Air Quality Permitting
Statement of Basis

March 15, 2004

Permit to Construct No. P-030120

Kootenai Medical Center, Coeur d'Alene

Facility ID No. 055-00030

Prepared by:

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AIR QUALITY DIVISION

FINAL

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Acronyms, Units, and Chemical Nomenclatures

AACC	allowable ambient concentration for carcinogens
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emissions levels
ft	feet
gr	grain (1 lb = 7,000 grains)
hr/yr	hours per year
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
KMC	Kootenai Medical Center
kW	kilowatt
MMBtu/hr	million British thermal units per hour
NO_X	nitrogen oxides
NAAQS	National Ambient Air Quality Standards
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
Rules	Rules for the Control of Air Pollution in Idaho
SM	synthetic minor AIRS classification
SO_2	sulfur dioxide
T/yr	tons per year
$\mu g/m^3$	micrograms per cubic meter
UTM	universal transverse mercator
VOC	volatile organic compound

1. PURPOSE

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

2. FACILITY DESCRIPTION

Kootenai Medical Center (KMC) is a general medical and surgical hospital. The emissions from this facility are from three boilers used to heat the complex and two emergency generators used for backup power.

3. FACILITY / AREA CLASSIFICATION

KMC is defined as a synthetic minor (SM) facility because without enforceable limits on the facility's potential to emit, the SO_2 emissions could exceed 100 tons per year (T/yr). The AIRS classification is "SM" because the potential SO_2 emissions are limited to less than major source levels.

The facility is located within AQCR 62 and UTM Zone 11. The facility is located in Kootenai County which is designated as unclassifiable for all criteria pollutants (PM_{10}, CO, NO_X, SO_2, lead, and ozone).

The AIRS information provided in Appendix B defines the classification for each regulated air pollutant at KMC.

4. APPLICATION SCOPE

This facility previously operated boilers which were installed prior to implementation of the permit to construct program. This application is for the replacement of the facility's old central heating plant. The new central heating plant will consist of three dual fuel-fired boilers and two distillate fuel-fired emergency generators.

4.1 Application Chronology

June 25, 2003	DEQ received a permit to construct application from KMC
July 25, 2003	DEQ determined the application incomplete
September 9, 2003	DEQ received updated permit application materials
September 29, 2003	DEQ determined the application incomplete. Dispersion modeling was required to show compliance with the National Ambient Air Quality Standards (NAAQS)
January 15, 2004	DEQ received updated application materials
January 20, 2004	DEQ determined the application complete
March 12, 2004	DEQ issued KMC a draft permit for the central heating plant
March 12, 2004	KMC replied to the draft via email with no comments on the draft permit

5. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this PTC action.

5.1 Equipment Listing

This permit is for the following equipment:

Three Superior Boiler Works dual fuel-fired boilers with Washaupt burners

Model No.: X6-X-2000-5150-M

Maximum Fuel Consumption:	143 gallons per hour, No. 2 distillate fuel
	16,738 cubic feet per hour, natural gas
Stack Height:	35 ft

Two Caterpillar diesel-fired emergency generators

Model:	3512
Power Rateing:	1250 kilowatt (kW)
Stack Height:	36 ft*

*Generator stack height was changed in the most recent submittal from 22.5 ft to 36 ft

5.2 Emissions Inventory

Appendix A contains a technical analysis prepared by DEQ's Technical Services Division. The applicant used these factors to estimate emissions of pollutants for which they did not have manufacturers data. The sulfur dioxide (SO_2) emissions from this facility were estimated based on low sulfur content (0.05% by weight) diesel fuel. The metal emissions rates submitted by the applicant are conservative and were used in the analysis.

Boiler Emissions

The emissions from the boilers were estimated using vendor supplied emissions rates and AP-42 emissions factors. Criteria pollutant emissions were estimated with vendor supplied emissions rates with the exception of SO_2. The SO_2 emissions were estimated assuming all of the sulfur in the distillate fuel was converted to SO_2. The following table summarizes the maximum criteria pollutant emissions from the boilers.

Table 5.1 MAXIMUM CRITERIA POLLUTANT EMISSIONS FROM BOILERS

Boiler Emissions			
Criteria Pollutants	**Fuel**	**Hourly Emissions per Boiler (lb/hr)**	**Combined Annual Boiler Emissions (T/yr)**
NO_X	No. 2	1.67	21.9
SO_2	No. 2	1.03	13.5
PM_{10}	No. 2	0.334	4.47
CO	No. 2	1.31	17.21
VOC	No. 2	0.5	6.57
Pb	No. 2	8.37E-06	1.01E-04

The vendor supplied emissions factors were not justified with sufficient documentation. However, the worst case emissions estimated from these factors are more conservative than AP-42 combustion emissions factors. Therefore, since this estimate is more conservative, and compliance with NAAQS was demonstrated, these factors were accepted by DEQ.

Emergency Generator Emissions

The emergency generator emissions estimates are based on exhaust data sheets provided by the engine vendor with the exception of SO_2. The SO_2 emissions rates were estimated by assuming all of the sulfur in the fuel would be converted into SO_2. The potential emissions are based on a maximum of 500 hours of operation per consecutive 12-month period (hr/yr) from both generators operating at maximum capacity. The following table is a summary of the hourly and annual emissions from the emergency generators.

Table 5.2 MAXIMUM CRITERIA POLLUTANT EMISSIONS FROM GENERATORS

Criteria Pollutants		
Criteria Pollutants	**Hourly Emissions per Generator (lb/hr)**	**Combined Annual Generator Emissions (T/yr)**
NO_X	47.74	23.9
SO_2	0.68	0.34
PM_{10}	1.08	0.54
CO	9.33	4.67
VOC	0.53	0.27

Toxic Pollutant Emissions

The toxic pollutant emissions were estimated using AP-42 emissions factors. The following table is a summary of the toxic pollutant emissions which exceeded their applicable screening emissions level (EL). The chromium VI emissions were estimated by the applicant using AP-42 background information. The total chromium emissions were speciated. The applicant found that approximately 31% of the total chromium emissions were emitted as chromium VI. The following table summarizes the toxic pollutant emissions from this facility.

Table 5.3 SUMMARY OF TOXIC POLLUTANT EMISSIONS

Toxic Pollutant Emissions				
Toxic Air Pollutants	**Combined Boiler Emissions Combusting Natural Gas (lb/hr)**	**Combined Boiler Emissions Combusting Distillate Fuel (lb/hr)**	**Combined Emergency Generator Emissions (lb/hr)**	**EL (lb/hr)**
Arsenic	1.00E-05	2.35E-04	--	1.5E-06
Beryllium	5.03E-07	1.76E-04	--	2.8E-05
Cadmium	5.52E-05	1.76E-04	--	3.7E-06
Chromium VI	7.03E-05	5.46E-05	--	5.6E-07
Nickel	1.05E-04	1.76E-04	--	2.7E-05
Acetaldehyde	--	--	1.97E-02	3.0E-03
Benzene	1.05E-04	9.18E-05	2.39E-02	8.0E-04
1,3 Butadiene	--	--	1.00E-03	2.4E-05
Formaldehyde	3.77E-03	1.42E-02	3.02E-02	5.1E-04
POM	4.83E-07	3.47E-06	8.8E-05	2.0E-06

5.3 Modeling

The applicant submitted an estimate of ambient concentrations using an appropriate air quality model to demonstrate to the satisfaction of DEQ that the stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard, as required in IDAPA 58.01.01.203.02. DEQ reviewed the modeling analysis submitted by the applicant for completeness and no significant issues were discovered. Due to the limited complexity of the project and the relatively low ambient impacts identified, a detailed technical analysis is not warranted for this project at this time.

