Ldn Consulting, Inc.
23811 Washington Ave, C110-333, Murrieta, CA 92562 phone 760-473-1253

February 18, 2025

LS Power Grid California
16150 Main Circle Drive, Suite 310
Chesterfield, MO 63017

RE: Collinsville-Pittsburg 500/230 kV Substation Project – Solano and Contra Costa Counties, CA - Health Risk Screening Letter

The purpose of this Air Quality Heath Risk screening letter is to identify potential health risks from toxic air contaminants (TACs) which would be expected during construction of the Collinsville 500/230 Kilovolt (kV) Substation Project (Project). The Project seeks to construct an approximately 11-acre 500/230 kV substation (Collinsville Substation) with an additional disturbance of up to 21 acres for grading disturbance, installation of new transmission lines (which includes the overhead, submarine cable, and underground segments alike), a new telecommunications line, roads and ancillary facilities. Transmission lines include a new 6-mile 230kV transmission between the new Collinsville Substation and the existing Pittsburg Substation, two Pacific Gas and Electric Company (PG&E) 1.5-mile 500kV transmission line segments connecting into the new Collinsville Substation, new PG&E transposition structures along the existing Vaca Dixon-Tesla 500 kV transmission line right-of-way, and extending and connecting an existing 12kV distribution line into the new Collinsville Substation. PG&E's existing Pittsburg Substation would be modified by shifting line positions, adding new 115 kV bus reactors, additional bus work, and modifying electrical equipment to facilitate the connection of the proposed LSPGC 230 kV Transmission Line.

The new 6-mile 230kV transmission line would be located in a combination of overhead, underground, and submarine cable. The new telecommunication line will extend from the new Collinsville Substation to an existing telecom provider located southwest of the existing Pittsburg Substation. Equipment will be stored at the substation construction site, at staging yards and along the transmission line alignment proposed in this Project. TACs during operations would not be expected since, after the substation is operational, minimal site visits to the substation would be required.

The Bay Area Air Quality Management District (BAAQMD) has established significance thresholds for assessing air quality impacts within its jurisdiction, including Solano and Contra Costa Counties. These thresholds are used to evaluate health risks associated with individual projects

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(BAAQMD, 2022). Health risk impacts are categorized into carcinogens and non-carcinogens for both acute and chronic exposures.

An individual project cannot increase the cancer risk for a sensitive receptor beyond 10 individuals per one million exposed. For non-carcinogens, an individual projects increase in the hazard index for both acute and chronic exposures must not exceed 1.0 for a sensitive receptor. Additionally, individual project incremental annual Particulate Matter emissions having a size of 2.5 micrometers (µm) or smaller ($PM_{2.5}$) shall not increase concentrations above 0.3 µg/m³. Refer to **Table 1, BAAQMD Air Quality Thresholds of Significance**, below for detailed threshold values. If these thresholds are exceeded, a cumulative health risk may be present, requiring further evaluation.

Table 1: BAAQMD Air Quality Thresholds of Significance

Risk and Hazards for New Source and Receptors	Threshold
Cumulative	
Increased Cancer Risk	>100 individuals per one million exposed
Increased Non-Cancer Hazard (Acute or Chronic)	>10.0 Hazard Index
Incremental Annual $PM_{2.5}$	>0.8 µg/m^3 annual average
Individual Project	
Increased Cancer Risk	>10.0 individuals per one million exposed
Increased Non-Cancer Hazard (Acute or Chronic)	>1.0 Hazard Index
Incremental Annual $PM_{2.5}$	>0.3 µg/m^3 annual average
Source: Bay Area Air Quality Management District 2022 CEQA Guideline (Table 3-1)	

For this analysis, the Project is broken into three distinct sections: the Collinsville Substation, the Pittsburg Substation and linear work. Each section addresses the specific activities, sensitive receptors, and associated health risk calculations where expected. Health risks are calculated at sensitive receptors estimated to experience the highest potential impacts.

Linear Transmission Line Work:

Connecting the two sites would require approximately 6 miles of linear transmission line, distribution line, transposition line, and line work over roughly 304 working days. Based on discussions with the applicant, a typical construction rate is about 100 feet per day, meaning it would take an average of 20 days to complete 2,000 feet. Sensitive receptors near the project would not experience a noticeable increase in emissions due to the construction of these linear

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project features. Since construction along the transmission line alignment would progress linearly at a rate of approximately 100 feet per day, any given 1,000-foot zone of influence around a sensitive receptor would experience active construction for approximately 20 days before crews move beyond that area, effectively limiting prolonged exposure. Additionally, staging areas for construction materials and equipment will be located along the alignment, with minimal construction activity occurring at these locations. Minimal construction equipment would be used within these areas, resulting in minimal DPM emissions and therefore, no modeling is required.

Collinsville Substation:

Based on the construction area for the Collinsville Substation, sensitive receptors are located over 0.7 miles away. Figure 1 on the following page shows the relative location and distance of the nearest residential receptor from the substation construction area and are identified in this analysis as Receptors 1 and -2. These receptors are currently occupied residential structures. These homes represent the closest potential receptors exposed to TAC from the Collinsville Substation construction. Construction within this area would be expected to start in May 2026 and be completed in February 2028. Typically, health risks are highest when the construction TAC source is within 1,000 feet. Therefore, although these receptors are beyond the 1,000-foot threshold where health risks are typically highest, a conservative analysis has been conducted to assess potential impacts at these locations.

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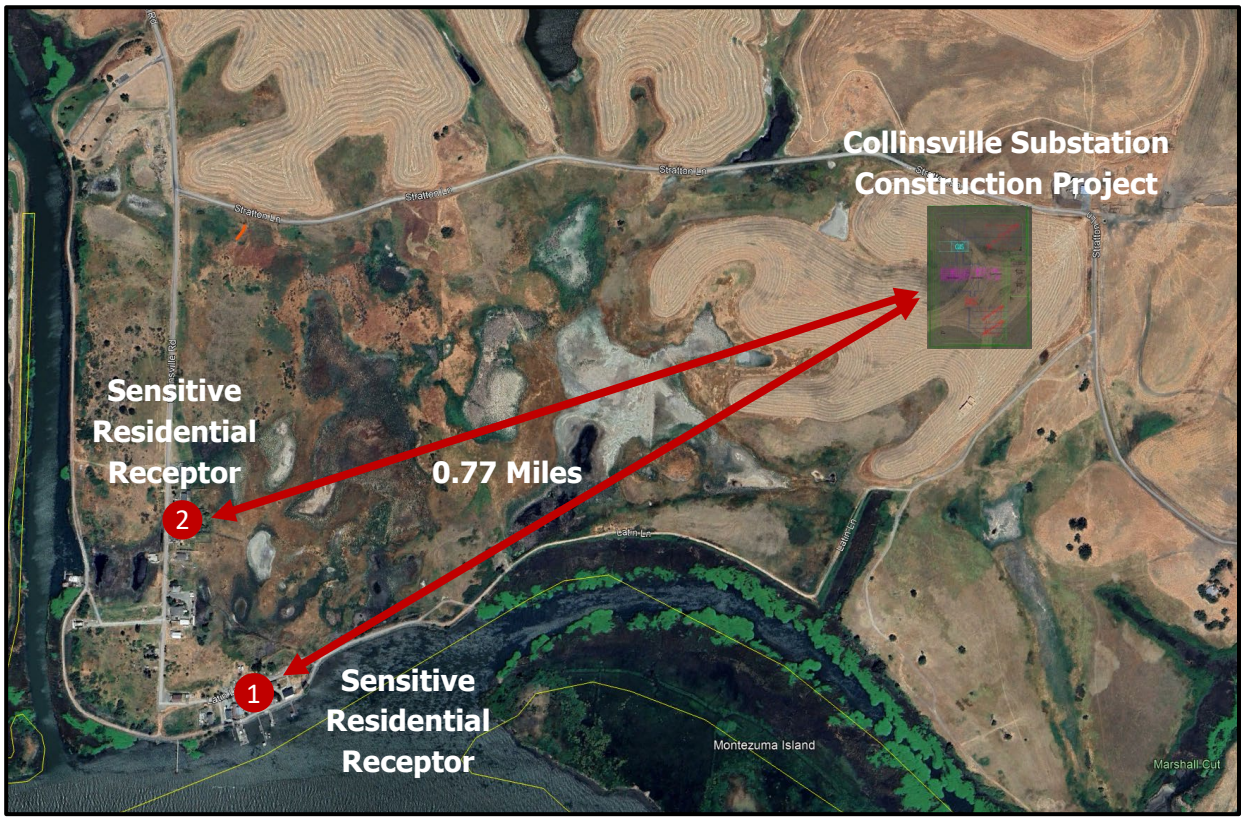
Figure 1: Collinsville Project Layout and Distance to the nearest Sensitive Receptors



Pittsburg Substation:

Based on the Project requirements renovations to the Pittsburg Substation would be required. Sensitive receptors are located in a residential area to the east of PG&E's existing Pittsburg Substation located at Halsey Court. The closest home is roughly 236 feet from the edge of the existing Pittsburg Substation. The general footprint where construction may occur as well as a representative selection of three sensitive receptors which would be exposed to TAC from the Pittsburg Substation construction are shown in Figure 2 on the following Page. These receptors were numbered 3 through 5 in this analysis to keep track of the health risks for each receptor analyzed. Construction within the Pittsburg area is estimated to start in June 2026 and be completed in early October 2026.

