

AEDT Knowledge Base

This document is the [active] collection of known issues and workarounds for shared user support. For additional information and references, see the AEDT Support website.

- <https://aedt.faa.gov>
- E-mail: aedt-support@dot.gov

Frequently Asked Questions

Installation

1. Does AEDT require administrative rights in order to be used?

Administrative privileges are required for installation of the AEDT software. Starting with AEDT 3g, administrative privileges are not required to use and run the AEDT application.

2. How can I upgrade to the AEDT 3g release from a previous AEDT release (e.g., AEDT 3e)?

Instructions on how to install AEDT 3g or update to 3g from a previous version of AEDT are documented in Section 5.2 of the Installation Guide.

- Existing user-created studies need to be upgraded to the current version in order to use them in AEDT 3g.
- It is strongly recommended to select the “Backup study and upgrade” option to preserve a copy of the existing study database before upgrading.
- After upgrading a user-defined study, reset and re-run the existing metric results in the study.

3. Can multiple AEDT versions be installed on the same machine?

Starting with AEDT 2c SP2 release, side by side installation is supported. This means you can install AEDT 3g on a computer that already has an earlier AEDT version installed (e.g., 3f). AEDT databases from different AEDT versions can be installed on the same database server, but on separate SQL Server instances.

4. What version of Microsoft Windows Operating Systems does AEDT support?

The supported operating systems for AEDT 3g are Microsoft Windows 10 and Windows Server 2016.

5. What version of Microsoft SQL Server does AEDT support?

The supported Microsoft SQL Server version for AEDT 3g is Microsoft SQL Server 2022. The free Express Edition of Microsoft SQL Server 2022 is available for download from Microsoft.

6. Are there any limitations with the SQL Server Express edition?

The SQL Server Express (a free edition of SQL Server) has the following limitations:

- Limited to the lesser of one socket or four cores
- Maximum memory for the database engine is 1 GB
- Maximum database size is 10 GB per database

As specified in the AEDT System Requirements, using the SQL Server Standard Edition or higher is strongly recommended for running large studies.

7. Is AEDT compatible with Esri ArcGIS software?

Yes, they can reside on the same machine. AEDT uses ArcGIS Runtime for WPF (version 10.2.5) which runs standalone and doesn't interfere with any other version of ArcGIS.

8. Can AEDT run in a virtual machine (VM)?

Yes, AEDT can run in a VM. The VM can run on any version of Windows on the physical machine as long as the VM software can support Windows 10/Windows Server 2016 and SQL Server 2022.

9. What is the AEDT version history?

Public Release Name	Release Date
AEDT 3g	8/28/2024
AEDT 3f	12/13/2023
AEDT 3e	5/9/2022
AEDT 3d	3/29/2021
AEDT 3c Re-Release	6/19/2020
AEDT 3c	3/6/2020
AEDT 3b	9/24/2019
AEDT 2d Service Pack 2	9/5/2019
AEDT 2d Update 1	2/12/2018
AEDT 2d	9/27/2017
AEDT 2c Service Pack 2	3/13/2017
AEDT 2c Service Pack 1	12/19/2016
AEDT 2c	9/12/2016
AEDT 2b Service Pack 3	6/13/2016
AEDT 2b Service Pack 2	12/22/2015
AEDT 2b Feature Pack 1	7/28/2015
AEDT 2b	5/29/2015
AEDT 2a Service Pack 2	2/15/2014
AEDT 2a Service Pack 1	6/27/2012
AEDT 2a	3/21/2012

Database

10. Does the AEDT 3 application comply with the European standards?

The noise, aircraft flight profile and flight path computation methodologies implemented in AEDT Version 3 are compliant with European Civil Aviation Conference (ECAC) Doc 29 (4th Edition) “Report on Standard Method of Computing Noise Contours around Civil Airports” and the International Civil Aviation Organization (ICAO) Doc 9911 (2nd Edition), “Recommended Method for Computing Noise Contours Around Airports”. Please note that the European legislation, Commission Directive (EU) 2015/996 is a duplication of ECAC Doc 29 as a noise modeling method.

11. What versions of the BADA and ANP are used in AEDT?

Public Release Name	ANP	BADA 3	BADA 4
AEDT 3g	2.3	3.16	4.2
AEDT 3f	2.3	3.16	4.2
AEDT 3e	2.3	3.15	4.2
AEDT 3d	2.3	3.15	4.2
AEDT 3c	2.3	3.15	4.2
AEDT 3b	2.3	3.14	4.2
AEDT 2d	2.1	3.13.1	N/A

12. What are the AEDT system database versions for AEDT releases?

The database version information is stored in the dbo.DB_VERSION table of AEDT databases.

Public Release Name	Airport DB	Fleet DB	Study DB
AEDT 3g	2.19.5	3.57.5	2.05.5
AEDT 3f	2.19.3	3.55.1	2.03.2
AEDT 3e	2.18.9	3.45.4	1.89.3
AEDT 3d	2.18.6	3.40.6	1.81.0
AEDT 3c	2.17.1	3.36.1	1.69.5
AEDT 3b	2.16.8	3.35.0	1.68.0
AEDT 2d Service Pack 2	2.16.3	3.24.4	1.54.2
AEDT 2d Update 1	2.16.3	3.24.4	1.54.2
AEDT 2d	2.16.3	3.24.4	1.54.2
AEDT 2c Service Pack 2	2.16.1	3.23.0	1.50.5
AEDT 2c Service Pack 1	2.16.1	3.22.1	1.48.1
AEDT 2c	2.16.0	3.21.0	1.46.0
AEDT 2b Service Pack 3	2.16.0	3.20.2	1.45.0
AEDT 2b Service Pack 2	2.15.0	3.20.2	1.43.2
AEDT 2b	2.15.0	3.20.1	1.43.1
AEDT 2b Feature Pack 1	2.15.0	3.20.1	1.43.1

13. Will AEDT have flight profiles already pre-loaded?

Standard SAE-AIR-1845 flight profiles are already pre-loaded.

14. Are SIDs and STARs already loaded?

No, SIDs (Standard Instrument Departures) and STARs (STandard Arrival Routes) are not loaded into the AEDT database.

15. Is it possible to reduce the size of AEDT study database after running the study?

When you run metric results in a study, the database size expands as results are generated and saved to the database. If there are obsolete results in your study, it is possible to shrink the database by deleting them. To do this, first reset and/or delete obsolete metric results; then click Delete Obsolete Results button in AEDT. In SQL Server Management Studio, right-click on the study database, and click *Tasks, Shrink, Database*.

16. Can an AEDT 2a study database be upgraded to the latest AEDT version?

Yes, conversion of AEDT 2a studies to AEDT 2b is supported through the stand-alone AEDT 2a to 2b converter. Please refer to the “Upgrading AEDT 2a Study Database to AEDT 2c” tool on the AEDT Support website, [Downloads page](#). Once a study is upgraded to the AEDT 2b study version (1.43.1), upgrade that study in AEDT 3g to upgrade it to the latest AEDT study version.

Receptor Set**17. What is the default height for a grid receptor?**

The default height for a grid receptor is 4 feet for noise and 1.8 m for emissions dispersion. These default values cannot be changed.

18. Do I need to enter the receptor elevation?

The user should set the elevation of the receptor. This is typically set to the elevation of the airport, but it could be set at another, user-defined, elevation.

19. Is there a way to define receptor grid sets with airport as the center?

Yes, AEDT supports using offsets for receptor sets with airport as the grid origin.

20. Does AEDT provide an option to define a polar grid?

AEDT does not support the definition and use of polar grids.

21. How can I view and update the RECEPTOR table, LOCATION column?

The RECEPTOR table, LOCATION column is a SQL Server geography type column. The following sample statement can be used view the lat/long/elevation data stored in the LOCATION column.

```
SELECT *
    ,CONVERT(varchar(max),[LOCATION]) as location_point
    ,LOCATION.Lat as lat
    ,LOCATION.Long as long
    ,LOCATION.Z as elevation
FROM [STUDY_INM].[dbo].[RECEPTOR]
```

The following sample statement can be used update the lat/long/elevation data in the LOCATION column:

```
UPDATE [STUDY_INM].[dbo].[RECEPTOR]
SET LOCATION = geography::STPointFromText('POINT(-122.374843 37.619002 11.5)', 4326)
WHERE RECEPTOR_ID=8
```

Dynamic Grid

22. What is a dynamic grid? How is it different from recursive grid in INM?

The benefit of dynamic grid is that the user does not need to know the geographic extent of the region of interest. To use dynamic grid in AEDT, the user defines a small starting grid and the grid is automatically expanded until the desired contour level is closed. The dynamic grid is used to accomplish the same result as the INM recursive grid – improve contour fidelity and resolution and to reduce processing time. The major difference between the recursive grid and the dynamic grid is:

- Starting grid of recursive grid is defined for the final extents of the grid and works inward.
- Starting grid of dynamic grid starts small and expands outward until the desired contour level is closed.

