Ldn Consulting, Inc.

23811 Washington Ave, C110-333, Murrieta, CA 92562   phone 760-473-1253

October 29, 2024

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

RE: Collinsville 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 and extending and connecting an existing 12kV distribution line into the new Collinsville Substation. 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 (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 project's increase in the hazard index for both acute and chronic exposures must not exceed 1.0 for a sensitive receptor.

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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. Assuming these thresholds are exceeded, a cumulative health risk may exist and would need 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/m³ 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/m³ annual average
Source: Bay Area Air Quality Management District 2022 CEQA Guideline (Table 3-1)	

Based on the construction area for the Collinsville Substation, potential receptors are located as close as 0.3 miles away from the proposed primary substation construction activities. The nearest homes 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 through 3. Receptor 1, which includes a potentially habitable structure, is believed to be currently vacant. Receptors 2 and 3 represent currently occupied residential structures. To be conservative, all three receptors are included in this analysis.

Given the linear nature of transmission line, distribution line, and telecommunication line work, sensitive receptors near the Project would not experience a noticeable increase in emissions due to construction of these linear project features. This is true for underground lines, overhead lines, and submarine lines alike. Conversely, fixed construction areas, such as at the Collinsville Substation, have longer exposure times, present a worst-case scenario for project-related human health impacts. In addition, based on the project description and discussions with the Project applicant, only the Collinsville work area would require long-term heavy construction at

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a single location. The majority of activities identified in the Project fall into this category of linear, including the transmission line connections at the existing PG&E Pittsburg Substation, and would not be anticipated to result in human health impacts. Therefore, this analysis focusses on the Collinsville Substation construction.

Figure 1: Project Layout and Distance to the nearest Sensitive Receptors
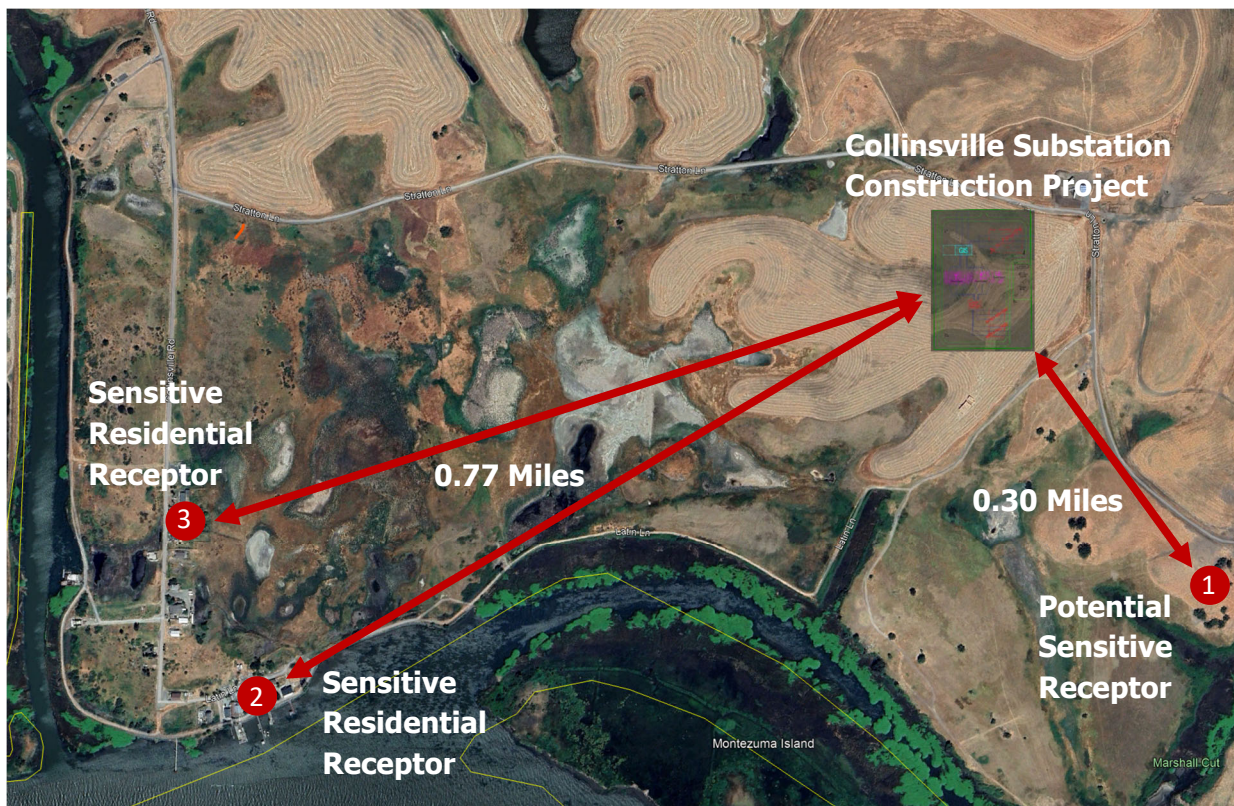
Inhalation cancer risks are typically associated with stationary sources emitting over long periods, as noted by the California Office of Environmental Health Hazard Assessment (OEHHA), making short-term air quality impacts from transmission line work less concerning in comparison to those from fixed construction sites (OEHHA, 2001). Given this, health risks from the transmission lines would be less than significant and are not analyzed further herein. In addition, the project would have a number of staging areas which will be utilized to store construction materials and equipment. These areas would not generate high levels of diesel particulate matter (DPM) since equipment operated onsite would not be under any significant load like on an active construction area and would not generate significant levels of TACs to create health

