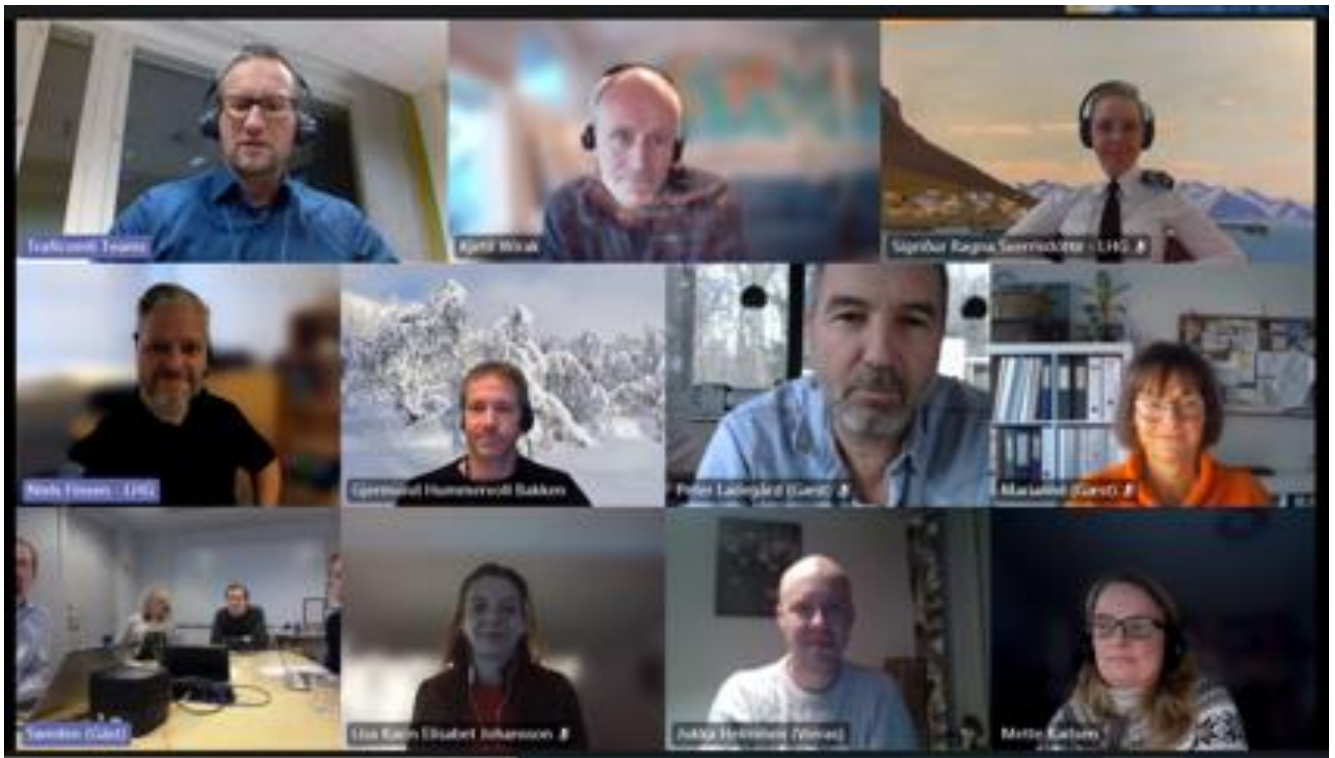


Minutes of the

Nordic Chart Production Expert Group, NCPEG 2021

1-2 December 2021

(Teams meeting)



1. Start of meeting, introduction of participants

Teppo Kuusijärvi (Finnish HO) welcomed all to the meeting.

Participants presented themselves.

