

**Paper for Consideration by NCWG
Status of Action NCWG-05**

Submitted by:	UK
Executive Summary:	Update to Action on charting Offshore renewable energy – work continues
Related Documents:	NCWG9-05.6A, NCWG10-10.1A
Related Projects:	S-57, S-101

Introduction / Background

This topic was raised in the ENC WG and S-100PT as they are keen to appropriately represent this developing area. Initially looking at novel features and how we would chart them (Artificial Bird Roosts), they have also been looking at whether the current symbology adequately covers the developing tidal generation method.

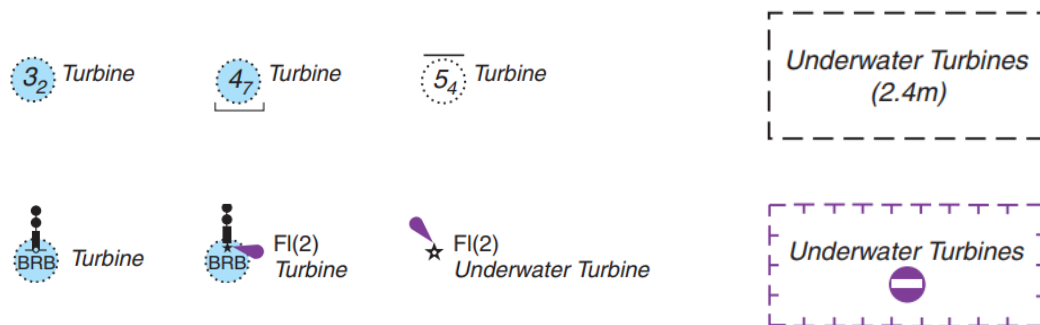
Analysis / Discussion

At NCWG9 UK agreed to look into symbology required for offshore renewable energy. The S-101PT group have also been moving forward on this and will present at Agenda item 10.

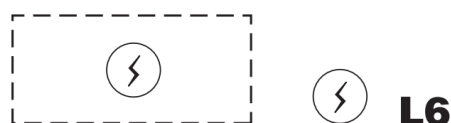
Within the UK we have had discussions with MCA (our coastguard and regulatory authority for shipping). They have raised concerns over depiction of tidal devices both for mariners and for use in the planning and consent processes. Within UKHO we have found that when seeking to best represent experimental devices, we have not been consistent in choosing symbology.

UK Perspective.

The difference between subsurface and surface turbines is the most pressing issue. Users are happy with the subsurface depiction- an obstruction with legend Turbine for paper charts

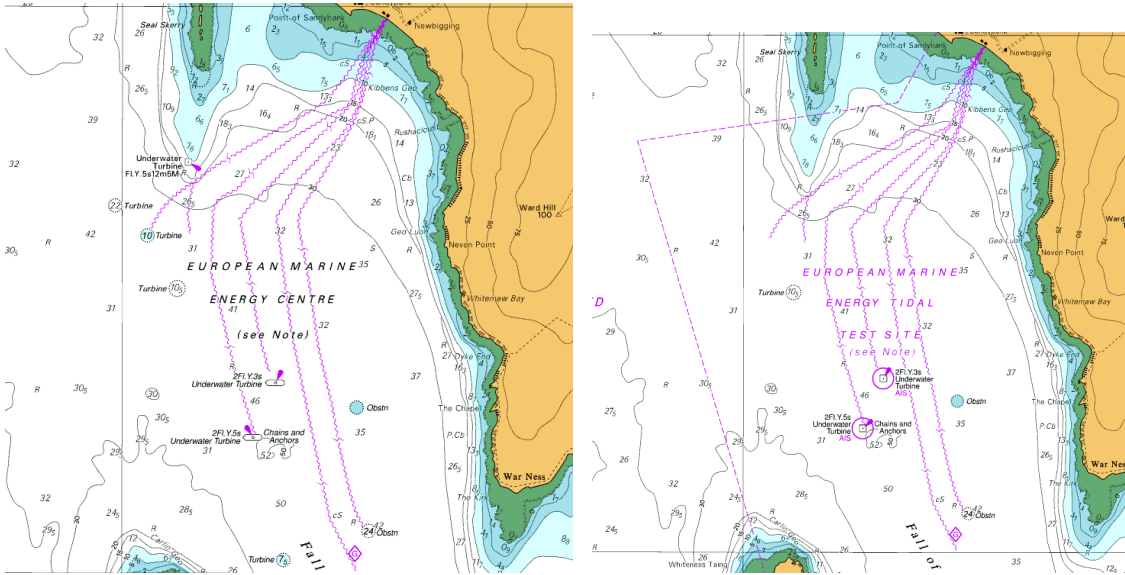


We do have the solar/tidal farm depiction available but at present most devices are within development sites and the preference is to chart them individually where possible

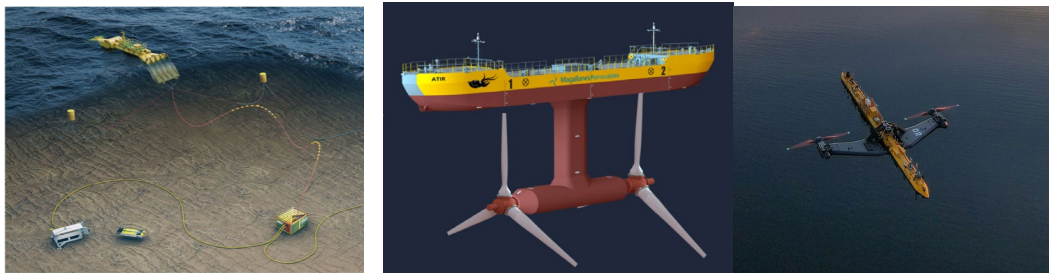


Surface devices have caused us some deliberation. We have charted as FPSOs as

they looked like vessels (light vessels would have been a closer symbol). But FPSOs are generally much larger and this was thought to be confusing. We currently show production platforms



Neither are perfect to describe the types of structure or the potential hazard to the mariner



Some of the surface turbines being tested in UK waters.

This paper notes the drivers from UK Government. Other Hydrographic offices may have different drivers for change but NCWG will wish to consider what the mariner needs as the primary purpose. UK invites other nations to share their problems and solutions in charting offshore renewable energy and the new challenges with rapidly developing technologies.

Conclusions

- Tom will present some ideas from the S-101 team to better illustrate turbines within S-101.
- Do we need equivalent symbols for INT1?
- Are there other features we need to chart?
- Do the existing symbols cover what the mariner needs to know?

Recommendations

Members with an interest in developing offshore energy are asked to make themselves known to the chair in order to contribute via correspondence.

Justification and Impacts

This work would carry forward the previous action in order to ensure we continue to chart the real world to support mariners.

Action required of NCWG

The NCWG is invited to:

- a. note the ongoing work on action NCWG9-
- b. participate in gaining greater understanding of the developing infrastructure and how it may best be charted.