BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE MANUAL 48-126

28 MARCH 2019

Aerospace Medicine

BIOENVIRONMENTAL ENGINEERING EQUIPMENT STANDARDS AND MODERNIZATION

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available for downloading or ordering on the e-Publishing website at **www.e-publishing.af.mil**.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AF/SG3/5PB

Certified by: AF/SG3/5
(Major General Robert I. Miller)

Supersedes: AFMAN48-126, 15 August 2014

Pages: 17

This manual implements requirements of Air Force Policy Directive (AFPD) 48-1, *Aerospace Medicine Enterprise*. This manual applies to all Air Force (AF) base-level Bioenvironmental Engineering (BE) personnel and organizations in the Regular AF, Air Force Reserve and the Air National Guard (ANG) in both home station and deployed settings. This guidance was created to establish a methodology to provide equipment standards to BE flights/elements AF wide as well as a clear path to equipment modernization. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See Air Force Instruction (AFI) 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the requestor's commander for non-tiered compliance items. This manual prescribes equipment standards and modernization at all base-level locations and has application to all echelons (Headquarters, Major Command (MAJCOM), Numbered AF, and Wing/Base). Where practical, the United States Air Force School of Aerospace Medicine (USAFSAM) Force Development Division will follow guidance in this manual to obtain teaching equipment. The processes contained in this manual do not apply to unique, one-of-a-kind AF units with uniquely defined mission-sets such as the Air Force Radiation Assessment Team (AFRAT). This manual outlines the goals of the program along with the responsibilities at each echelon. The guidance provided in this document does not apply to any equipment programs under the Joint Capabilities Integration and Development System (JCIDS) outlined under Chairman of the Joint

Chiefs of Staff Instruction (CJCSI) 3170.01I, *Joint Capabilities Integration and Development System*. This manual may be supplemented at any level, but all supplements must be routed to the Air Force Medical Support Agency, BE Branch (AFMSA/SG3PB), for coordination prior to certification and approval. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command including the appropriate MAJCOM Bioenvironmental Engineer (BEE). Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records,* and disposed of in accordance with the Air Force Records Disposition Schedule located in the Air Force Records Information Management System.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Major changes include changing the name of the BE Equipment Modernization and Standardization Working Group (EMSWG) and shifting the responsibility for maintaining the BE standard equipment list (SEL).

Chapter 1

PROGRAM OVERVIEW

1.1. Purpose. This manual establishes a process to provide equipment standards and equipment modernization for the Bioenvironmental Engineering (BE) career field. Establishing common BE equipment standards across the AF will minimize logistics support and training requirements. This process provides a logical path to improve equipment management and allow the Air Force to maximize the execution of program funds.

1.2. Objectives.

1.2.1. Consistent delivery of a common set of mission capabilities across all BE flights/elements in both garrison and deployed environments.

1.2.2. Establishment of a common process that will ensure all equipment actions impacting the BE career field are coordinated and approved by the Associate Chief, Bioenvironmental Engineering (AFMSA/SG3PB).

1.2.3. Reduce training required when Airmen change stations and deploy.

1.2.4. Reduce the approval and processing time as well as costs associated with the purchase of new equipment.

1.3. Components.

1.3.1. Equipment Standards. Establishment of common equipment standards allows trained BE professionals to execute capabilities through a common set of equipment without the additional burden of training on local equipment sets. This also supports the BE strategic objective of "garrison leads to deployed" by allowing BE personnel to deliver a common set of mission capabilities worldwide. This manual does not change the unit type code (UTC) or allowance standard (AS) management processes, but incorporates them into a common process to ensure all equipment actions impacting the BE career field are coordinated and approved by AFMSA/SG3PB. UTC and AS equipment form a baseline or foundation for equipment standards.

1.3.2. Modernization. This manual establishes a modernization process for equipment replacement efforts when existing equipment is no longer capable of supporting BE capabilities. Specific considerations for replacement can be found in AFI 41-201, *Managing Clinical Engineering Programs*. The modernization process also needs to consider the entire Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTmLPF-P) spectrum. It also applies to equipment that is being replaced due to exceeding its recognized service life (life-cycle).

