

Stakeholder Feedback on Draft Accelerated Verification Method

September 10, 2015

We extend our acknowledgement to everyone who provided feedback on the draft Accelerated Verification Method (AVM) Policy. We received comments on multiple areas related to the AVM from different stakeholder organizations with a wide variety of connections to the off-grid industry. There were 14 respondents from 13 different organizations including 8 manufacturers, 1 distributor, 1 testing laboratory, 1 NGO and 2 universities.

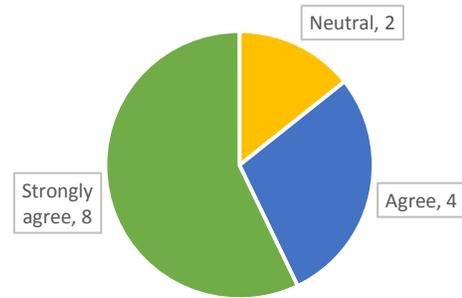
As described in this document, based on stakeholder feedback, we have revised the proposed AVM policy by making the following adjustments:

1. Allowed manufacturers to provide pre-production samples for verification entry testing.
2. Instated more rigorous follow-up testing by conducting a six-sample QTM test using market samples or randomly selected warehouse samples as soon as products from full-production runs are available in the market.
3. Increased the fee to \$12,000 to cover the additional costs associated with a more rigorous and higher sample size follow-up test.
4. Reduced the penalty for failing a verification entry test by allowing manufacturers to remain eligible for the AVM pathway. Manufacturers would still be required to forfeit the entire \$12,000 AVM fee, and in the case that they choose to resubmit the product through the AVM method, would need to pay the full fee again. As for all manufacturers, failing any QTM or market check tests would result in the manufacturer not being eligible for the AVM method for two years.

A synthesis of comments on each question or sub-topic is presented, along with responses from the Lighting Global team. While some text was altered from the original submissions, alterations were not intended to change the meaning of the comment, but only to condense responses and protect the anonymity of the respondent. Similar comments from multiple stakeholders were combined.

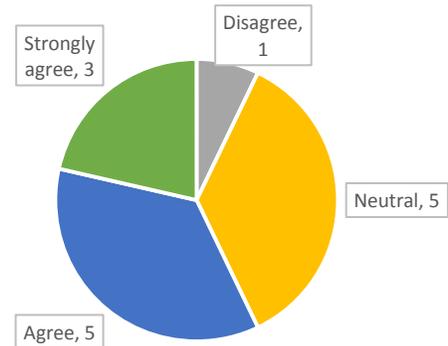
1 Do you agree with the need to create a faster framework for product quality verification?

Of the 14 respondents, 12 agreed that it is important to create a faster framework for product quality verification, two remained neutral, and none disagreed with this statement.



2 Do you agree that easing the timeline and requirements for verification entry testing and retaining the rigor of the quality verification process via eligibility screening and a more comprehensive market check testing is a good method to fast-track the testing process? Please explain.

Of the 14 respondents, 8 agreed that this is a wise approach and would enable experienced, quality-oriented manufacturers to introduce new products in the market quickly. Other comments and our responses are described below.



2.1 Concern regarding relaxation of requirements: One respondent was worried that relaxation of requirements of AVM will make manufacturers ‘cut corners’.

RESPONSE: There are two parts to the requirements for the AVM.

The first are the eligibility requirements, which are rigorous. Only manufacturers that have a consistent track record for quality within the Lighting Global Quality Assurance (QA) program will be eligible for testing their products with AVM. The parameters that determine this track record are detailed in ‘Section 1’ of draft AVM document. This practice also ensures that manufacturers establish reliable quality control processes and a full understanding of the Lighting Global QA program before they attempt to operate under the AVM.

The second set of requirements is for submitting products for AVM testing and the testing itself. These requirements have been revised relative to the standard QTM process. The revision allows manufacturers to submit products at an earlier stage in production and it waives the random sampling requirement. This places significant responsibility for ensuring that the products are of high quality on the manufacturer. While this may seem to represent a relaxation, products that meet the standards following verification

entry testing will be subjected to a full follow-up QTM test very soon after the verification entry testing is complete. Moreover, products that fail this follow-up test will be subject to strict non-compliance consequences. These penalties are detailed in section 4 and 5 of the draft AVM document.

2.2 Concern regarding AVM being similar to ISM: One respondent noted that the AVM seemed similar to the ISM.

RESPONSE: The AVM is similar to an ISM in that companies may submit products directly without third-party sampling, and that the ISM test method is used. Beyond these two similarities, the AVM differs considerably from the ISM.

