

Paper for Consideration by NIPWG
Status report on the XML development Notices to Mariners
2018

Submitted by:	Norwegian Hydrographic Service
Executive Summary:	A report of developing NtM on XML
Related Documents:	NoticeToMarinerList_2019_17_EN
Related Projects:	

Introduction / Background

The Norwegian Hydrographic Service has used the standard that was developed in the XML workshop (2018) to develop an XML for the Norwegian NtM. The XML has been developed with an ongoing test.

Some challenges were encountered during testing. Difficulties arose regarding the use of tables, the standard does not make the provision for exporting data contained in tables. It is acknowledged that it could be possible to "unpack" the table and print the contents as a plain text. The data is structured in the editorial panel, so I think the packaging itself will work fine. However this approach creates problems as the resulting XML file is difficult to read.

The Norwegian NtM does not include symbols. Therefore the use of symbols has not been included in our testing. It is acknowledged however that symbols are used by other Hydrographic Offices to provide additional information and not least to include positions that are not possible with normal text. It should be possible to include positions for texts as well as additional information.

The following report was provided by the developer and the test team.

Developing

Format and rules for getting the correct XML export from the Editor panel

XML export is based on interpreting the text lines in the messages. For this to be possible, the content of the messages must be consistent, unambiguous and complete. A number of formatting rules need to be adhered to in order to generate the correct XML export.

Norwegian and English version of messages

The Norwegian version of the message should come first followed by the English version with the correct indentation. To check that it is correct, you can press the Source view button and check that the English version is enclosed by <div and </div as here:

```
<div style="font-style:italic; margin-left:40px">
<h3>* Oslofjorden. Fredrikstad. Light.</h3>
<p><strong><strong>Insert</strong></strong> Fredrikstad bru R
light, <strong>Oc R 4s</strong>, in the following position:<br
```

```
</div>WGS84 DATUM<br />59° 12.634' N, 10° 57.569' E<br />Charts: 1,
464. Pilot. Light No. 010822. </p>
<p>&nbsp;</p>
<p>&nbsp;</p>
</div>
```

Some older messages may say blockquote instead of div, which is also acceptable. There should only be a section with <div> </div> or <blockquote> </blockquote> The program checks if Norwegian messages contain English text and in most cases will write an error message on this in the error message file.

References to previous EFS messages

Se tidligere Efs (P) 13/59047/18. (Norwegian)
See former Efs (P) 13/59047/18. (English)

Must start with Se tidligere or See former in Norwegian / English version.

The references must be as follows:

(P) 13/59047/18. (Type in brackets, Efs edition, Efs number and year with 2 or 4 numbers)

There may be one or more references.

Delete previous EFS messages

Slett tidligere Efs (P) 8/59047/18. (Norwegian)
Delete former Efs (P) 8/59047/18. (English)

Must start with Slett tidligere or Delete former in Norwegian / English version. The references must be as follows:

(P) 11/59047/18.

(Type in brackets, Efs edition, Efs number and year with 2 or 4 numbers)

It may be one or more deletions.

Position

Positions can be given just as coordinate values or as a combination of coordinates with additional text.

70 ° 08.25 'N, 22 ° 15.75' E

(3) 70 ° 08.25 'N, 22 ° 15.75' E chart border 134

The number and text behind it will appear as in the positionDescription field in the export file. The format of the position statement must be as shown above. N indicates north coordinate and E east coordinate. Only one comma is permitted in the text behind each of the coordinate values.

This will be accepted:

1) 59° 44.375' N, 10° 33.868' E 9.6m, slett 13m

Whereas this will not be accepted

1) 59° 44.375' N, 10° 33.868' E, 9.6m, slett 13m

Both ° and ' must occur in both coordinates and there must be space between ' and N or E. Position number can be written in 3 ways: (2), 2) and 2.

The following example will be difficult to handle:

58819. * Sogn og Fjordane. Hellefjorden. Skorpefjorden. Undervannskabler etablert.

WGS84 DATUM

Påfør undervannskabler mellom følgende posisjoner:

(1) 61° 45.557' N, 04° 53.897' E sammenkoble

(2) 61° 42.561' N, 04° 54.567' E

(3) 61° 41.859' N, 04° 53.595' E

(4) 61° 40.816' N, 04° 53.308' E

og

(1) 61° 37.547' N, 04° 48.883' E

(2) 61° 37.650' N, 04° 48.926' E

(3) 61° 37.702' N, 04° 49.090' E

(4) 61° 37.824' N, 04° 49.182' E

(5) 61° 37.906' N, 04° 49.938' E

(6) 61° 37.593' N, 04° 50.320' E

There is no way to have multiple sections with positions under a "command". Instead, you can use multiple commands in the same message as follows:

58819. * Sogn og Fjordane. Hellefjorden. Skorpefjorden. Undervannskabler etablert.

