

1.0 PURPOSE

These are the procedures for MSHA applicants and independent laboratories to follow when having products evaluated to the Mine Safety and Health Administration (MSHA) requirements under Title 30 Code of Federal Regulations Part 6 (30 CFR Part 6).

An MSHA approval is required to allow the use of an electrical product in hazardous areas of mines that may contain either explosive methane gas or combustible coal dust. A product that is designed to an equivalent non-MSHA product safety standard or has been evaluated and tested to MSHA requirements by an independent laboratory is not automatically considered MSHA approved. It still must be reviewed and approved by MSHA.

2.0 SCOPE

This procedure applies to MSHA approval applicants and independent laboratories that evaluate and test products to MSHA requirements, or evaluate and test products to a non-MSHA product safety standard determined by MSHA to be equivalent to MSHA requirements. These products include those approved, certified, accepted or evaluated by the Electrical Safety Division (ESD) under 30 CFR Parts 18, 19, 20, 22, 23, and 27.

3.0 REFERENCES

- 3.1. 30 CFR Part 6 "Testing and Evaluation by Independent Laboratories and Non-MSHA Product Safety Standards"
- 3.2. 30 CFR Part 18 "Electric Motor-Driven Mine Equipment and Accessories"
- 3.3. 30 CFR Part 19 "Electric Cap Lamps"
- 3.4. 30 CFR Part 20 "Electric Mine Lamps Other Than Standard Cap Lamps"
- 3.5. 30 CFR Part 22 "Portable Methane Detectors"
- 3.6. 30 CFR Part 23 "Telephones and Signaling Devices"
- 3.7. 30 CFR Part 27 "Methane-Monitoring Systems"
- 3.8. APOL 1009 "Application Cancellation Policy"

4.0 DEFINITIONS

- 4.1. 30 CFR Part 6 – A regulation that sets out alternate requirements for testing and evaluation of products MSHA approves for use in gassy underground mines.
- 4.2. MSHA Applicant – An individual or organization that manufactures or controls the assembly of a product and applies to MSHA for approval of that product.
- 4.3. Discrepancy – An inconsistency between the product and drawings or drawings and requirements found during the review of the application package by either MSHA or the independent laboratory.
- 4.4. Independent Laboratory – A laboratory that: (1) has been recognized by a laboratory accrediting organization to test and evaluate products to a product safety standard, and (2) is free from commercial, financial, and other pressures that may influence the results of the testing and evaluation process.
- 4.5. Equivalent non-MSHA product safety standard – A non-MSHA product safety standard, or group of standards, that is determined by MSHA to provide at least the same degree of protection as the applicable MSHA product approval requirements in parts 18, 19, 20, 22, 23, and 27, or which in modified form provide at least the same degree of protection.

5.0 PROCEDURE

Note: The order of this procedure is for reference purposes only, and may be modified. For example, testing by an independent laboratory can precede application for MSHA approval.

- 5.1. Potential MSHA applicant decides which method of approval they wish to pursue:
 - 5.1.1. Independent laboratory testing and evaluation according to MSHA requirements.
 - 5.1.2. Independent laboratory testing and evaluation according to an equivalent non-MSHA product safety standard. For an updated list of these

standards, see the following link:

<http://www.msha.gov/Part6SingleSource/Part6SingleSource.asp>.

- 5.1.2.1. Currently, only the International Electrotechnical Commission (IEC) standard for flameproof enclosures (IEC 60079-0 and IEC 60079-1) has been reviewed for equivalency to MSHA standards. MSHA determined that the IEC standard was equivalent with additional requirements. Those additional requirements are included in the federal register notice found at the following link, and in 30 CFR Parts 7 and 18.
<http://www.msha.gov/REGS/FEDREG/FINAL/2006finl/06-4391.asp>
- 5.1.2.2. Also published for intent to be reviewed was IEC 60079-0 and IEC 60079-11 (Intrinsic Safety). The evaluation was not finalized at the time of this document.
- 5.1.2.3. Requests for additional standards desired to be evaluated by MSHA for equivalency shall be submitted in writing to the Approval and Certification Center (A&CC) Center Chief. Such requests are considered when making determinations of which additional standards MSHA will evaluate for equivalency.
- 5.1.3. MSHA evaluation. Since this method of approval is outside the scope of this document, the applicant should refer to the appropriate Standard Application Procedure found at the following link.
<http://www.msha.gov/TECHSUPP/ACC/application/application.htm>
- 5.2. Potential MSHA applicant chooses an independent laboratory.
 - 5.2.1. MSHA can accept test and evaluation results from any test laboratory that has been accredited by a reputable accrediting organization for the type of evaluation to be requested. The following two organizations determine independence and accredit organizations based on the applicable standards. Either of the two links provides a list of laboratories meeting the definition of an independent laboratory.
 - 5.2.1.1. Occupational Safety and Health Administration (OSHA) Nationally Recognized Testing Laboratory (NRTL) program
(<http://www.osha.gov/dts/otpca/nrtl/>), or
 - 5.2.1.2. IECEx (<http://www.iecex.com/directory/bodies/bodies1.asp?id=5>)

