to provide contamination control for the above facilities. This air, which comprises the bulk of the flow to the main stack, passes through the Ventilation Atmospheric Protection System (VAPS). This gas cleanup system consists of a fiberglass bed prefilter; HEPA filters arranged in twenty-six (26) parallel banks of four (4) filters; and three (3) blowers, two (2) of which normally operate. The blowers provide the motive force for the system and exhaust the air to the main stack.

1.3 Off-Gas Process and Control Description. The flow from Process Atmospheric Protection System (PAPS) is exhausted to the main stack. The PAPS flow is comprised of three (3) off-gas systems: the dissolver off-gas (DOG), the vessel off-gas (VOG) and the waste calcining off-gas. The PAPS system consists of a demister, superheater and a single stage of three (3) parallel HEPA filters. From the PAPS, the off-gas is exhausted to the main stack.

The flow in the DOG system is comprised of off-gas from fuel processing facilities in CPP-601 and the Rare Gas Plant in CPP-604. These facilities are not being operated due to the current mission. The vacuum provided by the DOG system is used for contamination control. The DOG system consists of a mist eliminator, a superheater, a single stage of non-HEPA filters and a blower. The blower effluent is discharged to the PAPS and then the main stack.

The flow in the VOG system is comprised of off-gas from the High Level Liquid Waste (HLLW) Tank Farm (eleven [11] large waste tanks and numerous other small tanks, valve boxes, etc.), the PEW evaporator, fuel processing facilities in CPP-601 and the Pilot Plants in CPP-620 and 637. The system provides vacuum and contamination control to vessels in the connected facilities. The VOG system consists of a mist eliminator, a superheater and a HEPA filter. In past practice, the Pilot Plant off-gases were always combined with CPP-601 off-gas prior to passing through the VOG system. In the future, the 620/637 Pilot Plants will also have the capability of exhausting off-gas directly to the main stack after local HEPA filtration.

The flow in the NWCF and WCF Process Off-gas system (POG) is comprised of off-gas from the NWCF and WCF. The NWCF and the WCF were built to reduce HLLW to a smaller volume and more stable solid form known as calcine. The NWCF replaced the WCF and is the only active calciner.

High Level Liquid Waste from the Tank Farm is solidified in a fluidized-bed calciner at about 500 degrees Celsius using liquid fuel (typically kerosene) and oxygen to produce heat. The off-gas from the calciner vessel is cleaned by a high efficiency cyclone, liquid scrub system and four (4) parallel banks of HEPA filters. One (l) or two (2) of the HEPA filter banks are on-line during operation. Each filter bank is made up of three (3) stages, each with two (2) HEPA filters. Each filter bank provides the removal efficiency equivalent to two (2) stages of HEPA filtration at 99.97% each, during test conditions.

Although the WCF is not operational, there is still some flow through the vessels at the WCF to maintain contamination control. This gas vents to the PAPS.

The calcined waste produced at the NWCF is transported by a pneumatic system to the Calcined Solids Storage Bins. The air used to transport the calcine is vented back through the NWCF and is discharged to the main stack. There are currently five (5) sets of filled bins. The sixth bin set is being filled and the seventh is being prepared for service. Each bin set consists of stainless steel bins inside a concrete vault. Bin sets 1, 2 and 3 are ventilated through the PAPS via the WCF off-gas line. Bin sets 4, 5, 6 and 7 have pressure relief systems which relieve through filters to the atmosphere when they are isolated from the NWCF calcine transfer system.

1.4 Pollution Control Equipment Listing

1.4.1 LET&D Mist eliminators (2 parallel trains)
1.4.2 LET&D HEPA filtration (2 banks)
1.4.3 VAPS Glass fiber bed filtration
1.4.4 VAPS HEPA filtration (26 banks)
1.4.5 PAPS Mist eliminator
1.4.6 PAPS HEPA filtration (1 stage of 3 filters)

1.4.7 DOG Mist eliminator
1.4.8 DOG Non-HEPA filtration
1.4.9 VOG Mist eliminator
1.4.10 VOG HEPA filtration (one filter)
1.4.11 NWCF High efficiency cyclone
1.4.12 NWCF Wet scrubber system
1.4.13 NWCF HEPA filtration (4 banks)
1.4.16 Bin Sets 4, 5, 6 and 7 Non-HEPA Filtration (1 or 2 filters)

1.5 Main Stack Specification

1.5.1 The Main stack (CPP-708) has the following specifications:

Stack Height	--	250.0 feet
Stack Diameter	--	6.5 feet
Flow Rate	--	119,000 acfm (actual cubic feet per minute)

2. EMISSION LIMITS

2.1 Nitrogen Oxide (NO_x) Emission Limits. NO_x emissions shall not exceed four hundred seventy-two pounds per hour (472 lb/hr), as determined by the in-stack continuous emission monitoring system (CEMS), by approved U.S. EPA Reference Methods or approved alternative. Because the NWCF is the only substantial contributor of NO_x emissions to the main stack, continuous emission monitoring for NO_x is required only when the NWCF is operating. Annual NO_x emissions shall not exceed seventeen hundred tons per year (1700 T/yr), as determined by summing the actual hourly emissions as shown by the CEMS and the results of any other emissions estimation methods that were used.

2.2 Radionuclide Emissions Limits. Emissions of radionuclides from the main stack shall not, by themselves, or in combination with emissions from other INEL sources, exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent in excess of ten (10) millirem per year, in accordance with 40 CFR 61, Subpart H. Doses due to radon-220 and radon-222, and their respective decay products, are excluded from this limit.