WGS84 DATUM

Påfør undervannskabel mellom følgende posisjoner:

(1) 61° 45.557' N, 04° 53.897' E sammenkoble

(2) 61° 42.561' N, 04° 54.567' E

(3) 61° 41.859' N, 04° 53.595' E

(4) 61° 40.816' N, 04° 53.308' E

Påfør undervannskabel mellom følgende posisjoner:

(1) 61° 37.547' N, 04° 48.883' E

(2) 61° 37.650' N, 04° 48.926' E

(3) 61° 37.702' N, 04° 49.090' E

(4) 61° 37.824' N, 04° 49.182' E

(5) 61° 37.906' N, 04° 49.938' E

(6) 61° 37.593' N, 04° 50.320' E

One command for each cable instead. (Note that the word *cables* has been replaced with *cable*). Similar cases may occur e.g. where positions are separated on map sheets under the same command.

None breaking space

Some places in the text, so-called "none breaking space" is inserted, which is a space that prevents the line from being shared. If it is in the wrong place it can cause problems - and in some cases, it does. If it is in the middle of normal text, it is OK, but in some places, it can create problems. An error message is printed in such cases and unless you are sure, it is OK it should be replaced at regular intervals.

If the editor is put in source mode, you will see ` `;

There is an error in the error message file for the first of these on the line. If you have received many, you can use the search and replace function (Ctrl + h) in the editor and replace ` ` with spaces.

Chart

If there are multiple charts, these are comma-separated as follows: Charts: 4, 401, 452.

End with a period after the last chart. This is especially important if there is information behind the chart numbers.

The chart must have an ID. It must start with a letter and not contain spaces or special characters.

The program adds "ID" before the number and replaces spaces with _ (underline). Chart numbers with spaces are not legal.

Ex: 467 -> ID467
467 special C -> ID467_spesial_C

Charts: 32, 35.

If there is extra info on the chart line, it will be handled as follows:

Chart: 4, 401, 452. New lighthouse no. 023202. (Coastal Administration SE, January 2, 2019). (Source ID 70000).

1. Everything behind the first parentheses is interpreted as source information and is inserted here in the XML file:

```
<noticeOriginalSource> (Coastal Administration SE, January 2, 2019). (SourceID 70000).  
</noticeOriginalSource>
```

Although this text is only in the Norwegian version, it also comes out in the English version. If the text in English version is the one that comes out. If there is nothing there, the "Mapping Division of the Sea Division" comes out as long as it is a star first in the heading, otherwise "Other" / "Other".

2. Everything between the first sentence and the first parenthesis (often light info) is entered as symbol text as follows:

```
<Symbol>  
<symbolText> New lighthouse no. 023202. </ Symbol text>  
<correctionInstruction> a) Delete Lindøya lamp (FI R 5s) with associated sector in the following  
position: </correctionInstruction>  
</ Symbol>
```

Other info should be on your own line.

Symbols

Symbols are not exported in the Norwegian NtM today.

However, Symbols are used for some texts to provide additional information and not least to include positions that are not possible with normal text.

There is no symbol for this use. Actually, it should be possible to include positions for texts as well as additional information. Such the standard is now not possible.

See the highlighted line in the message below:

59700. * Oslofjorden. Oslo havn. Lindøya. Lanterne etablert. Sektorlykt utgår.

Se tidligere Efs (P) 20/59493/18.

WGS84 DATUM

a) Slett Lindøya lykt (Fl R 5s) med tilhørende sektor i følgende posisjon:

59° 53.221' N, 10° 42.974' E

b) Påfør Lindøya rundtlysende lanterne, Iso R 4s med indirekte belysning, i samme posisjon.

Kart: 4, 401, 452. Nytt fyrr. 023202. (Kystverket SØ, 2. januar 2019). (KildeID 70000).

