



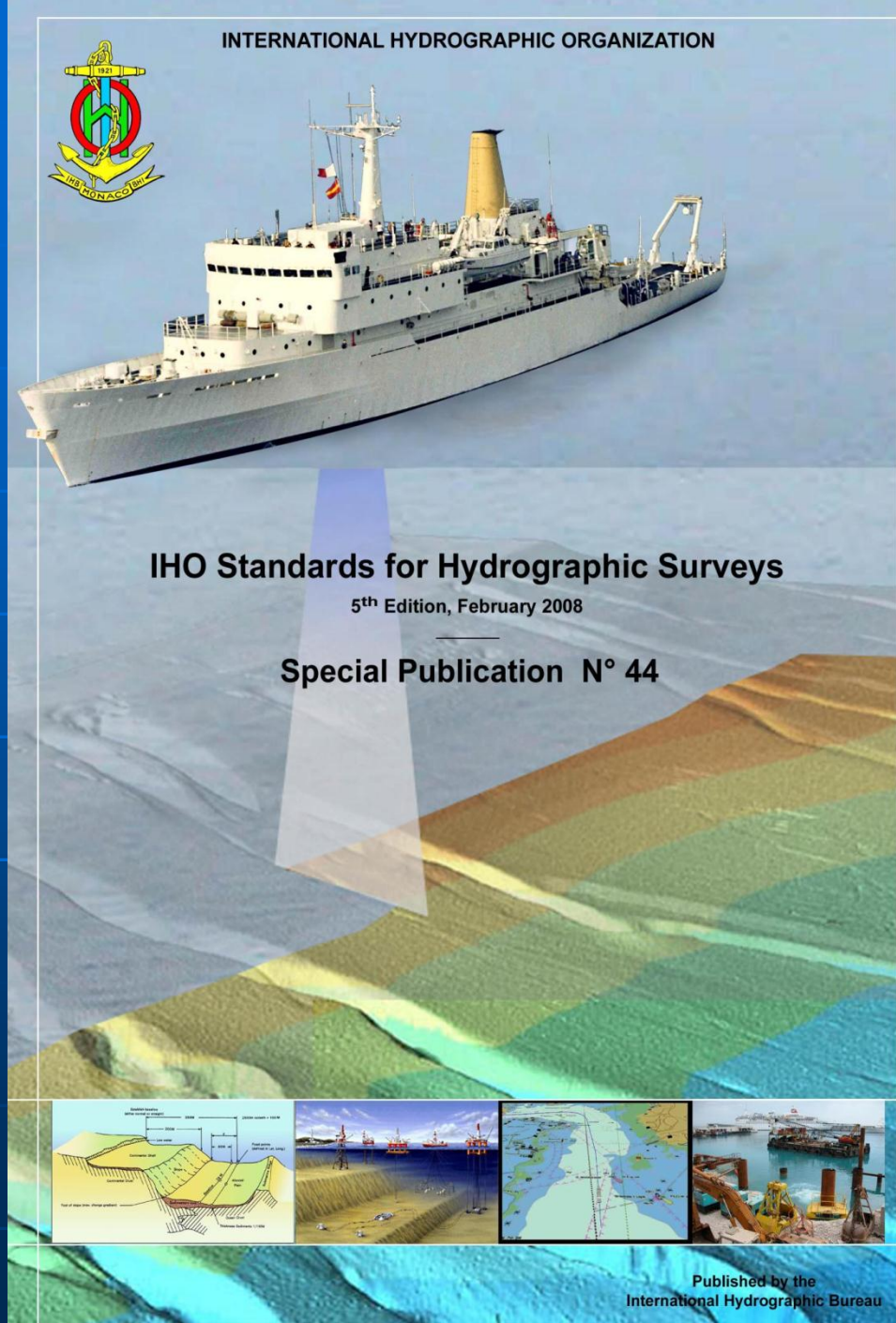
IHO Publication S-44

IHO Standards for Hydrographic Surveys

Is it fit for purpose?

S-44 History:

- intended to provide the minimum standards to be achieved;
- does not describe procedures for setting up the necessary equipment for conducting a survey or for processing the resultant data;
- need to revise driven by identification of any shortcomings or new issues arising from development of new systems or new procedures;
- EHC5 not raise any specific requirement.



