S-44 Working Group - IHO Standards for Hydrographic Surveys

Chapter 1 - Classification of Safety of Navigation Surveys

Section	Current S-44 Wording (if present)	Proposed New S-44 Wording
1.1 Introduction	1.1 Introduction	*Remove*
1.1 Introduction	However, if the surveyor discovers shoals extending to less than 50 metres, then it may be more appropriate to survey these shoals, including a well-balanced area, to Special Order.	However, if the surveyor discovers shoals extending to less than 50 metres, then it may be more appropriate to survey these shoals, including a well-balanced surrounding area, to Special Order.
1.2	It is recommended that Order 2 surveys are conducted in areas deeper than 200 metres	
1.2	4% of the survey	
all		

1.1 1st paragraphe		This chapter describes the orders of safety of navigation survey ~~that~~which are generally considered acceptable by hydrographic offices or authorities to produce navigational products that will allow surface shipping to navigate safely across the areas surveyed. Because the requirements vary with water depth, geophysical properties, and expected shipping types, four different orders of survey are defined; each designed to cater to a range of
1.1 2d paragraphe		~~will be~~is presented in Chapter 7.
1.1 2d paragraphe	presented in Chapter 7.	
1.1 3d paragraphe	It should be noted that a single order may not be appropriate for the entire area to be surveyed and, in these cases, the agency responsible for acquiring the survey should explicitly define where the different orders are to be used.	It should be noted that a single order may not be appropriate for the entire area to be surveyed and, in these cases, the different orders should be explicitly defined through the survey area.”
1.1 3d paragraphe	and expected to be deeper than 50 metres , an Order 1a survey	

1.1 3d paragraphe	However, if the surveyor discovers shoals extending to less than 50 metres, then it may be more appropriate to survey these shoals, including a well-balanced area, to Special Order.	However, if the surveyor discovers shoals extending to less than 50 metres, then it may be more appropriate to survey these shoals, ~~including a well-balanced area~~, to Special Order.
1.1 last paragraphe		To be compliant with an S-44 Order, a hydrographic survey must ~~be compliant~~comply with ALL specifications for that order included in these Standards.
1.2		This is the least stringent order and is intended for ~~those~~ areas where the depth of water is such that a general depiction of the ~~seabed~~bottom is considered adequate.
1.2		*Bathymetric coverage* is required for 4% of the survey area leaving 96% of the area unsurveyed. It is recommended that Order 2 surveys are conducted in areas deeper than 200 metres.
1.2		Once the water depth exceeds 200 metres, the existence of *features* ~~that~~ ~~are~~ large enough to impact surface navigation but remain undetected by an Order 2 survey is considered to be unlikely.

1.3		This order is intended for areas where the ~~type~~types of surface vessels expected to transit the area is such that a general depiction of the ~~seabed~~bottom is considered adequate.
1.4		This order is intended for ~~those~~ areas where ~~the sea is sufficiently shallow to allow~~ features on the ~~seabed to~~ bottom may be of concern to the type of surface shipping expected to transit the area but where the under-keel clearance is less critical than more stringent orders.
1.4		Because *features* may exist that are of concern to surface shipping, a 100% *feature search* and 100% *bathymetric coverage* are required in order to ~~detect~~ensure significant *features* of a specified size.
1.4	100% *feature search* and 100% *bathymetric coverage* are required	

1.4 1st phrase	This order is intended for those areas where the sea is sufficiently shallow to allow features on the seabed to be of concern to the type of surface shipping expected to transit the area but where the under-keel clearance is critical.	This order is intended for those areas where features on the seabed may become a concern for the type of surface shipping expected to transit the area but where the general under-keel clearance is considered to be of limited issue.
1.4	100% bathymetric coverage	
1.4	…. a change to Special Order is required to ensure safety of navigation.	should or may
1.4	so the size of the feature to be detected increases with depth in areas where the water depth is greater than 50 metres.	depth is greater than 50 metres.
1.4	a 100% feature search and 100% bathymetric coverage are required in order to	

1.4		This order is intended for those areas where the sea is sufficiently shallow to allow features on the seabed to be of concern to the type of surface shipping expected to transit the area but where the under-keel clearance is ~~critical~~ limited.
1.4 Order 1a	This order is intended for those areas where the sea is sufficiently shallow to allow *features* on the seabed to be of concern to the type of surface shipping expected to transit the area but where the under-keel clearance is critical. Because *features* may exist that are of concern to surface shipping, a 100% *feature search* and 100% *bathymetric coverage* are required in order to detect significant *features* of a specified size. Under-keel clearance becomes less critical as depth increases, so the size of the *feature* to be detected increases with depth in areas where the water depth is greater than 50 metres.	Perhaps it is a problem of translating from French to English? Maybe replace the word 'critical' with 'important' for Order 1a surveys.

