

This information bulletin is to assist in understanding of the correct relevant standard to apply to power supplies and battery chargers (low voltage in scope electrical equipment) based on the definition and relevant standards listed in AS/NZS 4417.2.

It does not place requirements on the class III (extra low voltage) equipment used with the power supply or battery charger, but rather clarifies what relevant standard should be applied based on the class III equipment the power supply or battery charger is to be used with and any specific information required.

This Information bulletin comprises:

- **Part 1 - Summary** certification requirements for all power supplies and battery chargers,
- **Part 2 – Power supplies** specific requirements,
- **Part 3 – Battery chargers** specific requirements, and
- **Part 4 - Additional information.**

Part 1 and Part 2 are applied together, and Part 1 and Part 3 are applied together, and Part 4 is applied as relevant.

## Part 1 - Summary

### ALL EESS CERTIFICATES:

Requirements apply to power supplies/battery chargers supplied separately or supplied with class III equipment.

- The certificate is required to state the Brand and Model number of the power supply/battery charger. The Model number must be a unique identifier, not a 'series' designation.
- The certificate is required to list the relevant standard(s) (with additional requirement if specified in point for the type of power supply/battery charger below) of the power supply/battery charger.
- The certificate is required to list the input voltage, frequency, current or power rating, class I or II, means of connection (e.g. plug pack, cord and plug, appliance inlet), IP rating, ta/tc rating (as applicable) and output voltage, frequency (or ac or dc) and current / power rating for each model of the power supply/battery charger.
- The certificate is not required to specify any specific Type (other than as listed in Part 2), Brand or Model of equipment the power supply/battery charger is to be used with but may be voluntarily added.

Note: Attention is drawn to the requirement the Responsible Supplier of electrical equipment is required to provide information about the way the electrical equipment must be used to ensure that its use is electrically

safe. In some cases, this may include details of the type, brand and models to be used with the power supply/charger.

- When assessing for certification, the instructions supplied with the power supply/battery charger are not required to specify any specific Type (other than as listed in Part 2), Brand or Model of equipment the power supply/battery charger is to be used with but may be voluntarily added.  
Note: Attention is drawn to the requirement the Responsible Supplier of electrical equipment is required to provide information about the way the electrical equipment must be used to ensure that its use is electrically safe. In some cases, this may include details of the type, brand and models to be used with the power supply/charger.
- When assessing for certification, safety instructions/warnings as per relevant standard(s) are required for the power supply/battery charger.
- Type means the generic description of the specific equipment (e.g. Type is 'electric door lock') not a model number (e.g. it is not meant to be 'Type DL001' which is akin to the model number of the electric door lock).
- Brand means the identifying trade name of the equipment.
- Model means the unique identifier for that equipment that separates the equipment from other variants of similar or different features.
- Additional requirements of each type of power supply/battery charger as listed below are to be applied.

## Part 2 - POWER SUPPLIES

### 1. General Use Power Supply:

- Relevant safety standard is AS/NZS 61558.2.6 and for switch mode power supplies AS/NZS 61558.2.16.
- The certificate and instructions are required to specify 'for general use'.

### 2. Power supplies for toys:

- Relevant safety standard is AS/NZS 61558.2.7 (and taking into account for switch mode power supplies AS/NZS 61558.2.16).
- The certificate is required to list the relevant standard as AS/NZS 61558.2.7 (and include AS/NZS 61558.2.16 as an additional standard if it is a switch mode power supply).
- The certificate and instructions are required to specify 'for use with toys'.

### 3. Power supply for bells or chimes:

- Relevant safety standard is AS/NZS 61558.2.8 (and taking into account for switch mode power supplies AS/NZS 61558.2.16).
- The certificate is required to list the relevant standard as AS/NZS 61558.2.8 (and include AS/NZS 61558.2.16 as an additional standard if it is a switch mode power

supply).

- The certificate and instructions are required to specify 'for use with bells or chimes'.

4. Power supply for hand lamps:

- Relevant safety standard is AS/NZS 61558.2.9 (and taking into account for switch mode power supplies AS/NZS 61558.2.16).
- The certificate is required to list the relevant standard as AS/NZS 61558.2.9 (and include AS/NZS 61558.2.16 as an additional standard if it is a switch mode power supply).
- The certificate and instructions are required to specify 'for use with handlamps'.