The following tables summarize the modeling results:

Table 5.4 CRITERIA POLLUTANT MODELING SUMMARY

Summary of Modeled Ambient Concentrations					
Pollutant	**Averaging Period**	**Modeled Concentration ($\mu g/m^3$)**	**Background Concentration ($\mu g/m^3$)**	**Total Concentration ($\mu g/m^3$)**	**NAAQS ($\mu g/m^3$)**
NO_X	Annual	50.6	17	67.6	100
SO_2	Annual	20.2	8	28.2	80
	24-hour	121	26	147	365
	3-hour	189	42	231	1,300
CO	8-hour	661	4,600	5,261	10,000
	1-hour	750	13,800	14,550	40,000
PM_{10}	Annual	6.56	19	25.6	50
	24-hour	80.8	66	141	150
Pb	Quarterly	2.10E-03	NA	2.10E-03	1.5

Table 5.5 TOXIC POLLUTANT MODELING SUMMARY

Toxic Pollutant Concentrations		
Toxic Air Pollutant	**Modeled Concentration ($\mu g/m^3$)**	**AACC* ($\mu g/m^3$)**
Arsenic	1.25E-03	2.3E-04
Beryllium	9.3E-04	4.2E-03
Cadmium	9.3E-04	5.6E-04
Chromium	5.7E-04	8.3E-05
Nickel	9.3E-04	4.2E-03
Acetaldehyde	8.55E-03	4.5E-01
Benzene	1.127E-02	4.5E-02
1,3 Butadiene	4.4E-04	3.6E-03
Formaldehyde	4.32E-02	7.7E-02
POM	4.0E-05	3.0E-04

*acceptable ambient concentration for carcinogens

5.4 Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this PTC.

IDAPA 58.01.01.201..... Permit to Construct Required

The installation of the new boilers and electrical generators constitutes a modification. Therefore, a PTC is required for the project.

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

The applicant demonstrated compliance with toxic standards by estimating emissions and modeling those which exceeded their applicable ELs. The emissions of arsenic, cadmium, and chromium VI modeled above the allowable AACC in IDAPA 58.01.01.586. The applicant demonstrated that using fuel oil only as a backup fuel is reasonably available control technology (T-RACT) for arsenic, cadmium, and chromium VI. Arsenic, cadmium, and chromium VI are emitted as very fine particulate matter in the exhaust gas. Due to the very low concentrations of arsenic, cadmium, and chromium VI in the exhaust gas, they cannot readily be removed with a fabric filter. DEQ concurs that using distillate fuel only as a backup fuel is T-RACT for arsenic cadmium, and chromium VI from the boilers. Therefore, this permit only allows the use of distillate fuel oil as a backup for natural gas. The AACC was multiplied by a factor of 10 for arsenic, cadmium, and chromium VI, thereby demonstrating compliance with toxic standards.

IDAPA 58.01.01.676..... Fuel Burning Equipment – Particulate Matter

Particulate matter concentrations from the boilers shall not exceed 0.015 gr/dscf while combusting gaseous fuel or 0.050 gr/dscf while combusting liquid fuel. The estimated concentration, based on back calculating the PM emissions rate into the estimated exhaust flow rate is 0.01 gr/dscf corrected to 3% oxygen while combusting distillate fuel, and 0.003 gr/dscf corrected to 3% oxygen when combusting natural gas. Since the estimated concentrations are far below the applicable standards no performance tests are required for the boilers. Calculations for the estimated exhaust flow rate corrected to 3% oxygen are contained in Appendix A.

40 CFR 60 Subpart Dc ..... Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

These boilers are subject to new source performance standards (NSPS) in accordance with 40 CFR 60.40c. The permittee has opted to take a limit on the sulfur content of the fuel they burn in the boilers to avoid Tier I operating permitting requirements. The permitted sulfur content of distillate fuel combusted by the boilers is limited to 0.05% by weight. This is more stringent than the NSPS requirement of 0.5% sulfur by weight. Therefore, the facility will inherently be in compliance with the fuel sulfur content limits. The facility will show compliance with the fuel sulfur content limit by keeping records of fuel supplier verification of the sulfur content of all distillate fuel combusted by the boilers in accordance with 40 CFR 60.48c(f). In addition, the permittee is required to monitor and record the type and amounts of fuel combusted in each boiler each day in accordance with 40 CFR 60.48c(g).

The boilers are not subject to the particulate matter standards in 40 CFR 60.43c. Those provisions only apply to boilers with heat inputs greater than 30 MMBtu/hr.

5.5 *Fee Review*

The total potential emissions allowed by this permit are less than 100 T/yr, but greater than 10 T/yr. Therefore, the facility is subject to a processing fee of $5,000 in accordance with IDAPA 58.01.01.225. The allowed emissions increase associated with this project is summarized in the following table. DEQ received the $5,000 processing fee on February 27, 2004.

Table 5.1 PTC PROCESSING FEE TABLE

Emissions Inventory			
Pollutant	**Annual Emissions Increase (T/yr)**	**Annual Emissions Reduction (T/yr)**	**Annual Emissions Change (T/yr)**
NO_X	45.8	0	45.8
SO_2	13.8	0	13.8
CO	21.9	0	21.9
PM_{10}	5.01	0	5.01
VOC	6.84	0	6.84
Total:		0	**93.35**
Fee Due	**$ 5,000.00**		

6. PERMIT CONDITIONS

6.1 Boiler Requirements

The boilers are only allowed to operate on natural gas or low sulfur No. 2 distillate fuel. The permittee will show compliance with these fuel restrictions by monitoring and recording the type and amount of fuel combusted each day in each boiler.

There are no emissions limits on particulate matter because the emissions estimate was conservative and the facility demonstrated compliance with all applicable standards while operating at their potential to emit. The combined SO_2 emissions from the boilers are limited to 13.5 T/yr to assure that the facility remains a synthetic minor source. The permittee chose to only combust low sulfur distillate fuel. This permit limits the fuel sulfur content to 0.05% by weight. The permittee will show compliance with this limit by maintaining fuel supplier sulfur content verification of each shipment of fuel. In addition, the permittee will monitor and record the type and amount of fuel combusted each day in the boilers.

The visible emissions from the boilers shall not exceed 20% opacity for more than six minutes in aggregate within any one hour time period. The permittee is required to conduct quarterly visible emissions inspections from the boilers. If any visible emissions are present, the permittee is to take corrective actions immediately or conduct a Method 9 opacity test.

6.2 Emergency Electrical Generator Requirements

The visible emissions from the emergency electrical generators shall not exceed 20% opacity for more than six minutes in aggregate within any one-hour time period. The permittee is required to conduct quarterly visible emissions inspections from the emergency electrical generators while they are operating. If any visible emissions are present, the permittee is to take corrective actions immediately or conduct a Method 9 opacity test.

