



HAZARDOUS LOCATION CERTIFICATION

MOTOTRBO™



BUILDING EFFICIENCY. GROWING ECONOMIES.

AGENDA



HAZARDOUS LOCATION BACKGROUND



CHANGES IN STANDARDS



COMMUNICATION AND NOMENCLATURE



WHAT YOU NEED TO DO DIFFERENTLY



SUMMARY



HAZARDOUS LOCATION BACKGROUND



REQUIREMENT



WHO DETERMINES THE REQUIREMENT?

- Jurisdictional authorities
- Fire marshals
- Insurance providers
- Facility safety experts

Different ratings for different environments



CLASS, DIVISION, GROUP



- **Classes**

- Class I: Flammable Gases, Vapors, or Liquids
- Class II: Combustible Dusts
- Class III: Ignitable Fibers and Flyings

- **Division (Area Classification)**

- Division 1: Locations where ignitable gas/vapor/liquid/dust present continuously or some of the time under normal operating conditions
- Division 2: Locations where ignitable gas/vapor/liquid/dust are not likely to exist under normal operating conditions

- **Groups (Organized by Classes)**

- Class I Gas Groups
 - Group A - Acetylene and equivalent gas groups
 - Group B - Hydrogen and equivalent gas groups
 - Group C - Ethylene and equivalent gas groups
 - Group D - Methane, and equivalent gas groups
- Class II Dust Groups
 - Group E - Conductive dust (mechanical – factories, recyclers)
 - Group F - Combustible carbon dust (charcoal & coke dust) - above ground only
 - Group G - Grain dust
- Class III Fibers has no sub-groups

Example

“Class I, Div 1, Group C, D”

Ethylene and Methane expected to be present continuously



DIVISION OR ZONE



- Two different methods of specifying area: Divisions and Zones

NEC 500	NEC 505
<u>Division 1:</u> Where ignitable concentrations of flammable gases, vapors, or liquids can exist all the time or some of the time under normal operating conditions.	<u>Zone 0:</u> Where ignitable concentrations of flammable gases, vapors, or liquids are present continuously or for long periods of time under normal operating conditions. <u>Zone 1:</u> Where ignitable concentrations of flammable gases, vapors, or liquids are likely to exist under normal operating conditions.
<u>Division 2:</u> Where ignitable concentrations of flammable gases, vapors, or liquids are not likely to exist under normal operating conditions.	<u>Zone 2:</u> Where ignitable concentrations of flammable gases, vapors, or liquids are not likely to exist under normal operating conditions.



WHAT IS CHANGING?



FM STANDARD UPDATED



- FM 3610_88 certifications for LMR radios will expire 31st December 2015
- FM 3610_10 is more stringent standard and designed to harmonize (IEC) International standards.



TRANSITION



- Motorola will be transitioning to a new standard: TIA 4950, which is similar to the FM 3610-88
- Compliance testing will be done by UL (Underwriters' Laboratories) or National Recognized testing lab, NRTL.
- FM 3610-88 radios can continue to be manufactured through the end of 2015
- TIA 4950 compliant DM4000 Series radios will be available 2015



EXISTING RADIOS



- Fielded radios maintain Approvals status providing the radio repairs are done FM audited site.
- FM Approved Batteries and accessories replacements will continue be sold



IS CANADA AFFECTED?



- There are no immediate changes to the Canadian Standard CSA 157.
- HazLoc certifications done by UL or NRTL will tested to TIA4950 and CSA 157.
- Products will be marked with the Logo below. The CSA Logo will not be applied to the new recertification Approval label



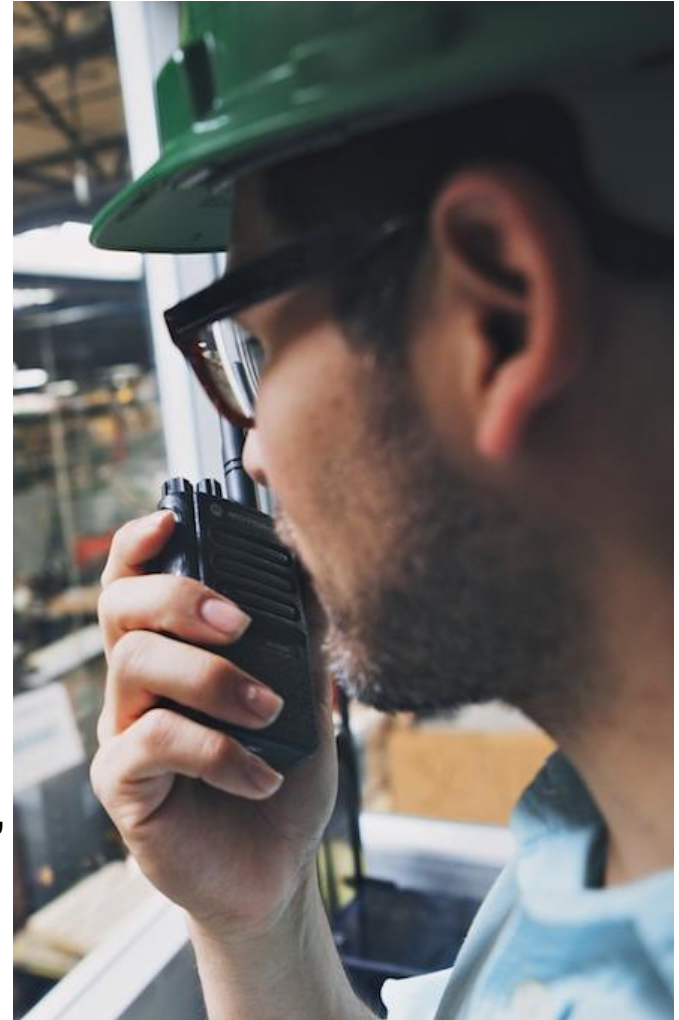


WHAT YOU SHOULD DO DIFFERENTLY

PRECISION IN NAMING



- FM Approvals (FM)
 - FM is a private company that certifies and test product and writes standards
 - UL is also a private company that certifies and test product and writes standards.
 - Nationally Recognized Testing Lab, NRTL Test to Hazard Location standards.
- “Intrinsically Safe” is a design protection method for Division 1
 - Future standards and product markings could refer to Haz Loc Class 1 / Division 1
- Division 1, refers to Hazard Classified Areas Gases, Vapors, Dust.





PREPARATION



- Ensure your company documentation does not simply refer to “FM standard” equipment
 - Insurance documents
 - Standard Operating Procedures
 - Health and Safety approvals
 - Employee training
- Understand the terminology:
 - TIA4950 LMR Hazard Location standard.
 - “Hazardous Location” product requirement:
Class/Division/Group
- Update ordering information for new TIA compliant radios





SUMMARY



- FM Intrinsically Safe standard is changing from 3610-88 to 3610-10
- The FM 3610_10 standard is designed to harmonize with international (IEC) standards
- FM Approved Products in the field maintains certification. Current two-way radios certified to 3610-88 will continue to be manufactured through Dec 2015
- Motorola will transition to the TIA 4950 standard for new products and existing Division 1 Class I portfolio in 2015,
- You need to ensure your company safety and insurance policies are ready for this change



**THANK
YOU**