Task Working Group on Recommendation O-113

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Purpose

The ANM Committee has been asked to develop and update of IALA Recommendation O-113 on the marking of fixed bridges over navigable waters, also considering the marking of overhead power lines.

Considerations

- The current version of the Recommendation requires updates related to the guidelines on the marking of fixed bridges only.
- There may be a need to incorporate guidelines for the marking of non-fixed bridges or other structures (e.g. floating bridges, pipelines)
- Should the scope of the Recommendation be focused only on overhead structures or also include lateral obstructions?
- Is there a need to make provision for the marking of overhead power cables? If so, should this be a separate Recommendation?
- Should guidelines or recommendations be expanded to address areas that are not the best possible passage (i.e. where not to go)
- There may be a need to expand on the traditional marking scheme to improve it or include the marking of the whole bridge area. (e.g. bridge fairway)

Updates

- More advice should be provided on the appropriate use of racons and AIS in bridge marking applications.
- Include the marking of bridge piers or supports?
- Document may need to be renamed.
- Add examples, if needed: (e.g. types of structures, figure of marking scheme)
- Sweden provided a very comprehensive recommendation on the marking of bridges including figures.
- In section 3.2.3, delete the full stop after competent.
- In section 3, update “following system is recommended when proceeding in the direction buoyage” to “bridge marking should be in accordance with the direction of buoyage.”

Tasks

- Solicit feedback from member countries on the use of and how to improve the current recommendation on marking bridges
- Review the use and type of marking overhead power lines within member countries
- Identify the frequency and cause of accidents with overhead power lines

- Request formal input from member countries (on bridges and powerlines)
- Find out if there is a recommendation on the marking of non-fixed bridges

Comments

- Figures are easier to understand for application purposes
- Could it sometimes be beneficial to indicate the vertical or horizontal clearance (i.e. at the structure, AIS) given that it is already identified on the chart?
- Headroom or vertical clearance can change with fluctuating water levels and siltation.
- Margin of safety, clearance, for water levels fluctuations
- The current recommendation asked authorities to mark the best possible channel or shipping lanes
- There is risk involved with bridges as obstructions (e.g. floating)
- Make some mention that some authorities may feel the need to mark overhead obstructions.
- There appears to be several different ways to mark bridges. It is important that the task group identifies the ideal way.
- The use of cautionary marks to indicate where not to pass could be used in addition to cautionary buoys if necessary.

Feedback on Power Lines

- Task Group reviewed accidents presented by Korea which clearly identified the mariner was at fault
- It is unclear if marking overhead power lines would have prevented these accidents or other similar ones
- Each group member solicited verbal feedback informally from national authorities during the ANM15 on:
    - Has often does your country experience accidents with overhead power lines? (FREQUENCY)
    - What is the primary cause of these types of accidents? (CAUSE)
    - Do you use AtoNs to mark overhead powers lines? (EXAMPLES)
- Sweden: There are no recommendations that exist today. They recommend that power lines be installed beneath the water.
- Denmark: There has been an incident in Greenland with a vessel involved with overhead power lines. There was also an example of marking overhead power lines in connection with the Tall Ships Race. This was a temporary measure. Marking was on the sea to keep people away from the power lines. Buoys were used.
- Norway: No marking on power lines for marine purposes. There may be radar reflectors. There is usually a visual sign at landfall. There have been some accidents. With smaller power lines, there have been some accidents with pleasure craft in small inlets or bays. Individuals who are not certified. In order to cross the waters, you need permission. There should be signs.
- France: Have quite a number of rivers where power cables go over. No problems of note. Heights are marked on charts. Actual cables are marked with radar

reflectors. They have another authority that handles navigable waters (rivers) to mark them.

- Italy: Do not have any issue of power cabling overhead. Not a lot of information available at this stage as representatives here handles only a specific area of Italy between France and Rome.
- Australia: Another level of government is responsible for marking of power lines and bridges. More research needed.
- Canada: Another government authority is responsible for marking of power lines and bridges. More research needed.
- United Kingdom: Believe there are some power cables over Scottish lochs. More research needed.
- Japan: Recently had an accident involving power cables. The authority does not mark overhead wires for clearance.
- Philippines: No marks over the power lines. There have been some accidents but they are related to bad weather and not ships.
- China: No marks on power lines. Accident information is not known. If a ship is carrying a very large object, either wide or high, they must obtain permission from the authority (MSA) to transport the object.
- Portugal: This is not applicable to Portugal.
- Brazil: There is no marking of power lines.
- Germany: The marking of overhead power lines is done with radar reflectors. The feedback from mariners has been generally positive. The radar reflectors serve the purposes of reminder mariners that a potential hazard exists and must be used in combination with charts.

Outline

1 GENERAL

Provide overview of the recommendation and its purpose.

2 BEST POINT OF PASSAGE

3 VISUAL MARKS

a. Shapes and colours (for daymark and lights)
b. Marking by day
c. Marking by night

4 RADAR MARKING

a. Radar reflectors
b. Racons

5 SOUND SIGNALS

6 APPLICATION

a. Single span, one way traffic
b. Single span, two way traffic
c. Multi span