

S-102 PT16 Minutes
29 – 30 January 2024: 1200 - 1500
VTC (all times UTC)

Agenda Item	Subject	GitHub Issue	Actions	Responsible for action	Target date
29 January 2024					
Topic A: Incidentals					
A.1	Welcome/ Housekeeping	N/A	N/A	N/A	N/A
A.2	Review of S-102PT15 Minutes/Pending actions	N/A	N/A	N/A	N/A
Topic 1: S-102 PS Major Issues					
1.1	Portrayal Catalogue Development	48, 49	<p>1. A new GitHub issue will be created.</p> <p>2. It will serve as a place where PT can reach a consensus regarding either XSLT or Lua. A link to the PC based on edition 2.1 will be provided in the GitHub issue.</p> <p>The aim is also to provide some test datasets.</p> <p>3. NIWC still offers to create the PC but highlights the time aspect. Target is edition 3.0.</p>	<p>1. Chair</p> <p>2. PT to contribute to the discussion + test datasets.</p> <p>3. NIWC</p>	<p>1. ASAP</p> <p>2. ASAP</p> <p>3. -</p>
1.2	SMA Node-based to cell area-based product Progress Update	29	<p>The PT voted during the meeting and it was accepted to proceed with the amendments.</p> <p>The Pull Request will be merged into the Developing branch after any remaining comments have been turned into issues.</p>	SMA + Finland	ASAP
1.3	Raphael: Discussion on name and definition of bathymetricUncertaintyType	78	<p>The proposal was accepted by the PT.</p> <p>1. The proposed name will be submitted to the GI Registry.</p> <p>2. DQWG will be notified of the issue. Any feedback will be discussed over GitHub.</p>	<p>1. Raphael Malyankar</p> <p>2. Chair</p>	<p>1. ASAP</p> <p>2. ASAP</p>

1.4	PRIMAR: Ensuring specific changes regarding dataReplacement/replacedData will align with S-100 5.2	N/A	PRIMAR clarified what was accepted and not at PT15. The addition to the PS will be made according to PRIMARs paper (regarding the "NOTE").	Chair	ASAP
1.5	PRIMAR discussion on cancellation support clarification.	N/A	1. Any decision will be postponed until after the WENDWG. PT will note the paper. 2. A new GitHub issue will be created. It will be updated after the WENDWG.	1. PT 2. PRIMAR	Until next PT
1.6	NOAA discussion of issues/solutions for S-102 raster display performance	N/A	An approach is needed for this issue. There will be discussions in GitHub.	PT	Continually
1.7	Placeholder for validation checks discussions and other major issues TBD	N/A	-	N/A	N/A

30 January 2024					
Topic B: Incidentals					
B.1	Welcome/ Housekeeping	N/A	N/A	N/A	N/A
Topic 2: S-102 PS Other Issues					
2.1	Review of GitHub Issues not yet discussed	Many	Open GitHub issues were reviewed. Those considered resolved were closed. Those considered more as information/guidance/discussions will be moved to a more appropriate place in the Repository.	Chair	-
2.2	CARIS question regarding ISO metadata file clarification request	69	We have a workaround for the moment; to use 0 length string. It was accepted by the PT. A proposal will be sent to Julia Powell (S-100WG) to make ISO metadata files optional. It is acceptable to include the proposal in a later version than S-100 edition 5.2.0 if time is too short.	Chair	ASAP
2.3	Finland: Discussion on limitation of allowed values for Common Point Rule	74	It was decided to limiting to only value 2 in the PS. The change will be made directly into the existing Pull Request.	Finland	ASAP
2.4	BSH: Updates required for several figures	76	Images, both generated from Enterprise Architect and Word, will be updated by using Enterprise Architect. Ribose will be contacted for support.	Chair	ASAP
2.5	BSH: Adaptation of S-100 Ed. 5.2.0	77	A small group will insure alignment to S-100 edition 5.2.0, using the existing GitHub issue for this work.	Chair+PT	Draft ready for mid-April, for upcoming PT17.
2.6	BSH: Discussion on possible solutions to accommodate multiple vertical datums	79	1. It was an approval for further investigation in the presented solution. 2. Use the GitHub issue for discussion and feedback.	1. BSH 2. PT	1&2. Continually.
Topic 3: Timeline and Outstanding Tasks					
3.1	Assignment of outstanding tasks	N/A	-	N/A	N/A
Topic 4: Discussion About GitHub/Metanorma					
4.1	Short update	57	Instead of spending significant time describing lack of progress, Chair asks that you e-mail him any problems you are encountering with GitHub/Metanorma. If you cannot get a proper copy of the spec to download, let him know, and he will provide it.	N/A	N/A
Topic 5: Test bed reports					
5.1	Placeholder	N/A	-	N/A	N/A
Topic 6: Misc., next meeting					
6.1	Plans for Next Meeting	N/A	The next VTC meeting (PT17) 2-3 May.	N/A	N/A
6.2	Review minutes and actions	N/A	Minutes and actions was reviewed.	N/A	N/A

