**EEP20, WG 3, Working item 8.2**

Description of working item

Review Withdrawn Product Certification scheme including references in other documents and make recommendations.

Develop new Guideline on the procurement of AtoN equipment Procurement of AtoN equipment and systems.

**Output from WG3**

It is the WG’s view that it is not practical to develop a guideline on the procurement of AtoN equipment and systems. The reason being that countries and organisations have their own procurement procedures and processes and such a guideline would in most cases not be usable. However, the important aspect of the procurement of AtoN equipment is to compile a suitable functional and/or technical specification which could then be used with any procurement process.

Compiling a suitable specification

In order to compile a suitable specification, it is important that a comprehensive functional description is given. Furthermore, the 13 product certification templates could be very useful as these identify various equipment parameters that are important for the equipment suppliers to submit.

The attached example provides the generic headings of parameters relevant to a specific item of equipment to comply with, what needs to be specified and what prompts manufacturers / equipment suppliers to submit with their tender response.

Clause 6, SFEEAPI (Standard Format for Electronic Exchange of AtoN Product Information) of the IALA Guideline 1085 on Standard Format for Electronic Exchange of AtoN Product Information Edition June 2012 also provides very relevant information for consideration.

The importance of a suitable specification is to be able to evaluate the responses in order to identify how it meets, or exceeds the requirements.

Spares

It is important to include sufficient number and type of spares to ensure that the equipment can meet the relevant reliability requirements, taking into consideration the lifespan of the equipment being procured.

Of note:

When the attached template was compared with the IALA Guideline 1085, it was noted that there are certain parameters appearing in product certification templates that could be included in the IALA Guideline 1085.

Task:

Include the relevant parameters appearing in product certification templates in the IALA Guideline 1085.

ProductTemplate – Lanterns for buoys and light-beacons, including enclosed rotating beacons

| **Ref. No** | **Parameter category** | **Parameter** | **Value** | | **Test Method[[1]](#footnote-1)** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| **Specified** | **Measured[[2]](#footnote-2)** |
| **1** | Optical |  |  |  |  |  |
| 1.1 |  | Effective luminous intensity |  |  | IALA Recommendation E-122 (2001) ‘Photometry of Marine Aids to Navigation Signal Lights’ | For LEDs the effective luminous intensity varies depending on duty cycle |
| 1.2 |  | Flash duration and flash shape (LED lights included) |  |  | IALA Recommendation E-122 (2001) ‘Photometry of Marine Aids to Navigation Signal Lights’ | Time between points of 50% peak intensity.  Define stability of rotation for a rotating beacon.  For LED define frequency modulation of light, intensity profile of the flash |
| 1.3 |  | Horizontal beam uniformity (omnidirectional light) or  horizontal divergence (range lights and rotating beacons) |  |  | IALA Recommendation E-122 (2001) ‘Photometry of Marine Aids to Navigation Signal Lights’ | For omnidirectional lights, state maximum variation from the mean intensity over any angle in the horizontal plane.  For range lights and rotating beacons for the horizontal beam, state the horizontal divergences at 50% and 10% of peak intensity. |
| 1.4 |  | Vertical divergence |  |  | IALA Recommendation E-122 (2001) ‘Photometry of Marine Aids to Navigation Signal Lights’ | From the vertical beam, state the vertical divergences at 50% and 10% of peak intensity as referenced in IALA Recommendation E-122 (2001) |
| 1.5 |  | Signal colour |  |  | IALA Recommendation E-122 | Colour boundaries and colour shift (for LED, variation with duty cycle) in the regions as defined in IALA Recommendation E-200-1, Part 1 - Colour |
| 1.6 |  | Nominal range |  |  |  | IALA Recommendation for the notation of luminous intensity and range of lights. (1966)  IALA Recommendation for a definition of the Nominal Daytime Range of Maritime Signal Lights Intended for the Guidance of shipping by day (1974)  State applicable atmospheric transmission factor |
| **2** | Electrical – externally sourced |  |  |  |  |  |
| 2.1 |  | Power supply normal and extreme voltage |  |  | IEC 60945 section 7 | State voltage tolerance |
| 2.2 |  | Power consumption |  |  |  |  |
| 2.3 |  | Reverse polarity circuit protection |  |  | IEC 60945 section 7.2 |  |
| 2.4 |  | Power supply and control and monitoring terminations /connectors |  |  |  | Define connector and/or terminal type |
| **3** | Control |  |  |  |  |  |
| 3.1 |  | Daylight control |  |  |  | Lux level and switching range, reference to IALA Guide To Ambient Light Levels At Which ATON Lights Should Switch On And Off.(No. 1038) |
| 3.2 |  | Monitoring |  |  |  | State parameters being monitored |
| 3.3 |  | Programming |  |  |  | State parameters that can be programmed |
| 3.4 |  | Light source regulation |  |  |  | State the accuracy of voltage regulation to light source in % |
| **4** | Physical |  |  |  |  |  |
| 4.1 |  | Maximum Height |  |  |  |  |
| 4.2 |  | Maximum Diameter |  |  |  |  |
| 4.3 |  | Maximum Weight |  |  |  |  |
| 4.4 |  | Focal Height |  |  |  |  |
| 4.5 |  | Materials |  |  |  | State the material for the lantern and lens and UV protection |
| 4.6 |  | Ingress Protection |  |  |  | Define applicable IP number to EN60529 |
| 4.7 |  | Description of lantern mounting hole pattern |  |  |  |  |
| **5** | Environmental |  |  |  |  |  |
| 5.1 |  | Temperature – operational and storage |  |  | Manufacturer to state the test standard | State the operational and storage temperature range |
| 5.2 |  | Humidity – operational and storage |  |  | IEC 60945 section 8.3; IEC 60068-2-3 | JIS C 5024; MIL-STD-202G-103B |
| 5.3 |  | Salt air and sea water spray |  |  |  | MIL-STD-202G-101E |
| 5.4 |  | Shock and vibration |  |  |  | JIS C 0911; MIL-STD-202G-201A/202D |
| 5.5 |  | Electromagnetic interference |  |  |  |  |
| **6** | Service |  |  |  |  |  |
| 6.1 |  | Maintenance free period |  |  |  |  |
| 6.2 |  | Rework at stated service intervals |  |  |  |  |
| 6.3 |  | Guaranteed Service life of all components |  |  |  |  |
| **7** | Disposal |  |  |  |  |  |
| **7.1** |  | Obligatory and recommended disposal method |  |  |  | IALA guideline 1036 – Environmental Considerations in Aids to Navigation Engineering |

1. Where no test standard is mentioned the manufacturer should state the test standard used, preferably with reference to international or national standards. [↑](#footnote-ref-1)
2. In the case of measurement facilities being available and a sample having been obtained, the resultant measurements are compared with what has been specified. If no measurement facilities are available, the measured values offered need to be supported by relevant documentation from the manufacturer as proof of what is being offered. [↑](#footnote-ref-2)