The message appears as follows on the export file:

```
- <chartCorrectionContent>
  - <chartRefs>
    <chartRef IDREF="ID4"/>
    <chartRef IDREF="ID401"/>
    <chartRef IDREF="ID452"/>
  </chartRefs>
  <contentNumber>1</contentNumber>
  <chartCorrectionAction>Delete</chartCorrectionAction>
  - <symbols>
    - <symbol>
      <symbolText>Nytt fyrr. 023202.</symbolText>
      <correctionInstruction>a) Slett Lindøya lykt (Fl R 5s) med tilhørende sektor i følgende posisjon:</correctionInstruction>
    </symbol>
  </symbols>
  <externalContents/>
  - <positions>
    - <position>
      <positionDescription/>
      - <positionPoint>
        <latitudeDecimal>10.716233333333</latitudeDecimal>
        <latitudeDegrees>10</latitudeDegrees>
        <latitudeMinutes>42</latitudeMinutes>
        <latitudeSeconds>2578.44</latitudeSeconds>
        <longitudeDecimal>59.8870166666667</longitudeDecimal>
        <longitudeDegrees>59</longitudeDegrees>
        <longitudeMinutes>53</longitudeMinutes>
        <longitudeSeconds>3193.26</longitudeSeconds>
      </positionPoint>
    </position>
  </positions>
</chartCorrectionContent>
</content>
```

"External content" is empty into the export file. I have not found cases where this is needed.

Keywords

Keywords must be used equally in the Norwegian and English versions. The keyword must be in exported XML file for it to be valid unless the message is just a text with no maps or locations.

Påfør = Insert

Flytt = Move

Endre = Amend

Slett = Delete

Erstatt = Replace

The keyword must have spaces after the word.

The following example shows a message which is missing a code for a command (one of those given above). In such cases, **Insert** is automatically entered:

59723. * (T) Oslofjorden. Akershusutstikkeren. ODAS buoys.

In connection with the rehabilitation of the Akershusutstikkeren, two temporary ODAS buoys has been placed in the following positions:

WGS84 DATUM

(1) 59 ° 54.44 'N, 10 ° 43.93' E

(2) 59 ° 54.47 'N, 10 ° 43.89' E

Period: until December 2019.

The buoys are marked with light, character FI Y.

Chart: 4, 401, 452. (Oslo Harbor KF, 8 January 2019). (SourceID 30760).

* (T) Oslofjorden. Akershusutstikkeren. ODAS buoys.

In connection with maintenance at Akershusutstikkeren, two ODAS buoys are temporarily placed in the following positions:

WGS84 DATUM

(1) 59 ° 54.44 'N, 10 ° 43.93' E

(2) 59 ° 54.47 'N, 10 ° 43.89' E

Period: until December 2019.

The buoys are marked with light, character FI Y.

Charts: 4, 401, 452.

Notice to Mariners list 2019

Classes from the UML diagram that are used or not used

This Excel file lists the classes from the UML chart that are used or not used:

	A	B	C	D	E
3	Class	In use	Not in use	Cause	Comment
4	Position	x			
5	Positions	x			
6	ChartCorrectionSymbol		x	Symbols are not exported today	
7	Symbols	x			Symbols are now used under chartCorrectionContent to include texts with positions and more information since TextContent does not have a position
8	AlternativeSymbolDescription		x	Symbols are not exported today	
9	SymbolAlternativeProvision		x	Symbols are not exported today	
10	AlternativeSymbol		x	Symbols are not exported today	
11	AlternativeSymbolTtf		x	Symbols are not exported today	
12	AlternativeSymbolFile		x	Symbols are not exported today	
13	ExternalContent	x			
14	ExternalContents	x			Empty into the export file and so far not used for anything. Have not found any use cases where it is appropriate to use this.
15	ChartCorrectionContent	x			
16	TextContent	x			
17	GraphicContent	x			
18	ChartProduct	x			
19	Charts	x			
20	CharPanel	x			
21	Panels	x			
22	ChartPanelsRef	x			
23	ChartRef	x			
24	NoticeContent	x			
25	NoticeContentChoice	x			
26	Content	x			
27	Contents	x			
28	NoticeToMariner	x			
29	Notices	x			
30	NoticeToMarinerList	x			
31	locationPoint	x			
32	noticeIdentifier	x			
33					

Attachments:

NoticeToMarinerList_2019_17_EN.xml

Used classes from UML diagram.xlsx

Conclusion

The XML file was created based on the standard developed at the 2018 XML workshop.

The file is ready for distribution in Norway, but as mentioned there are some challenges regarding the use of table and symbols. Norway uses a lot of tables in the NtM. We find no solution for this in the standard. It will probably be possible to "unpack" the table and print the contents as a plain text. The data is structured in the editorial panel, so I think the packaging itself will work fine. However, I do not think it is very easy to make this look nice when reading the XML file.

Recommendations

- We recommend that NIPWG look into the possibilities to overcome the challenges we experience with the use of tables.
- Discuss whether the works done by NHS was done in accordance with NIPWG's request from the XML workshop.

Action Required of NIPWG

NIPWG is invited to:

- a. Take note this paper.
- b. Take any appropriate actions.