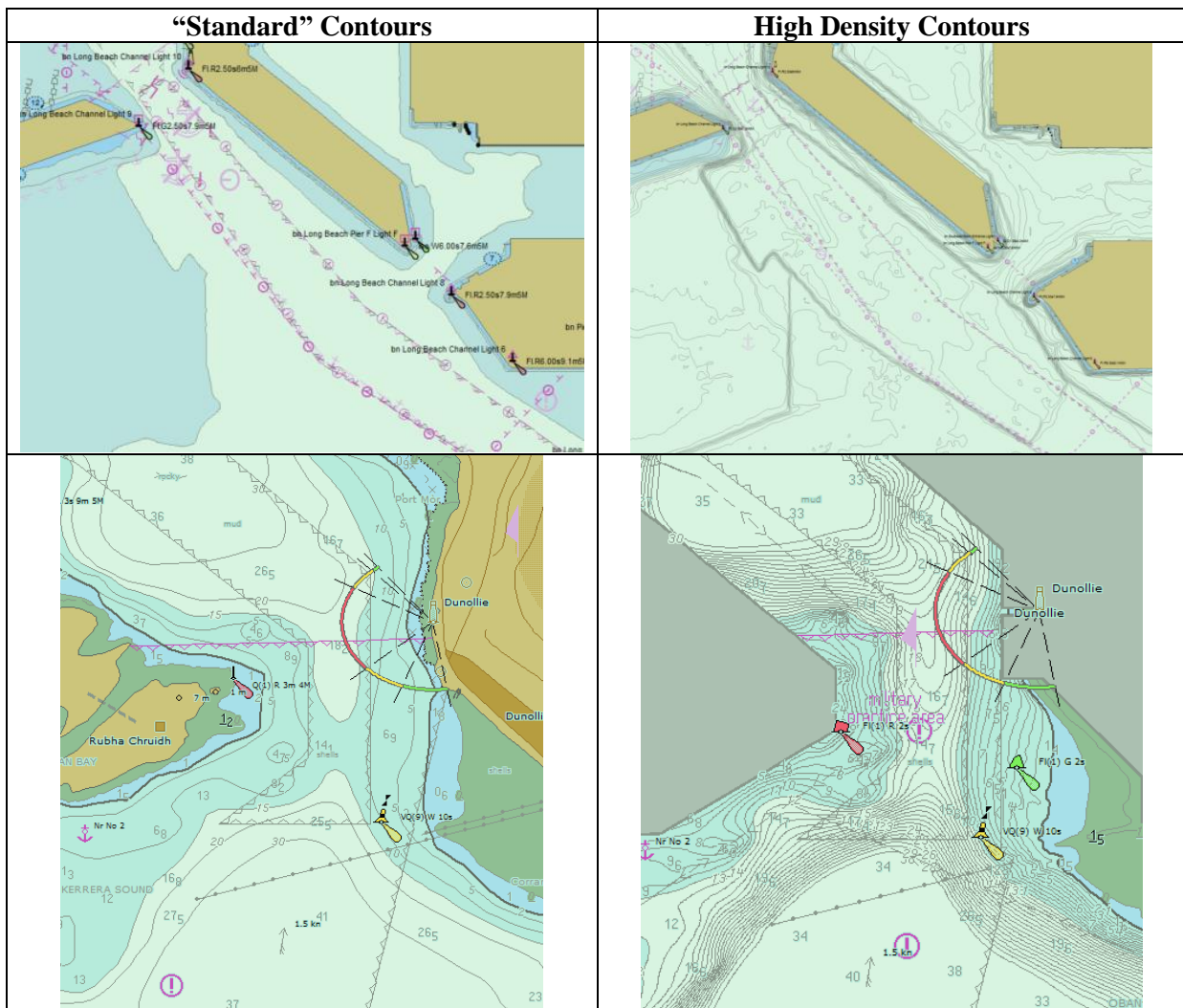


Information Paper – High Density ENCs

<b>Submitted by:</b>	IC-ENC General Manager
<b>Executive Summary:</b>	This paper provides WENDWG11 with a short summary of IC-ENC’s High Density ENC status.
<b>Related Documents:</b>	Papers discussed under item WENDWG10-03D <a href="#">S-65 Annex A Edition 1.0.0 January 2020</a>
<b>Related Projects:</b>	N/A

Introduction / Background

1. Compilation of high-density bathymetry ENC is in progress/under consideration by a range of ENC producers. This was discussed at WENDWG10, including references to the challenges of producing them. Production of HD ENC has continued to increase amongst a small number of producers; there is evidence that the guidance provided in S-65 Annex A is assisting new producers to prepare HD ENC coverage.



