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December 5, 2003

Mr. John Jenks
Utah Division of Air Quality
150 North 1950 West
P. O. Box 144820
Salt Lake City, Utah 84114-4820

Dear John:

This letter is in response to our telephone conversation of November 5, 2003 in which you requested additional information on the following items:

1) Hazardous Air Pollutant Review
2) BACT for PM_{10}
3) Case-by-Case MACT Discussion
4) Integrated Gasification Combined Cycle versus CFB

1. Hazardous Air Pollutant Review

Per R307-410-4, a review of the ambient air impacts for hazardous air pollutants (HAP) was performed. HAP emissions were calculated, based on available EPA emission factors from AP-42, and were reviewed against the list of 188 regulated HAPS as found in Section 112 of the Clean Air Act. In addition, per R307-410-4, the proposed maximum pounds per hour emission increase was compared against the emissions threshold value. The emissions threshold values were calculated to be the applicable threshold limit value - time weighted average (TLV-TWA) or the threshold limit value - ceiling (TLV-C) multiplied by the appropriate emission threshold factors which are found in Table 2 of R307-410-4, except in the cases of arsenic, benzene, and beryllium which were calculated using chronic emission threshold factors. Formaldehyde was calculated using an acute emission factor. The pollutant release point for the HAPS was considered to be vertically-unrestricted and the distance from the source to the property boundary was beyond 100 meters. The threshold limit values used for the calculations were obtained from the American Conference of Governmental Industrial Hygienists (ACGIH) publication, *2003 TLVs and BEIs, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*.

Emission threshold values (ETV) were calculated by multiplying the Emission Threshold Factor (ETF) (Table 2 R307-410-4) by the HAPs TLV or TWA. If the maximum estimated emission rate exceeded the ETV, then dispersion modeling was performed. Table 1 in Attachment A contains the calculated ETV values used for the HAPS modeling determination. As seen from Table 1, 7 pollutants exceeded the ETV.

In the PSD Permit submittal, dispersion modeling was performed for 2 of these HAPS, beryllium and HCl. The five other pollutants that exceeded the ETV were also modeled and the modeling results are presented in Attachment A. The percent of the toxic screening level, pursuant to R307-410-4, is also presented in Table 2, in Attachment A. All HAPS modeling results showed that modeled concentrations were well under applicable TLV limits.

2. BACT for PM_{10}

The PM_{10} emission rate of 0.015 lb/mmBtu proposed by NEVCO is a filterable emission rate. This value was based on a single fabric filter baghouse as a means of controlling particulate which is one of the most effective particulate systems available for power plants. The Northampton Generating Company in Pennsylvania has stated an emission limit of 0.010 lb/mmBtu for PM_{10} using fabric filters. The Sevier Power Company project has proposed the same fabric filter control technology that is being used at Northampton Generating Company; hence; lower particulate emissions may be achievable once the plant becomes operational and source testing has been conducted. At this time, SPC Project feels that they have proposed the best control technology for PM_{10} control and has been guaranteed by the plant designers an emission rate of 0.015 lb/mmBtu.

3. Case-by-Case MACT Demonstration for HAPS

The proposed plant is a major source for emissions of hazardous air pollutants (HAP). The potential HAP emissions from the plant are estimated to be 24.7 tons in aggregate and 16.9 tons of an individual HAP, HCl. Therefore, the plant is subject to case-by-case review under Section 112 (g) of the Clean Air Act for use of Maximum Achievable Control Technology (MACT) to control emissions of HAP, including non-mercury HAP metals, acid gas HAPS including hydrogen chloride and hydrogen fluoride, various organic HAPS including dioxins/furans, and mercury and other metals.

In 2000, EPA carried out an Information Collection Request (ICR) to update the mercury emissions inventory for coal fired power plants in the United States. The outcome of the ICR indicated that some degree of mercury control is achieved by existing conventional air pollution control devices but the capture of mercury varies significantly based on coal and fly ash properties.

The CFB boiler is the principle source of HAP emissions at the proposed plant due to the presence of fluorine, chlorine, mercury, and other heavy metals in the fuel for the boilers.

3.1 Case-by-Case MACT for Non-Mercury Metallic HAP Metals

The particulate emissions from the SPC Project will include HAP trace metal emissions from combustion of coal. These HAP metals include antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, nickel, manganese, and selenium. The control options for non-mercury HAP metals are those identified in the BACT analysis for PM, Section 5.5 of the PSD permit application. The control efficiencies for the non-mercury HAP metals correspond to the control efficiencies discussed for PM. Based on Section 5.5 of the PSD permit application, fabric filtration was chosen as the top control technology form control of PM.

The EPA has established that a PM emission limit is an effective surrogate for individual HAP metal emissions. The EPA has stated that a "strong correlation exists between air emissions of PM and emissions of individual HAP compounds. The control technologies used for the control of PM emissions achieve comparable levels of performance on metallic HAP emissions. Therefore, standards requiring good control of PM will also achieve good control of metallic HAP emissions."

Hence, fabric filtration by baghouse represents case-by-case MACT for non-mercury metallic HAP metals. The BACT emission limit proposed for PM in the PSD permit application is also proposed as the MACT standard for non-mercury metallic HAP metals.

3.2 Case-by-Case MACT for Acid Gas HAPS

Section 5.7 of the PSD permit application states that emission of SO_2 and other acid gases, such as sulfuric acid mist and hydrogen fluoride (HF), are generated from the release of sulfur present in the fuel. These acid gases will be controlled by the same technology as proposed for SO_2. HCl emissions will also occur as a result of chloride-containing compounds present in the coal. For the SPC Project, HCl and HF are subject to the case-by-case MACT requirement.

