UKC- definitions

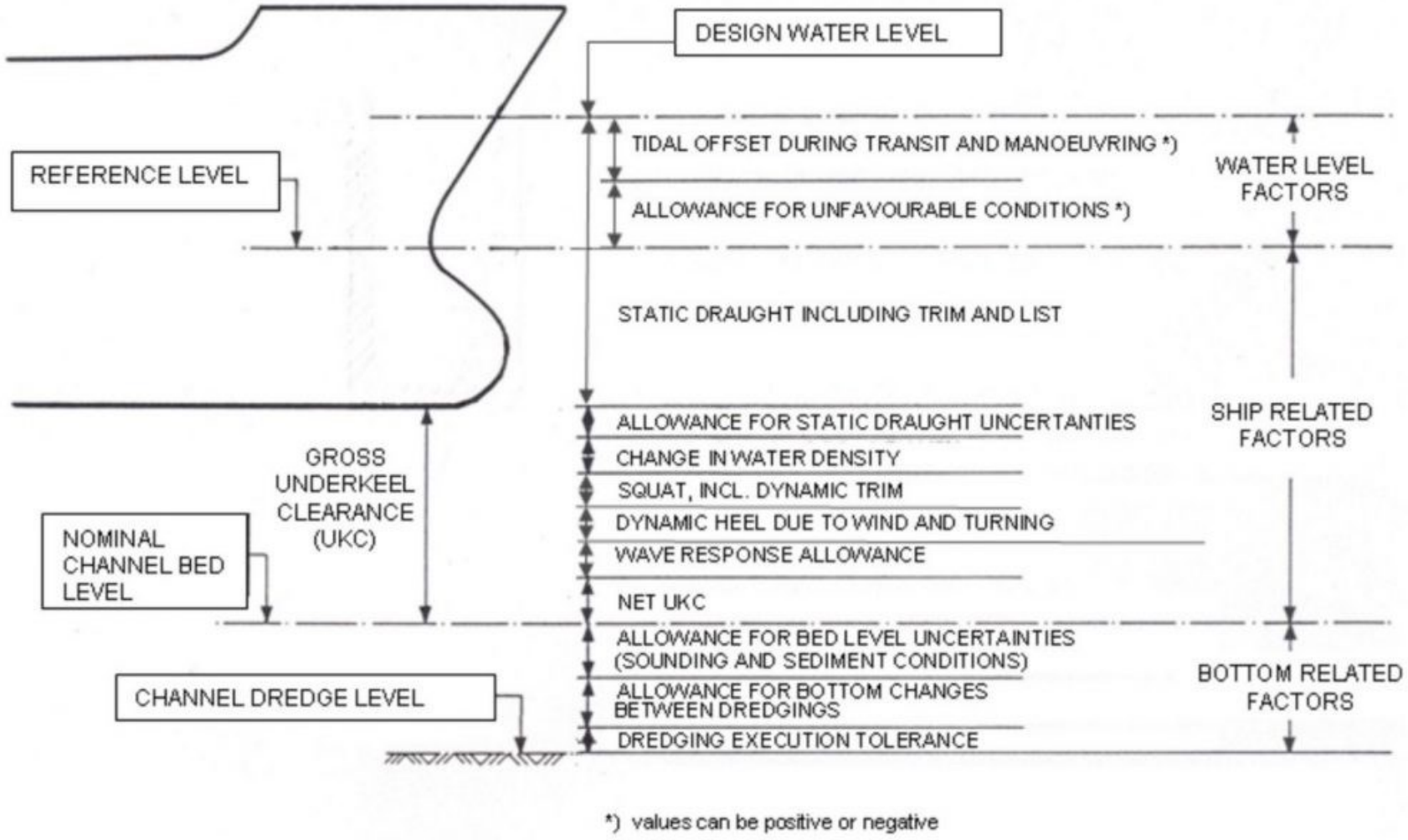
Status update 20.6.2023

(compiled by NIPWG vice-chair)

Background

- Initial UKC- definition proposal 10/2022 led to intersessional discussions, due to some overlap with existing definitions from 2014 by *The World Association for Waterborne Transport Infrastructure* (PIANC)
- Some proposed terms would have redefined terms defined by PIANC in publication *Harbour Approach Channels Design Guidelines (2014)*
- A small use-case study early 2023 established that fairway design data is also referred in nautical publications, DUKC- systems and related manuals.
- As design data is used also within operational context, redefinition of such established terms in GI-registry might be counterproductive in the long run.

