

**21<sup>st</sup> IHO-TSMAD Meeting  
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**Paper for Consideration by TSMAD**

**Proposals for the use of New Object**

<b>Submitted by:</b>	UKHO
<b>Executive Summary:</b>	This document proposes two cases where New Object could be used. It requires further discussion from TSMAD and agreement on whether New Object should be used.
<b>Related Documents:</b>	1. TSMAD21-4.9.2
<b>Related Projects:</b>	1.

### Introduction / Background

1. The New Object class was included in S-57 Supplement 2 to allow for the encoding of new features which could not be catered for using existing S-57 objects. However due to the unique nature of New Object and in particular how such objects are portrayed its limitations need to be carefully considered as discussed in the previous paper 4.9.1. It goes on to propose two potential uses of New Object both as solutions to current encoding problems and as examples of how such proposals should be drafted, whilst recognizing any potential limitations with appropriate recommendations.

### Analysis/Discussion

2. At TSMAD 21 the subject of Virtual AtoNs was discussed, a clear distinction was made between those which are temporary or frequently moved eg marking a channel and those established to replace permanent aids to navigation. It was decided that permanent Virtual AtoNs which replace permanent aids to navigation should be encoded in ENCs. It was determined that these could not be encoded in S-57 ENCs using existing objects and this was potentially a case where New Object could be used.

3. In preparing the proposal at Annexe A the following points were considered in addition to the guidance laid out in S-57 supplement 2.

#### Symbology

Symbology was chosen to be consistent with that proposed by CSPCWG for the paper chart (see Figure 1). Simplified beacon symbology was selected to clearly indicate the purpose of the aid to navigation whilst being different from conventional buoyage symbology. Explicit values of SYMINS are given in Annexe A only these are permitted and an S-58 check could be added to enforce this.



Figure 1. Paper Chart Symbology as proposed by CSPCWG

#### Display Parameters

The display mode, priority, radar priority and viewing group are appropriate to these objects.

#### Alarms

These objects do not need to generate alarms.

4. TSMAD has a medium level work item (A.11) to study the possibility of encoding information features using New Object. This work item seeks to reduce the number of Caution Area objects used in ENC's. Caution Area objects can be overused and this can confuse users who are unable to filter less important information to identify that which is relevant to them. As recommended in S-65 Caution Areas have been used to encode Temporary and Preliminary information. This proposed use of New Object would make it easier for users to identify temporary and preliminary information that would previously have been encoded as a caution area following S-65.

5. UKHO has received feedback from users that they would like T/P information to stand out as such avoiding the need to interrogate each Caution Area object. It was also raised that a list of which countries encode T/P information in accordance with S-65 would be useful.

#### Symbology

Caution area symbology has been used with the OBJNAM of the object included so that the update number will clearly display.

Explicit values of SYMINS are given in Annexe B only these are permitted and an S-58 check could be added to enforce this.

#### Display Parameters

The display mode, priority, radar priority and viewing group are appropriate to these objects.

#### Alarms

The New Object will not generate alarms. Therefore if the Temporary/Preliminary information is sufficiently significant to generate alarms yet cannot be encoded using the appropriate S-57 objects a caution area may need to be encoded.

## **Conclusion**

6. This document seeks to gauge consensus that the New Object should be used where appropriate. There are limitations to its use and any use must follow S-57 Supplement 2. Annexes A and B propose two uses of the New Object for consideration by TSMAD.

## **Action Required of TSMAD**

7.
  - a. Consider whether New Object should be used?
  - b. Discuss the proposal at Annexe A
  - c. Discuss the proposal at Annexe B

## Annexe A Encoding Proposal for Virtual Aids to Navigation.

Encoders should note that if it is required to encode Virtual Aids to Navigation only the following object/attribute combinations should be used in accordance with S-57 Supplement 2. Virtual Aids to Navigation should only be encoded where they replace permanent Aids to Navigation.

If it is required to encode a Virtual Aid to Navigation, it must be done using the object class **NEWOBJ**. The only permitted geometric primitive is **Point**.

Geo object: New Object (**NEWOBJ**)

Attributes: CLSNAM    CLSDEF    DATEND    DATSTA    INFORM  
                   NINFOM    NOBJNM    OBJNAM    TXTDSC    NTXTDS  
                   SORIND    SORDAT    SYMINS