1.4. Scope. The requirements of this manual and SEL apply to BE flights, elements and program offices that work with Defense Health Program (DHP)-funded equipment, Bioenvironmental Engineering Home Station Medical Response package (886H) equipment and deployable UTC allowance standard equipment. These BE entities will follow the requirements of this manual and SEL when purchasing, upgrading, replacing or increasing capabilities of BE equipment. **(T-2).**

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Associate Chief, Bioenvironmental Engineering (AFMSA/SG3PB).

2.1.1. Establish the Bioenvironmental Engineering (BE) Equipment Modernization and Standardization Working Group (EMSWG). Designate a representative from Air Combat Command (ACC) Bioenviornmental Engineering (SGPB) to serve as the BE EMSWG Chair. Minimum membership for the BE EMSWG will include representatives from United States Air Force School of Aerospace Medicine Occupational and Environmental Health Department (USAFSAM/OE); Air Combat Command Medical Readiness (ACC/SGX); the Manpower and Equipment Force Packaging (MEFPAK) Responsible Agencies (MRA); and relevant base-level pilot units. Each MAJCOM/SGPB, Air Force Reserve Command (AFRC)/SGPB and Air National Guard (ANG)/SGPB is invited to submit members from other organizations as appropriate. Designate members from other organizations as appropriate.

2.1.2. Approve/Disapprove the standard equipment list (SEL) recommendations from the BE EMSWG and Bioenvironmental Engineering Corporate Board (BCB).

2.2. ACC Bioenvironmental Engineer (ACC/SGPB). Serve as BE EMSWG Chair and manage EMSWG operations, taskings, documentation and the SEL. Brief AFMSA/SG3PB and BCB as requested.

2.3. AF Medical Operations Agency Medical Logistics Division (AFMOA/SGAL). Establish methodology for all equipment purchases. Reference AFMAN 41-209, *Medical Logistics Support,* for additional information.

2.4. MAJCOM Medical Readiness Division (MAJCOM/SGX) (limited to those with MEFPAK responsibilities for BE unit type code (UTCs) or allowance standard (AS) packages). Participate as a member of the BE EMSWG and advocate for respective MAJCOM needs.

2.5. MAJCOM Bioenvironmental Engineer (MAJCOM/SGPB).

2.5.1. Use the process identified in **Chapter 3** of this manual as a means of equipping flights and elements.

2.5.2. Conduct data calls as requested by the BE EMSWG.

2.5.3. Review and approve or reject new equipment purchase nominations (items not on the SEL) from subordinate units.

2.5.4. Forward approved equipment purchase nominations to the BE EMSWG for AF wide consideration.

2.6. Bioenvironmental Engineering Corporate Board (BCB). Review and recommend AFMSA/SG3PB approval or disapproval of all BE equipment purchase recommendations upon request.

2.7. USAF School of Aerospace Medicine, Occupational and Environmental Health Department (USAFSAM/OE).

2.7.1. Designate an appropriate individual or office to participate as a member of the BE EMSWG. **(T-3).**

2.7.2. Conduct technical evaluations of recommended equipment upon request. **(T-3).**

2.7.3. Monitor the commercial off the shelf (COTS) market for emerging candidate equipment items. **(T-3).**

2.7.4. Conduct new equipment evaluation and provide periodic updates to the BE EMSWG Chair as equipment becomes obsolete or new technologies are available. **(T-3).**

2.7.5. Develop training for all Bioenvironmental Engineers (43EX) and Bioenvironmental Engineering Technicians (4B0X1) on standard equipment and integrate new equipment into relevant courses and the Home Station Training (HST) as appropriate. **(T-3).**

2.7.6. Address questions through the Environmental Safety and Occupational Health (ESOH) Service Center regarding equipment capabilities. **(T-3).**

2.7.7. Maintain equipment, not on the SEL, needed for unique missions and assessments which can be temporarily loaned to BE flights/elements or used for consults. Provide a list of loaner equipment to the EMSWG. **(T-3).**

2.8. BE Equipment Modernization and Standardization Working Group (EMSWG).

2.8.1. BE EMSWG Chair.

2.8.1.1. Will hold meetings at least semi-annually but as frequently as needed. **(T-2).**

2.8.1.2. Must lead the BE EMSWG in review of the SEL at least annually. **(T-1).**

2.8.1.2.1. Consider the entire DOTmLPF-P spectrum to ensure that the materiel solution being presented is the best option for providing or improving the capability.