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risk impacts. Given this equipment used or transported to the staging areas would have a less than significant health risk impact.

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 quick transitory movements with equipment operating in a linear fashion over short durations relative to any specific location including the nearby residential receptor identified in Figure 1 above. Construction activities at the Collinsville Substation, along with the equipment list as analyzed with the Air Quality analysis, are shown in **Table 2**, **Collinsville Substation Construction Activities** below.

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
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

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Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
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

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, L-04 and L-39) would cumulatively generate 0.209 tons of diesel particulates 2.5 microns or smaller ($PM_{2.5}$) which is the primary TAC considered in this analysis. In addition, per the PEA, these emissions assume the requirement to include at least 75 percent of Tier 4 diesel construction equipment.

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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 are provided in **Attachment A** 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 $$RISK_{inh-res}=DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$$

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

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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. This duration should be used to estimate individual cancer risk for the Maximally Exposed Individual Resident (MEIR). Health risk calculations are shown in **_Attachment B_** to this Letter.

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 $\mu g/m^3$ and targets the respiratory system.

Heath Risk Calculations

Over the construction duration, the project would emit 0.209 tons over 651-day elapsed period which works out to an average of 0.0034 grams of $PM_{2.5}$ exhaust per second (g/s). Based on the site configuration, the average emission rate over the grading area is 7.56×10^{-8} grams/second per meter squared (g/s-m^2), which was calculated as follows:

Utilizing the AERMOD dispersion model, the worst-case annual concentration (at Receptor 3 identified in Figure 1 above) of DPM from Project construction is estimated at 0.010 $\mu g/m^3$. Utilizing Equation 2 above, the inhalation cancer risk for the closest residential receptor was found to be 3.11 per one million exposed. In addition, since the annual emissions are less than the REL of 5 $\mu g/m^3$ 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 and 2 were noted as 0.0088 $\mu g/m^3$ and 0.00857 $\mu g/m^3$, respectively. These emissions levels would accordingly have health risks lower than 3.11 per one million exposed at Receptor 3. It should be noted that the relative distance of Receptor 1 is closer to the site but based on meteorological data used in AERMOD, emissions would be slightly higher west of the project site.

Finally, the BAAQMD also has a requirement that the incremental annual $PM_{2.5}$ cannot exceed 0.3 $\mu g/m^3$. 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 for the same construction activities analyzed within this report are 1.048 tons over the same 615 days. Using AERMOD, the maximum incremental annual $PM_{2.5}$ would be 0.05 $\mu g/m^3$ at Receptor 3 and slightly lower

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at 0.04 at Receptors 1 and 2. This is shown in **Attachment C** to this letter. Therefore, the Project 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, the equipment required would essentially need to be as much as 10 times more intense to generate emissions close to the 100 cases per million exposed threshold. 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 2.5 Emissions from Off Road Equipment)

B: Cancer Risk Calculations

C: AERMOD Files (Total PM 2.5 from Collinsville 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
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 10/28/2024 at 11:10:57

** BREEZE AERMOD
** Trinity Consultants
** VERSION  12.0

CO STARTING
CO TITLEONE  Colinsville Substaiton DPM
CO MODELOPT  DFAULT  CONC  NODRYDPLT  NOWETDPLT
CO RUNORNOT  RUN
CO AVERTIME  ANNUAL
CO POLLUTID  PM25
CO FINISHED

SO STARTING
SO ELEVUNIT  METERS
SO LOCATION  M81UN003  AREA       602018.6  4215538.9  0
SO SRCPARAM  M81UN003  7.56E-08  3  223.6  156.7  89.3  1
SO SRCGROUP  ALL
SO FINISHED

