**S-102PT10 01-04**

## Paper for Consideration by S-102PT10

## Definition of data types

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| ***Submitted by:*** | BSH (Germany) |
| ***Executive Summary:*** | Restoring of the information in annex B of S-102 Ed. 2.0.0 |
| ***Related Documents:*** | S-102\_Ed2.1.0.20220907\_Redline\_BSH.docx |
| ***Related Projects:*** | None |

## Introduction / Background

During the development of S-102 Ed. 2.1.0, Annex B was removed from S-102 Ed. 2.0.0. At that time, the project team considered the form and content to be not useful and not essential for the further development of the S-102. During the development of software to write or read S-102 files in HDF5 format, different interpretations of the data types to be used were identified between Caris and the BSH. The different interpretations led to errors in the software products.

## Analysis/Discussion

Annex B of S-102 Ed. 2.0.0 contained very important information for an implementation to be applied by all parties. For example, it makes a difference whether attributes are written and read using Float 32/64-bit. This information was lost when Annex B was deleted. The aim of this proposal is to restore the information and thus enable uniform handling of the attributes concerned again.

## Conclusions

Modifications are necessary at the following points in the Product Specification; these have already been implemented in the related document.

* Section 10.1 Item 6
* Table 10-2; Table 10-4; Table 10-5; Table 10-6
* Annex C Table A-1
* Annex G Table E-1

## Recommendations

The proposed modifications contain very important information for a uniform data format. It is therefore strongly recommended to include the information in the type of changes proposed here in the Product Specification. Furthermore, a discussion on the exact specification of the changes is encouraged. The information from Annex B of S-102 Ed. 2.0.0 is important, but the exact specification is not optimal for each attribute. The proposed changes already contain optimization ideas for some attributes.

## Justification and Impacts

The format of the presentation of the information from the Annex B of the S-102 Ed. 2.0.0. was not very clear. However, the information contained is very important for the uniform implementation of the S-102 by a wide variety of software producers. In order to restore the information content and to avoid additional redundancies, it was decided to incorporate the information into the Product Specification. The information of Annex B of S-102 Ed. 2.0.0 is now stored at the respective definitions of the attributes in the main document. The maintenance of the document is simplified by the fact that, for example, the attribute names are not repeated.

The modifications made here are within the degree of freedom defined by the S-100 for Product Specifications. The modifications therefore have no impact on the S-100.

Existing software solutions must be checked with regard to the proposed changes and corrected if necessary.

## Action Required of S-102PT

The S-102PT is invited to:

a. endorse the restoring of the information in annex B of S-102 Ed. 2.0.0.

b. accept the changes made by BSH to the attached Product Specification

c. discuss the comments to further refine the data types beyond annex B of S-102 Ed. 2.0.0.