2.8.1.2.2. Refer non-materiel solutions to the appropriate agency or organization for consideration.

2.8.1.3. Must develop and maintain the SEL. **(T-1).** The SEL is a dynamic document and as such is not included in this manual but will be published on the BE SharePoint site along with equipment details. As directed by AFMSA/SG3PB, coordinate all changes to the SEL with AFMOA/SGAL as they occur.

2.8.1.4. Nominate equipment items and packages to the BCB for review and forwarding to AFMSA/SG3PB to be considered for central funding or procurement. **(T-2)**

2.8.1.5. Ensure all documentation for SEL nominations is properly stored in an electronic historical file for future reference. **(T-2)**

2.8.2. BE EMSWG Members.

2.8.2.1. Will perform periodic reviews of exceptions to the SEL. **(T-2).**

2.8.2.2. Will participate in working group discussions and periodic reviews of the SEL and recommend to the BE EMSWG Chair approval or disapproval of equipment addition, replacement, or removal from the SEL. **(T-2).**

2.8.2.3. Identify, when necessary, a unit to provide pilot unit-type support for utility evaluations (see **paragraph 3.3.3.3**).

2.8.2.4. Will identify funding and procurement sources for individual pieces of equipment to be evaluated. **(T-2).**

2.8.2.5. Ensure nominations do not conflict with Joint Capabilities Integration and Development System (JCIDS) equipment efforts under the Joint Program Office. **(T-2)**

2.9. Base Level UTC or AS Pilot Units.

2.9.1. Will serve on the BE EMSWG**. (T-2).**

2.9.2. As directed, conduct utility evaluations to ensure new items meet user and mission requirements (see **paragraph 3.3.4.4**). **(T-2).**

2.10. BE Flight and Element.

2.10.1. Must request purchase of non-UTC/AS equipment only from the approved SEL. **(T-1).**

2.10.2. Identify capability gaps that can or possibly can be filled by a materiel solution and/or unique equipment needs not included on the SEL. **(T-3)** Present this information via the request template at **Attachment 2** to the MAJCOM/SGPB for consideration.

2.10.3. Ensure the request and associated research are routed through locally established base-level routing for review prior to forwarding the request to the MAJCOM/SGPB. **(T-3)** Coordination stops to consider are Medical Logistics, Biomedical Equipment Repair (BMET), and Emergency Management (if response equipment). At Air Force Reserve Command (AFRC) installations, the fulltime BE will coordinate equipment requests and the associated research with their Regular Air Force (RegAF) (host) Medical Logistics and BMET Flights.

2.10.4. Will turn in unneeded equipment to the local medical logistics flight, or local equivalent. **(T-2).**

2.10.5. Ensure equipment turned-in for disposal is deleted from inventory records and other databases. **(T-2).**

2.10.6. Contact the ESOH Service Center for equipment, technical and operations-related questions.

2.11. Medical Logistics Flight (or local equivalent).

2.11.1. Submit items for BE flights and elements, including AFRC BE flights and elements, through an AFMOA/SGAL approved system (e.g., The Integrated Global Equipment Request System (TIGERS)). **(T-2).** Ensure BE includes SEL documentation and AFMSA/SG3PB approval with item request prior to submission for funding consideration. **(T-2).**

2.11.2. Must properly dispose of unneeded equipment or items reaching end of service life in accordance with AFMAN 41-209. **(T-1).**

2.11.3. For turn in of all items containing radioactive materials, coordinate with the installation radiation safety officer, the AF Radioisotope Committee, if permitted, and/or the AF Radiation Recycling and Disposal (AFRRAD) office, 88 ABW/CEIEC. **(T-1).**

Chapter 3

PROCEDURES

3.1. Guidance. Bioenvironmental Engineering (BE) flights and elements will request equipment on the standard equipment list (SEL). **(T-1).** Flights and elements can nominate equipment for replacement due to age, technology advancement, or mission change. Flights and elements that wish to nominate equipment for consideration shall use the process described in this manual. **(T-2).** Migration to a common set of equipment standards is expected to occur mainly through attrition. Although the goal is for all BE flights and elements to have the same equipment, there is no specified acquisition authority or funding stream identified for a wholesale replacement of operational in-garrison equipment. Flights and elements will continue to use current serviceable equipment until replacement is required. **(T-3).** Over time, the BE enterprise will move to a single set of common equipment standards.