Agenda Item A1 and A2.

Chair (Lawrence Haselmaier) welcomed everyone to PT16. The agenda for the day was presented. The S-102 PT15 minutes was reviewed and there were no additional comments.

Agenda Item 1.1 Portrayal Catalogue Development

Prior to the meeting Chair had sent an e-mail to NIWC asking what they need in order to move forward with drafting a Portrayal Catalogue (PC) for S-102.

During the PT meeting the development of PC was discussed further.

What NIWC primarily needs is input datasets and a Feature Catalogue (FC) compliant with edition 3.0. Chair asked the PT group if there are any major hurdles to provide datasets. The data has to meet the questions that the PT are currently working for, which does not have to be called by definition edition 3.0 yet, but this should be the target. It does require that it is still aligned with S-100.

The discussion continued on having a descriptive catalogue or not. A reply to this was that a machine readable version of the PC would still be expected in an operational edition.

A question to the PT was if it is possible to take portions from S-101 and use for the Bathymetric surface. NIWC responded that S-102 has to craft its own portrayal. The previous version of the PC had no feedback from the PT.

Talks continued on the weather the PC should use XSLT or Lua language. A GitHub issue will be created by Chair. It will serve as a place where PT can reach a consensus regarding either XSLT or Lua. A link to the to the PC based on edition 2.1 will be provided in the GitHub issue. The aim is also to receive some test datasets because NIWC need something to portray or test the PC on.

A comment from Vice Chair was that the PT need to focus on finalizing the 3.0 edition of the PS and provide some test data that will allow our tech experts to determine if XSLT and/or LUA can do everything needed. Not only to display the S-102 data but work with our water level data (S-104) as well.

NIWC commented that they still offer to create the PC but highlights the time aspect.

Agenda Item 1.2 SMA Node-based to cell area-based product Progress Update

SMA presented an update on the issue and where they are in the process right now. They asked where this will go from here. The issue as such has already been approved but Chair asked if there are any objections to adopting the amended parts. There was one abstention, but several agreements.

A question arose what will happen to the pending comments in the Pull Request. Finland replied that some of the comments are not directly linked to this issue. It was decided to turn any remaining comments into new issues before merging.

One comment in the Pull Request, that has already been turned into a new issue, was regarding S-102 grid origin being the lower left point. This will be handled in the separate GitHub issue.

Another question was if this change will make a significant difference for the OEMs or not. The response was that both node based and area based can be handled, as long as it is not a hybrid, then it becomes more difficult.

It was accepted by the PT to proceed with the amendments. SMA will take lead with help from Finland to go through comments and turn them into issues before merging.

Agenda Item 1.3 Raphael: Discussion on name and definition of bathymetricUncertaintyType

Raphael Malyankar presented the issue that has been discussed previously in GitHub. The definition in feature attribute, bathymetricUncertaintyType (in table 7 and 8), is inaccurate. The name and definition does not match. bathymetryUncertaintyType is an enumeration. The suggestion is to change the name to “Type of Bathymetric Estimation Uncertainty”. The definition should be changed to “The measure used to estimate the magnitude of the difference between true and estimated bathymetric depth, after all appropriate corrections are made.”

PT voted on the proposed changes. There were no objections to amend the name and definition. It will be submitted to the GI Registry.

