

## 1.0 PURPOSE

- 1.1. The purpose of this Standard Application Procedure (SAP) is to explain the basic investigative process, and specify the minimum documents and requirements necessary to initiate an investigation leading to the acceptance of ground wire devices.

## 2.0 SCOPE

- 2.1. This SAP encompasses all applications submitted for acceptance or extension of acceptance of ground wire devices. Ground wire devices are accepted in three categories of Title 30, Code of Federal Regulations (30 CFR):
  - 2.1.1. Surface applications include all surface circuits required to be monitored under Sections 77.803 and 77.902, regardless of the system voltage.
  - 2.1.2. High-voltage underground includes all circuits required to be monitored under Section 75.803.
  - 2.1.3. Face equipment includes all circuits required to be monitored under Section 75.902.

## 3.0 REFERENCES

- 3.1. Title 30 Code of Federal Regulations Sections 18.47(d)(2), 75.803, 75.902, 77.803, and 77.902 and ACRI2003, Design and Performance Criteria for Acceptance of Ground Wire Monitor Systems and ASTP2045, Standard Test Procedure For Acceptance of Ground Wire Monitor Systems.

## 4.0 DEFINITIONS

- 4.1. Failsafe Ground Check Circuit - an MSHA accepted ground wire monitor system that is installed according to the manufacturer's instructions and specifications and has met all applicable requirements specified in ACRI2003, Design and Performance Criteria for Acceptance of Ground Wire Monitor Systems and ASTP2045, Standard Test Procedure For Acceptance of Ground Wire Monitor Systems.
- 4.2. Continuity Ground Wire Monitor - an instrument, apparatus or system that continuously monitors the continuity of a grounding conductor, regardless of the existence of parallel paths, and initiates a tripping signal when the grounding conductor's continuity is broken.

- 4.3. Impedance Ground Wire Monitor - an instrument, apparatus or system that measures the impedance or resistance of a designated pilot and ground wire circuit and initiates a tripping signal when the impedance or resistance exceeds an amount necessary to produce a 40-volt (for low and medium voltage systems) or a 100-volt (for high voltage systems) potential, external to the neutral grounding resistor during grounded phase conditions. Note that all permissible equipment applications are limited to 40 volts maximum by 30 CFR 18.50(b).

## 5.0 APPLICATION PROCEDURE

- 5.1. All applications for acceptance of ground wire devices must include the documentation listed in Sections 5.1.1. through 5.1.4.
- 5.1.1. An acceptance application letter. (Refer to Enclosure A)
- 5.1.1.1. The company application code number, manufacturer, model, and type or category for which the acceptance is desired should be specified in the letter. The company application code number is any six-digit or less number assigned by the applicant that has not previously been used by the applicant to identify an application.
- 5.1.1.2. The application letter should include a list of documentation being submitted to MSHA for evaluation. The letter should be signed by the person responsible for answering questions regarding the subject application and include their phone number and e-mail address (if applicable).
- 5.1.2. One copy of each drawing, bills of material, specifications, installation instructions etc., which shows the details of the design and construction of the device. Documents previously accepted by MSHA need not be submitted, unless modified. The bills of material must specify the component parts necessary to construct one complete device. This list must specify the component, type of component (carbon composition, wire-wound, electrolytic, etc.), component designation (R1, L2, T3, etc.), tolerance, and rating. The electrical schematic and the component layout drawing should include component designations.
- 5.1.3. A sample label of the acceptance plate that includes its method of attachment to the ground wire device. A sample label design is attached (Refer to enclosure B). Although reduction in size is permitted, the acceptance plate must include at a minimum the MSHA Logo, the

company name, a description of the device and a space for the Acceptance Number (8 spaces minimum).

- 5.1.4. Three sample devices complete for installation. Two production units and one unit not potted, if units are later potted. The devices will be returned after the evaluation is completed.
- 5.2. Upon receipt of the application package by the Approval and Certification Center, a letter estimating the maximum anticipated fee to complete the investigation and a tentative starting date will be mailed to the applicant.
  - 5.2.1. An authorization response form will be included that indicates agreement, by the applicant, to pay expenses up to the maximum estimated fee for the investigation or requests cancellation of the application. The applicant must return this form to the Approval and Certification Center, before any further action can be taken on the application. If the authorization response is not returned within thirty days from the date of the letter, the application will be canceled.
  - 5.2.2. When unforeseen circumstances encountered during the investigation result in exceeding the estimated fee, the applicant will be contacted and given the option of either canceling the action or accepting a revised fee estimate.
- 5.3. During the investigation, applicants will be notified via telephone of any discrepancies or additional information needed to process the application. All phone calls will be followed-up with a discrepancy letter. Overseas applicants will be notified by airmail, but will not receive a telephone call. An e-mail may be sent if an e-mail address has been provided. Failure to respond to discrepancies in the time allotted will result in cancellation of the application.
- 5.4. The applicant must arrange for all testing at an appropriate laboratory. A copy of the Standard Test Procedures for Ground Wire Devices has been prepared and is available for guidance. MSHA reserves the right to witness the applicants and/or third party testing and must be notified at least two weeks in advance of testing. Test results must be submitted by the applicant to MSHA with each page being signed and dated by the tester and an authorized company official who can bind the company.
- 5.5. The final acceptance letter will be mailed to the applicant when the investigation is completed.

- 5.6. An invoice for the total cost of the investigation will be sent to the applicant at a later date.
- 5.7. The following are conditions of the acceptance:
- 5.7.1. As a part of the acceptance program, MSHA reserves the right to request an accepted ground wire device from the acceptance holder for audit at no cost to MSHA, no more frequently than once a year, except for cause.
- 5.7.2. Any accepted ground wire device covered under this program may be advertised as "accepted by MSHA", but such terms as Recommended, Sanctioned, Approved, or Certified by MSHA are prohibited.
- 5.7.3. Any materials, developments, test results or other information designated as proprietary and/or confidential shall be regarded as such with the exception of the manufacturer's name, address, telephone number, product name and acceptance number.
- 5.7.4. An accepted ground wire device shall be legibly and permanently marked with the assigned MSHA acceptance number affixed to the device.
- 5.7.5. An accepted ground wire device shall be marketed only under the same name and identification nomenclature that has been furnished to MSHA in the acceptance documentation.