3.2. Standard Equipment List (SEL). The SEL identifies equipment designed to enable flights and elements to meet a capability. The SEL is a list of BE equipment common to unit type code (UTC) and Bioenvironmental Engineering Home Station Medical Response Package (886H) allowance standards and the in-garrison Defense Health Program (DHP) equipment inventory. The list is approved for the request of equipment to meet BE mission requirements.

3.2.1. The BE Equipment Modernization and Standardization Working Group (EMSWG) Chair must ensure the SEL includes the following data elements: national stock number (if available), manufacturer and model or part number, device code and level of applicability (AF wide, UTC, or allowance standard), estimated cost, salient characteristics, and contract number (if available). **(T-1).**

3.2.2. SEL data will be used to populate appropriate data fields in Defense Medical Logistics Standard Support, The Integrated Global Equipment Request System (TIGERS) and/or AF Form 601, *Equipment Action Request*, for equipment ordering.

3.2.3. BE flights and elements are authorized to locally request consumables, parts, supplies, software, and/or accessories that directly support the equipment items on the SEL.

3.2.4. BE EMSWG must include equipment identified in support of a UTC or the Home Station Medical Response 886H AS on the SEL. **(T-1).**

3.2.5. ACC/SGPB must maintain the SEL. **(T-1).**

3.3. Procedure for Adding or Removing Items on the SEL. The procedure for adding new equipment items to the SEL is outlined below. Refer to the equipment nomination process diagram at **Attachment 4**.

3.3.1. Nomination. BE flight and/or element commanders will nominate new equipment items to their MAJCOM Bioenvironmental Engineer (MAJCOM/SGPB)**. (T-2).** The MAJCOM/SGPB will utilize internal processes to determine if the nomination is a reasonable proposal prior to approving and forwarding the nomination to the BE EMSWG. Nominations will be made on the equipment purchase nomination template (**Attachment 2**)**. (T-2).** Nominations originating above base-level should follow the same path to ensure sufficient level of review is accomplished.

3.3.1.1. Literature Review. The individual nominating the equipment item will complete a literature review prior to submission to the MAJCOM/SGPB for consideration. **(T-2).** This step includes conducting online research, as well as contacting the manufacturer directly to obtain the technical specifications, capabilities and limitations of the item. The literature review will be included as an attachment to the nomination template which is submitted to the MAJCOM/SGPB. **(T-2).**

3.3.1.2. Rationale. Nominated equipment must be accompanied by a strong supporting rationale as to why the existing equipment cannot meet requirements or how the proposed new equipment might substantially increase BE operational capabilities. **(T-1).** The rationale must also describe how the proposed item will fill a specified capability gap. **(T-1).**

3.3.2. Submittal. If the MAJCOM/SGPB agrees with the nomination and confirms that equipment on the current SEL cannot meet the stated need, he/she will approve the nomination and forward it to the BE EMSWG**. (T-2).**

3.3.3. Evaluation. BE EMSWG members will conduct needed research to arrive at an informed opinion of the nominated item**. (T-3).** An operational review of new equipment must accompany items being evaluated to replace existing equipment. Testing and evaluation could be the responsibility of several different offices depending on the level required. It is the responsibility of the BE EMSWG to determine the level of testing/evaluation required for each nominated item. The results of all evaluations conducted will be made available to relevant parties at all echelons. During the evaluation process the BE EMSWG may consider the initial literature review completed by the individual prior to nomination, MAJCOM recommendations, a technical evaluation by USAF School of Aerospace Medicine, Occupational and Environmental Health Department (USAFSAM/OE), a utility evaluation by a field unit, an Operational Test and Evaluation (OT&E), or all of the above.

3.3.3.1. Market Research. Market research can be conducted at multiple levels of consideration. The research will provide market data which could include but is not limited to: analysis of available technologies, commercial off-the-shelf (COTS)/government off-the-shelf equipment available, manufacturer business model analysis, and cost/benefit analysis.

3.3.3.2. Technical Evaluation. Technical evaluations involve analysis of an equipment item's capabilities, limitations and its ability to provide a high level of confidence in the data provided. This type of evaluation should also determine the equipment's salient characteristics if not yet determined. This type of evaluation will be conducted by USAFSAM/OE**.**

3.3.3.3. Utility Evaluation. A utility evaluation of an equipment item determines its ability to fill the stated capability gap, to include a determination of its potential effectiveness and suitability in performing the mission. It is a characterization of the equipment item based on its ability to meet mission tactics, techniques and procedures requirements and human performance factors in the planned or expected operational environment. This type of evaluation is normally conducted by the pilot unit for UTC items. For items not associated with a UTC, a volunteer unit will be solicited to perform this testing.

