

**13th TSMAD MEETING**  
18 to 22 September 2006 – Wellington, New Zealand

## Automatic Identification System (AIS)

The **CSPCWG** has adopted new symbols (abbreviations) for M-4, in B-489.1 and in INT 1, S17.1 (AIS transmitters) and 17.2 (floating marks) – IHO CL 47/2006 refers. An extract from M-4 follows:

### B-489 AUTOMATIC IDENTIFICATION SYSTEM (AIS)

The Automatic Identification System (AIS) is an autonomous and continuous broadcast system, operating in the VHF maritime mobile band. It exchanges information such as vessel identification, position, course, speed, etc and can also be applied to Aids to Navigation. It is in this latter application that it may be useful to chart the transmitter.

**B-489.1 An AIS-equipped Aid to Navigation (AtoN)** may provide a positive identification of the aid. It may also transmit an accurate position, and provide additional information such as actual tidal height or local weather; details of these functions, which cannot be charted, should be provided in associated publications as appropriate. AIS transmitters on AtoN must be charted using the large circle and abbreviation 'AIS', in magenta:



S17.1 (with the letters in upright text) must be used with fixed aids. S17.2 (with the letters in sloping text) must be used with floating aids. In most cases, the black centre position circle should be replaced by the symbol for the actual AtoN, eg a light star or buoy symbol. If it is necessary to chart a 'virtual' AIS AtoN, where no physical aid exists, then the centre position circle (B22) must be used in lieu of the AtoN symbol.

**CSMWG** has several symbols available for AIS which were initiated on the request of the IMO, but as yet, these do not have look-up tables nor conditional symbol procedures until TSMAD assigns an object class/attribute/attribute combination. The symbols available (from the S-52 Symbol Library Addendum) are AISDGR01 (dangerous AIS target), AISST01 (lost AIS target), AISSEL01 (selected AIS target), AISSLP01 (sleeping AIS target), AISTRN01 (AIS target turning to starboard), AISTRN02 (AIS target turning to port), and AISVES01 (active AIS target showing vector and/or heading).

AU suggests that AIS may be encoded in some cases using the existing object class signal station as either **SISTAT** or **SISTAW** when attached to, or used as a navigational aid. In other cases AIS is being placed on the navigational aid and is really an equipment object. However AIS is also being used as virtual navigation aids (see M-4 extract above) and for many other purposes relating to navigation. Its uses appear to be quite varied. There may also be other object classes applicable in some cases, such as radar transponder beacon **RTPBCN**? Until more experience is gained charting these features, we may need to wait for S-100 before they can be adequately

encoded, especially if new features are required. (AIS may warrant its own feature?) However, it is considered that advice needs to be provided now so that ENC encoders are provided with guidance on the best way to encode AIS using S-57 Edition 3.1.

HO members are requested to discuss the charting of AIS with staff from their own offices and provide feedback on how AIS is being used for navigation and whether they are being charted. Obviously some nations are already charting them, and hence the requirement for the paper chart symbols S17.1 and 17.2.

It is strongly recommended that TSMAD issue an ENC Encoding Bulletin on how these AIS features are to be encoded.

Proposed draft wording for an ENC Encoding Bulletin to start discussion is:

# The **Automatic Identification System** (AIS) is an autonomous and continuous broadcast system, operating in the VHF maritime mobile band. It exchanges information such as vessel identification, position, course, speed, etc and can also be applied to Aids to Navigation. It is in this latter application that it may be useful to encode the transmitter in an ENC. For such examples, it may be encoded as a radar transponder beacon (**RTPBCN**). It may also transmit an accurate position, and provide additional information such as actual tidal height or local weather. For these examples, it may be encoded as a signal station warning (**SISTAW**). Other AIS may be used to aid in traffic management and in such cases, these may be encoded as signal station traffic (**SISTAT**). In each of the above cases, the attribute INFORM must be used to include 'AIS'. More detailed explanations, if required, may be explained using the attribute TXTDSC.

Chris ROBERTS  
Australian HO  
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