



Department of the Air Force
HQ AEDC (AFMC)
Arnold AFB, TN 37389

Effective
12/01/09

Std. No.
E8

Safety, Health, and Environmental Standard

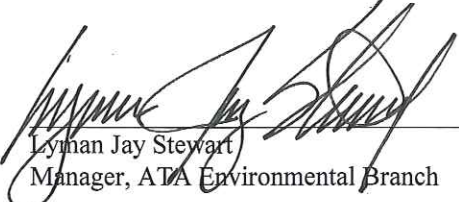
Title: Air Quality Management

Standard No.: E8


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The provisions and requirements of this standard are mandatory for use by all AEDC personnel engaged in work tasks necessary to fulfill the AEDC mission. Please contact your safety, industrial health and/or environmental representative for clarification or questions regarding this standard.

Approved:



Lyman Jay Stewart
Manager, ATA Environmental Branch



Pamela F. King
Chief, Asset Management Flight
704th Civil Engineering Squadron

Record of Review/Revision

Date/POC	Description
10/23/09 Bill McEntee	Annual review performed with updates to Annex A. Updated source assignments are located on the Environmental Home Page under <i>Air Quality</i> at https://aedcgisweb.arnold.af.mil/enviro/ as stated in paragraph 4.5.
11/05/08 Bill McEntee	Annual review performed with updated organizational changes noted throughout and in Annexes A, B, and C. Updated source assignments are located on the Environmental Home Page under <i>Air Quality</i> at https://aedcgisweb.arnold.af.mil/enviro/ as stated in paragraph 4.5.
11/01/07 Bill McEntee	Annual review performed with no changes needed. Updated source assignments are located on the Environmental Home Page under <i>Air Quality</i> at https://aedcgisweb.arnold.af.mil/enviro/ as stated in paragraph 4.5.
11/01/06 Bill McEntee	Annual review performed with updated organizational changes noted throughout and in Annexes A, B, and C. Changed all references from contractor Environmental Compliance to <i>Environmental Quality</i> . Changed the name of the Environmental Protection Committee to the <i>Environmental, Safety, and Occupational Health Council</i> . Updated source assignments effective 1 August 2006 (list located on the Environmental Home Page as stated in paragraph 4.5). Deleted the requirement for AEDC Environmental Flight and contractor Environmental Quality to develop operational checklists—this is a source requirement. Deleted the AF records retention requirements in paragraph 3.0. Identified the 704 th Maintenance Group commander as the source owner for all permitted air sources in paragraph 3.0. The requirement for the source manager to be appointed by the AEDC Commander or according to the AFMC SOP was removed from paragraphs 3.0 and 4.5.
07/01/05 Bill McEntee	Updated source assignments are located on the Environmental Home Page under <i>Air Quality</i> at https://aedcgisweb.arnold.af.mil/enviro/ as stated in paragraph 4.5. Existing assignments (formerly Annex A) will now be permanently posted at that location and not in the standard. With this change, Annex B is now Annex A, Annex C becomes Annex B, and Annex D becomes Annex C. References to Annex A source assignments have been removed from paragraphs 4.4 and 5.
12/17/04 Bill McEntee	Updated source assignments in Annex A. Additionally, sources 14, 17, 18, and 42 were moved from the Support Directorate to the Maintenance Directorate in Annex A. Also in Annex A, changed the name of HazMat Pharmacy to <i>Hazardous Dispensing Facility</i> as requested by AEDC/SDL.
06/18/04 Bill McEntee	Updated source assignments in Annex A. Additionally, sources 1, 2, 3, 4, and 45 were moved from the Support Directorate to the Maintenance Directorate in Annex A.
01/30/04 Bill McEntee	The LOA was deleted and incorporated into body of standard to include new personnel changes. The standard was updated to agree with formatting changes directed by the revised COI 91-5. References to ESHQ were changed to Environmental Branch.
03/15/03 Bill McEntee	Updated List of Annexes (LOA).
6/18/02 Bill McEntee	Added the Title V Operating Permit throughout the standard. Updated the LOA to include new personnel changes and ODS sources. Eliminated Source # 21, 22, 38, 49, 55, 41 and 50; this revision changed Source #48 to #01 and added US Army in section 6.1.1. References to ODS sources were added to the definitions in section 3.0 (n) and (o).
12/19/01 Bill McEntee	Updated List of Annexes (LOA).
05/25/00 Bill McEntee	LOA updated without a source alternate for Aeropropulsion Systems Test Division (Source #s 19, 31, 41, 53, 54, 56, and 66).
03/15/00 Bill McEntee	Reformatted standard according to COI 91-5 direction. Split “List of Annexes” (LOA) into a separate document to enable periodic updates.



