ATEX Directive Update Summary

Background Overview:

- ATEX is comprised of two directives.
  - The equipment directive (ATEX 95 directive 94/9/EC) is for manufacturers to follow (mostly protection methods and labelling)
  - The workplace directive (ATEX 137 directive 99/92/EC) is for end-users to follow (mostly installation practices)
- ATEX uses notified bodies, which are similar to U.S. NRTL's. An example of a notified body used by MTL products in the U.K. is BASEEFA, and a common notified body in the U.S. is Intertek.
- Notified bodies use 'EC Type Examination Certificates' to issue approvals. These certificates are a combination of standards from IEC, which are re-labelled and possibly reworded for 'harmonization' with ATEX (they typically have an EN in the front, for instance EN 60079-1 is the flame-proof standard).
- IECEx is a competitor of ATEX (this is confusing because ATEX is historically a harmonization that includes IEC and CENELEC). IECEx has fairly broad acceptance around the world in places that are not part of the European Union (where ATEX is law) such as Australia and much of the Middle East, but that is a different topic.
- Equipment Protection Levels (EPL's) define the applicable zone for use and installation of the equipment.
  - Ga is for Zone 0 (G means gas, use Da for dust or Zone 20)
  - Gb is for Zone 1 (G means gas, use Db for dust or Zone 21)
  - Gc is for Zone 2 (G means gas, use Dc for dust or Zone 22)
- To make things confusing, the ATEX 'Categories' correspond to the EPL (Notice the different numbering scheme and both may appear on the same product label)
  - 1G is the same as Ga and applies to Zone 0 (use 1D for dust)
  - 2G is the same as Ga and applies to Zone 1 (use 2D for dust)
  - 3G is the same as Ga and applies to Zone 2 (use 3D for dust)
- The following websites contain additional helpful documents and info about ATEX.
  - http://www.mtl-inst.com/products/cat/intrinsic_safety_process_i_o/
  - http://www.expoworldwide.com/faq-purge-pressurization/hazardous-area-terminology/

New Information and Changes

- There is a new ATEX Directive written February 2014 (2014/34/EU), not in addition to the two above, but as an update. The new directive comes into effect in April 2016. Any compliance certificates from the current directive will remain valid past April 2016. Unfortunately no products can be sold with the new versions until April 2016.
- The nomenclature for all protection methods will be changed to indicate the appropriate EPL. You may be familiar with Ex ia, Ex ib, and Ex ic for intrinsic safety. Now all protection methods will have the same a, b, or c at the end to indicate Zone 0, Zone 1, or Zone 2 respectively. For instance, purge markings will now look like Ex pxb, Ex pyb, or Ex pzc.
- In the current directives, there is only one protection method – intrinsically safe (or Ex ia) – for Zone 0 installations, but two new methods will be introduced for 2016. These include encapsulation (Ex ma) and a very specific version for flame-proof (Ex da) only for Cat Bead LEL sensors on portable gas

detectors. These are used for declassifying Zone 0 areas during maintenance. The new protection methods are expected to have very little impact on the overall market for Ex ia intrinsically safe equipment.

- Increased safety will become Ex eb and Ex ec. This is important because Ex nA is going away. In 2016 the non-incendive or non-sparking technique will have to be re-certified as either Ex ec (increased safety Zone 2) or Ex ic (intrinsically safe Zone 2). For the most part, nothing practical is changing about the products, only labelling, but this will impact any future purchases of products with the Ex nA approval currently on the label. The installation methods of the new products will also have to conform to the appropriate EPL requirements. Current installations with Ex nA rated equipment are considered adequately safe.
- Manufacturer self-certification for Zone 2 is also going away. Due to this change, many customers are no longer accepting self-certifications. This has limited implications for our intrinsically safe isolator manufacturer, MTL. The SD surge protection series, for instance, uses an MTL self-certification for ATEX Zone 2 installations. The MTL certificate of conformance is available on MTL's website. These approvals will either be removed from the label or the instruments will be re-certified by a notified body before April 2016. Again, despite the fact that some end-users may not accept them, these certificates are currently valid and will remain valid once installed.
- From the manufacturer perspective, all current and future ATEX approval methods have been accepted under the NEC 500 or NEC 505. Therefore if the product has an ATEX approval, it is only a matter of testing and documentation (albeit expensive and time-consuming documentation) to get it approved by a U.S. NRTL. Moreover, many U.S. end-users are willing to accept ATEX approvals as a result. That means, unless the end-user explicitly states, "we only accept 'XYZ' approvals…" (not ATEX), then ATEX is likely an option.

This information contained in this document is believed to be accurate, but should be verified by an independent 3rd party prior to implementation.

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