List of participants:

Denmark

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2. Adoption of Agenda

Agenda was adopted

3. Summary and review of Action Points from the 2019 meeting

Action No	NCPEG Action	Delegate	Notes	Status N=Not started O=Ongoing C=Completed.
19-1	Comments on changes and additions to TOR	All	Action given by NHC. Arní to bring draft to next NHC	C
19-2	Give brief status on how quality is presented in ENC and Paper Charts.	All		C
19-3	Give brief description on approach to PSI	All		O
19-4	Report from the 2019 NCPEG meeting sent to all and to NHC	Swe		C

Actions of the previous meeting in 2019 were reviewed.

It was decided to review Actions 19-1 and 19-2 under agenda items 10 (NCPEG TOR) and 7 (Visualization and maintenance of CATZOC...)

Action 19-03 (Give brief description on approach to PSI) resulted discussion.

- In Finland, Hydrographic Office datasets are open.
- Sweden does not share very much information at the moment.
- Iceland has plans to have data more available for the public and companies in the future, but the timetable and mechanism is not set yet.
- In Norway, high resolution data has restrictions but S-57 data from the ENCs is shared for educational and research purposes and for plotter use.
- In Denmark data is shared only for the governmental agencies at the moment. Denmark is looking into the possibility to share hydrographic data for everyone.
- In Faroe Islands, what can or is allowed to share is not figured out yet and is not in the top priority at the moment.

Each HO will submit paper about their policies and the action was repeated (Action 21-01)

4. Current practices of producing charts and publications in the Nordic HOs.

4.1 Finland

- New organization
- Three main systems: Merta (Caris), Ahti (Caris HPD) and Loki
- Hydrographic data is processed in Merta (Caris Bathy database and Base Editor)

- Depth contours and depth areas are processed and sounding selection and CATZOC is done in Caris Source editor (Ahti)
- Land information comes from National land survey.
- Aids to navigation comes from VATU registry, which is maintained by Finnish Transport Infrastructure Agency.
- VATU updater is the interface between Source editor and VATU registry (Finnish Transport infrastructure agency)
- All the data is maintained in Caris Source Editor in seamless database
- Caris Paper Chart Editor is used for the printed charts and Product Editor for ENC
- Loki is the workflow management systems integrated to HPD where amendments are traced.
- Finland has the possibility to do reprints but has only just released few printed charts with Caris so the customer needs are not known yet.
- Chart production system renewal project was postponed to the year 2020 because of the many problems with portrayal, product templates and cartographic migration. Finland faced many bugs in HPD and unfinished system requirements.
- First paper charts and ENC
- FME is also in use when data from other sources is imported and for coordination transformations.
- SevenCs ENC Manager, ENC Designer are in use for maintaining old ENC produced with the old system
- SevenCs Analyzer and dKart Inspector are in use for validation the final ENC products.
- First BSCD 2000 charts will be released in December 2021. Starting from north.
- GIS education for employees to increase GIS knowledge 2021-2022

4.2 Sweden

- Covid pandemic has had a huge impact in Swedish hydrographic office and has resulted in work procedure changes, changes in development issues and projects. There has been a high change in personnel and key persons have left or changed positions. 30 % of the current employees have been recruited after 2019.
- Baltic Sea Chart Datum project in Sweden started from the Bay of Bothnia and is currently proceeding in Stockholm region. There has been misunderstandings with boaters about the BSCD 2000.
- Caris Base Editor was chosen as the tool for generalization of bathymetric data.
- Updated criteria of new edition on paper chart
- New routeing measures in Kattegat in 2020
- The ENC and paper chart production at SMA are divided in two teams; Hydrographic data and Product coordination.

4.3 Iceland

- Iceland Hydrographic office is part of the IS Coast Guard. Total staff 8 person.
- Currently using mostly Caris tools file based (Paper Chart Composer, S-57 composer, Bathy database, hips & sips). SevenCs ENC Analyzer, dKart Inspector are used for validation.
- Challenges in the future when many of the staff will be retiring.
- Need for training in the future.
- Iceland has started to use new GNSS RTK positioning system for surveying
- Caris Bathymetric database in use. First steps were taken March 2021. It is not yet implemented since the data was not ready. Hopefully it will be used more next year.
- Iceland presented its experiences and challenges with POD production. Iceland was interested of other countries experience with POD production.
- Started printing charts in house this year.
- Working with POD contracts with agents.