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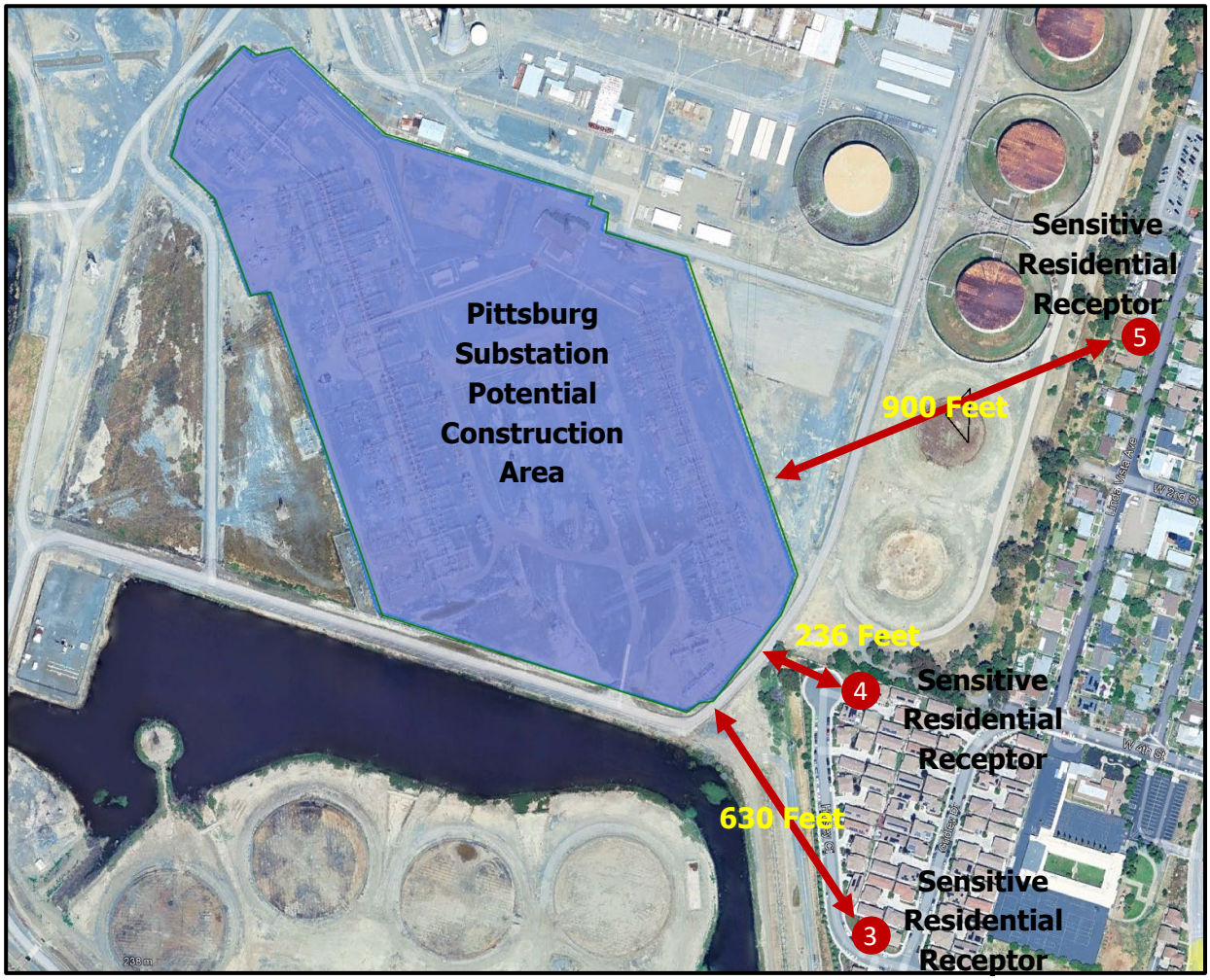
Figure 2: Pittsburg Project Layout and Distance to the nearest Sensitive Receptors



Health Risk Analysis

Inhalation cancer risks are typically associated with stationary sources emitting diesel particulate matter (DPM) over long periods, as noted by OEHHA (OEHHA, 2001). This Project includes two such areas at the Collinsville and Pittsburg Substations, where detailed health risk analyses are provided in this assessment.

The Office of Environmental Health Hazard Assessment (OEHHA) does not recommend assessing cancer risk for projects lasting less than two months due to the uncertainty in quantifying long-term health effects from short-term exposures. Since construction along the transmission line alignment will progress at approximately 100 feet per day, any given 1,000-foot zone of influence around a sensitive receptor would experience active construction for about 20 days before crews move beyond the area. Because this exposure duration remains below

OEHHA's two-month recommendation, the health risk from linear construction activities is considered less than significant.

Collinsville Substation Project Construction Emissions

The primary health risks from TACs related to construction at the Collinsville Substation would be from DPM emitted from construction equipment emitted over roughly 533 active construction days or 651-calendar days. DPM emissions from this work were provided in Table 20 of Attachment 5.3-A to the Proponents' Environmental Assessment (PEA) (denoted as L-02, L-03, L-04). Also, it should be noted that transmission line work will extend from the east edge of the Project and traverse initially southeast from the project site and then southwest into the waters of the Sacramento-San Joaquin River Delta waterways which ultimately interconnect with the existing PG&E Pittsburg Substation. These activities will involve continuous linear movement of construction, progressing at approximately 100 feet per day. Construction activities at the Collinsville Substation, along with the analyzed equipment list from the Air Quality analysis, are presented in ***Table 2: Collinsville Substation Construction Activities*** below.

Based on review of construction modeling identified in Table 20 of Attachment 5.3-A to the PEA, the total diesel particulate emissions during the construction activities (L-02, L-03 and L-04) cumulatively generate 0.222 tons of diesel particulates 10 microns or smaller (PM_{10}) which is the primary TAC considered in this analysis. In addition, per the PEA, the conditions of the Applicant Proposed Measure 1 (APM AIR-1) were assumed which is consistent with CEQA. This APM will be a condition of the Project which is as follows:

(APM AIR-1) - Tier 4 Construction Equipment. Construction equipment with a rating between 100 and 750 hp would be required to use engines compliant with EPA Tier 4 non-road engine standards. In the event that enough Tier 4 equipment is not available, documentation of the unavailability would be provided and engines utilizing a lower standard would be used.)

Table 2: Collinsville Substation Construction Activities

Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Site Development (INDEX L-02 – 76 Construction Days)	5/1/2026	8/1/2026		
Truck - Water 4 K			4	300
Loader - 4-5 Yd			2	230
Truck - Dump 10-12 Yd			5	415
Motor Grader			2	250

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Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Scraper			4	410
Vibratory Roller			2	157
Generator – 25 Kw			2	36
Forklift - 15,000 lb			4	130
Pickup - 1 Ton			4	410
844 Loader			1	417
Semi Truck			2	500
Below Grade Construction (INDEX L-03 – 152 Construction Days)	7/14/2026	1/14/2027		
Truck - Water 4 K			2	300
Excavator			2	108
Forklift - 15 K Reach			3	130
Backhoe - 2X4			2	68
Pickup - 1 Ton			4	410
Excavator - Mini			1	70
Generator – 25 Kw			1	36
Truck - Concrete			4	425
Loader - 4-5 Yd			2	230
Pressure Digger - Lo-Drill (Tracked)			1	275
Excavator			1	275
Truck - Dump 10-12 Yd			3	415
Trencher			2	75
Skid steer loader			2	74
Wire Trailer/ Tensioner			1	175
Wire Puller			1	175
Above Grade Construction (INDEX L-04– 224 Construction Days)	1/2/2027	2/11/2028		
Wire Trailer/ Tensioner			1	175
Wire Puller			1	175
Crane - 200 Ton			1	275
Pickup - 1 Ton			4	410
Welding Truck			2	395
Generator – 25 Kw			2	36
Crane - 35 Ton (Manlift)			2	250
Forklift - 10 K Reach			2	130
Forklift -15,000 lb			1	130
Loader - 4-5 Yd			2	74
120' Manlift			2	74

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Pittsburg Substation Project Construction Emissions

The primary health risks from TACs related to construction at the Pittsburg Substation along with the 115 kV Bus Reactors would be from DPM emitted from construction equipment emitted at the Pittsburg Substation while construction is actively occurring at this location. Construction for substations, which includes three separate areas to include the Pittsburgh substation, would be over a 396-calendar day period (5/1/2027 - 5/31/2028) with 250 active workdays and each separate area would require a 1/3 effort of the total activity (denoted as P-19 of Attachment 5.3-A to the PEA). DPM emissions from this work were provided in Table 20 of Attachment 5.3-A to the PEA (denoted as P-19). Additionally, the transmission line work extending from Collinsville Substation to the existing Vaca-Dixon to Tesla transmission line, transposition line work along the existing right-of-way, and distribution work involves short-duration, linear construction activities. As previously noted, these linear construction activities would not result in significant TAC exposure to sensitive receptors, as work would progress at approximately 100 feet per day, ensuring that no location along the alignment experiences construction for more than 20 days within a 1,000-foot zone of influence, with the total duration at any given receptor remaining under two months. Construction activities at the Pittsburg Substation, including the associated equipment list analyzed in the Air Quality assessment and the expected start and completion dates are detailed in ***Table 3, Pittsburg Substation Construction Activities***, below.