The permittee is only allowed to operate the electrical generators for emergency power generation or testing and maintenance. The fuel sulfur content of the distillate fuel combusted by the generators is limited to 0.05% by weight. The permittee will show compliance with this limit by maintaining fuel supplier sulfur content verification of each shipment of fuel.

7. PUBLIC COMMENT

The KMC permit application was provided for a 30 day opportunity for public comment on January 26, 2004. No public comment period was requested on the application materials. On February 2, 2004 KMC requested a draft permit via email. KMC was issued a draft permit on March 12, 2004. KMC had no comments on the draft permit. The draft was also sent to DEQ's Coeur d'Alene regional office for their review.

8. RECOMMENDATION

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommend that KMC be issued PTC No. P-030120 for the new central heating plant project. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

DH/sd Permit No. P-030120 \\DEQ-STO\GROUPS\Air Quality\Stationary Source\SS Ltd\PTC\Kootenai Medical Center\Final\P-030120 Final SB.doc

STATEMENT OF BASIS
APPENDIX A
DEQ Technical Analysis

Technical Analysis

March 23, 2004

Proposed Permit for

Kootenai Medical Center, Coeur d' Alene

P-030120

Prepared by:

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Division of Technical Services

Acronyms, Units, and Chemical Nomenclatures

CO	carbon monoxide
CO_2	carbon dioxide
DEQ	Department of Environmental Quality
EL	screening emissions level
EPA	Environmental Protection Agency
HAPs	Hazardous Air Pollutants
K	Kelvin
lb/hr	pounds per hour
MMBtu	Million British thermal units
NO	nitrogen oxide
NO_X	nitrogen oxides
O_2	oxygen
Pb	lead
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PTE	potential to emit
SO_2	sulfur dioxide
VOC	volatile organic compound
TAPs	toxic air pollutants
T/yr	tons per year

1. PURPOSE

The purpose for this memorandum is to verify the validity of the emissions estimates.

2. PROJECT DESCRIPTION

Kootenai Medical Center is proposing to install three dual-fired firetube boilers and two standby diesel-fired generators.

3. TECHNICAL ANALYSIS

3.1. Process Description

Kootenai Medical Center is constructing a new central processing plant, and the installed units will replace the existing older units. Three new boilers will be used as heat generation equipment and two generators for a standby power system. The boilers can be run on either natural gas or no. 2 distillate oil, and the generators are run on diesel oil only.

3.2. Equipment Listing

3 Fire-Tube Boilers: Natural gas will be used as the primary fuel, with no. 2 distillate oil being the secondary fuel. The boilers are to run at all times. These are 400 hp, 16.35 MMBtu/hr forced draft units. There will be no pollution control device, and each boiler will have its own 35-foot stack with a two-foot exit diameter.

2 Generators: Each generator is manufactured by Caterpillar and has a 1250 kW, four stroke internal combustion diesel engine, with a 450-gallon fuel tank mounted below it. The generators will be used on demand, and checked once each week. Each generator will have a 22.5-foot stack with a 14-inch exhaust diameter.

3.3. Emission Estimates

3.3.1 Short Term Emissions Basis

The criteria pollutant emission estimates for the boilers are values found using FIRE, an EPA program for estimation of emissions (natural gas SCC 1-05-002-06 and no. 2 distillate oil SCC 1-03-005-01). The criteria emission estimates for the generators are actual tested values from the manufacturer. There are no control devices on the boilers or generators. It is assumed that the emissions from any tanks supplying fuel to the combustion units are insignificant.

3.3.2 Long Term Emissions Basis

Potential to Emit (PTE) emissions estimates found in Table 1 are based on 24 hours a day, seven days a week use of natural gas or no. 2 distillate oil. The facility will actually use just one fuel at a time in any one boiler. There is no basis for the calculation of actual emissions from the boilers, because the percentage of time each fuel will be used is unknown.

PTE emissions for the generator are based on an estimated use of 500 hr/yr for each generator. Actual hours of operation are unknown, as these are emergency generators. Emissions estimates for the generators are shown in Table 2.

Detailed unit specific tables of emissions for this facility are included in Appendix A. A detailed facility-wide HAP and TAP analysis is included in Appendix B.

Table 1. TOTAL POTENTIAL EMISSIONS FOR THREE BOILERS

	Pollutant	PM_{10}	Low NO_x	NO_x	SO_x	CO	VOC	Pb	HAPs	TAPs
3 Boilers using Natural Gas	Potential Emission Rate (lb/hr)	0.15	NA	5.02	0.03	1.00	0.27	2.51E-5	9.46E-2	2.27E-1
	Potential Emission Rate (T/yr)	0.66	NA	21.99	0.13	4.40	1.17	1.1E-4	4.14E-1	9.95E-1
3 Boilers using No. 2 Distillate Oil	Potential Emission Rate (lb/hr)	0.46	0.43	1.03	48.85	2.15	0.15	3.86E-6	1.75E-2	1.75E-2
	Potential Emission Rate (T/yr)	2.03	1.88	4.51	214.00	9.40	0.64	1.69E-5	7.65E-2	7.67E-2

Table 2. POTENTIAL EMISSIONS FROM TWO CATERPILLAR GENERATORS

Pollutant	PM_{10}	NO_x	SO_x	CO	VOC	Pb	HAPs	TAPs
Potential Emission Rate (lb/hr)	2.16	95.48	7.43	18.66	1.06	1.69E-2	9.71E-2	9.69E-2
PTE 500 hr/yr Emission Rate (T/yr)	0.54	23.87	1.86	4.67	0.27	4.23E-3	2.43E-2	2.42E-2

3.4. Source Testing

No source testing has been conducted from the Kootenai Medical Center as of yet. The boiler flue gas will be continuously measured using an Autoflame Exhaust Gas Analyzer, which is a UV sensor that measures CO_2, O_2, CO trim, NO, and SO_2.

3.5. Operating Parameters

Operational Factors for Boilers

Boilers - The facility is requesting to be permitted to operate the boilers on natural gas or no. 2 distillate oil for 8,760 hr/yr. However, since both fuels will never be used simultaneously on all three boilers, facility-wide PTE estimates are significantly higher than what will actually occur.

A comparison of the emissions from the boilers for combustion of natural gas and no. 2 distillate oil is shown in Table 5.

Table 5. COMPARISON OF NATURAL GAS AND NO. 2 DISTILLATE OIL POLLUTANT EMISSIONS

Pollutant	Natural Gas (lb/hr)	Fuel Oil No. 2 (lb/hr)	Difference (Fuel Oil No.2 - Natural Gas) (lb/hr)
PM_{10}	0.05	0.15	0.10
NO_x	1.67	0.14	-1.53
CO	0.33	0.72	0.39
SO_x	0.01	16.29	16.28
VOC	0.09	0.05	-0.04
HAP	3.15E-2	5.82E-3	-2.57E-2
TAP	7.57E-2	5.84E-3	-6.99E-2

Operational Factors for Caterpillar Generators

The facility will test the generators one day per week, and operation of the generators will be as needed beyond that. Emissions estimates were calculated based on operation of 500 hr/yr for each generator.

