1.0 PURPOSE

The purpose of this Standard Application Procedure (SAP) is to explain the basic investigative process and outline the minimum document requirements necessary to initiate an investigation leading to the issuance of a Refuge Alternative Air-Monitoring Component Approval, Extension of Approval, or Subsequent Approval under 30 CFR Part 7, §7.507.

2.0 SCOPE

This SAP applies to all applications for Refuge Alternative Air-Monitoring Component Approval, Extension of Approval, or Subsequent Approval under Part 7, Subpart L, §7.507.

3.0 REFERENCES

This SAP refers to "Application Cancellation Policy", APOL1009.

4.0 DEFINITIONS

4.1. Approval - A document issued by MSHA which states that a product has met the requirements of this part and which authorizes an approval marking identifying the product as approved.

4.2. Extension Of Approval - A document issued by MSHA which states that the change to a product previously approved by MSHA under this part meets the requirements of this part and which authorizes the continued use of the approval marking after the appropriate extension number has been added.

4.3. Subsequent Approval – A product that is similar to one for which the applicant already holds an approval.

5.0 APPLICATION PROCEDURE

5.1. All applications must include the following information:

5.1.1. Application Letter - Each application letter for approval of a product should include a brief description of the product, and, if appropriate, a

statement indicating whether, in the applicant's opinion, testing is required. If testing is not required, the applicant should explain the reasons for not testing. The application letter must be signed by the person responsible for answering any questions regarding the subject application. (Refer to Enclosures A, B, and C for completed samples.)

5.1.2. Certified Statement(s), as required by Part 7. (Refer to Enclosure D.)

5.1.3. A checklist (Refer to Enclosure E). Submittal of this checklist to MSHA is optional.

5.1.4. One copy of all documentation required to show details of the design and construction of the refuge alternative air-monitoring component per 30 CFR, Subpart L, Paragraph 7.507, including test data, test results, calculations, and other information to support how requirements have been met. This documentation is outlined in the checklist, Enclosure E.

Note: Documents previously accepted by the Mine Safety and Health Administration does not need to be submitted, unless modified.

5.2. Upon receipt of the application package by the Approval and Certification Center, a fee estimate letter is prepared and sent to the applicant, unless the applicant has a blanket authorization on file. The fee estimate letter includes an estimate of the maximum anticipated fee to complete the investigation and a tentative starting date.

5.2.1. An authorization response form is included with the fee estimate. The authorization response form indicates agreement to pay expenses up to the maximum estimated fee for the investigation or requests cancellation of the application. This form must be completed and returned by the applicant before any further action is taken on the application. If the form is not returned within thirty days from the date of the letter, the application is canceled.

5.2.2. When unforeseen circumstances encountered during the investigation result in exceeding the estimated fee, the applicant is contacted (either by phone or email) and given the option of canceling the action or accepting the new estimated fee.

5.3. During the investigation, applicants are notified if MSHA elects to observe any product testing in accordance with Section 7.4(c), and of any discrepancies or additional information needed to process the application. Applicants are notified by mail and telephone. If an email address is provided, the discrepancy letter may be emailed.

5.4. After all the technical documents are evaluated and any changes required as a result of the viewing of any tests and inspection is finalized, the formal Approval, Extension of Approval, or Subsequent Approval letter is issued. An invoice for the total cost of the investigation is sent after final approval issuance.

5.5. Submit the application to MSHA by one of the following methods:

5.5.1. Mail to: MSHA Approval and Certification Center

Attention: IPSO 765 Technology Drive, Triadelphia, WV 26059

5.5.2. FAX to: 304-547-2044

5.5.3. Electronically: For information and instructions on setting up an account with MSHA go to:
http://www.msha.gov/techsupp/acc/application/online.htm
Contact the Applied Engineering Division at 304-547-0400 for additional information concerning these procedures.

(SAMPLE)
PART 7 REFUGE ALTERNATIVE AIR-MONITORING COMPONENT
APPROVAL APPLICATION LETTER

Chief, Approval and Certification Center
765 Technology Drive
Triadelphia, WV 26059

Company and Address:
ABC Electronics, Inc.
2 Starlake Avenue
Wheeling, WV 26003

Date: 01-01-2009

Subject: New Approval of the Refuge Alternative Air-Monitoring Component Model 1XXXX

Company Application Code No.: 123456

Gentlemen:

We are requesting approval of the subject refuge alternative air-monitoring component built according to drawing 1XXXX-4.