Table 3: Pittsburg Substation Construction Activities

Equipment Identification	Pittsburg Substation Estimated Start	Pittsburg Substation Estimated Completion	Quantity	HP
Vaca Dixon, Tesla, and Pittsburg Substation Upgrades (INDEX P-19 – 1/3 duration of (5/1/27 – 5/31/28)	1/20/2028	5/31/2028		
Pickup - 1/2 Ton			4	395
Pickup - 1 Ton			4	410
Welding Truck			2	395
Crane - 35 Ton (Manlift)			2	250
Forklift -15,000 lb			1	130
Manlift - 40'			3	49
120' Manlift			2	74

Based on review of construction modeling identified in Table 20 of Attachment 5.3-A to the PEA, the total diesel particulate emissions during the construction activities (P-19) would cumulatively

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generate 0.0084 tons of diesel particulates 10 microns or smaller (PM_{10}) which is the primary TAC considered in this analysis. In addition, per the PEA, these emissions assume APM AIR-1 as described above.

Construction Emissions Calculations

The AERMOD dispersion model was used to determine the concentration of $PM_{2.5}$ from the diesel exhaust generated during construction at the nearby residential receptor. The AERMOD files for the Project (Collinsville and Pittsburg Substations) are provided in ***Attachments A*** and ***-B*** respectively to this Letter.

Exposure is evaluated by calculating the dose in milligrams per kilogram body weight per day (mg/kg/d). For residential exposure, the breathing rates are determined for specific age groups, so inhalation dose (Dose-air) is calculated for each of these age groups, 3rd trimester, 0<2, 2<9, and 2<16 and 16-70 years. The following algorithms calculate this dose for exposure through the inhalation pathways. The worst-case cancer risk dose calculation is defined in Equation 1 below (OEHHA, February 2015).

Equation 1 $$Dose_{air}=C_{air}*(BR/BW)*A*EF*(1x10^{-6})$$

$Dose_{air}$	=	Dose through inhalation (mg/kg/d)
C_{air}	=	Concentration in air (µg/m3) Annual average DPM concentration in µg/m3 - AERMOD predicts annual averages.
BR/BW	=	Daily breathing rate normalized to body weight (L/kg BW-day). See Table I.2 for the daily breathing rate for each age range.
A	=	Inhalation absorption factor (assumed to be 1)
EF	=	Exposure frequency (unitless, days/365 days)
1x10-6	=	Milligrams to micrograms conversion (10^{-3} mg/ µg), cubic meters to liters conversion (10^{-3} m^3/l)

Cancer risk is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor, the frequency of time spent at home and the exposure duration divided by averaging time, to yield the excess cancer risk. As described below, the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk for any given location. The worst-case cancer risk calculation is defined in Equation 2 below (OEHHA, February 2015):

Equation 2 $$RISK_{inh\text{-}res}=DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$$

$RISK_{inh\text{-}res}$	=	Residential inhalation cancer risk
$DOSE_{air}$	=	Daily inhalation dose (mg/kg-day)
CPF	=	Inhalation cancer potency factor (mg/kg-day^{-1})

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ASF	=	Age sensitivity factor for a specified age group (unitless)
ED	=	Exposure duration (in years) for a specified age group
AT	=	Averaging time for lifetime cancer risk (years)
FAH	=	Fraction of time spent at home (unitless)

The OEHHA recommends that an exposure duration (residency time) during construction activities be over the construction period which for this project is 651 calendar days for the Collinsville Substation and 132 or 1/3 of 396 calendar days for the Pittsburg Substation as denoted by activity P-19. These durations should be used to estimate individual cancer risk for the Maximally Exposed Individual Resident (MEIR). Health risk calculations are shown for Collinsville and Pittsburg Substations respectively in ***Attachment C*** and ***-D*** to this Letter. Based on the durations, the worst-case age groups (3rd trimester, 0<2) were used to calculate risk.

Non-Cancer risks or risks defined as chronic or acute are also known with respect to DPM and are determined by the hazard index. To calculate hazard index, DPM concentration is divided by its chronic Reference Exposure Levels (REL). Where the total equals or exceeds one, a health hazard is presumed to exist. RELs are published by the OEHHA (OEHHA, February 2015). Diesel Exhaust has a REL of 5 µg/m^3 and targets the respiratory system.

Heath Risk Calculations

Collinsville Substation TAC DPM

Over the construction duration, the project would emit 0.222 tons over 651-day elapsed period which works out to an average of 0.0036 grams of PM_{10} exhaust per second (g/s). Based on the site configuration, the average emission rate over the grading area is 1.05x10^{-7} grams/second per meter squared (g/s-m^2).

Utilizing the AERMOD dispersion model for the Collinsville Substation, the worst-case annual concentration (at Receptor 2 identified in Figure 1 above) of DPM from Project construction is estimated at 0.014 µg/m^3. Utilizing Equation 2 above, the inhalation cancer risk for the closest residential receptor was found to be 3.06 per one million exposed over the construction duration. In addition, since the annual emissions are less than the REL of 5 µg/m^3 the non-cancer risks are less than 1 and a less than significant non cancer risk is expected. The district is also concerned about health risks to maximum exposed offsite workers; however, a nearby worker location where workers would be onsite 8 hours per day or more does not exist around the Collinsville Substation construction site. Emissions for Receptors 1 is noted as 0.011 µg/m^3 which is lower than Receptor 2 and would therefore have risks lower than 3.06 per one million exposed. Given this, a less than significant health risk impact is expected from the Collinsville Substation construction activities at any nearby residential receptors.

Pittsburg Substation TAC DPM

Similarly, over the 132-day construction period, the project is expected to emit 0.0028 tons of diesel particulate matter (DPM). This corresponds to an average PM_{10} exhaust emission rate of 0.00022 grams per second (g/s). Based on the site configuration, the average emission rate over the grading area is 1.89×10^{-9} g/s-m².

Using AERMOD, the highest annual DPM concentration from the construction is estimated at 0.0052 µg/m³ at Receptor 4 (see Figure 2 above). Applying Equation 2, the inhalation cancer risk for the nearest residential receptor is calculated at 0.38 per one million exposed over the construction duration.

In addition, Since the annual DPM concentration remains below the REL of 5 µg/m³, non-cancer risks are expected to be less than 1. Therefore, no significant non-cancer health risk impacts would be expected. Emissions at Receptors 3 and 5 were modeled at 0.00138 µg/m³ and 0.00493 µg/m³ respectively which would yield a lower risk than 0.38 per one million exposed shown at Receptor 4.

Collinsville Substation Total $PM_{2.5}$

The BAAQMD also has a requirement that the incremental annual $PM_{2.5}$ cannot exceed 0.3 µg/m³. Based on the construction outputs identified in Table 43 of Attachment 5.3-A (Air Quality and GHG Calculations), the $PM_{2.5}$ generated emissions from both the emissions and fugitive dust onsite for the Collinsville Substation construction activities analyzed within this report are 1.045 tons over the same 615 days. Using AERMOD, the maximum incremental annual $PM_{2.5}$ concentration would be 0.064 µg/m³ at Receptor 2 and 0.053 µg/m³ at Receptor 1. Since the thresholds is 0.3 µg/m³ a less than significant incremental $PM_{2.5}$ risk is expected. This is shown in ***Attachment E*** to this letter. Therefore, the work at the Collinsville Substations would have a less than significant total incremental $PM_{2.5}$ emission.

Pittsburg Substation Total $PM_{2.5}$

The Total $PM_{2.5}$ emissions from both construction equipment and fugitive dust onsite at the Pittsburg Substation during construction was estimated at 0.109 tons over the 132 day period (See Table 43 of Attachment 5.3-A 1/3 of P-19 total). Using AERMOD, the maximum incremental annual $PM_{2.5}$ would be 0.203 µg/m³ at Receptor 4 and slightly lower at 0.054 µg/m³ at Receptor 5 and only 0.192 µg/m³ at Receptor 3. Since the threshold is 0.3 µg/m³ a less than significant incremental $PM_{2.5}$ risk is expected at the Pittsburg Substation. This is shown in ***Attachment F***

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to this letter. Therefore, the work at the Pittsburg Substation would have a less than significant total incremental $PM_{2.5}$ emission.

A cumulative health risk during construction could exist if another large project were occurring simultaneously to the proposed Project using diesel construction equipment. However, for cumulative health risks to reach the threshold of 100 excess cancer cases per million exposed, construction equipment usage would need to be up to 10 times more intensive than what is currently proposed. Based on review of the site and following discussions with the applicant, no nearby construction projects would be expected to meet these diesel equipment conditions. Given this, a less than significant cumulative health risk would be expected during construction of the Collinsville Substation.

If you should have any questions regarding this assessment, please do not hesitate to contact (760) 473-1253.

Sincerely,
Ldn Consulting, Inc.

Jeremy Louden

Attachments:

A: AERMOD Files (PM 10 - DPM Collinsville - Emissions from Off Road Equipment)

B: AERMOD Files (PM 10 - DPM Pittsburg - Emissions from Off Road Equipment)

C: Cancer Risk Calculations - Collinsville

D: Cancer Risk Calculations - Pittsburg

E: AERMOD Files (Total PM 2.5 Collinsville Substation)

F: AERMOD Files (Total PM 2.5 Pittsburg Substation)

References:

BAAQMD. (2022). *THRESHOLDS OF SIGNIFICANCE.* Retrieved from https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf

OEHHA. (2001). *Health Effects of Diesel Exhaust.* Retrieved from https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf

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OEHHA. (February 2015). *Air Toxics Hot Spots Program - Risk Assessment Guidelines - Guidance Manual for Preparation of Health Risk Assessments.* OEHHA.