For the SPC Project, SO_2 emission control will be accomplished by utilization of limestone injection followed by a circulating dry scrubber. Hence, limestone injection followed by a circulating dry scrubber represents case-by-case MACT for HF and HCl. It is estimated that a reduction of 95% or greater can be achieved by the use of the limestone injection followed by a circulating dry scrubber for acid gas removal.

3.3 Case-by-Case MACT for Organic HAPS

As with CO emissions, the rate at which organic compounds are emitted depends on the combustion efficiency of the boiler. Hence, combustion modifications that change combustion residence time, turbulence or temperature may increase or decrease concentrations of organic HAPS found in the flue gas.

Organic emissions include semi-volatile, volatile, and condensable organic compounds with present in the coal or formed as a product of incomplete combustion (PIC). Primarily, organic emissions are characterized by the criteria pollutant class of unburned vapor-phase hydrocarbon which include alkanes, alkenes, aldehydes, alcohols and substituted benzenes (e.g. benzene, toluene, xylene, and ethyl benzene). The remaining organic compounds are almost exclusively classed into a group known as polycyclic organic matter (POM) and a subset of compounds called polynuclear aromatic hydrocarbons (PNA or PAH).

The trace amounts of PIC HAPS that will be emitted will be controlled by implementation of BACT for CO/VOC and PM. This represents case-by-case MACT for organic HAPS.

Emissions of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/PCDF) also result from the combustion of coal. Of particular interest are the tetrachloro through octachloro-dioxins and furans. Dioxin and furan emissions are influenced by the extent of destruction of organics during combustion and through reactions in the air pollution control equipment. The formation of PCDD/PCDF in air pollution control equipment is dependant on the flue gas temperature with maximum potential for formation occurring at temperatures of 450 °F to 650 °F.

The formation of dioxin in the CFB boiler will be dependent on the presence of chlorine and complex unburned hydrocarbons that may recombine at a certain temperature as the exhaust gases cool. The presence of chlorine is low in western coals such as those proposed for use by the SPC Project. The ICR database indicates a coal chlorine content of 200 ppm for bituminous coal which is used by the Intermountain Mountain Project (IPP). Since the SPC Project is proposing using coal from the same coal source as IPP, it is reasonable to assume that chlorine concentrations in coal will be low minimizing the potential for dioxin formation. Hence, good combustion controls and fabric filtration represent case-by-case MACT for control of dioxin and organics from the proposed SPC Project.

3.4 Case-by-Case MACT for Mercury

The majority of mercury (Hg) in coal exists as sulfur-bound compounds and compounds associated with the organic fraction in coal. Small amounts of elemental Hg may also be present in the coal. There are three basic forms of Hg in the flue gas from a coal-fired electric utility boiler:

- elemental Hg;
- compounds of oxidized Hg (divalent form); and
- particle-bound mercury.

Oxidized mercury compounds in the flue gas from a coal-fired electric utility boiler may include mercury chloride ($HgCl_2$), mercury oxide (HgO), and mercury sulfate ($HgSO_4$). The capture of mercury is dependent on the relative amount of mercury species that are present in the flue gas. Particulate bound mercury can be removed in conventional PM emission control devices such as fabric filters and electrostatic precipitators. Compounds of oxidized (divalent form) mercury are generally soluble in water and can be captured in wet scrubbers.
Elemental mercury is insoluble in water and does not react with alkaline reagents used in wet flue gas desulfurization (FGD) systems.

Both the elemental and divalent forms of mercury can be adsorbed onto porous solids such as fly ash or calcium-based acid gas sorbents. Fluidized bed combustion systems typically have high flue gas concentration of high carbon-content fly ash and high levels of mercury capture by PM control devices.

The case-by-case MACT determination for the SPC Project focuses on the application of the best level of mercury control being achieved by similar CFB boilers burning coal, primarily bituminous coal. The application of MACT must determine how the project will obtain a degree of emission reduction that shall not be less stringent than the emission control which is achieved in practice by the best controlled similar source.

Limited mercury data are available for CFB boilers regardless of fuel type. Data from the ICR study identified six (6) facilities with CFB boilers. One CFB boiler used bituminous coal (Stockton Cogen); another CFB boiler used waste bituminous (Scrubgrass Generating Company). The remaining 4 boilers used lignite, waste anthracite or subbituminous coal.

Two (2) facilities (Stockton and AES Hawaii) were reviewed for this MACT analysis since these were the only facilities in the database that used SNCR for NO_x control, sorbent injection such as limestone for SO_2 control used in combination with fabric filters for particulate control. CFB combustion systems typically have high flue gas concentrations of high-carbon-content fly ash and high levels of mercury capture in PM emission control devices.

A fabric filter was determined to represent the best control technology for control of mercury from the combustion of bituminous western coal and is the control technology proposed for the SPC Project. Currently, the literature suggests that these are no available commercial control technologies designed exclusively for mercury control from coal-fired power plants. Existing technologies to control PM and SO_2 have the added ability to control mercury. The injection of activated carbon into new particulate control devices (such as a baghouse) offers some promise in reducing mercury emissions. Short-term tests have shown a reduction of up to 90% for mercury from bituminous coals but these tests also indicated that such high levels of control may not be achievable over long periods.

