

American National Standards Institute (ANSI)
Executive Standards Council
25 West 43 Street, 4th Floor
NY, NY 10036

copies:

UL1703 STP panel members
(roster appended to this letter)

Charles Rego
Underwriters Laboratories
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January 28, 2008

Dear Sirs:

I would like to register a formal complaint against Underwriters Laboratories (UL). You are receiving this complaint because Underwriters Laboratories is an Audited Designator.

This complaint is being submitted within 30 days after completing the appeals process at UL.

I allege that UL has violated its accredited procedures in regard to what it calls a "Certification Requirement Decision" and the standard UL1703. I also allege that UL is not correctly following its appeals process. Substantiation of these charges will be detailed in the following paragraphs.

This complaint is not technical in nature and does not relate to the content of a standard. It does relate to how the content of a standard is established.

I would like to point out that substantial and material reasons exist and that immediate action is necessary. This will be substantiated in following paragraphs. I believe ANSI should initiate withdrawal of accreditation of the standard UL1703. An audit for cause should be conducted to determine if additional withdrawal of accreditation is necessary and if withdrawal of Audited Designator status is necessary.

I am presently serving on the Standards Technical Panel (STP) for the UL1703 standard, Flat Plat Photovoltaic Modules and Panels. I submitted a proposal to the STP chair on July 7th, 2007. The proposal was accepted, but the chair has not to date allowed it to be considered by the panel. About the same time, UL issued a Certification Requirement Decision (CRD). I cannot be sure of the exact date since this document was not made available to the STP. I received a copy in an e-mail from Timothy Zgonena of UL on July 19th, 2007. A copy of the CRD is appended to this letter (for the Council only).

According to UL's standards, a certification requirement decision "addresses a decision to apply or not to apply a requirement of the standard that results in an impact to existing/future Listed, Recognized or Classified products or that better defines the present practice in the application of the requirement. A Certification Requirement Decision is not part of the STP process until it is submitted as a Proposal Request." What is important here is that the CRD is not supposed to add new requirements to the standard. Since the content of a CRD is outside the STP process it may not be appealed. By including new requirements in the CRD, UL is able to avoid the appeals process for the new requirements.

Being new to the standards development process, I was initially unaware of the full significance of the CRD. My lawyer, Carolyn Hansen, and I carefully researched the CRD. We concluded that the CRD not only makes significant changes to the text of the UL1703 standard but also adds new requirements, and therefore should have been submitted as a formal proposal to the UL1703 STP. I presented a technical analysis which details my findings in an e-mail to the STP chair and UL members of the STP on December 7th, 2007 and which is appended to this letter.

To date I have received no formal response to the e-mail.

There was a phone conversation on January 16th with Tim Zgonena of UL, STP primary designated engineer, a UL lawyer, Charles Rego, Carolyn Hansen, and myself. During the conversation, Mr. Rego informed me that there would be no response forthcoming. He informed me this was because legal counsel represented me, although I can find nothing in the UL policies, which prevents an STP member from using legal counsel. Mr. Zgonena also stated that his position was that the CRD did not impose any new requirements to the standard.

Since UL does not allow appeal for CRDs and since January 16th is when I learned that UL does not intend to respond to my e-mail, I believe January 16th should be taken as the effective end of the appeals process.

If you carefully examine the CRD and appended documents, I am sure you will agree that the CRD does indeed impose new requirements. These requirements are imposed by UL in its testing functions as a National Recognized Testing Laboratory (NRTL) and have impacted all manufacturers of solar modules whose equipment is listed to UL1703 by UL. It has also indirectly affected manufacturers of equipment listed to UL467 whose parts may be used on solar modules. These new requirements necessitate additional tests, which incur expense to the manufacturers and also generate significant income for UL in its testing capacity. The longer these new requirements remain in place, the more substantial the financial impact will be, and the more difficult it will be to go back and undo the results.

I believe that the CRD is being used to circumvent the STP process. By doing so, it violates the ANSI essential requirements. It violates the requirement of openness because the CRD is not available to the STP. It violates the requirement of lack of dominance, because only UL personnel are allowed to generate CRDs. It violates the requirement of balance, again because only UL personnel are allowed to generate CRDs. It violates the requirement of notification of standards development and coordination because the STP panel members have no way of knowing when a CRD has been issued. Furthermore, in UL's lack of response to my e-mail, UL has violated

the requirement of consideration of views and objections. UL has violated the requirement of consensus vote because their unilateral imposition of new requirements by way of the CRD has completely avoided a vote. Since the CRD avoids the STP process altogether, they have in effect violated the requirement of appeals, since a CRD is wholly internal to UL and therefore not subject to appeals.

In addition to violating the ANSI essential requirements, UL has violated its own rules of operation as detailed in the Approved Revisions to UL's Accredited Procedures – Approved by ANSI on November 10, 2005. These define the CRD and how it is supposed to function to clarify requirements and not define them.

Note that if there were questions of safety, which necessitated the immediate adoption of new requirements there are specific conditions in the UL operating requirements, which must be satisfied and were not satisfied in this case. Those would have required issuance of a provisional revision of the standard.

UL personnel on the STP have also violated the UL STP code of ethics. Each member of the STP is required by the code to have read and become familiar with the code of ethics. Section 3.11 of the code states that "STP Members shall refrain from disseminating false or misleading information or from withholding information necessary to a full, fair, and complete consideration of the issues before their STP." The addition of new requirements by way of the CRD and failure to inform the STP of their existence is certainly described by that section. Note also that my e-mail to the STP chair was proper notification to UL of these ethical violations.

The proper course of action would be to immediately revoke UL's authority to issue the UL1703 standard. As this will impact many other parties besides UL, I recommend this be done in the following way.