TITLE: Processing MSHA Part 6 Applications for MSHA Applicants and Independent Laboratories**MSHA Mine Safety and Health Administration, Approval & Certification Center**

Note: If a laboratory is chosen from either of the above two links, their accreditation with these two organizations serves as written evidence of the laboratory's independence as required by Section 6.10(a)(1).

5.2.2. Other laboratories not on either the OSHA or IECEx list may be accepted provided the following two requirements are met:

5.2.2.1. Written evidence of the laboratory's independence is provided to MSHA.

5.2.2.2. Written evidence of current recognition by a laboratory accrediting organization is provided to MSHA.

5.3. Potential MSHA applicant applies to MSHA for approval of their product via Part 6.

Note: It is recommended that the applicant consult with MSHA in the independent laboratory test and evaluation process to avoid interpretation errors. Extra tests or evaluation may be required to address improper interpretations of the MSHA requirements or to address required modifications to the equivalent non-MSHA product safety standard.

5.3.1. The applicant completes and submits the application per the applicable procedure (according to the applicable 30 CFR product approval Part), making note on the application that it is a Part 6 application, and including sufficient drawings and supporting documentation to facilitate an accurate fee estimate. The final drawings and supporting documentation are submitted to MSHA at the completion of the independent laboratory's review of the product. The following is a link to MSHA's standard application procedures.

<http://www.msha.gov/TECHSUPP/ACC/application/application.htm>

Recommendation: MSHA is only authorized to communicate with the applicant. Therefore, applicants are encouraged to authorize in writing, and facilitate, communication between MSHA and the independent laboratory. This is intended to ensure an adequate understanding of MSHA's requirements and to avoid undesirable outcomes, such as rejection of the independent laboratory's results. Such written authorizations may be included in the application letter.

TITLE: Processing MSHA Part 6 Applications for MSHA Applicants and Independent Laboratories**MSHA Mine Safety and Health Administration, Approval & Certification Center**

5.3.2. A fee estimate is prepared upon receipt of an application. A letter is sent to the applicant with the estimated fee, as well as an estimated date that the job will be assigned to an investigator.

5.3.2.1. Upon receiving the fee authorization from the applicant, the application is placed in a queue for assignment to the next available investigator.

5.4. Independent laboratory evaluates and tests the product.

Recommendation: In order to facilitate efficient processing of a Part 6 application, it is suggested that the independent laboratory prepare a test and evaluation plan for review by MSHA prior to initiating such tests and evaluations to aid in avoiding any complications.

5.4.1. The independent laboratory evaluates the drawings for compliance with all MSHA regulations and policies in effect at the time. The following is a link to Title 30 Code of Federal Regulations (<http://www.msha.gov/30CFR/CFRINTRO.HTM>) and a link to the compliance information guide for various products (e.g. explosion-proof boxes, electric mining machines, flashlights, cap lamps, etc.) <http://www.msha.gov/Techsupp/ACC/Approvals/ESD/ESDApproval.s.asp>

5.4.2. The independent lab ensures the application package contains all materials required by the applicable MSHA standard application procedure. The following is a link to application procedures. <http://www.msha.gov/TECHSUPP/ACC/application/application.htm>

5.4.3. The independent laboratory compares the product in marketable form with the submitted drawings to verify the product complies in all aspects and photographs the product, including the disassembly process. The independent laboratory also determines during this time whether the drawings are adequate in number and detail. The photographs should include views of the assembled interior and exterior, connectors, internal wiring subassemblies, and close-up views of all critical areas, protective components or assemblies, and significant energy-storing components and identifies and specifies significant features of the product.

5.4.4. The independent laboratory follows all MSHA standard test procedures in effect at the time for required testing. The independent laboratory is

either required to indicate on each test sheet to what MSHA standard test procedure the test(s) were conducted, or include a statement in the final report that all tests were conducted in accordance with the applicable MSHA standard test procedures. The following is a link to standard test procedures.