2. This information paper is a contribution to the High-Density Bathymetry ENC discussion at WENDWG11.

**Analysis/Discussion**

3. There is no standard naming convention for HD ENC's, which makes monitoring the number in use difficult. Some producers are using the ENC comment field to insert a flag "HD ENC", to support identification.
4. An ENC may contain only a small geographic extent of high-density bathymetry content (i.e. in areas where it is most valuable), rather than "full" HD coverage.
5. There are various production policies on the appropriate contour interval as deemed 'high density' – for example, 1m, 50cm, 20cm – does closer contours always equal "better"? Different locations and vessel traffic will require tailored approaches. However, where HD ENC's provide coverage across different producers it is desirable to achieve consistency in these aspects. IC-ENC has developed a dedicated policy for HD ENC cells as some additional checks may be applied, some validation checks may be relaxed to reflect guidance in S-65 Annex A.
6. The main benefit of HD ENC's is the more detailed presentation of depth information to the display system and therefore more useful alerts and indications. This is a similar driver as for S-102. A working assumption, for discussion, is that in geographic areas of high density contours on an ENC, a future S-102 product is recommended.
7. Does the additional value of HD ENC's, and the potential synergy with S-102, merit encouraging their production, and tracking this progress formally by a IHO Strategic Performance Indicator?
8. The list of (known, and current) "full" HD ENC's within the IC-ENC folio is provided at Annex A.

**Conclusions**

9. N/A

**Recommendations**

10. N/A

**Justification and Impacts**

11. N/A

**Action Required of the WENDWG**

12. The WENDWG is invited to:
  - a. note this information paper as a contribution to the High Density ENC discussion.

## Annex A – List of “full” HD ENC’s in IC-ENC folio

CELLNAME	CELLTITLE	PRODUCER
AU6CNS01	Australia - Queensland - Cairns Outer Harbour	Aus
AU6CNS02	Australia - Queensland - Cairns Inner Harbour	Aus
AU6TSV01	Australia - Queensland - Townsville Sea Channel	Aus
AU6TSV02	Australia - Queensland - Townsville Platypus Channel	Aus
AU6TSV03	Australia - Queensland - Townsville Outer Harbour	Aus
AU6TSV04	Australia - Queensland - Townsville Inner Harbour	Aus
AU6SYD01	HD ENC - Australia - New South Wales - Sydney Overseas Passenger Terminal	Aus
AU6BTB01	HD ENC - Australia - New South Wales - Port Botany Entrance Shoal	Aus
AU6BTB02	HD ENC - Australia – New South Wales – Port Botany Brotherson Dock	Aus
AU6KUR01	Australia - New South Wales - Port Botany Kurrell Basin	Aus
GB500461	Bahamas - Approach Channel to Ocean Cay	UK
GB503912	Anchorage of Bannerman Town	UK
GB53912A	The Bahamas - Little San Salvador Island (Half Moon Cay)	UK
GB5H0001	Tail of The Falls High Density Contour	UK
GB600461	Bahamas - Ocean Cay Terminal	UK
GB600463	West Indies - Dominican Republic - North Coast - Amber Cove	UK
GB63912A	Bahamas - Castaway Cay	UK
GB6H0001	Oban High Density Contour	UK
GB6H1176	The Bridge (Severn Estuary)	UK
GB6PL010	Cliffe to Sea Reach	UK
GB6PL020	Tilburyness to Cliffe	UK
GB6PL030	Purfleet to Tilburyness	UK
US6LGBAC	San Pedro Bay	US
US6LGBAD	San Pedro Bay	US
US6LGBBB	San Pedro Bay	US
US6LGBBC	San Pedro Bay	US
US6LGBBD	San Pedro Bay	US
US6LGBCA	San Pedro Bay	US
US6LGBCB	San Pedro Bay	US
US6LGBCC	San Pedro Bay	US
US6LGBCD	San Pedro Bay	US
US6LGBCE	San Pedro Bay	US
US6LGBDA	San Pedro Bay	US
US6LGBDB	San Pedro Bay	US
US6LGBDC	San Pedro Bay	US
US6LGBDD	San Pedro Bay	US
US6LGBDE	San Pedro Bay	US