RE STARTING
RE ELEVUNIT  METERS
RE DISCCART  602459.2  4214946.7  0  0
** SENSITIV
** RCPDESCR  R1
RE DISCCART  600966.8  4214758.  0  0
** SENSITIV
** RCPDESCR  R2
RE DISCCART  600860.9  4215042.4  0  0
** SENSITIV
** RCPDESCR  R3
RE FINISHED

ME STARTING
ME SURFFILE  "C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\24-99 Collinsville Substation\AERMOD\Pittsburg PG&E\DOW_2017.SFC"
** SURFFILE  "C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\24-99 Collinsville Substation\AERMOD\Pittsburg PG&E\DOW_2017.SFC"
ME PROFFILE  "C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\24-99 Collinsville Substation\AERMOD\Pittsburg PG&E\DOW_2017.PFL"
** PROFFILE  "C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\24-99 Collinsville Substation\AERMOD\Pittsburg PG&E\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 ***
```

Attachment A

```
         --------- 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     49      PFLCNV: Turbulence data is being used w/o ADJ_U* option      SigA Data

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

 ↟ *** AERMOD - VERSION 23132  ***   ***  Colinsville Substaiton DPM                          ***       10/28/24
 *** AERMET - VERSION  18081 ***    ***                                                       ***       11:10:57
                                                                                                         PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  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 Assumes No 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

 ↟ *** AERMOD - VERSION 23132  ***   ***  Colinsville Substaiton DPM                          ***       10/28/24
 *** AERMET - VERSION  18081 ***    ***                                                       ***       11:10:57
                                                                                                         PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  SigA Data


                                       *** AREA SOURCE DATA ***
```

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	COORD (SW CORNER) X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	X-DIM OF AREA (METERS)	Y-DIM OF AREA (METERS)	ORIENT. OF AREA (DEG.)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
M81UN003	0	0.75600E-07	602018.6	4215538.9	0.0	3.00	223.60	156.70	89.30	1.00	NO		NO

↑ *** AERMOD - VERSION 23132 *** *** Colinsville Substaiton DPM   ***   10/28/24
  *** AERMET - VERSION 18081 *** ***   ***   11:10:57
                                                                                                             PAGE   3

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

                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID   SOURCE IDs
----------   ----------

 ALL   M81UN003   ,
↑ *** AERMOD - VERSION 23132 *** *** Colinsville Substaiton DPM   ***   10/28/24
  *** AERMET - VERSION 18081 *** ***   ***   11:10:57
                                                                                                             PAGE   4

  *** MODELOPTs: RegDFAULT CONC ELEV 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
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        1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
        1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 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,
↑ *** AERMOD - VERSION 23132 *** *** Colinsville Substaiton DPM   ***   10/28/24
  *** AERMET - VERSION 18081 *** ***   ***   11:10:57
                                                                                                             PAGE   5

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

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

   Surface file: C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\24-99 Collinsville Substation\AERM   Met Version: 18081
   Profile file: C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\24-99 Collinsville Substation\AERM
   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 0.005 0.102 122.   -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

Attachment A

```
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  NODRYDPLT  NOWETDPLT  RURAL  SigA Data

              *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   1 YEARS FOR SOURCE GROUP: ALL      ***
                          INCLUDING SOURCE(S):     M81UN003    ,

                         *** 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
  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
      602459.20    4214946.70       0.00880              600966.80    4214758.00       0.00857
      600860.90    4215042.40       0.01018
```

```
  *** MODELOPTs:    RegDFAULT  CONC  ELEV  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     0.01018 AT (  600860.90,  4215042.40,     0.00,     0.00,     0.00) SR
            2ND HIGHEST VALUE IS     0.00880 AT (  602459.20,  4214946.70,     0.00,     0.00,     0.00) SR
            3RD HIGHEST VALUE IS     0.00857 AT (  600966.80,  4214758.00,     0.00,     0.00,     0.00) 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  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     49     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 ***
     *********************************
```

Attachment B

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

From CalEE Annual Output	Emission per day (Ton/Total Construction Duration)	**0.209**
	Construction Start	**5/1/2026**
	Construction Complete	**2/11/2028**
	Days	**651**
	Construction Emission per day (lb/day)	**0.642089094**
	Annual Duration (Days)	**365**
	Annualized Emission Rate (Grams/Second)	**0.003366509**
	Project Site Size (Acres)	**11**
	Project Site Size (meters^2)	**44515.42065**
	Length of Smalles Side (meters)	**210.9867784**
Used as an input to AERMOD	Emission Rate over Grading Area(g/s-m^2)	**7.56E-08**
From AERMOD	Concentration Annual (Ug/M^3)	**0.00862**

	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	0.00862	0.00862	0.00862	0.00862	0.00862	0.00862
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	0.00000299	0.00000902	0.00000712	0.00000617	0.00000277	0.00000240
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	0.85	0.85	0.72	0.72	0.73	0.73
Risk for Each Age Group	9.97561E-08	2.14885E-06	4.31338E-07	3.73225E-07	5.6719E-08	4.91001E-08
Risk per million Exposed	0.099756058	2.148852924	0.431338447	0.373225486	0.056719048	0.049100072

Cancer Risk Per Million 9-years	2.68
Cancer Risk Per Million 30-years	2.68
Cancer Risk Per Million 70-years	**2.67**