The current limitations of the dynamic grid feature are:

- Annualization weightings are not applied to noise metrics processed with dynamic grids
- Distributed processing cannot be used to run metric results with dynamic grid.
- RunStudy batch tool cannot be used to run metric results with dynamic grid.
- Runtime for running metric results with dynamic grid cannot be estimated.

23. What is the best practice for defining a starting grid for dynamic grid?

Improperly chosen starting grid and dynamic grid preferences can produce unexpected results and/or long run time. Below are general guidelines. Please note that the dynamic grid settings may need to change depending on study.

For starting grid:

- Use a 2x2 grid (X/Y count = 2)
- Set the resolution to 0.5 nmi (X/Y spacing = 0.5 nmi)
- Place the grid in the airport origin (or centered on runways)

For dynamic grid preference settings:

- Refine level limit = 1
- Minimum closed contour value = 65 dB
- Dynamic grid algorithm = Linear INM Legacy
- Refine tolerance = 0.2 dB

Running the dynamic grid metric result with the above guidelines will produce a low resolution contour, but will provide a starting point for contour size and runtime. It is recommended to review results and adjust the settings as necessary to produce the desired resolution contour. For example, the refine level limit could be increased to 2 or 3. A large refine level limit and a small tolerance value will result in more grid points and higher-fidelity contours, but a longer run time.

Terrain

24. Is there any guidance for using terrain data?

Noise studies for geographies with significant topography should use terrain data. In regions where topography is relatively flat, use of terrain data is not required for environmental studies of FAA actions. If there is uncertainty in the use of terrain and its potential influence on noise exposure in a specific study, the analyst should coordinate with the appropriate reviewing authority.

For more information concerning NEPA studies, please refer to the section on “Use of terrain information” in the [Guidance on Using the Aviation Environmental Design Tool \(AEDT\) to Conduct Environmental Modeling for FAA Actions Subject to NEPA](#) document.

25. What adjustments are made when terrain data is used for noise modeling?

The terrain feature in AEDT allows for terrain elevation data of the modeling area to be included internally for noise computations. When terrain is used, receptor elevation is replaced with terrain elevation at the receptor's lat/lon (or x/y). In addition, the elevation of runway ends/helipads is replaced with terrain elevation.

26. What types of terrain data are supported in AEDT?

AEDT supports GeoTIFF, Grid Float, 3CD, and DEM terrain data types.

Noise

27. Can I create a user-defined noise metric in AEDT?

Yes, AEDT supports creating user-defined (custom) noise metrics and using them to generate noise results.

28. Is it possible to view or access the spectral class data in AEDT?

AEDT spectral class data are not directly accessible in the AEDT GUI or through SQL.

- Information on the spectral class data developed prior to 1999 can be found in the following report: “Spectral Classes for FAA’s Integrated Noise Model Version 6.0, December 1999, Letter Report: DTS-34-FA065-LR1,” which is available at <https://rosap.ntl.bts.gov/view/dot/9605>
- Spectral class data from 1999 to the present are available from the ICAO Aircraft Noise and Performance Database managed by Eurocontrol, and found on-line at: <https://www.easa.europa.eu/en/domains/environment/policy-support-and-research/aircraft-noise-and-performance-anp-data>

29. Can I add user-defined spectral noise classes or is there a way to load different spectral data?

Starting with AEDT 3d, AEDT supports importing user-defined spectral data via ASIF. Please refer to a sample ASIF file, UserDefinedSpectralClass.xml, in C:\Program Files\FAA\AEDT\Examples folder.

30. Why does AEDT use different proxies than the Aircraft Noise and Performance (ANP) Database for certain aircraft?

AEDT takes guidance from ANP database assignments but does not exclusively rely on those mappings as it aims to find a balance between modeling performance for both noise and emission studies. On the performance side, weight and thrust are important factors but AEDT operations must accommodate studies scaling from a single airport to global.

31. Is it possible to model noise from other airport sources (GSE, on-road vehicles, APUs, etc.)?

No, those sources are only included for emissions modeling.

32. Do buildings created in the AEDT airport layout designer have effect on noise or dispersion results?

The buildings created in the AEDT airport layout designer do not have any effect on sound propagation or dispersion results. However, you can coarsely synthesize buildings in terrain files if you want to model some line-of-sight blockage (noise shielding) effects due to buildings. Please note that this is a non-standard use of AEDT, and it would need to be reviewed and approved by FAA in order to include it in a FAA-funded project.

Emissions

33. What is the mixing height used in AEDT?

The mixing height associated with annualization is only used in the Emissions Report to sum up emissions for the "Climb Below Mixing Height" and the "Descend Below Mixing Height" mode categories.

Emissions inventory calculation for nvPM assumes 3,000 AFE ft as a mixing height and does not use the mixing height of annualization.

For emissions dispersion, the mixing height varies by hour as modeled by AERMET. While AEDT calculates emissions in the terminal area up to 10,000 ft, only emissions up to 3,000 ft AFE are considered for emissions dispersion.

34. Can emissions be reported below mixing height by AEDT?

Yes, below mixing height is one of AEDT's standard reporting regimes. AEDT supports flight performance modeling and analysis for runway-to-runway flight tracks and operations.

35. Is AEDT capable of calculating aircraft emissions above mixing height or 3,000 AFE feet?

Yes, for emissions inventories, AEDT calculates emissions in the terminal area up to 10,000 ft and reports full flight emissions.

36. Can I run a noise study without running emissions, or vice versa?

Running a noise metric result generates emissions inventory results at the Operation Group level. To change this emissions storage level, change the "Emissions Result Storage Option" in the *Define Metric Results* wizard, *Set Processing Options* step. Another option is to define separate metric results for noise and emissions inventory, then run them independently from each other.

37. Is there a way to get detailed segment-level trajectories?

In order to produce segment-level flight performance/emissions results, create and run an Emissions Inventory metric result. These results can be viewed in:

- *Flight Performance Report* – *Flight Segment* tab;
- *Emissions Report* – *Operations Detail*; and
- [Rslt_Emissions_Segment_View_J#] view in the study database.

38. Stationary sources such as boilers/heaters and training fires are not listed in the Create Non-Aircraft Operations wizard. How can I model these non-aircraft sources?

System ground support equipment (GSE) may be used as-is to create non-aircraft operations. For stationary sources, users must first create a user-defined stationary source before creating an operation. The stationary source equipment that are listed in the Equipment tab, Non-Aircraft screen is a template for creating user-defined ones. Follow these steps to create a user-defined stationary source:

- 1) Go to the Equipment tab, Non-Aircraft screen.
- 2) Select a desired stationary source and click Copy.
- 3) Rename it and enter/edit parameters.
- 4) Click Save.
- 5) This user-defined stationary source will be listed in the Create Non-Aircraft Operations wizard.

39. Does AEDT calculate taxi emissions for helicopter operations?

AEDT does not calculate the taxi emissions for helicopters, even when the taxi in and taxi out times in the AIR_OPERATION table are populated for helicopters. In the Emissions Report, zero will be reported for the taxi in and taxi out for helicopter operations.

However, you can model helicopter taxi emissions by creating helitaxi operations.

Emissions Dispersion

40. Are there recommendations for running an annual emissions dispersion study?

- Use a solid state drive (SSD). SSDs are significantly faster than traditional hard drive storage. Users will need to ensure that the study database files are either created, restored or moved to the SSD drive.
- Ensure that there is enough disk space. For example, the study database size can grow beyond 200 GB after running an annual dispersion modeling for a large U.S. airport.
- Use the Microsoft SQL Server Standard Edition or higher.
- Limit the SQL Server's Maximum server memory setting to 25% - 50% of the RAM (see the AEDT Installation Manual, Section 5.2.6). This only applies to standalone configurations where the AEDT application and the database server are located on the same machine.
- Do not check the "Align runway sources" and the "Align airborne sources" settings in the Study tab, Preferences, Emissions Dispersion screen. Unchecking these two options will reduce runtime. In addition, these two settings are applicable when only one runway exists in an airport.
- Check the "Retrieve emissions results without paging" setting in Study tab, Preferences, Emissions Dispersion screen. When this option is checked, AERMOD input files are generated more quickly. It is recommended this option only be used on computers with 64 GB of RAM or more. Users with less RAM should leave this option turned off.
- Check the "Optimize hourly emissions generation of ground sources" setting in Study tab, Preferences, Emissions screen. When this option is checked, hourly emissions results for

stationary and GSE population as part of the AERMOD input file generation process are calculated more quickly. In addition, this option will reduce the amount of disk space required to compute those emissions.