3.5 Required Data for 40 CFR 63.43

40 CFR 63.43 contain the application requirements for a case-by-case MACT determination. The following information to be presented includes:

- **The name and address (physical location) of the major source to be constructed or reconstructed**. The SPC Project is proposed to be located near Sigurd, in Sevier County. The SPC Project is a major source of HAPS with estimated emissions to be greater than 10 tons for HCl.
- **A brief description of the major source to be constructed or reconstructed and identification of any listed source category or categories in which it is included**. The proposed SPC Project consists of a coal-fired atmospheric circulating fluidized bed combustion unit which is proposed to have a maximum heat input of 2532 mmBtu/hr with a capacity of 270 megawatts. The applicable source category is utility steam-electric generating units.
- **The expected commencement date for the construction or reconstruction of the major source**. Construction of the facility will begin when the appropriate permits are obtained in 2004.
- **The expected completion date for construction or reconstruction of the major source**. Construction is anticipated to take 4 years (2008).
- **The anticipated date of start-up for the construction or reconstructed major source**. Startup of the proposed facility is anticipated to begin in 2008.
- **The HAP emitted by the constructed or reconstructed major source, and the estimated emission rate for each such HAP, to the extent this information is needed by the permitting authority to determine MACT**. The source of the HAP emissions will be the boiler exhaust stack. The estimated HAP emissions are presented in Attachment B. These emission estimates were obtained from factors presented in AP-42, Section 1.1.
- **Any federally enforceable emission limitations applicable to the constructed or reconstructed major source**. Federally enforceable emission limitations will be established in the PSD permit as BACT requirements. Other applicable regulations include 40 CFR 72-75, 40 CFR 70, and 40 CFR 60 Subpart Da.
- **The maximum and expected utilization of capacity of the constructed or reconstructed source, and the associated uncontrolled emission rates for that source, to the extent this information is needed by the permitting authority to determine MACT**. The maximum and expected utilization of the constructed source is anticipated to be greater than 90%. The HAP emission rates presented in Attachment B were based on a 100 percent capacity factor. Uncontrolled emissions for HCl are estimated to be 133.8 lb/hr or 561.9 tn/yr.

- **The controlled emissions for the constructed or reconstructed major source in tons per year at expected and maximum utilization of capacity, to the extent this information is needed by the permitting authority to determine MACT**. The controlled emissions of HCl are based on a 100-percent capacity factor and are estimated to be 4.0 lb/hr or 16.9 tons per year assuming a control device efficiency of 97%.
- **A recommended emission limitation for the constructed or reconstructed major source consistent with the principles set forth in paragraph (d) of this section**. Listed below are the recommended emissions limits for each category of HAPs.
  1) Non-mercury metallic HAP - PM was used as the surrogate pollutant. The proposed emission rate for non-mercury metallic HAP is 0.02 lb/mmBtu.
  2) Acid Gas HAP - SO_2 was used as the surrogate pollutant. The proposed controlled emission rate for HCl is 4.0 lb/hr. For fluorides, the proposed emission rate is 0.000191 lb/mmBtu. The proposed HF and H_2SO_4emission rates are 0.005 lb/mmBtu and 0.0024 lb/mmBtu, respectively.
  3) Organics - CO was used as the surrogate pollutant.
  4) Mercury - SO_2 and PM are the surrogates for mercury. The proposed emission limit for mercury is 0.000004 lb/mmBtu.
- **The selected control technology to meet the recommended MACT emission limitation, including technical limitation on the design, operation, size, estimated control efficiency of the control technology**. MACT for HAPs from the SPC Project burning western bituminous coal is to be the control technology capable of demonstrating BACT for SO_2, PM_{10}, and CO. A description of the proposed control technology is found in Section 5 of the PSD permit application.
- **Supporting documentation including identification of alternative control technologies considered, and analysis of non-air quality health environmental impacts or energy requirements for the selected control technology**. The project is considered BACT for SO_2, CO, VOC, and PM_{10}. Fabric filtration was chosen as the most stringent control that has been demonstrated on CFB boilers for mercury removal. Less effective control technologies would not satisfy BACT so no alternative control technologies were considered.
- **Any other relevant information required pursuant to subpart A.** No other relevant information was identified.

3.6 MACT Compliance

Fabric filters has been determined as MACT for trace non-mercury metals and mercury from the combustion of bituminous coal. Compliance will be demonstrated by proper operation of the fabric filters. Compliance with the PM and PM_{10} emission limits will be proposed in a Compliance Assurance Monitoring (CAM) protocol which will be developed for this project. Adherence to the CAM will insure that the air pollution control equipment is working to design efficiency and that pollutant emission limits are being achieved.

For organic and acid gas HAPS, compliance for MACT will be based on good combustion controls and efficient operation of the SO_2 control equipment.

4. Integrated Gasification Coal Combustion

Integrated gasification coal combustion (IGCC) was evaluated as an alternative production process for generating electricity from coal. Integrated gasification coal combustion is a two stage process. In the first stage, coal or other fuel are first gasified to produce a synthetic gaseous fuel. In the second stage, this gaseous fuel is then used to fire combined cycle turbines to generate electricity. For the Sevier Power Company Project, IGCC was not chosen due to the higher costs.

Lastly, in the NPS letter dated November 4, 2003, the reviewer wanted a discussion on the technical feasibility of SCR for CFB boilers. According to the SPC Project plant designers, SCR for NO_x control is not required due to the inherently low thermal NO_x formation in a CFB boiler due to the low combustion temperature. A SCR will greatly increase the cost of the plant, increase operation and maintenance cost, emit ammonia, and will generate a long-term disposable SCR waste catalyst product.

Using SNCR to achieve lower NO_x levels may be obtained (<0.10 lb/mmBtu) but the fuel bound O_2 will play a factor in the generation of NO_x in the CFB boiler and the values that can be guaranteed by the boiler manufacturer are not known. The use of a SNCR and the type of fuel are interrelated and empirically determined to the degree of NO_x emissions produced. At this point, the SPC Project is not pursuing a lower limit based on the possibility that during the plant emissions performance tests, that a lower value might be exceeded.

If you have any questions concerning this information, please feel free to contact me.