4.4 Norway

- New organization
- Caris tools are used for data processing, contours and sounding selection. For primary database Norway uses Geomedia and Hexagon tool. For ENC production dKart tools are used. Paper chart production in dKart Publisher
- Several projects in progress
 - The Marine Geospatial Maps Project (MAGIN).
 - Marine geospatial maps pilot project (2020-2022)
 - Nautilus project aims to improve technical solutions used in Kartverket.
- Dense depth contour in ENCs project has been on hold during Covid-pandemic, but is now continuing.
- Survey vessels are transferred to the Institute of Marine Research from 2022 onwards. Hydrographers will still be in Kartverket.
- New regulation on hearing. 0- 30m depth area downgraded and available to everyone
- Sjøkart raster project.
- Some new developments in Digital The Norwegian Pilot. Working with standardization of harbour information. Focus on migration of text from the books
- ZOC-diagrams in Paper chart and ENCs are now matching.
- Land info in paper charts has been reviewed and reduced. Files minimized leading to quicker maintenance.
- Block Corrections are being evaluated.
- Completed Coastal Chart series.
- Place names are being checked for consistence between products.

4.5 Denmark

- New organization.
- Production system changed to Esri Maritime. Some paper charts are still in Caris.
- Currently 16 people in chart production.
- Faroe island has overtaken their own Paper chart and ENC production
- Base ENC project
- New Routeing system in use in Kattegat
- BSCD2000 has been taken in use. No effect on the charts.
- Harbour Plans have all been converted to ENCs
- The IMO member state audit scheme.
- POD is considered when charts have been produced in the new production system
- New production system and many new employees require lot of education (ArcMAP, Analyzer, Inspector, CAT B, on the job training, IC-ENC e-learning, Navigator for a day, UKHO virtual training)
- New production system requires broader knowledge
- Documentation in Confluence

4.6 Faroe Islands

- Started HO office from zero
- Political decision in 2019. Hydrographic office was established 2020 January
- Has taken responsibility from Denmark in certain areas.
- Currently 21 ENCs and 7 paper charts.
- Publications: Chart Corrections and Sailing Directions.
- Currently working file based source data. Caris HIPS and Base Editor. Possibly a database system in the future.
- Product data handled with Caris S-57 composer (4.1) and CARIS PCC (4.1)
- Education: Caris training (Base editor, HIPS & SIPS), Introduction to hydrography, Hydrographic surveying, GST, UKHO training
- During Covid-pandemic the increased amount of remote meetings and remote education has been helpful since Faroe Island might have not had the opportunity to attend many of the meetings.

5. NtM criteria and handling of T/P Notices in NtM/ENC/Nav warnings

Sweden has some differences in NtM notices and ENC updating and is figuring out what to do with them. Sweden was interested what are the other HO's criteria to put temporary/preliminary changes to ENCs.

- Iceland puts no temporary changes on ENC if they are less than 12 weeks. If the issue is something that is necessary for the end user, Coast Guard will make Navtex warning
- Denmark does not put T/Ps on ENCs if they are less than 4 weeks.
- In Norway if the temporary notice lasts more than 1-2 weeks they will release ENC update. High priority issues are out in couple of days.
- Finland usually presents all temporary changes in ENCs and some of preliminary also. No time limits.

Action 21-02: Describe how T/P notices are handled together with ENC updates in time aspect

6. Virtual AIS and ENC/Paper Charts/NtM/Nav warning?

Discussion on whether temporary Virtual AIS are depict on ENCs:

Iceland: No temporary virtual AIS

Norway: No temporary virtual AIS

Sweden: Sometimes

Denmark: Not sure how temporary virtual AIS are handled.