<http://www.msha.gov/TECHSUPP/ACC/StandardTestProcs/StandardTestProcs.asp>

- 5.4.5. Any discrepancies noted during this process are handled between the applicant and independent laboratory. MSHA is available for consultation, if necessary.
- 5.4.6. Once the independent laboratory determines that the design complies with all applicable MSHA requirements, the lab prepares a final report and submits it to the applicant for submission to MSHA.
- 5.5. The application package is submitted for MSHA review.
 - 5.5.1. The application package must include: a list of all drawings necessary to describe the product, detailed drawings describing the product, a final report, all test sheets referenced by the final report, all information required by the applicable standard application procedure, detailed photographs of the product, and any other information referenced by the report.

Some common pitfalls include:

- Drawings for equipment submitted for approval under 30 CFR Part 18 do not contain the required MSHA notes.
- All submitted documentation used by the independent laboratory to determine compliance with the MSHA requirements (e.g. UL1642 test report for lithium batteries used in intrinsically safe products) is not provided to MSHA.
- A factory inspection form or certified statement required by Parts 18 and 27 is not submitted.
- User manuals required by some application procedures are not submitted.

- 5.5.2. The report must address how the product complies with each requirement in the applicable MSHA product approval requirements. It is recommended that the report include a checklist that includes each applicable MSHA requirement and references the section of the report that addresses each requirement.
- 5.5.3. The report must also state that the product in marketable form was compared to the drawings and found to agree in all aspects. If not found to agree, the report must address in what ways the product did not agree and why this was found to be acceptable.
- 5.6. MSHA reviews the application package.
- 5.6.1. MSHA reviews the application package for compliance with all applicable MSHA regulations, policies, and procedures in effect at the time.
- 5.6.2. If any discrepancies with the application package are identified, MSHA drafts a discrepancy letter and sends it to the applicant. The applicant must address all identified discrepancies in the amount of time specified in the letter (ref. APOL1009, A&CC cancellation policy, which can be found at the following link:
<http://www.msha.gov/TECHSUPP/ACC/approvals/esd/apol1009.pdf>)
- 5.6.3. MSHA has the authority to request the independent laboratory conduct additional evaluation or testing, or may choose to conduct the additional evaluation or testing itself (ref. Part 6.10(d)).
- 5.7. MSHA drafts report and issues approval; drafts a discrepancy letter to the applicant; or cancels the application.
- 5.7.1. Upon review and acceptance of the independent laboratory's application package, MSHA prepares its own report of how the product and supporting documentation comply with Part 6 and the applicable 30 CFR product approval part. If the application package is not acceptable to MSHA, MSHA will send a letter to the applicant notifying them of any discrepancies.
- 5.7.2. Upon ESD acceptance, the drawings are indexed and filed in the A&CC's records management system for future reference.

TITLE: Processing MSHA Part 6 Applications for MSHA Applicants and Independent Laboratories**MSHA Mine Safety and Health Administration, Approval & Certification Center**

- 5.7.3. An approval letter and drawing list will then be sent to the applicant notifying them of MSHA acceptance of the product.
- 5.7.4. If the product cannot be accepted or the applicant does not address discrepancies in the required time, the application is cancelled.
- 5.8. Post approval requirements.
- 5.8.1. MSHA has the option of conducting post approval audits of the product not more than once a year, except for cause, at no cost to MSHA (ref. 30 CFR Part 6.10(e)).
- 5.8.2. The applicant must notify MSHA of all product defects of which they become aware (ref. 30 CFR Part 6.10(f)).
- 5.8.3. The applicant is required to inform customers, distributors, and end users of the conditions of use specified in the MSHA approval letter.
- 5.8.4. The applicant is required to abide by other stipulations listed in the MSHA approval letter.
- 5.9. Contacts.
- 5.9.1. Prior to a job being assigned, if there are Part 6 related questions, interested parties can access the Part 6 Single Source site at the following link <http://www.msha.gov/Part6SingleSource/Part6SingleSource.asp> or contact the following persons:
- 5.9.1.1. Dave Chirdon (304-547-2026, Chirdon.david@dol.gov) or Ken Porter (304-547-2030, Porter.kenneth@dol.gov) for general Part 6 related questions.
- 5.9.1.2. Bob Boring (304-547-2089, Boring.robert@dol.gov) for Explosion-Proof (X/P) Equipment related Part 6 approval questions.
- 5.9.1.3. Chad Huntley (304-547-2076, Huntley.chad@dol.gov) for Intrinsically Safe (IS) Equipment related Part 6 approval questions.
- 5.9.2. After assignment to an investigator, the assigned investigator will contact the applicant to discuss details of the application.