

Port ENCs delivering Enhanced Situational Awareness

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Introduction

- Challenges for Ports
- Why use a Port or Bathymetric ENC
- Case Studies
 - Brent Delta
 - Clydeport
 - Southampton

Challenges for Ports

- Vessels are getting bigger
 - New Aircraft Carrier – 280m long, 11m draught
 - Largest Cruise Ship – 362m long, 9.3m draught
 - Latest Container ships – 400m long, 16m draught
- Ports are expanding
 - New wharves/jetties
 - More dredging



Challenges for Ports

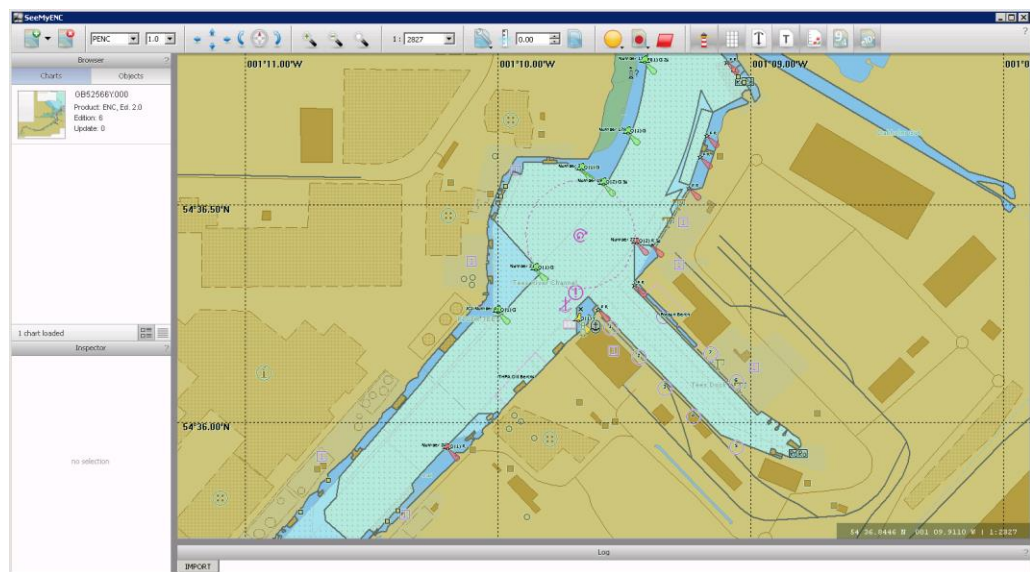
- New areas to be charted
- Reduced margin for error
- More detailed charts and accurate charts
- Safer and more confident decision making
- New (?) technologies – PPU

Requirement for Higher Resolution **Digital** Data

- Ports regularly survey their channels and environs and publish their own paper charts
- Hydrographic Offices' priority is in frequently navigated areas and is general purpose
- Hydrographic Offices' ENC update process likely to be too slow for ports
- SOLAS needs are not the same as ports' needs

Requirement for Higher Resolution Data

- Standard published ENC's
 - Contour interval may not provide enough information
 - Do not contain some features which may be useful to mariners
 - May not be large scale
 - May not contain most recent survey data



