 Input paper: [[1]](#footnote-1) ENAV17-9.13

Input paper for the following Committee(s): check as appropriate Purpose of paper:

**□** ARM **□** ENG **□** PAP **X** Input

**X** ENAV **□** VTS **□** Information

Agenda item [[2]](#footnote-2) 9

Technical Domain / Task Number 2 Working Group 1

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**Report on development work of  
 S-201 AtoN Product Specification**

# Background

Team consisting of KRISO, USCG and Jeppesen has worked to develop an expanded draft of S-201 Aids to Navigation. The work has been done in accordance with the S-201 development plan as per table 1.

<Table 1> S-201 Development Plan

|  |  |  |
| --- | --- | --- |
| Version of S-201 | Components | Definition |
| S-201 version 1 | Base Standard | S-100 version 2.0.0 based |
| AtoN Data Model | S-57 ENC compatible data model [[3]](#footnote-3) |
| Portrayal Rule | S-100 portrayal catalogue using S-52 Presentation Library 4.0.0 paper chart symbols and rules |
| Encoding(Format) | GML encoding (S-100 Part 10b) |
| Included documents  (or Annex) | Feature Catalogue, Portrayal Catalogue, and other files as per exchange set structure, S-201 data model to S-57 data model mapping. |
| S-201 version 2 [[4]](#footnote-4) | Base Standard | S-100 version 2.0.0 based [[5]](#footnote-5) |
| AtoN Data Model | S-101 ENC compatible data model [[6]](#footnote-6) |
| Portrayal Rule | S-101 based portrayal catalogue |
| Encoding(Format) | GML encoding (S-100 Part 10b), 8211 encoding (S-100 Part 10a) can be added is need be. |
| Included documents  (or Annex) | Feature Catalogue, Portrayal Catalogue, other files as per exchange set structure |

# Discussion

The starting point for the work has been conversion of the AtoN data model from S-57 ENC into S-100 style and enhancement with additional attributes needed from an AtoN authority’s point of view. In this work KRISO has interviewed Korean AtoN experts to identify AtoN maintenance attributes that could prove useful in S-201. Jeppesen has used the input from KRISO to enhance the data model, which has been reviewed by USCG and additional attributes have been added. However, the team acknowledge that there may be additional needs not yet discovered, and hopes the review process helps identify any additional attributes needed.

The team utilized the IHO S-122 (Marine Protected Area) product specification as guidance on several aspects, such as data maintenance, due to the similarities between the two product specifications. Jeppesen created S-100 GML encoding schemas for S-201 using the data model. The GML schemas were used to generate test data by KRISO, and the test data was reviewed in the small test S/W by KRISO, which can produce the digital list of light with the test data. KRISO has also generated feature and portrayal catalogues, along with a Data Encoding and Capture Guide (DCEG).

A number of items has been marked with “for IALA to decide” or “for IALA to review”, this has been done where the team felt it had insufficient background knowledge to make a recommendation for what S-201 should contain.

# Conclusion

The team behind S-201 feel the document is mature enough for a wider review.

# References

S-100, IHO Universal Hydrographic Data Model, Edition 2.0.0, June 2015.  
S-57, IHO Transfer Standard for Digital Hydrographic Data, Edition 3.1, November 2000.  
S-58, ENC Validation Checks, Edition 5.0.0, June 2014.  
S-122, Marine Protected Areas, Working Draft 0.0.0, 2015.

# ACTION REQUESTED OF THE COMMITTEE

The Committee is requested to:

1 Note the work conducted by the KRISO, USCG and Jeppesen team

2 Forward the S-201 draft to WG1

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)
3. Modifications for multi-language with annex for backwards compatibility with S-57 ENC. Data model additions for extra AtoN metadata as needed by costal administration. [↑](#footnote-ref-3)
4. Major change from version 1 will be a new feature and portrayal catalogue. Possible additions depending on lessons learned with version 1. [↑](#footnote-ref-4)
5. Latest version can be used, depending on S-100 developments. [↑](#footnote-ref-5)
6. Data model additions for extra AtoN metadata as needed by costal administration. [↑](#footnote-ref-6)