

**Paper for Consideration by NCWG**  
**FFL light combinations**

<b>Submitted by:</b>	Secretary
<b>Executive Summary:</b>	IALA guidance on FFL has changed, NCWG to consider updating INT1 and S4 to remain consistent
<b>Related Documents:</b>	IALA E-110 edition 4 table 2 line 9, S4 B-471.2, INT 1 P 10.10
<b>Related Projects:</b>	-

**Introduction / Background**


IALA have included other combinations of fixed and flashing lights such as Flso in their current edition 4 of E-110. The previous edition 3 only mentioned FFL as an option. To maintain consistency with IALA we should consider updating S4 and INT 1.

**Analysis / Discussion**


S4 B-471.2 and INT1 currently show the following:

Fixed and flashing	FFI		P10.10
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S4 and INT1 agree with the older IALA E-110 edition 3 which showed the following:

9	FIXED AND FLASHING LIGHT	FFI	A light in which a fixed light is combined with a flashing light of higher luminous intensity.	<p>This class of light character should be used with care because the fixed component of the light may not be visible at all times over the same distance as the rhythmic component.</p>  <p>Example: <math>d = 3\text{ s}</math>; <math>l = 1\text{ s}</math>; <math>p = 4\text{ s}</math></p> <p><math>d \geq 3l</math>  <math>l \leq 1\text{ s}</math></p>
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The new edition 4 of IALA E-110 now provides further details and options for FFL as follows:

9	FIXED AND FLASHING LIGHT	F+ relevant character abbreviation, e.g. FFI, Flso	A light in which a low intensity fixed light phase is combined with a flashing phase of higher luminous intensity compliant with preceding classes of rhythmic characters in this table.	<p>Implementation of an FFI rhythmic character is shown below. Other combinations may be implemented as necessary.</p>  <p>Example: <math>d = 3\text{ s}</math>; <math>l = 1\text{ s}</math>; <math>p = 4\text{ s}</math></p> <p><math>d \geq 3l</math>  <math>l \leq 1\text{ s}</math></p>
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**Conclusions**

IHO publications should show the latest IALA standards on lights so that mariners are aware of all light types and hydrographic offices are able to show them on charts.

**Recommendations**

Consult with IALA to confirm requirement to show other FFL light combinations in S4 and INT 1. Identify if any further changes are planned that we should be aware of.

**Justification and Impacts**

Changes will be required to S4 B-471.2 and INT 1 P 10.10. Lights lists may need to be reviewed for existing FFL lights to ensure that is the correct combination.

**Action required of NCWG**

The NCWG is invited to:

Agree that NCWG should contact IALA and confirm requirement to include further categories of FFL light combinations in S4 and INT 1 to ensure consistency with IALA guidelines.