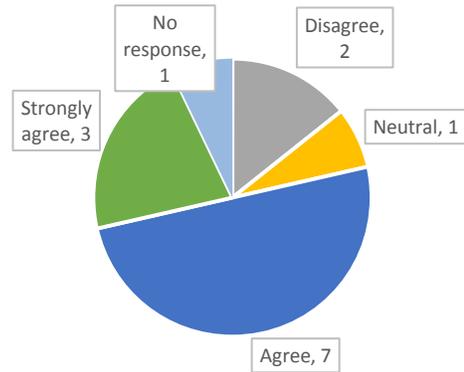
Fundamentally, the ISM is intended for use by companies who want to test a new product at any stage in the product development to see if it is likely to meet the Quality Standards or if there are aspects of the design that need to be refined. The ISM may also be used by a company that is new to the Lighting Global program and wants to better understand the testing process. Conversely, the AVM is intended for manufacturers who are familiar with the Lighting Global program, are very confident in their product design and manufacturing processes, and who are ready to take responsibility for ensuring that the product does – in fact – meet the Quality Standards. In such cases, although third-party sampling is not required for the AVM, manufacturers must meet eligibility criteria in order to qualify to use the method. Additionally, the AVM requires a sample size of two units for each test, whereas the ISM requires a sample size of one. Finally, the AVM includes follow-up QTM testing on each product that meets the Quality Standards following verification entry testing. The QTM test will occur soon after the verification entry testing has been completed with a goal of ensuring that the quality and performance of the product continues to meet the Standards. Samples for the follow-up QTM test will be obtained from the market or through random warehouse sampling at the sole discretion of the Lighting Global program. If the product does not meet the Standards as per the QTM test, it will be delisted and the manufacturer will be subject to penalties as noted above.

2.3 Concern regarding length of lumen maintenance test: One respondent suggested that time required for the lumen maintenance test should be reduced, sample quantity should not be reduced and product units should be sampled by third parties. According to the respondent, this would help keep risk of non-compliance under control and hence not require expensive market check testing.

RESPONSE: In parallel with the AVM process, we are exploring methods to reduce time required for lumen maintenance testing and when the results are final, we will make this public and integrate it with the existing test methods. Further, manufacturers who prefer the QTM approach will still be able to submit their products for testing under the QTM, the design of which is not being changed. AVM is being launched in addition to the QTM and will be available to those manufacturers that are eligible and who choose to opt for AVM to get a faster result.

3 Do you agree with the eligibility criteria and requirements as listed in the draft AVM document that a company must meet in order to use the AVM? Please explain.

Of the 14 respondents, 11 agreed with the eligibility criteria for AVM as described in the draft AVM document. They added that such criteria are necessary to ensure stringency and that such a method should be available to companies that are known to have a reliable testing record.



3.1 Suggestion regarding eligibility criteria: One respondent suggested that manufacturers should provide evidence that they have sustainable manufacturing processes and provide attention to diversified hiring and good personnel management practices. That person added that the manufacturers should have operations in the continent(s) where their products are available.

RESPONSE: The way businesses conduct their operations is outside the scope of Lighting Global QA framework. While sustainable manufacturing and fair labor practices are important, it seems inappropriate to include them as part of the testing process or Quality Standards, which are focused solely on the function, durability, and quality of the end product. Within the Lighting Global program, the IFC does address issues related to business practices by requiring companies that seek to be Associates of Lighting Global, Lighting Africa or Lighting Asia to pass IFC’s Integrity Due Diligence check before attaining Associate status and being able to receive business support services through these programs.

Further, we feel that establishment of a requirement for firms to have offices in continent(s) of operations is outside the scope of the Lighting Global Quality Assurance program. Although it may be advantageous for many reasons to maintain operations within a country of distribution, we understand that the problem of energy access is a global problem and the firms active in this sector are diverse across their scale, resources and operations. We believe the firms should be in a position to make their own decisions regarding how to allocate their resources.

3.2 Concern with this approach favoring incumbents: Three respondents felt that the eligibility criteria are too narrow and do not favor new entrants. One of them mentioned that the program should seek an accelerated pathway that allows new and old companies alike to compete on equal footing. The respondent added that by backing up the verification entry test with rigorous market-check testing, one could eliminate companies being able to get away with non-compliance. Another respondent felt that smaller players are in greater need of an accelerated testing option as they cannot afford an idle production line as they wait for test results.

RESPONSE: We recognize that the eligibility criteria for the AVM method will not make the approach available to new entrants. However, data from QTM testing over the past few years indicates that products submitted by new entrants often do not meet the Lighting Global Quality Standards on the first

attempt. Moreover, it is clear that many companies that do not have a significant prior experience with the Lighting Global Quality Assurance program do not fully understand the test methods, and they are often not in a position to determine internally – prior to submission of the product – whether their products will meet the Quality Standards. As a result, we do not feel that it is appropriate at this time to make the AVM method available to companies that do not have an established and successful track record with the Lighting Global Quality Assurance program. Nonetheless, we should note that we are planning to pilot test the AVM method over the coming year. After both manufacturers and our program gain experience with the method, we will review the program and – if appropriate – consider revising the eligibility criteria. In the mean time, all manufacturers, including new entrants, will still be able to test under the QTM, and we are continually working to reduce the time required for QTM sampling and testing.