5. Power supplies provided with specific class III equipment that are appliances covered by AS/NZS 60335 series standards:

- Relevant safety standard is the relevant AS/NZS 60335 series standards for the appliance (that is the power supply with the class III appliance being tested together to AS/NZS 60335.1 and the relevant part 2).
- The certificate is required to list the equipment is certified as a power supply to AS/NZS 61558.2.6 or AS/NZS 61558.2.16 with the additional AS/NZS 60335.2.X standard (the X is replaced with the number that denotes the relevant part 2 standard) for the equipment also listed on certificate.

**IMPORTANT NOTE:** This Point relates to where the responsible supplier is claiming compliance to AS/NZS 60335 standards for *the detachable power supply part and the class III construction part* of the appliance. A power supply tested to AS/NZS 61558.2.6 or AS/NZS 61558.2.16 and supplied separately for use with, or is supplied with, specific class III equipment that are appliances covered by AS/NZS 60335 series standards, can use the requirements of Point 1 above – General Use Power Supply – certified to AS/NZS 61558 standards and do not need to also meet the requirements of this Point.

Note: In this example the detachable class III fan (with or without battery) by itself is out of scope of EESS as it is extra low voltage. The power supply is a level 3 power supply in EESS – AS/NZS 4417.2 now clarifies if the power supply is a 'power supply for appliances' then the standard is *AS/NZS 60335.1 and the relevant part 2 of the series*. Power supplies must be certified and registered – in this example if claiming the power supply and the class III part comply with the relevant standard they are tested and certified to AS/NZS 61558.2.6 and also to AS/NZS 60335.1 and AS/NZS 60335.2.80 – with the class III fan part included in that assessment as required by AS/NZS 60335.1.

6. Power supplies provided with, or for use with, specific electronic (IT, audio, video) equipment:

- Relevant safety standard AS/NZS 62368.1.
- The certificate and instructions are required to specify 'for use with audio equipment', or 'For use with video equipment' or 'For use with information technology equipment' or 'For use with audio, video, information technology equipment' as appropriate.
- Certificates and instructions for use for power supplies for use with specific electronic (IT, audio, video) equipment cannot state they are power supplies for general use, or power supplies for use with bells, chimes, handlamps, toys, for specific class III appliances under AS/NZS 60335 standards, or lighting purposes.

Note: Attention is drawn to the requirement the Responsible Supplier of electrical equipment is required to provide information about the way the electrical equipment must be used to ensure that its use is electrically safe. In some cases, this may include details of the type, brand and models to be used with the power supply/charger.

**7. Power supplies for lighting equipment (including 'lamp control gear'):**

- Relevant safety standard is:
  - a. Electronic types:
    - i. Light emitting semiconductor driver — AS/NZS 61347.2.13
    - ii. Other—AS/NZS 61347.2.2.
  - b. Ferromagnetic type:
    - i. AS/NZS 61558.2.6.
- The certificate is required to list the relevant standard as:
  - o AS/NZS 61347.2.13 (if for use with LED lighting),
  - o AS/NZS 61347.2.2 (if for use with filament lamps),
  - o AS/NZS 61558.2.6 (if for use as a general lighting power supply).
- The certificate and instructions are required to specify '*power supply for lighting purposes*' and
  - o "*for use with class III LED lighting*" if AS/NZS 61347.2.13 is stated on the certificate.
  - o "*for use with class III filament lamps*" if AS/NZS 61347.2.2 is stated on the certificate.

Note 1: this section uses the regulatory terminology of AS/NZS 4417.2 which is 'power supply for lighting purposes', Responsible Suppliers can, if they choose, have additionally included on certificates 'LED Driver' in the optional 'Description' part of certificate if certified to AS/NZS 61347.2.13.

Note 2: lighting power supplies tested to AS/NZS 61347 standards are required to comply with relevant annex for providing safety extra low voltage.

Note 3: Attention is drawn to the requirement the Responsible Supplier of electrical equipment is required to provide information about the way the electrical equipment must be used to ensure that its use is electrically safe. In some cases, this may include details of the type, brand and models to be used with the power supply/charger.

## Part 3 - BATTERY CHARGERS

**8. Battery charger to charge batteries or to charge battery packs to be, or that can be, removed from equipment for charging:**

- Relevant safety standard is AS/NZS 60335.2.29.
- The certificate is required to specify the type of batteries intended to be charged by the battery charger (as required in clause 7 of AS/NZS 60335.2.29). For example: '*For use with lead acid batteries*' or '*For use with NiCad batteries*'

Note1: this point also covers battery chargers supplied to charge battery packs that are taken out of appliances or lighting products to be charged. In this instance the certificate may also list (and it may be beneficial to do so)

the Brand and Model(s) of battery pack it is to be used with, or the Responsible Supplier may list the Brand and Model(s) of battery pack it is to be used with when registering the battery charger on the EESS equipment registration database.