3. OPERATING REQUIREMENTS

3.1 Radionuclide Requirements. The permittee shall maintain and operate instrumentation in accordance with 40 CFR 61, Subpart H, to verify proper operation of the air pollution control equipment installed and ensure that the limits specified in Section 2.2 are met.

3.2 HEPA Filter Requirements. The permittee shall install, operate and maintain HEPA filter stages for the VAPS, PAPS and NWCF having a minimum particle removal efficiency of no less than 99.97%. The permittee shall maintain and operate instrumentation to measure the pressure drop across the filter stages. HEPA filter efficiency shall be tested after installation and on an annual basis according to the ANSI N510 testing standard. All HEPA filters must be pretested and certified prior to installation and meet the government performance specification and overpressure and rough handling requirements per MIL-F-51068. The permittee shall maintain written procedures in place which specify the conditions which require change out of the filters.

October 28, 1996 Amendment, generic change to HEPA requirement, O. Green to R. Cullison: The permittee shall conduct periodic in-place leak tests on all certified nuclear grade High Efficiency Particulate Air (HEPA) filters using the applicable sections of ASME-N510 (or NAVSHIPS 0989-9000 at NRF) or other equivalent test standards. The challenge aerosols shall be dioctyl phthalate (DOP), Emery 3004, or Department approved equivalent.

4. MONITORING REQUIREMENTS

4.1 CEMS Monitoring. The permittee shall maintain and operate an in-stack CEMS (continuous emissions monitor system) for the measurement of nitrogen oxides and gas flow rate at the main stack. The CEMS is required to be operated only while the NWCF is operating. The CEMS shall meet the requirements specified in 40 CFR 60, Appendix B. The permittee will maintain documentation which describes quality assurance procedures and maintenance procedures.

4.2 Radionuclide Monitoring. The permittee shall perform radionuclide sampling and dose calculations in accordance with 40 CFR 61, Subpart H. Effective dose equivalents to members of the public shall be calculated using EPA approved sampling procedures and EPA model CAP-88PC or other EPA approved models.

4.3 HEPA Filter Monitoring. The permittee shall monitor the pressure drop across the HEPA Filter stages.

4.4 Scrubber Monitoring. The permittee shall monitor the water flow rate and the pressure drop across all scrubbers.

5. REPORTING REQUIREMENTS

5.1 Annual Reporting. The permittee shall submit an annual report by July 1 that provides the results of dose calculations based on collected INEL emissions during the preceding calendar year (January 1 to December 31).

1. SOURCE DESCRIPTION

1.1 Project Description. This permit was originally issued on 5/20/88 and addressed the increased throughput capacity and air emissions associated with the Fuel Processing Restoration (FPR) project. This project was canceled and the permit has been modified to remove the sections that were no longer applicable.

The facilities listed under this source heading with their corresponding NO_x short-term and long-term emission limits are located throughout the Idaho National Engineering Laboratory (INEL). The top portion of the INEL site (approximately divided at the 43 degree, 45 minute latitude) was separated from this project mainly for modeling purposes. Although the Test Area North Facility was included in the inventory of existing sources submitted in the original application, it was later excluded from modeling and will not be listed in this permit.

1.2 Facility and Acronym Listing

1.2.1 Idaho Chemical Processing Plant - ICPP
1.2.2 Coal Fired Steam Generating Facility - CFSGF
1.2.3 Argonne National Laboratory - ANL
1.2.4 Auxiliary Reactor Area - ARA
1.2.5 Central Facilities Area - CFA
1.2.6 Naval Reactor Facility - NRF
1.2.7 Power Burst Facility Area - PBF
1.2.8 Test Reactor Area - TRA
1.2.9 Waste Management Operations - WMO
1.2.10 Radioactive Waste Management Complex - RWMC

2. EMISSION LIMITS

2.1 Nitrogen Oxide (NO_x) Emission Limits. NO_x emissions from all INEL wide NO_x sources shall not exceed their corresponding pounds per hour (lb/hr) or tons per year (T/yr) emission limits listed in Appendix A.

3. MONITORING REQUIREMENTS

3.1 Ambient Nitrogen Oxides. The permittee shall operate and maintain an ambient monitoring network for the measurement of nitrogen oxides (NO_x). The monitor(s) shall be operated as specified in Title 40, Parts 50 and 58 of the Code of Federal Regulations. For specific methods and quality control, follow EPA's "Quality Assurance Handbook for Air Pollution Measurement Systems." The permittee will maintain a monitoring plan subject to Department approval, which describes the installation (dates), quality assurance and maintenance procedures.

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APPENDIX A

INEL Wide Nitrogen Oxide Emission Limits in pounds per hour (lb/hr) and tons per year (T/yr)

Source Description	NO_x (lb/hr)	NO_x (T/yr)
ICPP/B-601 (B&W boiler)	10.285	22.46
ICPP/B-602 (B&W boiler)	10.285	22.46
ICPP/B-604 (Murray boiler)	20.075	74.20
ICPP/B-605 (Cleaver Brooks boiler)	20.075	74.20
ANL/Boiler No. 1 (Keeler boiler)	3.36	14.72
ANL/Boiler No. 2 (Keeler boiler)	3.36	14.72
ANL/Boiler No. 3 (Murray boiler)	3.36	14.72
ANL/Boiler No. 4 (Cleaver Brooks boiler)	3.74	14.72
CFA/CFA-605 B2 (Peerless Eastern boiler)	0.140	0.46
CFA/CFA-613 B-3 (Crane Hot Water boiler)	0.048	0.16
CFA/CFA-617 (Bryan Steam Corp. boiler)	0.30	0.36
CFA/CFA-650 B-25 (Cleaver Brooks boiler)	0.58	1.90
CFA/CFA-665 (Cleaver Brooks boiler)	1.38	4.29
CFA/CFA-662 B-28 and B-35 (one stack)	0.96	3.14
CFA/CFA-668 B-31 (Kewanee Scotch boiler)	0.046	0.15
CFA/CFA-671 B-33 and B-34 (one stack)	1.52	4.98
CFA/CFA-688 B-101 and B-102 (one stack)	2.32	7.21
CFA/Furnaces (6)	0.026	0.09
CFA/PER-613 B-501 (Powermaster boiler)	0.24	0.77
NRF/Boiler No. 1 (Vogt boiler)	22.66	37.13
NRF/Boiler No. 2 (Vogt boiler)	22.66	37.13
NRF/Boiler No. 3 (Vogt boiler)	22.66	37.13
PBF/PBF-620-620 M-31 Cyclotherm boiler)	0.24	0.79
WMO/WMO-601 (Gabriel boiler)	0.32	1.05

PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules and Regulations for the Control of Air Pollution In Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules and Regulations for the Control of Air Pollution In Idaho,** and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules and Regulations for the Control of Air Pollution In Idaho)** maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing in conformance with the Department's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the Idaho Air Quality Bureau, in writing, of the required information for the following events within five working days after occurrence:

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Startup - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one-hundred and eighty (180) days after initial startup. Such testing must **strictly** adhere to the procedures outlined in the Department's **Procedures Manual for Air Pollution Control,** and will not be conducted on weekends or state holidays. Testing procedures and specific time limitations may be modified by the Division of Environmental Quality by prior negotiation if conditions warrant adjustment. The DEQ shall be notified at least fifteen (15) working days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to the Department upon request.

The performance tests will be performed at the **maximum** production rate. If this maximum rate is not achieved during testing, the allowable production rate will be limited to the production rate attained during testing.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

STATE OF IDAHO PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE	PERMIT NUMBER 0340-0001 AQCR 061 CLASS B SIC 9999 ZONE 12 UTM COORDINATE (km) 343.9, 4825.0

1. **PERMITTEE**

   U. S. Department of Energy, Idaho Operations Office

2. **PROJECT**

   Hazardous Chemical Handling Facility (HCHF)

3. ADDRESS		COUNTY	NO. OF FULL TIME EMPLOYEES
785 DOE Place		Bonneville	331
4. CITY	**STATE**	**ZIP CODE**	**PROPERTY AREA AT SITE (Acreage)**
Idaho Falls	Idaho	83402	569,600
5. PERSON TO CONTACT		**TITLE**	**TELEPHONE NUMBER**
Clifford E. Clark		Environmental Scientist	(208) 562-1122

6. **EXACT PLANT LOCATION**

   8 miles north of the southern border of the INEL on Lincoln Blvd., INEL, Butte County, Idaho

7. **GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS**

   Energy research and development

8. **GENERAL CONDITIONS**

This permit is issued according to the **Rules and Regulations for the Control of Air Pollution in Idaho,** Section 01.1012, and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Department of Health and Welfare, or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for two years.

THIS PERMIT HAS BEEN GRANTED ON THE BASIS OF DESIGN INFORMATION PRESENTED WITH ITS APPLICATION. CHANGES OF DESIGN OR EQUIPMENT MUST BE APPROVED IN ADVANCE BY THE DEPARTMENT.

ADMINISTRATOR DIVISION OF ENVIRONMENT Signature on Original	DATE August 1, 1988

1. SOURCE DESCRIPTION

1.1 Process Description

The Hazardous Chemical Handling Facility (HCHF) is a system which will carry liquid hazardous waste from the Chemical Processing Plant (CPP)—647/620 pilot plant area to temporary storage vessels. Three types of waste will be handled: Corrosive Wastes (D-002), Low Fluoride Bearing Wastes (LF), and High Fluoride Bearing Wastes (HF). Typical chemical constituency is as follows:

Corrosive Waste

Chemical	Wt%	Chemical	Wt%
Nitric Acid	26.00	Aluminum Nitrate	29.00
Hydrogen Fluoride	0.02	Water	46.00
Hydrochloric Acid	0.02		

Low Fluoride Bearing Waste

Chemical	Wt%	Chemical	Wt%
Zirconium	0.35	Chloride	0.01
Fluoride	0.56	Calcium	0.30
Cadmium	0.02	Aluminum	0.13
Sulfate	0.18	Nitrate	5.90
Lead	0.003	Acid (H^+ ion)	0.19
Chromium	0.04	Water	90.00

High Fluoride Bearing Waste

Chemical	Wt%	Chemical	Wt%
Zirconium	0.55	Chloride	0.02
Fluoride	0.98	Calcium	2.07
Cadmium	0.01	Aluminum	0.70
Sulfate	0.25	Nitrate	24.05
Lead	0.004	Acid (H^+ ion)	0.27
Chromium	0.07	Water	71.00

All three waste streams have low vapor pressure (about 0.36% psia or 3% of atmospheric pressure) and none contain radionuclides. Each waste stream is handled separately.

Corrosive wastes (D-002) are transferred from the pilot plant area, pH adjusted, and pumped to a storage vessel (Tank VES-HBF-105). Downstream of the neutralization/storage tanks will be a filter system for extraction of salts. Salts likely to form will be ammonium nitrate and/or sodium nitrate. Salts will be disposed of in DOT waste barrels at a sanitary landfill; the salts are EPA classified non-hazardous. Neutralized, filtered wastes will be pumped to a percolation pond. The system of pumps, gravity feeds, and transfers is a closed (plumbing) system. Neutralization vessel and storage tank vapors will be vented through the Vessel Off Gas (VOGS) system to the CPP stack.