Safety, Health, and Environmental Standard

AIR QUALITY MANAGEMENT

1.0 INTRODUCTION/SCOPE/APPLICABILITY

1.1 Operations performed at AEDC utilize a variety of test facilities, heaters, and other sources which may generate air contaminants through combustion processes or through release of fugitive emissions. The United States Environmental Protection Agency (USEPA) and/or the state of Tennessee, through the Tennessee Department of Environment and Conservation (TDEC), regulate the type and amount of air pollutants that an activity can generate. USEPA and TDEC regulate by placing limitations upon facilities through the requirement to obtain construction and operating permits for each source.

1.2 This standard establishes requirements for the implementation and management of regulated air pollution sources at AEDC. It implements the *Clean Air Act Amendments of 1990*, the AFMC Standard Operating Procedure (SOP) *Air Quality Stationary Source Management* dated 8 November 1996, the AFI 32-7040 *Air Quality Compliance*, and the *AEDC Title V Operating Permit* dated 9 May 2002.

1.3 This standard applies to all AEDC military, civilian, and contractors assigned to accomplish work at AEDC.

2.0 BASIC HAZARDS/HUMAN FACTORS

2.1 Basic Hazards

2.1.1 Working around air sources presents a range of safety hazards typically found in an industrial area. When air sources are operating, personnel can be potentially exposed to noise from turbine or rocket engines, thermal burns from heaters, heat or cold stress, chemical hazards, eye hazards, head or foot injuries, falling objects, oxygen deficiency, confined spaces, and so forth.

2.1.2 Environmental hazards include potential exposure to air pollutants such as volatile organic compounds, nitrous oxides, sulfur dioxides, lead, particulate matter, and any of the hazardous air pollutants.

2.2 Human Factors

Workers must follow established procedures and be familiar with the Job Safety Analysis (JSA) for the tasks at hand. Failure to follow the JSA could result in personal injury and/or equipment damage.

3.0 DEFINITIONS

Air Contaminant — Any particulate matter, gas, mist, or combination thereof, other than water vapor or natural air.

Air Pollution — The presence of contaminant or pollutant substances in concentrations that interfere with human health and welfare or produce other harmful environmental effects. Any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear and by-product material) substances or matter, that is emitted into or otherwise enters the ambient air.

Air Quality Standards — As prescribed by regulations, the level of pollutants that may not be exceeded during a specific time in a defined area.

Asset Management Flight (704 CES/CEA) — The Air Force office or organization responsible for managing the Center's environmental issues, including air quality compliance and emission reduction related issues.

Certification — A written document generated by the Source Manager to the AEDC Commander. The document certifies that their source was operated in compliance with all existing EPA/state of Tennessee regulations during the specified compliance period.

Checklist — A written list of items to be accomplished during an operation or evaluated during an inspection.

Criteria Pollutant — Air pollutants for which national ambient air quality standards (NAAQS) have been established. Criteria pollutants include particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxides, ozone, and lead.

Emission — Any discharge of an air pollutant as defined in the Clean Air Act Amendments (CAAA) of 1990, Section 302(g). Emissions can be discharged into the atmosphere from smokestacks, from other vents, from surface areas of commercial or industrial facilities, from residential chimneys, and/or from the exhausts of motor vehicles, locomotives, or aircraft.

Emission Inventory — A detailed listing, by source and type, of air pollutants and their estimated quantities emitted into the atmosphere.

Environmental Quality (Contractor) — The contractor office or organization responsible for air quality compliance.

Environmental, Safety, and Occupational Health Council (ESOHC) — The AEDC committee that ensures a systematic interdisciplinary approach to achieve and maintain environmental quality, including air quality compliance.