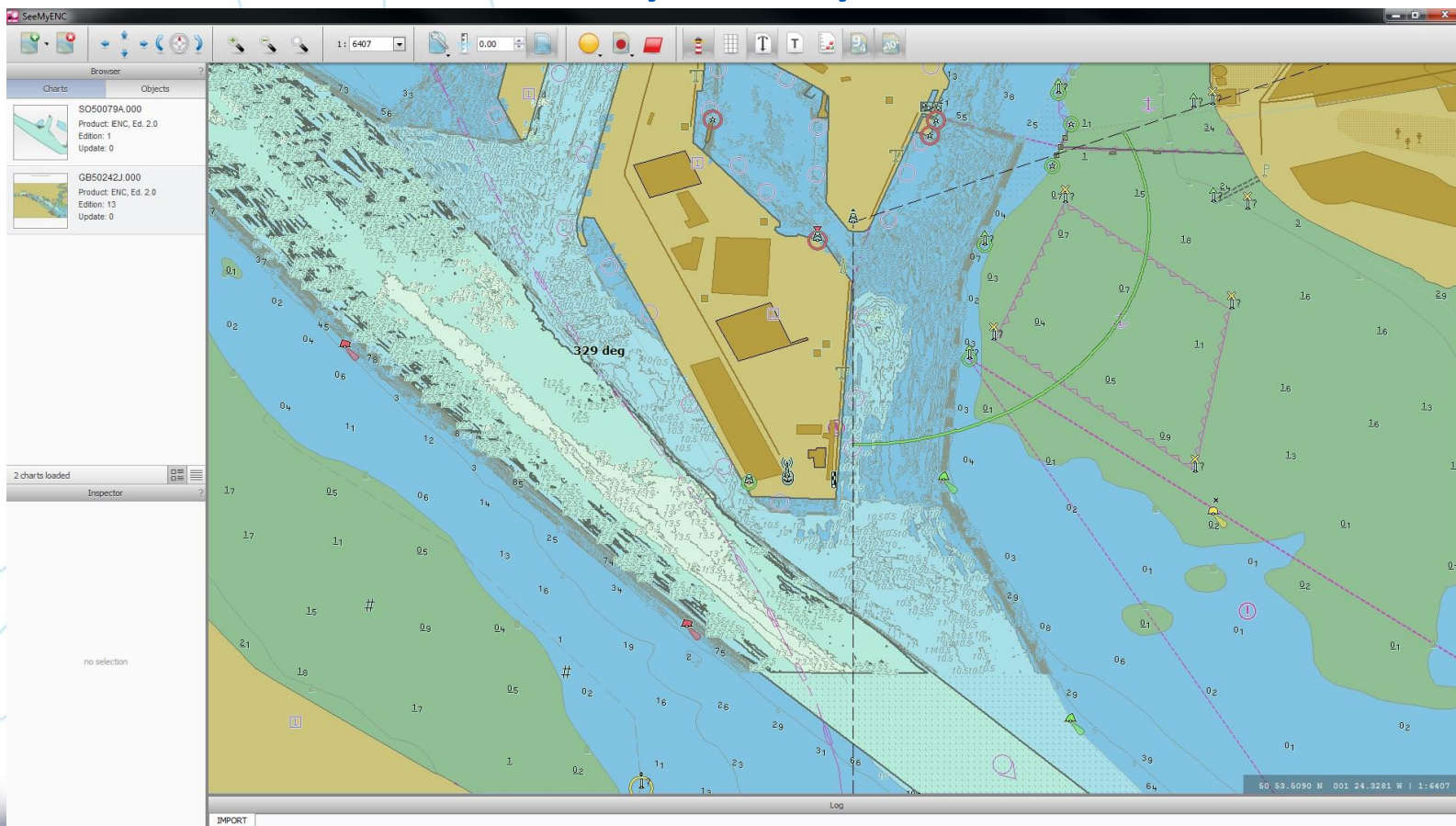
Source: Effective Operations in Ports (EFFORTS) published in 2010

Definitions

- **Bathymetric ENC (bENC)** is a Cell containing high resolution bathymetry (only Depth Areas, Soundings and Contours and/or grid)
- **Port ENC (PENC)** contains the bENC data and combines with high resolution topographic data

