

1 AERMOD PRIME - (DATED 23132)
AERMODPrMSPx VERSION
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Run Began on 6/19/2025 at 11:08:22

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

CO STARTING
CO TITLEONE Collinsville Substation Construction PM2.5 Total Uncontrolled
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 1.35E-06 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\My Drive (rmtaylor76@gmail.com)\City of Collinsville\24-99 Collinsville Substation\061825\AERMOD\DOW_2017.SFC"
** SURFFILE "C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\City of Collinsville\24-99 Collinsville Substation\061825\AERMOD\DOW_2017.SFC"
ME PROFFILE "C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\City of Collinsville\24-99 Collinsville Substation\061825\AERMOD\DOW_2017.PFL"
** PROFFILE "C:\Users\ryan\My Drive (rmtaylor76@gmail.com)\City of Collinsville\24-99 Collinsville Substation\061825\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]],PRIMEM["Greenwich",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 UNIFORM
** 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 Uncontrolled *** 06/19/25
*** AERMET - VERSION 18081 *** *** *** 11:08:22
*** MODEL_OPTS: RegDEFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data PAGE 1

*** 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 = 0.1000E+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

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*** MODEL_OPTS: RegDEFAULT CONC ELEV FLGPOL NODRYDPLT NOWETDPLT RURAL SigA Data PAGE 2

*** AREA SOURCE DATA ***

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

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 Uncontrolled *** 06/19/25
*** AERMET - VERSION 18081 *** *** 11:08:22
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*** 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	0.14724	600860.90	4215042.40	0.17553

*** AERMOD - VERSION 23132 *** Collinsville Substation Construction PM2.5 Total Uncontrolled *** 06/19/25
*** AERMET - VERSION 18081 *** *** 11:08:22
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*** 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 0.17553 AT (600860.90, 4215042.40, 0.00, 0.00, 1.50)	SR		
	2ND HIGHEST VALUE IS 0.14724 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

*** AERMOD - VERSION 23132 *** Collinsville Substation Construction PM2.5 Total Uncontrolled *** 06/19/25
*** AERMET - VERSION 18081 *** *** 11:08:22
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*** 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 ***

**Air Quality Health Risk Calculations (Worst-Case)
Collinsville Uncontrolled R5**

From CalEE Annual Output	Emission per day (Ton/Total Construction Duration)	0.055				
	Construction Start	5/1/2027				
	Construction Complete	5/31/2028				
	Days	396				
	Construction Emission per day (lb/day)	0.277777778				
	Annual Duration (Days)	365				
	Annualized Emission Rate (Grams/Second)	0.001456404				
	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)	1.24E-08				
From AERMOD	Concentration Annual (Ug/M^3)	0.032				
	Days	Days to years				
Duration	396	1.084931507				
Age (Years)	3rd Trimester (0.25)	0-2	2-9	2-16	16-30	16-70
Cair (annual) - From F15	0.032	0.032	0.032	0.032	0.032	0.032
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	0.00001109	0.00003348	0.00002645	0.00002289	0.00001029	0.00000891
Construction Days	396	1.084931507				
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	1.084931507	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	4.35675E-07	5.7088E-06	0	0	0	0
Risk per million Exposed	0.435675429	5.708797996	0	0	0	0
Cancer Risk Per Million Construction Duration	6.14					

**Air Quality Health Risk Calculations (Worst-Case)
Collinsville Controlled R5**

From CalEE Annual Output	Emission per day (Ton/Total Construction Duration)	0.036				
	Construction Start	5/1/2027				
	Construction Complete	5/31/2028				
	Days	396				
	Construction Emission per day (lb/day)	0.181818182				
	Annual Duration (Days)	365				
	Annualized Emission Rate (Grams/Second)	0.000953283				
	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)	8.10E-09				
From AERMOD	Concentration Annual (Ug/M^3)	0.021				
	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	0.021	0.021	0.021	0.021	0.021	0.021
Breathing Rate per agegroup BR/BW (Page S-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	0.00000728	0.00002197	0.00001736	0.00001502	0.00000675	0.00000585
Construction Days	396	1.084931507				
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	1.084931507	1.084931507	1.084931507	1.084931507	1.084931507
AT	70	70	70	70	70	70
FAH	1	1	0.72	0.72	0.73	0.73
Risk for Each Age Group	2.85912E-07	3.7464E-06	6.39211E-07	5.53092E-07	8.40534E-08	7.27626E-08
Risk per million Exposed	0.285912	3.746398685	0			
Cancer Risk Per Million - Construction Duration	4.03					