- Create multiple operation groups for aircraft operations. Having multiple operation groups instead of one very large group reduces AEDT’s memory usage.
- Define a metric result with multiple pollutants in order to reduce runtime; since flight performance results will be calculated once for each pollutant, and AERMOD will be run in parallel.
- After running a long-running emissions or emissions dispersion metric result, make sure to restart the SQL Server service. This will release and reset memory usage by the SQL Server.

41. What kind of weather data are needed in order to do emissions dispersion modeling?

Hourly surface weather and upper air weather data are needed to run AERMOD. High fidelity, average, or ISA weather files cannot be used for emissions dispersion. The following raw weather data files can be used:

- Hourly surface weather: CD-144, HUSWO, ISHD, SAMSON, SCRAM, ASOS 1-minute/5-minute data
- Upper air weather: IGRA, FSL, TD-6201

AERMET will convert the UTC weather data to local time of the airport when the raw weather data is processed to produce two .MET, .SFC, and .PFL files.

It is optional to use 1-minute and 5-minute ASOS wind data to refine the surface wind speed and direction for ASOS weather stations.

42. What version of AERMOD and AERMET does AEDT use?

AEDT 3g AEDT 3f	AERMOD & AERMET version 23132
AEDT 3e	AERMOD & AERMET version 21112
AEDT 3d AEDT 3c	AERMOD & AERMET version 19191
AEDT 3b	AERMOD & AERMET version 18081
AEDT 2d SP2 AEDT 2d AEDT 2c SP2	AERMOD version 16216r AERMET version 16216
AEDT 2c SP1 AEDT 2c AEDT 2b SP3 AEDT 2b SP2 AEDT 2b FP1	AERMOD & AERMET version 14134

AEDT 2b	AERMOD & AERMET version 12345
EDMS 5.1.4	AERMOD & AERMET version 12345

43. How does AEDT work with MOVES results?

Users can import the EPA MOVES (Motor Vehicle Emission Simulator) outputs processed for dispersion modeling into AEDT. Please refer to the AEDT User Manual and the “AEDT Supplemental Manual: Using MOVES with AEDT” document for more information.

44. Does AEDT support using terrain for emissions dispersion?

For emissions dispersion, AEDT assumes flat terrain and does not support importing terrain data. Terrain is used in noise calculations in AEDT. Note that the terrain settings in the *Definitions* tab are applied to noise calculations only.

45. Can aircraft operations on dispersed tracks be used for emissions dispersion modeling?

Dispersed tracks are not supported for emissions dispersion modeling.

46. Can sensor path operations be used for emissions dispersion modeling?

Sensor path operations are not currently supported for emissions dispersion modeling.

47. Does AEDT model taxi times for Touch-and-Go (TGO) operations and circuit operations?

No, AEDT does not model taxi times for Touch-and-Go (TGO) operations and circuit operations. TGO operations are not navigated through a taxi network (i.e., they do not get a taxi path in their performance results). A TGO operation merely serves to hold off departure operation from entering a runway when a touch-and-go operation is landing.

48. Can the Delay, Sequencing, and Queuing Sequencing Model (DSQM) be applied for Touch-and-Go (TGO) operations and circuit operations?

As mentioned in previous FAQ, AEDT does not model taxi times for TGO and circuit operations. In addition, DSQM cannot be used to dynamically assign runway end and track for these two operation types. AEDT will not process these two operation types if DSQM option is selected.

ASIF (AEDT Standard Input File)**49. Is there a tool for producing ASIF files?**

Legacy INM/EDMS studies can be imported into AEDT from the AEDT user interface. Also, external converter tools for converting INM/EDMS studies to ASIF are provided with AEDT installation. For more information, please refer to the Appendix C – External Converter Tools in the AEDT User Manual. Manual editing of the ASIF file may be necessary in order to successfully import the file.

50. Can an AEDT study be exported to ASIF format?

Individual aircraft examples can be exported from the *Equipment* tab but complete study contents cannot be exported as one unit.

51. Is there a sample ASIF file?

A set of sample ASIF XML files are located in the AEDT installation directory under the *Examples* sub-folder (e.g., *C:\Program Files\FAA\AEDT3g\Examples*).

52. How can I validate an ASIF XML file?

ASIF schema is defined by the series of XML schema definition files (.XSDs) located under the *Examples* folder. Use the AEDT *Study* tab > *Import* > *ASIF* or the *Study* tab > *Partial Import* functions to validate a given ASIF data set. Validation errors will be reported in the AEDT log file.

53. Does AEDT use the <speed> value under the <trackNode> element in ASIF?

AEDT will ignore speed input except when associated with sensor path points outside the terminal area (i.e. above 10,000 feet AFE for the departure portion of the sensor path; above 6,000 feet AFE for the arrival portion) or fixed point profiles.

Data Import/Export**54. What is the format of the grid file (.grd) used in the Metric Result Import/Export feature?**

The AEDT grid file is based on the ASCII version of the NMGF (Noise Model Grid Format). Please note that not all the NMGF specifications are supported by AEDT. AEDT supports the following NMGF data point specifications: DPAL, GRID, and SUBG. In the DPAL section, locations must be specified in longitude and latitude. AEDT does not support using Cartesian coordinates to specify locations for the DPAL data point specification. For information on the NMGF format, see the “NMGF Format Documentation Package” on the AEDT Support website, Downloads page.

55. When using the “Save as Shapefile” feature, what coordinate system is used? Are there any restrictions in naming the shapefile?

Shapefiles that are exported from AEDT are in the GCS_WGS_1984 coordinate system.

When exporting a shapefile, make sure the shapefile name starts with a letter (not a number) and remove any characters that are not alphanumeric character or an underscore. See the following Esri FAQ page for more information: <https://support.esri.com/en/technical-article/000005588>

56. Do GIS layers need to be defined in decimal degrees or UTM before importing into AEDT or does AEDT project an imported layer in other coordinates?

Either projection (UTM or lat/lon) can be used, but NAD83 or WGS84 datum is required.

57. Are there any capabilities to import from or export to CAD files?

No. However external converters may be available to do the conversions as needed. Note that currently, ESRI does have an "ArcGIS for AutoCAD" product, and other third party conversion tools may also be available as well.

58. Is there a way to generate the Population Exposure Report for airports outside of US?

The Population Exposure Report only works with the US Census data. For international users, one possible option is to generate and export noise contours from AEDT as a shapefile, then overlaying that against population data in a separate GIS tool.

Another option is to use the population point receptors in AEDT. The sample study, STUDY_NIRS, has metric results #1 and #2 which use population receptors. Run the metric result #1 and view the receptor set layer attributes – noise level and population count at each receptor point are displayed.

Creating population point receptors in the AEDT GUI is not supported, but they can be imported via ASIF. A sample ASIF file is below – it has two location points with population count (<count>). The stateFips, countyFips, blockId, and bnaId fields do not need to be filled.

```
<AsifXml xmlns:AsifXml="http://www.faa.gov/ASIF" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
version="1.2.24" content="receptorSets">
  <receptorSet>
    <name>sample_popCentroids</name>
    <centroid>
      <stateFips>0</stateFips>
      <countyFips>0</countyFips>
      <blockId>0</blockId>
      <bnaId>0</bnaId>
      <latitude>37.615769</latitude>
      <longitude>-122.388223</longitude>
      <elevation>11</elevation>
      <count>77</count>
    </centroid>
    <centroid>
      <stateFips>0</stateFips>
      <countyFips>0</countyFips>
      <blockId>0</blockId>
      <bnaId>1</bnaId>
      <latitude>37.614407</latitude>
      <longitude>-122.382968</longitude>
      <elevation>11</elevation>
      <count>88</count>
    </centroid>
  </receptorSet>
</AsifXml>
```

After you import the population receptor into AEDT, it will be displayed in the *Define Metric Results* wizard, *Choose Receptor Sets* screen.

Weather

59. For average annual airport weather, does AEDT take the weather data of the closest airport for modeling aircraft performance?