This air-monitoring component is for a refuge alternative rated for 96 hours occupancy.

Enclosed are all drawings and specifications pertinent to this application. If there are any questions, please contact John Doe at 304-555-1234.

Sincerely,

John Doe
President

(SAMPLE)
PART 7 REFUGE ALTERNATIVE AIR-MONITORING COMPONENT
EXTENSION OF APPROVAL APPLICATION LETTER

Chief, Approval and Certification Center
765 Technology Drive
Triadelphia, WV 26059

Company and Address:
ABC Electronics, Inc.
2 Starlake Avenue
Wheeling, WV 26003

Date: 01-01-2009

Subject: Extension of Approval of the Refuge Alternative Air-Monitoring Component Model 1XXXX Company Application Code No.: 123457

Gentlemen:

We are requesting approval of the subject refuge alternative air-monitoring component built according to drawing 2XXXX-4.

The air-monitoring component is similar to the refuge alternative air-monitoring component approved under 07-LCA09XXXX-0, except the Acme Electronics, Inc Oxygen/Carbon Dioxide/Methane detector unit has been replaced with a Ace Instrument Co. Oxygen/Carbon Dioxide/Methane detector unit, and the sensor configuration has been modified

Enclosed are all new or revised drawings and specifications pertinent to this application. If there are any questions, please contact John Doe at 304-555-1234.

Testing of this air-monitoring component is/is not necessary, based on the testing conducted and witnessed by an MSHA representative under Approval 07- LCA 09XXXX-0.

Sincerely,

John Doe
President

(SAMPLE)
PART 7 REFUGE ALTERNATIVE AIR-MONITORING COMPONENT
SUBSEQUENT APPROVAL APPLICATION LETTER

Chief, Approval and Certification Center
765 Technology Drive
Triadelphia, WV 260592

Company and Address:
ABC Electronics, Inc.
2 Starlake Avenue
Wheeling, WV 26003

Date: 01-01-2009

Subject: Subsequent Approval of the Refuge Alternative Air-Monitoring Component Model 3XXXX, Company Application Code No.: 123457

Gentlemen:

We are requesting a subsequent approval of the subject air-monitoring component built according to drawing 1XXXX. The subject refuge alternative air-monitoring component is similar air-monitoring component built according to drawing 1XXXX-1, Approval No. 07-LCA09XXXX-0, except the Acme Electronics, Inc. Oxygen/Carbon Dioxide/Methane detector unit has been replaced with a Ace Instrument Co. Oxygen/Carbon Dioxide/Methane detector unit, and a second Ace Instrument Co. Model D107 Carbon Monoxide detector has been added.

Testing of this air-monitoring component is/is not necessary, based on the testing conducted and witnessed by an MSHA representative under Approval 07-LCA 09XXXX-0.

Enclosed are all of the new or revised drawings and specifications pertinent to this application. If there are any questions, please contact John Doe at 304-555-1234.

Sincerely,

John Doe
President

PART 7 REFUGE ALTERNATIVES AIR-MONITORING COMPONENT
CERTIFIED STATEMENTS

Company: Date:

Address:

Subject:

Company Application Code No.:

I, _____, as the responsible company official, hereby certify that:
(Signature)

(1) The subject refuge alternative air-monitoring component will have Quality Assurance functions performed as specified in Title 30 Code of Federal Regulations 30 CFR Part 7, Subpart A (7.7).

(2) The subject refuge alternative air-monitoring component has been designed to meet or exceed the general requirements set forth in 30 CFR Part 7, Subpart L (7.504).

(3) The subject refuge alternative air-monitoring component has been designed to meet or exceed the air-monitoring component criteria set forth in 30 CFR Part 7, Subpart L (7.507).

(4) The subject refuge alternative air-monitoring component has been tested and meets the performance portion of the technical requirements set forth in 30 CFR Part 7, Subpart L (7.505(b)(5) and 7.507).

The proposed change cited in the application is the only change that affects the technical requirements (for subsequent and extensions of approval only)(30 CFR, Part 7, Subpart A, Section 7.3(f)). (If applicable)

Sincerely,

John Doe
President

PART 7 REFUGE ALTERNATIVE AIR-MONITORING COMPONENT APPROVAL/ EXTENSION OF APPROVAL/ SUBSEQUENT APPROVAL CHECKLIST

Complete all of the following by adding a checkmark on the lines provided. The checkmark signifies the item has been positively addressed. N/A signifies the item is not applicable to the design of the refuge alternative.