Note 2: Attention is drawn to the requirement the Responsible Supplier of electrical equipment is required to provide information about the way the electrical equipment must be used to ensure that its use is electrically safe. In some cases, this may include details of the type, brand and models to be used with the power supply/charger.

Note 3: this point applies to battery chargers not designated as for use with specific electronic (IT, audio, video) equipment – such specific electronic equipment battery chargers are covered by point 9.

#### 9. Battery charger to charge batteries for specific electronic (IT, audio, video) equipment:

- Relevant safety standard is AS/NZS 62368.1 or AS/NZS 60335.2.29.
- The certificate is required to list the relevant standard as AS/NZS 62368.1 (if that is the standard used for testing the battery charger) or AS/NZS 60335.2.29 (if that is the standard used for testing the battery charger).
- If using AS/NZS 60335.2.29 the certificate is required to specify the type of batteries intended to be charged by the battery charger (as required in clause 7 of AS/NZS 60335.2.29). For example: 'For use with lead acid batteries' or 'For use with NiCad batteries'.

Note1 : if using this option, the Responsible Supplier is responsible for confirming the relevant equipment is actually specific electronic (IT, audio, video) equipment.

Note 2: Attention is drawn to the requirement the Responsible Supplier of electrical equipment is required to provide information about the way the electrical equipment must be used to ensure that its use is electrically safe. In some cases, this may include details of the type, brand and models to be used with the power supply/charger.

Note 3: Where the equipment uses components that are not IT, Audio, Video equipment (such as motors, fans, some lights, etc) care must be taken to ensure the correct power supply/charger standard is applied as the equipment may not be considered IT, Audio, Video equipment.

## Part 4 - Additional information

#### 10. Clarification of difference between power supply and battery charger:

- A power supply is a device that provides a supply to other class III (ELV) equipment for the class III equipment to operate, it may also charge batteries that are, and remain, internal to class III equipment when being charged. The power supply does not need to be certified to standards other than the power supply standard as listed in relevant point above.
- A battery charger is a device that provides supply to charge batteries when the batteries are, or can be, external to the equipment. This may include where the battery is inserted into the battery charger for charging, or placed on the battery charger for charging, or the battery charger has leads to connect to the battery for charging, or the battery charger has an output for a lead to be connected to then connect to the battery. A battery charger may be for use to charge any battery type as marked on the battery charger.

11. A device to charge accessible batteries in vehicles that may be charged in the vehicle would be a battery charger to AS/NZS 60335.2.29. Example of such vehicles being cars, motorbikes, boats (this does not include chargers for Electric Vehicle batteries for which separate requirements apply or if other relevant AS/NZS 60335 standards are applied - for example personal e-transporters).
12. Devices cannot be both a battery charger and a power supply (on the same certificate).
13. Some power supplies or battery chargers or connected devices may have other features or risks that need to be assessed and may require additional safety standards applied (depending on the identified features or risk). For the connected devices (class III devices) while not part of the power supply as such, Electrical Safety Regulators would draw attention that this may need to include having the power supply supplied with specific class III equipment tested with the brand and type it is supplied with (to be connected to). Or if the class III device is not supplied with the power supply or charger then instructions are provided as to the correct power supply or charger to use for the safe operation of the class III device (the power supply or charger brand and model, or the specification, e.g. voltage and current and output type) of a general use power supply or charger. This is especially important if there are any internal battery parts to ensure they have adequate protection.
14. EESS regulators may determine a different standard as a relevant standard to the above standards on a case-by-case basis.
15. Replacement part power supplies or battery chargers specifically provided by the original responsible supplier as a spare part / replacement for use with equipment previously sold to user are covered by same requirements as the power supply/charger being first sold.
16. Use of other generic names for a power supply or battery charger (such as wall charger, AC adaptor etc) in advertising literature can be used, and be placed on certificates. Note, the AS/NZS 4417.2 definition wording must be used on certificate (however that AS/NZS 4417.2 specific wording does not need to be in advertising literature).
17. Where the power supply or charger can supply voltages / currents at different levels depending on interrogation / handshake with the class III equipment (e.g. a USB powered device) the testing would need to ensure the worse-case output has been assessed (irrespective of the type of power supply or battery charger or standard applied).