4 Please provide any comments regarding the Verification Entry Testing as described in the draft method.

4.1 Concern regarding scope being narrow for new manufacturers: This has been addressed in the response to concern 3.2.

4.2 Concern regarding waiving random sampling: One respondent felt that eliminating random sampling allows manufacturers to select “golden samples” for testing.

RESPONSE: To reduce the likelihood of manufacturers selecting “golden samples” for testing we have done two things. First, only firms that have a consistent record of quality products and a history of professional conduct in the market are eligible for AVM, and such firms are less likely to submit product units that do not represent the product that will be sold in the market accurately. Second, the AVM method includes a follow-up QTM test that will occur soon after the verification entry test is complete; failing this QTM test results in monetary penalties and loss of eligibility. Samples for the follow-up QTM test will be collected from the market or through random warehouse sampling. These penalties are expected to act as a self-enforcement check with manufacturers.

4.3 Suggestion regarding early testing: Several respondents felt that companies should be allowed to start testing products as early in development as possible.

RESPONSE: We understand that manufacturers would like to be able to utilize pre-production samples, as this allows them to launch new products at the same time (or shortly after) they go into full production. Given emerging government regulations in some countries that require that all products sold meet Quality Standards in order to enter the markets, the ability to obtain quality verified status when a product is launched is increasingly important. At the same time, we have received feedback from other stakeholders, including distributors and other bulk purchase buyers, that indicates that they are uncomfortable with quality verification of products using samples that do not come from a full production run.

Lighting Global recognizes the importance of obtaining quality verification at the point of product launch. To address this issue, we have revised the AVM policy to allow manufacturers to submit pre-production samples. At the same time, we recognize the importance of ensuring that full production units are evaluated using rigorous testing. To address this, we are revising AVM policy to include a mandatory follow-up QTM test that will be conducted immediately after the completion of the verification entry test

and the subsequent release of the products into the market. The follow-up QTM test uses a sample size of six ($n = 6$) for each relevant test. If the product fails the follow-up QTM test, it may be delisted immediately and the company will face the full set of non-compliance penalties. If the follow-up QTM test confirms that the product meets the Quality Standards, the manufacturer will receive a test report with corresponding results that may be shared with distributors or others with an interest to review test results for product samples from a full production run.

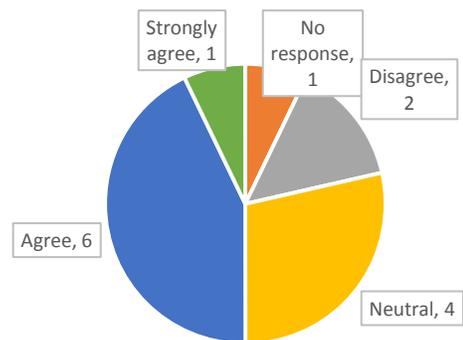
It is important to note that this revision to AVM includes a more rigorous and costly follow-up test than the originally proposed approach. As a result, the entry fee of the AVM method will increase from \$10,000 to \$12,000. Recognizing that pre-production samples that fail the initial AVM test should not be made to face full set of non-compliance penalties, the company won't be barred from using AVM, but will forfeit the entire fee. The company would need to pay the full fee again if they resubmit the product.

4.4 Suggestions regarding lumen maintenance testing: Two respondents agreed that time taken for lumen maintenance test should be reduced. One respondent was of the view that while it makes sense to reduce the length of testing, reducing the number of samples and doing away with third party sampling are not likely to save time since testing for different samples could be done simultaneously and third party sampling can be booked in advance.

RESPONSE: As mentioned above in comment 2.3, we are investigating methods of reducing the time required for lumen maintenance as part of both the AVM and QTM. In our experience, however, we have found that eliminating third-party sampling and reducing sample size can reduce testing time. Due to communication, logistic and scheduling constraints, arranging third-party sampling can take anywhere from a few days to several weeks after the time the manufacturer states they are ready for sampling. While this can be arranged in advance, it is not always feasible. We have also found that the reduction of sample size from six samples to two samples can reduce typical testing time by several weeks.

5 Do you agree that the consequences of non-compliance under the AVM are appropriate to ensure that manufacturers follow the AVM program guidelines strictly and maintain proper quality control standards when manufacturing the submitted products? Please explain.

Of the 14 respondents, 7 agreed that the consequences of non-compliance have been designed well. One respondent noted that this will make only confident manufacturers approach AVM and two others commented that this will prevent quality fraud and that requirements are rigorous.