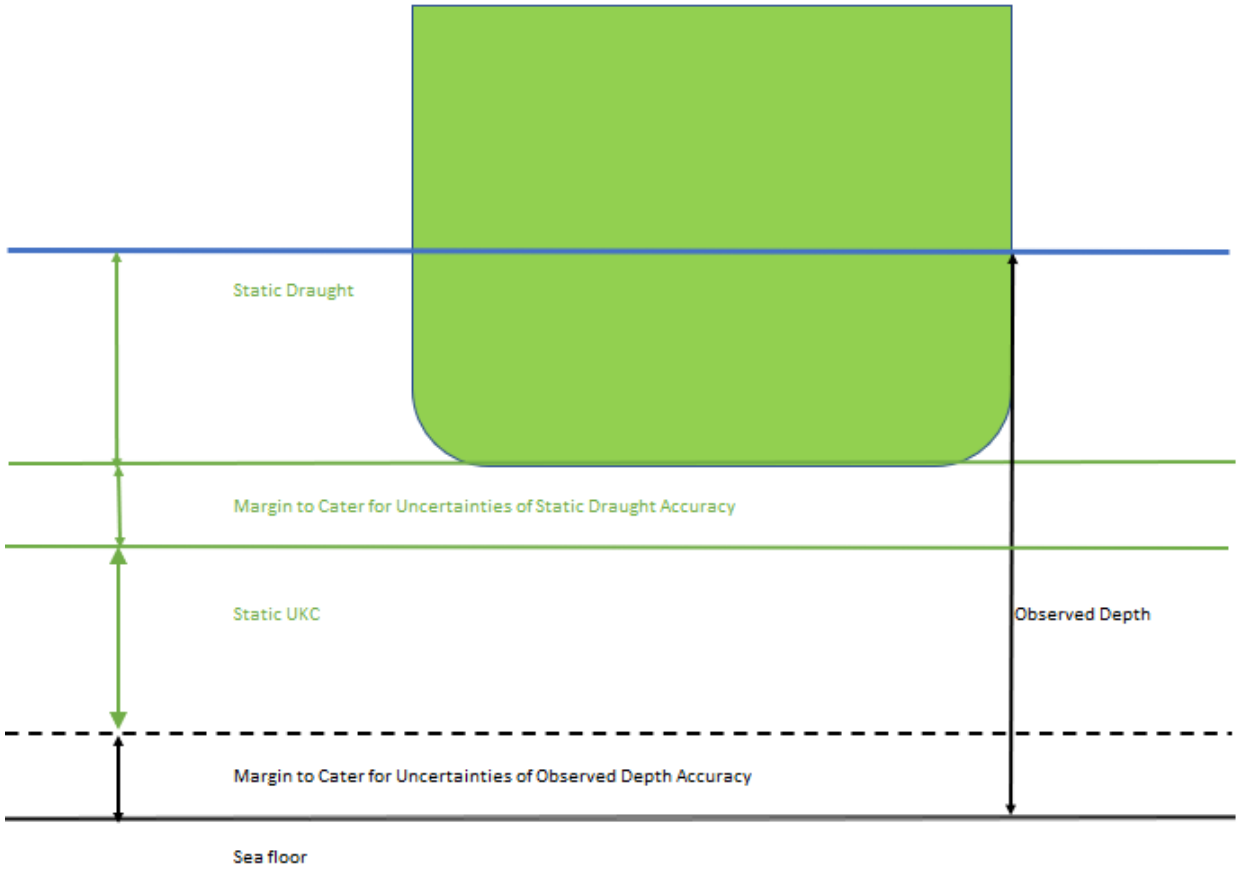
PIANC 2014 UKC scheme (for reference)