1   AERMOD PRIME - (DATED 23132)

                   AERMODPrMSPx VERSION
            (C) COPYRIGHT 1998-2022, Trinity Consultants

 Run Began on 2/17/2025 at 8:25:33

** BREEZE AERMOD
** Trinity Consultants
** VERSION 12.1

CO STARTING
CO TITLEONE Collinsville Substation Construction DPM PM10
CO MODELOPT DFAULT CONC NODRYDPLT NOWETDPLT
CO RUNORNOT RUN
CO AVERTIME ANNUAL
CO POLLUTID PM10
CO FLAGPOLE 1.5
CO FINISHED

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** RCPDESCR R1
RE DISCCART 600860.9 4215042.4 0 0 1.5
** SENSITIV
** RCPDESCR R2
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ME UAIRDATA 23230 2017
ME SITEDATA 2803 2017
ME PROFBASE 0 METERS
ME FINISHED

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** AMPDATUM -1
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** PROJECTIONWKT
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** UNITS METER
** ZONE 11
** HEMISPHERE N
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** ORIGINLAT 0
** PARALLEL1 0
** PARALLEL2 0
** AZIMUTH 0
** SCALEFACT 0
** FALSEEAST 0
** FALSENORTH 0

** POSTFMT UNFORM
** TEMPLATE USERDEFINED
** AERMODEXE AERMOD_BREEZE_23132_64.EXE
** AERMAPEXE AERMAP_EPA_18081_64.EXE

  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   0 Informational Message(s)

   ******** FATAL ERROR MESSAGES ********
             *** NONE ***

   ********   WARNING MESSAGES   ********
MX W403   48   PFLCNV: Turbulence data is being used w/o ADJ_U* option   SigA Data

****
*** SETUP Finishes Successfully ***
****

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

                                        ***   MODEL SETUP OPTIONS SUMMARY   ***
- -

** Model Options Selected:
     * Model Uses Regulatory DEFAULT Options
     * Model Is Setup For Calculation of Average CONCentration Values.
     * NO GAS DEPOSITION Data Provided.
     * NO PARTICLE DEPOSITION Data Provided.
     * Model Uses NO DRY DEPLETION. DDPLETE = F
     * Model Uses NO WET DEPLETION. WETDPLT = F
     * Stack-tip Downwash.
     * Model Accounts for ELEVated Terrain Effects.
     * Use Calms Processing Routine.
     * Use Missing Data Processing Routine.
     * No Exponential Decay.
     * Model Uses RURAL Dispersion Only.
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: PM10

**Model Calculates ANNUAL Averages Only

**This Run Includes: 1 Source(s);   1 Source Group(s); and   2 Receptor(s)

               with: 0 POINT(s), including
                          0 POINTCAP(s) and   0 POINTHOR(s)
                and: 0 VOLUME source(s)
                and: 1 AREA type source(s)
                and: 0 LINE source(s)
                and: 0 RLINE/RLINEXT source(s)
                and: 0 OPENPIT source(s)
                and: 0 BUOYANT LINE source(s) with a total of   0 line(s)
                and: 0 SWPOINT source(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 18081

**Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =   0.00 ; Decay Coef. =   0.000   ; Rot. Angle =   0.0
                 Emission Units = GRAMS/SEC   ; Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =   3.5 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

                                             *** AREA SOURCE DATA ***

             NUMBER EMISSION RATE COORD (SW CORNER) BASE   RELEASE X-DIM   Y-DIM   ORIENT.   INIT.   URBAN EMISSION RATE AIRCRAFT
  SOURCE   PART. (GRAMS/SEC   X   Y   ELEV.   HEIGHT OF AREA   OF AREA   OF AREA   SZ   SOURCE SCALAR VARY
    ID   CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)   (DEG.) (METERS)   BY
- -

QXDKY000 0 0.10500E-06 602027.2 4215312.6 0.0 3.00 153.90 221.80 -0.40 1.00 NO NO

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	QXDKY000 ,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\DOW_2017.SFC Met Version: 18081
Profile file: C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\DOW_2017.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23254 Upper air station no.: 23230
Name: UNKNOWN Name: UNKNOWN
Year: 2017 Year: 2017

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
17	01	01	1	01	-6.0	0.077	-9.000	-9.000	-999.	51.	6.9	0.06	0.30	1.00	2.00	68.	10.0	278.9	2.1
17	01	01	1	02	-12.2	0.215	-9.000	-9.000	-999.	240.	73.6	0.19	0.30	1.00	2.50	260.	10.0	280.8	2.1
17	01	01	1	03	-17.9	0.318	-9.000	-9.000	-999.	430.	161.7	0.19	0.30	1.00	3.40	246.	10.0	282.4	2.1
17	01	01	1	04	-11.1	0.130	-9.000	-9.000	-999.	149.	18.0	0.19	0.30	1.00	2.20	238.	10.0	281.9	2.1
17	01	01	1	05	-3.4	0.062	-9.000	-9.000	-999.	42.	6.2	0.06	0.30	1.00	1.60	75.	10.0	278.8	2.1
17	01	01	1	06	-1.6	0.046	-9.000	-9.000	-999.	24.	5.7	0.06	0.30	1.00	1.20	47.	10.0	277.0	2.1
17	01	01	1	07	-1.6	0.046	-9.000	-9.000	-999.	24.	5.7	0.06	0.30	1.00	1.20	68.	10.0	276.5	2.1
17	01	01	1	08	-1.9	0.042	-9.000	-9.000	-999.	21.	3.7	0.06	0.30	0.74	1.10	69.	10.0	276.6	2.1
17	01	01	1	09	1.9	0.137	0.177	0.005	102.	122.	-120.3	0.06	0.30	0.38	1.70	78.	10.0	277.9	2.1
17	01	01	1	10	17.9	0.176	0.677	0.008	624.	177.	-27.4	0.06	0.30	0.26	2.00	47.	10.0	278.9	2.1
17	01	01	1	11	27.4	0.232	0.849	0.018	807.	268.	-41.2	0.06	0.30	0.21	2.70	22.	10.0	281.4	2.1
17	01	01	1	12	57.9	0.476	1.165	0.019	987.	788.	-167.9	0.19	0.30	0.20	4.50	273.	10.0	283.4	2.1
17	01	01	1	13	58.6	0.610	1.207	0.011	1084.	1142.	-349.0	0.19	0.30	0.19	5.90	259.	10.0	283.8	2.1
17	01	01	1	14	55.1	0.580	1.184	0.019	1087.	1062.	-319.0	0.19	0.30	0.20	5.60	271.	10.0	284.5	2.1
17	01	01	1	15	37.5	0.537	1.042	0.019	1088.	947.	-371.5	0.19	0.30	0.24	5.20	262.	10.0	285.4	2.1
17	01	01	1	16	11.9	0.479	0.710	0.019	1089.	800.	-835.9	0.19	0.30	0.32	4.70	251.	10.0	285.4	2.1
17	01	01	1	17	-30.0	0.309	-9.000	-9.000	-999.	436.	88.6	0.19	0.30	0.57	3.50	226.	10.0	284.1	2.1
17	01	01	1	18	-29.6	0.263	-9.000	-9.000	-999.	324.	55.2	0.19	0.30	1.00	3.20	236.	10.0	282.6	2.1
17	01	01	1	19	-42.7	0.395	-9.000	-9.000	-999.	596.	130.4	0.19	0.30	1.00	4.30	246.	10.0	281.5	2.1
17	01	01	1	20	-38.2	0.447	-9.000	-9.000	-999.	717.	211.0	0.19	0.30	1.00	4.70	238.	10.0	281.4	2.1
17	01	01	1	21	-29.8	0.349	-9.000	-9.000	-999.	501.	128.5	0.19	0.30	1.00	3.80	240.	10.0	281.4	2.1
17	01	01	1	22	-24.1	0.425	-9.000	-9.000	-999.	664.	287.4	0.19	0.30	1.00	4.40	238.	10.0	281.0	2.1
17	01	01	1	23	-18.6	0.217	-9.000	-9.000	-999.	283.	49.6	0.19	0.30	1.00	2.70	225.	10.0	280.6	2.1
17	01	01	1	24	-2.3	0.055	-9.000	-9.000	-999.	93.	6.4	0.03	0.30	1.00	1.60	220.	10.0	280.1	2.1

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
17	01	01	01	2.1	0	-999.	-99.00	279.0	999.0	-99.00	-99.00
17	01	01	01	10.0	1	68.	2.00	-999.0	23.9	-99.00	0.77

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 1 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): QXDKY000 ,

*** SENSITIVE DISCRETE RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
600966.80	4214758.00	0.01145	600860.90	4215042.40	0.01365

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.01365 AT	600860.90,	4215042.40,	0.00,	0.00,	1.50)	SR	
	2ND HIGHEST VALUE IS	0.01145 AT	600966.80,	4214758.00,	0.00,	0.00,	1.50)	SR	
	3RD HIGHEST VALUE IS	0.00000 AT	0.00,	0.00,	0.00,	0.00,	0.00)		
	4TH HIGHEST VALUE IS	0.00000 AT	0.00,	0.00,	0.00,	0.00,	0.00)		
	5TH HIGHEST VALUE IS	0.00000 AT	0.00,	0.00,	0.00,	0.00,	0.00)		
	6TH HIGHEST VALUE IS	0.00000 AT	0.00,	0.00,	0.00,	0.00,	0.00)		
	7TH HIGHEST VALUE IS	0.00000 AT	0.00,	0.00,	0.00,	0.00,	0.00)		
	8TH HIGHEST VALUE IS	0.00000 AT	0.00,	0.00,	0.00,	0.00,	0.00)		
	9TH HIGHEST VALUE IS	0.00000 AT	0.00,	0.00,	0.00,	0.00,	0.00)		
	10TH HIGHEST VALUE IS	0.00000 AT	0.00,	0.00,	0.00,	0.00,	0.00)		

