

General

Submersible pumps were elevated to risk level 3 recently following several serious electrical incidents.

Question

It is commonplace in the submersible pump supply industry to sometimes separately supply motors and 'wet-ends' so they can be matched by the user for the intended purpose. What are the requirements under the EESS for registration as risk level 3?

Answer

Under the EESS, each in-scope submersible pump brand and model is required to be certified and registered on the EESS register.

That is, a submersible pump model is a particular electric motor and a particular wet end (water circuit part) each with its own head/flow power ratings.

There may be some consolidation as a 'family' of product (see Equipment Safety Rules for definition of family) that may be used for testing, and related family models may be on same test report but nevertheless each combination will have its own unique model number and that should be on test report to show it has been assessed by test lab, and each brand and model submersible pump shall be listed on the certificate obtained and registered on the EESS database. 'Series' model numbering (or other code for model numbering that must be interpreted to identify the particular model) is not permitted.

The relevant electrical safety standard for submersible pumps is AS/NZS 60335.2.41.

If the components are sold as separate item, they are not a submersible pump. However, the person/company who then assembles the parts to be a submersible pump is the manufacturer and responsible supplier and has to have that combination tested and certified and registered on the EESS.

Background

The AS/NZS4417.2 definition for a submersible pump is:

Submersible pump

An electrical appliance that –

- (a) is for pumping liquids (including a mixture of water and small solids) having a temperature not exceeding 90°C
- (b) has any electrical part, or enclosure around any electrical part, completely or partially immersed in the liquid being pumped during normal use; and
- (c) is portable or fixed in position

and includes –

- a) any pumps for garden ponds, aquarium pumps, sludge pumps, submersible pumps, table fountain pumps, deep well pump or vertical wet pit pumps where any of these pumps meet (a), (b) and (c)

but does not include

- b) any shower boost pumps, or any vertical wet pit pumps that do not meet (a), (b), and (b); or
- c) swimming pool or spa equipment.

Class specification: AS/NZS 60335.2.41

Note:

Product sold exclusively to industry for commercial/industrial purposes (and not able to be purchased by or for an end user householder/consumer) are not 'in-scope electrical equipment' and do not need to meet EESS requirements. However, the equipment still has to be electrically safe and meet relevant safety's standards. It is likely as a minimum a pump would need to meet AS/NZS 60335.2.41. A supplier would also have to meet all electrical safety legislative requirements with whomever is involved in the final manufacture of the parts/final product having a duty to ensure the parts and submersible pump is electrically safe.