



Subject: Alignment S-401 – clarification IHO  
19-08-2019

Dear Julia,

The Inland ENC Harmonization Group and European Inland ECDIS expert group are working since several years on the alignment of the new S-401 standard for Inland ENC's with the goal to be in line with the S-101 standard for maritime ENC's. Since the publication of the S-101 Product specification in December 2018, the European RIS COMEX working group has finished a proposal for the S-401 Product specification which could be adopted by the IEHG in October of this year.

In the meanwhile, all the inland specific features and attributes are registered in the IHO GI Registry and waiting to be exported into the S-401 Feature catalogue.

Also, the first steps in the registration process of the inland specific symbols and colors are undertaken. While doing this and discussing the way to proceed with the portrayal for S-401, we came up with several problems that we can't solve. It is our opinion that IHO can help us in this matter by clarifying some questions. Therefore we have listed a number of questions in this document for which we need a clarification in order to be able to take the next steps in the development of the S-401 standard.

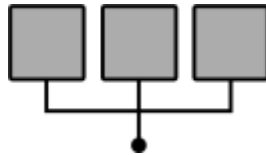
May we kindly ask you to help us in the clarification of these questions?

Best regards,

Gert Morlion  
De Vlaamse Waterweg  
Domain Control Body IEHG

**Overlapping symbols**

The display priority of symbols will determine which symbol will be on top when there are overlapping symbols and therefore this symbol will be visible and the others will be partially or completely hidden. In the Inland area, we would like to introduce the possibility to display overlapping symbols (e.g. notice marks) next to each other with a common foot point to indicate the position of the symbols. How is S-100 dealing with these overlapping symbols? Is it possible to display all symbols at the same time? If so, how is this done?



### **How to deal with common symbols**

S-101 is using LUA scripts for the visualization of e.g. conditional symbology. S-401 is also going to use LUA to stay in line with S-101. Because S-401 is using S-101 features and attributes we need to know if we have to copy all S-101 scripts to our S-401 product to get a correct display of S-101 features and symbols? If not, how can we amend the rules in the S-101 scripts for the inland specific attributes that we amended to the S-101 features?

### **Letters and numbers in conditional symbols**

In the visualization of symbols, we need the possibility to add characters (letters and numbers) to the symbols according the condition. As far as we understand, this would be possible with LUA. We would like to be sure that this assumption is correct and we also like to know how this can be done in LUA (e.g. by an existing example)

### **Lookup table**

For the development of the S-401 LUA scripts and the conversion of the S-52 Lookup tables, we need to make a comparison with the maritime lookup tables. The reason therefore is that we need to know which display rules have been converted in which scripts. The maritime lookup tables are not openly available at the moment. Can IHO provide us with a copy of these tables so the IEHG can make this comparison and avoid double work?

### **AIS Symbols**

For the visualization of AIS symbols, the European Inland ECDIS expert group has developed separate symbols which will be registered in the IHO GI Registry. Does S-101 include the maritime AIS symbols in their SVG library and are these symbols also registered in the registry?