

AFS (AIRS Facility Subsystem) data file format

As modified by Environ and TCEQ for EPS3/NEI/TCEQ needs, containing extra informational data fields for point sources from a typical TCEQ STARS Photochemical Modeling Extract.

This format is a flat file format, containing one record for each pollutant for each emission point.

VARIABLE	COLUMNS	TYPE	DESCRIPTION
ITYPE	1	A	Inventory type (optional) ¹
IREFYR	3-4	I	Projection year (optional)
IBASYR	6-7	I	Base Inventory year (optional)
INETYPE	9-10	A	Emissions type ²
INFIPS	12-16	A	FIPS state&county code
INSBRG	18-22	A	Subregion code (city FIPS) (optional), but TCEQ defines as Area of State ³
INSIC	24-27	A	Standard Industrial Classification code (describes the type of industry)
INSCC	29-38	A	Source Classification Code (describes the equipment producing the emissions)
INPLNT	40-49	A	Plant identification number (as reported to NEI) ⁴
INSTCK	51-60	A	Stack number (as reported to NEI) ⁵
INPNT	62-71	A	Emission Point identifier (as reported to NEI) (optional) ⁶
INSEG	73-75	I	Segment number (optional)
IPEROD	77-78	A	Period of Emission ⁷
IBEGDT	80-87	I	Beginning time (YYMMDDHH)
IENDDT	89-96	I	End time (YYMMDDHH) ⁸
XLOC	98-107	R	Latitude (decimal degrees) or UTM Easting
YLOC	109-118	R	Longitude (decimal degrees) or UTM Northing
IZONE	120-121	I	UTM zone (blank if not UTM coordinates)
STKHT	123-127	R	Stack Height (m)
STDIAM	129-133	R	Stack Exit Diameter (m)
STEXTP	135-139	R	Stack gas Exit Temperature (deg. K)

STEXVL	141-145	R	Stack gas Exit Velocity (m/s)
INTHRU(4)	147-149 151-153 155-157 159-161	I	Seasonal operating schedule (%) (optional) Dec-Feb (winter) March-May (spring) June-Aug (summer) Sept-Nov (fall)
IHRPDY	163-164	I	Operational Hours per day (optional)
IBEGHR	166-167	I	Starting hour (optional)
IDYPWK	169	I	Days per week (optional)
IHRPYR	171-174	I	Hours per year (optional)
INPOL	176-180	I	Pollutant code (SAROAD) ⁹
CRTPOL	182-191	R	Emission of specified Pollutant (tons)
ICEQCD	193-195	I	Primary control equipment code (optional)
CEQEFF	197-202	R	Control Effectiveness (percent) (optional)
RULEFF	204-209	R	Rule Effectiveness (percent) (optional)
RULPEN	211-216	R	Rule Penetration (percent) (100% for point sources) (optional)
RN	220-230	A	TCEQ Regulated Entity Reference Number (optional)
ACCOUNT	232-238	A	TCEQ Air account identifier (optional)
FIN	240-249	A	FIN (optional)
EPN	251-260	A	EPN (optional)
HORIZ	262	A	Horizontal discharge? (optional) ¹⁰
PT_TYPE	264-265	A	Emission point type (optional) ¹¹
GROUP_TYPE	267-276	A	STARS FIN Group Type (major activity) (optional) ¹²
FIN_PROF	278-292	A	STARS FIN Profile (subgroup activity) (optional) ¹³
ORIS	294-299	A	EIA (Energy Information Administration) number for electrical generators (optional)
UNIT_ID	301-306	A	Generator ID for the ORIS (optional)
OWNER	308-332	A	Owner of site (optional)
SITE_NAME	334-358	A	Name of site (optional)

COUNTY	360-369	A	County of site location (optional)
CITY	371-385	A	City or nearest city (optional)
POLLUTANT	387-390	A	Criteria pollutant name (optional)
CONTAM	392-396	A	TCEQ contaminant code (optional)
SPECIES	398-417	A	Pollutant species name (optional)
EI_METHOD	419	A	Method of emission rate estimate (optional) ¹⁴
PROF_TYPE	421-423	A	VOC speciation profile type (optional) ¹⁵
EVENT_TYPE	425-426	A	Special event code (optional) ¹⁶
SOURCE	428-432	A	Origin of emissions data (optional) ¹⁷
UPDATE	434-438	A	Extract version (optional) ¹⁸

Note:

data type

A=character/alpha field

I=integer field

R=real number field

“(optional)” denotes that field may be left blank, because it is not required by EPS3

Footnotes

1. Inventory Types include:
A = Adjusted (typically indicates a Projected record)
B = Base (default from STARS)
R = RFP
M = Modeling (emissions updated by Modeling staff, other than “A”)

