



Advisory Note AN-001 (VRSLA Batteries)

Legislative and regulatory changes to Australia's national electrical safety standards have necessitated changes to the pathway for testing and certification of valve-regulated sealed lead acid (VRSLA) batteries by the CSIRO's Fire Systems Laboratory and ActivFire Product Certification Scheme. This advisory note provides an explanation and timeline for the changes to the services provided by CSIRO for this product category.

Background

The testing and certification of VRSLA batteries by CSIRO, and previously Scientific Services Laboratory (SSL), is provided as a service to assist suppliers and maintainers of fire detection, alarm and warning system Control and Indicating Equipment (CIE) to identify and source suitable VRSLA batteries as secondary (standby) power supplies.

CSIRO has noted the publication of Australian Standard AS/NZS 62368.1:2018 which applies to the electrical safety of control and indicating equipment (fire control panels, fire indicator panels, etc.), and national electrical safety regulations which reference it. Compliance to AS/NZS 62368.1:2018 is understood to become mandatory in February 2022.

Due to [new legislative requirements](#) for VRSLA batteries, which are specified by AS/NZS 62368.1:2018, CSIRO is revising the criteria for testing and certification of this product category. The changes will have implication for the testing services offered by CSIRO Fire Systems Laboratory, and the pathway for certification of this product category, as detailed below.

Changes to criteria (TS-015)

The current criteria, for evaluation (testing) of VRSLA batteries and subsequent certification by CSIRO's ActivFire Scheme, is CSIRO/SSL Technical Specification TS-001.v001. This specification incorporated the requirements specified in Australian Standard AS 4428.5, which required that secondary power supplies (batteries) met the capacity and self-discharge tests of Australian Standard AS 4029.2.

To reflect the requirements for VRSLA batteries specified by AS/NZS 62368.1:2018 Section M.2, TS-001 will be replaced by a new CSIRO Technical Specification TS-0015.

TS-0015 will incorporate relevant requirements of the following standards:

- IEC 60896-21:2004 Stationary lead-acid batteries - Part 21: Valve regulated types - Methods of test.
- IEC 60896-22:2004 Stationary lead-acid batteries - Part 22: Valve regulated types - Requirements.
- IEC 61056-1:2012 General purpose lead-acid batteries (valve-regulated types) - Part 1: General requirements, functional characteristics - Methods of test.
- IEC 61056-2:2012 General purpose lead-acid batteries (valve-regulated types) - Part 2: Dimensions, terminals and marking.
- IEC 62485-2:2010 Safety requirements for secondary batteries and battery installations - Part 2: Stationary batteries.

The full scope of TS-015 is yet to be determined but will be communicated through the CSIRO Infrastructure Technologies and ActivFire websites when it is published.

Changes to testing offered by CSIRO

CSIRO's Fire Systems Laboratory is NATA accredited for testing to Technical Specification TS-001 v001, which refers to clauses 5.1 and 5.4 of AS 4029.2, only.

The expansion of tests required by the various IEC battery-related standards, listed above, extend beyond the services and test platforms provided by the CSIRO Fire Systems Laboratory. For this reason, the laboratory will cease physical testing of VRSLA batteries in future, according to the timeline provided below.

Changes to certification provided by CSIRO

The certification pathway for VRSLA batteries to TS-001 will continue under CSIRO's ActivFire Product Certification Scheme. However, to maintain or seek new certifications, Registrants will be required to provide evidence of conformity to TS-015 as outlined above under the "Changes to criteria" and according to the timeline provided below.

Evidence of conformity will typically be in the form of test reports sourced from organisations with relevant capability, scope of accreditation, methods and reporting verified and validated by CSIRO's Conformity Services Branch and accredited by NATA or other laboratory accreditation agency that is signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC-MRA).

Timeline of changes

May 2021

- All existing certifications to TS-001.v001 re-validated.

June 2021

- CSIRO Fire Systems Laboratory will cease accepting applications for testing to TS-001.v001.
In due course the requirements CSIRO Technical Specification TS-001.v001 will be superseded by TS-015.
- CSIRO Technical Specification TS-015 is assigned and drafting begins.

Last Quarter 2021

- CSIRO Technical Specification TS-015 scheduled for publication.
- Applications for certification to TS-015 will be accepted.

[Update Apr 2022]

- The targeted timing has been problematic. Drafting the document requires access to a number of IEC Standards that are not obtainable through our library and need to be purchased.
- The purchase cost of the referenced IEC standards is some thousands of dollars.
- Project feasibility and expenditure authorisation is pending as we review which of the IEC standards need to be sighted (and cited) for the purposes of the proposed TS-015 document

Apr 2022

- Existing ActivFire TS-001.v001 certifications *may* be re-validated on request but will incorporate an explicit limitation identifying that TS-001.v001 does not establish the evidence required to demonstrate conformity of VRSLA batteries to current electrical safety regulations that apply to CIE and related applications.

Apr-Jun 2023

- Certification of VRSLA batteries will only be available where conformity evidence to the full requirements of TS-015 has been provided.

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