TECHNICAL ANALYSIS
APPENDIX A

Emissions Estimates

Generator

$$f(x) = x \frac{lb}{MMBtu} \cdot 137030 \frac{BTU}{gal} \cdot 93.5 \frac{gal}{hr}$$

AP-42 Table Emission Factors Were Taken From	Pollutant	AP-42 Emission Factor x	Emission Result f(x) (lb/hr)	Result f(x) (Ton/yr) 500 hr/yr	2 generators lb/hr	2 generators T/yr (500 hr/yr)	AP-42 Rating	HAPs	TAPs	Per Generator: HAPs lb/hr	Per Generator: HAPs T/yr (500 hr/yr)	Per Generator: TAPs lb/hr	Per Generator: TAPs T/yr (500 hr/yr)	TAP Screening Emission Levels: IDAPA 58.01.01.585 lb/hr	TAP Screening Emission Levels: IDAPA 58.01.01.586 lb/hr	Under Screening Emissions Level 0=no 1=yes
Manufacturer Values	Nox	NA	47.74	11.935	95.48	23.87	D									
	CO	NA	9.33	2.3325	18.66	4.665	D									
	PM10	NA	1.08	0.27	2.16	0.54	D									
	VOC	NA	0.53	0.1325	1.06	0.265	D									
3.3-1	SOx	0.29	3.72	0.93	7.43	1.86	D									
	Pb	6.61E-04	8.47E-03	2.12E-03	1.69E-02	4.23E-03	E									
	CO2	164	2101.22	525.30	4202.44	1050.61	B									
3.3-2	Benzene	9.33E-04	1.20E-02	2.99E-03	2.39E-02	5.98E-03	E	1	1	1.20E-02	2.99E-03	1.20E-02	2.99E-03		8.00E-04	0
	Toluene	4.09E-04	5.24E-03	1.31E-03	1.05E-02	2.62E-03	E	1	1	5.24E-03	1.31E-03	5.24E-03	1.31E-03	25		1
	Xylenes	2.85E-04	3.65E-03	9.13E-04	7.30E-03	1.83E-03	E	1	1	3.65E-03	9.13E-04	3.65E-03	9.13E-04	29		1
	Propylene	2.58E-03	3.31E-02	8.26E-03	6.61E-02	1.65E-02	E									
	1,3-Butadiene (max)	3.91E-05	5.01E-04	1.25E-04	1.00E-03	2.50E-04	E	1	1	5.01E-04	1.25E-04	5.01E-04	1.25E-04		2.40E-05	0
	Formaldehyde	1.18E-03	1.51E-02	3.78E-03	3.02E-02	7.56E-03	E	1	1	1.51E-02	3.78E-03	1.51E-02	3.78E-03		5.10E-04	0
	Acetaldehyde	7.67E-04	9.83E-03	2.46E-03	1.97E-02	4.91E-03	E	1	1	9.83E-03	2.46E-03	9.83E-03	2.46E-03		3.00E-03	0
	Acrolein (max)	9.25E-05	1.19E-03	2.96E-04	2.37E-03	5.93E-04	E	1		1.19E-03	2.96E-04					
	Fluorene	2.92E-05	3.74E-04	9.35E-05	7.48E-04	1.87E-04	E		1			3.74E-04	9.35E-05	0.133		1
	Naphthalene	8.48E-05	1.09E-03	2.72E-04	2.17E-03	5.43E-04	E	1	1	1.09E-03	2.72E-04	1.09E-03	2.72E-04	3.33		1
	Polyaromatic Hydrocarbons (PAH):															
	Acenaphthene (max)	1.42E-06	1.82E-05	4.55E-06	3.64E-05	9.10E-06	E		1			1.82E-05	4.55E-06		9.10E-05	1
	Acenaphthyle (max)	5.06E-06	6.48E-05	1.62E-05	1.30E-04	3.24E-05	E		1			6.48E-05	1.62E-05		9.10E-05	1
	Anthracene	1.87E-06	2.40E-05	5.99E-06	4.79E-05	1.20E-05	E		1			2.40E-05	5.99E-06		9.10E-05	1
	Benzo(g,h,i)perylene (max)	4.89E-07	6.27E-06	1.57E-06	1.25E-05	3.13E-06	E		1			6.27E-06	1.57E-06		9.10E-05	1
	Fluoranthene	7.61E-06	9.75E-05	2.44E-05	1.95E-04	4.88E-05	E		1			9.75E-05	2.44E-05		9.10E-05	0
	Phenanthrene	2.94E-05	3.77E-04	9.42E-05	7.53E-04	1.88E-04	E		1			3.77E-04	9.42E-05		9.10E-05	0
	Pyrene	4.78E-06	6.12E-05	1.53E-05	1.22E-04	3.06E-05	E		1			6.12E-05	1.53E-05		9.10E-05	1
	PAH Sum:		6.49E-04	1.62E-04	1.30E-03	3.24E-04						6.49E-04	1.62E-04			
	Polycyclic Organic Matter (POM):															
	Benzo(a)anthracene	1.68E-06	2.15E-05	5.38E-06	4.30E-05	1.08E-05	E		1							
	Benzo(a)pyrene (max)	1.88E-07	2.41E-06	6.02E-07	4.82E-06	1.20E-06	E		1							
	Benzo(b)Fluroanthene (max)	9.91E-08	1.27E-06	3.17E-07	2.54E-06	6.35E-07	E		1							
	Benzo(k)fluoranthene (max)	1.55E-07	1.99E-06	4.96E-07	3.97E-06	9.93E-07	E		1							
	Chrysene	3.53E-07	4.52E-06	1.13E-06	9.05E-06	2.26E-06	E		1							
	Dibenz(a,h)anthracene (max)	5.83E-07	7.47E-06	1.87E-06	1.49E-05	3.73E-06	E		1							
	Indeno(1,2,3-cd)pyrene (max)	3.75E-07	4.80E-06	1.20E-06	9.61E-06	2.40E-06	E		1							
	POM Sum:		4.40E-05	1.10E-05	8.80E-05	2.20E-05			1			4.40E-05	1.10E-05		2.00E-06	0
	Organics Sum:		8.27E-02	2.07E-02	1.65E-01	4.13E-02				4.86E-02	1.21E-02	4.84E-02	1.21E-02			
	Metals Sum:		0.00	0.00	0.00	0.00				0.00	0.00	0.00	0.00			
									HAP Sum:	4.86E-02	1.21E-02					
									TAP Sum:			4.84E-02	1.21E-02			
									2 Generator HAP Sum:	9.71E-02	2.43E-02					
									2 Generator TAP Sum:			9.69E-02	2.42E-02			