Chair will, via e-mail, inform DQWG and point them to the GitHub issue. Any feedback can be discussed over GitHub.

Agenda Item 1.4 PRIMAR: Ensuring specific changes regarding dataReplacement/replacedData will align with S-100 5.2

This agenda item was partly accepted last PT meeting in Singapore (PT15). PRIMAR briefly went through was accepted and not. There are amendments to Discovery metadata. Similar changes for S-101 was implemented. During PT15 it was accepted the “NOTE” (specified in PRIMARs paper) will be added to the PS. What was not accepted was the references to S-100 edition 5.1.0 (specified in PRIMARs paper).

The proposal regarding dataReplacement/replaceData is conditionally mandatory. It could not be incorporate in S-100 as a whole, therefore it will be included in the PS for S-101, S-102, S-104 and S-111.

PRIMAR also mentioned that it is being submitted at next TWCWG meeting.

Agenda Item 1.5 PRIMAR discussion on cancellation support clarification.

PRIMAR presented a paper on Cancellation support clarification. S-100 supports two mechanisms for cancellations of datasets. PRIMAR presented the two and opened up for discussion/support for either mechanisms or both.

There was a preference for fileless cancellations.

This issue will also be presented at the coming WENDWG14. The PT will wait with a decision until after this meeting. For now, PT will note the paper and come to an agreement. PRIMAR will also create a GitHub issue for this item.

Agenda Item 1.6 NOAA discussion of issues/solutions for S-102 raster display performance

NOAA have five to six testbed port areas. They know that pilots like to use the S-102 product for navigation. However, when using S-102 which is a raster-based product, they notice a decrease in the performance. This occur when pilots zoom out (using SEAIq PPU). Usually software solutions create pyramids to get around this issue when users zoom out.

NOAA showed an example from Savanna, Georgia in Google Maps that uses tiles. In this example, different resolutions are available for the user. However, it does not say anywhere in the PS, to the developers, when the resolutions should change. NOAA expressed that there is no real guidance out there and opens up for discussion in the PT.

BSH has not recognized the same issue with the performance. They have also done tests on PPU and in 1-meter resolution. It was noted though, that the product dimensions are smaller than NOAAs, for example 2x2 minutes. Loading a big cell, but with a small amount of data, could be a problem. This could be a reason why BSH does not have the same issue with performance. An example area is Port of Rostock.

Another comment from the PT was that this is not a new problem and it is not only with grid data. If a user zoom out and have all the large scale data turned on, it will be an issue with performance. High resolution cells should not be used while zoomed out. It could be useful to discuss when these zoom layers should happen. Possibly a guidance on the size of data.

Australia commented that they have loaded single digits of MB into their SEAIq. They agree that grid resolution could be used to turn the display on/off.

NOAA mentioned that a tile is 5-10 MB so if zooming out to a lower scale it could be hundreds of MB. They emphasize that the PT have to listening to the users and meet them. Bathymetry is covering a large amount of the harbour areas.

Chair raised some general questions: what is an appropriate scale level? And, what is our position when we approach S-100 and S-98 presenting this issue?

NOAA commented the importance of it and that the PT has to tackle this issue. Julia Powell, Chair for S-100 WG, is aware of this issue and the challenge this pose for a US implementation standpoint. A break-out group could be suitable for this issue, with some best practice examples. Keeping a close communication with the community is important.

Some more questions were asked regarding guidance for OEMs or inclusion in the PS. It must be considered that if it would be left to the OEMs, it may be an insistent implementation.

Australia mentioned that Table 16 could be used for this issue.

Chair concluded that this issue will be handled informally, where the PT will support with feedback from OEMs and users.

BSH mentioned that they do not want to use several resolutions of the same sea area. Australia, on the other hand, could see the logic in having overlapping S-102 products at different resolutions for different scales. Vice Chair added that CHS already produces overlapping S-102 at three different resolutions. Also Finland agreed with Australia that the several resolutions would be possible.

It was concluded that this issue need more discussion and more results from test datasets. GitHub could serve as a place for this.

Agenda Item 1.7 Placeholder for validation checks discussions and other major issues TBD

Nothing was discussed during this agenda item.

