

Title/Subject: Standard Application Procedures for Certifications, Simplified Certifications and Extensions of Certifications		
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Signature/Initial: Steven J. Luzik, Chief, A&CC		

**STANDARD APPLICATION PROCEDURES FOR
CERTIFICATIONS, SIMPLIFIED CERTIFICATIONS AND EXTENSIONS OF
CERTIFICATIONS**

1.0 PURPOSE

The purpose of this Standard Application Procedures (SAP) is to explain the basic investigative process, and specify the minimum documents and requirements necessary to initiate an investigation leading to the issuance of a Certification, Simplified Certification or Extension of Certification.

2.0 SCOPE

This SAP encompasses all applications submitted for certification, simplified certification or extension of certification.

3.0 DEFINITIONS

3.1 Simplified Certification - A procedure that enables an applicant requesting certification of an enclosure to submit assembly-type drawings instead of individual component part drawings. These assembly drawings depict the actual configuration of the enclosure and include all dimensions critical to the requirements of 30 CFR, Part 18, including welding notes, materials and tolerances. Noncritical dimensions and specifications, such as those relating to mounting feet and internal component details are not required and should be omitted to gain the full benefit of the simplified procedure. Sample assembly drawings for the four most common enclosures (connectors, headlights, luminaires and controllers) are attached.

3.2 Certification - A formal written notification, issued by MSHA, which states that an electrical component meets the applicable requirements of Part 18 and is therefore suitable for use on permissible equipment. The applicant is required to submit to MSHA the manufacturing drawings for the parts which make up the flamepath fits of the component.

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3.3 Extension of Certification - A formal acceptance of changes made to originally certified equipment. An extension of certification may be issued using either the standard procedures, which requires submitting the actual manufacturing drawings, or using the simplified procedures, which requires submitting the assembly-type drawings, documenting the dimensions critical to ensure compliance with Part 18 requirements.

4.0 PROCEDURE

4.1 Each application for a certification, simplified certification or extension of certification must include:

- 4.1.1 A dated application letter, signed by a company official responsible for answering any questions regarding the subject application. The application letter should include a statement indicating if this is a new design, available for testing; if the component is similar to one previously tested; or if there are any unusual design characteristics (see examples A, B, & C for samples);
- 4.1.2 A six digit Company Application Code Number, which is assigned by the applicant, not previously used, and specified on the application letter;
- 4.1.3 One copy of each drawing, bill of material, or specification which shows the details of the design of the enclosure as related to the requirements of 30 CFR, Part 18. Documents previously accepted by MSHA need not be submitted, unless modified.
- 4.1.4 A complete list of the drawings, bills of material, specifications, etc. that are submitted, referenced or used to construct the enclosure. (See Enclosure D, Shs. 1 and 2 for sample). Generally, a drawing List is not required for Simplified Certifications.

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- 4.1.5 A Factory Inspection Form (for certifications or simplified certifications) in accordance with 30 CFR, Part 18 or a certified statement in lieu of the Factory Inspection Form (see Enclosure E).
- 4.1.6 A checklist to ensure that the drawings and specifications submitted to MSHA are complete. (See Enclosure F). This checklist may be submitted with the application but is not mandatory.
- 4.2 Applications may be submitted in electronic format. The procedure for submitting in electronic format is accessible on the MSHA Homepage - www.MSHA.gov/ click on Technical Support/Approval & Certification Center/Approval Application Submission - Submission of Approval Applications in Electronic Format; or call the Approval & Certification Center at 304/547-0400.
- 4.3 Upon receipt of the application package by the Approval and Certification Center, a letter will be sent to the applicant which includes an estimate of the maximum anticipated fee to complete the investigation and a tentative starting date.
- 4.3.1 An authorization response form will be included which indicates agreement to pay expenses up to the maximum estimated fee for the investigation or request cancellation of the application. This form must be returned by the applicant before any further action is taken on the application. If the form letter is not returned within thirty days of the letter date, the application will be canceled.
- 4.3.2 The applicant may choose to pre-authorize the fees up to a certain amount by stating the pre-authorization fee in their application letter. This will eliminate the time waiting for the fee authorization response.
- 4.3.3 Applicants who submit applications to MSHA on

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a regular basis may choose to submit a blanket authorization indicating their agreement to pay incurred fees.

