GENERIC LED CHARGE CODE APPLICATION PROCESS

MEETING NAME	Unmetered Supplies User Group
Date of meeting	13 March 2019
Paper number	125/03
Owner/author	Adam Jessop
Purpose of paper	Decision
Classification	Public
Summary	ELEXON has a number of actions assigned to it relating to the Generic LED application and testing process. ELEXON has concluded that there is no defect in the processes other than the need to provide appropriate guidance to Manufacturers. This paper requests that the UMSUG provide a review of the current manufacturer guidance.

1. What is the Issue?

1.1 ELEXON has a number of actions assigned to it relating to the testing procedure for Generic LED Charge Codes:

Action reference	Action
124/04	ELEXON to return to the next UMSUG with a paper detailing a new testing process.
124/05	ELEXON to circulate proposed changes to help explain the Generic LED Charge Code application process with help from the UMSUG.
124/06	ELEXON to follow up on alternative options for simulating CLO end of life calculations.
124/07	ELEXON to look into the scope of updates needed to UMS Guidance Documentation.

2. Clarification of Generic LED Lighting Charge Code process (UMSUG123/02)

2.1 This paper identified areas of the Generic LED Lighting Charge Code process that manufacturers believe are currently open to interpretation and could be better clarified. ELEXON invited the UMSUG to discuss these and agree any clarifications.

2.2 ELEXON stated that the application is for the driver, and manufacturers typically apply for Generic LED Lighting Charge Code ranges to cover the entire driver's capable output. Questions are often raised to clarify what is the lowest level the equipment can dim to. Feedback from manufacturers has indicated that they find it hard to accommodate the concept of the five testing points and that the use of the word 'dimming' can cause confusion.

2.3 An UMSUG Member questioned whether there was merit in splitting out Generic LED Lighting Charge Code applications into different products. ELEXON stated that if the equipment has the same number of LEDs and the same driver, it should be considered the same product.

2.4 An UMSUG Member stated that the original idea for Generic LED Charge Codes was to cut down on the amount of Charge Code applications as the driver typically determines the power take. They stated that the Upper Limit of a Generic LED Charge Code Range should represent the maximum output of the highest-powered version of a product line. The Lower Limit should represent the lowest wattage (or most reduced-operation) version of a product line. Dimming is carried out by Central Management Systems (CMS) or by Variable Power Switch Regimes (VPSR).

2.5 ELEXON advised that the word 'dimming' could be removed and replaced with 'reduced operation' to clarify the testing process. However, 'reduced operation' would need to be carefully defined.

2.6 ELEXON asked whether it should use its own interpretation or consult manufacturers for clarification of their own interpretation. An UMSUG Member asked what the view of manufacturers was and suggested a meeting with manufacturers to discuss this. ELEXON advised that the current UMSUG Terms of Reference prohibit manufacturers from being UMSUG Members. An UMSUG Member asked if manufacturers could be invited for a specific agenda item.

2.7 ELEXON advised that it has met with several manufacturers and had the discussion with some of them about clarifying the Generic LED Charge Code process.

3. Clarification on the Generic LED Charge Code application process and a new testing procedure

3.1 ELEXON agreed to return to the UMSUG with a paper on a new testing procedure.

3.2 ELEXON highlighted some of the issues with the Generic LED Charge Code application process, including difficulties for ELEXON in confirming what has been tested and whether the five test points were simply examples of night-time dimming (which are irrelevant to a Generic LED Charge Code range). ELEXON explained that the issue comes with how to explain this to manufacturers. ELEXON will circulate proposed changes to help explain the process with help from the UMSUG.

3.3 An UMSUG Member highlighted that there are no equipment manufacturers on the UMSUG and it would be useful to have these stakeholders involved.

3.4 ELEXON highlighted a potential alternative for simulating Constant Light Output (CLO) end of life testing. ELEXON advised it would come back the next UMSUG meeting with a further update. An UMSUG Member commented that it would be useful to have the Lighting Industry Association (LIA) involved as the testing house.

4. ELEXON consideration of the testing process

4.1

124/04	ELEXON to return to the next UMSUG with a paper detailing a new testing process.

4.2 ELEXON has considered the testing process and concluded that the testing process is not defective in itself. However, there is an issue around how Charge Codes are applied for, considering the test data obtained from the Test House. However, for the majority of applications, any issues are resolved through discussion between ELEXON and the applicant on the test data provided.

5. ELEXON consideration of the application process

124/05	ELEXON to circulate proposed changes to help explain the Generic LED Charge Code application process with help from the UMSUG.

124/07	ELEXON to look into the scope of updates needed to UMS Guidance Documentation.

5.1 ELEXON's view is that customers should be able to apply for product specific Generic LED Charge Codes but would be challenged on application if it was deemed that a reduced number of Charge Codes could be provided. Furthermore, ELEXON should actively dissuade customers for applying for Generic Charge Codes for apparatus using the same driver with differing numbers of LEDs.

5.2 ELEXON does believe the concept of reduced operation needs to be explained to the manufacturers in the guidance documentation.

5.3 ELEXON proposes that the UMSUG review the current guidance and application form and provide comments before the next UMSUG meeting. ELEXON will then review the UMSUG proposed changes and present a revised version of the guidance and/or application form for UMSUG endorsement.

5.4 The current Generic LED Guidance (Manufacturers) can be found in Attachment A. The current Generic LED application form can be found in Attachment B. The current Generic LED Guidance (Customers) can be found in Attachment C.

6. Generic LEDs with Constant Light Output (CLO)

6.1 At UMSUG124, ELEXON indicated that it was aware of a potential alternative approach identified during manufacturer discussions. The alternative approach was to use a TM-21 report to project lumen degradation over time. However, ELEXON has not been able to contact the manufacturer since the last UMSUG meeting to discuss the proposal further.

6.2 ELEXON has observed it is common for manufacturers to lower their test data wattages by 10%, and use that as a 'start of life' value. The test data at full power (i.e. without the 10% reduction applied) is used as the end of the life data. The UMSUG has previously approved applications using this methodology.

6.3 This approach, while difficult to validate, does seem like a pragmatic and consistent approach for a concept that is, by nature, difficult to prove and validate once the lighting equipment is installed.

6.4 ELEXON believes that changes could be made to the current guidance to make CLO testing requirements clearer. ELEXON proposes that the UMSUG considers CLO testing requirements as part of the current guidance review.

7. Recommendations

7.1 We invite you to:

a) **NOTE** the contents of this paper; and

b) **AGREE** to provide review comments on the current Generic LED Guidance.

Attachments

Attachment A – Generic LED Application guidance (Manufacturers)

Attachment B – Generic LED Application Form

Attachment C - Generic LED Application guidance (Customers)

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