Although handled separately, the LF and HF waste streams are treated similarly. The waste streams are transferred from the pilot plant area to their perspective storage tanks: LF, Tank VES-HBF-104; HF, Tank VES-HBF-103. Salts formed in the acid storage vessels will be suspended via a nitrogen sparge. Sludge (salts-EPA classified non-hazardous) from the tank bottom will be removed through an access port and disposed at a sanitary landfill in DOT drums. Final disposition of the HF waste is calcination at the Nuclear Waste Calcining Facility; LF will be transferred to the PEW (process equipment waste) for processing. Waste transfers are through a hard pipe system with the storage tank roofs vented through the VOGS to the CPP stack.

1.2 Equipment Listing

1.2.1 VES-HBF-105 Tank, 700 gallon capacity (4 ft. x 92 in.), exhaust to VOGS. D-002 storage/Neutralization System;

1.2.2 VES-HBF-104 Tank, 500 gallon capacity (4 ft. x 6 ft.), exhaust to VOGS. LF storage; and

1.2.3 VES-HBF-103 Tank, 500 gallon capacity (4 ft. x 6 ft.), exhaust to VOGS. HF storage.

2.1 Operating Requirements. At no time will the DOE allow the HWCF to operate beyond the following throughput limits without first obtaining formal approval or permit revision from Idaho Department of Health and Welfare Division of Environmental Quality:

2.1.1 D-002 (Corrosive Waste) Storage and Neutralization—10,000 gal/yr;

2.1.2 Low Fluoride (LF) Storage—14,500 gal/yr; and

2.1.3 High Fluoride (HF) Storage—14,500 gal/yr.

3.1 Reporting Requirements. DOE will assure that HWCF throughput is reasonably recorded. Throughput records are to be maintained at the HWCF and be made available to DEQ compliance inspectors on the date of any scheduled compliance inspection. Minimum acceptable throughput records must contain for each HF, LF, and D-002 storage:

3.1.1 Monthly throughput;

3.1.2 Quarterly throughput; and

3.1.3 Annual throughput.

PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules and Regulations for the Control of Air Pollution in Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules and Regulations for the Control of Air Pollution in Idaho,** and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules and Regulations for the Control of Air Pollution in Idaho)** maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing in conformance with the Department's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the Idaho Air Quality Bureau, in writing, of the required information for the following events within five working days after occurrence:

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Startup - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one-hundred and eighty (180) days after initial startup. Such testing must **strictly** adhere to the procedures outlined in the Department's **Procedures Manual for Air Pollution Control,** and will not be conducted on weekends or state holidays. Testing procedures and specific time limitations may be modified by the Idaho Air Quality Bureau by prior negotiation if conditions warrant adjustment. The Idaho Air Quality Bureau shall be notified at least fifteen (15) working days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to the Department upon request.

The performance tests will be performed at the **maximum** production rate. If this maximum rate is not achieved during testing, the allowable production rate will be limited to the production rate attained during testing.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

STATE OF IDAHO PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE	PERMIT NUMBER 023-00001 AQCR 061 CLASS A1 SIC 9999 ZONE 12 UTM COORDINATE (km) 343.8, 4826.0

1. PERMITTEE United States Department of Energy, Idaho Operations			
2. PROJECT Idaho Chemical Processing Plant Pilot Plants			
3. MAILING ADDRESS 785 DOE Place	CITY Idaho Falls	STATE ID	ZIP CODE 83402
4. SITE LOCATION COUNTY Butte	NO. FULL TIME EMPLOYEES 10,500	PROPERTY AREA AT SITE (Acreage) 569,600	
5. PERSON TO CONTACT Jay R. Mitchell	TITLE Manager, NEPA/Permitting Dept.	TELEPHONE NUMBER (208) 526-9989	
6. EXACT PLANT LOCATION Building CPP-637—Idaho Chemical Processing Plant—Idaho National Engineering Lab			
7. GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS Federal Government			

8. GENERAL CONDITIONS

This permit is issued according to the **Rules for the Control of Air Pollution in Idaho,** Section 16.01.01.200, and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Department of Health and Welfare, or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment that result in any change in the nature or amount of emissions must be approved in advance by the department unless exempted by the rules for the control of air pollution in idaho sections 200 through 225.

ASSISTANT ADMINISTRATOR DIVISON OF ENVIRONMENTAL QUALITY	Signature on Original	DATE August 8, 1996

1. EMISSION LIMITS

1.1 Opacity Limits

Visible emissions from any stack, vent or functionally equivalent opening shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period in accordance with IDAPA 16.01.01.625 and as determined by procedures contained in the "Procedures Manual for Air Pollution Control, Section II (Evaluation of Visible Emissions Manual)."

2. OPERATING REQUIREMENTS

2.1 Simulated Liquid Waste Solution Feed Rate

2.1.1 The simulated liquid waste solution feed rate to the 10-cm calciner shall not exceed any of the following: seventy-two liters per day (72 l/day); two thousand eight hundred eighty liters per year (2,880 l/yr).

2.1.2 The simulated liquid waste solution feed rate to the 15-cm calciner shall not exceed any of the following: two hundred eighty-eight liters per day (288 l/day); eleven thousand five hundred twenty liters per year (11,520 l/yr).

2.1.3 The simulated liquid waste solution feed rate to the 30-cm calciner shall not exceed any of the following: one thousand eighty liters per day (1,080 l/day); thirty two thousand four hundred liters per year (32,400 l/yr).