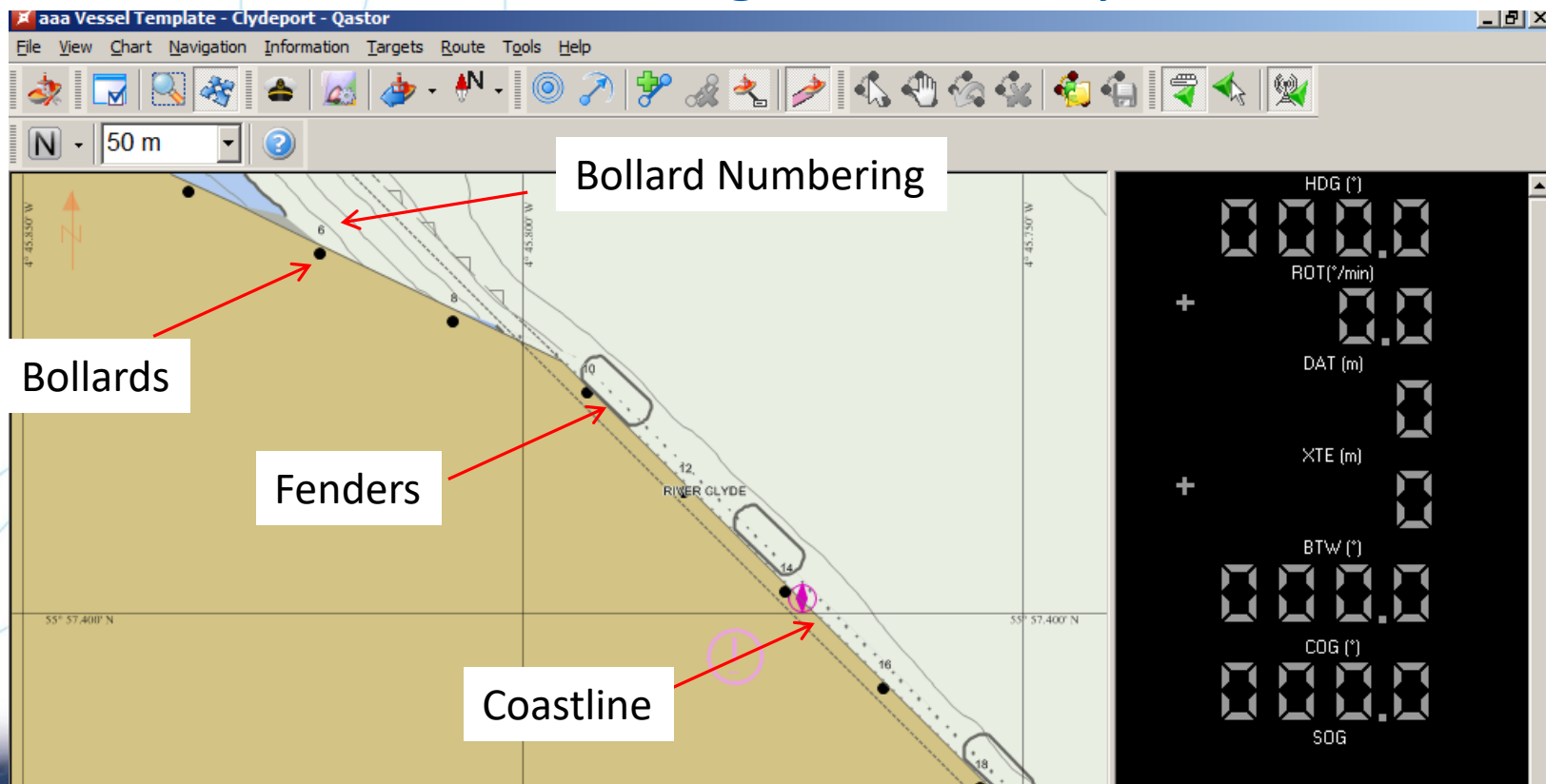
Why use Port or Bathymetric ENC

- More detailed bathymetry



Why use Port or Bathymetric ENC

- More useful information
 - Additional features, higher accuracy features



Why use Port or Bathymetric ENC

- Up-to-date
 - Created by your in-house teams giving quick turn around

Latest Published Chart

The screenshot displays the SeeMyENC software interface. At the top, there is a toolbar with various navigation and editing tools. Below the toolbar, the main map area shows a nautical chart of the Tees River Channel. The chart includes depth soundings, navigational markers, and labels for 'Tees River Channel', 'RIVER TEES', 'Tees Dock', and 'Dabholm Gut'. A red rectangular box highlights a specific area on the chart. The interface also features a left-hand sidebar with a 'Charts' browser showing the selected chart 'GB52586Y.000' and its details: 'Product: ENC, Ed. 2.0', 'Edition: 6', and 'Update: 0'. At the bottom of the interface, there is a status bar displaying coordinates '54 36.7384 N 001 10.1780 W' and a scale of '1:2000'. An 'IMPORT' button is visible at the bottom left, and a 'Log' button is at the bottom center.

Port ENC from latest survey data

The screenshot displays the SeeMyENC software interface. The main window shows a nautical chart of Port ENC with a red rectangular box highlighting a specific area. The chart includes depth soundings, navigational markers, and a coordinate grid. The interface includes a top toolbar with navigation and display controls, a left sidebar with a chart browser, and a bottom status bar.