Note: It is strongly recommended that the checklist is included with the application. Providing the document/drawing number where the checklist item is met will further streamline the process. (For example, blast overpressure passing test results, test sheet number 15)

ADMINISTRATIVE

_____ 1. The approval/subsequent approval or extension of approval application letter is enclosed.
_____ 2. All correspondence, specifications, and lettering on documents are in English and are legible.
_____ 3. All documents are titled, numbered, dated, include the company name, and show the latest revision level. If multiple pages are submitted, this information is on each page
_____ 4. There are no pencil or ink notations, or correction fluid (white-out) on the drawings and bills of material.
_____ 5. A certified statement is included that specifies that the refuge alternative will have Quality Assurance functions performed as specified in 30 CFR, Part 7, Subpart A (Section 7.7)
_____ 6. A certified statement is included that specifies that the refuge alternative air-monitoring component has been designed to meet the design portion of the technical requirements set forth in 30 CFR, Part 7, Subpart L (Section 7.504).
_____ 7. A certified statement is included that specifies that the refuge alternative air-monitoring component has been designed to meet the design portion of the technical requirements set forth in 30 CFR, Part 7, Subpart L (Section 7.507).
_____ 8. A certified statement is included that specifies that the refuge alternative air-monitoring component has been tested and meets the performance portion of the technical requirements set forth in 30 CFR Part 7, Subpart L (Section 7.505(b)(5) and 7.507).

TECHNICAL

APPLICATION REQUIREMENTS (Section 7.503) **An application for approval of a refuge alternative or component shall include:**	**Drawing or Document No.**
_____ 1. The refuge alternative's or component's make and model number, if applicable.(Section 7.503 (a) (1)) _____ 2. A list of the refuge alternative's or component's parts that includes: (Section 7.503 (a) (2)) _____ a. The MSHA approval number for electric-powered equipment; (Section 7.503 (a) (2) (i)) _____ b. Each component's or part's in-mine shelf life, service life, and recommended replacement schedule; (Section 7.503 (a) (2) (ii)) _____ c. Materials that have a potential to ignite used in each component or part with their MSHA approval number (Section 7.503 (a) (2) (iii)); and _____ d. A statement that the component or part is compatible with other components and upon replacement, is equivalent to the original component or part (Section 7.503 (a) (2) (iv)) _____ 3. The capacity and duration (the number of persons it is designed to maintain and for how long) of the refuge alternative or component on a per-person per-hour basis. (Section 7.503 (a) (3)) _____ 4. The length, width, and height of the space required for storage of each component. (Section 7.503 (a) (4)) _____ 5. A manual that contains sufficient detail for each refuge alternative or component addressing in-mine transportation, operation, and maintenance of the unit. (Section 7.503 (b) (7)) _____ 6. A summary of the procedures for deploying refuge alternatives. (Section 7.503 (b) (8)) _____ 7. A summary of the procedures for using the refuge alternative. (Section 7.503 (b) (9)) _____ 8. The results of inspections, evaluations, calculations, and tests conducted under this subpart. (Section 7.503 (b) (10))	

	Drawing or Document No.
_____ 9. The operating range, type of sensor, gas or gases measured, and environmental limitations, including the cross-sensitivity to other gases, of each detector or device in the air-monitoring component. (Section 7.503 (c) (1)) _____ 10. The procedure for operation of the individual devices so that they function as necessary to test gas concentrations over a 96 hour period. (Section 7.503 (c) (2)) _____ 11. Procedures for monitoring and maintaining breathable air in the airlock, before and after purging. (Section 7.503 (c) (3)) _____ 12. Instructions for determining the quality of the atmosphere in the airlock and refuge alternative interior and a means to maintain breathable air in the airlock. (Section 7.503 (c) (4)) **REFUGE ALTERNATIVES AND COMPONENTS; GENERAL REQUIREMENTS. (Section 7.504)** **Refuge alternatives and components:** _____ 1. Electrical components that are exposed to the mine atmosphere, shall be approved as intrinsically safe for use. Electrical components located inside the refuge alternative shall be either approved as intrinsically safe or approved as permissible (Section 7.504 (a) (1)) _____ 2. Shall not produce continuous noise levels in excess of 85 dBA in the structure's interior. (Section 7.504 (a) (2)) _____ 3. Shall not liberate harmful or irritating gases or particulates into the structure's interior or airlock. (Section 7.504) (a) (3)) _____ 4. Shall be designed so that the refuge alternative can be safely moved with the use of appropriate devices such as tow bars. (Section 7.504 (a) (4)) _____ 5. Shall be designed to withstand forces from collision of the refuge alternative structure during transport or handling. (Section 7.504 (a) (5))	