Sincerely,

Linda Conger
Senior Air Quality Meteorologist

E:\Msi\Projects\01-21 NEVCO Fenceline Modeling\PSD Permit Application\270MW facility\August Changes\JJresponse2.wpd

Attachment A

Emission Threshold Values

Pollutant	Boiler Emissions (lb/hr)	Fire Pump Emissions (lb/hr)	Generator Emissions (lb/hr)	Acute	Vertically Unrestricted Chronic	Carcinogenic	TWA (ppm)	TLV (mg/m^3)	MW	ETF	ETV (lb/hr)	Acute TLV/10	Chronic TLV/30	Carcinogenic TLV/90	Model or Not
biphenyl *	1.90E-04				x		0.2	1.261	154.2	0.368	0.46		0.042		no
naphthalene *	1.45E-03	2.48E-04	2.48E-04		x		10	52.434	128.2	0.368	19.30		1.748		no
acetaldehyde *	6.36E-02	4.81E-05	4.81E-05	x			25	45.092	44.1	0.31	13.98	4.51			no
acetophenone*	1.67E-03				x		10	49.141	120.15	0.368	18.08		1.638		no
acrolein*	3.23E-02	1.51E-05	1.51E-05	x			0.1	0.229	56.1	0.31	0.07	0.02			no
benzene*	1.45E-01	1.48E-03	1.48E-03		x		2.5	7.986	78.1	0.31	2.48		0.266		no
benzyl chloride*	7.81E-02				x		1	5.178	126.6	0.368	1.91		0.173		no
bis(2-ethylhexyl)phthalate*	8.14E-03					x	5	79.869	390.56	0.123	9.82			0.887	no
bromoform*	4.35E-03				x		0.5	5.170	252.8	0.368	1.90		0.172		no
carbon disulfide*	1.45E-02				x		10	31.125	76.1	0.368	11.45		1.037		no
2-chloroacetophenone*	7.81E-04				x		0.05	0.316	154.6	0.368	0.12		0.011		no
chlorobenzene*	2.45E-03				x		10	46.053	112.6	0.368	16.95		1.535		no
chloroform*	6.58E-03				x		10	48.875	119.5	0.368	17.99		1.629		no
cumene*	5.91E-04				x		50	245.808	120.2	0.368	90.46		8.194		no
2,4-dinitrotoluene*	3.12E-05				x			0.2	182.15	0.368	0.07		0.007		no
dimethyl sulfate*	5.35E-03				x		0.1	0.516	126.1	0.368	0.19		0.017		no
ethyl benzene*	1.05E-02			x			125	542.740	106.16	0.31	168.25	54.27			no
ethyl chloride*	4.68E-03				x		100	263.885	64.52	0.368	97.11		8.796		no
ethylene dichloride*	4.46E-03				x		10	40.474	98.96	0.368	14.89		1.349		no
ethylene dibromide*	1.34E-04				x		NA	NA	187.88	0.368	NA		NA		NA
formaldehyde*	2.68E-02	1.51E-04	1.51E-04	x			0.3	0.368	30.03	0.31	0.11	0.04			no
hexane*	7.47E-03				x		50	176.237	86.18	0.368	64.86		5.875		no
isophorone*	6.47E-02			x			5	28.264	138.21	0.31	8.76	2.83			no
methyl bromide*	1.78E-02				x		1	3.883	94.95	0.368	1.43		0.129		no
methyl chloride*	5.91E-02			x			100	206.503	50.49	0.31	64.02	20.65			no
methyl ethyl ketone*	4.35E-02			x			300	884.663	72.1	0.31	274.25	88.47			no
methyl hydrazine*	1.90E-02				x		0.01	0.019	46.07	0.368	0.01		0.001		no
methyl methacrylate*	2.23E-03			x			100	409.530	100.13	0.31	126.95	40.95			no
methyl tert butyl ether*	3.90E-03				x		50	180.307	88.17	0.368	66.35		6.010		no
methylene chloride*	3.23E-02				x		50	173.681	84.93	0.368	63.91		5.789		no
phenol*	1.78E-03				x		5	19.245	94.11	0.368	7.08		0.642		no
propionaldehyde*	4.24E-02				x		20	47.526	58.1	0.368	17.49		1.584		no
tetrachloroethylene*	4.79E-03			x			100	678.119	165.8	0.31	210.22	67.81			no
toluene*	2.68E-02	5.37E-04	5.37E-04			x	50	188.425	92.14	0.123	23.18			2.094	no
1,1,1 Trichloroethane*	2.23E-03			x			450	2455.583	133.42	0.31	761.23	245.56			no
styrene*	2.79E-03			x			40	170.405	104.16	0.31	52.83	17.04			no
xylenes*	4.13E-03	3.69E-04	3.69E-04			x	150	651.288	106.16	0.123	80.11			7.237	no
vinyl acetate*	8.47E-04			x			15	52.816	86.09	0.31	16.37	5.28			no
HCl*	4.01E+00			x			2	2.983	36.47	0.31	0.92	0.30			yes
HF	2.11E+00			x			3	2.455	20.01	0.31	0.76	0.25			yes
antimony*	2.01E-03				x		0.1	0.500	121.75	0.368	1.84E-01		0.017		no
arsenic*	4.57E-02				x			0.010	74.92	0.368	3.68E-03		0.00033		yes
beryllium*	2.34E-03				x			0.002	9.01	0.368	7.36E-04		0.00007		yes
cadmium*	5.69E-03					x	0.0022	0.010	112.4	0.123	1.23E-03			0.0001	yes
chromium*	2.90E-02					x	0.2355	0.500	51.9	0.123	6.15E-02			0.006	no
cobalt*	1.12E-02				x		0.0083	0.020	58.93	0.368	7.36E-03		0.001		yes
manganese*	5.46E-02				x		0.0890	0.200	54.94	0.368	7.36E-02		0.007		no
mercury*	9.25E-03			x			0.0037	0.030	200.59	0.31	9.30E-03	0.003			no
nickel*	3.12E-02					x	0.6247	1.500	58.71	0.123	1.85E-01			0.017	no
selenium*	1.45E-01				x		0.0619	0.200	78.96	0.368	7.36E-02		0.007		yes