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 3 Warning Message(s)
A Total of 221 Informational Message(s)

A Total of 8784 Hours Were Processed

A Total of 43 Calm Hours Identified

A Total of 178 Missing Hours Identified (2.03 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********

MX W403	48	PFLCNV: Turbulence data is being used w/o ADJ_U* option	SigA Data
MX W403	1	PFLCNV: Turbulence data is being used w/o ADJ_U* option	SigA Data
MX W481	8785	MAIN: Data Remaining After End of Year. Number of Hours=	24

****
*** AERMOD Finishes Successfully ***
****

```
1                    AERMOD PRIME - (DATED 23132 )

                   AERMODPrMSPx VERSION
            (C) COPYRIGHT 1998-2022, Trinity Consultants

 Run Began on  2/17/2025 at  8:58:49

** BREEZE AERMOD
** Trinity Consultants
** VERSION  12.1

CO STARTING
CO TITLEONE  Pittsburg Substaiton DPM PM10
CO MODELOPT  DFAULT  CONC  NODRYDPLT  NOWETDPLT
CO RUNORNOT  RUN
CO AVERTIME  ANNUAL
CO POLLUTID  PM10
CO FLAGPOLE  1.5
CO FINISHED

SO STARTING
SO ELEVUNIT  METERS
SO LOCATION  A8TFX004  AREAPOLY  596712.5  4210727.3  0
** SRCDESCR  Pittsburg Substation
SO SRCPARAM  A8TFX004  1.89E-09  3  21  1
SO AREAVERT  A8TFX004  596712.5 4210727.3  596672 4210686.8  596660 4210647.1  596691.8 4210616.9
SO AREAVERT  A8TFX004  596717.2 4210547.8  596731.5 4210550.2  596811.8 4210318.1  597030.3 4210248.2
SO AREAVERT  A8TFX004  597039.8 4210255.4  597049.4 4210256.2  597097.9 4210318.1  597109.8 4210347.5
SO AREAVERT  A8TFX004  597030.3 4210575.6  596972.3 4210593.1  596973.9 4210607.4  596961.2 4210612.9
SO AREAVERT  A8TFX004  596962.8 4210618.5  596814.2 4210663.8  596746.6 4210725.8  596721.2 4210720.2
SO AREAVERT  A8TFX004  596712.5 4210727.3
SO SRCGROUP  ALL
SO FINISHED

RE STARTING
RE ELEVUNIT  METERS
RE DISCCART  597162.1  4210087.3  0  0  1.5
** SENSITIV
** RCPDESCR  R3
RE DISCCART  597153.6  4210266.3  0  0  1.5
** SENSITIV
** RCPDESCR  R4
RE DISCCART  597359.2  4210518.5  0  0  1.5
** SENSITIV
** RCPDESCR  R5
RE FINISHED

ME STARTING
ME SURFFILE  "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.SFC"
** SURFFILE  "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.SFC"
ME PROFFILE  "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.PFL"
** PROFFILE  "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.PFL"
ME SURFDATA  23254 2017
ME UAIRDATA  23230 2017
ME SITEDATA  2803 2017
ME PROFBASE  1  METERS
ME FINISHED

OU STARTING
OU FILEFORM  FIX
OU PLOTFILE  ANNUAL  ALL  ALL`ANNUAL.plt  10000
OU FINISHED

** ************************************************************************
** It is recommended that the user not edit any data below this line
** ************************************************************************


** AMPTYPE
** AMPDATUM  -1
** AMPZONE  -1
** AMPHEMISPHERE

** PROJECTIONWKT
PROJCS["UTM_6326_Zone11",GEOGCS["WGS_84",DATUM["World_Geodetic_System_1984",SPHEROID["WGS_1984",6378137,298.257223563],TOWGS84[0,0,0,0,0,0,0]],PRIMEM["Gree
nwich",0],UNIT["Degree",0.0174532925199433]],PROJECTION["Universal_Transverse_Mercator"],PARAMETER["Zone",11],UNIT["Meter",1,AUTHORITY["EPSG","9001"]]]
** PROJECTION  UTM
** DATUM  WGE
** UNITS  METER
** ZONE  11
** HEMISPHERE  N
** ORIGINLON  0
** ORIGINLAT  0
** PARALLEL1  0
** PARALLEL2  0
** AZIMUTH  0
** SCALEFACT  0
** FALSEEAST  0
** FALSENORTH  0

** POSTFMT  UNFORM
```

```
** TEMPLATE UserDefined
** AERMODEXE  AERMOD_BREEZE_23132_64.EXE
** AERMAPEXE  AERMAP_EPA_18081_64.EXE



  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W403      57       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION 23132  ***   ***  Pittsburg Substaiton DPM PM10                                      ***        02/17/25
 *** AERMET - VERSION  18081 ***   ***                                                                    ***        08:58:49
                                                                                                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses RURAL Dispersion Only.
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Accepts FLAGPOLE Receptor . Heights.
      * The User Specified a Pollutant Type of: PM10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:      1 Source(s);       1 Source Group(s); and       3 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  18081

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     1.00 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                           ;  Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp
 **Output Print File:             aermod.out

 *** AERMOD - VERSION 23132  ***   ***  Pittsburg Substaiton DPM PM10                                      ***        02/17/25
 *** AERMET - VERSION  18081 ***   ***                                                                    ***        08:58:49
                                                                                                                    PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data
```

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	LOCATION OF AREA Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
A8TFX004	0	0.18900E-08	596712.5	4210727.3	0.0	3.00	21	1.00	NO		NO

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	A8TFX004 ,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.SFC Met Version: 18081
Profile file: C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23254 Upper air station no.: 23230
Name: UNKNOWN Name: UNKNOWN
Year: 2017 Year: 2017

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
17	01	01	1	01	-6.0	0.077	-9.000	-9.000	-999.	51.	6.9	0.06	0.30	1.00	2.00	68.	10.0	278.9	2.1
17	01	01	1	02	-12.2	0.215	-9.000	-9.000	-999.	240.	73.6	0.19	0.30	1.00	2.50	260.	10.0	280.8	2.1
17	01	01	1	03	-17.9	0.318	-9.000	-9.000	-999.	430.	161.7	0.19	0.30	1.00	3.40	246.	10.0	282.4	2.1
17	01	01	1	04	-11.1	0.130	-9.000	-9.000	-999.	149.	18.0	0.19	0.30	1.00	2.20	238.	10.0	281.9	2.1
17	01	01	1	05	-3.4	0.062	-9.000	-9.000	-999.	42.	6.2	0.06	0.30	1.00	1.60	75.	10.0	278.8	2.1
17	01	01	1	06	-1.6	0.046	-9.000	-9.000	-999.	24.	5.7	0.06	0.30	1.00	1.20	47.	10.0	277.0	2.1
17	01	01	1	07	-1.6	0.046	-9.000	-9.000	-999.	24.	5.7	0.06	0.30	1.00	1.20	68.	10.0	276.5	2.1
17	01	01	1	08	-1.9	0.042	-9.000	-9.000	-999.	21.	3.7	0.06	0.30	0.74	1.10	69.	10.0	276.6	2.1
17	01	01	1	09	1.9	0.137	0.177	0.005	102.	122.	-120.3	0.06	0.30	0.38	1.70	78.	10.0	277.9	2.1
17	01	01	1	10	17.9	0.176	0.677	0.008	624.	177.	-27.4	0.06	0.30	0.26	2.00	47.	10.0	278.9	2.1
17	01	01	1	11	27.4	0.232	0.849	0.018	807.	268.	-41.2	0.06	0.30	0.21	2.70	22.	10.0	281.4	2.1
17	01	01	1	12	57.9	0.476	1.165	0.019	987.	788.	-167.9	0.19	0.30	0.20	4.50	273.	10.0	283.4	2.1
17	01	01	1	13	58.6	0.610	1.207	0.011	1084.	1142.	-349.0	0.19	0.30	0.19	5.90	259.	10.0	283.8	2.1
17	01	01	1	14	55.1	0.580	1.184	0.019	1087.	1062.	-319.0	0.19	0.30	0.20	5.60	271.	10.0	284.5	2.1
17	01	01	1	15	37.5	0.537	1.042	0.019	1088.	947.	-371.5	0.19	0.30	0.24	5.20	262.	10.0	285.4	2.1
17	01	01	1	16	11.9	0.479	0.710	0.019	1089.	800.	-835.9	0.19	0.30	0.32	4.70	251.	10.0	285.4	2.1
17	01	01	1	17	-30.0	0.309	-9.000	-9.000	-999.	436.	88.6	0.19	0.30	0.57	3.50	226.	10.0	284.1	2.1
17	01	01	1	18	-29.6	0.263	-9.000	-9.000	-999.	324.	55.2	0.19	0.30	1.00	3.20	236.	10.0	282.6	2.1
17	01	01	1	19	-42.7	0.395	-9.000	-9.000	-999.	596.	130.4	0.19	0.30	1.00	4.30	246.	10.0	281.5	2.1
17	01	01	1	20	-38.2	0.447	-9.000	-9.000	-999.	717.	211.0	0.19	0.30	1.00	4.70	238.	10.0	281.4	2.1
17	01	01	1	21	-29.8	0.349	-9.000	-9.000	-999.	501.	128.5	0.19	0.30	1.00	3.80	240.	10.0	281.4	2.1
17	01	01	1	22	-24.1	0.425	-9.000	-9.000	-999.	664.	287.4	0.19	0.30	1.00	4.40	238.	10.0	281.0	2.1
17	01	01	1	23	-18.6	0.217	-9.000	-9.000	-999.	283.	49.6	0.19	0.30	1.00	2.70	225.	10.0	280.6	2.1
17	01	01	1	24	-2.3	0.055	-9.000	-9.000	-999.	93.	6.4	0.03	0.30	1.00	1.60	220.	10.0	280.1	2.1

```
 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 17 01 01 01    2.1 0 -999.  -99.00   279.0  999.0  -99.00  -99.00
 17 01 01 01   10.0 1   68.    2.00  -999.0   23.9  -99.00    0.77

 F indicates top of profile (=1) or below (=0)
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   1 YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     A8TFX004    ,

                                          *** SENSITIVE DISCRETE RECEPTOR POINTS ***

                                      ** CONC OF PM10     IN MICROGRAMS/M**3                        **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         597162.10    4210087.30        0.00138                    597153.60    4210266.30        0.00522
         597359.20    4210518.50        0.00493
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   1 YEARS ***


                                   ** CONC OF PM10     IN MICROGRAMS/M**3                        **

                                                                                                        NETWORK
GROUP ID                       AVERAGE CONC               RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00522 AT (  597153.60,  4210266.30,     0.00,     0.00,    1.50)  SR
          2ND HIGHEST VALUE IS       0.00493 AT (  597359.20,  4210518.50,     0.00,     0.00,    1.50)  SR
          3RD HIGHEST VALUE IS       0.00138 AT (  597162.10,  4210087.30,     0.00,     0.00,    1.50)  SR
          4TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          5TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          6TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          7TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          8TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          9TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
         10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            3 Warning Message(s)
 A Total of          221 Informational Message(s)

 A Total of         8784 Hours Were Processed

 A Total of           43 Calm Hours Identified

 A Total of          178 Missing Hours Identified (  2.03 Percent)


    ******** FATAL ERROR MESSAGES ********
                ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W403      57       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data
 MX W403       1       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data
 MX W481    8785         MAIN: Data Remaining After End of Year. Number of Hours=           24

    ************************************
    *** AERMOD Finishes Successfully ***
    ************************************
```

