

Nigel Preston's Introduction (Chair GOGLA Technology WG)

- Industry agreed late 2017 to submit *both* pico-PV and SHS kit standards to IEC, subject to minor revisions, some of which were suggested by GOGLA members in a survey in early 2017. The recommendation to submit pico-PV was subsequently endorsed by the GOGLA Board of Directors (BoD). The SHS recommendation is still pending BoD approval.

Arne's Presentation

- Once 62257-9-5 Ed. 4 is published (around April), the “gray area” between 10 and 15 W(p) will be eliminated and all products in that range will henceforth be tested as SHS kits.
- Quality standards, once adopted by IEC, will be codified in IEC/TS 62257-13-1 (pico-solar) and 62257-13-2 (SHS kits)
- Submitting quality standards for **pico-solar products** to the IEC:
 - o Goal is to submit draft quality standards for pico-solar products to IEC in April 2018, in advance of the TC82 JWG1 meeting on May 2. Will take 8-12 months to publish. There will be a 60- to 90-day comment period beginning May or June during which members of IEC TC82 can provide input to the process. Stakeholders that are not members of TC82 can submit comments for consideration through Lighting Global or GOGLA.
 - o Key changes to pico-solar quality standards to be implemented prior to submission:
 - Accept IEC 61427-1 certificate in lieu of battery durability test for lithium batteries
 - Change AVM pathway
 - Update eligibility criteria so more companies can use the pathway
 - Allow companies to use pre-production samples
 - Companies would pay LG QA program in advance for a follow-up Market check Test (MCT) to be conducted at a time of the program's choosing
 - Discontinue the “limited stock” option for random sampling
 - Add standards for ports and lithium batteries
 - Raise the lumen maintenance threshold from 85% to 90%
- Submitting quality standards for **SHS kits** to the IEC:
 - o Advantages:
 - Decrease risk of countries adopting divergent standards
 - Provide formal process for obtaining input from all stakeholders
 - Enable national governments to more easily maintain harmonization
 - o Disadvantages:
 - Moderately long timeline to update standards
 - Access to standards will require payment (\$100 per document)
 - More limited translations possible (English and French only)
 - Unequal stakeholder influence, as large organizations can more easily participate

- Some governments may be more likely to adopt compulsory standards but lack the resources to enforce them effectively
- Timeline same as for pico-solar, provided that they are submitted at the same time.
- Key changes under consideration:
 - Changes to battery durability, discontinue limited stock option, as above
 - Lithium battery safety requirement
 - Allow AVM for SHS kits in the future

Q&A

We see larger numbers of tender notices referencing LG and we see larger numbers of products advertising meeting “Lighting Global equivalent” standards. Does the QA program recognize products that have been tested according to the test methods and shown to meet the standards as QV or equivalent?

No, we do not because we cannot verify that all of the requirements, in particular sampling requirements, were met.

[Editor’s note: All products recognized by Lighting Global are published on our website here: <https://www.lightingglobal.org/products/> .]

What test labs around the world are accredited?

SMQ, the Schatz Energy Research Center, Intertek and TERI are all accredited to conduct QTM tests for pico-products, and SMQ and the Schatz Center can conduct tests for SHS kits. TERI, the University of Nairobi (UoN), and the Tanzania Bureau of Standards (TBS) can conduct market check method (MCM) tests.

[Editor’s note: All of these labs and their respective accreditation status are listed on the Lighting Global website here: <https://www.lightingglobal.org/quality-assurance-program/test-laboratory-network/>]

Once the standards are adopted by IEC, what would be the difference between products that go through the LG QA program and those that receive a certificate of conformity directly from a test lab?

The Lighting Global QA program would continue to recognize only those products that go through the LG QA program. National governments and other programs would have to make their own decisions about what to accept.

What about PAYG systems? How are they evaluated?

The testing framework is essentially the same as for non-PAYG products. If a product is initially tested as a PAYG product, there are no differences in the test methods or standards. For products that are originally tested as a non-PAYG product, and then want to add PAYG functionality, we conduct a few supplemental tests on the PAYG version to confirm that it performs similarly to the original non-PAYG version and that any new features, like key pads or remotes, are durable. Treatment of PAYG products is included in the current and revised version of IEC 62257-9-5, and will be included in the Quality Standards that we submit to the IEC.