AEDT uses the International Standard Atmosphere (ISA) model to lapse weather data of the closest airport at different flight altitudes.

60. Is it possible to create user-defined airport weather in AEDT?

Yes, user-defined airport weather data can be defined in the *Definitions* tab > *Weather* > *Airport Weather*.

61. Why does my flight fail using high fidelity weather when it was flown successfully using average annual weather?

When high fidelity weather is used, some operations may fail because they are not able to fly the specified path under certain atmosphere conditions.

62. Is a study boundary required when using high fidelity weather data?

A rectangular study boundary is required in order for AEDT to process RUC/RAP, GEOS, or NCAR weather. It is not required for using the MERRA-2 or WRF weather. The study boundary should be larger than the flight tracks being modelled (usually 100 nmi beyond the track). A study boundary can be created by clicking the *Edit* button in the *Metric Results* tab, *Study Boundary* ribbon group.

63. Can AEDT accept GRIB1/2 weather data?

While AEDT supports certain specific data products that are in the generic GRIB format, those data products (RUC and RAP) that are available are in the U.S./North American geographical space only.

64. Does AEDT support RAP data?

Rapid Refresh (RAP) data is the next-generation version of the Rapid Update Cycle (RUC) and officially replaced RUC in May 2012. AEDT supports RAP (13 km and 20 km horizontal resolution). Note that the grid and covered region may be different between RUC and RAP.

Sensor Path**65. Does AEDT do any internal smoothing of radar track inputs to eliminate altitude aberrations?**

AEDT does smooth and filter altitude and speed values given in input trajectory data specifically for sensor path operations. Geographic location information from the input trajectory data is not changed. The smoothing and filtering process is as follows:

- 1) Discard points that exceed the BADA global longitudinal acceleration limit.
- 2) Discard points that exceed the BADA global normal acceleration limit.
- 3) Perform exponential smoothing of the remaining altitude and speed values in the forward and reverse directions.
- 4) Points are reduced to locations where acceleration or climb angle is within the range of 130% to 70% of the average.

66. Are there any requirements for sensor path points?

- Sensor path operations in AEDT require at least two points in the terminal area (below 10,000 ft AFE) at both ends of the flight.
- Consecutive sensor path points at the same geographic location can lead to the NaN (not a number) exception.

67. Which fields are required or optional for the <sensorPath> element in ASIF?

- The <speed> field in each <sensorNode> is used in calculation, but only above 10,000 ft AFE on the departure end and 6,000 ft AFE on the arrival end – i.e. only in the BADA regime.
 - Below that altitude, the calculations are handled via the same SAE AIR 1845 mechanism used for altitude controls. So input altitudes are followed, but speeds are defined by the

corresponding ANP procedure chosen for the particular flight operation, not the speeds given for each sensorNode.

- The <messageTime> field is not used in the calculation, and it does not need to be adjusted.
- The <thrust> values are ignored. AEDT calculates its own thrust values which represent the thrust required to fly the smoothed and filtered input data as determined by the SAE AIR 1845 model at altitudes within the terminal area and BADA at altitudes outside the terminal area.

Fixed Point Profiles

68. Are there any requirements for using fixed point profiles?

When using fixed point profiles on conjunction with noise metrics, in order to get correct noise output from AEDT, the units for user-defined fixed point profile thrust values must match those for the corresponding NPD data for the aircraft type being modeled. For large commercial aircraft, this is generally net corrected thrust per engine in pounds.

When importing fixed-point profiles via ASIF, the point number must start at 1 and the numbers must be consecutive.

69. Can I model runway-to-runway operations using fixed point profiles?

No, this use case is not supported when using the ANP/BADA 3 aircraft performance model. It is supported when the BADA 4 aircraft performance model is used.

70. Are flight operations using fixed point profiles affected by weather?

No, the fixed point profiles are always completely insensitive to atmospheric conditions/weather. The flight operations using fixed point profiles will follow your input location, speed, altitude, and thrust data exactly to calculate flight performance.

User-Defined Aircraft

71. What are the steps to create a new user-defined flight profile for an aircraft?

AEDT supports adding user-defined procedural profiles to the existing system aircraft and to user-defined aircraft in the GUI Profile Editor. Please refer to the AEDT User Manual and the AEDT Supplemental: ASIF Reference Manual for more information.

Aircraft Substitution

72. What is the helicopter substitution list for AEDT?

The following table contains the helicopter substitution list for AEDT. This list is based on the latest substitution list in INM Version 7.0d. This information is provided to assist users in selecting appropriate helicopter substitutions for those helicopters that are not in the AEDT database.

Helicopter Name	Description	Substitution Helicopter
SA316	Aerospatiale Alouette III	SA350D
SA313B	Aerospatiale SA 313B Alouette II	B206L
SA315B	Aerospatiale SA-315B	SA350D
AS-350	Aerospatiale SA-350 Astar (AS-350)	SA350D
SA360C	Aerospatiale SA-360C	SA365N
SA365C3	Aerospatiale SA-365C3	SA365N
A109N	Agusta A-109N	B429
A109E	Agusta A-109 E	A109
A109C	Agusta A-109C	A109
A109K2	Agusta A109K2	A109
A109LUH	Agusta A-109LUH	A109
A119 MKII	Agusta A109-MKII	A109
A109S	Agusta A109S	A109
A109SP	Agusta A109SP	A109
A119	Agusta A119	A109
AB139	Agusta/Bell 139	SA330J
B206L-1	Bell 206L-1 Long Ranger	B206L
B206L-3	Bell 206L-3 Long Ranger	B206L
B206L-4	Bell 206L-4 Long Ranger	B206L
B206L-4 STC	BELL 206L-4 STC00036SE	B206L
B206L-4T	Bell 206L-4T Long Ranger	B206L
Bell 214B-1	Bell 214B-1	B212
B222B	Bell 222B	B222
B222U	Bell 222U Fxd Skd Gear	B222
B230	Bell 230 Fxd Skd Gear	B222
B230	Bell 230 RTR WHL GR	B222
B407	Bell 407 / Rolls-Royce 250-C47B	B407
B412EP	Bell 412 EP	S76
B412	Bell 412 HP	S76
B412SP	Bell 412 SP	S76
B427	Bell 427 (Light)	B427
B47G2	Bell 47 G2	R44
B47G4	Bell 47 G4	R44
Bell OH-58A Kiowa	Bell OH-58A Kiowa	B206B3
AH-64 Apache	Boeing AH-64 Apache	S70
MD600N	Boeing MD 600N	MD600N
MD900	Boeing MD 900	MD600N
MD520N	Boeing MD520N	MD600N
BO105LSA-1	Boelkow BO-105 LS A-1	BO105
EH101/300/500	EH Industries EH101/300/500	S65
EH110/510	EH Industries EH110/510	S65
Enstrom 280 FX	Enstrom 280 FX	R44
E 280C	Enstrom 280C	R44
E 280FX/F-28F	Enstrom 280FX/F-28F	R44
E 480	Enstrom 480	H500D
E 480B	Enstrom 480B	H500D
F28C	Enstrom F28C	SC300C
F28F	Enstrom F28F	SC300C
E TH28/480	Enstrom TH28/480	H500D