3.3.3.4. OT&E. An OT&E is conducted in as realistic an operational environment as possible to estimate the prospective item's operational effectiveness, suitability, and operational capabilities. In addition, OT&E provides information on organization, personnel requirements, doctrine, and tactics. Traditionally this level of testing is accomplished through a testing agency such as: Air Force Medical Evaluation Support Activity (AFMESA), Air Force Operational Testing Center (AFOTEC), or similar organization.

3.3.4. Approval/Rejection Process. The majority of the BE EMSWG should be in agreement with a decision prior to making a recommendation to the Bioenvironmental Engineering Corporate Board (BCB). Once the BE EMSWG has concluded its review, the items recommended for inclusion on the SEL will be presented to the BCB. **(T-2).** This presentation can take place within the context of the next scheduled BCB meeting, or through other appropriate venues as necessary. The BCB will review the BE EMSWG recommendation(s) and pass an "approve" or "reject" recommendation to the Associate Chief, Bioenvironmental Engineering (AFMSA/SG3PB), for final decision. **(T-2).** Two possible recommendations to AFMSA/SG3PB are expected:

3.3.4.1. The item is deemed inappropriate to meet the stated need (i.e., rejected). Justification for rejection should be provided upon request.

3.3.4.2. The item is recommended for approval as a replacement or an addition to the SEL.

3.3.5. Equipment Removal Procedures. There are numerous reasons an equipment item may be nominated for removal from the SEL. Such circumstances include but are not limited to: age of the equipment, cost of maintenance, technology advancement, replacement, no longer supported by the manufacturer or no longer needed to support BE capability execution. Other considerations are outlined in AFI 41-201. Removal of equipment from the SEL will follow the same basic procedures outlined in **paragraph 3.3**, however all steps of the process may not be deemed necessary. The BE EMSWG will determine which steps can be omitted in the process**.**

3.3.6. Documentation. Once an item is approved or disapproved for the SEL, the BE EMSWG will save all documentation presented during the equipment nomination process in an electronic historical file for future reference**. (T-2).** Documentation should be maintained for a piece of equipment for not less than three years after it is denied for inclusion on, or removed from, the SEL.

DOROTHY A. HOGG
Lieutenant General, USAF, NC
Surgeon General

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 48-1, *Aerospace Medicine Enterprise*, 23 August 2011

AFI 33-360, *Publications and Forms Management*, 01 December 2015

CJCSI 3170.01I, *Joint Capabilities Integration and Development System (JCIDS)*, 23 January 2015

AFMAN 33-363, *Management of Records*, 01 March 2008

AFI 41-201, *Managing Clinical Engineering Programs*, 10 October 2017

AFMAN 41-209, *Medical Logistics Support*, 4 January 2019

JP 4-02, *Joint Health Services*, 11 December 2017 (Incorporating Change 1, 28 September 2018)

JP 4-09, *Distribution Operations*, 19 December 2013

JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 8 November 2010 (As Amended Through 15 February 2016)

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

AF Form 601, *Equipment Action Request*

Abbreviations and Acronyms

886H—Bioenvironmental Engineering Home Station Medical Response Package

ACC—Air Combat Command

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMOA—Air Force Medical Operations Agency

AFMSA—Air Force Medical Support Agency

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

ANG—Air National Guard

AS—Allowance Standard

BCB—Bioenvironmental Engineering Corporate Board

BE—Bioenvironmental Engineering

BEE—Bioenvironmental Engineer

BMET—Biomedical Equipment Repair

CJCSI—Chairman of the Joint Chiefs of Staff Instruction

COTS—Commercial Off-The-Shelf

DHP—Defense Health Program

DOTmLPF-P—Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy

EMSWG—Equipment Modernization and Standardization Working Group

ESOH—Environmental Safety and Occupational Health

JCIDS—Joint Capabilities Integration and Development System

JP—Joint Publication

MAJCOM—Major Command

MEFPAK—Manpower and Equipment Force Packaging

OPR—Office of Primary Responsibility

OT&E—Operational Test and Evaluation

SEL—Standard Equipment List

TIGERS—The Integrated Global Equipment Request System

USAFSAM—United States Air Force School of Aerospace Medicine

UTC—Unit Type Code

Terms

Equipment—All items of a durable nature, other than supplies, which are capable of continuing or repetitive utilitarian use by an individual or organization. Such equipment may be classified as: (a) Individual equipment: Items required for the personal use of individuals; (b) Organizational equipment: Items required for the use of an organization or unit; or (c) Special or project equipment: Items not authorized in standard equipment allowance publications but determined as essential in connection with a particular contemplated operation, function, or mission.