1.4 Order 1a	This order is intended for those areas where the sea is sufficiently shallow to allow *features* on the seabed to be of concern to the type of surface shipping expected to transit the area but where the under-keel clearance is critical Because *features* may exist that are of concern to surface shipping, a 100% *feature search* and 100% *bathymetric coverage* are required in order to detect significant *features* of a specified size. Under-keel clearance becomes less critical as depth increases, so the size of the *feature* to be detected increases with depth in areas where the water depth is greater than 50 metres.	
1.5 1st phrase	Because under-keel clearance is critical, 100% bottom search and 100% bathymetry coverage are required and the size of the features to be detected by this search is deliberately kept smaller than for Order 1a.	Because under-keel clearance is critical, 100% feature search and 100% bathymetry coverage are required and the size of the significant features to be detected by this search is deliberately kept smaller than for Order 1a.
1.5 first parapgraphe		This order~~,~~ is the strictest in this standard, and is intended for ~~those~~ areas where under-keel clearance is ~~more~~ critical ~~than for Order 1a.~~.
1.5 first parapgraphe	100% bathymetry coverage are required	100% bathymetric coverage are required
1.5	Because under-keel clearance is critical, 100% bottom search and 100% bathymetry coverage are	feature search

1.5	100% bottom search and 100% bathymetry coverage are required and the size of	
note	all note part	
note	all note part	
	This order is intended for those areas where the sea is sufficiently shallow to allow *features* on the seabed to be of concern to the type of surface shipping expected to transit	Perhaps it is a problem of translating from French to English? Maybe replace the word ‘critical’ with ‘important’ for Order 1a surveys

Proposer	Reason for the Proposed Change	Decision	Accepted Final Wording
SMA	Remove the subchapter 1.1 naming. It works fully fine without the need to mention that it is an introduction. If not we need a x.1 Introduction for all chapters.		
SMA	To clarify that it is a somewhat larger area than the found shoal that needs surveying using a stricter order. Alternatively "a well-balanced surrounding area" could be changed for "an appropriate surrounding area" if that sounds better.		
JAPAN	This text is written “100m” in Ed5. Could you let me know the reason why this text change “100m“ to ”200m”?		
France	A possible practical problem is how to check this specification… In the previous Edition, a “scale” approach was used to define line spacing. Is it possible to keep this scale approach, assuming ENC has the same philosophy ?		
USA	Recommend combining Chapters 1 and 7. We realize it may be impractical to do so at this time. May need to wait for the next edition.		

USA			
USA	Add link to this chapter if it is not incorporated within this chapter.		
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USA	Recommend changing to “It should be noted that a single order may not be appropriate for the entire area to be surveyed and, in these cases, the different orders should be explicitly defined through the survey area.”		
USA	Understanding that this change was made to align with S-100, there is concern that this will create excessive work which is not necessary and will not add any benefit. Recommend changing back to 40 meters.		

USA			
USA	As discussed within the working group, survey specifications will dictate which components are necessary.		
USA			
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USA	This change will prohibit use of SB/SSS for order 1a. We recommend not making this change and putting the bathymetric coverage to 5% to correspond to ver. 5.		

SMA	- An area is either deep enough that features is no concern or the opposite. Here we (also in Ed5) states that they are shallow enough to allow features…. It is the features that actually is of the most important interest here and we can take away the depths from the first sentence. - The use of critical here and more critical for Special order seems wrong. Therefore we suggest the use of "considered to be of limited issue" for 1a. Less critical than for special order could possibly be used if special order had been listed first as in Ed5.		
FRANCE	Probably to much demanding for Order 1a. Same value used for Order 1b can be used for % bathymetric coverage		
FRANCE			
UK	**Feature detection** for order 1a of 2m objects has increased from 40m to 50m. This will result in higher technical requirements for survey equipment (e.g. smaller beam widths) and a potential change in survey methodology (e.g. decreased vessel speed and reduced overall swath width) for the 40-50m depth range, which will likely result in increased costs. While 50m may be a critical depth for a very small number of vessels amending the main criteria seems excessive for the vast majority of users. Additional depth criteria can always be added at the specification stage for the those requiring it. This should be returned to 40m.		
NL	This is a new requirement and not compatible with the older editions. Could be addressed in the Matrix		

DQWG Chair	Use of the word “critical.” Special order is more critical than order 1a? A situation is critical or not-critical. For order 1a one could state: … where the under-keel clearance is limited. Thus: order 1a = limited, special order = critical. It also justifies the word Special for special order.Critical circumstances require special countermeasures.		
DOTWA	I’ve never understood how this class of survey fits in. It says that ‘under-keel clearance is critical’, while under 1.5 Special Order it says ‘under-keel clearance is more critical than for Order 1a’ My question is, how is something that is critical now be down-graded by something that is more critical? If under-keel clearance is critical then the class should be Special Order, otherwise is was never ‘critical’ to begin with.		

Chile	Survey Order 1A (page 10), indicates in its text that UKC is critical, while Table 1 indicates that it is less critical. This is considered to be inconsistent and it is proposed to harmonize the text.		
SMA	Feature search is used in table 1 and in the glossary, Bottom search is though used in the Matrix and needs to be changed for feature search there as well. Add the word "significant" in front of features in order to have a similar writing as for order 1a. All features of the size defined in table 1 is "significant".		
USA			
France USA			

NL	This is a new requirement and not compatible with the older editions. Could be addressed in the Matrix		
	Not really consistent with definition of OS and 1a with a mandatory 100% bathymetric coverage. Probably we need to rephrase this sentence, in order to underline the “exceptional” aspect of the use of a mechanical sweep system.		
NL	Are we limiting the means to accurately measure minimum depths over obstructions now to mechanical sweeps. With the present developments of WCI acoustic methods must be considered as well. This discussion is not coupled to the use of the “ swept wreck” symbol		
DOTWA	I've never understood how this class of survey fits in. It says that ‘under-keel clearance is critical’, while under 1.5 Special Order it says ‘under-keel clearance is more		

Comments