3. MONITORING AND RECORDKEEPING REQUIREMENTS

3.1 Simulated Liquid Waste Solution Feed Rate

The permittee shall monitor and record, on a daily basis during operation, the daily feed rate of simulated liquid waste solution to the 10-cm, 15-cm, and 30-cm calciners. The permittee shall also record, annually, the total amount of simulated liquid waste solution fed to the 10-cm, 15-cm, and 30-cm calciners during the previous calendar year. All data shall be maintained on-site for the most recent two (2) year period and be made available to Department representatives upon request.

4. REPORTING REQUIREMENTS

4.1 Exceedence Reports

The permittee shall submit a written report to the Department of all exceedences of any emission limit or operational requirement specified in Section 1 and/or 2 of this permit within five (5) days of the exceedence. The report shall contain the date, time and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

4.2 Certification of Documents

All documents, including, but not limited to, records, monitoring data, supporting information, testing reports or compliance certifications submitted to the Department shall contain a certification by a responsible official in accordance with IDAPA 16.01.01.123. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

1. EMISSION LIMITS

1.1 Opacity Limits

Visible emissions from any stack, vent or functionally equivalent opening shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period in accordance with IDAPA 16.01.01.625 and as determined by procedures contained in the "Procedures Manual for Air Pollution Control, Section II (Evaluation of Visible Emissions Manual)."

2. OPERATING REQUIREMENTS

2.1 Mixing Tank Combined Throughput

The combined throughput of simulated waste solutions that are denitrated within the high bay facility mixing tanks shall not exceed any of the following:

2.1.1 Three thousand two hundred liters per month (3,200 l/mo);

2.1.2 Fifteen thousand two hundred liters per year (15,200 l/yr).

3. MONITORING AND RECORDKEEPING REQUIREMENTS

3.1 Mixing Tank Combined Throughput

The permittee shall monitor and record the combined monthly and annual throughput rate of simulated waste solutions that are denitrated within the high bay facility mixing tanks. All data shall be maintained on-site for the most recent two (2) year period and be made available to Department representatives upon request.

4. REPORTING REQUIREMENTS

4.1 Exceedence Reports

The permittee shall submit a written report to the Department of all exceedences of any emission limit or operational requirement specified in Section 1 and/or 2 of this permit within five (5) days of the exceedence. The report shall contain the date, time and duration of the exceedence if applicable, as well as any corrective action taken to remedy the cause of the exceedence.

4.2 Certification of Documents

All documents, including, but not limited to, records, monitoring data, supporting information, testing reports or compliance certifications submitted to the Department shall contain a certification by a responsible official in accordance with IDAPA 16.01.01.123. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules for the Control of Air Pollution in Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules for the Control of Air Pollution in Idaho,** and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules for the Control of Air Pollution in Idaho)** maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing in conformance with the Department's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the Idaho Division okf Environmental Quality, in writing, of the required information for the following events within five working days after occurrence:

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Startup - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one-hundred and eighty (180) days after initial startup. Such testing must **strictly** adhere to the procedures outlined in the Department's **Procedures Manual for Air Pollution Control,** and shall not be conducted on weekends or state holidays without prior written Department approval. Testing procedures and specific time limitations may be modified by the Idaho Division of Environmental Quality by prior negotiation if conditions warrant adjustment. The Idaho Division of Environmental Quality shall be notified at least fifteen (15) working days prior to the scheduled performance test. Any records or data generated as a result of such compliance test shall be made available to the Department upon request.

The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during the performance test period, unless (1) a more restrictive operating limit is specified elsewhere in this permit, or (2) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

STATE OF IDAHO PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE	PERMIT NUMBER 023-00001 AQCR 061 CLASS A1 SIC 9999 ZONE 12 UTM COORDINATE (km) 344.0, 4826.0

1. **PERMITTEE**

   United States Department of Energy

2. **PROJECT**

   Fuel Storage Area—Rack Reconfiguration Project

3. MAILING ADDRESS	CITY	STATE	ZIP CODE
785 DOE Place	Idaho Falls	ID	83402

4. SITE LOCATION COUNTY	NO. FULL TIME EMPLOYEES	PROPERTY AREA AT SITE (Acreage)
Butte	6,000	569,600

5. PERSON TO CONTACT	TITLE	TELEPHONE NUMBER
J. R. Mitchell	NEPA/Permitting Dept. Manager	(208) 526-7923

6. **EXACT PLANT LOCATION**

   Fuel Storage Area is located at INEL as a part of the Idaho Chemical Processing Plant

7. **GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS**

   Government Research and Support Facilities

8. **GENERAL CONDITIONS**

This permit is issued according to the **Rules for the Control of Air Pollution in Idaho,** Section 16.01.01.200, and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Department of Health and Welfare, or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

THIS PERMIT HAS BEEN GRANTED ON THE BASIS OF DESIGN INFORMATION PRESENTED WITH ITS APPLICATION. CHANGES OF DESIGN OR EQUIPMENT THAT RESULT IN ANY CHANGE IN THE NATURE OR AMOUNT OF EMISSIONS MUST BE APPROVED IN ADVANCE BY THE DEPARTMENT UNLESS EXEMPTED BY THE RULES FOR THE CONTROL OF AIR POLUTION IN IDAHO SECTIONS 220 THROUGH 225.

ASSISTANT ADMINISTRATOR PERMITS AND ENFORCEMENT	Signature on Original	DATE April 5, 1996

1. SOURCE DESCRIPTION

1.1 Process Description

The Fuel Storage Area (FSA), rack reconfiguration project will involve the replacement of fuel storage racks in FSA pools #1, #5, and #6. The pool #1 will have 10-inch square ports, 20 feet tall with a total of 925 ports. The pool #5 will have 16-inch square ports, 15 feet tall with a total of 294 ports. Part of the pool #6 will have 8-inch square ports, 15 feet tall with a total of 300 ports. The other three pools, #2, #3 and #4 and part of pool #6 remain the same with the arrangements shown below:

Pool #2: 10-inch square ports, 10 feet tall with a total of 486 ports.