Hazardous Air Pollutants (HAP) — Those substances listed in the Clean Air Act Amendments of 1990 (Title III, Section 301), as well as any added or deleted by EPA or the state of Tennessee, that have been identified as a serious threat to human health or the environment.

Monitoring — Periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements and/or pollutant levels in various media or in humans, animals, and other living things.

New Source — Any stationary source that is built or modified after the publication of final or proposed regulations that prescribe a standard of performance intended to apply to that type of emission source. Includes all ozone depleting substance (ODS) units with a charge greater than 50 pounds which are regulated in Title VI of the Clean Air Act and identified in the Title V Operating Permit.

Operating Conditions — These are special terms and conditions set forth in the Title V Operating Permit or otherwise described in the federal/state or local regulations affecting the source type. Adherence to the special terms and operating conditions is mandatory. Failure to comply may lead to civil and/or criminal enforcement action. ODS sources are required to comply with 40 CFR Part 82 regulations.

Prevention of Significant Deterioration (PSD) — EPA program in which state and/or federal permits restrict emissions for new or modified sources in places where air quality is already better than required to meet primary and secondary ambient air quality standards.

Records — All documentation relevant to demonstrating past and present compliance with environmental regulations pertaining to the source. Inspection reports, commander certifications, pollutant calculations, source operating times, and fuels analysis records are typical records maintained. Includes electronic, paper, and any other format used for documentation. Records shall be maintained for the minimum amount of time specified in the AEDC Title V Permit or as specified in TDEC Air Quality regulations.

Source Manager — Air Force, Army, or Navy source owner responsible for assigned air emission stationary source(s). The individual(s) is typically the Air Force Cost Center Manager. Also referred to as the manager or air source manager.

Source Monitor — The government contractor responsible for the daily operation of the source. May be two or more individuals assigned to each source if needed.

Source Owner — The 704th Maintenance Group/CC is the source owner for all permitted sources. The 704th Maintenance Group commander has ownership and/or direct control over all existing or new air emissions sources, with specific duties identified in this standard, the AFMC SOP, and/or existing air quality permits issued by the TDEC.

Source Support — The government contractor source support person, lead person, or person assigned to operate a particular air emissions source on a regular basis. May be two or more individuals assigned to each source if needed.

Stationary Source — A fixed-site producer of pollution. Examples include power plants and other facilities using industrial combustion processes, paint spray booths, fuel storage tanks, solvent cleaning facilities, engine testing in wind tunnels, etc.

TDEC — Tennessee Department of Environment and Conservation, the state regulatory agency responsible for management and enforcement of the Clean Air Act and Title V air quality operating permit.

Titles I-VII — The titles of the Clean Air Act Amendments of 1990 are as follows:

- Title I - Provisions for Attainment and Maintenance of National Ambient Air Quality Standards
- Title II - Provisions Relating to Mobile Sources
- Title III - Hazardous Air Pollutants (Air Toxics)
- Title IV - Acid Deposition Control
- Title V - Permits
- Title VI - Stratospheric Ozone and Climate Protection
- Title VII - Provision Relating to Enforcement

Volatile Organic Compound (VOC) — Any organic compound that participates in atmospheric photochemical reactions except for those designated by EPA as having negligible photochemical reactivity.

4.0 REQUIREMENTS/RESPONSIBILITIES

4.1 The source owner should insure all new sources are included in the AEDC Title V Operating Permit before construction or installation begins. AEDC will not be allowed to operate permitted air sources if source owners, operators, monitors and those responsible for them do not comply with the conditions and requirements of our Title V air quality operating permit.

4.2 This Safety, Health, and Environmental standard assigns responsibility for operation, reporting, certification, recordkeeping, training, and management of each air quality source at AEDC according to the AFMC SOP *Air Quality Stationary Source Management*.

4.3 All activities that operate, modify, demolish, or construct stationary sources will obtain and periodically renew construction or operating permits as required by federal or state air pollution control agencies. The operating permits program (Title V) is a particularly important part of the *Clean Air Act Amendments of 1990*. ***Do not operate a source subject to this program without the required permit or other than in specific compliance with the terms of the permit.*** To do otherwise is a violation of federal and state criminal law. The goal of Title V is to have states issue federally enforceable operating permits for identified stationary air emission sources. The permits are designed to enhance the ability of the EPA, state, and local regulatory agencies, and private citizens to monitor and enforce the Clean Air Act

requirements. Failure to comply with any aspect of the compliance plan or permit can be grounds for an enforcement action.