Sevier Power Project HAPS Analysis

Pollutant	Type	lb/hr	g/sec	Modeled Max. 1-hour (µg/m3)	Modeled Max. 24-hour (µg/m3)	Acute (TLV/10) (mg/m3)	Chronic (TLV/30) (mg/m3)	Carcinogen (TLV/90) (mg/m3)	% of TLV
HCl	acute	4.014	5.06E-01	3.67		0.3			1.22
HF	acute	2.11	2.66E-01	1.932		0.25			0.77
arsenic	chronic	4.57E-02	5.76E-03		0.0047		0.00033		1.42
beryllium	chronic	2.34E-03	2.95E-04		0.0024		0.00007		3.43
cadmium	carcin.	5.69E-03	7.16E-04		0.00059			0.0001	0.59
cobalt	chronic	1.12E-02	1.40E-03		0.00115		0.001		0.12
selenium	chronic	1.45E-01	1.83E-02		0.01492		0.007		0.21

Acute - 1-hr averaging period compared against 1/10 TLV-C
Chronic - 24-hr averaging period compared against 1/30 TLV-TWA
Carcinogen - 24-hr averaging period compared against 1/90 TLV-TWA

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*** ISCST3 - VERSION 02035 ***
*** NEVCO One Year On-Site Met Data (Aug 7 2001 - Aug 6 2002)           ***
*** Model Executed on 11/25/03 at 14:22:07 ***


 BEE-Line ISCST3 "BEEST" Version 8.60

 Input File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_arsenic_july.DTA

Output File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_arsenic_july.LST

   Met File - C:\BEAST\Nevco\500_mw_fb_modeling\Sept 2002 d-fd 500 mw\neyearc.asc


      Number of sources -         1
Number of source groups -         2
    Number of receptors -     38753


                                                         *** POINT SOURCE DATA ***

             NUMBER EMISSION RATE                        BASE     STACK   STACK    STACK     STACK    BUILDING EMISSION RATE
   SOURCE     PART.  (GRAMS/SEC)      X         Y       ELEV.    HEIGHT  TEMP.   EXIT VEL. DIAMETER   EXISTS   SCALAR VARY
     ID       CATS.                (METERS) (METERS) (METERS) (METERS) (DEG.K)  (M/SEC)  (METERS)                 BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  S1_STACK      0   0.57582E-02  414869.6 4299941.0  1606.0   140.97   344.26    19.03     5.18      YES

                                                  *** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID                                                  SOURCE IDs


 ALL       S1_STACK,

 SPC       S1_STACK,


                                                       *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***

                                                ** CONC OF ARSENIC  IN MICROGRAMS/M**3                           **

                                                             DATE                                                               NETWORK
GROUP ID                               AVERAGE CONC     (YYMMDDHH)            RECEPTOR  (XR, YR, ZELEV, ZFLAG)     OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
-
ALL      HIGH  1ST HIGH VALUE IS       0.04186  ON 01081601: AT (  416200.00,  4295600.00,   1880.30,      0.00)  DC       NA
         HIGH  2ND HIGH VALUE IS       0.04145  ON 01081403: AT (  416200.00,  4295600.00,   1880.30,      0.00)  DC       NA
SPC      HIGH  1ST HIGH VALUE IS       0.04186  ON 01081601: AT (  416200.00,  4295600.00,   1880.30,      0.00)  DC       NA
         HIGH  2ND HIGH VALUE IS       0.04145  ON 01081403: AT (  416200.00,  4295600.00,   1880.30,      0.00)  DC       NA


                                                       *** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

                                                ** CONC OF ARSENIC  IN MICROGRAMS/M**3                           **

                                                             DATE                                                               NETWORK
GROUP ID                               AVERAGE CONC     (YYMMDDHH)            RECEPTOR  (XR, YR, ZELEV, ZFLAG)     OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
-
ALL      HIGH  1ST HIGH VALUE IS       0.00470  ON 01040324: AT (  409800.00,  4300400.00,   1877.40,      0.00)  DC       NA
         HIGH  2ND HIGH VALUE IS       0.00348  ON 01090924: AT (  412400.00,  4304400.00,   1930.30,      0.00)  DC       NA
SPC      HIGH  1ST HIGH VALUE IS       0.00470  ON 01040324: AT (  409800.00,  4300400.00,   1877.40,      0.00)  DC       NA
         HIGH  2ND HIGH VALUE IS       0.00348  ON 01090924: AT (  412400.00,  4304400.00,   1930.30,      0.00)  DC       NA
```

```
*** ISCST3 - VERSION 02035 ***
*** NEVCO One Year On-Site Met Data (Aug 7 2001 - Aug 6 2002)           ***
*** Model Executed on 11/25/03 at 14:58:16 ***


 BEE-Line ISCST3 "BEEST" Version 8.60

 Input File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_cadmium_july.DTA

Output File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_cadmium_july.LST