Helicopter Name	Description	Substitution Helicopter
BK 117A1	Eurocopter 117A1	B429
BK 117A3	Eurocopter 117A3	B429
BK 117A4	Eurocopter 117A4	B429
BK 117B1	Eurocopter 117B1	B429
BK 117B2	Eurocopter 117B2	B429
BK 117B2C	Eurocopter 117B2C	B429
BK 117C1	Eurocopter 117C1	B429
BK 117C1+	Eurocopter 117C1+	B429
BK 117C1C	Eurocopter 117C1C	B429
BK 117C2	Eurocopter 117C2	B429
AS 332L2	Eurocopter AS 332L2	S70
AS 350 B1	Eurocopter AS 350 B1	SA355F
AS 350 B2	Eurocopter AS 350 B2	SA355F
AS 350 B3	Eurocopter AS 350 B3	SA355F
AS 350 BA	Eurocopter AS 350 BA	SA355F
AS 350 BB	Eurocopter AS 350 BB	SA355F
AS 355F1R	Eurocopter AS 355 F1R	SA355F
AS 355F	Eurocopter AS 355F	SA355F
AS 355F1	Eurocopter AS 355F1	SA355F
AS 355F2	Eurocopter AS 355F2	SA355F
AS 355FR2	Eurocopter AS 355FR2	SA355F
AS 355N	Eurocopter AS 355N	SA355F
AS 355NP	Eurocopter AS 355NP	SA355F
AS 365 N2	Eurocopter AS 365N2	SA365N
AS 365N3	Eurocopter AS 365N3	SA365N
BK 117B2	Eurocopter BK 117B2	B429
EC 120	Eurocopter EC 120	SA341G
EC130B4	Eurocopter EC-130B4	EC130
EC130T2	Eurocopter EC-130T2	EC130
EC135	Eurocopter EC-135	EC130
EC135 (CDS)	Eurocopter EC-135 (CDS)	EC130
EC135T1 (CDS)	Eurocopter EC-135 (CDS)	EC130
EC135 (CDS/CPDS)	Eurocopter EC-135 (CDS/CPDS)	EC130
EC135T1 (CDS/CPDS)	Eurocopter EC-135 (CDS/CPDS)	EC130
EC135P1	Eurocopter EC-135P1	EC130
EC135P2	Eurocopter EC-135P2	EC130
EC135P2 (CPDS)	Eurocopter EC-135P2 (CPDS)	EC130
EC135P2+	Eurocopter EC-135P2+	EC130
EC135T1	Eurocopter EC-135T1	EC130
EC135T2	Eurocopter EC-135T2	EC130
EC135T2+	Eurocopter EC-135T2+	EC130
EC155B	Eurocopter EC-155B	SA365N
EC155B1	Eurocopter EC-155B1	SA365N
EC225LP	Eurocopter EC-225LP	S70
EC635T1	Eurocopter EC-635T1 (CPDS)	EC130
EC635T2+	Eurocopter EC635T2+	EC130
EC135T2(CPDS)	Eurocopter EC-T2 (CPDS)	EC130
MD500C	Hughes MD500 C	H500D
K-1200	Kaman K-1200 (2 Interneshing Main Rotors)	B427
KA32A11BC	Kamov KA-32A11BC	S70
Kawasaki BK-117	Kawasaki BK-117	B429
UH72	Lakota - EC145 mili version	B429
MD500N	McDonnell Douglas MD-500N	H500D
SW4	PZL Swidnik SW-4	SA350D
W3A	PZL Swidnik W-3A	SA330J
W3AS	PZL Swidnik W-3AS	SA330J
R22BETA	Robinson R22 Beta	R22

Helicopter Name	Description	Substitution Helicopter
R22MARINER	Robinson R22 Mariner	R22
S269C-1	Schweizer 260C-1 (Upturned Exhaust and Diff.)	SC300C
S269C	Schweizer 269C (Includes Muffler & Resonator)	SC300C
S269C	Schweizer 269C (Includes Muffler)	SC300C
S269C	Schweizer 269C (Upturned Exhaust)	SC300C
S269D(Conf. A)	Schweizer 269D (Config. A)	H500D
S269D(330SP)	Schweizer 269D(330SP)	H500D
S300C	Schweizer 300C (1)/ Upturned Exhaust	SC300C
S300C	Schweizer 300C (2)/ Includes Muffler	SC300C
S300C	Schweizer 300C (3)/ Muffler & Resonator	SC300C
S330	Schweizer 330 / Allison 250-C20 Turboshaft	H500D
S269D/330	Schweizer S269D/330	H500D
S76A+	Sikorski S-76A+	S76
S76B	Sikorski S-76B	S76
S-76C+	Sikorski S-76C+	S76
S64-F	Sikorsky S-64-F	S65
S-76A STC 568NE	Sikorsky S-76A STC 568NE	S76
S-76C	Sikorsky S-76C	S76
S92	Sikorsky S-92	S70

Military Aircraft

73. Does AEDT model military aircraft?

AEDT includes noise data for a number of military aircraft (including the NOISEMAP aircraft). However, due to the unique nature of their operation, standard profiles do not exist for these aircraft types. As such, in order to model noise, fuel burn, and emissions users must define profiles prior to adding these aircraft types to their study.

74. Does AEDT model military aircraft with afterburner mode?

In AEDT, the current method of calculating fuel flow for military aircraft (the only aircraft with afterburners) is based on the ICAO Engine Emissions Databank (EEDB) data. The EEDB data do not include afterburner operations. To account for those engines which have an afterburner mode, AEDT splits the fuel and emission data into two entries in the database; one entry is a non-afterburner mode and the other is an afterburner mode. Only the takeoff data – where afterburner mode is used – are different between the entries. Aircraft which use afterburner operations should use the engine which has the afterburner designation “(w/AB)” at the end of the engine model name. To correctly use afterburner operations for noise, fuel consumption, and emissions, a profile with an afterburner mode must be used and the engine type associated with the aircraft must also have the afterburner designation.

An INM study which has aircraft that use afterburner procedures will not import those aircraft as having afterburners assigned as their engine type. ASIF import picks up the operation with the afterburner correctly, but not the engine type; so the afterburner data for noise is retained, but the fuel consumption and emission data are lost.

Tracks

75. What are the default vector tracks available for each airport in the Create Aircraft Operation wizard?

Default arrival and departure vector tracks are automatically created by AEDT for each runway end in the airport.

76. How can I construct a vector track?

A vector track can be created through ASIF import or in the AEDT user interface or through CSV import

77. Does AEDT support circuit tracks?

AEDT does not support circuit tracks. Please use a touch & go track instead. To do this:

- 1) Create a touch & go track in the airport designer. Instructions on how to do this can be found in the "Exercise_CreateCustomTracks.pdf" file in the [Downloads page](#) of the AEDT Support website.
- 2) Create a new aircraft operation and select Circuit as the operation type. Assign the previously defined touch & go track to the operation.
- 3) Create an annualization and metric result using the aircraft operation and run the metric result.

78. There are no pattern (touch & go or circuit) profiles for helicopters in AEDT. How can I model helicopter pattern (touch & go or circuit) operations in AEDT?

Helicopter circuit operations can be modeled as overflights. This requires 1) creating overflight tracks; and 2) creating a user-defined helicopter with overflight profiles. AEDT does not automatically connect the ends of the departure leg and the arrival leg, so it requires knowing where the helicopter is on the track so the profile and the track remain coordinated for the operation. The departure, level, and arrival modes (in all their different variants) can all be used in overflights.

Miscellaneous

79. What time standard does AEDT assume for operations?

AEDT assumes that all date time values for operations are in local times, not UTC (Universal Time Coordinated).

80. How do I generate the administrative file (.bak) for my AEDT study?

In order for the AEDT technical support team to better assist you, we will typically need a copy of your study's administrative file so that we can reproduce your issue. An administrative file package is a zip file that contains a backup of the study database (.bak file) and various log files. To generate administrative file, first open your study, go to the *Study* tab > *Study Maintenance* and click the "Generate Administrative File" button.

81. What are the different types of airspeed metrics in AEDT?

The different types of airspeed metrics are as follows:

- Groundspeed – the magnitude of the entire aircraft velocity vector with respect to the ground.
- Calibrated airspeed – the indicated airspeed of an aircraft, corrected for position and instrument error.

- True airspeed – the airspeed of an aircraft relative to undisturbed air.

82. What are the different types of taxi times in AEDT and how are they used?

In AEDT, there are three different ways for modeling taxi time:

- Taxi time at the airport layout level
- Taxi time at the flight level (AIR_OPERATION table).
 - This is used only when the “Enable flight-based taxi times” preference is checked.
- Dynamically calculated taxi time based on Delay & Sequencing model

Distributed Processing

83. Can the Distributed Processing be used to run emissions dispersion metric results?

Distributed processing is not supported for running emissions dispersion metric results. Distributed Processing was designed to support running large noise analysis using a fixed grid (receptor set). It also does not support running noise metric results with a dynamic grid.

84. Can the Distributed Processing be used to run metric results with the “Delay & Sequencing Model on Taxi” option?

Distributed processing is not supported for running metric results with Delay & Sequencing Model.

85. Is there a recommended way to design an AEDT study for distributed processing?

As a risk mitigation strategy, it is recommended to break down large metric results into “medium” sized operation groups (cases). For example, with four remote computers, a medium sized case would contain roughly 1,000 to 10,000 events (not aircraft operations). By designing studies this way, you avoid the risk that comes with encountering errors during a large operation group while also avoiding the computational resource inefficiencies that result from making operation groups that are too small.

86. What happens if one of the remote computers accidentally shuts down while running a large metric result across several remote computers using distributed processing?