4.4 All new or modified major sources, that have the potential to emit a pollutant equal to or greater than the amounts specified by the PSD threshold, must be approved by the TDEC/EPA prior to construction of the source. All new sources or modifications that do not meet PSD thresholds must be processed through the Title V construction permit process at TDEC. Changes or modifications to Title V permitted sources must be processed as a permit modification as soon as the source owner is aware of any changes. Construction permits must be obtained prior to starting any new construction or modification of a regulated source.

4.5 All sources will have an Air Force source manager and alternate appointed. The government contractor will appoint a source monitor and source support person. The listing of Air Force source managers/alternates and contractor personnel appointed for existing sources are located on the Environmental Home Page under *Air Quality* at <https://aedcgisweb.arnold.af.mil/enviro/>. Compliance notification, certification, and annual fee assessment will be accomplished according to the flow charts at Annexes A, B, and C.

4.6 Source Manager Responsibilities

The source manager is the United States Air Force, Army, or Navy person responsible for the assigned air quality source. The source manager should coordinate with the Asset Management Flight (704 CES/CEA) staff in all matters of air quality stationary source management involving their assigned air source. The source manager ensures the source is operated in regulatory compliance. He/she is responsible for all compliance activities associated with the assigned air source as well as the bi-annual certification on the compliance status of their assigned air source(s) to the AEDC Center Commander (AEDC/CC) through Asset Management Flight. The source manager shall:

4.6.1 Notify the AEDC/CC and 704 CES/CEA within 24 hours of a noncompliant permit condition. Each source will have specific operating permit conditions such as emission rates, type and amount of fuel usage, operating hours, recordkeeping requirements, etc.

4.6.2 Ensure that all source operators, monitors, and support personnel are trained or certified as required in the *Clean Air Act*, AFMC SOP, and TDEC regulations.

4.6.3 Ensure that fuel samples or input feed products, such as paint, are obtained as required to demonstrate compliance.

4.6.4 Provide timely and complete reports to 704 CES/CEA to demonstrate compliance with reporting requirements associated with each air source.

4.6.5 Ensure that appropriate monitoring and recordkeeping is accomplished in accordance with the stationary source checklist and as described in the operating permit.

4.6.6 Draft and implement a corrective action plan of all noncompliant discrepancies identified. The plan is sent to 704 CES/CEA and AEDC/CC.

4.6.7 Develop an operational checklist to aid in compliance in conjunction with 704 CES/CEA.

4.6.8 Ensure control devices specified in the permit application or permit are maintained in good operating order so emission standards are not violated. Failure to install/maintain required control equipment may be interpreted as a violation of the permit conditions.

4.6.9 Identify requirements, budgets, and obtain funds for the control equipment installation and maintenance.

4.6.10 Identify requirements, budgets, and obtain funds for training of all source personnel.

4.7 Source Monitor Responsibilities

The source monitor is the contractor supervisor of the air source. The source monitor coordinates with the source manager to ensure the source is operated within compliance. The source monitor shall:

- 4.7.1 Ensure that the source is operated in compliance with permit conditions. The source monitor will be responsible for periodically briefing source support personnel of permit conditions or requirements.
- 4.7.2 Immediately notify the source manager of any condition of noncompliance.
- 4.7.3 Ensure sources are registered with the Environmental Quality—Air Quality Compliance section and notify them and/or Asset Management Flight prior to changing operations.

4.8 Source Support Responsibilities

The source support persons (testing or mission) are responsible for the daily operation of the air quality source. The individual(s) coordinate with the source manager, source monitor, and the Asset Management Flight (704 CES/CEA) staff in all matters of air quality stationary source management involving their assigned air source. They will also use other individuals, such as the facility, systems, or testing engineer(s) assigned to the source, to ensure compliance. The source support persons shall:

- 4.8.1 Perform recordkeeping requirements as specified by the permit application and/or Title V permit.
- 4.8.2 Perform recordkeeping required by the air quality source's checklist developed by the source manager and 704 CES/CEA.
- 4.8.3 Ensure that the source is operated according to the Title V air quality operating permit.
- 4.8.4 Conduct permit-required sampling according to the Title V permit application/permit, such as fuel sampling of sulfur according to ASTM D4057-81 Standards.
- 4.8.5 Notify 704 CES/CEA immediately of design or operating changes for new or existing sources.
- 4.8.6 Conduct daily operational inspections, or as directed by the permit or regulatory agency, in accordance with the operational checklist.

