

## **Classification of Livestock Buildings in Manitoba under the Canadian Electrical Code August 8, 2016**

Manitoba Hydro (MH) has recently clarified their interpretation of the classification of Buildings Housing Livestock or Poultry under Section 22 of the Manitoba Electrical Code (MEC). All livestock facilities may be classified as Category 1 (wash down), not corrosive provided certain alternative requirements are met:

- Adequate ventilation (a minimum of three air changes per hour) and associated heating are provided to maintain air quality. A mechanical plan for the heating and ventilation systems sealed by a professional mechanical or agricultural engineer will be required by MH to verify this;
- An electrical plan classifying the space and sealed by a professional electrical engineer will be required by MH prior to issuing the electrical permit; and
- The responsible electrical engineer will be required to review construction and certify the work. Following this, MH will issue their Certification of Authorization.

MH wishes to remind these industries that the MEC requires that only equipment essential to the operation be in the Category 1 space. Electrical panels, for example, must be in a dry electrical room and cannot be in the barn environment.

All areas classified as normal locations (including electrical rooms) are to be separated with a self-closing door with a gasket at any connection to adjoining Category 1 or 2 areas.

European equipment classified under the IP system is often not CSA approved. MH will accept such equipment provided that it has been given an approval (including a NEMA rating for enclosures) by a recognized approval agency. A list of such agencies is available from MH.

Note that these requirements apply to all new Buildings Housing Livestock or Poultry, regardless of the size. Barns less than 600 m<sup>2</sup>, that are exempt from the Manitoba Farm Building Code (MFBC), will require mechanical (ventilation and heating) and electrical engineering for the issuance of an electrical permit even though a building permit this is not required by the MFBC.

For building renovations, engineering will typically not be required. The electrician should consult with the local electrical inspector for specific requirements.

For building additions, the following policy will apply:

- If the combined area of the existing and new construction exceeds 600 m<sup>2</sup>, the Manitoba Farm Building Code applies and the policy described above applies;
- If the addition is larger than the existing building, the above policy applies, even if the building is not subject to the Manitoba Farm Building Code; and
- Where the addition is smaller than the existing building, and the building is not subject to the Manitoba Farm Building Code, the electrical may be installed in conformance to the requirements of Section 22 without a professional engineer.

In the absence of engineered plans and pro-active design to ensure a suitable internal environment, livestock barns other than dairy barns will be classified as Category II (Wet and Corrosive) locations requiring corrosion resistant equipment, materials and methods including NEMA 4x enclosures.