Pool #3: 18-inch square ports, 10 feet tall with a total of 216 ports.

Pool #4: 12-inch square ports, 10 feet tall with a total of 384 ports.

Pool #6: 8-inch square ports, 10 feet tall with a total of 300 ports.

All fuel ports and rack dimensions are nominal. Tolerances from the given nominal dimensions shall be within the limits of the criticality safety analysis. When the project is complete, there will be approximately 2,905 ports in the six (6) pools, representing 36,095 ft^3 of storage volume in which fuel may be stored within the limits of the criticality safety analysis. Prior to project completion, the number of available ports in the pools may fluctuate above and below 2,905 but the occupied volume shall not exceed 36,095 ft^3. This volume includes the space occupied by fuel and space needed to maintain criticality safety.

Emissions from the FSA pools are released through the main Fluorinel and Storage (FAST) filtration system.

1.2 Control Description

Radioactive particulate emissions from the FSA pools are normally controlled by a single stage of prefilters and a single stage of certified HEPA filters. (Each stage contains four (4) parallel filter banks with 24 filters per bank). All of these banks are typically on-line except during system maintenance. The efficiency of a certified HEPA is 99.97 percent.

2. EMISSION LIMITS

2.1 Radionuclide Emissions

The source shall operate within the requirements of U.S. Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (40 CFR 61; Subparts A and H). Radionuclide emissions from the CPP-767 stack (FAST building)

shall not by themselves, or in combination with emissions from other INEL sources, cause any member of the public at any off-site point where there is a residence, school, business or office to receive a dose of greater than 10 millirem per year effective dose equivalent; nor shall radionuclide emissions from the FSA by themselves cause any member of the public at any off-site point where there is a residence, school, business or office to receive a dose greater than 4.2E-05 mrem per year.

3. MONITORING REQUIREMENTS

3.1 Radionuclide Emissions Monitoring

The permittee shall monitor and record radionuclide emissions in accordance with the requirements of 40 CFR Part 61, Subparts A and H.

3.2 HEPA Filter Monitoring

The permittee shall monitor and maintain the HEPA filters as specified in Appendix A of the permit.

4. OPERATING REQUIREMENTS

4.1 Maximum Fuel Position Occupancy

When the project is completed there will be approximately 2,905 ports in six (6) pools representing 36,095 ft^3 of storage volume in which fuel may be stored within the limits of the criticality safety analysis. Prior to project completion, the number of available ports in the pools may fluctuate above and below 2,905 but the occupied volume shall never exceed 36,095 ft^3. This volume includes the space occupied by fuel and space needed to maintain criticality safety.

4.2 HEPA Filter Operations

The permittee shall operate the HEPA filters as specified in Appendix A of the permit.

5. REPORTING AND RECORDKEEPING REQUIREMENTS

5.1 HEPA Filters

The permittee shall submit a report to the Department on HEPA filter operation as specified in Appendix A of the permit.

5.2 Radionuclide Emissions

The permittee shall submit an annual report to the Department indicating the results of the monitoring of the FAST stack emissions and the highest calculated dose equivalent as required in 40 CFR 61.94.

5.3 Individual Significant Radionuclides

Emissions of individual significant radionuclides shall be measured in accordance with 40 CFR 61.93(a) and recorded in accordance with 40 CFR 61.95. This information shall be recorded in curies per year and shall be kept on-site for a period of two (2) years and shall be made available to Department representatives, who have adequate DOE security clearance, upon request.

5.4 Reporting of Classified Radionuclides

If the permittee determines that any information required by this permit is classified information, the permittee shall notify the Department, in writing and within the applicable time period, that the classified information exists and provide a general description of the information. The permittee shall provide the classified information to an employee of the Department with adequate clearance upon written request by the Department.

APPENDIX A
HEPA FILTER GENERAL REQUIREMENTS

1. MONITORING REQUIREMENTS

1.1 The permittee shall conduct periodic in-place efficiency tests on each certified HEPA filter or HEPA filter bank, as applicable. The first test shall be conducted within 90 days of startup and subsequent tests shall be conducted at least every 12 months thereafter, per Nuclear Air Cleaning Handbook, ERDA 76-21, Section 8.3.5, "Frequency of Testing." Testing will be conducted using guidelines of ASME N510, Section 10, "HEPA Filter Bank In-Place Test." In addition, after replacement or installation of a HEPA filter, an in-place efficiency test shall be conducted within 90 days of the date that the HEPA filter is placed in operation.

1.2 A pressure monitoring device shall be maintained to enable monitoring of the pressure drop across each certified HEPA filter bank. The pressure drop monitoring equipment shall be maintained in good working order. Pressure drop shall be monitored continuously when the HEPA filter bank is in use.

2. OPERATING REQUIREMENTS

2.1 Certified HEPA filter efficiency shall be maintained at or above 99.97 percent removal efficiency as determined by the guidelines of ASME N510. Section 10.

2.2 If the removal efficiency of a certified HEPA filter or HEPA filter bank, as applicable, falls below 99.97 percent, as determined by ASME N510, Section 10, certified filters shall be isolated or replaced within 10 days until the required efficiency is achieved.

2.3 Each certified HEPA filter shall be operated at a pressure drop that is limited to less than 5.0 inches water column. If the total pressure drop across the HEPA filter bank exceeds 5.0 inches water column, the permittee shall isolate it or replace it within 10 days. The Department shall be notified in writing within five days of all instances that pressure drop exceeds five inches water column.