- 4.3.4 When unforeseen circumstances encountered during the investigation may result in exceeding the estimated fee, the applicant will be contacted and given the option of canceling the action or accepting the new estimated fee.
- 4.4 During the investigation, applicants will be notified via telephone of any discrepancies or additional information needed to process the application and a follow-up letter will be mailed. Overseas applicants will be notified by airmail, but will not receive a phone call. If an E-mail address is available, the discrepancy letter may be E-mailed.
- 4.5 After all the technical documents are evaluated, inspection and testing of the enclosure may be deemed necessary.
- 4.5.1 Testing may include, but is not limited to, explosion tests, thermal, shock and impact tests (for lenses), or surface temperature tests.
- 4.5.2 A prototype of the enclosure is requested, and when received at the Approval & Certification Center's Electrical Test Laboratory, it is inspected and tested.
- 4.5.3 Once testing is completed, all inspection discrepancies are answered and any changes required as a result of the inspection and testing are finalized, the official certification number will be issued via the typed Certification or Extension of Certification letter and drawing list (if deemed necessary).
- 4.5.4 An invoice for the total cost of the investigation, in accordance with Part 5 fees, will follow.

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4.6 All applicants are encouraged to contact the Chief, Electrical Safety Division at 304/547-2030 if there are any questions relative to these procedures. Assistance through technical consultations is available by appointment.

5.0 REVIEW

This document will be reviewed every three years from the issue date.

6.0 RESPONSIBILITY

It is the responsibility of all Electrical Division personnel to ensure that applications are processed in accordance with this SAP.

7.0 DISTRIBUTION

All manufacturers of explosion-proof mining components.

8.0 AUTHORITY

30 CFR, Part 18.6(a)

ABC Company, 950 Mining Road, Pittsburgh, PA 15293

February 22, 2000

Chief, Approval & Certification Center
RR#1, Box 251
Industrial Part Road
Triadelphia, W. Va. 26059



Application Code No. 24906

Gentlemen:

We are requesting a New Certification for our Model 54892 Controller, built according to Assembly Drawing 54892, Shs. 1 & 2.

This controller is a new design; however, we are requesting that tests be waived based on the Model 29876 Controller, which was tested and inspected under Inv. MR-2968, X/P-905-0, letter dated March 16, 1982.

The controller is larger than the one tested, with a difference in volume of less than 10%. The subject controller has additional gland assemblies, additional operator shafts in the cover, and an added lens assembly. The lens assembly was previously thermal, shock, impact & explosion tested under Inv. MR-1020, X/P-668-0, letter dated January 16, 1978.

Enclosed are all the new or revised drawing and specifications pertinent to this application. If there are any questions, please contact Ms. Michelle Brown at 555/292-1020.

Sincerely,

Michelle Brown
Design Engineer

Enclosure

(Enclosure A)

ABC Company, 950 Mining Road, Pittsburgh, PA 15293

March 16, 2005

Chief, Approval & Certification Center
RR#1, Box 251, Industrial Park Road
Triadelphia, W. Va. 26059

Company Application Code No. 000006

Gentlemen:

We are requesting a new certification of the Model 12496 Headlight Assembly, under the alternate simplified certification application procedures. This enclosure is built according to Assembly Drawing 12496, Shs. 1, 2 & 3.

We are requesting waiver of explosion tests based on the similarity to the Model 52914 Headlight Enclosure, tested & inspected under MR-29292, X/P-5692-0. The enclosures are similar except for a decrease in volume of 10% and a change in the gland assemblies.

Our drawings have been submitted electronically and are located on the Citrix server under our company name and this application code number.

If there are any questions pertinent to this investigation, please contact Ms. Michelle Brown at 555/292-1020.

Sincerely

Michelle Brown
Design Engineer

(Enclosure B)

ABC Company, 950 Mining Road, Pittsburgh, PA 15293



March 16, 2004

Chief, Approval & Certification Center
RR #1, Box 251, Industrial Park Road
Triadelphia, W. Va. 26059

Company Application Code No. 000010

Gentlemen:

We are requesting an extension of certification of X/P-2424-0 for the subject Model 49290 Distribution Box built according to Bill of Materials 49290.