2. EPS3 Emissions Types include:
AC = Actual (default for extracting data from STARS)
The following are not available from STARS:
AA= Allowable based on activity level limit
AB = Allowable based on activity level an emission factor limits
AE = Allowable based on emissions total
AF = Allowable based on emission factor limit
GB = Growth and Base controls
GN = Growth and New controls
LB = Limit and Base Controls
LN = Limit and New Controls

3. Areas of State include:
HGB = within the Houston/Galveston/Brazoria NAA counties

BPA = within the Beaumont/Port Arthur NAA counties
DFW = within the Dallas/Fort Worth 8-hr O₃ NAA counties
ELP = within the El Paso NAA county
AUS = within the Austin MSA
SAN = within the San Antonio MSA
CC = within the Corpus Christi MSA
VIC = within the Victoria MSA
TLM= within the Tyler/Longview/Marshall MSA
ETX = within the “East Texas” attainment 90 counties
WTX = within the “West Texas” attainment counties

4. Plant identifier:
is synonymous with “site” or EPA “facility”.
NEI uses “state facility id”.
STARS uses “epa account number”.
5. Stack identifier:
Is the pollutant release point into the atmosphere.
NEI uses “emission release point id”.
STARS uses “epa epn id”
6. Point identifier:
Is the identifier of the piece of equipment that generates the emissions.
NEI uses “emission unit id”.
STARS uses “epa fin id”
7. Period of emissions include:
blank = annual
AD = Average O₃-season Day (typical from STARS, June 1 – August 31)
PO = Peak O₃-season day
PC = Peak CO day
S = Specified interval (special inventory, hourly data)
8. The time interval stops at the start of the specified end hour.
9. SAROAD/AIRS Pollutant codes include:
42101 = CO
42603 = NO_x
43104 = VOC
10. Y = Horizontal Discharge (non-vertical discharge or obstructed vertical discharge)
N = unobstructed vertical discharge
blank = unknown or unreported
11. Emission Point types include:

ST = Stack
FL = Flare
FU = Fugitive
TK = Tank (coming soon, perhaps)
WW = WasteWater treatment (coming soon, perhaps)
CT = Cooling Tower (coming soon, perhaps)

12. STARS FIN Group Types include:
Cleaning, Combustion, Coating or Printing, Cooling Towers, Equipment Leak Fugitives, Loading, Other, Tanks, VOC Process, and Wastewater
13. STARS FIN Profiles are a subcategory of activities for the FIN Group Type, e.g., Combustion Group has several Profiles, two of which are I.C. Engine and Flare.
14. EI Methods include:
A = AP-42
B = mass Balance
C = Calculated
D = continuous monitor (CEM)
E = production Estimate
F = predictive monitor (PEM)
M = stack Measurement (stack sample)
S = Scientific calculation
V = Vendor-supplied factor
O = Other
15. VOC speciation profile types include:
Pt = Point Specific
HGB = HGB 8-co. SCC average
BPA = BPA 3-co. SCC average
DFW = DFW 9-co. SCC average
ELP = El Paso co. SCC average
ETX = East Texas 90-co. SCC average
WTX = West Texas SCC average
TX = all of Texas SCC average
A = Austin area SCC average
SA = San Antonio area SCC average
CC = Corpus Christi SCC average
V = Victoria area SCC average
TLM = Tyler-Longview-Marshall area SCC average
EPA = EPA default (nat'l average)
U = Unknown
16. Special Event codes include:
BL = Batch Loading

L = Leaks
M = Maintenance (excluding SU and SD)
MS = Maintenance plus SU or SD
N = Normal
O = Other
RH = Routine, but Higher than normal
RL = Routine, but Lower than normal
RM = Routine plus Maintenance operations
RS = Routine plus SU or SD
RU = Routine plus Upset emissions
SU = Start-Up emissions
SD = ShutDown emissions
SP = Spill
UI = Unit Idle
US = Unit permanently Shutdown
UP = Upset
UT = Upset plus SU or SD
UM = Upset plus Maintenance

17. Source/origin of Emissions data includes:
STAR = State of Texas Air Reporting system (STARS is replacement for PSDB)
ARP = Acid Rain Program
SIxx = Special Inventory for year xx
EE = Emission Event above RQ from CCEDS/STEERS
EMRS = Emission Event from EMRS
CORR = Corrected by Modeler/EI staff after extract
ADD = manually Added (not in PSDB/STARS)
PSDB = Point Source DataBase
18. STARS Modeling Extract Version
e.g., v3b = the third full extract of STARS emissions for that year and the second SAS creation of the AFS file with that extract.