Air Quality Health Risk Calculations (Worst-Case)
Collinsville Substation

From CalEE Annual Output	Emission per day (Ton/Total Construction Duration)	**0.222**
	Construction Start	**5/1/2026**
	Construction Complete	**2/11/2028**
	Days	**651**
	Construction Emission per day (lb/day)	**0.68202765**
	Annual Duration (Days)	**365**
	Annualized Emission Rate (Grams/Second)	**0.003575909**
	Project Site Size (Acres)	**8.43**
	Project Site Size (meters^2)	**34114.99964**
	Length of Smalles Side (meters)	**46614**
Used as an input to AERMOD	Emission Rate over Grading Area(g/s-m^2)	**1.05E-07**
From AERMOD	Concentration Annual (Ug/M^3)	**0.014**

	Days	Days to years				
Duration	651	1.783561644				
Age (Years)	3rd Trimester (0.25)	0-2	2-9	2-16	16-30	16-70
Cair (annual) - From F15	0.00996	0.00996	0.00996	0.00996	0.00996	0.00996
Breathing Rate per agegroup BR/BW (Page 5-25)	361	1090	861	745	335	290
A (Default is 1)	1	1	1	1	1	1
Exposure Frequency = EF (days/365days)	0.96	0.96	0.96	0.96	0.96	0.96
10^-6 Microgram to Milligram / liters to m3	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001
Dose-inh	0.00000345	0.00001042	0.00000823	0.00000712	0.00000320	0.00000277
Construction Days	651	1.783561644				
potency factor for Diesel	1.1	1.1	1.1	1.1	1.1	1.1
Age Sensitivity Factor	10	10	3	3	1	1
ED	0.25	1.783561644	1.783561644	1.783561644	1.783561644	1.783561644
AT	70	70	70	70	70	70
FAH	1	1	0.72	0.72	0.73	0.73
Risk for Each Age Group	1.35604E-07	2.92106E-06	4.98391E-07	4.31244E-07	6.55362E-08	5.67328E-08
Risk per million Exposed	0.135603977	2.921055702	0			
Cancer Risk Per Million - Construction Duration	3.06					

Air Quality Health Risk Calculations (Worst-Case)
Pittsburg Substation

From CalEE Annual Output	Emission per day (Ton/Total Construction Duration)	**0.0028**
	Construction Start	**1/20/2028**
	Construction Complete	**5/31/2028**
	Days	**132**
	Construction Emission per day (lb/day)	**0.042424242**
	Annual Duration (Days)	**365**
	Annualized Emission Rate (Grams/Second)	**0.000222433**
	Project Site Size (Acres)	**29.08**
	Project Site Size (meters^2)	**117682.5848**
	Length of Smalles Side (meters)	**343.0489539**
Used as an input to AERMOD	Emission Rate over Grading Area(g/s-m^2)	**1.89E-09**
From AERMOD	Concentration Annual (Ug/M^3)	**0.005**

	Days	Days to years					
Duration	132	0.361643836					
Age (Years)	3rd Trimester (0.25)	0-2	2-9	2-16	16-30	16-70	
Cair (annual) - From F15	0.0052	0.0052	0.0052	0.0052	0.0052	0.0052	
Breathing Rate per agegroup BR/BW (Page 5-25)	361	1090	861	745	335	290	
A (Default is 1)	1	1	1	1	1	1	
Exposure Frequency = EF (days/365days)	0.96	0.96	0.96	0.96	0.96	0.96	
10^-6 Microgram to Milligram / liters to m3	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	
Dose-inh	0.00000180	0.00000544	0.00000430	0.00000372	0.00000167	0.00000145	
Construction Days	132	0.361643836					
potency factor for Diesel	1.1	1.1	1.1	1.1	1.1	1.1	
Age Sensitivity Factor	10	10	3	3	1	1	
ED	0.25	0.361643836	0	0	0	0	
AT	70	70	70	70	70	70	
FAH	1	1	0.72	0.72	0.73	0.73	
Risk for Each Age Group	7.07973E-08	3.09227E-07	0	0	0	0	
Risk per million Exposed	0.070797257	0.309226558	0	0	0	0	
Cancer Risk Per Million Construction Duration	0.38						

1   AERMOD PRIME - (DATED 23132)

                   AERMODPrMSPx VERSION
            (C) COPYRIGHT 1998-2022, Trinity Consultants

 Run Began on 2/17/2025 at 8:47:22

** BREEZE AERMOD
** Trinity Consultants
** VERSION 12.1

CO STARTING
CO TITLEONE Collinsville Substation Construction PM2.5 Total
CO MODELOPT DFAULT CONC NODRYDPLT NOWETDPLT
CO RUNORNOT RUN
CO AVERTIME ANNUAL
CO POLLUTID PM25
CO FLAGPOLE 1.5
CO FINISHED

SO STARTING
SO ELEVUNIT METERS
SO LOCATION QXDKY000 AREA   602027.2 4215312.6 0
** SRCDESCR Construction SIte
SO SRCPARAM QXDKY000 4.93E-07 3 153.9 221.8 -0.4 1
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE ELEVUNIT METERS
RE DISCCART 600966.8 4214758. 0 0 1.5
** SENSITIV
** RCPDESCR R1
RE DISCCART 600860.9 4215042.4 0 0 1.5
** SENSITIV
** RCPDESCR R2
RE FINISHED

ME STARTING
ME SURFFILE "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\DOW_2017.SFC"
** SURFFILE "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\DOW_2017.SFC"
ME PROFFILE "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\DOW_2017.PFL"
** PROFFILE "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\DOW_2017.PFL"
ME SURFDATA 23254 2017
ME UAIRDATA 23230 2017
ME SITEDATA 2803 2017
ME PROFBASE 0 METERS
ME FINISHED

OU STARTING
OU FILEFORM FIX
OU PLOTFILE ANNUAL ALL ALL`ANNUAL.plt 10000
OU FINISHED

** **
** It is recommended that the user not edit any data below this line
** **

** AMPTYPE
** AMPDATUM -1
** AMPZONE -1
** AMPHEMISPHERE

** PROJECTIONWKT
PROJCS["UTM_6326_Zone11",GEOGCS["WGS_84",DATUM["World_Geodetic_System_1984",SPHEROID["WGS_1984",6378137,298.257223563],TOWGS84[0,0,0,0,0,0,0]],PRIMEM["Gree
nwich",0],UNIT["Degree",0.0174532925199433]],PROJECTION["Universal_Transverse_Mercator"],PARAMETER["Zone",11],UNIT["Meter",1,AUTHORITY["EPSG","9001"]]]
** PROJECTION UTM
** DATUM WGE
** UNITS METER
** ZONE 11
** HEMISPHERE N
** ORIGINLON 0
** ORIGINLAT 0
** PARALLEL1 0
** PARALLEL2 0
** AZIMUTH 0
** SCALEFACT 0
** FALSEEAST 0
** FALSENORTH 0