Natural Gas Boiler

$$E(x) := x \cdot \frac{lb}{10^6 \cdot ft^3} \cdot 16738 \frac{ft^3}{hr}$$

AP-42 Table Emission Factors Taken From	Pollutant	AP-42 Emission Factors	Emission Result (lb/hr)	Emission Result (Ton/yr)	3 Boilers (lb/hr)	3 Boilers (Ton/yr)	Rating	HAPs	TAPs	Per Boiler HAPs lb/hr	Per Boiler HAPs T/yr	Per Boiler TAPs lb/hr	Per Boiler TAPs T/yr	TAP Screening Emission Levels IDAPA 58.01.01.585 lb/hr	TAP Screening Emission Levels IDAPA 58.01.01.586 lb/hr	Under Screening Emissions Level 0=no 1=yes	
FIRE SCC 1 05-002-06	CO	20	0.33	1.47	1.00	4.40											
	PM10	3	0.05	0.22	0.15	0.66											
	VOC	5.3	0.09	0.39	0.27	1.17											
	SOx	0.6	0.01	0.04	0.03	0.13											
	NOx	100	1.67	7.33	5.02	21.99											
1.4-2	Lead	0.0005	8.37E-06	3.67E-05	2.51E-05	1.10E-04	D										
	CO2	120000	2008.56	8797.49	6025.68	26392.48	A										
1.4-3 Specialized Organic Compounds	Benzene	2.10E-03	3.51E-05	1.54E-04	1.05E-04	4.62E-04	B	1	1	3.51E-05	1.54E-04	3.51E-05	1.54E-04		8.00E-04		1
	[illegible]	1.80E-06	3.01E-08	1.32E-07	9.04E-08	3.96E-07	E		1			3.01E-08	1.32E-07		2.50E-06		1
	3-Methylchloranthrene (max)	1.80E-06	3.01E-08	1.32E-07	9.04E-08	3.96E-07	E		1			3.01E-08	1.32E-07		2.50E-06		1
	Butane	2.1	3.51E-02	1.54E-01	1.05E-01	4.62E-01	E										
	Ethane	3.1	5.19E-02	2.27E-01	1.56E-01	6.82E-01	E										
	Formaldehyde	7.50E-02	1.26E-03	5.50E-03	3.77E-03	1.65E-02	B	1	1	1.26E-03	5.50E-03	0.001255	5.50E-03		5.10E-04		0
	Hexane	1.8	3.01E-02	1.32E-01	9.04E-02	3.96E-01	E	1	1	3.01E-02	1.32E-01	0.030128	1.32E-01	12		1	
	Naphthalene	6.10E-04	1.02E-05	4.47E-05	3.06E-05	1.34E-04	E	1	1	1.02E-05	4.47E-05	1.02E-05	4.47E-05	3.33		1	
	Pentane	2.6	4.35E-02	1.91E-01	1.31E-01	5.72E-01	E		1			0.043519	1.91E-01	118		1	
	Propane	1.6	2.68E-02	1.17E-01	8.03E-02	3.52E-01	E										
	Toluene	3.40E-03	5.69E-05	2.49E-04	1.71E-04	7.48E-04	C	1	1	5.69E-05	2.49E-04	5.69E-05	2.49E-04	25		1	
	Polynuclear Aromatic Hydrocarbons (PAH)																
	2-Methylnaphthalene	2.40E-05	4.02E-07	1.76E-06	1.21E-06	5.28E-06	D		1			4.02E-07	1.76E-06		9.10E-05		1
	7,12-Dimethylbenz(a)anthracene (max)	1.60E-06	2.68E-08	1.17E-07	8.03E-08	3.52E-07	E		1			2.68E-08	1.17E-07		9.10E-05		1
	Acenaphthene (max)	1.80E-06	3.01E-08	1.32E-07	9.04E-08	3.96E-07	E		1			3.01E-08	1.32E-07		9.10E-05		1
	Acenaphthylene (max)	1.80E-06	3.01E-08	1.32E-07	9.04E-08	3.96E-07	E		1			3.01E-08	1.32E-07		9.10E-05		1
	Anthracene (max)	2.40E-06	4.02E-08	1.76E-07	1.21E-07	5.28E-07	E		1			4.02E-08	1.76E-07		9.10E-05		1
	Benzo(g,h,i)perylene (max)	1.20E-06	2.01E-08	8.80E-08	6.03E-08	2.64E-07	E		1			2.01E-08	8.80E-08		9.10E-05		1
	Fluoranthene	3.00E-06	5.02E-08	2.20E-07	1.51E-07	6.60E-07	E		1			5.02E-08	2.20E-07		9.10E-05		1
	Phenanthrene	1.70E-05	2.85E-07	1.25E-06	8.54E-07	3.74E-06	D		1			2.85E-07	1.25E-06		9.10E-05		1
	Pyrene	5.00E-06	8.37E-08	3.67E-07	2.51E-07	1.10E-06	E		1			8.37E-08	3.67E-07		9.10E-05		1
	PAH Sum:		9.67E-07	4.24E-06	2.90E-06	1.27E-05				0.00E+00	0.00E+00	9.67E-07	4.24E-06				
1.4-3 Specialized Organic Compounds	Polycyclic Organic Matter (POM)																
	Benz(a)anthracene (max)	1.80E-06	3.01E-10	1.32E-09	9.04E-10	3.96E-09	E		1								
	Benzo(a)pyrene (max)	1.20E-06	2.01E-08	8.80E-08	6.03E-08	2.64E-07	E		1								
	Benzo(b)fluoranthene (max)	1.80E-06	3.01E-08	1.32E-07	9.04E-08	3.96E-07	E		1								
	Benzo(k)fluoranthene (max)	1.80E-06	3.01E-08	1.32E-07	9.04E-08	3.96E-07	E		1								
	Chrysene	1.80E-06	3.01E-08	1.32E-07	9.04E-08	3.98E-07	E		1								
	Dibenzo(a,h)anthracene	1.20E-06	2.01E-08	8.80E-08	6.03E-08	2.64E-07	E		1								
	Indeno(1,2,3-cd)pyrene (max)	1.80E-06	3.01E-08	1.32E-07	9.04E-08	3.96E-07	E		1								
	POM Sum:		1.61E-07	7.05E-07	4.83E-07	2.12E-06			1	0.00E+00	0.00E+00	1.61E-07	7.05E-07		2.00E-06		1
1.4-4 Metals	Arsenic	2.00E-04	3.35E-06	1.47E-05	1.00E-05	4.40E-05	E	1	1	3.35E-06	1.47E-05	3.35E-06	1.47E-05		1.50E-06		0
	Barium	4.40E-03	7.36E-05	3.23E-04	2.21E-04	9.68E-04	D		1			7.36E-05	3.23E-04	0.033		1	
	Beryllium (max)	1.20E-05	2.01E-07	8.80E-07	6.03E-07	2.64E-06	E	1	1	2.01E-07	8.80E-07	2.01E-07	8.80E-07		2.80E-05		1
	Cadmium	1.10E-03	1.84E-05	8.06E-05	5.52E-05	2.42E-04	D	1	1	1.84E-05	8.06E-05	1.84E-05	8.06E-05		3.70E-06		0
	Chromium	1.40E-03	2.34E-05	1.03E-04	7.03E-05	3.08E-04	D	1	1	2.34E-05	1.03E-04	2.34E-05	1.03E-04		5.60E-07		0
	Cobalt	8.40E-05	1.41E-06	6.16E-06	4.22E-06	1.85E-05	D	1	1	1.41E-06	6.16E-06	1.41E-06	6.16E-06	0.007		1	
	Copper	8.50E-04	1.42E-05	6.23E-05	4.27E-05	1.87E-04	C		1			1.42E-05	6.23E-05	0.013		1	
	Manganese	3.80E-04	6.36E-06	2.79E-05	1.91E-05	8.36E-05	D	1	1	6.36E-06	2.79E-05	6.36E-06	2.79E-05	0.067		1	
	Mercury	2.60E-04	4.35E-06	1.91E-05	1.31E-05	5.72E-05	D	1	1	4.35E-06	1.91E-05	4.35E-06	1.91E-05	0.003		1	
	Molybdenum	1.10E-03	1.84E-05	8.06E-05	5.52E-05	2.42E-04	D		1			1.84E-05	8.06E-05	0.333		1	
	Nickel	2.10E-03	3.51E-05	1.54E-04	1.05E-04	4.62E-04	C	1	1	3.51E-05	1.54E-04	3.51E-05	1.54E-04		2.70E-05		0
	Selenium (max)	2.40E-05	4.02E-07	1.76E-06	1.21E-06	5.28E-06	E	1	1	4.02E-07	1.76E-06	4.02E-07	1.76E-06	0.013		1	
	Vanadium	2.30E-03	3.85E-05	1.69E-04	1.15E-04	5.06E-04	D		1			3.85E-05	1.69E-04	0.003		1	
	Zinc	0.029	4.85E-04	2.13E-03	1.46E-03	6.36E-03	E		1			0.000485	2.13E-03	0.667		1	
	Organics Sum:		1.88E-01	8.27E-01	5.66E-01	2.48E+00				3.15E-02	1.38E-01	7.50E-02	3.28E-01				
	Metals Sum:		7.23E-04	3.17E-03	2.17E-03	9.50E-03				9.31E-05	4.08E-04	0.000723	3.17E-03				
									HAP Sum:	3.15E-02	1.38E-01						
									TAP Sum:			7.57E-02	3.32E-01				
									3 Boiler HAP Sum:	9.46E-02	4.14E-01						
									3 Boiler TAP Sum:			2.27E-01	9.95E-01				