Agenda Item B1.

Chair welcomed everyone to day 2 of PT16. The day's agenda items were presented.

Agenda Item 2.1 Review of GitHub Issues not yet discussed

Chair reviewed open issues in the S-102 PT GitHub Repository. The ones that had already been decided and resolved were closed.

#23 – Issue closed during the meeting.

#13 – Issue still open. The issue is still an open question and a new issue will be created instead of having an issue in an issue.

#15 – Chair will investigate if it has been added in the PS. If so, the issue can be closed.

#16 – Issue closed during the meeting.

#27 – Issue closed during the meeting.

#28 – Chair will ensure information is available in Wiki. When it is, the issue can be closed.

#29 – Issue still open. There is a link to a fork under development and it is connected to Pull Request #73.

#30 – Issue still open.

#45 – Issue still open. Chair will consult with the issuing parties to determine status. If appropriate, the issue can be closed.

#48 – The content will be moved to the Wiki entry. The issue can then be closed.

#49 – Issue still open. Chair will move it to a more suitable forum, either Discussion or Wiki. The issue can then be closed.

#50 – Issue still open. It was recommended to separate parts per checks and create a label for the checks.

A few things that were discussed during this agenda item was that Issues should mainly be used as a mechanism for keeping up with what needs to be done, to keep focus on the higher priority tasks. Another recommendation was to create new issues instead of having an issue in another issue. It was also recommended that items that are more of a discussion should be moved to a more suitable place, such as Discussion or Wiki. Not all issues were reviewed due to the time limit during the meeting.

Agenda Item 2.2 CARIS question regarding ISO metadata file clarification request

CARIS created a GitHub issue asking what the values should be if an ISO metadata file is not used, since the attribute is mandatory from S-100.

Raphael Malyankar has proposed a solution in GitHub, to omit the ISO metadata file.

It was clarified during the meeting that the ISO metadata file and S-100 discovery metadata are different things. Discovery metadata is located in the Exchange Catalogue. The other metadata, ISO files, are there for systems which are able to combine and collect other metadata. They must conform to the schemas published from ISO. At the moment ECDIS cannot make any use of these ISO metadata files. The proposed solution is to have 0-length string (meaning this file is not provided). The PT accepted this solution.

There has been a proposal written by Raphael Malyankar to make ISO metadata file optional. There was a question regarding timeframe and if the proposal can be included in S-100 5.2.0. After

endorsement and revision from S-102 PT, it will be sent to S-100WG. If the time constraint is too narrow, it can be added in a later edition. There is a workaround for S-102 at the moment.

The proposal will be sent to Julia Powell (Chair S-100WG) by S-102 Chair. It will be stressed that the PT are not pushing for a time limit and that a viable workaround has been developed.

Agenda Item 2.3 Finland: Discussion on limitation of allowed values for Common Point Rule

Finland presented the issue. Since the product is for navigation only it should always return the shoalest value. There was a predominant agreement from the PT to limiting the value to '2' (use the least of the attribute values). It was decided to only use value '2'.

The change will be made directly in the existing Pull Request #73 by Finland.

Agenda Item 2.4 BSH: Updates required for several figures

BSH pointed out that updates are required for several figures in the PS. These changes can be made with a method that Raphael Malyankar briefly described, in a software called Enterprise Architect.

A comment from a member was that it is important to keep the source of the images, for example those that have been created in Word.

BSH asked which of the formats, SVG or PNG, should be used for the images. It tends to crash when BSH use SVG. Their preference is still format SVG. It was clarified that SVG is vector and PNG is raster format. No other strong opinions on the formats was voiced.

Chair will take on the task to make the updates, for both the ones created from Enterprise Architect and the ones created in Word. Ribose will be contacted for support.

Agenda Item 2.5 BSH: Adaptation of S-100 Ed 5.2.0

From the circular letter from S-100 WG it is necessary to update the PS to S-100 edition 5.2.0. Currently the S-102 PS is updated to 5.0.0. An issue in GitHub ([#77](#)) is created for this task.