Faroe Islands: No virtual AIS.

Finland: All virtual AIS are on ENCs

7. Visualisation and maintenance of Catzoc. Do you downgrade (or have plan to downgrade) CATZOC due to temporal variation? Which criteria's do you use?

Sweden was interested if other HO's downgrade CATZOC due to temporal variation of the seabed.

Iceland has this issue in one place where they have multibeamed several times with different results. Solution was to have it CATZOC 1 area with Caution area. They could have also downgraded it.

Finland does not downgrade. Class C in shallow areas. If variation is recognized, it should be re-surveyed.

Faroe Islands does not have much variation.

Norway does not downgrade.

Iceland, Denmark and Faroe Island could take this issue to ICC technical meeting.

Action 21-03: Study downgrading of CATZOC in some circumstances and provide outcome or criteria

8. Use of High density bathymetric information and contour intervals. What contours are you using and why?

Iceland was interested whether other HO's are making larger scale ENCs or paper charts with dense depth contours.

Norway: some band 6 ENCs might have denser soundings and denser depth contours (1 m).

Sweden: no high density contours at the moment. Focus on the S-102 at the moment.

Denmark not using high density bathymetry.

Faroe islands is not using high density contours.

Finland use extra depth areas in some fairway areas and ports on ENCs.

Finland was interested about other HOs depth area creating procedures and whether other HOs create completely new depth areas or modify the existing ones. Finland has had problems with automatic Caris depth area creating because the Caris tool only recognized 0 depth contour and does not read coastline.

Iceland does them manually.

Action: 21-04: Organize a meeting for exchanging information regarding the automatization of depth contour/area creation.

9. System for priority of ENC updates (continued from last meeting). Norway presented its system for prioritizing ENC updates.

Norway presented its system for prioritizing ENC updates. Priority is based on several criteria: type of object, area of use, navigational criticality, location. Systems benefits are that it makes the prioritizing easier, gives useful statistics, gives good overview of the updates, allows updating independently from NtMs, improved security and multi user system.

10. NCPEG Terms of Reference and Rules of Procedure for review, action from NHC

-TORs were reviewed.

-Discussion about how often NCPEG meetings should be held. There was an agreement that meetings once year would be beneficial. Every second year a physical meeting and every second year an online meeting was seen as the best solution.

-Iceland will finalize the document and circulate by email within the group and then it will be put forward to NHC.

11. Base data layer 1:22000 and cross border harmonization

Denmark GST is considering producing a 'base' data layer in the scale 1:22.000 and was interested if other HOs had any thoughts on it.

Norway has a base layer in a way with approach 22 000 scale ENCs.

Sweden is pleased with their current coverage in approach and small scales. Nearly full coverage with approach.

Finland has a seamless ENC coverage with 22 000 approach and 90 000 coastal ENCs. Harmonized with Sweden and Estonia.

12. Base ENC in Greenland

Denmark presented its Greenland Base ENC concept.

- Bathymetry is multibeam only processed at 25K (Compscale22K) for Band 4 cells in Greenland
- Additional features are limited to Aids to Navigation and Dangers.
- Supports the safety of navigation in Greenlandic waters

13. Gridded ENC portfolio

Denmark was interested in other HOs experiences of gridded ENC portfolio.

Finland tried the gridded ENCs in the past but found it to be too problematic and moved away from strict grids. Finland will share its experiences (**Action 21-05**)

Norway has used their own grid but would not like to change to some other global grid since it would be a huge work.

14. Paper chart scale reduction

Denmark will reduce the different paper chart scales. The proposal is to only produce paper charts in 1:100.000 and to focus on digital products for other scales.

Sweden has no plans to change paper chart scales at the moment. But they try make to it as easy as possible to make them.

Iceland has not planning to change scales.

Finland is not reducing paper chart scales. Finland has decided to get rid of overlapping panels on chart booklets.