5.1 Concern regarding waiving random sampling: One respondent cited concerns about waiving random sampling and mentioned that this should be a minimum requirement. This respondent added that consequences of non-compliance are severe and can cause damage to the manufacturer. The market share and financial impacts of the penalties could

lead to the affected manufacturer taking production short cuts that may prove detrimental to the end users in the long-term.

RESPONSE: While this is true, the eligibility criteria for AVM is strict and includes among other things, that the manufacturer has no products that have failed QTM tests or market check tests in the past two years. To be eligible, they must also have a history of professional conduct in the market and open, honest communication with the Lighting Global/Lighting Africa/Lighting Asia teams. This helps filter firms that have the integrity and experience to ensure quality in their products from the pool of interested applicants for AVM.

Moreover, a follow-up QTM test will be conducted very soon after verification entry testing is complete. The QTM samples will be collected from the market or through random warehouse sampling (Lighting Global will determine which approach to use on a case-by-case basis), and the product must meet the standards and perform at a level that is consistent with the samples provided during verification entry testing in order to maintain the status of the product. If the product fails the follow-up QTM test, the manufacturer will face penalties and will not be able to use the AVM approach until their eligibility is restored. Lighting Global believes that these measures provide a significant deterrent to manufacturers with regard to the potential selection of “golden samples” during the verification entry testing phase of the evaluation.

5.2 Concerns regarding penalties being too severe: Three respondents felt that this was the case. One cited that a company has no incentive to fail a test deliberately as the cost of re-engineering and re-testing is very high. Another respondent added that penalties for a ‘conditional pass’ were quite high. One respondent noted that quality issues are not unusual in the electronic industries and that it is difficult to prevent all the potential issues especially for small and medium manufacturers in their initial phase. Another stated that some companies may not have the knowledge, money, or expertise to carry out the tests in the same way as Lighting Global labs and they may find different results because they used different testing methods.

RESPONSE: We understand that this is a legitimate concern. To address this, we have removed some of the penalties associated with failures of product submitted for verification entry testing under the AVM method. Namely, if a company submits a product that fails verification entry testing, the company will not lose its ability to use the AVM method. It will, however, forfeit the entire AVM fee. If the manufacturer chooses to resubmit the product once the product has been revised to address any issues that led to the failure, the full fee must be paid again. Lighting Global has not revised penalties associated with products that fail the follow-up QTM test or subsequent market check testing, including for products that receive a ‘conditional pass’. We believe that the penalties for a ‘conditional pass’ should be very similar to those for a failure, as violations of truth in advertising, insufficient warranty terms, or inadequate labeling are the key issues that could lead to a ‘conditional pass’. In any case, we will evaluate all relevant penalties associated with non-compliance following the pilot phase of the project. If appropriate, some penalties may be revised once the pilot phase is complete.

5.3 Concern regarding cost of AVM: One respondent felt that the standard fee for AVM (originally proposed at \$10,000 but increased to \$12,000 as indicated in 4.3, above) is adequate to cover the cost

of verification entry testing and market check testing. That respondent felt that the \$5000 payment that is charged for non-compliance should not be required because it represents dual payment for market check testing.

RESPONSE: It is true that the fee for AVM is intended to cover cost associated with verification entry testing and follow-up testing. The \$5,000 payment in case of non-compliance is a financial penalty that is expected to act as a deterrent for non-compliance. Having said that, the financial penalty is not meant to be punitive, and it is set at a level that should cover the cost of extra market check testing or other measures that may be required to ensure program integrity in the event of a product failure during market check testing.

6 Please provide any additional comments regarding the draft AVM.

6.1 Comments in broad agreement with AVM: Many agreed that a framework such as AVM that has strict penalties for non-compliance and does not allow for lapses in quality is a move in the right direction.

6.2 Concern regarding method being too expensive for small players and NGOs: One respondent said that while the method is sound, it will prove to be expensive for small players. Another respondent said that the cost is prohibitive for small NGOs and that there should be a discount for them.

RESPONSE: The AVM fee, now set at \$12,000, covers the cost of verification entry testing, follow-up QTM testing (including sample procurement, shipping, and testing), and a portion of the administrative costs associated with managing the process.

6.3 Concern regarding production run requirement being too big: One respondent was of the view that for certain products whose sales numbers are low, the 1000 product unit requirement for a single production run was impractical. Additionally, the respondent noted that currently the sampling procedure for QTM only requires that 500 units are available in stock.

RESPONSE: As noted above in section 4.3, we have eliminated the requirement that the verification entry testing samples come from a full production run. However, the manufacturer must still provide a declaration stating that the quality and performance of the submitted samples are representative of the quality and performance of the product that will be sold in the market.