



Mining Regulator and Certifier Experience September 27, 2017

U.S. Department of Labor
Mine Safety and Health Administration
Approval and Certification Center
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Presentation Agenda

- ❖ Describe MSHA and Approval and Certification Center
- ❖ Applicable standards and requirements
- ❖ Testing by Applicant or 3rd Party
 - Title 30 CFR Part 7
- ❖ Independent Laboratory Rule
 - Title 30 CFR Part 6
- ❖ Obstacles to MSHA acceptance of IECEX



Background information

- ❖ **United States Department of Labor, Mine Safety and Health Administration**
 - Federal mine safety and health enforcement agency
- ❖ **Title 30 Code of Federal Regulations (30 CFR)**
- ❖ **Technical Support, Approval and Certification Center, Triadelphia, WV**



Applicable Mining Laws

- ❖ Federal Mine Safety and Health Act of 1977 (the Act)
- ❖ Miner Improvement and New Emergency Response Act of 2006 (MINER Act)
- ❖ Title 30 Code of Federal Regulations (30 CFR)
- ❖ Parts 5 thru 36 for mining equipment approval regulations



MSHA Product Approval Regulations

- ❖ Part 5 - Fees
- ❖ Part 6 - Testing by Independent Laboratories and Non-MSHA Product Safety Standards
- ❖ Part 7 - Testing by Applicant or 3rd Party
- ❖ Part 18 - Electric Motor Driven Mining Equipment



MSHA Product Approval Regulations

- ❖ Part 19 - Electric Cap Lamps
- ❖ Part 20 - Electric Mine Lamps other than Cap Lamps
- ❖ Part 22 - Portable Methane Detectors
- ❖ Part 23 - Telephones and Signaling Devices
- ❖ Part 27 - Machine-mounted Methane Monitors
- ❖ Part 28 - Fuses for Use with DC in Providing Short-Circuit Protection for Trailing Cables



Testing by Applicant or 3rd Party (Part 7)

- ❖ Only available for certain products for which test results are non-subjective
- ❖ Applicant submits certified statements that product has met test requirements
- ❖ Products under Part 7 include:
 - Explosion-proof Motors
 - Battery Assemblies
 - Flame-resistant electric cables
 - Refuge Alternatives
 - Diesel Engines and Diesel Power Packages



Testing by Applicant or 3rd Party (Part 7)

❖ MSHA Investigation Consists of:

■ Verification of:

- Construction requirements
- Quality assurance requirements
- Demonstrated test facility competency

■ Review of:

- Test results
- Certified statements

❖ Testing procedure is described in the regulation



30 CFR Part 6

- ❖ **Testing and Evaluation by Independent Laboratories and non-MSHA Product Safety Standards**
- ❖ **Allows MSHA to:**
 - **Accept test and evaluation results from independent laboratories if they verify compliance with MSHA requirements**



30 CFR Part 6

- Allows MSHA to accept equipment designed to non-MSHA product safety standards if MSHA deems such standards provide at least the same degree of protection as MSHA requirements, or determines that such standards can be modified to provide the same degree of protection
 - Requires an Equivalency Determination Process; published in Federal Register



30 CFR Part 6

- ❖ The accepted standard is incorporated into 30 CFR, with any necessary modifications
- ❖ Completed evaluation of IEC 60079-0, 4th edition and IEC 60079-1, 5th edition, and determined nine additional modifications (deviations) are required to ensure equivalent protection to MSHA approval requirements



30 CFR Part 6

- ❖ The equipment is still approved under Part 7 (for motors) or certified under Part 18 (for explosion-proof enclosures); those regulations detail the nine modifications
- ❖ Applicant designs a product with the intent to meet the IEC standards and the nine additional requirements



Obstacles to MSHA acceptance of IECEX

- ❖ With consideration to meet both MSHA and the IEC, the nine modifications must be designed into the product prior to the IEC certificate being issued
- ❖ If IEC certificate is done to later revision levels than what the equivalency review was done to, test lab must provide certified letter stating proper equivalence to IEC 60079-0, 4th edition, and IEC 60079-1, 5th edition



Obstacles to MSHA acceptance of IECEX

- ❖ 1977 Mine act requirement: *“No mandatory health or safety standard promulgated under this title shall reduce the protection afforded miners by an existing mandatory health or safety standard.”*
 - MSHA must be able to show that any new standard provides at least the same degree of protection as existing requirements
 - Difficulty in comparing standards: It’s not if they are “safe enough”, but “equally safe”