The subject distribution box is similar to the one covered under X/P-2424-0, in that they use the same basic enclosure and basic cover. A larger lens assembly is now used in the cover. The lens assembly now used was previously accepted and tested under MR-1212, X/P-2020-0. The side plates of the enclosures are now machined to accept four gland assemblies and one shaft assembly, instead of the two gland assemblies used previously.

Enclosed please find all the new or revised drawings and specification for this enclosure. If you have any questions, please contact Ms. Michelle Brown at 555/292-1020.

Sincerely,

Michelle Brown
Design Engineer

Enclosure

(Enclosure C)

SAMPLE

DRAWING LIST FORMAT FOR
ENCLOSURE CERTIFICATION OR EXTENSION OF CERTIFICATION

Investigation No. MR- (Leave blank)
Drawing List

XYZ Company
Model D-4050 Starter Enclosure Assembly
Built According to Starter Assembly Drawing D-4050
Certification No. X/P - (Leave blank)

<u>TITLE</u>	<u>DRAWING NO.</u>	<u>PART NO.</u>	<u>REVISION</u>
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Starter Assembly	D-4050	-	A
Basic Case	D-4051	-	C
Cover Assembly	C-4052	-	-
Basic Cover	A-4053	A	F
(Opt.) Pushbutton Assy.	A-6079	001	-
(Alt.) Pushbutton Assy.	A-4129	C	-
Certification Plate	A-4292	-	-
<u>Cable (Range: .208" to .802" O.D.) Gland Assembly (4)</u>			
Nipple	*A-7131	-	A
Bushings (2)	A-5020	C	-
Nut	A-7990	-	-
Packing, 1/2" dia.			

Factory Inspection Form: See Mr. Tony High's letter dated

(Enclosure D-Sh. 1)

October 23, 1991 submitted in lieu of a factory inspection form.

*ABC Company's drawing

NOTE: Since this is a drawing list for a specific enclosure and is only offered as an example of the format to be used, the drawings listed may not be representative of your enclosure, and should be modified accordingly.

The drawing list you submit should contain the basic drawing number in its designated column, the part number, item or group number if applicable in its designated column (if not applicable, a dash in the column will be acceptable);

and the latest revision number, date, or engineering change in the revision column (if not applicable, a dash in the revision column will be acceptable).

It should be noted in the title column that some titles are indented under others. If there is a need to specify a drawing that is referenced on another drawing, it should be indented under the drawing that references it. In addition, the quantity (if more than one) of the item listed should follow the title of the item in the title column.

Example: Bushings (2)

If the item is an alternate (meaning an item used in place of a previously specified item) or optional (meaning an item which may or may not be used), it should be so designated.

(Enclosure D-Sh. 2)

SAMPLE CERTIFIED STATEMENT

Company: XYZ Company Date: October 23, 1991

Address: Box 123
Pittsburgh, PA 15298

SUBJECT: Model 5000 Starter Enclosure

(Model/Type Number and Type of Enclosure)

Company Application Code No.: 100001

I, John R. Smith, Design Engineer, certify that the
(Name and Title)

XYZ Company will conduct
(Company or Corporation)

regular inspections of the subject starter enclosure to ensure that this product is made and assembled in strict accordance with the drawings and specifications accepted by MSHA.

(Signature)

(Title)

(Enclosure E)

CERTIFICATION/SIMPLIFIED CERTIFICATION/

EXTENSION OF CERTIFICATION CHECKLIST

Complete all of the following by adding a check mark or N/A on the lines provided. The check mark signifies the item has been positively addressed. The N/A signifies the item is not applicable to the design of the component.

Administrative

- _____ 1. The appropriate Certification, Simplified Certification or Extension of Certification application letter is enclosed.
- _____ 2. A drawing list, checklist, Factory Inspection Form (FIF), or a certified statement in lieu of an FIF is enclosed.
(A FIF or certified statement in lieu of an FIF is required for new certifications only.)
- _____ 3. All correspondence, specifications, and lettering on documents are in English or translated into English and are legible.
- _____ 4. All drawings and bills of materials 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.
- _____ 5. There are no pencil or ink notations, or correction fluid (white-out) on the drawings and bills of material.
- _____ 6. All drawings and bills of material include a note "Do Not Change Without Approval of MSHA" on each page or sheet.
- (Enclosure F)
- _____ 7. All submitted drawings, including sheet numbers are traceable (referenced) back to one or more drawings to which the equipment is built.