[Editor's note: For more details on the treatment of PAYG products, see the [Lighting Global PAYG policy](#). Though there are no differences in the test methods for PAYG products, all PAYG companies are required to submit a declaration regarding the metering accuracy, the thresholds for cut-off and the battery protection for their product.]

What testing would be required for appliances included as part of SHS kits once the quality standards are adopted by IEC?

We do some “light-touch” assessment of non-lighting appliances within the context of the SHS kit tests, including review of certificates for those appliances, if available. A key test is power consumption, so that we can assess the run time and level of service delivery for the overall system. We also conduct some durability testing, though the durability tests may be waived if appropriate alternate proof of safety/durability can be provided. We are not contemplating any changes to this approach.

[Editor's note: Currently, we accept IEC 60065 for televisions and radios, and IEC 60335 for fans in lieu of durability tests. We also accept results of Global LEAP power consumption tests for televisions and fans that were tested through that program.]

Are there any accredited test labs in Latin America?

No, none that we are aware of for off-grid solar product testing.

How are discussions going with governments that have adopted quality standards?

We have had discussions with governments that have adopted quality standards for pico-solar products, including Kenya, Tanzania, and Ethiopia. They are all enthusiastic about having quality standards maintained by the IEC and supportive of the proposed changes.

Ethiopia and Rwanda are probably furthest ahead on standards adoption for SHS kits. In cases where countries are interested in adopting standards for SHS kits, we have encouraged them to wait to adopt standards for SHS kits until the standards have been submitted to the IEC so that they can ensure their national standards will be harmonized with the final IEC document.

Will a PV panel with an IEC 61215 certificate be accepted without further testing?

If a product comes with an IEC 61215 certificate, we already waive the ingress protection test. If the module was tested with a cable attached, we also waive the strain relief test. The third test we require for PV modules is a measurement of the IV curve. We are not yet confident that we can accept the IV curve data from IEC 61215 testing for use in our performance assessments. The IV curve data are used as an input for the daily energy service calculation and/or runtime, and we need to confirm that IV curve data from IEC 61215 will give results that are at least as accurate as those we get from IEC/TS 62257-9-5 testing. We are optimistic that this may be possible, but to make this decision, we need to have more data to compare daily service level calculation outcomes for products that have modules that have undergone IEC 61215 testing and have had IV curves generated using the methods in IEC/TS 62257-9-5. We welcome any relevant data from companies that have products with modules that have gone through IEC 61215 testing and IEC/TS 62257-9-5 testing to help make an informed decision.

Nigel Preston (Chair WGT): This is one of the points the GOGLA Technology Working Group has discussed and will try to provide data in the next few months.

If PAYG systems are accommodated under the non-PAYG standards, where can we check to understand the particular tests required for PAYG products?

As noted above, there are no differences in testing for a PAYG product versus a non-PAYG product. The methods in IEC 62257-9-5 and the full Lighting Global Quality Standards apply.

In cases where a product was originally tested without PAYG functionality, and later PAYG functionality was added, a few select tests, mainly a visual screening and standby loss test, are conducted on the new PAYG version to ensure it performs similarly to the original product. Any new features, such as key pads or remote controls are also required to undergo durability tests.

[Editor's note: More details are available in the [Lighting Global PAYG policy](#).]

Is TERI accredited to test products according to the IEC test methods? Yes, TERI is accredited to test pico-solar products for QTM, MCM and ISM. They are not yet able to test SHS kits, but we have discussed this with them and they have expressed interest to work toward obtaining training and accreditation for those tests.

Will Lighting Global certificates for products that were tested and evaluated under the Lighting Global standards still be valid after the IEC standards are published?

Yes.

[Editor's note: We can say definitively for Lighting Global that all certificates will remain valid. We will work with country governments and PVoC agents to encourage them to continue to accept products that were tested under the Lighting Global standards as well.]