Life Cycle—The total phases through which an item passes from the time it is initially developed until the time it is either consumed in use or disposed of as being excess to all known materiel requirements. (JP 4-02, *Joint Health Services*)

Manpower and Equipment Force Packaging (MEFPAK)—A data system designed to support contingency and general war planning with pre-defined and standardized manpower and equipment force packages.

National Stock Number—The 13-digit number that identifies a stock item consisting of the 4-digit federal supply classification code plus the 9-digit national item identification number and arranged as follows: 9999-00-999-9999. Also called **NSN.** (JP 4-09, *Distribution Operations*)

Off-The-Shelf Item—An item that has been developed and produced to military or commercial standards and specifications, is readily available for delivery from an industrial source, and may be procured without change to satisfy a military requirement.

Salient Characteristics—The physical, functional, and/or performance characteristics that a piece of equipment must meet in order to satisfy a stated capability gap.

Unit Type Code (UTC)—A Joint Chiefs of Staff developed and assigned code, consisting of 5 characters that uniquely identify a "type unit." (JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*)

Attachment 2

EQUIPMENT PURCHASE NOMINATION TEMPLATE

Figure A2.1. Equipment Purchase Nomination Template.

(1) Unit Name, POC, Contact Number:			
(2) General Description:			
(3) Manufacturer's Item (model) Name:			
(4) Model Number/Part Number:		(5) National Stock Number (If assigned):	
(6) Manufacturer:		(7) Country of Manufacture:	
(8) First Manufactured (year):		(9) Version History (Is this the first version?):	
(10) Justification (why existing equipment are not able to satisfy need):			
(11) Type of Hazard Addressed: Chemical Biological Radiological Physical Other:			
(12) Sampling Media: Air Water Soil Bulk Other:			
(13) BE Capability Supported:			
(14) Cross-Functionality (currently or potentially): CEX CEO CEF CES SE Other: Army Navy Marines Coast Guard			
Rate each of the following on a scale of 1 – 10 (10 being the best)			
(15) Cost Data		(16) Usability	
(a) Overall ($):		(a) Ease of Use (1-10):	
(b) Consumables (including sensors) ($):		(b) Reasonable Size (1-10):	
(c) Training ($):		(c) Light-Weight (1-10):	
(d) Service/Maintenance ($):		(d) Portable (1-10):	
(e) Lifecycle (sustainment) ($):			
(17) Efficiency			
(a) Reasonable power/battery requirements (1-10):		(d) MOPP 4/Level A friendly (1-10):	
(b) Ruggedness (1-10):		(e) Decon-able (Y/N):	
(c) Intrinsically Safe (Y/N):			
(18) Maintenance/Upkeep			
(a) Frequency of mfg required maintenance:		(b) Frequency of calibration:	
(19) Manufacturer Information			
Address:			
Phone Number:			
Website:			
24-hr Manufacturer Helpline:	Yes No Phone #		
(20) Comment(s):			
(21) Additional Data User feedback from the BE Flight/Element (pros/cons):			

Known mission capability (reliability/failure) rates:
Training requirement (hours):
Shelf life for consumables:
(22) Flight/Element Commander Approval: _____
(23) MAJCOM/SGPB Approval: _____ Comments: _____ _____

A2.1. Instructions for Figure A2.1.

A2.1.1. Block (1) Self-explanatory.

A2.1.2. Block (2) General description of the equipment item.

A2.1.3. Block (3)-(7) Self-explanatory.

A2.1.4. Block (8) First year this particular model was manufactured.

A2.1.5. Block (9) Self-explanatory.

A2.1.6. Block (10) Explain the requirement for this particular equipment item, e.g., improved capability, new technology, replaces old technology, replaces multiple equipment items, cost savings.

A2.1.7. Block (11)-(12) Self-explanatory.