Whenever a remote machine fails to be able to communicate with a host machine (e.g., the remote machine got shut down or its connection timed out), the host machine has methods of excluding the failing machine from further computations and will keep processing the current metric result with whatever remote machines are available to do so. When this condition occurs, the host machine scraps whatever results had been computed for the current operation group (case) in the current metric result and restarts processing the current operation group (all previously completed operation groups have already had their results saved into the database and there is no need to re-compute).

Whenever processing seems to slow down or halt entirely, check up on the status of the remote machines (i.e., use Windows Task Manager to query whether a remote machine’s distributed processing functionality is still consuming CPU or whether it still has a TCP connection to the host machine).

Error Messages

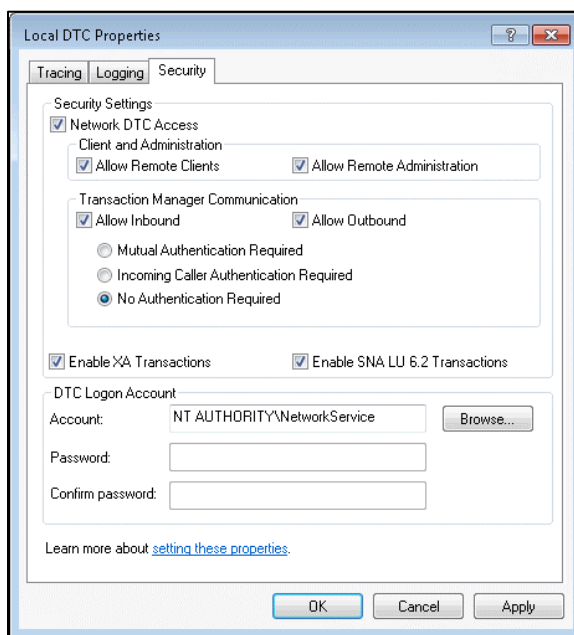
87. What is the cause of the following MSDTC error in aedt.log?

“Network access for Distributed Transaction Manager (MSDTC) has been disabled. Please enable DTC for network access in the security configuration for MSDTC using the Component Services Administrative tool.”

This error indicates that the Microsoft Distributed Transaction Coordinator (MSDTC) is not enabled. The MSDTC service must be enabled on both the database server and on client computers.

To enable MSDTC¹:

- 1) Click Start, click Run, type “dcomcnfg” and then click *OK* to open *Component Services*.
- 2) In the console tree, expand *Component Services*, expand *Computers*, expand *My Computer*, and then expand *Distributed Transaction Coordinator*.
- 3) Right click *Local DTC*, and click *Properties* to display the *Local DTC Properties* dialog box.
- 4) Click the *Security* tab and click the following options:
 - Network DTC Access.
 - Allow Remote Clients and Allow Remote Administration.
 - Allow Inbound and Allow Outbound.
 - No Authentication Required
 - Enable XA Transactions
- 5) Click *OK*.



88. The “Cannot load Counter Name data because an invalid index ” was read from the registry” exception message is displayed when I start AEDT. How can I resolve this?

Exception: System.InvalidOperationException: Cannot load Counter Name data because an invalid index ” was read from the registry.

¹ Reference: [https://docs.microsoft.com/en-us/previous-versions/commerce-server/dd327979\(v=cs.95\)](https://docs.microsoft.com/en-us/previous-versions/commerce-server/dd327979(v=cs.95))

at System.Diagnostics.PerformanceCounterLib.GetStringTable(Boolean isHelp)

This error indicates that Windows Performance counter registry settings are corrupt. Follow the steps below to rebuild the performance counter settings.

- 1) Go to Windows Start, type cmd.
- 2) Right-click on cmd.exe and click Run as administrator.
- 3) At the command prompt, type LODCTR.exe /R and press enter.
- 4) You should get this message: "Info: Successfully rebuilt performance counter setting from system backup store".
- 5) Run AEDT to confirm that it starts successfully.

89. What is the cause of the following error in aedt.log when I run a metric result?

"Message = Could not allocate space for object 'dbo.EVENT_RESULTS'. 'PK_EVENT_RESULTS' in database '[STUDY_NAME]' because the 'PRIMARY' filegroup is full. Create disk space by deleting unneeded files, dropping objects in the filegroup, adding additional files to the filegroup, or setting autogrowth on for existing files in the filegroup."

The Express Edition (free version) of Microsoft SQL Server has a database size limit of 10 GB. This error indicates that the 10 GB size limit has been reached.

90. What is the cause of the following error in aedt.log when I try to generate a noise contour?

*"! Exception Message: ERROR 010328: Syntax error at or near symbol ,.
ERROR 010267: Syntax error in parsing grid expression.
Failed to execute (ASCIIToRaster)."*

The Esri service used to make contours is not able to parse periods (.) correctly. Please remove any period (.) or space from your AEDT study name and make sure that the study name is at least five characters long.

91. What is the cause of the following error in aedt.log when I try to generate a noise contour?

"ERROR 010328: Syntax error at or near symbol). ERROR 010267: Syntax error in parsing grid expression. Failed to execute (ASCIIToRaster)."

This error can be caused by the parenthesis in the "(local)" SQL Server instance name. To resolve this error, in the AEDT Open Study dialog, please enter "localhost" or your computer name as the database server name; then generate a noise contour.

92. What is the cause of the “FPPM requires a procedural profile, not a fixed point profile” error in aedt.log?

This error can occur in two situations:

- When using altitude controls for an aircraft with fixed point profiles.
- When using sensor path for an aircraft with fixed point profiles.

Possible solutions:

- Disable all altitude controls for the affected track;
- Re-assign the affected operations to a different track which does not include altitude controls;
or
- Substitute an aircraft that contains procedural profiles.

93. What is the cause of the following error in aedt.log when I run an emissions dispersion metric result?

“Message = both zero and twentyfour hour exists in C:\AEDT\DATA\[User name]\[Study name]@[SQL Server Instance Name]\Output_Files; StackTrace = at FAA.AEE.AEDT.Weather.EDMSWeatherModule.FindShiftHour() at FAA.AEE.AEDT.Weather.EDMSWeatherModule.InitCache()”

This error message indicates that the weather data files contains missing data. The weather data for all 24 hours in a day must be specified.

94. What is the cause of the following error in aedt.log when I run an emissions dispersion metric result?

“FAA.AEE.AEDT.EmissionsDispersion.EmissionsDispersionProcess - Execution Timeout Expired. The timeout period elapsed prior to completion of the operation or the server is not responding. at FAA.AEE.AEDT.DataAccessModule.ResultsAccess.ResultsIterator`1.GetResultsByContext”

This error message indicates that retrieving results from the database is taking longer than the default timeout (300 seconds). To increase the timeout value, go to *Study* tab, *Preferences, Database*; then edit the “Data context timeout (sec)” setting.

95. What is the cause of the following error in aedt.log when I run a noise metric result with terrain?

“FAA.AEE.AEDT.BusinessLogicLayer.RunStudyLog - EventID = 100104 (AirOpId = 364 UserId = T0) did not yield any AcousticsEventResults. Source = FAA.AEE.AEDT.TerrainGlobalMapper; Message = No data was found at the specified location GM Error:GM_Error_NoDataAtLocation GM_Error_NoDataAtLocation At Location Lat: 42.946388 Long: -87.887222;”

“FAA.AEE.AEDT.BusinessLogicLayer.RunStudyLog - EventID = 100009 (AirOpId = 2570 UserId = 2570) did not yield any AcousticsEventResults. Source = FAA.AEE.AEDT.AircraftAcoustics; Message = Terrain Module Failure; StackTrace = at FAA.AEE.AEDT.AircraftAcousticsModule.AAMCompute.AssignZ(MainContainer mainStorage, Int32 k)

*.....
at FAA.AEE.AEDT.TaskMaster.EventProcessor.ProcessQueueEntry(QueueEntry myQueueEntry);
InnerException = FAA.AEE.AEDT.Terrain.Shared.TerrainModuleException: No data was found at the specified location GM Error:GM_Error_NoDataAtLocation GM_Error_NoDataAtLocation At Location Lat: 26.0381968901439 Long: -80.046070420943”*

This error message indicates that terrain data was not found at the specified receptor location. When you use terrain data for noise modeling, please make sure that terrain area is bigger than receptor set area. Otherwise, AEDT is unable to compute noise results.

When using line of sight blockage, terrain data must be large enough to cover the aircraft trajectory (tracks) beyond the receptor set area.

96. Why does this warning occur?

"Flight performance for Approach EventID = 170000 (AirOpID:7, UserID:Arr07) was calculated using a weather field shifted by 8.91E+000 seconds and 1.64E+003 feet from the input weather field, likely due to a discontinuity in the weather field."