   Met File - C:\BEAST\Nevco\500_mw_fb_modeling\Sept 2002 d-fd 500 mw\neyearc.asc


      Number of sources -          1
Number of source groups -          2
    Number of receptors -      38753
```

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
S1_STACK	0	0.71694E-03	414869.6	4299941.0	1606.0	140.97	344.26	19.03	5.18	YES	

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	S1_STACK,
SPC	S1_STACK,

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF CADMIUM IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.00521	ON 01081601: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.00516	ON 01081403: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
SPC	HIGH 1ST HIGH VALUE IS	0.00521	ON 01081601: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.00516	ON 01081403: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF CADMIUM IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.00059	ON 01040324: AT	(409800.00, 4300400.00, 1877.40, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.00043	ON 01090924: AT	(412400.00, 4304400.00, 1930.30, 0.00)	DC	NA
SPC	HIGH 1ST HIGH VALUE IS	0.00059	ON 01040324: AT	(409800.00, 4300400.00, 1877.40, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.00043	ON 01090924: AT	(412400.00, 4304400.00, 1930.30, 0.00)	DC	NA

```
*** ISCST3 - VERSION 02035 ***
*** NEVCO One Year On-Site Met Data (Aug 7 2001 - Aug 6 2002)          ***
*** Model Executed on 11/25/03 at 15:08:38 ***


 BEE-Line ISCST3 "BEEST" Version 8.60

 Input File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_cobalt_july.DTA

Output File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_cobalt_july.LST

   Met File - C:\BEAST\Nevco\500_mw_fb_modeling\Sept 2002 d-fd 500 mw\neyearc.asc


      Number of sources -          1
Number of source groups -          2
    Number of receptors -      38753
```

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
S1_STACK	0	0.14112E-02	414869.6	4299941.0	1606.0	140.97	344.26	19.03	5.18	YES	

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	S1_STACK,
SPC	S1_STACK,

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF COBALT   IN MICROGRAMS/M**3   **

```
                                                  DATE                                                          NETWORK
GROUP ID                         AVERAGE CONC    (YYMMDDHH)            RECEPTOR  (XR, YR, ZELEV, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
-
ALL      HIGH  1ST HIGH VALUE IS       0.01026  ON 01081601: AT (  416200.00,  4295600.00,   1880.30,      0.00)  DC       NA
         HIGH  2ND HIGH VALUE IS       0.01016  ON 01081403: AT (  416200.00,  4295600.00,   1880.30,      0.00)  DC       NA
SPC      HIGH  1ST HIGH VALUE IS       0.01026  ON 01081601: AT (  416200.00,  4295600.00,   1880.30,      0.00)  DC       NA
         HIGH  2ND HIGH VALUE IS       0.01016  ON 01081403: AT (  416200.00,  4295600.00,   1880.30,      0.00)  DC       NA
```

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF COBALT   IN MICROGRAMS/M**3   **

```
                                                  DATE                                                          NETWORK
GROUP ID                         AVERAGE CONC    (YYMMDDHH)            RECEPTOR  (XR, YR, ZELEV, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
-
ALL      HIGH  1ST HIGH VALUE IS       0.00115  ON 01040324: AT (  409800.00,  4300400.00,   1877.40,      0.00)  DC       NA
         HIGH  2ND HIGH VALUE IS       0.00085  ON 01090924: AT (  412400.00,  4304400.00,   1930.30,      0.00)  DC       NA
SPC      HIGH  1ST HIGH VALUE IS       0.00115  ON 01040324: AT (  409800.00,  4300400.00,   1877.40,      0.00)  DC       NA
         HIGH  2ND HIGH VALUE IS       0.00085  ON 01090924: AT (  412400.00,  4304400.00,   1930.30,      0.00)  DC       NA
```

```
*** ISCST3 - VERSION 02035 ***
*** NEVCO One Year On-Site Met Data (Aug 7 2001 - Aug 6 2002)          ***
*** Model Executed on 11/25/03 at 14:27:45 ***