IHO Secretariat also referred to:

<https://iho.int/uploads/user/Services%20and%20Standards/HSSC/LETTERS/2023/HSSC%20Chair%20Letter%20Outcome%20S-100WG8%20November%202023.pdf>

The draft redline of S-100 edition 5.2.0 is available on the IHO webpage for HSSC approval. This HSSC circular letter will be circulated tomorrow (31st of January). Chair for S-102 added that a thorough redline for the PS would be good. Specifically, part 17 table's needs to be checked.

A question to the PT was if we need to mention specific version numbers within the PS, since the same applies for S-44 versions. It was also brought up that this is not just a document issue. The schema also changes for the PC, FC between edition 5.1.0 and 5.2.0 as well.

Chair proposed the PT to have a small group over GitHub to undertake the work of insuring alignment to S-100 version 5.2.0. Deadline would be two to three weeks before PT17. The GitHub issue will be used for the discussion.

A reminder to the PT group was that the Pull Request needs to be merged to not have any conflicts and include new changes first.

Agenda Item 2.6 BSH: Discussion on possible solutions to accommodate multiple vertical datums

BSH presented the issue for the PT. This specific information is located in the Root Group and is used for the whole Bathymetry layer, which means it is not possible to use more than one vertical datum for one S-102 product.

BSH demonstrated an example of the Elbe and Kiel Canal and a lock that separates the North Sea with the canal. They demonstrated how a S-102 product extent is placed over the area with the lock. There are different depths within this extent. The depths are still correct but the metadata for the S-102 product is incorrect.

Two possible solutions were presented for the PT (can be found in GitHub issue [#79](#)). BSH are in favor of the second solution.

The PT discussed overlapping areas and which vertical datum that should be used in the portrayal. With a high grid resolution this may not be a practical issue, but with a coarse grid resolution it may be. It was clarified that the resolution would be the same within the same S-102 product. The discussion then continued with a question if small gaps between products would be a problem, suggesting that no data overlap would occur. Similar to above, it would not be a great issue with a high resolution grid but with a larger resolution it will be a problem.

There was a question if datum separation information is available for such cases and BSH responded that it is not possible to calculate between the datums. There is not offset to be used.

Another question was if it would be easier to provide products which extents do not crosses areas of different datum, instead of the proposed solution. The answer was that with a regular grid, it will not be easier. It would not fit in the product tiling scheme and the producer would have to publish the same are with different name, which is not desirable.

Several in the PT agreed that this is a complicated problem. The problem may also compound with Water Level Adjustments as well. BSH also see a potential interoperability problem with the other standards.

NOAA and SMA commented that they would bring back this issue to their respective teams for more feedback.

Another suggestion was brought up to possibly use “hydrographic zero”, or simply call all defined datums at the navigation level "charting datum", but this too could cause interoperability issues.

One more suggestion was to use a datum separation model for the overlapping areas in order to work in the same datum on-the-fly. A response was that an available datum separation model would help, but it would not solve the issue. One PT member recalled previous discussions in the S-100 WG, where it was decided that datum separation calculations should not happen in the S-100 ECDIS, hence the requirement of equal datums between overlapping products.

A conclusion after the discussion was that there is a S-102 PT endorsement to go forward with investigating the different solutions. The existing GitHub issue will be used for the discussion and potential feedback from member states.

Agenda Item 3.1 Assignment of outstanding tasks

No further tasks needed to be assigned during this agenda item.

Agenda Item 4.1 GitHub/Metanorma, Short update

Instead of spending significant time describing lack of progress, Chair asks that PT members e-mail him any problems they are encountering with GitHub/Metanorma. If they cannot get a proper copy of the PS to download, let him know, and he will provide it. For example, the PDF and Word versions are not satisfactory yet.

Agenda Item 5.1 Test bed reports, Placeholder

There were no demonstrations during this meeting.

Agenda Item 6.1 Plans for Next Meeting

The PT agreed to have the next meeting (PT17) on the 2nd and 3rd of May 2024. This will also be a VTC meeting.

Agenda Item 6.2 Review minutes and actions

The minutes and actions for PT16 were presented by the Secretary. Chair thanked the PT for all the efforts put in during PT16 and then closed the meeting.