Fuel Oil No. 2 Boiler

$g(x) := x \frac{lb}{10^3 \cdot gal} \cdot 143 \frac{gal}{hr}$

AP-42 Table Emission Factors Web Table	Pollutant	AP-42 Emission Factor lb	Emission Result g/s (lb/hr)	Emission Result lb/hr (ton/yr)	3 Boilers (lb/hr)	3 Boilers (Ton/yr)	Rating	HAPs	TAPs	Per Boiler HAPs lb/hr	Per Boiler HAPs T/yr	Per Boiler TAPs lb/hr	Per Boiler TAPs T/yr	TAP Screening Emission Levels IDAPA 58.01.01.585 lb/hr	TAP Screening Emission Levels IDAPA 58.01.01.586 lb/hr	Under Screening Emissions Level 0=no 1=yes
FIRE SCC 10300501	NOx	2.4	0.34	1.50	1.03	4.51										
	NOx, Low NOx	1	0.14	0.63	0.43	1.88										
	CO	5	0.72	3.13	2.15	9.40										
	PM10	1.08	0.15	0.68	0.46	2.03										
	TNMOC (VOC)	0.34	0.05	0.21	0.15	0.64										
	Pb	9.00E-06	1.29E-06	5.64E-06	3.86E-06	1.69E-05										
	PM2.5	8.30E-01	0.12	0.52	0.36	1.56										
1.3-1	SOx (sum of SO2+SO3)*	113.89	16.29	71.33	48.86	214.00	B									
	SO2	109.9	15.72	68.83	47.15	206.50	A									
	SO3	3.99	0.57	2.50	1.71	7.50	C									
1.3-12	CO2	22300	3188.90	13967.38	9566.70	41902.15	B									
1.3-9 Speciated Organics	Benzene	2.14E-04	3.06E-05	1.34E-04	9.18E-05	4.02E-04	C	1	1	3.06E-05	1.34E-04	3.06E-05	1.34E-04		8.00E-04	1
	Ethylbenzene	6.36E-05	9.09E-06	3.98E-05	2.73E-05	1.20E-04	E	1	1	9.09E-06	3.98E-05	9.09E-06	3.98E-05	29		1
	Formaldehyde	3.30E-02	4.72E-03	2.07E-02	1.42E-02	6.20E-02	C	1	1	4.72E-03	2.07E-02	4.72E-03	2.07E-02		5.10E-04	0
	Naphthalene	1.13E-03	1.62E-04	7.08E-04	4.85E-04	2.12E-03	C	1	1	1.62E-04	7.08E-04	1.62E-04	7.08E-04	3.33		1
	1,3,1-Trichloroethane	2.36E-04	3.37E-05	1.48E-04	1.01E-04	4.43E-04	E									
	Toluene	6.20E-03	8.87E-04	3.88E-03	2.66E-03	1.16E-02	D	1	1	8.87E-04	3.88E-03	8.87E-04	3.88E-03	25		1
	o-Xylene	1.09E-04	1.56E-05	6.83E-05	4.68E-05	2.05E-04	E	1	1	1.56E-05	6.83E-05	1.56E-05	6.83E-05	29		1
	Fluoride	4.47E-06	6.39E-07	2.80E-06	1.92E-06	8.40E-06	C		1			6.39E-07	2.80E-06	0.133		1
	DDDD	3.10E-09	4.43E-10	1.94E-09	1.33E-09	5.82E-09	E		1			4.43E-10	1.94E-09		1.50E-10	0
	Polycyclic Organic Matter (POM)															
	Acenaphthene	2.11E-05	3.02E-06	1.32E-05	9.05E-06	3.96E-05	C		1			3.02E-06	1.32E-05		9.10E-05	1
	Acenaphthylene	2.53E-07	3.62E-08	1.58E-07	1.09E-07	4.75E-07	D		1			3.62E-08	1.58E-07		9.10E-05	1
	Anthracene	1.22E-06	1.74E-07	7.64E-07	5.23E-07	2.29E-06	C		1			1.74E-07	7.64E-07		9.10E-05	1
	Benzo(g,h,i)fluoranthene	1.48E-06	2.12E-07	9.27E-07	6.35E-07	2.78E-06	C		1			2.12E-07	9.27E-07		9.10E-05	1
	Benzo(g,h,i)perylene	2.26E-06	3.23E-07	1.42E-06	9.70E-07	4.25E-06	C		1			3.23E-07	1.42E-06		9.10E-05	1
	Fluoranthene	4.84E-06	6.92E-07	3.03E-06	2.08E-06	9.09E-06	C		1			6.92E-07	3.03E-06		9.10E-05	1
	Phenanthrene	1.05E-05	1.50E-06	6.58E-06	4.50E-06	1.97E-05	C		1			1.50E-06	6.58E-06		9.10E-05	1
	Pyrene	4.25E-06	6.08E-07	2.66E-06	1.82E-06	7.99E-06	C		1			6.08E-07	2.66E-06		9.10E-05	1
	PAH Sum:		6.56E-06	2.88E-05	1.97E-05	8.63E-05						6.56E-06	2.88E-05			
	Polycyclic Organic Matter (POM)															
	Benz(a)anthracene	4.04E-06	5.78E-07	2.53E-06	1.73E-06	7.59E-06	C		1							
	Chrysene	2.38E-06	3.40E-07	1.49E-06	1.02E-06	4.47E-06	C		1							
	Dibenz(a,h)anthracene	1.67E-06	2.39E-07	1.05E-06	7.16E-07	3.14E-06	D		1							
	POM Sum:		1.16E-06	5.07E-06	3.47E-06	1.52E-05			1			1.16E-06	5.07E-06		2.00E-06	1
1.3-10 Metals, Distillate Oil Fired	Arsenic	4.00E-09	5.72E-10	2.51E-09	1.72E-09	7.52E-09	E	1	1	5.72E-10	2.51E-09	5.72E-10	2.51E-09		1.50E-06	1
	Beryllium	3.00E-09	4.29E-10	1.88E-09	1.29E-09	5.64E-09	E	1	1	4.29E-10	1.88E-09	4.29E-10	1.88E-09		2.80E-06	1
	Cadmium	3.00E-09	4.29E-10	1.88E-09	1.29E-09	5.64E-09	E	1	1	4.29E-10	1.88E-09	4.29E-10	1.88E-09		3.70E-06	1
	Chromium	3.00E-09	4.29E-10	1.88E-09	1.29E-09	5.64E-09	E	1	1	4.29E-10	1.88E-09	4.29E-10	1.88E-09		5.60E-07	1
	Copper	6.00E-09	8.58E-10	3.76E-09	2.57E-09	1.13E-08	E		1			8.58E-10	3.76E-09	0.013		1
	Lead	9.00E-09	1.29E-09	5.64E-09	3.86E-09	1.69E-08	E	1		1.29E-09	5.64E-09					
	Mercury	3.00E-09	4.29E-10	1.88E-09	1.29E-09	5.64E-09	E	1	1	4.29E-10	1.88E-09	4.29E-10	1.88E-09	0.003		1
	Manganese	6.00E-09	8.58E-10	3.76E-09	2.57E-09	1.13E-08	E	1	1	8.58E-10	3.76E-09	8.58E-10	3.76E-09	0.067		1
	Nickel	3.00E-09	4.29E-10	1.88E-09	1.29E-09	5.64E-09	E	1	1	4.29E-10	1.88E-09	4.29E-10	1.88E-09		2.70E-05	1
	Selenium	1.50E-08	2.15E-09	9.40E-09	6.44E-09	2.82E-08	E									
	Zinc	4.00E-09	5.72E-10	2.51E-09	1.72E-09	7.52E-09	E		1			5.72E-10	2.51E-09	0.667		1
	Organics Sum:		5.86E-03	2.57E-02	1.76E-02	7.71E-02				5.82E-03	2.55E-02	5.82E-03	2.55E-02			
	Metals Sum:		8.44E-09	3.70E-08	2.53E-08	1.11E-07				4.86E-09	2.13E-08	5.01E-09	2.19E-08			
									HAP Sum:	5.82E-03	2.55E-02					
									TAP Sum:			5.84E-03	2.56E-02			
									3 Boiler HAP Sum:	1.75E-02	7.65E-02					
									3 Boiler TAP Sum:			1.75E-02	7.67E-02			

