

**Paper for Consideration by TSMAD and DIPWG**  
**Truncation of Light Period (SIGPER) Values**

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| <b>Submitted by:</b>      | DIPWG Chair  |
| <b>Executive Summary:</b> | This issue was recently brought to light when a manufacturer asked the DIPWG Chair if it was correct to truncate the fractional portion of the floating point SIGPER light period value in ECDIS. This paper discusses the problem and makes a recommendation to have the entire floating point SIGPER value displayed in ECDIS. |
| <b>Related Documents:</b> | S-52, S-101  |
| <b>Related Projects:</b>  |  |

### Introduction

The S-52 specification does not explicitly state whether the fractional portion of a light's period should or should not be displayed. However, the LITDSN C source code provided in the S-52 digital files truncates the fractional portion of the SIGPER light period value.

### Analysis/Discussion

In the LITDSN C source code, the ENC (floating point) value for the S-57 attribute SIGPER (Signal Period) is placed into a local (integer) variable prior to the light characteristics label being constructed. Thus, the fractional portion of the SIGPER value is lost.

Some ECDIS manufactures have implemented the display of light characteristics with the truncated SIGPER value, while others have "fixed" the algorithm to display the entire value as it is encoded and as it appears on paper charts. The table below provides examples of the display:

| ENC SIGPER Value | ECDIS Light Label (Full) | ECDIS Light Label (Truncated) |
|------------------|--------------------------|-------------------------------|
| 2.0              | FI(1)R2s                 | FI(1)R2s                      |
| 2.5              | FI(1)R2.5s               | FI(1)R2s                      |

### Conclusions

Because the C code is part of the S-52 specification, it would appear that truncating the fractions of a second in ECDIS is acceptable. However, there is some value in emulating the labels used on paper charts. Even if the half second is not discernible at sea, being able to compare the ECDIS display with the period that is published in light lists and on paper charts serves to help identify and distinguish the light from others nearby.

### Recommendation

Change the LITDSN C source code released with S-52 to show the entire SIGPER value and release the change as a deferred amendment to or as part of a new version of the S-52 Presentation Library.