Technical

8. The drawing(s) include the following:

- _____ a. The overall dimensions of the enclosure (Section 18.6(e)).
- _____ b. The internal volume of the enclosure (Section 18.31(a)(6)).
- _____ c. The certification plate design, material, location, and method of attachment (Section 18.13).
- _____ d. Tolerances on all drawings (Section 18.6(e)).
- _____ e. The type and grade of material used to manufacture the enclosure (Section 18.20(b)).
- _____ f. The size and type of welds, and a note stating that, "Welds are continuous, gas tight and made in accordance with American Welding Society Standards" (Section 18.31(a)(2)).
- _____ g. The thickness of all walls that form the enclosure (Section 18.31(a)(6)).
- _____ h. The minimum and maximum thickness (after machining) of the cover (Section 18.31(a)(6)).
- _____ i. All flame arresting path surface finishes (Section 18.33).

(Enclosure F)

- _____ j. The distance from the interior of the enclosure to the edge of the bolt hole in the flange or cover or sufficient dimensions to calculate the distance (Section 18.31(a)(6)).
- _____ k. The size and grade of bolts that secure parts forming all flame arresting path fits (Section 18.31(a)(6) and Section 18.32(c)).

- l. The machining of the holes for bolts that secure parts forming flame arresting path fits (Section 18.31(a)(6)).
- m. Lockwashers for all bolts maintaining flame arresting path fits, including the size, thickness, and material of the lockwashers. If an alternate locking device is used, it is used in the configuration in which it was tested (Section 18.32(b)).
- n. Sufficient dimensions to calculate the minimum thread engagement for bolts which secure a flame arresting path fit (Section 18.31(a)(6)).
- o. Sufficient dimensions to determine that bolts, which secure flame arresting paths, will not bottom in tapped holes if lockwashers or equivalent locking devices are omitted (Section 18.32(d)).
- (Enclosure F)

p. The planarity between bolt holes for any portion of a flame arresting path which makes up a plane fit, i.e., cover/ flange; bracket/frame (Section 18.33).
- q. Burrs or projections are removed from threaded holes for fastening bolts on the flame arresting path surface (Section 18.31(a)(6)).
- r. The method of securing operating shafts from coming out or dropping into the enclosure (Section 18.31(a)(6)).

- _____ s. The method of securing threaded bushing bosses or threaded stuffing boxes from loosening (Section 18.20(b)).
- _____ t. The nominal length with tolerances for each flame arresting path, or sufficient dimensions to calculate the flame arresting path length (Section 18.31(a)(6)).
- _____ u. A note that "All castings shall be free of blowholes", if applicable (Section 18.31(a)(1)).
- _____ v. The size and grade of studs if used in lieu of cover bolts and the method of securing the studs (Section 18.31(a)(6)).
- _____ w. The class of threads for threaded joints and the method of securing the threaded fit (Section 18.29(b) and Section 18.31(a)(5)).

(Enclosure F)

- _____ x. The width of O-ring grooves (Section 18.31(a)(6)).
- _____ y. The notation "Do Not Drill Thru" or "1/8" minimum left at bottom of all blind holes," if applicable (Section 18.32(d) and Section 18.32(e)).
- _____ 9. The assembly drawing specifies that "Under normal operating conditions, the external surfaces of the enclosure will not exceed 150 degrees C" (Section 18.23).
- _____ 10. The assembly drawing specifies that "The enclosure is designed to withstand an internal pressure of 150 PSI" (Section 18.31(a)(1)).