Chart Browser:

- GB52566Y.000
Product: ENC, Ed. 2.0
Edition: 6
Update: 0
- 6G60001A.000
Product: IENC, Ed. 2.0
Edition: 1
Update: 1

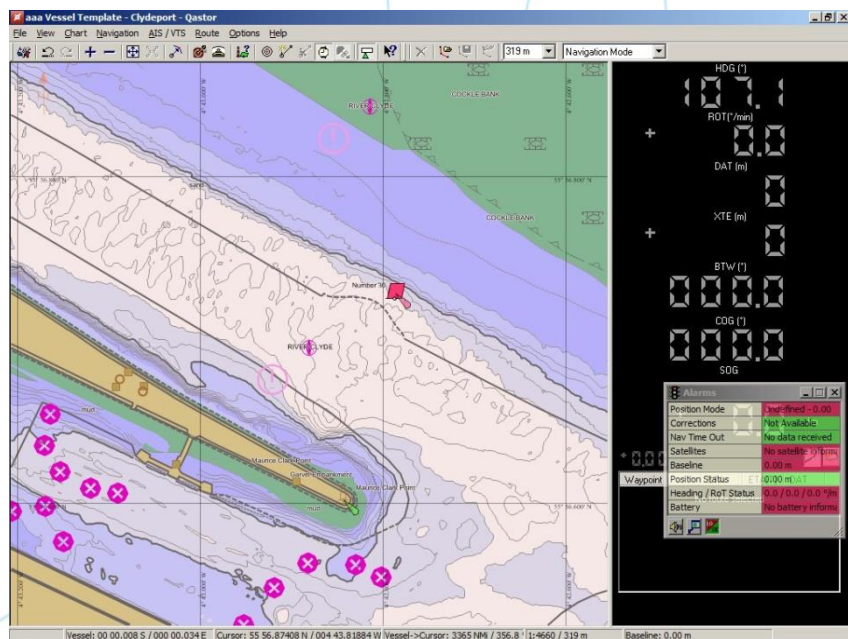
Coordinates:

- Longitude: 001°10.50'W to 001°08.50'W
- Latitude: 54°36.50'N to 54°36.00'N

Status Bar: 54 36.7102 N 001 10.3229 W | 1:2000

Why use Port or Bathymetric ENC

- Standard digital format for use in PPU/VTS

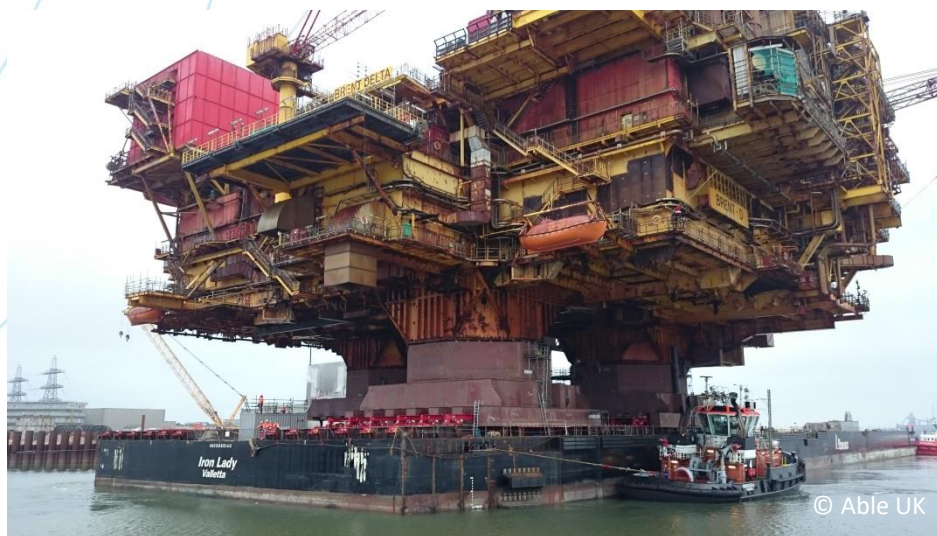


Case Study – Brent Delta

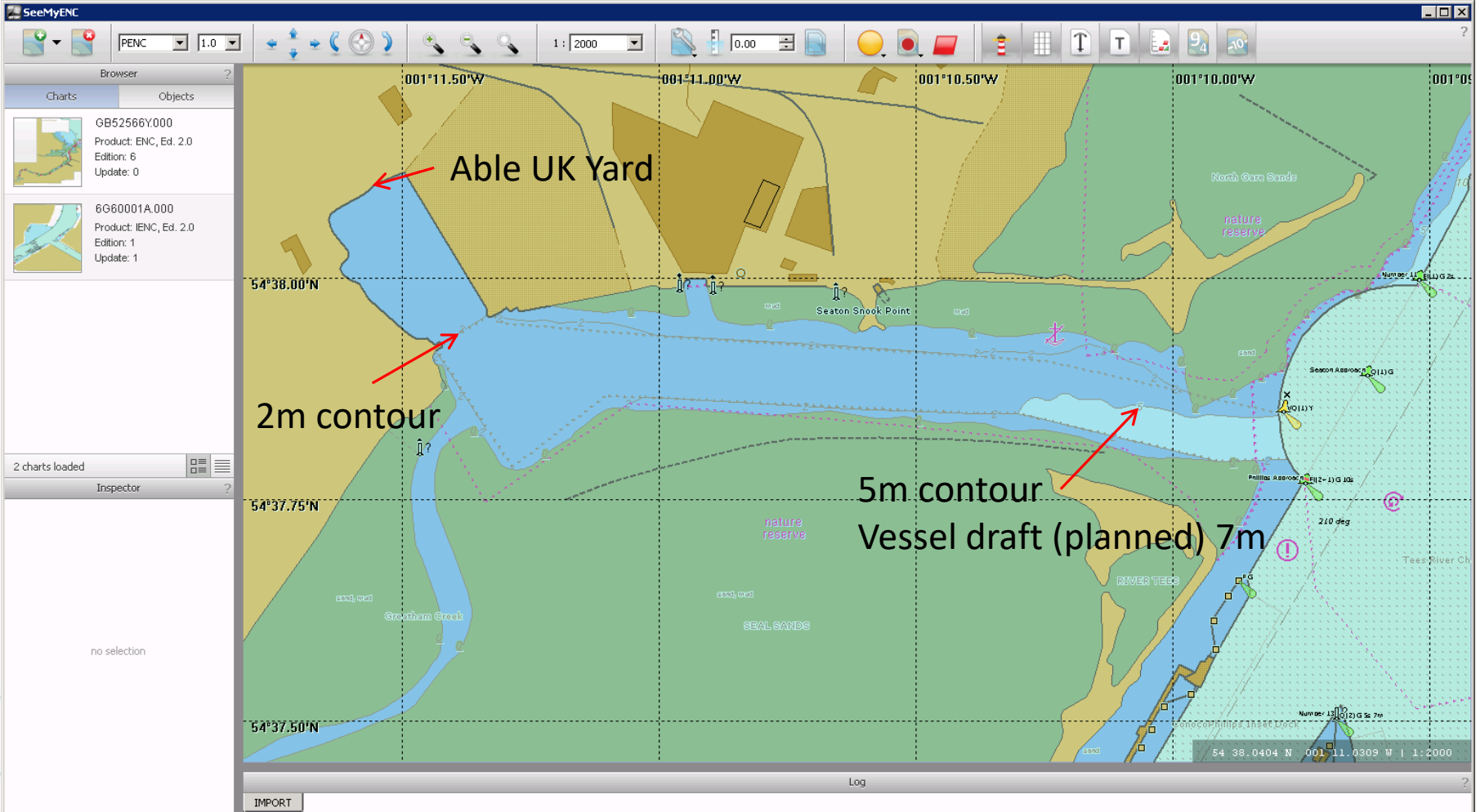
- Shell are decommissioning the Brent Field and removing their infrastructure
- To reduce the duration, risk and cost of decommissioning the topsides they engaged AllSeas' vessel Pioneering Spirit to remove the topside in one piece – all 24,200 tonnes of it!



- The topside was to be transferred to the barge Iron Lady and brought to Able UK Yard at the end of Seaton Channel in Teesside



Problem...