15. On boarding program for new employees

Denmark presented it in point 4

16. Plans for S-101/S-102 production

Finland has started preparing for the S-101/S-102 production by forming a working group to investigate goals and possible challenges. Aim is to start building production capacity for S-101 and S-102 products. Aim of the development is to test the production capability of the new S-101 and S-102 products by utilizing the functionalities of Caris systems, which are already in production use, and gather the technical and operational requirements.

Finland aims to one database schema with two production lines to produce two different products (S-57 and S-101). Finland tries to avoid conversion between the different ENC products. Finland sees conversions laborious, always requiring manual work. Updates are not convertible so the different products would have to be updated separately. Finland did attend the Primar conversion task force.

Sweden is also attending Primar task force. They are working with test conversions with Caris software. Testing and learning what can be converted. They do not know yet how much manual work is required after conversion. Sweden has not decided when to go to S-101 schema in database. Co-operation on S-102 with Norway.

Denmark following closely the S-100 developments. No production plans yet. Denmark has the vice chair in S-100 working group.

Norway is starting to gather a small group to look into the S-101 standard and try to find the possible challenges. They are trying to increase the competence and gather samples. For example, which objects are used in Norway. The plan is to convert some cells and look into software available now. They are doing cooperation with dKart and have started to make a new software for S-101. Dual fuel is hoped, to produce S-101 and get two different production lines.

Norway has some years been producing S-102 test cells with Primar and coastal authorities. A small group will be looking in the Production line for S-102 and try to find the challenges.

Faroe Islands has not been active on these issues yet.

Iceland looks how things proceed and see where it is going. Currently they have no S-101 capability with Caris. It would require large amount money for a small organization.

Action 21-7 Report every half a year to each member state of progress in S-101/S-102 production related matters and organize a workshop if needed

17. Use of leading line in DIR lights.

Iceland was interested if any other HO depict the center of the white direction light line. Other HOs do not depict the centerline.

18. *marine farms

Iceland shared experience with marine farms and the problem they cause on charts when their outer limits go into the white light sectors to the dissatisfaction of sailing authorities.

19. Experiences from over 1,5 year with Covid-19

Iceland: No lockdowns or restrictions on working at the office. Teams has been in use a lot.

Norway: Tough start when people at the production only had stationary computers. License problems also occurred. It took 2-3 weeks before things started working, but since then things have been working great. Most people work from home, some go to office.

Denmark: Denmark was well prepared because many people had already worked remotely. Everything was ready. No problems accessing databases. Meetings have been shorter online.

Faroe Islands: Only short lockdown but since then everything has been normal. Faroe Island has benefited from the increased online meetings and education since they are easier to access.

Sweden: No total lockdowns. At one point, all Swedish officials were mandatory to work from home if possible. People working with restricted data were not able to work from home. Some people have worked at the office all the time, some never. Covid has proven that it is possible to work from home.

Finland: Started working remotely from the start of the pandemic. HPD works from Citrix and with VPN connections it is the same working from home or at the office. Number of the meetings has increased and sometimes it is difficult to separate private life and work.

20. Summary, Closing of meeting

List of Actions:

Action no	Description	Delegate	Notes	To be completed
21-01	Give brief description on approach to PSI	All	Repeated from the actions of NCPEG 2019	1.5.2022
21-02	Describe how T/P notices are handled together with ENC updates in time aspect. (Eg temporal military practice)	All		1.5.2022
21-03	Study downgrading of CATZOC in some circumstances and provide outcome or criterias	All		1.5.2022
21-04	Organize a meeting for exchanging information regarding the automatization of depth contour/area creation.	SE		Spring 2022
21-05	Views on gridded ENCs	FI		1.5.2022
21-06	Report on the NCPEG to NHC	FI		
21-07	Report every half a year to each member state of progress in S-101/S-102 production related matters and organize a workshop if needed	All		1.6.2022, ongoing