 BEE-Line ISCST3 "BEEST" Version 8.60

 Input File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_HF_july.DTA

Output File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_HF_july.LST

   Met File - C:\BEAST\Nevco\500_mw_fb_modeling\Sept 2002 d-fd 500 mw\neyearc.asc


      Number of sources -          1
Number of source groups -          2
    Number of receptors -      38753
```

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
S1_STACK	0	0.26586E+00	414869.6	4299941.0	1606.0	140.97	344.26	19.03	5.18	YES	

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	S1_STACK,
SPC	S1_STACK,

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF HF IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	1.93290	ON 01081601: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	1.91373	ON 01081403: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
SPC	HIGH 1ST HIGH VALUE IS	1.93290	ON 01081601: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	1.91373	ON 01081403: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF HF IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.21706	ON 01040324: AT	(409800.00, 4300400.00, 1877.40, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.16066	ON 01090924: AT	(412400.00, 4304400.00, 1930.30, 0.00)	DC	NA
SPC	HIGH 1ST HIGH VALUE IS	0.21706	ON 01040324: AT	(409800.00, 4300400.00, 1877.40, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.16066	ON 01090924: AT	(412400.00, 4304400.00, 1930.30, 0.00)	DC	NA

*** ISCST3 - VERSION 02035 ***
*** NEVCO One Year On-Site Met Data (Aug 7 2001 - Aug 6 2002) ***
*** Model Executed on 11/25/03 at 15:25:11 ***

BEE-Line ISCST3 "BEEST" Version 8.60

Input File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_selenium_july.DTA

Output File - C:\BEAST\Nevco\Jul_2003_Nearfield_avg_S\nearfield_selenium_july.LST

Met File - C:\BEAST\Nevco\500_mw_fb_modeling\Sept 2002 d-fd 500 mw\neyearc.asc

Number of sources - 1
Number of source groups - 2
Number of receptors - 38753

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
S1_STACK	0	0.18270E-01	414869.6	4299941.0	1606.0	140.97	344.26	19.03	5.18	YES	

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	S1_STACK,
SPC	S1_STACK,

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF SELENIUM IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.13283	ON 01081601: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.13151	ON 01081403: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
SPC	HIGH 1ST HIGH VALUE IS	0.13283	ON 01081601: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.13151	ON 01081403: AT	(416200.00, 4295600.00, 1880.30, 0.00)	DC	NA

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF SELENIUM IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.01492	ON 01040324: AT	(409800.00, 4300400.00, 1877.40, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.01104	ON 01090924: AT	(412400.00, 4304400.00, 1930.30, 0.00)	DC	NA
SPC	HIGH 1ST HIGH VALUE IS	0.01492	ON 01040324: AT	(409800.00, 4300400.00, 1877.40, 0.00)	DC	NA
	HIGH 2ND HIGH VALUE IS	0.01104	ON 01090924: AT	(412400.00, 4304400.00, 1930.30, 0.00)	DC	NA

Attachment B

Emission Factors from AP-42 Section 1.1 Bituminous and Subbituminous Coal Combustion

Pollutant	Emission Factor (lb/ton)	Amount Coal Combusted (tn/hr)	Emissions (lb/hr)	Emissions (lb/yr)	Emissions (tn/yr)	HAP (tn/yr)
2,3,7,8 - TCDD	1.43E-11	111.5	1.59E-09	1.34E-05	6.70E-09	
Total TCDD	9.28E-11	111.5	1.03E-08	8.69E-05	4.35E-08	
Total PeCDD	4.47E-11	111.5	4.98E-09	4.19E-05	2.09E-08	
Total HxCDD	2.87E-11	111.5	3.20E-09	2.69E-05	1.34E-08	
Total HpCDD	8.34E-11	111.5	9.30E-09	7.81E-05	3.91E-08	
Total OCDD	4.16E-10	111.5	4.64E-08	3.90E-04	1.95E-07	
Total PCDD	6.66E-10	111.5	7.43E-08	6.24E-04	3.12E-07	
2,3,7,8 - TCDF	5.10E-11	111.5	5.69E-09	4.78E-05	2.39E-08	
Total TCDF	4.04E-10	111.5	4.50E-08	3.78E-04	1.89E-07	
Total PeCDF	3.53E-10	111.5	3.94E-08	3.31E-04	1.65E-07	
Total HxCDF	1.92E-10	111.5	2.14E-08	1.80E-04	8.99E-08	
Total HpCDF	7.68E-11	111.5	8.56E-09	7.19E-05	3.60E-08	
Total OCDF	6.63E-11	111.5	7.39E-09	6.21E-05	3.10E-08	
Total PCDF	1.09E-09	111.5	1.22E-07	1.02E-03	5.10E-07	
Total PCDD/PCDF	1.76E-09	111.5	1.96E-07	1.65E-03	8.24E-07	
biphenyl *	1.70E-06	111.5	1.90E-04	1.59E+00	7.96E-04	7.96E-04
acenaphthene	5.10E-07	111.5	5.69E-05	4.78E-01	2.39E-04	
acenapthylene	2.50E-07	111.5	2.79E-05	2.34E-01	1.17E-04	
anthracene	2.10E-07	111.5	2.34E-05	1.97E-01	9.83E-05	
benzo(a)anthracene	8.00E-08	111.5	8.92E-06	7.49E-02	3.75E-05	
benzo(a)pyrene	3.80E-08	111.5	4.24E-06	3.56E-02	1.78E-05	