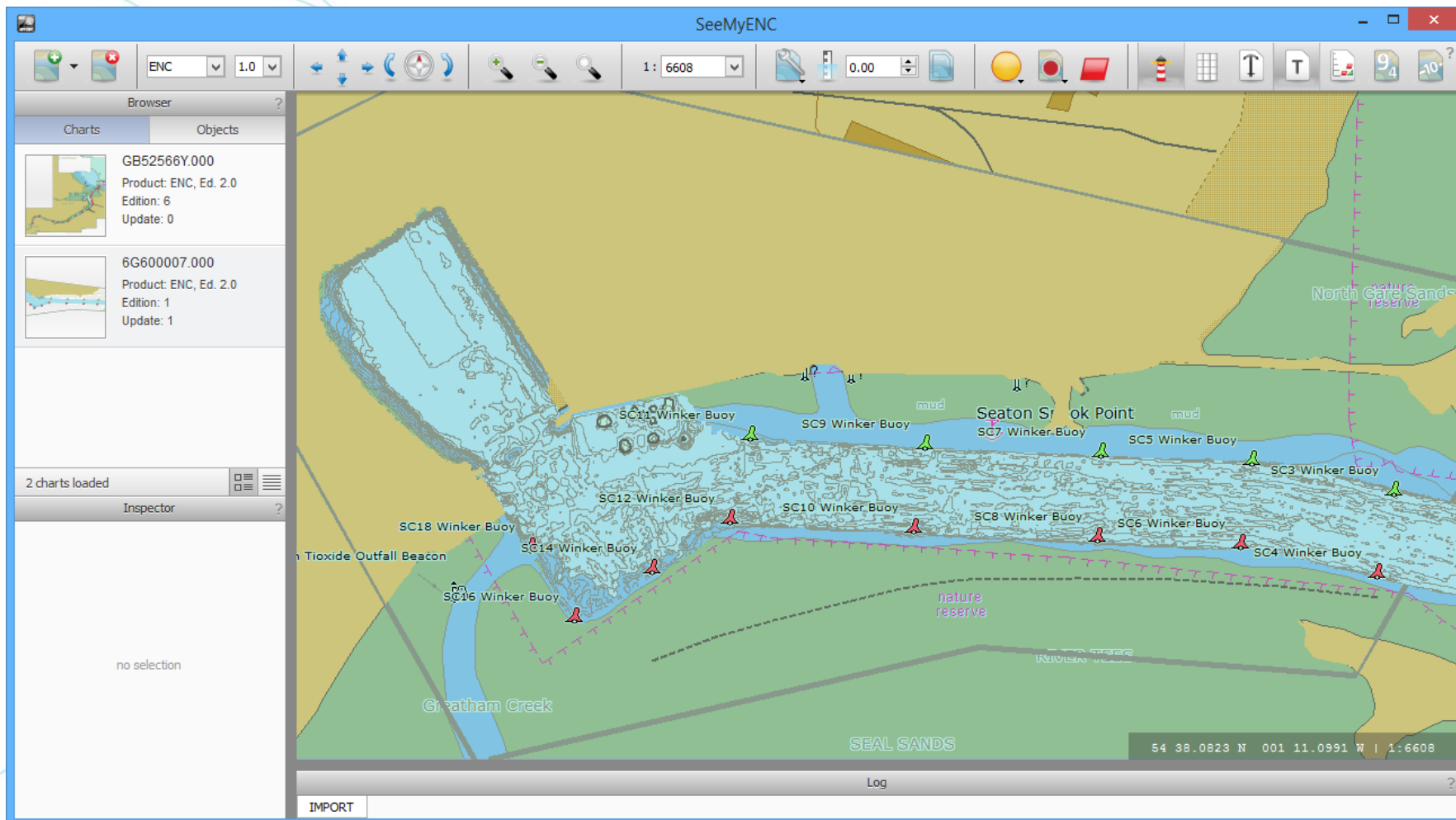


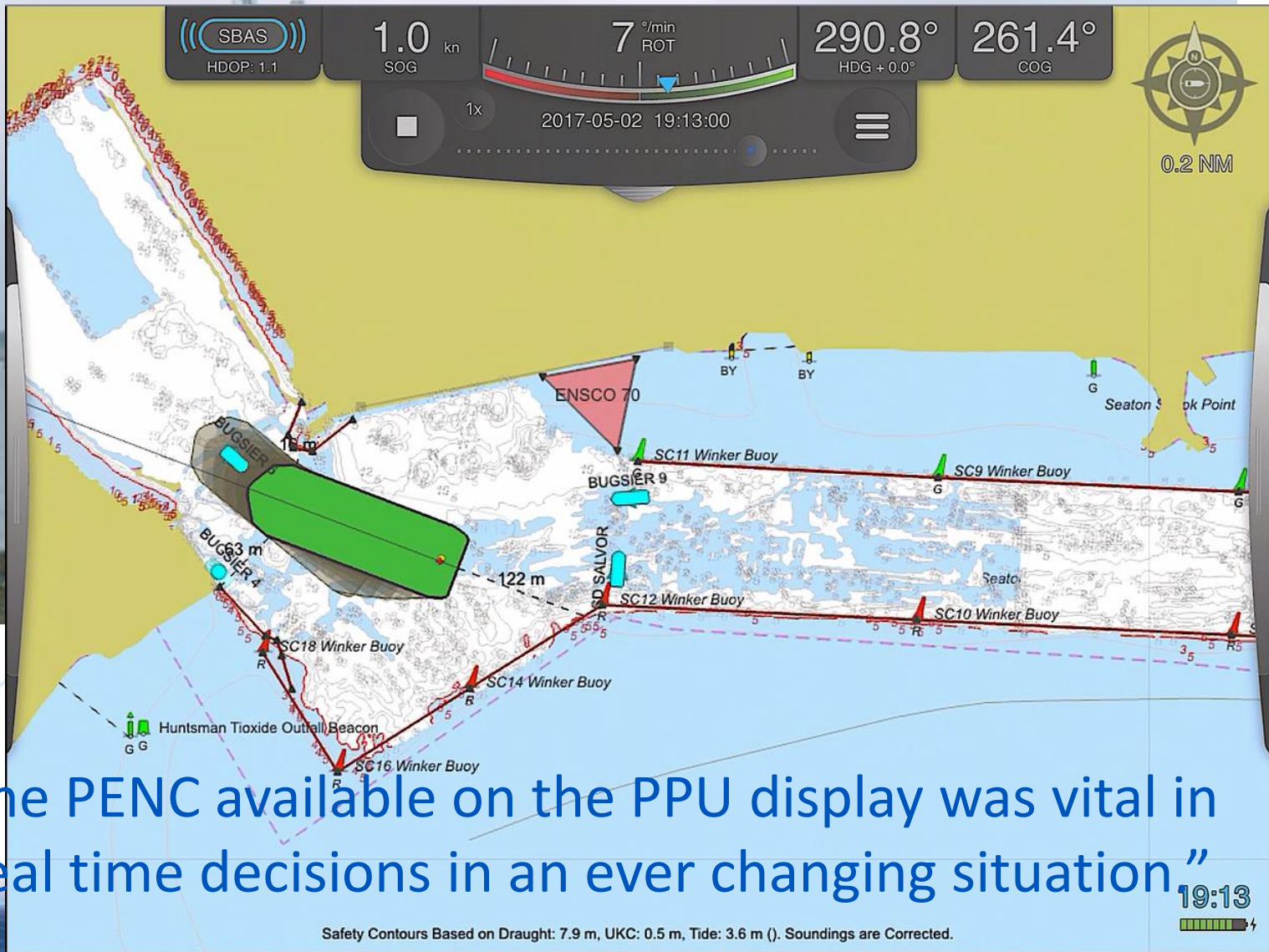
Solution

- PD Teesport were already working with OceanWise looking at in-house PENC production using ENC Writer
- OceanWise could build PENC with latest survey data
 - providing immediate assistance
 - as interim step towards PD Teesport developing own capability

Timeline

- Seaton Channel/Basin dredging finished Sunday
- Final hydrographic surveys finished Bank Holiday Monday and sent to OceanWise
- Delivery of PENC to Tees Pilots Tuesday AM!
- Ready for Ship Movement Tuesday PM





“Having the PENC available on the PPU display was vital in making real time decisions in an ever changing situation.”