```
1                    AERMOD PRIME - (DATED 23132 )

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

 Run Began on 10/28/2024 at 11:25:50

** BREEZE AERMOD
** Trinity Consultants
** VERSION  12.0

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 FINISHED

SO STARTING
SO ELEVUNIT  METERS
SO LOCATION  QXDKY000  AREA       602027.2  4215312.6  0
** SRCDESCR  Construction SIte
SO SRCPARAM  QXDKY000  3.79E-07  3  153.9  221.8  -0.4  1
SO SRCGROUP  ALL
SO FINISHED

RE STARTING
RE ELEVUNIT  METERS
RE DISCCART  602459.2  4214946.7  0  0
** SENSITIV
** RCPDESCR  R1
RE DISCCART  600966.8  4214758.  0  0
** SENSITIV
** RCPDESCR  R2
RE DISCCART  600860.9  4215042.4  0  0
** SENSITIV
** RCPDESCR  R3
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    50      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   ***   10/28/24
*** AERMET - VERSION 18081 ***   ***   ***   11:25:50
                                                                                                                PAGE   1

*** MODELOPTs: RegDFAULT CONC ELEV 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 Assumes No 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) =   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   ***   10/28/24
*** AERMET - VERSION 18081 ***   ***   ***   11:25:50
                                                                                                                PAGE   2

*** MODELOPTs: RegDFAULT CONC ELEV 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  0.37900E-06  602027.2 4215312.6    0.0    3.00   153.90   221.80    -0.40    1.00    NO                      NO
↑ *** AERMOD - VERSION 23132 ***   ***  Collinsville Substation Construction PM2.5 Total                     ***      10/28/24
  *** AERMET - VERSION  18081 ***   ***                                                                      ***      11:25:50
                                                                                                                      PAGE   3

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


                              *** SOURCE IDs DEFINING SOURCE GROUPS ***

  SRCGROUP ID                                         SOURCE IDs
  -----------                                         ----------


   ALL      QXDKY000   ,
↑ *** AERMOD - VERSION 23132 ***   ***  Collinsville Substation Construction PM2.5 Total                     ***      10/28/24
  *** AERMET - VERSION  18081 ***   ***                                                                      ***      11:25:50
                                                                                                                      PAGE   4

  *** MODELOPTs:   RegDFAULT  CONC  ELEV  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,
↑ *** AERMOD - VERSION 23132 ***   ***  Collinsville Substation Construction PM2.5 Total                     ***      10/28/24
  *** AERMET - VERSION  18081 ***   ***                                                                      ***      11:25:50
                                                                                                                      PAGE   5

  *** MODELOPTs:   RegDFAULT  CONC  ELEV  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)

⬆ *** AERMOD - VERSION 23132 ***   *** Collinsville Substation Construction PM2.5 Total   ***   10/28/24
  *** AERMET - VERSION 18081 ***   ***   ***   11:25:50
                                                                                                               PAGE   6

  *** MODELOPTs: RegDFAULT CONC ELEV 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
- -
      602459.20   4214946.70   0.04368   600966.80   4214758.00   0.04195
      600860.90   4215042.40   0.04992

⬆ *** AERMOD - VERSION 23132 ***   *** Collinsville Substation Construction PM2.5 Total   ***   10/28/24
  *** AERMET - VERSION 18081 ***   ***   ***   11:25:50
                                                                                                               PAGE   7

  *** MODELOPTs: RegDFAULT CONC ELEV 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   0.04992 AT (600860.90, 4215042.40,   0.00,   0.00,   0.00) SR
         2ND HIGHEST VALUE IS   0.04368 AT (602459.20, 4214946.70,   0.00,   0.00,   0.00) SR
         3RD HIGHEST VALUE IS   0.04195 AT (600966.80, 4214758.00,   0.00,   0.00,   0.00) 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
⬆ *** AERMOD - VERSION 23132 ***   *** Collinsville Substation Construction PM2.5 Total   ***   10/28/24
  *** AERMET - VERSION 18081 ***   ***   ***   11:25:50
                                                                                                               PAGE   8

  *** MODELOPTs: RegDFAULT CONC ELEV 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   50   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 ***
     ****
```