2.4 Within 90 days of issuance the permittee shall submit to the Department an operating and maintenance (O&M) manual which describes the procedures which will be followed to assure compliance with Sections 1 and 2 of this permit Appendix.

2.5 Within 90 days of issuance the permittee shall submit to the Department a quality assurance program, based on ASME N510 guidelines, which defines methods and procedures that will be used to assure that quality and representative data are collected while performing in-place HEPA filter tests and measuring pressure drops across HEPA filters banks.

3. REPORTING REQUIREMENTS

3.1 The results of the initial in-place HEPA filter bank test conducted using the guidelines of ASME N510, Section 10 shall be reported to the Department within 30 days of performing the test.

3.2 The permittee shall submit an annual statement to the Department, based on a calendar year and due thirty (30) days after the end of each calendar year, stating that all the requirements under this Appendix have been met. In addition, records of the following information shall be kept on-site and shall be made available for Department review upon request:

3.2.1 The dates and results of all in-place efficiency tests using the guidelines of the ASME N510 HEPA filter bank in-place test method.

3.2.2 The dates of replacement of HEPA filter elements.

3.2.3 Records of all instances when pressure drop exceeded 5 inches water column and the corrective actions taken to demonstrate compliance with Section 2.3 of this Appendix.

PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules for the Control of Air Pollution in Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules for the Control of Air Pollution in Idaho,** and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules and for the Control of Air Pollution in Idaho)** maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing in conformance with the Department's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the Idaho Division of Environmental Quality, in writing, of the required information for the following events within five working days after occurrence:

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Startup - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one-hundred and eighty (180) days after initial startup. Such testing must **strictly** adhere to the procedures outlined in the Department's **Procedures Manual for Air Pollution Control,** and shall not be conducted on weekends or state holidays without prior written Department approval. Testing procedures and specific time limitations may be modified by the Idaho Division of Environmental Quality by prior negotiation if conditions warrant adjustment. The Idaho Division of Environmental Quality shall be notified at least fifteen (15) days prior to the scheduled performance test. Any records or data generated as a result of such performance test shall be made available to the Department upon request.

The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during the performance test period, unless (1) a more restrictive operating limit is specified elsewhere in this permit, or (2) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

December 2, 1996

CERTIFIED MAIL #P 070 696 673

Mr. Richard Cullison, Manager
Department of Energy/Environmental Programs
Idaho Operations Office
850 Energy Drive
Idaho Falls, ID 83401

RE: P-960143 INEL-ICPP Evaporator Tank System (Evaporator Tank System Compliance Methodology)

Dear Mr. Cullison:

On September 26, 1996, Lockheed Martin Idaho Technologies Company, acting on behalf of the Department of Energy (DOE), requested to modify limitations of an exemption from air quality Permit to Construct (PTC) requirements for the Evaporator Tank System (ETS). Based on a review of the request and all applicable state and federal rules and regulations, the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) has determined the proposed changes meet the requirements for an exemption in accordance with IDAPA 16.01.01.223.03.I (Rules for the Control of Air Pollution in Idaho). Therefore the June 1, 1994, exemption for the ETS is replaced by issuance of this exemption with the following condition:

> The facility will at a minimum periodically monitor Iodine (I-129), Strontium-90 (SR-90), and Tritium (H-3) emissions and continuously monitor per 40 CFR 61 Subpart H from the ICPP main stack as required by PTC No. 023-00001, to confirm that the annual dose to the public does not exceed 9.4E-02 millirems per year (9.4E-02 mrem/yr). This data shall be reported in the NESHAP annual report as specified in 40 CFR 51 Subpart H.

NOTE: 40 CFR 51 should read 40 CFR 61 (mistake in letter from DEQ)

Mr. Richard Cullison
December 2, 1996
Page 2

This letter is in no way intended to supersede any other federal, state, or local rules and regulations that may apply. Also, please by advised that this letter does not constitute a waiver of any compliance action that may result from misinformation or noncompliance of the criteria set in the submittal received for this project that may cause unreasonable risk to human or animal life, or violate any ambient air quality standard

If you have any questions or concerns about this determination, or about our permitting process, please contact Martin Bauer, Chief, Air Quality Permitting Bureau, at (208) 371-0502.

Sincerely,

Orville D. Green
Assistant Administrator
Air and Hazardous Waste

ODG/JF/bb : INEL/ICPPETS4.EL

cc: R. Wilkosz/TSB
Pat Rayne/AFS
Idaho Falls RO
INEL Oversight
Jay Mitchell/LITCO
Source File
COF

STATE OF IDAHO PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE	PERMIT NUMBER 023-00001 AQCR 061 CLASS A1 SIC 9999 ZONE 12 UTM COORDINATE (km) 366.3, 4828.1

1. **PERMITTEE**

   Department of Energy-Idaho National Engineering and Environmental Laboratory/ICPP

2. **PROJECT**

   New Waste Calcining Facility/Decontamination Area

3. MAILING ADDRESS	CITY	STATE	ZIP CODE
850 Energy Drive	Idaho Falls	ID	83401

4. SITE LOCATION COUNTY	NO. FULL TIME EMPLOYEES	PROPERTY AREA AT SITE (Acreage)
Butte	4,832 (INEEL Site)	

5. PERSON TO CONTACT	TITLE	TELEPHONE NUMBER
Richard Cullison	DOE/Environmental Programs	(208)526-1925

6. **EXACT PLANT LOCATION**

   The NWCF is located within the ICPP at the INEEL in Butte County Idaho. The approximate stack location is Latitude North 43E34'21.6", Longitude West 112E55'54.5". UTM coordinates are N 4826.01 km and E 344.08 km.

