

Paper for Consideration by TSMAD

Update Information in S-101

<i>Submitted by:</i>	UK
<i>Executive Summary:</i>	This paper follows discussions at TSMAD21 and considers two approaches to incorporating update information in S-101.
<i>Related Documents:</i>	1. TSMAD21-4.5.9 Use Case for Themes to Improve the User Experience
<i>Related Projects:</i>	1. S-101

Introduction / Background

1. At TSMAD 21 the UK proposed the use of a theme and information types to better convey update information in S-101 ENC's. There was some support for this proposal but the general consensus was that a theme was not required and that information types alone could be used. It was noted that some form of 'marker' objects would be required for deleted information if this approach was to work. Another comment was that this additional information and structure is already included in an ENC update. This paper seeks to identify whether this update information is sufficient and develop a revised proposal for how update information might be conveyed better to the user in S-101. This paper does not cover update information which may be included in dataset metadata. This paper assumes marker features indicating change would be used in both approaches.

Analysis/Discussion

2. Using the information type approach; Information Types would be encoded for each update with associations to the features affected. The information type could include a reference to a paper chart NM or the source of the change. Marker features would be used to indicate deletions and complex changes. This approach could also be used on NEs to indicate the extent of changes to the user. A supplementary display would list all update information types against each cell which could be highlighted until they have been viewed.

- A disadvantage of this approach is that producers would have to include this additional information. Although production software should be able to 'drive' this process considerably.
- Another issue is that this approach would add to data volume, although not by a significant amount. In this case the improvement for the user justifies the impact.
- An advantage of this approach is that it enables producers to indicate areas of change to the user on new editions.

Whether inclusion of the information types is optional or mandatory needs to be considered as it will affect the consistency of this functionality across ENC's.

Annexe A contains an example of this approach.

3. Using the ER file; No information types but using the content of the ER file to structure any update information used in ECDIS. With this approach the supplementary display might list all updates applied and list the contents as links to the object or options to highlight the amended object. This approach would use the update instruction fields to list changes relating to each update. An additional value could be used in the 8211 encoding to tag significant information to filter out irrelevant information. In production software users would be presented with a list of changes upon output of the update and could check those items which need to be flagged.

- A disadvantage of this approach is that it would simply list all amendments to a cell and would not structure them in a way that they could be acknowledged once viewed.
- Another disadvantage of this approach is that it is tied to the encoding and breaks a fundamental premise of S-100 which is to separate the content from the carrier. Using the information type approach the update information would be accessible when the dataset is converted to another format or when imported into GIS software.

Annexe B contains an example of this approach.

Conclusion

4. This paper presents two approaches both of which could support improved display of update information. However both require similar amounts of extra effort and neither could be totally automated. The information type approach has the significant advantage that the structure remains in the data and would be independent of the encoding. Therefore this paper proposes that the Information Type approach be incorporated in S-101.

Action Required of TSMAD

- Discuss the proposals outlined in this paper and consider the proposal to adopt the information type approach in S-101

Annexe A

Update Information Type example.

The change

Insertion of a jetty, dredged area and two lights on chart 19001 Plan B Port Rimon (INT 3)

S-57

LNDARE object insert
DRGARE object insert
Lights objects x2 insert
Amend DEPAREs and DEPCNT

The Encoding

The changes would be made to the cell and a single information type with an NM number and source encoded. It would be associated to the LNDARE, DRGARE and LIGHTS objects. A marker object would be used to highlight the changes to depth contours associated with the change.

Information				
Pick Report	Chart Info	Passage Plan	Tides	Updates
Cell GB234234G Updates				
Cell GB100117A Updates				
<div style="border: 1px solid black; padding: 5px; display: inline-block;">List of cells in the display</div>				

Information				
Pick Report	Chart Info	Passage Plan	Tides	Updates
Cell GB234234G				
Update: 1 More Highlight				
Update: 2 More Highlight				
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Update Information Types in the cell</div>				

Information				
Pick Report	Chart Info	Passage Plan	Tides	Updates
Cell: GB234234G Update: 1 Source: PLA Update No: 3465/09				
Insert - Light Highlight Insert - Light Highlight Insert - Dredged Area Highlight Insert - Land Area Highlight Amend - Marker Object Highlight				

Information				
Pick Report	Chart Info	Passage Plan	Tides	Updates
Cell: GB234234G Update: 1 Source: PLA Update No: 3465/09				
Amend - Marker Object Highlight Details of Change - Changes to Depths				
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Marker Object Attribute giving details of change </div>				

Annexe B

ER File example.

The change

Insertion of a jetty, dredged area and two lights on chart 19001 Plan B Port Rimon (INT 3)

S-57

LNDARE object insert
DRGARE object insert
Lights objects x2 insert
Amend DEPAREs and DEPCNT

The Encoding

The changes would be made to the cell and all amended features tagged to be highlighted as update information.

Information				
Pick Report	Chart Info	Passage Plan	Tides	Updates
Cell GB234234G Updates				
Cell GB100117A Updates				
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">List of cells in the display</div>				

Information				
Pick Report	Chart Info	Passage Plan	Tides	Updates
Cell GB234234G				
Update: 1 More Highlight				
Update: 2 More Highlight				
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Updates (ERs) Applied to the cell</div>				

Information				
Pick Report	Chart Info	Passage Plan	Tides	Updates
Cell: GB234234G Update: 1				
Insert - Light Highlight				
Insert - Light Highlight				
Insert - Dredged Area Highlight				
Insert - Land Area Highlight				
Amend - Marker Object Highlight				