Current situation:

- Annual review of work programme through relevant IHO Committee (HSSC), HSSC6 (2014) invited the IHB to issue a CL asking MS to provide views on scope, topics and work items, if any, to be addressed through the establishment of an Hydrographic Surveys WG (HSWG);
- 2 questions addressed requirements of MS:
 - a. Does the 5th Edition of S-44 meet your current and foreseeable requirements?
 - b. Have you identified any additional topics to be addressed by the establishment of a HSWG?



Results:

- Half of the MS (41/82) responded;
- Less than a fifth of the Member States, 14, indicated that S-44 does not meet their current or foreseeable requirements;
- Just over a fifth of the IHO Member States, 18, supported the establishment of a new HSWG and identified additional topics to be addressed.
- Although some strong views were expressed, only minority support for new HSWG and even less support for review of S-44.



Results (cont):

- HSSC7 set-up H2SPT to determine what tasks could/should to addressed;
- Results reported to HSSC8, decided to establish a PT under ToRs agreed by the Committee;
- IHO CL 68/2016 - *Establishment of the IHO Project Team on Standards for Hydrographic Surveys (HSPT)* - invited nominations of participants;
- IHO CL 26/2017 - *Composition of the IHO Project Team on Standards for Hydrographic Surveys (HSPT)* - advised on candidates for Chair and vice-Chair of HSPT;
- Need to advise progress to HSSC9 required HSPT1 meeting to be held in short timescale.



Key areas for consideration:

- standards and guidance for continental shelf edge surveys;
- incorporate new emerging technologies, including crowd-sourced bathymetry and satellite derived bathymetry;
- make the standards data rather than equipment centric, including requirements for full seabed coverage, object detection and positional accuracy,
- consider moving focus away from point measurements to bathymetric surface accuracy assessment; and
- how to depict data quality standards to connect survey data and charted data for better understanding by and clarification for the customer/user.



Secretariat considerations:

- Recommend take holistic view of S-44;
- Cautious and measured approach to task;
- Wary creating additional standards for new methods/systems.



Secretariat considerations (cont):

- Publication could articulate a series of data and metadata standards from very stringent to more relax for various categories (horizontal position, vertical position, etc.) as well as indicating the maximum acceptable errors to be achieved for each dataset;
- Projects could be tailored to meet client needs without imposing unnecessary additional requirements for which there is no demand in a particular project (i.e. object detection or nav aid positioning for a pipeline survey);



Secretariat considerations (cont):

- Equipment manufacturers and survey companies could more easily and more accurately indicate data standards they can achieve.
- Importantly clients could then assess if the data acquired, with supporting metadata, was fit for their particular use.



Questions for HSPT:

- Does S-44 meet your needs?
- Is there clear relationship between S-44 and other publications/manuals?
- Do other related standards/specifications adopted by MS and industry complement/implement S-44 or address potential gaps in S-44, which need to be addressed in any potential revision?
- Is there scope/interest to have single document covering all hydrographic survey operations?
- If so is HSPT correct body to develop such a document and maintain it?
- What format is appropriate?



Possible tabulated format?:

Survey/Data category 

Measured properties

	A	B	C	D	E	F
Total Horizontal Uncertainty						
Total Vertical Uncertainty						
Seabed search						
Feature detection						
Line spacing						
Fixing shore objects						
Floating nav aids						
Structure heights						
VRF error						
Etc.						

Need to articulate and describe properties and categories in main textual part of the publication.



HSPT Considerations:

- Data and metadata standards to be backward compatible?
- Data and metadata to have measurable error data which is transferable and quantifiable;
- Data needs to be useable by any customer or application, with end user judging suitability not being second guessed by HOs;
- Need to move away from execution of 'x order' survey to delivery of survey data with supporting metadata with quantifiable error data to allow end user to assess whether data suitable for particular purpose;
- Need to move away from HO cartographic view that cartographer knows best how user should use data and associated product.



Summary:

- Initial focus on tasks/questions posed by HSSC;
- Decide if S-44 requires review/revision, noting it articulates minimum standards;
- Decide what needs to be done, why and by whom;
- Subsequently consider how, what format and time frame;
- Keep in mind need for Chair to report/justify actions/proposed tasks to HSSC.





Questions?



Thank You