7. **GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS**

   Government Energy and Environmental Research and Development, and Nuclear Waste Management

8. **GENERAL CONDITIONS**

This permit is issued according to the **Rules for the Control of Air Pollution in Idaho,** Section 16.01.01.200, and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Idaho Department of Health and Welfare Division of Environmental Quality (DEQ). or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment that result in any change in the nature or amount of emissions must be approved in advance by the DEQ unless exempted by the Rules for the Control of Air Pollution in Idaho Sections 220 through 225.

ASSISTANT ADMINISTRATOR PERMITS AND ENFORCEMENT Signature on Original	DATE May 20, 1997

1. EMISSION LIMITS

Radionuclide emissions emanating from the New Waste Calcining Facility (NWCF) subsystem HVAC stack along with all other airborne radionuclides from all DOE/INEEL facilities shall not result in an effective dose equivalent to the maximally exposed off-site member of the public where there is a residence, school, business, or office which exceeds ten (10) millirems per year (mrem/yr) as per 40 CFR 61.92 and 94. Furthermore, radionuclide emissions emanating from the debris treatment exclusive of all other DOE/INEEL emissions shall not result in an effective dose equivalent at any business, school, or residence which equals or exceeds 0.10 millirems per year (mrem/yr).

2. OPERATING REQUIREMENTS

2.1 Testable HEPA filter efficiency shall be maintained at or above 99.97% removal efficiency for particulate sizes 0.3 microns or larger as determined by guidelines of the American Society of Mechanical Engineers (ASME) N510, Section 10.

2.2 If the removal efficiency of the testable HEPA filter or HEPA filter bank elements falls below 99.97% for particle sizes 0.3 microns or larger as determined by the guidelines of N510, Section 10, the testable HEPA filter or HEPA filter bank shall be isolated or replaced within ten (10) days until the required efficiency is achieved.

2.3 Each testable HEPA filter or filter bank shall be operated at a pressure drop that is limited to a maximum of 5.0 inches water column. If the total pressure drop across a HEPA filter or a HEPA filter bank exceeds 5.0 inches water column, the permittee shall isolate it or replace it within ten (10) days.

2.4 Pressure monitoring devices shall be maintained in good working order to enable monitoring of operating pressure drop across the testable HEPA filters.

2.5 Operators shall be alerted of a degraded HEPA filter (breached, plugged, or leaking) by a monitor alarm or by differential pressure readings across the HEPA filters.

2.6 The facility shall process a maximum of 600 m^3 of debris from the existing NWCF cells, steam spray booth (SSB), and liquid abrasive spray (glove box).

3. MONITORING REQUIREMENTS

3.1 The permittee shall conduct an in-place efficiency test on the testable HEPA filters or filter banks, as applicable. The periodic in-place efficiency test shall be conducted at least once every 12 months, per Nuclear Air Cleaning Handbook, ERDA 76-21, Section 8.3.5, "Frequency of Testing". Testing shall be conducted using guidelines of ASME N510, Section 10, "HEPA Filter Bank In-Place Test". In addition, after replacement or installation of a HEPA filter, an in-place efficiency test shall be conducted within 90 days of the date that the HEPA filter is placed in operation.

3.2 Pressure monitoring devices shall be installed to enable monitoring of pressure drop across the testable HEPA filters. An alarm system shall be activated by the pressure monitoring system when a degraded HEPA filter exists. The pressure drop monitoring equipment shall be maintained in good working order. Pressure drop shall be checked daily.

3.3 The permittee shall monitor and test emissions of radionuclides from the NWCF calciner subsystem HVAC stack pursuant to 40 CFR 61.93(b)(2) requirements.

3.4 The amount of mixed debris processed shall be monitored and recorded on a quarterly basis and the most recent two (2) years' compilation of data shall be kept on-site in a log and be made available to DEQ representatives upon request.

4. REPORTING REQUIREMENTS

4.1 The results of the initial performance test of the HEPA filter shall be reported to the DEQ within 30 days of performing the test.

4.2 The permittee shall compile, keep on-site, and make available to the DEQ upon request, a quarterly record of the following information:

4.2.1 The dates and results of all HEPA filter efficiency tests using the ASME N510, Section 10 guidelines.

4.2.2 The dates of replacement of HEPA filter elements.

4.2.3 All HEPA filters or HEPA filter bank alarms and a record of pressure readings above 5.0 inches water column.

4.2.4 The permittee shall submit an annual report to the DEQ indicating the highest dose equivalent as required in 40 CFR.61.94.

PERMIT TO CONSTRUCT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the **Rules for the Control of Air Pollution in Idaho.** The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules for the Control of Air Pollution in Idaho,** and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.

B. The permittee shall at all times (except as provided in the **Rules and Regulations for the Control of Air Pollution In Idaho)** maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing in conformance with the Department's **Procedures Manual for Air Pollution Control** when deemed appropriate by the Director.

D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

E. The permittee shall notify the Idaho Division of Environmental Quality, in writing, of the required information for the following events within five working days after occurrence:

1) Initiation of Construction - Date
2) Completion/Cessation of Construction - Date
3) Actual Production Startup - Date
4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date

F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one-hundred and eighty (180) days after initial startup. Such testing must **strictly** adhere to the procedures outlined in the DEQ's **Procedures Manual for Air Pollution Control,** and shall not be conducted on weekends or state holidays without prior written DEQ approval. Testing procedures and specific time limitations may be modified by the DEQ by prior negotiation if conditions warrant adjustment. The DEQ shall be notified at least fifteen (15) days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to the DEQ upon request.

The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during the performance test period, unless (1) a more restrictive operating limit is specified elsewhere in this permit, or (2) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.

G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.