This warning may occur when high fidelity weather or AERMOD weather (AERMET-processed hourly weather) is used. It can happen on takeoffs or on landings; and is likely caused by temporal and/or lateral discontinuities in the weather field. Note that the flight event associated with the warning message is successfully computed.

97. Upgrading my AEDT 2d study to AEDT 3b fails with the following error in aedt.log. How can I resolve this?

"Cannot drop the statistics 'dbo.FLT_FLEET._dta_stat_EFF_EXP_DATE_REG_ENGINE_MOD', because it does not exist or you do not have permission".

This error may occur in some AEDT 2d studies. A workaround is to create the following statistics before upgrading the study to AEDT 3b.

```
CREATE STATISTICS [_dta_stat_EFF_EXP_DATE_REG_ENGINE_MOD]
ON [dbo].[FLT_FLEET]([EFF_DATE], [EXP_DATE], [REG_NO], [ENGINE_MOD_ID]);
```

```
CREATE STATISTICS [_dta_stat_ENGINE_REG_EXP]
ON [dbo].[FLT_FLEET]([ENGINE_MOD_ID], [REG_NO], [EXP_DATE]).
```

98. How can I resolve the "Cannot open database AIRPORT" exception that occurs when I start AEDT?

"Airport DB version: unable to retrieve.

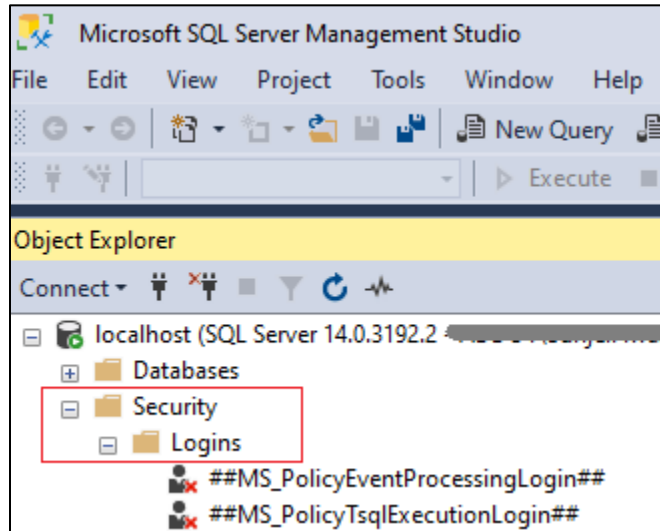
Fleet DB version: unable to retrieve.

Exception: System.Data.SqlClient.SqlException (0x80131904): Cannot open database "AIRPORT" requested by the login. The login failed.

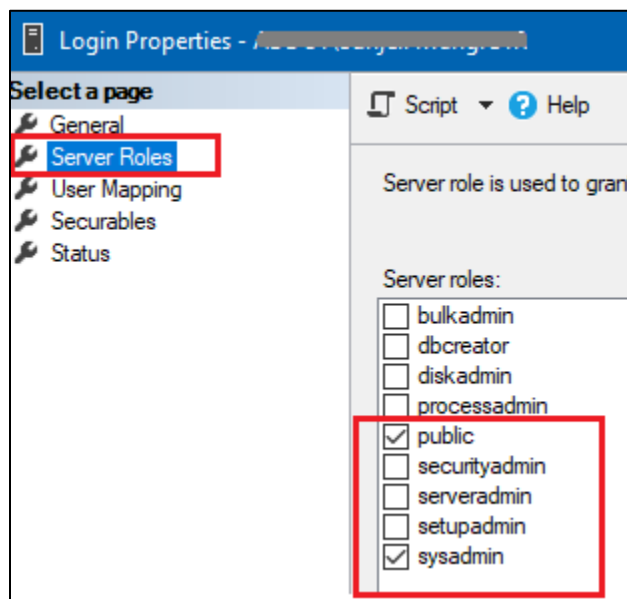
Login failed for user '[Domain\Account_Name]'."

This exception can occur when the user, *[Domain\Account_Name]*, does not have the **sysadmin** server role in the SQL Server instance. Follow the steps below to check SQL login account's roles:

- 1) Open the SQL Server Management Studio and connect to the instance where AEDT databases are installed.
- 2) Expand the Security folder, then Logins.
- 3) Right-click on the account name, then click Properties.



- 4) In the Login Properties dialog, click on the Server Roles page.
- 5) Check the **sysadmin** checkbox. Click OK.



AEDT 3g Known Issues

1. If you choose the “remove and upgrade older AEDT version” option during AEDT 3g installation, AEDT 3g will be installed into the older AEDT application folder and data folder (e.g., AEDT 3g application files will be installed into the existing AEDT 3e folders). In order to avoid this confusion, please uninstall the older AEDT version before running the AEDT 3g installer. (7712)
2. Aircraft equipment groups cannot be used to assign tracks to operations. User’s only access to Operation Group Percent Distribution processing is through direct SQL injection of AIR_OPERATION table. (1731)

3. Opening multiple emissions reports may show data from a different report. To avoid this issue, open only one emissions report at a time.
4. If you get a “timeout expired” error when generating an emissions report, a workaround is to:
 - 1) In Study tab, Database Preferences, increase the “Datacontext timeout” setting.
 - 2) Generate the “Operation Summary” emissions report first.
 - 3) Generate the “Operation Group Summary” emission report.
5. Some airframe/engine combinations from EDMS 5.1.4.1 system data are incongruent with AEDT and are reported “bad data integrity” errors during EDMS study import. To correct, either change the airframe/engine combinations in EDMS study or import the aircraft as user-defined aircraft.
6. When an EDMS study containing grid receptor sets is converted to AEDT, the rendering of receptor locations will be slightly mismatched between EDMS and AEDT. This is because in AEDT the origin of the grid receptor is in the south-west corner, while EDMS uses the offsets based on the center of the grid. A workaround is to:
 - 1) Incorporate the grid and the discrete receptors in the EDMS study into an AERMOD.INC file.
 - 2) In AEDT, go to Study tab, Preferences, Emissions Dispersion.
 - 3) Check the “Use AERMOD receptor grid” option and reference the .INC file from step 1 in the “File with AERMOD receptor grid” option. This makes the application ignore the receptor set assigned to the emissions dispersion metric result, and forces using the specified AERMOD grid receptor. The INC file can contain both grid and discrete receptors.
7. The INM to ASIF Converter (INM2ASIF.exe) does not convert user-defined helicopter and user-defined military aircraft in an INM study. (942)
8. Airports with an expiration date set to a past date may not import via ASIF. A workaround is to change the expiration date in the Airports database.
9. A helitaxi track imported via ASIF will be listed in the Airports Details pane, however it will not be displayed on the map as part of the airport layout layer. To view the helitaxi track on map, view tracks in the Metric Results tab.
10. After a partial ASIF import, the application does not refresh. Restart the application to view the imported data. (671)
11. The weather import process does not take into account Airport Layout Start date. Manually confirm that the dates for weather data being used are after the start date of the associated airport layout.
12. Processing of high fidelity weather data is not thread-safe. To compensate, set the “NumberOfThreads” key to 1 in C:\Program Files\FAA\AEDT3g\AEDT.exe.config file.
13. Flight operations specifying cruise altitude above the highest allowable specified aircraft altitude are still processed by AEDT. Manually confirm the cruise altitude of the flight operation against the BADA cruise altitude limit.
14. An AEDT generated shapefile cannot be imported into Google Earth Pro.
15. Dispersed tracks are not supported for emissions dispersion modeling.
16. Sensor path operations (runway to runway operations) are not supported for emissions dispersion modeling. (5459)
17. When using the Distributed Processing Service to run a study, using the Delay, Sequencing, and Queueing Model (DSQM) option is not supported. (6251)
18. The DSQM cannot be used to assign a runway end and track for touch-and-go (TGO) nor circuit operations based on airport operating configurations. (6252)

19. In the Equipment tab, Non-Aircraft screen, only the 1990 emissions factors from the StnGseEmissionFactorNationalAverage table are displayed for the system Ground Support Equipment (GSE). (4373)

Emission factors for GSEs are stored in the StnGseEmissionFactorNationalAverage and the StnGseEmissionFactorEffectiveYear tables:

