Scientific and Evidence Based Rulemaking

Industry Perspective

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Outline of Presentation

- Introduction to the Construction and Mining Machine Industry
- Rulemaking Based on ISO Standards
- ISO/TC 127 for Earth Moving Machines
- ISO/TC 82 for Mining
- Process for Supporting Rulemaking
Construction and Mining Machines

- Global Industry, Low Volume Machines
- High Technology, Versatile Machines
- National Standards Replaced by ISO
- Safety Goal - Zero Injury or Harm
- Voluntary Compliance to Standards
- Minimal National or Regional Regulations
Rulemaking Based on ISO Standards

- USA OSHA for Construction Machines
  - Requirements for operator protection and seat belts using old SAE standards
  - General Duty Clause – “All employees shall be provided a safe place to work.”
  - Standards accepted to define “safe place to work”

- USA MSHA for Mining Machines
  - References more standards
  - Allows the use of current standards

- Europe and other Areas Use Standards for the Technical Requirements for Regulations

- Thus, Scientific and Evidence Based Rulemaking Is Dependent Upon Standards Development
ISO/TC 127 Earth Moving Machines
Machines Used in Construction and Mining for Excavating, Loading, Transporting, Spreading and Compacting Earth, Rock and Other Materials.
ISO/TC 82 Mining

Scope
- Specialised mining machines used in opencast mines
- All underground mining machines and equipment,
- Plans and drawings used in mine surveying;
- Methods of calculation of mineral reserves;
- Mine reclamation management;
- Design of structures for mining industry.
ISO for Construction and Mining Machines

- ISO/TC 82 for Mining Reactivated in 2012
- ISO/TC 127 for Earth Moving Machines Was Formed in 1968 to Develop Global Standards

Objectives for ISO Standards

- Provide Performance Criteria to Achieve a High Level of Safety for Machines
- Meet the Safety Expectations of Machine Users and Health and Safety Experts
- Prepare ISO Standards to Address All Safety Risks
- Provide Global Requirements for Machine Manufacturers
- Develop ISO Standards That Could Be Used As the Basis for Any National Standards and Regulations
ISO Process Participants

- Experts from Multiple Countries
- National Representatives:
  - Machine Users
  - Health and Safety Experts
  - Regulatory Experts
  - Manufacturers
  - National Standards Body Staff
  - Trade Association Staff
  - Testing Agencies
Standards Development Process

- Verify a Need for Standards
  - Address Additional Safety Risks
  - Cover New Types of Machines and Applications
  - Address Advances in Technology
- Base the Technical Requirements on
  - Machine Incident and Use Data
  - Risk Reduction Principles
  - Ergonomics of Operators and Workers
  - Data, Logic and Processes
  - Reasonable and Achievable Requirements
- Create Performance Criteria for Standards to:
  - Meet Machine Users Expectations for Safety
  - Be Acceptable to Health and Safety Organization
  - Enable Using the Standards as the Technical Requirements to Address Safety Risks in Regulations
Scientific Based Standards for Regulations

- ISO Standards Are Developed to Be Used As the Basis for National Standards
  - A High Level of Reasonable and Realistic Safety Requirements
  - Developed by Global Experts
  - Developed to Meet the Expectations of Machine Users and Health and Safety Organizations
  - Save Time and Resources by Using ISO Standards
- ISO Standards Are Developed to be Scientific and Evidence Based
- ISO Standards Can Be Used as the Technical Requirements for National Regulations to Promote Global Harmonization