4.9 Asset Management Flight (704 CES/CEA) Responsibilities

Asset Management Flight provides consultative services to the AEDC Commander, source managers/alternates, operators, and monitors. They compile certifications from source managers for the AEDC Commander and assist the Commander and source owners with compliance of the air quality sources. The 704 CES/CEA shall:

- 4.9.1 Maintain a current roster of appointed managers/alternates and their sources.
- 4.9.2 Provide verbal notification to TDEC and/or EPA of a noncompliant source.
- 4.9.3 Represent the installation with any outside regulator.
- 4.9.4 Prepare an installation compliance report and submit these reports to TDEC.
- 4.9.5 Ensure that all source managers/alternates are properly maintaining source records.
- 4.9.6 Conduct “no notice” audits at least annually.
- 4.9.7 Identify all noncompliant findings to AEDC/CC.

- 4.9.8 Compile bi-annual reports from data provided by the managers/alternates for AEDC/CC certification to the TDEC.
- 4.9.9 Provide the source permits and operating conditions to each source manager and notify each source manager of changes in the permit status and operating conditions.
- 4.9.10 Define and update as appropriate the reporting and documentation requirements of the source managers.
- 4.9.11 Accomplish all needed training to recommended levels for the required people at the request of the source managers.

4.10 Contractor Environmental Quality—Air Quality Compliance Section Responsibilities

The Air Quality Compliance section of contractor Environmental Quality will assist 704 CES/CEA, source managers/alternates, operators, and monitors. They assimilate regulatory data from sources and compile it for 704 CES/CEA. They assist the source owners with compliance of the source and essential daily environmental technical services. The contractor Environmental Quality—Air Quality Compliance section shall:

- 4.10.1 Maintain a current roster of appointed managers/alternates and their sources. The appointment roster will be validated during the annual source inventory audit.
- 4.10.2 Prepare and periodically update a comprehensive base air emissions inventory of air emission stationary sources as required to meet federal, state and local regulatory requirements.
- 4.10.3 Update, modify, delete, and add new source records to reflect the operating status and character of emissions of all stationary sources in the inventory.
- 4.10.4 Establish source inventory data requirements.
- 4.10.5 Conduct a “no notice” audit of air quality sources at least annually.
- 4.10.6 Accomplish source sampling to determine air emission pollutants if required.
- 4.10.7 Represent the installation with any outside regulator as directed by 704 CES/CEA.
- 4.10.8 Provide 704 CES/CEA and the source manager with notification if there are noncompliant findings during an audit.
- 4.10.9 Maintain a master copy of base records.
- 4.10.10 Review and insure that records used for compliance certifications and fee assessments are complete and accurate.

4.11 Training

All source managers, alternate source managers, source monitors, and source support personnel will receive initial Clean Air Act training by either the contractor Environmental Quality or through an approved EPA course.

4.12 Inspections

- 4.12.1 The Source Support person is required to accomplish daily operational inspections as required by the AFMC SOP.
- 4.12.2 The Asset Management Flight and contractor Environmental Quality are responsible for accomplishing annual “no notice” audits.

- 4.12.3 The TDEC typically accomplishes an annual “no notice” inspection of air sources, recordkeeping, and all permit condition requirements.
- 4.12.4 The United States Environmental Protection Agency (USEPA) may accomplish “no notice” inspections of the air quality program.