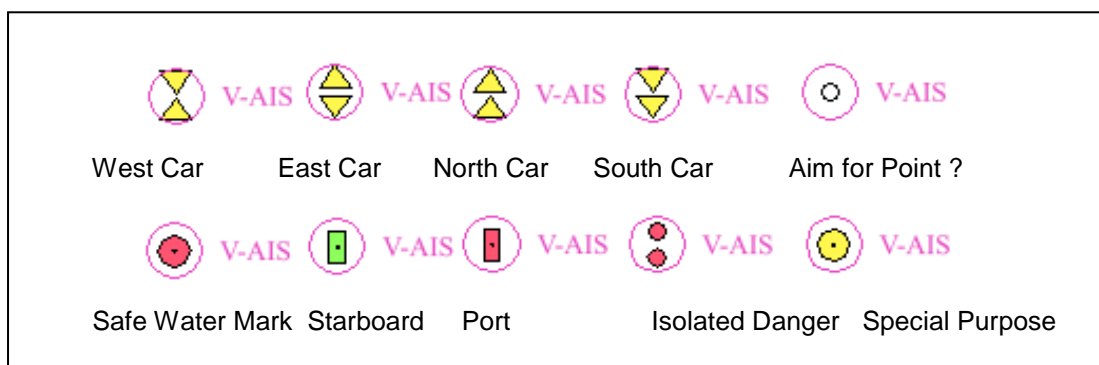
Only the following combinations of Mandatory Attributes may be used:

CLSNAM	CLSDEF	SYMINS
Virtual AtoN, North Cardinal	A Virtual object which indicates navigable water lies northwards	SY(BCNCAR01);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)
Virtual AtoN, East Cardinal	A Virtual object which marks the Eastern Limit of a hazard.	SY(BCNCAR02);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)
Virtual AtoN, West Cardinal	A Virtual object which marks the Western Limit of a hazard.	SY(BCNCAR04);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)
Virtual AtoN, South Cardinal	A Virtual object which marks the Southern Limit of a hazard.	SY(BCNCAR03);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)
Virtual AtoN, Isolated Danger	A Virtual object which marks an Isolated Danger	SY(BCNISD21);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)
Virtual AtoN, Port Lateral	A Virtual object marking the port side of a channel	SY(BCNLAT15);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)
Virtual AtoN, Starboard Lateral	A virtual object marking the starboard side of a channel	SY(BCNLAT16);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)
Virtual AtoN, Safe Water	A Virtual object marking safe water	SY(BOYSAW12);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)
Virtual AtoN, Special Purpose	A Virtual object used to mark a feature which is apparent from the chart	SY(BOYSPP11);SY(BRTHNO01);TX(INFORM,3,2,2'15110',2,0,CHMGD,0)

The attribute INFORM should be populated with the text 'V-AIS' where the AtoN is transmitted by AIS.

For reasons of backward compatibility the attribute TXTDSC must contain the values of CLSNAM and CLSDEF for the object.

Where known the attribute OBJNAM should be populated with the MMSI number of the AtoN in addition to its individual name. eg Nab Rock, MMSI 995031014



## Annexe B Encoding T/P Information Using New Object

IHO Publication S-65 Annex B provides guidance for encoding Temporary and Preliminary information in ENC's. In order to reduce the number of Caution Areas used to carry such information this proposal considers the use of the New Object to encode this information. This proposal only applies to instances where S-65 recommends the use of Caution areas.

One advantage of the use of Caution Area objects is that they generate warnings in ECDIS to highlight new dangers to the user. However much Temporary and Preliminary Information does not warrant warnings and display on the chart with reference to further information is sufficient.

Encoders should note that if it is required to encode Temporary and Preliminary information only the following object/attribute combinations should be used in accordance with S-57 Supplement 2.

If it is required to encode Temporary or Preliminary information which cannot be encoded using existing S-57 objects, the object class **NEWOBJ** must be used. Geometric primitives point and area are permitted primitives.

Geo object:      New Object (**NEWOBJ**)  
 Attributes:    CLSNAM      CLSDEF      DATEND      DATSTA      INFORM  
                   NINFOM      NOBJNM      OBJNAM      TXTDSC      NTXTDS  
                   SORIND      SORDAT      SYMINS

Only the following combinations of Mandatory Attributes may be used:

Geometry	CLSNAM	CLSDEF	SYMINS
Point	Temporary Information	The Temporary Information object is used to promulgate navigationally significant information that will remain valid only for a limited period	SY(CHINFO06);TX(OBJNAM,1,2,3,'15110',0,0,CHBLK,26)
Point	Preliminary Information	A Preliminary Information object is used to promulgate navigationally significant data early to the mariner where only limited details of the change are known	SY(CHINFO06);TX(OBJNAM,1,2,3,'15110',0,0,CHBLK,26)
Area	Temporary Information	The Temporary Information object is used to promulgate navigationally significant information that will remain valid only for a limited period	SY(CTNARE51);LC(CTNARE51);TX(OBJNAM,1,2,3,'15110',0,0,CHBLK,26)
Area	Preliminary Information	A Preliminary Information object is used to promulgate navigationally significant data early to the mariner where only limited details of the change are known	SY(CTNARE51);LC(CTNARE51);TX(OBJNAM,1,2,3,'15110',0,0,CHBLK,26)

The attribute OBJNAM should be populated with the number of the notice as described in IHO publications S-4 B630.5.

For reasons of backward compatibility the attribute TXTDSC must contain the values of CLSNAM and CLSDEF for the object.