- When manufacture year of GSE is provided, the emissions factors in the StnGseEmissionFactorEffectiveYear table are used.
 - When manufacture year of GSE is not provided, the emissions factors in the StnGseEmissionFactorNationalAverage table are used. User-defined GSE factors are also saved to this table.
20. The Population Exposure Report fails to run if the Census data are stored under a directory with spaces. This is due to a known issue with Esri – it does not accept spaces in path names. A workaround is to store the Census data in a folder without spaces.
21. The Esri service used to make noise contours is not able to parse periods (.) or spaces in path names. Make sure that your AEDT study name does not contain any period or space; and is at least five characters long.
22. Noise contours may be displaced on the map (i.e. does not align with the receptor set) if the X and Y spacings are not the same.
23. A receptor set that consists of both grid-type receptors and point-type receptors is not supported for noise metric result. (4917) Running such a receptor set in a noise metric result will generate the following error message in aedt.log.
- FAA.AEE.AEDT.BusinessLogicLayer.RunStudyLog - AMM failed in one of its AddGrid methods. Source = FAA.AEE.AEDT.AccumulatedMetrics; Message = Grid Sizes Not Equal;*
24. The “TransactionInDoubtException” error may occur when running multiple instances of AEDT on different study databases that are on the same SQL Server instance. (5245)
25. The Generate Administrative File functionality is unable to create a database backup file if the study database is located on a remote database server. (5592)
26. Upgrading an AEDT study on a remote SQL Server will fail if the SQL Server service account does not have access to the backup folder path. A workaround is to restore the study database on a local SQL Server instance and upgrade to the latest study version. (7225)
27. When running metric results using Distributed Processing, "BackgroundWorker is currently busy" exception may be thrown when processing an operation. (6851)
28. In the Detailed noise report, the Helo Heading column is not populated. (9130)
29. After installing AEDT, the first study that you open may be configured with incorrect paths/URL for the Environmental Justice Model and the Population Exposure Model preferences. A workaround is to click the *Reset* button in Study tab, Preferences screen:
- 1) In the "Environmental Justice Model" preference screen, click the *Reset* button then click *Save*.
 - 2) In the "Population Exposure Model" preference, click the *Reset* button then click *Save*.
 - 3) Make sure that the Census folders are pointing to correct AEDT folder paths. The paths are listed in the AEDT User Manual.

30. Terminal-area analysis interprets fixed-point profile speed as ground speed; while BADA 4 airport-to-airport analysis interprets it as true airspeed. This inconsistency will be resolved in a future version of AEDT. Users should be aware of the difference in how workflows interpret fixed-point profile speed, and could re-define fixed-point profiles to match the desired speed. (8976)
31. Performance results computed for overflights with altitude controls may begin at a high thrust level. A workaround is to set the overflight procedure to fly at the intended altitude, set the overflight procedure distance to match the length of the overflight track, and not use altitude controls. (8072)
32. In the BADA 4 analysis of procedural airport-to-airport operation departing from a high-altitude airport, acceleration from the final departure terminal-area procedure speed to the BADA 4 climb speed does not begin until 10,000 ft AFE instead of 10,000 ft MSL as it does in the BADA 3 analysis. (9396)
33. When you upgrade an older study (AEDT 3c or older) with a user-defined airport to the latest AEDT version, the airport weather data of the user-defined airport will not be preserved. Please enter the airport weather data in the Definitions tab, Weather, Airport Weather dialog for this case.
34. The AEDT Weather Data Loader does not support processing the RUC/RAP data from August 2016 to present. It supports the RUC/RAP data dated before August 2016. (8025)
35. When you restore the AEDT 3e Fleet.bak in SQL Server Management Studio, it will restore the Fleet version 3.36.1, instead of the latest backup version 3.45.4. Refer to Section 5.5.4.1 in the AEDT Installation Manual for instructions on how to restore the Fleet.bak to the latest backup version. (9441)
36. When uninstalling AEDT with databases installed on a named SQL instance, AEDT system & sample databases will be uninstalled from the "(local)" instance. (11121)
37. In the ANP/BADA3 sensor path workflow, starting weight does not always reflect a STANDARD profile. (10095)
38. When a raster layer is loaded, AEDT displays "Unable to display on current map projection" message. (10141)
39. When using the Distributed Processing Service to run a study, calculating emissions results from GSE LTOs is not supported. (10255)
40. When running a metric result that includes departure operations, to have a continuous flight path by which to model noise and emissions, AEDT connects the assigned runway end to the first point of the flight track and assumes this to be a straight line. For an emissions dispersion analysis, if the first point of the flight track is off center from the assigned runway centerline AEDT may assign ground roll emissions to sources that are not on the runway. Users are advised to check that flight tracks have starting points that are in line with the runways they are assigned to. (11976)
41. For arrival operations that taxi to a gate, there may be unaccounted taxi emissions along the runway between the end of the landing ground roll and the start of taxiing along the taxi links in the study. (13037)
42. Takeoff ground roll segments are not generated for departure operations using equipment with G650ER ANP ID. (13320)
43. When closing a Remote Desktop session with AEDT running, then reconnecting to the Remote session, the AEDT map may disappear and no longer function. A workaround is to restart AEDT. (6057)
44. Running the RunStudy.exe produces "log4net: ERROR Could not create Appender [MemoryAppender]" message. (13910)

45. "Sequence contains no elements" error is generated when modeling an arrival FAL900EX aircraft operation with altitude control, because this ANP airplane does not have any thrust data. (14296)
46. Arrival and departure operations cannot cross 180° longitude; this is only supported for great-circle and sensor path trajectories. (15977)
47. The PROFILE_ID column in the AIR_OPERATION table is not updated during the study upgrade process, so it can become invalid with Fleet data updates. (15989) A workaround is to check the database views, [v_AirOperationsWithReassignedAnpAirplanes] and [v_AirOperationsWithReassignedAnpHelicopters], in your study database. These views display a list of operations that have had changes to their ANP ID that are incompatible with the current profile ID or stage length assignment.
48. ASIF export of an aircraft equipment does not include data from the FLT_nvPM_Emission table. Not all engines have corresponding data in this table. (18367)
49. The airport layout layer does not display runway end/gate icons when the Accelerated Display is not set to True. A workaround is to set the "Use Accelerated Display" setting to True in the Study tab, Preferences, User Interface screen. (18386)
50. For runup operations with "Other" thrust type, noise and emissions calculations will be inconsistent, if the user did not input maximum thrust and/or maximum number of engines (18592). Note that this situation can only occur if the user entered incorrect (i.e., non-maximum) values via ASIF or SQL.

When you create a runup operation in the AEDT GUI and select an aircraft with "Other" thrust type (i.e., not pounds or percent), then the "Number of Operative Engines" field and the "Thrust setting per Engine" field are automatically populated with correct values (maximum number of engines and maximum thrust), and those fields are disabled for editing.

51. The WWLIMINET module within the DSQM is not affected by the random number seed in AEDT. This impacts any DSQM run for any hour where the number of operations are close to the operating capacity for that hour; in this case, there can be small schedule differences generated by the WWLIMINET module that cannot be repeated leading to small fluctuations in results. (17270)
52. If "Apply delay & sequencing model" (DSQM) is enabled, organizing operations within multiple operation groups will result in scheduling differences when compared to the same operations not organized into operation groups. Refer to Section 7.4.2 of the AEDT Technical Manual for description of the behavior and interactions of operation groups when DSQM is enabled. (20619)
53. If an airport layout's effective and expiration dates are not the default minimum and maximum values (1/1/1900 and 6/6/2079), then running a metric result with DSQM may generate taxi network exceptions. (20469)

A workaround is to run the following script which will reset the effective/expiration dates:

```
USE [your_study_name]
UPDATE [dbo].[AIRPORT_LAYOUT] set EFF_DATE='1900-01-01 00:00:00', EXP_DATE='2079-06-06 23:59:00'
UPDATE [dbo].[APT_TRACK] set EFF_DATE='1900-01-01 00:00:00', EXP_DATE='2079-06-06 23:59:00'
UPDATE [dbo].[APT_RWY_END] set EFF_DATE='1900-01-01 00:00:00', EXP_DATE='2079-06-06 23:59:00'
UPDATE [dbo].[APT_RWY_END_ID] set EFF_DATE='1900-01-01 00:00:00', EXP_DATE='2079-06-06 23:59:00'
```

```
UPDATE [dbo].[APT_RWY] set EFF_DATE='1900-01-01 00:00:00', EXP_DATE='2079-06-06  
23:59:00'
```

```
UPDATE [dbo].[APT_RWY_ID] set EFF_DATE='1900-01-01 00:00:00', EXP_DATE='2079-06-06  
23:59:00'
```