1. ANSI should require UL to immediately revoke all CRDs relating to UL1703.
2. ANSI should require UL to immediately remove all UL influence from the operation of the UL1703 STP. All UL employees and any members having any financial association with UL should immediately resign from the STP and, to demonstrate complete neutrality, allow replacements from another NRTL.
3. ANSI should disallow any attempt by UL to replace the UL1703 standard with another standard.

I would also recommend the following steps to examine standards beyond the documented problems with UL1703.

4. ANSI should review all CRDs at UL issued in the last few years to determine whether this is an isolated problem or one endemic to the use of CRDs at UL. Should ANSI identify improper use of CRDs relating to other standards, those standards should also be revoked or have similar restrictions imposed.
5. ANSI should require UL to institute new policies and procedures, which should prevent the misuse of CRDs. This should include free posting of all CRDs for public review and the institution of reporting procedures at UL and ANSI which would quickly identify future recurrences.

Please contact me should you have any questions. I would be most willing to assist you in correcting this problem.

Sincerely,

Brian Wiley, LLC member
Wiley Electronics LLC
1131 Kings Highway
Saugerties, NY 12477

UNDERWRITERS LABORATORIES CERTIFICATION REQUIREMENT DECISION

This Certification Requirement Decision is prepared and published by Underwriters Laboratories (UL). It is normative for the applicable UL Product Certification Program(s); however, it is currently not part of the UL Standard(s) referenced below.

Product Category (CCN): QIGU, QIIO, QHZK, QHZQ including suffix 2,3,7 and 8

Standard Number: UL 1703

Edition Date: June 30, 2004

Edition Number: 3

Section / Paragraph Reference: Section 11, Section 25, Paragraphs 35.2, 36.2, and 48.1.

DECISION:

A grounding means shall be provided with each module or specified in detail in the module installation manual that is provided with each module so as to comply with the requirements in 11.1 and Section 48.

The module grounding means shall not result in the combination of dissimilar metals per paragraph 6.8. The below electro chemical table below shows various common metal combinations. Combinations below the table cutoff line are considered to be acceptable.

All grounding means for each module shall be installed per the module mfr instructions prior to subjecting the modules to the TC200 tests as described in Section 37, and HF10 tests as described in Section 36. Note that PV module installation manual referenced components may have additional installation requirements that will also need to be applied during the sample preparation. The Grounding Path Resistance Test as described in Section 25 shall be performed following the chamber tests to ascertain if corrosion has occurred between the ground connection components so as to comply with the requirements in Sections 25, 35, 36, and 37.

Ground screws that thread directly into the module frame to secure a wire or terminal need to be subjected to the Terminal Torque Test so as to comply with the requirements of Section 29 for wire-binding screws.

RATIONALE FOR DECISION:

This SI is to clarify how existing requirements in UL 1703 are to be applied to address potential issues that can negatively affect PV module grounding connections.

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Hi Tim,

I would like to document the present situation regarding the UL standard 1703 - Standard for Flat-Plate Photovoltaic Modules and Panels. Please let me know if the following is correct.

1. UL has issued a "Certification Requirement Decision", i1703_3_200705092.pdf, which you have also referred to as a "significant interpretation". This will hereafter be referred to as the "CRD".

According to UL'S STANDARDS DEVELOPMENT AND MAINTENANCE PROGRAM, a certification requirement decision "addresses a decision to apply or not to apply a requirement of the standard that results in an impact to existing/future Listed, Recognized or Classified products or that better defines the present practice in the application of the requirement. A Certification Requirement Decision is not part of the STP process until it is submitted as a Proposal Request."

2. The "CRD" states the following:

"A grounding means shall be provided with each module or specified in detail in the module installation manual that is provided with each module so as to comply with the requirements in 11.1 and Section 48."

Previously UL1703 only required that "The grounding means shall be described in detail in the installation manual.", so the first part of that sentence is actually a new requirement, not a decision or a better definition.

3. The "CRD" states the following:

"The module grounding means shall not result in the combination of dissimilar metals per paragraph 6.8. The below electro chemical table below shows various common metal combinations. Combinations below the table cutoff line are considered to be acceptable."

This is a new requirement to the UL1703 standard.

4. The "CRD" states the following:

All grounding means for each module shall be installed per the module mfr instructions prior to subjecting the modules to the TC200 tests as described in Section 37, and HF10 tests as described in Section 36.
... The Grounding Path Resistance Test as described in Section 25 shall be performed following the chamber tests to ascertain if corrosion has occurred between the ground connection components so as to comply with the requirements in Sections 25, 35, 36, and 37."

A substantial change to the UL1703 standard is implied here in that the "Bonding Path Resistance Test" of the UL1703 standard seems to have been replaced by the "Grounding Path Resistance Test" referred to in the "CRD".

The two sentences impose new requirements on the standard with this sequence of tests, since UL1703 section 18.3 states that "The order of the tests in Table 18.1 is for convenience only. It is not intended to imply that any one sample be subjected to the complete sequence or a partial sequence of tests unless specifically stated in Figure 18.1." and no specific sequence of tests is specified in Figure 18.1 for the "Bonding Path Resistance Test"

5. Adding new requirements and substantial changes to an existing standard without going through approved procedures would seem to violate UL's Accredited Procedures - Approved by ANSI on November 10, 2005.

6. Adding new requirements and substantial changes to an existing standard without going through approved procedures would seem to violate the Code of Ethics for UL Standards Technical Panel (STP) Members.

7. Products of Wiley Electronics LLC have been directly and materially affected by the "CRD".

Best Regards,
Brian Wiley

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