- _____ 11. The assembly drawing specifies that "The internal components are in accordance with 30 CFR, Sections 18.24 and 18.25," that addresses the electrical clearances between live parts and casings and combustible gases from insulating materials, respectively (Section 18.24 and Section 18.25).
12. For gland assemblies, the drawings provide the following information:
- _____ a. The compressed packing material/grommet shall be in contact with the cable jacket for ½" minimum (Section 18.37(d)).
- _____ b. The packing nut has at least 1/8" or more to travel before meeting interference by parts other than the packing (Section 18.37(b)).
- (Enclosure F)
- _____ c. The size and type of material of the packing: asbestos, an MSHA accepted asbestos substitute, or a flame-resistant grommet (Section 18.37(e)(1)).
- _____ d. The packing nut is secured against loosening (Section 18.37(c)).
- _____ e. If a gland plug is used, it is secured by spotwelding or brazing (Section 18.29(c)).
- _____ f. All sharp edges that may damage cable jacket are removed from gland parts (Section 18.37(a)).
- _____ g. If a fiber optic gland assembly is used, the manufacturer, type and outside diameter (including tolerances) for the fiber optic cable is specified. If the fiber optic gland was previously tested by MSHA, the application letter

indicates under which certification it was tested (Section 18.20(b)).

h. The packing nut has a minimum of three effective threads engaged (Section 18.37(b)).

13. For enclosures containing lens assemblies including headlights and luminaires, the drawings include the following:

_____ a. The type (raw material) of the lens. if using a polycarbonate material (Section 18.20(b)).

(Enclosure F)

_____ b. If a glass lens is used, a note "All glass surfaces that contact metal, gasket, or bonding material shall be free of chips, cracks, pits and other defects 1/32" or larger in one or more dimensions" (Section 18.20(b)).

_____ c. If a retainer is used, the type, grade, and thickness of material (Section 18.20(b)).

_____ d. The means of securing the retainer and lens to the enclosure including bolt spacing, size and grade of bolts, and the size, thickness, and material of the lockwashers (Section 18.31(a)(6)).

_____ e. The manufacturer and manufacturer's catalog or specification number for the lens material (Section 18.20(b)).

_____ f. If the lens is bonded in place, the type, manufacturer, and manufacturer's specification of the bonding material (Section 18.20(b)).

- _____ g. The application procedures for the bonding material (Section 18.20(b)).
- _____ h. The surface preparation requirements for the mating surfaces (Section 18.20(b)).

(Enclosure F)

The polycarbonate windows comply with A&CC's Policy for the Evaluation of a Window or Lens on Explosion-Proof Enclosures - ASOP 2011.

- _____ j. For enclosures using polycarbonate lenses, a note that "The internal surfaces of the lens does not exceed 240 degrees F after 8 hours of continuous operation" (Section 18.20(b)).
 - _____ k. For headlights/luminaires, the voltage, wattage, type, supplier, and catalog number for the bulb (Section 18.20(b)).
14. The application package for an enclosure housing a lens or for a headlight/luminaire includes:
- _____ a. A statement from the manufacturer of the bonding material that the material is chemically compatible with the material of the enclosure or lens holder (Section 18.20(b)).
 - _____ b. A statement indicating that the bonding material shall be used in strict accordance with the bonding material manufacturer's specification (Section 18.20(b)).

c. If the lens assembly was previously tested by MSHA, the application letter indicates under what certification it was tested (Section 18.30(a)).

(Enclosure F)

15. The following should be included on drawings for CABLE REELS:

a. The insulating material of the hub and flanges is identified as MSHA tested flame-resistant material (Section 18.45(e)).

16. In addition to the required information listed under Items 8 thru 12, the following should be included on drawings for CONNECTORS:

a. The developed thread length (thread engagement) of threaded parts that assures the flame-proof integrity of the connector at the point of pilot pin or power pin separation (Section 18.41(a)(1)).

b. The sequence of pin separation (Section 18.41(a)(1)).

c. For flange mounted connectors, the machining and spacing of the bolt holes in the housing and in the mating flange; the thickness through the bolt holes; the size, type, quantity, and grade of bolts; and the material, size and thickness of the lockwashers (Section 18.31(a)(6)).

d. If conditions of use are applicable (i.e., the connector uses a pilot circuit), a warning tag which states

the condition of use. The size,
type of material, method of
attachment, and wording of the plate
(Section 18.20(b)).

(Enclosure F)