

# 11<sup>th</sup> CSPCWG-1<sup>st</sup> NCWG MEETING

## Rostock, Germany 27-30 April 2015

### Paper for Consideration by CSPCWG

### Moiré (light) symbols

<b>Submitted by:</b>	Netherlands Hydrographic Office 1 <sup>st</sup> January 2015
<b>Executive Summary:</b>	Confusion in charting of Moiré symbols in multi-coloured charts
<b>Related Documents:</b>	S4 ed 4.4.0 chapters B-470.4 and B-475.8
<b>Related Projects:</b>	

#### Introduction / Background

The Netherlands is intending to issue every new edition of its nautical charts as multi-coloured.

#### Analysis / Discussion

When we were busy with the production of chart 207 as a multi-coloured chart we had to symbolize a white Moiré light symbol. Trying to find out what the colour should be we found in chapter B-470.4 (viii) that this should be a magenta triangle.

Chart Specifications of the IHO  
Medium and Large-scale Charts

**B - 470**  
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vii. Alternating and oscillating lights should be shown by parallel different coloured arcs (or circles for all-round lights), normally with no gap between (P30.4). Exceptionally, if a light alternates between blue and green, a visible but small gap should be left, to assist perception that there are two separate colours.

viii. The Moiré effect symbol (P31) should be charted by a magenta triangle.

ix. The floodlit (illuminated) symbol (P63) should be yellow/orange.

x. The strip light symbol (P64) should be coloured as appropriate to the light.

xi. Aero navigation lights (P60) may be single or multicolour (often alternating colours) and are assumed to be all-round. However, as they are not intended for marine navigation (and information may not be available as to status of the light), it is not appropriate to give undue prominence to these lights. They should therefore be charted with a generic magenta flare.

xii. Unusual lights, or other lights which do not readily conform to the instructions above, may need to be explained by a charted note.

**B-470.5** Position of lights. The position of a light (including one exhibited from a lighthouse, see B-457.3) should normally be shown by a five-pointed star in one of two sizes.

However chapter B-475.8 stated that the colour should be “in the appropriate colour for the light”.

**B-475.8** A moiré effect mark (or variable arrow mark) is a short-range (normally up to 2 km) type of direction 'light'. Sodium lighting gives a yellow background to a screen (up to 3 m square) on which a vertical black line will be seen by an observer on the centreline, or variable arrow marks when course alteration is needed. The system can be used by day and night. It can also be used as a stop line (seen abeam) for vessels berthing along quays; it should not normally be charted when used for this function (except on very large-scale berthing plans).

The symbol must be a small black position circle with a magenta triangle (all sides of 2.5 mm) pointing in the direction which the mark faces, with the abbreviation 'Dir' (in black), eg:



The triangle is charted instead of a conventional light flare. On multicoloured charts, it should be in the appropriate colour for the light.

## Conclusions

This caused some confusion. Looking at the symbol it should be more clear when it is always shown in magenta, but the 2 descriptions in S4 sound conflicting.

## Recommendations

NL recommend to always use magenta for the Moiré symbol, to make it more readable.

## Justification and Impacts

### Action required of CSPCWG

The CSPCWG is invited to look at the apparent inconsistency between B-470.4 (viii) and B-475.8.