** POSTFMT UNFORM
** TEMPLATE USERDEFINED
** AERMODEXE AERMOD_BREEZE_23132_64.EXE
** AERMAPEXE AERMAP_EPA_18081_64.EXE

  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

```
 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W403      48       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION 23132  ***   ***  Collinsville Substation Construction PM2.5 Total                   ***        02/17/25
 *** AERMET - VERSION  18081 ***   ***                                                                    ***        08:47:22
                                                                                                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses RURAL Dispersion Only.
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Accepts FLAGPOLE Receptor . Heights.
      * The User Specified a Pollutant Type of: PM25

 **Note that special processing requirements apply for the 24-hour PM2.5 NAAQS - check available guidance.
   Model will process user-specified ranks of high 24-hour values averaged across the number of years modeled, and
   the multi-year average of individual ANNUAL values, averaged across the number of years modeled.

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:      1 Source(s);       1 Source Group(s); and       2 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  18081

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     0.00 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                            ;  Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp
 **Output Print File:             aermod.out

 *** AERMOD - VERSION 23132  ***   ***  Collinsville Substation Construction PM2.5 Total                   ***        02/17/25
 *** AERMET - VERSION  18081 ***   ***                                                                    ***        08:47:22
                                                                                                                    PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data


                                              *** AREA SOURCE DATA ***

              NUMBER EMISSION RATE  COORD (SW CORNER)  BASE     RELEASE  X-DIM     Y-DIM    ORIENT.    INIT.   URBAN  EMISSION RATE  AIRCRAFT
```

SOURCE ID	PART. CATS.	(GRAMS/SEC /METER**2)	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	OF AREA (METERS)	OF AREA (METERS)	OF AREA (DEG.)	SZ (METERS)	SOURCE	SCALAR VARY BY
QXDKY000	0	0.49300E-06	602027.2	4215312.6	0.0	3.00	153.90	221.80	-0.40	1.00	NO	NO

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	QXDKY000 ,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\DOW_2017.SFC Met Version: 18081
Profile file: C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\DOW_2017.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23254 Upper air station no.: 23230
Name: UNKNOWN Name: UNKNOWN
Year: 2017 Year: 2017

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
17	01	01	1	01	-6.0	0.077	-9.000	-9.000	-999.	51.	6.9	0.06	0.30	1.00	2.00	68.	10.0	278.9	2.1
17	01	01	1	02	-12.2	0.215	-9.000	-9.000	-999.	240.	73.6	0.19	0.30	1.00	2.50	260.	10.0	280.8	2.1
17	01	01	1	03	-17.9	0.318	-9.000	-9.000	-999.	430.	161.7	0.19	0.30	1.00	3.40	246.	10.0	282.4	2.1
17	01	01	1	04	-11.1	0.130	-9.000	-9.000	-999.	149.	18.0	0.19	0.30	1.00	2.20	238.	10.0	281.9	2.1
17	01	01	1	05	-3.4	0.062	-9.000	-9.000	-999.	42.	6.2	0.06	0.30	1.00	1.60	75.	10.0	278.8	2.1
17	01	01	1	06	-1.6	0.046	-9.000	-9.000	-999.	24.	5.7	0.06	0.30	1.00	1.20	47.	10.0	277.0	2.1
17	01	01	1	07	-1.6	0.046	-9.000	-9.000	-999.	24.	5.7	0.06	0.30	1.00	1.20	68.	10.0	276.5	2.1
17	01	01	1	08	-1.9	0.042	-9.000	-9.000	-999.	21.	3.7	0.06	0.30	0.74	1.10	69.	10.0	276.6	2.1
17	01	01	1	09	1.9	0.137	0.177	0.005	102.	122.	-120.3	0.06	0.30	0.38	1.70	78.	10.0	277.9	2.1
17	01	01	1	10	17.9	0.176	0.677	0.008	624.	177.	-27.4	0.06	0.30	0.26	2.00	47.	10.0	278.9	2.1
17	01	01	1	11	27.4	0.232	0.849	0.018	807.	268.	-41.2	0.06	0.30	0.21	2.70	22.	10.0	281.4	2.1
17	01	01	1	12	57.9	0.476	1.165	0.019	987.	788.	-167.9	0.19	0.30	0.20	4.50	273.	10.0	283.4	2.1
17	01	01	1	13	58.6	0.610	1.207	0.011	1084.	1142.	-349.0	0.19	0.30	0.19	5.90	259.	10.0	283.8	2.1
17	01	01	1	14	55.1	0.580	1.184	0.019	1087.	1062.	-319.0	0.19	0.30	0.20	5.60	271.	10.0	284.5	2.1
17	01	01	1	15	37.5	0.537	1.042	0.019	1088.	947.	-371.5	0.19	0.30	0.24	5.20	262.	10.0	285.4	2.1
17	01	01	1	16	11.9	0.479	0.710	0.019	1089.	800.	-835.9	0.19	0.30	0.32	4.70	251.	10.0	285.4	2.1
17	01	01	1	17	-30.0	0.309	-9.000	-9.000	-999.	436.	88.6	0.19	0.30	0.57	3.50	226.	10.0	284.1	2.1
17	01	01	1	18	-29.6	0.263	-9.000	-9.000	-999.	324.	55.2	0.19	0.30	1.00	3.20	236.	10.0	282.6	2.1
17	01	01	1	19	-42.7	0.395	-9.000	-9.000	-999.	596.	130.4	0.19	0.30	1.00	4.30	246.	10.0	281.5	2.1
17	01	01	1	20	-38.2	0.447	-9.000	-9.000	-999.	717.	211.0	0.19	0.30	1.00	4.70	238.	10.0	281.4	2.1
17	01	01	1	21	-29.8	0.349	-9.000	-9.000	-999.	501.	128.5	0.19	0.30	1.00	3.80	240.	10.0	281.4	2.1
17	01	01	1	22	-24.1	0.425	-9.000	-9.000	-999.	664.	287.4	0.19	0.30	1.00	4.40	238.	10.0	281.0	2.1
17	01	01	1	23	-18.6	0.217	-9.000	-9.000	-999.	283.	49.6	0.19	0.30	1.00	2.70	225.	10.0	280.6	2.1
17	01	01	1	24	-2.3	0.055	-9.000	-9.000	-999.	93.	6.4	0.03	0.30	1.00	1.60	220.	10.0	280.1	2.1

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
17	01	01	01	2.1	0	-999.	-99.00	279.0	999.0	-99.00	-99.00
17	01	01	01	10.0	1	68.	2.00	-999.0	23.9	-99.00	0.77

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 1 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): QXDKY000 ,

*** SENSITIVE DISCRETE RECEPTOR POINTS ***

** CONC OF PM25 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
600966.80	4214758.00	0.05377	600860.90	4215042.40	0.06410

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS ***

** CONC OF PM25 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.06410 AT (600860.90, 4215042.40, 0.00, 0.00, 1.50)	SR	
	2ND HIGHEST VALUE IS	0.05377 AT (600966.80, 4214758.00, 0.00, 0.00, 1.50)	SR	
	3RD HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)		
	4TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)		
	5TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)		
	6TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)		
	7TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)		
	8TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)		
	9TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)		
	10TH HIGHEST VALUE IS	0.00000 AT (0.00, 0.00, 0.00, 0.00, 0.00)		

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 3 Warning Message(s)
A Total of 221 Informational Message(s)

A Total of 8784 Hours Were Processed

A Total of 43 Calm Hours Identified

A Total of 178 Missing Hours Identified (2.03 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
MX W403 48 PFLCNV: Turbulence data is being used w/o ADJ_U* option SigA Data
MX W403 1 PFLCNV: Turbulence data is being used w/o ADJ_U* option SigA Data
MX W481 8785 MAIN: Data Remaining After End of Year. Number of Hours= 24