The apparent temperature in the structure shall be controlled as follows:	**Drawing or Document No.**
_____ 6. When used in accordance with the manufacturer's instructions and defined limitations, the apparent temperature in the fully occupied refuge alternative shall not exceed 95 degrees Fahrenheit (°F). (Section 7.504 (b) (1))	
_____ 7. Tests shall be conducted to determine the maximum apparent temperature in the refuge alternative when used at maximum occupancy and in conjunction with required components. Test results, including calculations, shall be reported in the application. (Section 7.504 (b) (2))	
The refuge alternative shall include:	
_____ 8. A two-way communication facility that is a part of the mine communication system, which can be used from inside the refuge alternative; and accommodations for an additional communication system and other requirements as defined in the communications portion of the operator's approved Emergency Response Plan. (Section 7.504 (c) (1))	
_____ 9. Lighting sufficient for persons to perform tasks; (Section 7.504 (c) (2))	
_____ 10. Materials, parts, and tools for repair of components; (Section 7.504 (c) (5)) and	
Containers used for storage of refuge alternative components or provisions shall be:	
_____ 14. Airtight, waterproof, and rodent-proof (Section 7.504 (d) (1))	
_____ 15. Easy to open and close without the use of tools; (Section 7.504 (d) (2)) and	
_____ 16. Conspicuously marked with an expiration date and instructions for use. (Section 7.504 (d) (3))	
<u>FLASH FIRE INSPECTION (Section 7.505)</u>	
_____ 1. An inspection shall be conducted to determine that a flash fire of 300°F for 3 seconds does not prevent the stored components from operating; (Section 7.505 (b) (5))	

AIR-MONITORING COMPONENTS (Section 7.507)	**Drawing or Document No.**
_____ 1. Each refuge alternative shall have an air-monitoring component that provides persons inside with the ability to determine the concentrations of carbon dioxide, carbon monoxide, oxygen, and methane, inside and outside the structure, including the airlock. (Section 7.507 (a)) _____ 2. Refuge alternatives designed for use in mines with a history of harmful gases, other than carbon monoxide, carbon dioxide, and methane, shall be equipped to measure the harmful gases' concentrations. (Section 7.507 (b)) _____ 3. The air-monitoring component shall be inspected or tested and the test results shall be included in the application. (Section 7.507 (c)) _____ 4. The air-monitoring component shall meet the following: (Section 7.507 (d)) _____ a. The total measurement error, including the cross-sensitivity to other gases, shall not exceed ± 10 percent of the reading, except as specified in the approval. (Section 7.507 (d) (1)) _____ b. The measurement error limits shall not be exceeded after start-up, after 8 hours of continuous operation, after 96 hours of storage, and after exposure to atmospheres with a carbon monoxide concentration of 999 ppm (full-scale), a carbon dioxide concentration of 3 percent, and full-scale concentrations of other gases. (Section 7.507 (d) (2)) _____ c. Calibration gas values shall be traceable to the National Institute for Standards and Technology (NIST) "Standard Reference Materials" (SRMs). (Section 7.507 (d) (3)) _____ d. The analytical accuracy of the calibration gas and span gas values shall be within 2.0 percent of NIST gas standards. (Section 7.507 (d) (4)) _____ e. The detectors shall be capable of being kept fully charged and ready for immediate use. (Section 7.507 (d) (5))	

APPROVAL MARKINGS (Section 7.509)	**Drawing or Document No.**
_____ 1. Each approved refuge alternative or component shall be identified by a legible, permanent approval marking that is securely and conspicuously attached to the component or its container. (Section 7.509 (a)) _____ 2. The approval marking shall be inscribed with the component's MSHA approval number and any additional markings required by the approval. (Section 7.509 (b)) _____ 3. The refuge alternative structure shall provide a conspicuous means for indicating an out-of-service status, including the reason it is out of service. (Section 7.509 (c)) _____ 4. The airlock shall be conspicuously marked with the recommended maximum number of persons that can use it at one time. (Section 7.509 (d))	