TECHNICAL ANALYSIS
APPENDIX B

HAP and TAP Analysis

Facility-Wide Worst Case Scenario Comparison to Screening Emission Levels
Emission Rates based on AP-42 Emission Factors

Worst Case Scenario Emissions - Boilers and Generators Running Concurrently

	Screening Emission Limit (EL)	Total Emissions when using 2 generators and 3 natural gas boilers (lb/hr)		Total Emissions when using 2 generators and 3 #2 distillate fuel boilers	
	0 - above EL, 1- below EL				
TAP	All values in lb/hr				
Acetaldehyde	3.00E-03	1.97E-02	0	1.97E-02	0
Acrolein (max)		2.37E-03		2.37E-03	
Benzene	8.00E-04	2.40E-02	0	2.40E-02	0
1,3-Butadiene (max)	2.40E-05	1.00E-03	0	1.00E-03	0
Butane		1.05E-01		0.00E+00	
Ethane		1.56E-01		0.00E+00	
Ethylbenzene	2.90E+01	0.00E+00	1	2.73E-05	1
Fluorene	1.33E-01	7.48E-04	1	7.50E-04	1
Formaldehyde	5.10E-04	3.40E-02	0	4.44E-02	0
Hexane	1.20E+01	9.04E-02	1	0.00E+00	1
3-Methylchloranthrene (max)	2.50E-06	9.04E-08	1	0.00E+00	1
Naphthalene	3.33E+00	2.20E-03	1	2.66E-03	1
OCDD	1.50E-10	0.00E+00	1	1.33E-09	0
Pentane	1.18E+02	1.31E-01	1	0.00E+00	1
Propylene		1.46E-01		6.61E-02	
1,1,1-Trichloroethane		0.00E+00		1.01E-04	
Toluene	2.50E+01	1.07E-02	1	1.31E-02	1
Xylenes	2.90E+01	7.30E-03	1	7.35E-03	1
Polyaromatic Hydrocarbons (PAH):					
Acenaphthene (max)	9.10E-05	3.65E-05	1	4.54E-05	1
Acenaphthyle (max)	9.10E-05	1.30E-04	0	1.30E-04	0
Anthracene	9.10E-05	4.80E-05	1	4.84E-05	1
Benzo(b,k)fluoranthene	9.10E-05	0.00E+00	1	6.35E-07	1
Benzo(g,h,I)perylene (max)	9.10E-05	1.26E-05	1	1.35E-05	1
Fluoranthene	9.10E-05	1.95E-04	0	1.97E-04	0
2-Methylnaphtalene	9.10E-05	1.21E-06	1	0.00E+00	1
2-Dimethylbenz(a)anthracene (max)	9.10E-05	8.03E-08	1	0.00E+00	1
Phenanthrene	9.10E-05	7.54E-04	0	7.58E-04	0
Pyrene	9.10E-05	1.23E-04	0	1.24E-04	0
PAH Sum		1.30E-03		1.32E-03	
Polycyclic Organic Matter (POM):					
Benzo(a)anthracene		4.31E-05		4.48E-05	
Benzo(a)pyrene (max)		4.88E-06		4.82E-06	
Benzo(b)Fluroanthene (max)		2.63E-06		2.54E-06	
Benzo(k)fluoranthene (max)		4.06E-06		3.97E-06	
Chrysene		9.14E-06		1.01E-05	
Dibenz(a,h)anthracene (max)		1.50E-05		1.57E-05	
Indeno(1,2,3-cd)pyrene (max)		9.70E-06		1.05E-05	
POM Sum:	2.00E-06	8.85E-05	0	9.24E-05	0
Arsenic	1.50E-06	1.00E-05	0	1.72E-09	1
Barium	3.30E-02	2.21E-04	1	0.00E+00	1
Beryllium (max)	2.80E-05	6.03E-07	1	1.29E-09	1
Cadmium	3.70E-06	5.52E-05	0	1.29E-09	1
Chromium	5.60E-07	7.03E-05	0	1.29E-09	1
Cobalt	7.00E-03	4.22E-06	1	0.00E+00	1
Copper	1.30E-02	4.27E-05	1	2.57E-09	1
Manganese	6.70E-02	1.91E-05	1	2.57E-09	1
Mercury	3.00E-03	1.31E-05	1	1.29E-09	1
Molybdenum	3.33E-01	5.52E-05	1	0.00E+00	1
Nickel	2.70E-05	1.05E-04	0	1.29E-09	1
Selenium (max)	1.30E-02	1.21E-06	1	0.00E+00	1
Scandium		0.00E+00		6.44E-09	
Vanadium	3.00E-03	1.15E-04	1	0.00E+00	1
Zinc	6.67E-01	1.46E-03	1	1.72E-09	1

