

Hydrographic Surveys Project Team

IHO S44 Review

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On behalf of

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Background

Precision Hydrographic Services

- Private company providing hydrographic survey services to organisations for safety of navigation, dredging and channel maintenance.
- Current survey contractor to the Pilbara Ports Authority (Australia)

Pilbara Ports Authority

- Operates the largest bulk export port in the world (tonnage)
- Up to 1 million tons on one tide
- Bi directional channel
- Operates bulk carriers constrained by draft under Dynamic Under Keel Clearance

Background

Pilbara Ports Authority exports over 600 million tons per annum with the bulk of the exports being Iron Ore. These ships sail with a calculated under keel clearance of less than 1m.

Hydrographic Survey plays a significant roll in maximising output while maintaining safety of navigation and the stated uncertainty of the survey is a factor in calculating the loading drafts of each vessel.

On cape size ships operating in and out of Port Hedland an additional 10cm of draft would equate to approximately 1400 tons of additional iron ore.

Centimetres = \$\$\$ + Safety

Better than special order required

Purpose of S44

“Provide guidance to hydrographic agencies and organisations to develop specifications based on these standards”

This assumes the organisation has the appropriate hydrographic knowledge to apply the S44 standards

How S44 is being used

The number of organisations requiring hydrographic survey services is increasing, some of these organisations do not have the same hydrographic knowledge of Hydrographic Authorities and are not equipped to determine specifications using S44 as the reference.

- Ports and Harbours
- Resource company's that operate shipping channels
- Smaller regional ports
- Coastal infrastructure projects

Often these organisations are requiring far greater accuracy than outlined in S44 but without this level of guidance in S44 they are often stating requirements that are physically unattainable.

Considerations for Revised S44

Update uncertainty table to reflect changes in capability to achieve a higher accuracy with the use of RTK and PPK horizontal and vertical positioning techniques.

- Specifically, tighten up special order uncertainties and feature detection.

State that; standards and specifications derived from S44 should be defined in consultation with a hydrographic surveyor experienced in the specific area of application, eg Ports.

Provide further detailed guidance on which order should be used for what purpose.

Summary

Technological advancements in positioning and sounding systems is increasing accuracy of surveys and reducing uncertainty.

S44 should be updated to reflect modern survey capabilities.

Provide organisations with the guidance to consult with experienced hydrographic surveyors as early as possible in their marine project.

Underline the importance of hydrographic survey to any marine project both financially and environmentally.