benzo(b, J, k)fluoranthene	1.10E-07	111.5	1.23E-05	1.03E-01	5.15E-05	
benzo(g,h,I)perylene	2.70E-08	111.5	3.01E-06	2.53E-02	1.26E-05	
chrysene	1.00E-07	111.5	1.12E-05	9.37E-02	4.68E-05	
fluoranthene	7.10E-07	111.5	7.92E-05	6.65E-01	3.32E-04	
fluorene	9.10E-07	111.5	1.01E-04	8.52E-01	4.26E-04	
indeno(1,2,3-cd)pyrene	6.10E-08	111.5	6.80E-06	5.71E-02	2.86E-05	
naphthalene *	1.30E-05	111.5	1.45E-03	1.22E+01	6.09E-03	6.09E-03
phenanthrene	2.70E-06	111.5	3.01E-04	2.53E+00	1.26E-03	
pyrene	3.30E-07	111.5	3.68E-05	3.09E-01	1.55E-04	
5-methyl chrysene	2.20E-08	111.5	2.45E-06	2.06E-02	1.03E-05	
acetaldehyde *	5.70E-04	111.5	6.36E-02	5.34E+02	2.67E-01	2.67E-01
acetophenone*	1.50E-05	111.5	1.67E-03	1.40E+01	7.02E-03	7.02E-03
acrolein*	2.90E-04	111.5	3.23E-02	2.72E+02	1.36E-01	1.36E-01
benzene*	1.30E-03	111.5	1.45E-01	1.22E+03	6.09E-01	6.09E-01
benzyl chloride*	7.00E-04	111.5	7.81E-02	6.56E+02	3.28E-01	3.28E-01
bis(2-ethylhexyl)phthalate*	7.30E-05	111.5	8.14E-03	6.84E+01	3.42E-02	3.42E-02
bromoform*	3.90E-05	111.5	4.35E-03	3.65E+01	1.83E-02	1.83E-02
carbon disulfide*	1.30E-04	111.5	1.45E-02	1.22E+02	6.09E-02	6.09E-02
2-chloroacetophenone*	7.00E-06	111.5	7.81E-04	6.56E+00	3.28E-03	3.28E-03
chlorobenzene*	2.20E-05	111.5	2.45E-03	2.06E+01	1.03E-02	1.03E-02
chloroform*	5.90E-05	111.5	6.58E-03	5.53E+01	2.76E-02	2.76E-02
cumene*	5.30E-06	111.5	5.91E-04	4.96E+00	2.48E-03	2.48E-03
cyanide*	2.50E-03	111.5	2.79E-01	2.34E+03	1.17E+00	1.17E+00
2,4-dinitrotoluene*	2.80E-07	111.5	3.12E-05	2.62E-01	1.31E-04	1.31E-04
dimethyl sulfate*	4.80E-05	111.5	5.35E-03	4.50E+01	2.25E-02	2.25E-02
ethyl benzene*	9.40E-05	111.5	1.05E-02	8.80E+01	4.40E-02	4.40E-02
ethyl chloride*	4.20E-05	111.5	4.68E-03	3.93E+01	1.97E-02	1.97E-02
ethylene dichloride*	4.00E-05	111.5	4.46E-03	3.75E+01	1.87E-02	1.87E-02
ethylene dibromide*	1.20E-06	111.5	1.34E-04	1.12E+00	5.62E-04	5.62E-04
formaldehyde*	2.40E-04	111.5	2.68E-02	2.25E+02	1.12E-01	1.12E-01
hexane*	6.70E-05	111.5	7.47E-03	6.28E+01	3.14E-02	3.14E-02
isophorone*	5.80E-04	111.5	6.47E-02	5.43E+02	2.72E-01	2.72E-01
methyl bromide*	1.60E-04	111.5	1.78E-02	1.50E+02	7.49E-02	7.49E-02
methyl chloride*	5.30E-04	111.5	5.91E-02	4.96E+02	2.48E-01	2.48E-01

Emission Factors from AP-42 Section 1.1 Bituminous and Subbituminous Coal Combustion

Pollutant	Emission Factor (lb/ton)	Amount Coal Combusted (tn/hr)	Emissions (lb/hr)	Emissions (lb/yr)	Emissions (tn/yr)	HAP (tn/yr)
methyl ethyl ketone*	3.90E-04	111.5	4.35E-02	3.65E+02	1.83E-01	1.83E-01
methyl hydrazine*	1.70E-04	111.5	1.90E-02	1.59E+02	7.96E-02	7.96E-02
methyl methacrylate*	2.00E-05	111.5	2.23E-03	1.87E+01	9.37E-03	9.37E-03
methyl tert butyl ether*	3.50E-05	111.5	3.90E-03	3.28E+01	1.64E-02	1.64E-02
methylene chloride*	2.90E-04	111.5	3.23E-02	2.72E+02	1.36E-01	1.36E-01
phenol*	1.60E-05	111.5	1.78E-03	1.50E+01	7.49E-03	7.49E-03
propionaldehyde*	3.80E-04	111.5	4.24E-02	3.56E+02	1.78E-01	1.78E-01
tetrachloroethylene*	4.30E-05	111.5	4.79E-03	4.03E+01	2.01E-02	2.01E-02
toluene*	2.40E-04	111.5	2.68E-02	2.25E+02	1.12E-01	1.12E-01
1,1,1 Trichloroethane*	2.00E-05	111.5	2.23E-03	1.87E+01	9.37E-03	9.37E-03
styrene*	2.50E-05	111.5	2.79E-03	2.34E+01	1.17E-02	1.17E-02
xylenes*	3.70E-05	111.5	4.13E-03	3.47E+01	1.73E-02	1.73E-02
vinyl acetate*	7.60E-06	111.5	8.47E-04	7.12E+00	3.56E-03	3.56E-03
HCl*	1.20	111.5	4.01	3.37E+04	1.69E+01	1.69E+01
HF	0.15	111.5	0.50	4.21E+03	2.11E+00	2.11E+00
antimony*	1.80E-05	111.5	2.01E-03	1.69E+01	8.43E-03	8.43E-03
arsenic*	4.10E-04	111.5	4.57E-02	3.84E+02	1.92E-01	1.92E-01
beryllium*	2.10E-05	111.5	2.34E-03	1.97E+01	9.83E-03	9.83E-03
cadmium*	5.10E-05	111.5	5.69E-03	4.78E+01	2.39E-02	2.39E-02
chromium*	2.60E-04	111.5	2.90E-02	2.44E+02	1.22E-01	1.22E-01
chromium VI	7.90E-05	111.5	8.81E-03	7.40E+01	3.70E-02	
cobalt*	1.00E-04	111.5	1.12E-02	9.37E+01	4.68E-02	4.68E-02
magnesium	1.10E-02	111.5	1.23E+00	1.03E+04	5.15E+00	
manganese*	4.90E-04	111.5	5.46E-02	4.59E+02	2.29E-01	2.29E-01
mercury*	8.30E-05	111.5	9.25E-03	7.77E+01	3.89E-02	3.89E-02
nickel*	2.80E-04	111.5	3.12E-02	2.62E+02	1.31E-01	1.31E-01
selenium*	1.30E-03	111.5	1.45E-01	1.22E+03	6.09E-01	6.09E-01
CH_4	6.00E-02	111.5	6.69E+00	5.62E+04	2.81E+01	
TNMOC	5.00E-02	111.5	5.58E+00	4.68E+04	2.34E+01	
N_2O	3.50E+00	111.5	3.90E+02	3.28E+06	1.64E+03	
CO_2	4.69E+03	111.5	5.23E+05	4.40E+09	2.20E+06	
						24.686

Assumptions:

Emission factors using ESP or FF for PCDD/PCDF
* HAP - hazardous air pollutant
Operating hours - 8400 operating hours
Design output - 270 MW
Heat Input - 2531.5 mmBtu/hr
HCl and HF emissions assume 97% control
Carbon content of coal is 64.64%