TAP Analysis Comparison to Screening Emission Levels

	Generators			Natural Gas Fueled Boilers			#2 Distillate Fired Boilers		
TAP	Per unit	Sum of 2 Units	0-above EL 1-below EL	Per unit	Sum of 3 Units	0-above EL 1-below EL	Per Unit	Sum of 3 Units	0-above EL 1-below EL
Acetaldehyde	9.83E-03	1.97E-02	0						
Acrolein (max)	1.19E-03	2.37E-03							
Benzene	1.20E-02	2.39E-02	0	3.51E-05	1.05E-04	1	3.06E-05	9.18E-05	1
1,3-Butadiene (max)	5.01E-04	1.00E-03	0						
Butane				3.51E-02	1.05E-01				
Ethane				5.19E-02	1.56E-01				
Ethylbenzene							9.09E-06	2.73E-05	1
Fluorene	3.74E-04	7.48E-04	1				6.39E-07	1.92E-06	1
Formaldehyde	1.51E-02	3.02E-02	0	1.26E-03	3.77E-03	0	4.72E-03	1.42E-02	0
Hexane				3.01E-02	9.04E-02	1			
3-Methylchloranthrene (max)				3.01E-08	9.04E-08	1			
Naphthalene	1.09E-03	2.17E-03	1	1.02E-05	3.06E-05	1	1.62E-04	4.85E-04	1
OCDD							4.43E-10	1.33E-09	0
Pentane				4.35E-02	1.31E-01	1			
Propylene	3.31E-02	6.61E-02		2.68E-02	8.03E-02				
1,1,1-Trichloroethane							3.37E-05	1.01E-04	
Toluene	5.24E-03	1.05E-02	1	5.69E-05	1.71E-04	1	8.87E-04	2.66E-03	1
Xylenes	3.65E-03	7.30E-03	1				1.56E-05	4.68E-05	1
Polyaromatic Hydrocarbons:									
Acenaphthene (max)	1.82E-05	3.64E-05	1	3.01E-08	9.04E-08	1	3.02E-06	9.05E-06	1
Acenaphthyle (max)	6.48E-05	1.30E-04	0	3.01E-08	9.04E-08	1	3.62E-08	1.09E-07	1
Anthracene	2.40E-05	4.79E-05	1	4.02E-08	1.21E-07	1	1.74E-07	5.23E-07	1
Benzo(b,k)fluoranthene							2.12E-07	6.35E-07	1
Benzo(g,h,i)perylene (max)	6.27E-06	1.25E-05	1	2.01E-08	6.03E-08	1	3.23E-07	9.70E-07	1
Fluoranthene	9.75E-05	1.95E-04	0	5.02E-08	1.51E-07	1	6.92E-07	2.08E-06	1
2-Methylnaphtalene				4.02E-07	1.21E-06	1			
7,12-Dimethylbenz(a)anthracene (max)				2.68E-08	8.03E-08	1			
Phenanthrene	3.77E-04	7.53E-04	0	2.85E-07	8.54E-07	1	1.50E-06	4.50E-06	1
Pyrene	6.12E-05	1.22E-04	0	8.37E-08	2.51E-07	1	6.08E-07	1.82E-06	1
PAH Sum	6.49E-04	1.30E-03		9.67E-07	2.90E-06		6.56E-06	1.97E-05	
Polycyclic Organic Matter:									
Benzo(a)anthracene	2.15E-05	4.30E-05		3.01E-10	9.04E-10		5.78E-07	1.73E-06	
Benzo(a)pyrene (max)	2.41E-06	4.82E-06		2.01E-08	6.03E-08				
Benzo(b)Fluroanthene (max)	1.27E-06	2.54E-06		3.01E-08	9.04E-08				
Benzo(k)fluoranthene (max)	1.99E-06	3.97E-06		3.01E-08	9.04E-08				
Chrysene	4.52E-06	9.05E-06		3.01E-08	9.04E-08		3.40E-07	1.02E-06	
Dibenz(a,h)anthracene (max)	7.47E-06	1.49E-05		2.01E-08	6.03E-08		2.39E-07	7.16E-07	
Indeno(1,2,3-cd)pyrene (max)	4.80E-06	9.61E-06		3.01E-08	9.04E-08		3.06E-07	9.18E-07	
POM Sum	4.40E-05	8.80E-05	0	1.61E-07	4.83E-07	1	1.46E-06	4.39E-06	0
Arsenic				3.35E-06	1.00E-05	0	5.72E-10	1.72E-09	1
Bariam				7.36E-05	2.21E-04	1			
Beryllium (max)				2.01E-07	6.03E-07	1	4.29E-10	1.29E-09	1
Cadmium				1.84E-05	5.52E-05	0	4.29E-10	1.29E-09	1
Chromium				2.34E-05	7.03E-05	0	4.29E-10	1.29E-09	1
Cobalt				1.41E-06	4.22E-06	1			
Copper				1.42E-05	4.27E-05	1	8.58E-10	2.57E-09	1
Manganese				6.36E-06	1.91E-05	1	8.58E-10	2.57E-09	1
Mercury				4.35E-06	1.31E-05	1	4.29E-10	1.29E-09	1
Molybdenum				1.84E-05	5.52E-05	1			
Nickel				3.51E-05	1.05E-04	0	4.29E-10	1.29E-09	1
Selenium (max)				4.02E-07	1.21E-06	1			
Scandium							2.15E-09	6.44E-09	
Vanadium				3.85E-05	1.15E-04	1			
Zinc				4.85E-04	1.46E-03	1	5.72E-10	1.72E-09	1
Organics Sum	8.27E-02	1.65E-01		1.89E-01	5.66E-01		5.86E-03	1.76E-02	
Metals Sum	0.00	0.00		7.23E-04	2.17E-03		7.15E-09	2.15E-08	

**Comparison done for the sum of emissions of units against screening emission level.

STATEMENT OF BASIS

APPENDIX B
AIRS Information

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

Facility Name: Kootenai Medical Center
Facility Location: Coeur d'Alene
AIRS Number: 055-00030

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO_2	SM		SM				SM	U
NO_X	B							U
CO	B							U
PM_{10}	B							U
PT (Particulate)	B		B					
VOC	B							U
THAP (Total HAPs)	B							
			APPLICABLE SUBPART					
			Dc					

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, **or** each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).