****
*** AERMOD Finishes Successfully ***
****

```
1                    AERMOD PRIME - (DATED 23132 )

                   AERMODPrMSPx VERSION
            (C) COPYRIGHT 1998-2022, Trinity Consultants

 Run Began on  2/17/2025 at  8:54:44

** BREEZE AERMOD
** Trinity Consultants
** VERSION  12.1

CO STARTING
CO TITLEONE  Pittsburg Substaiton Total PM2.5
CO MODELOPT  DFAULT  CONC  NODRYDPLT  NOWETDPLT
CO RUNORNOT  RUN
CO AVERTIME  ANNUAL
CO POLLUTID  PM25
CO FLAGPOLE  1.5
CO FINISHED

SO STARTING
SO ELEVUNIT  METERS
SO LOCATION  A8TFX004  AREAPOLY  596712.5  4210727.3  0
** SRCDESCR  Pittsburg Substation
SO SRCPARAM  A8TFX004  7.36E-08  3  21  1
SO AREAVERT  A8TFX004  596712.5 4210727.3  596672 4210686.8  596660 4210647.1  596691.8 4210616.9
SO AREAVERT  A8TFX004  596717.2 4210547.8  596731.5 4210550.2  596811.8 4210318.1  597030.3 4210248.2
SO AREAVERT  A8TFX004  597039.8 4210255.4  597049.4 4210256.2  597097.9 4210318.1  597109.8 4210347.5
SO AREAVERT  A8TFX004  597030.3 4210575.6  596972.3 4210593.1  596973.9 4210607.4  596961.2 4210612.9
SO AREAVERT  A8TFX004  596962.8 4210618.5  596814.2 4210663.8  596746.6 4210725.8  596721.2 4210720.2
SO AREAVERT  A8TFX004  596712.5 4210727.3
SO SRCGROUP  ALL
SO FINISHED

RE STARTING
RE ELEVUNIT  METERS
RE DISCCART  597162.1  4210087.3  0  0  1.5
** SENSITIV
** RCPDESCR  R3
RE DISCCART  597153.6  4210266.3  0  0  1.5
** SENSITIV
** RCPDESCR  R4
RE DISCCART  597359.2  4210518.5  0  0  1.5
** SENSITIV
** RCPDESCR  R5
RE FINISHED

ME STARTING
ME SURFFILE  "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.SFC"
** SURFFILE  "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.SFC"
ME PROFFILE  "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.PFL"
** PROFFILE  "C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.PFL"
ME SURFDATA  23254 2017
ME UAIRDATA  23230 2017
ME SITEDATA  2803 2017
ME PROFBASE  1  METERS
ME FINISHED

OU STARTING
OU FILEFORM  FIX
OU PLOTFILE  ANNUAL  ALL  ALL`ANNUAL.plt  10000
OU FINISHED

** ************************************************************************
** It is recommended that the user not edit any data below this line
** ************************************************************************


** AMPTYPE
** AMPDATUM  -1
** AMPZONE  -1
** AMPHEMISPHERE

** PROJECTIONWKT
PROJCS["UTM_6326_Zone11",GEOGCS["WGS_84",DATUM["World_Geodetic_System_1984",SPHEROID["WGS_1984",6378137,298.257223563],TOWGS84[0,0,0,0,0,0,0]],PRIMEM["Gree
nwich",0],UNIT["Degree",0.0174532925199433]],PROJECTION["Universal_Transverse_Mercator"],PARAMETER["Zone",11],UNIT["Meter",1,AUTHORITY["EPSG","9001"]]]
** PROJECTION  UTM
** DATUM  WGE
** UNITS  METER
** ZONE  11
** HEMISPHERE  N
** ORIGINLON  0
** ORIGINLAT  0
** PARALLEL1  0
** PARALLEL2  0
** AZIMUTH  0
** SCALEFACT  0
** FALSEEAST  0
** FALSENORTH  0

** POSTFMT  UNFORM
```

```
** TEMPLATE USERDEFINED
** AERMODEXE  AERMOD_BREEZE_23132_64.EXE
** AERMAPEXE  AERMAP_EPA_18081_64.EXE



  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W403      57       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION 23132  ***   ***  Pittsburg Substaiton Total PM2.5                                  ***        02/17/25
 *** AERMET - VERSION  18081 ***   ***                                                                    ***        08:54:44
                                                                                                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses RURAL Dispersion Only.
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Accepts FLAGPOLE Receptor . Heights.
      * The User Specified a Pollutant Type of: PM25

 **Note that special processing requirements apply for the 24-hour PM2.5 NAAQS - check available guidance.
   Model will process user-specified ranks of high 24-hour values averaged across the number of years modeled, and
   the multi-year average of individual ANNUAL values, averaged across the number of years modeled.

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:      1 Source(s);       1 Source Group(s); and       3 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  18081

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     1.00 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                              ;  Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp
 **Output Print File:             aermod.out
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
A8TFX004	0	0.73600E-07	596712.5	4210727.3	0.0	3.00	21	1.00	NO		NO

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	A8TFX004 ,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.SFC Met Version: 18081
Profile file: C:\Users\ryan\MYDRIV~1.COM\24-99C~1\AERMOD\PITTSB~1\DOW_2017.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23254 Upper air station no.: 23230
Name: UNKNOWN Name: UNKNOWN
Year: 2017 Year: 2017

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
17	01	01	1	01	-6.0	0.077	-9.000	-9.000	-999.	51.	6.9	0.06	0.30	1.00	2.00	68.	10.0	278.9	2.1
17	01	01	1	02	-12.2	0.215	-9.000	-9.000	-999.	240.	73.6	0.19	0.30	1.00	2.50	260.	10.0	280.8	2.1
17	01	01	1	03	-17.9	0.318	-9.000	-9.000	-999.	430.	161.7	0.19	0.30	1.00	3.40	246.	10.0	282.4	2.1
17	01	01	1	04	-11.1	0.130	-9.000	-9.000	-999.	149.	18.0	0.19	0.30	1.00	2.20	238.	10.0	281.9	2.1
17	01	01	1	05	-3.4	0.062	-9.000	-9.000	-999.	42.	6.2	0.06	0.30	1.00	1.60	75.	10.0	278.8	2.1
17	01	01	1	06	-1.6	0.046	-9.000	-9.000	-999.	24.	5.7	0.06	0.30	1.00	1.20	47.	10.0	277.0	2.1
17	01	01	1	07	-1.6	0.046	-9.000	-9.000	-999.	24.	5.7	0.06	0.30	1.00	1.20	68.	10.0	276.5	2.1
17	01	01	1	08	-1.9	0.042	-9.000	-9.000	-999.	21.	3.7	0.06	0.30	0.74	1.10	69.	10.0	276.6	2.1
17	01	01	1	09	1.9	0.137	0.177	0.005	102.	122.	-120.3	0.06	0.30	0.38	1.70	78.	10.0	277.9	2.1
17	01	01	1	10	17.9	0.176	0.677	0.008	624.	177.	-27.4	0.06	0.30	0.26	2.00	47.	10.0	278.9	2.1
17	01	01	1	11	27.4	0.232	0.849	0.018	807.	268.	-41.2	0.06	0.30	0.21	2.70	22.	10.0	281.4	2.1
17	01	01	1	12	57.9	0.476	1.165	0.019	987.	788.	-167.9	0.19	0.30	0.20	4.50	273.	10.0	283.4	2.1
17	01	01	1	13	58.6	0.610	1.207	0.011	1084.	1142.	-349.0	0.19	0.30	0.19	5.90	259.	10.0	283.8	2.1
17	01	01	1	14	55.1	0.580	1.184	0.019	1087.	1062.	-319.0	0.19	0.30	0.20	5.60	271.	10.0	284.5	2.1
17	01	01	1	15	37.5	0.537	1.042	0.019	1088.	947.	-371.5	0.19	0.30	0.24	5.20	262.	10.0	285.4	2.1
17	01	01	1	16	11.9	0.479	0.710	0.019	1089.	800.	-835.9	0.19	0.30	0.32	4.70	251.	10.0	285.4	2.1
17	01	01	1	17	-30.0	0.309	-9.000	-9.000	-999.	436.	88.6	0.19	0.30	0.57	3.50	226.	10.0	284.1	2.1
17	01	01	1	18	-29.6	0.263	-9.000	-9.000	-999.	324.	55.2	0.19	0.30	1.00	3.20	236.	10.0	282.6	2.1
17	01	01	1	19	-42.7	0.395	-9.000	-9.000	-999.	596.	130.4	0.19	0.30	1.00	4.30	246.	10.0	281.5	2.1
17	01	01	1	20	-38.2	0.447	-9.000	-9.000	-999.	717.	211.0	0.19	0.30	1.00	4.70	238.	10.0	281.4	2.1
17	01	01	1	21	-29.8	0.349	-9.000	-9.000	-999.	501.	128.5	0.19	0.30	1.00	3.80	240.	10.0	281.4	2.1

```
 17 01 01   1 22  -24.1  0.425 -9.000 -9.000 -999.  664.    287.4  0.19   0.30   1.00    4.40  238.   10.0  281.0    2.1
 17 01 01   1 23  -18.6  0.217 -9.000 -9.000 -999.  283.     49.6  0.19   0.30   1.00    2.70  225.   10.0  280.6    2.1
 17 01 01   1 24   -2.3  0.055 -9.000 -9.000 -999.   93.      6.4  0.03   0.30   1.00    1.60  220.   10.0  280.1    2.1


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 17 01 01 01    2.1 0 -999.  -99.00   279.0  999.0  -99.00  -99.00
 17 01 01 01   10.0 1   68.    2.00  -999.0   23.9  -99.00    0.77

 F indicates top of profile (=1) or below (=0)
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   1 YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     A8TFX004    ,

                                          *** SENSITIVE DISCRETE RECEPTOR POINTS ***

                                       ** CONC OF PM25     IN MICROGRAMS/M**3                        **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         597162.10    4210087.30        0.05392                     597153.60    4210266.30        0.20332
         597359.20    4210518.50        0.19206
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   1 YEARS ***


                                   ** CONC OF PM25     IN MICROGRAMS/M**3                        **

                                                                                                        NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.20332 AT (  597153.60,  4210266.30,     0.00,     0.00,    1.50)  SR
          2ND HIGHEST VALUE IS       0.19206 AT (  597359.20,  4210518.50,     0.00,     0.00,    1.50)  SR
          3RD HIGHEST VALUE IS       0.05392 AT (  597162.10,  4210087.30,     0.00,     0.00,    1.50)  SR
          4TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          5TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          6TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          7TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          8TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          9TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
         10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            3 Warning Message(s)
 A Total of          221 Informational Message(s)

 A Total of         8784 Hours Were Processed

 A Total of           43 Calm Hours Identified

 A Total of          178 Missing Hours Identified (  2.03 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 MX W403      57       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data
 MX W403       1       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data
 MX W481    8785         MAIN: Data Remaining After End of Year. Number of Hours=          24

    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
```