A2.1.8. Block (13) List the BE capability that this equipment item supports.

A2.1.9. Block (14) Is this equipment currently being used or could it potentially be used by another organization? Check all that apply.

A2.1.10. Block (15a) Basic cost of the equipment.

A2.1.11. Block (15b) Cost of any consumables, e.g., batteries, gases, filters. Cost of consumables based upon one 8-hour mission.

A2.1.12. Block (15c) Estimated cost of training per person.

A2.1.13. Block (15d) Estimated annual cost of service/maintenance to include calibration requirements if applicable.

A2.1.14. Block (15e) Estimated life cycle sustainment cost = [(15b x 4)+15d] x 5

A2.1.15. Block (16a-d) Rate each area from 1-10 (10 being the best). Each area should be based upon a subjective rating as judged by the individual(s) submitting the nomination. An objective rating process will be established for the equipment item during the evaluation process by USAFSAM/OE.

A2.1.16. Block (17a-b) Same as Block 16.

A2.1.17. Block (17c) Yes/No.

A2.1.18. Block (17d) Same as Block 16.

A2.1.19. Block (17e) Yes/No.

A2.1.20. Block (18a-b)-(19) Self-explanatory.

A2.1.21. Block (20) Include any additional comments such as any hazardous materials or special storage requirements.

A2.1.22. Block (21)-(23) Self-explanatory.

Attachment 3

EQUIPMENT PURCHASE NOMINATION TEMPLATE EXAMPLE

Figure A3.1. Equipment Purchase Nomination Template Example.

Unit Name, POC, Contact Number:				
General Description: Multigas Meter				
Manufacturer's Item (model) Name: Ppb Rae				
Model Number/Part Number:		National Stock Number (If assigned):		
Manufacturer: Rae Systems		Country of Manufacture: US		
First Manufactured (year): 2009		Version History (Is this the first version?): Version 1		
Justification: (why existing equipment are not able to satisfy need) Support maintenance requirements to sample F-22A air at ppb concentration				
Type of Hazard Addressed: Chemical Biological Radiological Physical Other:				
Sampling media: Air Water Soil Bulk Other:				
BE Capability Supported: Identify OEH hazards and Analyze OEH hazards				
Cross-Functionality (currently or potentially): CEX CEO CEF CES SE Other:				
Army Navy Marines Coast Guard				
Rate each of the following on a scale of 1 – 10 (10 being the best)				
Cost Data			Usability	
(a) Overall ($):	$7,195		(a) Ease of Use (1-10):	9
(b) Consumables ($):	$325 (cal gas)		(b) Reasonable Size (1-10):	9
(c) Training ($):	$572 (basic)		(c) Light-Weight (1-10):	9
(d) Service/Maintenance ($):	$623 (replace sensors every 2 years)		(d) Portable (1-10):	9
(e) Lifecycle (sustainment) ($):	$144,225 (5-10 years)			
Efficiency				
(a) Reasonable power/battery requirements (1-10):	7		(d) MOPP 4/Level A friendly (1-10):	8
(b) Ruggedness/Survivability (1-10):	9		(e) Decon-able (Y/N):	Yes
(c) Intrinsically Safe (Y/N):	Yes			
Maintenance/Upkeep				
(a) Frequency of mfg required maintenance:	Not Specified		(b) Frequency of calibration:	7-30 days
Manufacturer Information				
Address:	3775 North First St San Jose, CA 95131			
Phone Number:	1-408-952-8200			
Website:	www.raesystems.com			
24-hr Manufacture Helpline:	Yes No Phone # 408-952-8200 Opt 8			
Comment(s):				
Additional Data User feedback from the BE Flights (pros/cons): Pros: easy to attach to self, easy to read, chlorine detection, light weight, easy to calibrate, has data logging capability. Cons: calibration gas limitation, user has to calibrate, and battery has to be charged				
Known mission capability (reliability/failure) rates: Not available from manufacturer at this time; no failure comments from BE				
Training requirement (hours): Basic user: 90 minutes, Advanced user: 8 hours				
Shelf life for consumables: Sensor shelf life: 6 months in sealed container (LEL is 2 years)				
Flight/Element Commander Approval: _____				
MAJCOM/SGPB Approval: _____ Comments: _____				

Attachment 4

EQUIPMENT NOMINATION PROCESS

Figure A4.1. Equipment Nomination Process.