

Standard Information

This SUN establishes the Continuing Certification approach for UL 1778 2nd edition, and establishes an Effective Date for the 3rd and 4th edition update to the 5th edition. This SUN replaces the previous SUN issued August 23, 2013.

Standard Number: UL 1778 (CSA C22.2 No. 107.3)

Standard Name: Uninterruptible Power Systems

Standard Editions: 5th Edition Dated June, 13, 2014

Date of Previous Revision to Standard: 2nd, 3rd and 4th Edition

Effective Date of New/Revised Requirements

Effective Dates: **August 11, 2017** (3rd/4th Ed.) and **August 11, 2021** (2nd Ed.)

Impact, Overview, Fees and Action Required

Overview:

- Uninterruptible Power System products certified to UL 1778 2nd Edition will not need to be recertified to the recently adopted requirements of UL 1778, 5th Edition as it is not considered significant enough to require re-evaluation when comparing the 2nd edition to the 5th edition of UL 1778.
- Uninterruptible Power System products currently certified to UL 1778 3rd or 4th edition will need to be recertified to the recently adopted requirements of UL 1778, 5th Edition as it is considered significant enough to require re-evaluation when comparing the 3rd/4th edition to the 5th edition of UL 1778.

Impact Statement:

- On August 11th, 2017, certification of new product designs for uninterruptable power supply systems will be required to be investigated to UL 1778, 5th Ed.
- Existing certifications of uninterruptable power supply systems to UL 1778, 3rd/4th Edition will be reviewed and re-certified to the 5th Edition by the effective date of August 11th, 2017. UL 1778, 3rd and 4th Editions will be withdrawn on August 11th, 2017.
- On August 11th, 2021, UL 1778, 2nd Edition will be withdrawn. Existing certifications of uninterruptable power systems to UL 1778, 2nd Edition will be allowed to maintain certification and not be withdrawn on or after August 11th, 2021, provided there are no changes to the uninterruptable power system design that require a certification decision or until a new/revised requirement in UL 1778, 2nd Edition is determined as "Action Required" to require a file review in the future. For example, changes to the uninterruptable power system design, ratings, or the use of alternate components requiring a certification decision submitted in the future, will require the uninterruptable power system (in its entirety) to be evaluated to the latest Standard Revision UL 1778, 2nd Edition. Additionally, new/revised requirements to the 5th Edition may require action to be taken in the future, which would result in a file review for products certified to the 2nd Edition.

Standards Update Notice (SUN)

Issued: June 23, 2016

Overview of Changes:

A list of major changes between UL 1778 3rd/4th edition and UL 1778 5th edition are found in the table below.

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Fees: So that production of products bearing the Listing Mark will not be interrupted, a quote will be issued for the Applicant to work with their local Intertek Lab to determine the necessary test program, sampling requirement and needed construction details and/or updated marking/instruction details.

Client Action Required:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

Current Listings Not Active? – *Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.*

Description of New/Revised Technical Requirements

| Clause | Verdict | Comment |
|--------------------------|---------|---|
| 1.4.15.101, Annex PPP | | Now requires routine tests per Annex PPP. Production line dielectric for all products and grounding continuity tests for cord connected devices. Requirement from 2nd edition |
| 1.5.108 | | New requirements for field installable accessory equipment. These are primarily construction and marking requirements but include general statement about performance requirements of the standard. |
| 1.6.1.101 | | New requirements for telecommunication and CATV UPS equipment. Requirements are specific to provisions for connecting bonding/grounding conductors |
| 1.7.1.104 | | Requires date of manufacture marking; Marking requirement to be added for all UPS. |
| 1.7.1.105 | | New marking requirement for Canada CATV UPS |
| 1.7.2.106 | | New installation instructions for modular units |
| 1.7.13.101 e) | | New Caution marking for non-isolated battery supply |
| 1.7.13.106 | | New caution instructions for handling of vented batteries |
| 2.1.101 | | If backfeed isolator is not part of the UPS, new requirement that the installation instructions include information |

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| Clause | Verdict | Comment |
|-----------------|---------|---|
| 2.1.103 | | Now refers to 60950 annex NAE for requirements for UPS used in computer room. Requirement from 2nd edition. |
| 2.6.3.3 | | Replaces Table 2 of RD with new table for conductor size for bonding. Requirement from 2nd edition. |
| 2.6.101 | | Revised requirements for bonding, includes some markings |
| 2.7.1 | | Now requires AC output protection in the UPS or can be supplied by installation if permanently connected. And requires that if the UPS relies on installation RCD for compliance the installation instructions have to specify this. Requirement from 2nd edition. |
| 2.7.101 | | If a UPS doesn't have battery supply circuit overcurrent protection, installation instructions have to specify one is used in the end use |
| 2.7.102 | | Requires that battery supply overcurrent protection is investigated/tested to 5.3.1 of the RD. Requirement from 2nd edition. |
| 2.7.103 | | Requires that overcurrent protection in permanently connect battery cabinets be BCP, otherwise they can be supplementary. Requirement from 2nd edition. |
| 2.8 - 2.8.101.8 | | New requirements for protection of service personnel. Requirement from 2nd edition. |
| 2.9 | | Added requirement for Electrical insulation |
| 3.1.4.101 | | Requires separation of conductors of different circuits within UPS and at terminals. Requirement from 2nd edition. |
| 3.2.5.101 | | New requirements for power supply cord - must be hard service except as required by other clauses or table mounted 5 kg or less supply can have type SV. Requirement from 2nd edition. |
| 3.4.101 | | Now has specific requirements for the disconnect - i.e. opening all ungrounded conductors, switch or breaker, etc. Requirement from 2nd edition. |
| 3.4.103 | | New marking requirements for disconnect devices in restricted access locations |
| 4.6 | | Added construction requirement for openings in enclosures |
| 5.101 | | Added requirement for Short-circuit fault current withstand rating markings |
| 5.3.105 | | New output overload test, required for most all UPS. Requirement from 2nd edition. |
| Annex FFF | | <p>Renumber Annex (from: Annex FF to: Annex FFF) and Addition to FFF.3 (2nd paragraph)</p> <p><i>When BACKFEED PROTECTION is provided by others and requires a remote shunt-trip or other means of mechanical disconnection, adequate interconnect information shall be included in the installation instructions.</i></p> <p><i>FFF.6: see also Annex LLL</i></p> |
| Annex JJJ | | Renumber Annex (from: Annex JJ to: Annex JJJ) and added more examples of additional markings required for Canada and the United States (in conjunction with Annex NAA/RD). |



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| Clause | Verdict | Comment |
|-----------|---------|---|
| Annex LLL | | Added Examples of US and Canadian regulatory requirements |
| Annex MMM | | Added Test and construction requirements for UPS with fault current ratings higher than those specified in Table NNN.5 |
| Annex NNN | | Added Short-circuit withstand rating |
| Annex PPP | | Added Manufacturing and production tests |
| | | CUSTOMERS PLEASE NOTE: This Table and column "Verdict" can be used in determining how your current or future production is or will be in compliance with new/revised requirements. |