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Fire & Rescue Division Hazardous Materials Section

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INTRINSICALLY SAFE LABELLING on PORTABLE RADIOS and BATTERIES

The results of recent inspections has brought to the attention of the inspection team that there is some confusion regarding the discussion of "intrinsically safe" as it applies to item # 11.1.1 of the FIRESCOPE *Standardized Equipment List* (SEL).

Portable Radios

Portable radios (walkie talkies), in order to be compliant with this SEL equipment item, must include the intrinsically safe certification. Verification that a radio unit is intrinsically safe (IS) is noted by looking for a specific label attached to the back side of the portable radio unit. The label usually includes the familiar logo of any of the certifying testing laboratories, such as UL (Underwriters Laboratories) or FM (Factory Mutual). Both of these agencies are testing facilities that conduct tests to verify that the unit meets the legal description of intrinsically safe by OSHA. When a radio manufacturer submits a specific model for testing, and the unit passes the IS certification, a label is then attached. Further, a label **MUST** be attached to verify IS certification.

NOTE: *If a radio unit does not have a UL or FM label indicating it is indeed intrinsically safe, it cannot be assumed that it is.*

A facsimile Walkie Talkie Intrinsically Safe (IS) label is shown here:



Batteries:

In addition to the above requirement that radios must be affixed with a UL or FM label, the battery also must be intrinsically safe. Batteries are also sent to the testing laboratories for testing and certification to IS standards. Batteries do not often have a UL, USTC, or FM label attached (it is not required). However, its' (the battery) model number must be one that FM, USTC, or UL certifies as being intrinsically safe. Those battery model numbers are printed within the IS label that is attached to the walkie talkie.

Please review the IS label for a walkie talkie shown on the previous page. In it you will see seven (7) individual battery model numbers. Any one of these model numbered batteries are approved for use with that radio unit, but no other. Motorola has voluntarily adopted a policy of adding a green dot to the bottom of an intrinsically safe walkie talkie for quick identification.

Please review the IS label to the right. It is a copy of a typical Intrinsically Safe label on the battery. During the inspection, the Inspection Team will need to examine the battery's model number, and compare it to the label on the back of the Walkie Talkie, and verify a proper match.



Third Party Testing Laboratories

There are at least three “Third Party” certifying testing labs that conduct these tests. Look for one of these logos imprinted on the label for more verification of authenticity:



FACTORY MUTUAL



UNITED STATES TESTING COMPANY

Shown here is another example of an IS label on the back of a battery.



Mix-And-Match:

Non-intrinsically safe walkie talkie batteries CANNOT and should not be used with IS labeled radio units. Doing so does not make the whole unit IS. Or conversely, using intrinsically safe batteries with a non IS radio unit does not make the whole unit IS, and CANNOT and should not be done.

Mis-Information:

Unfortunately it has been found that some distributors of radio units have been telling purchasers and customers that previously purchased walkie talkies are indeed IS if the model number is the same. This is not true, as verified by communications directly with technicians at Motorola headquarters. A specific model number may come both IS and non-IS. The difference does include some differences in internal wiring, and being hermetically sealed.

The Bottom Line:

In order to certify compliance to being intrinsically safe, the inspection team will examine portable radio units to confirm they are fitted with the appropriate label, and they also will examine all replaceable batteries to confirm the model number matches up with at least one of the battery model numbers imprinted on the IS label, regardless of radio unit model numbers. Walkie talkies MUST have a UL or FM label attached verifying IS compliance.