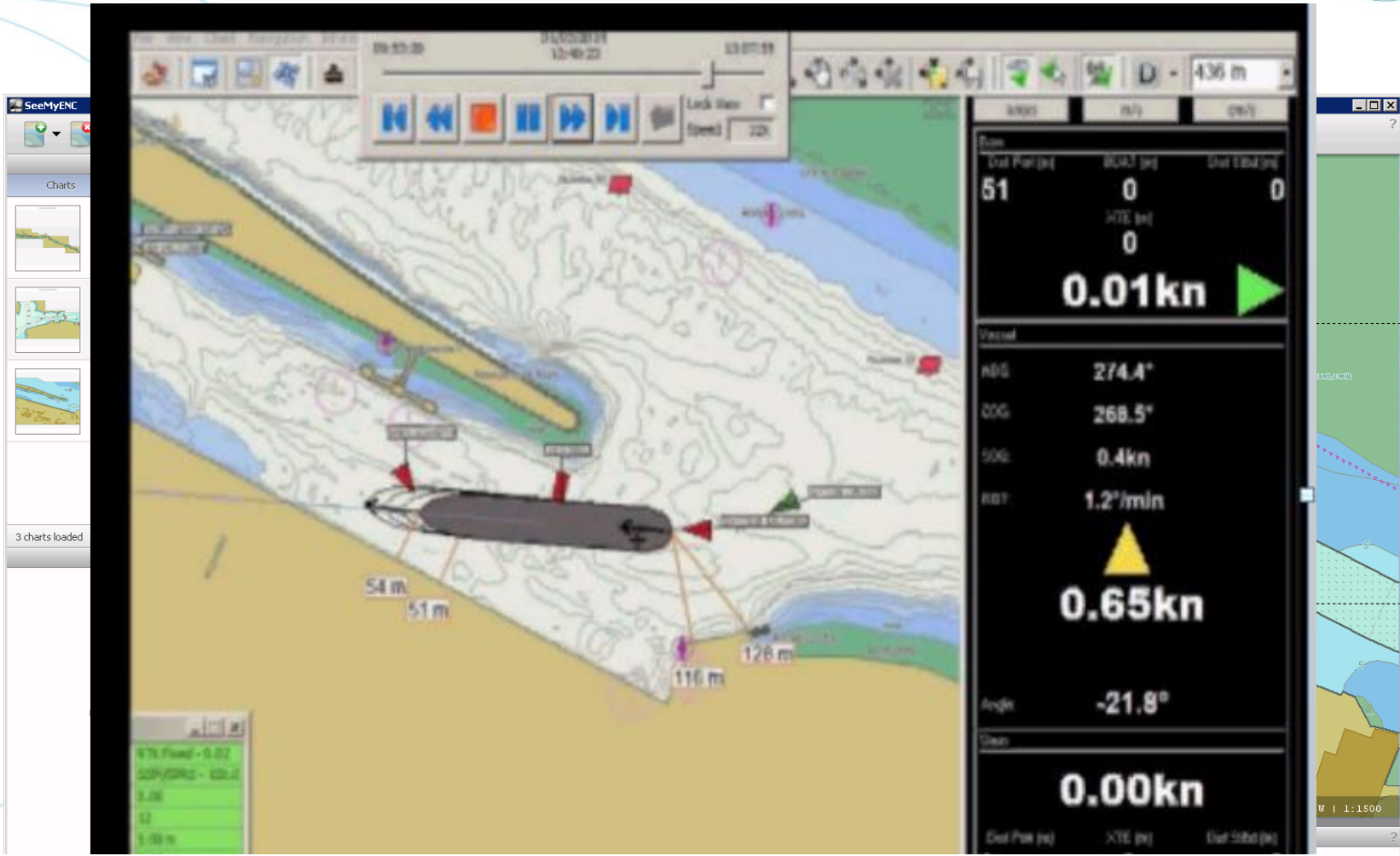
Case Study – Peel Ports Clydeport

- Ship with engine failure needed to be brought into the Clyde
- Bigger than vessels usually accommodated in the Clyde (289m x 45m)
- No engine meant purely being brought in with tugs

Solution

- Clydeport had already been creating Port ENCs using OceanWise ENC Writer from their survey data
- They were able to use the data to assess the risks involved in the ship movement prior to undertaking
- While doing the manoeuvre they used the data on the PPU, making the situation much safer





“This is not just about knowing the accurate depths around the ship being piloted but also providing high resolution data allowing the tugs involved sufficient space to safely manoeuvre”

Case Study – ABP Southampton

- ABP implementing a new VTS system
- Standard ENCs not updated frequently enough to reflect local updates
- Requirement to use their managed database of Navigation Aids as the source of data in the VTS in place of standard ENCs

Solution

- ABP Southampton already working with OceanWise to improve their data management so they have a single store of data accessed by multiple systems
- Easy step to take the same central data store and output to a different format (ENC)
- As changes to the central store of Navigation Aids are made they can be exported to ENC and brought into the VTS

SeeMyENC

PENC 1.0

1: 10102 0.00

Browser

- Charts
- Objects

5S60001A.000
Product: ENC, Ed. 2.0
Edition: 1
Update: 1

5S60001B.000
Product: ENC, Ed. 2.0
Edition: 1
Update: 1

2 charts loaded

Inspector

no selection

50°48.00'N

50°47.00'N

50°46.00'N

50°45.00'N

001°22.00'W

001°20.00'W

001°18.00'W

001°16.00'W

001°14.00'W

Applied

2.5 Cables

1.5 Cables

5 Cables

cable area

cable area

IMPORT

Log

50 48.0271 N - 001 18.1199 W | 1: 10102

OceanWise



where your data matters

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