5.0 REFERENCES

ANNEX A – Air Quality Compliance Notification
ANNEX B – Air Quality Compliance Certification
ANNEX C – Air Quality Compliance Fee Assessment

Clean Air Act Amendments of 1990
Emergency Planning and Community Right-to-Know Act of 1986
Federal Facilities Compliance Act of 1992
Montreal Protocol of Substances That Deplete the Ozone Layer
State of Tennessee, Rule 1200-3, Division of Air Pollution Control
40 CFR, 50-93, Air Quality Regulations

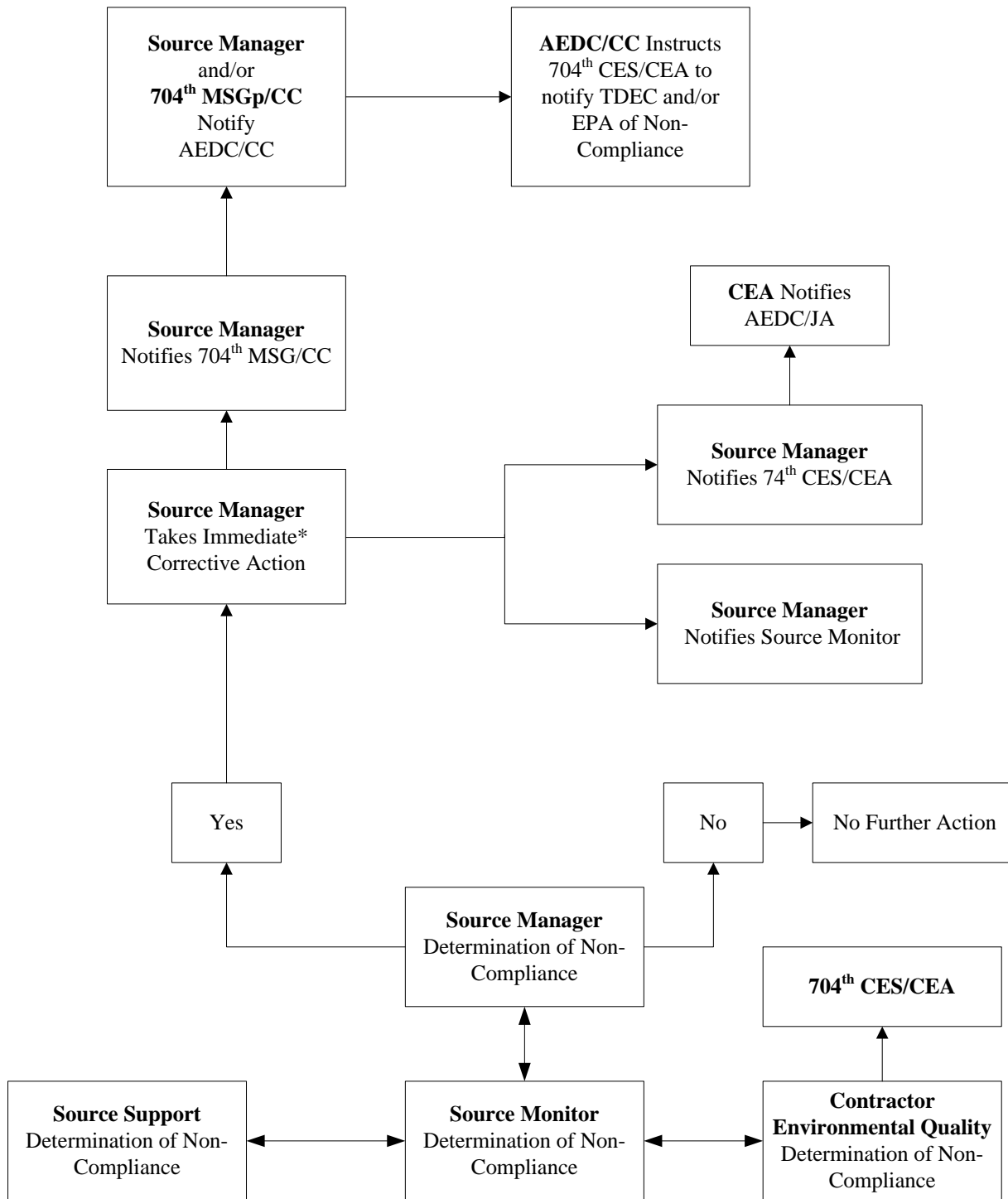
DOD Directive 5100.50, Protection and Enhancement of Environmental Quality
DOD Directive 6050.9, Chlorofluorocarbons (CFCs) and Halons
AFPD 32-10, Installations and Facilities
AFPD 32-70, Environmental Quality

AFI 48-119, Medical Service Environmental Quality Programs
AFI 32-7040, Air Quality Compliance
AFI 32-7044, Storage Tank Compliance
AFMC SOP, Air Quality Stationary Source Management , 8 November 1996

AEDC Safety, Health, & Environmental Standard E14, Ozone Depleting Chemicals
AEDC Class I Ozone Depleting Substances Management Plan
AEDC Title V Permit Application, November 1996
AEDC Title V Permit Operating Permit, 9 May 2002

ANNEX A

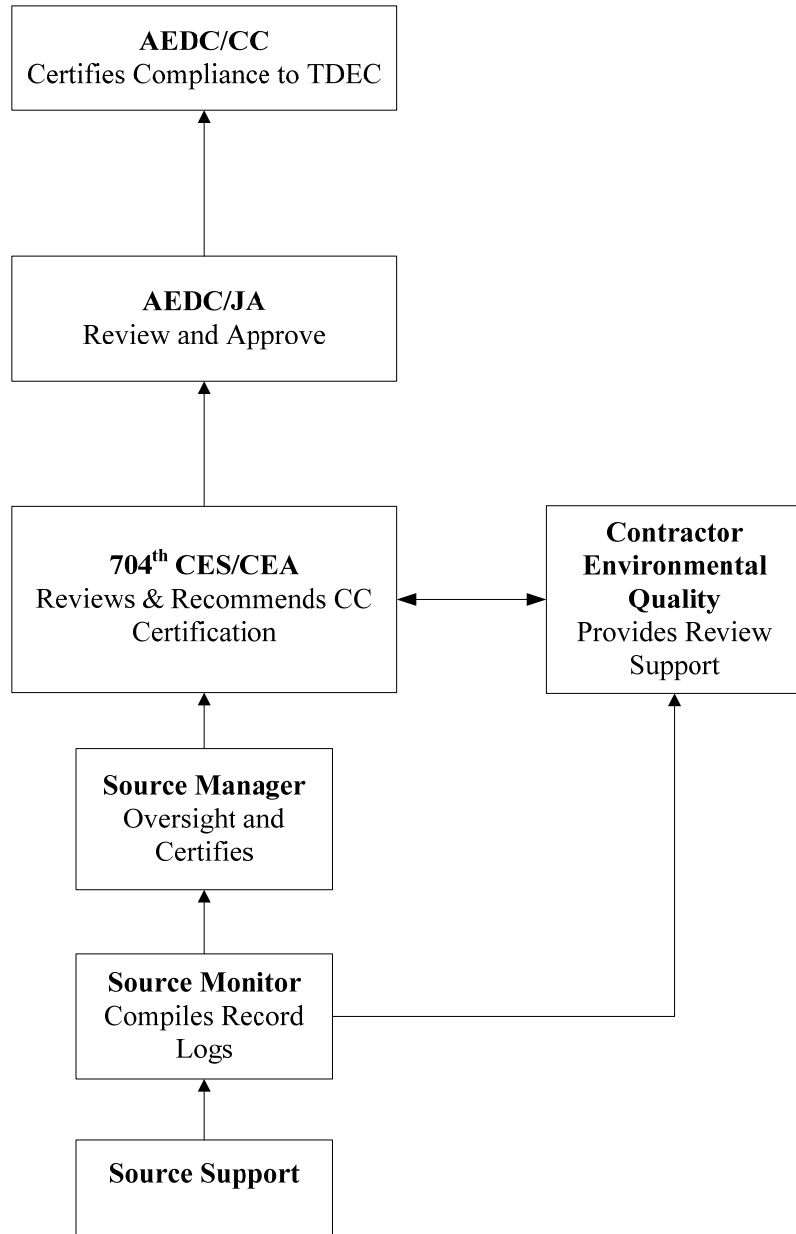
AIR QUALITY COMPLIANCE NOTIFICATION



* Source Manager insures AEDC/CC is notified of non-compliance within 24 hours (ref para 4.6/1)

ANNEX B

AIR QUALITY COMPLIANCE CERTIFICATION



* The TAPCD (Tennessee Air Pollution Control Board) Semiannual report was due on 1 March 2004 and every six months thereafter. The TAPCD Annual Compliance Certification was due on 27 August 2004 and every year thereafter.

ANNEX C

AIR QUALITY COMPLIANCE FEE ASSESSMENT