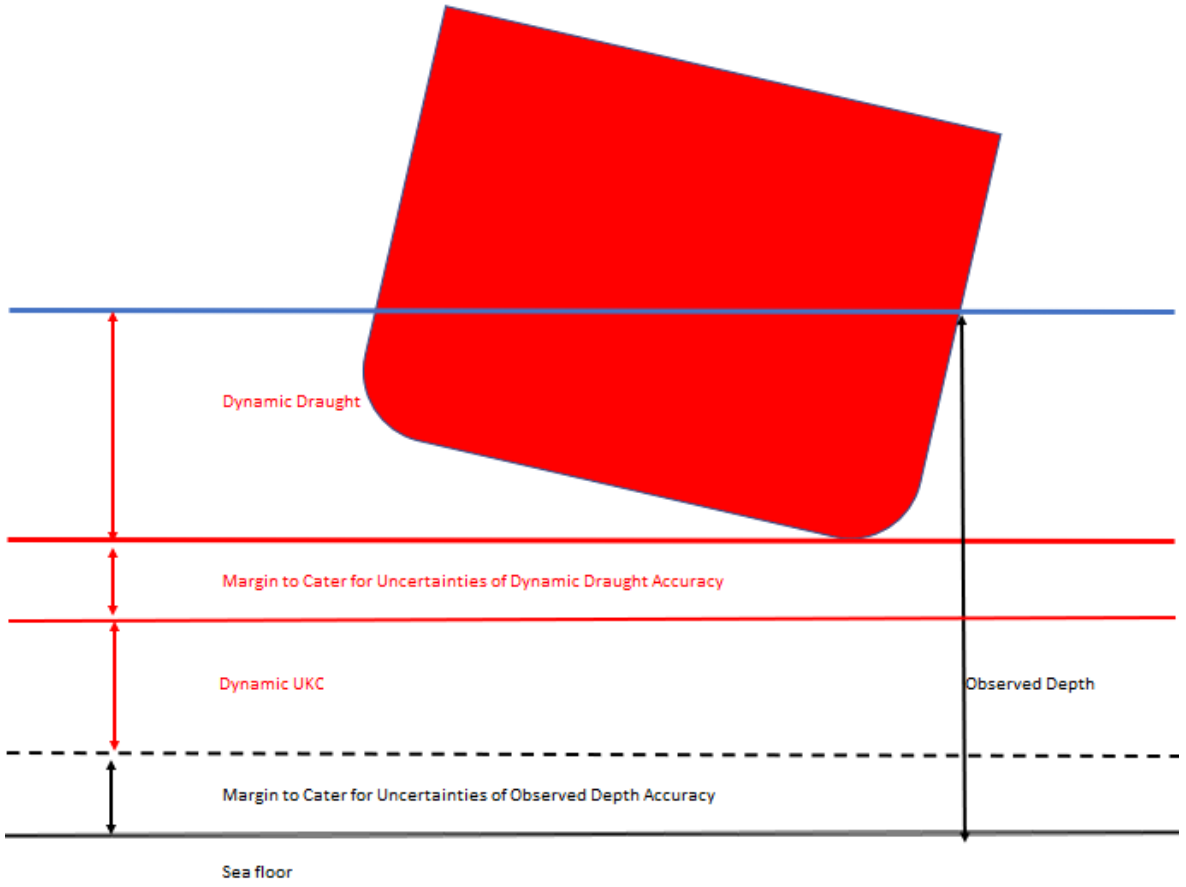
Discussion

- After a few intersessional meetings between the NIPWG chair-team and ITPCO, the proposed terms were slightly amended in 03/2023, in order to not redefine existing terms.
  - Names of terms are changed, where term definition is not compatible with existing definition by PIANC.
- S-129PT was consulted, and (referring also to PIANC definitions) accepted the 03/2023 amendments.
- The process of inclusion to GI-registry was initiated.

Static situation



Dynamic situation



UKC- definitions 03/2023 - Draughts

- Static draught (accepted 9.5.2023)
  - The vertical distance from the bottom of the keel to the water line when the vessel is not making way or subject to sea and swell influences.
- Dynamic draught (proposed 1.5.2023)
  - the vertical distance from the bottom of the keel to the water line when the vessel is making way or subject to sea and swell influences.

UKC- definitions 03/2023 - UKC

- Under Keel Clearance (UKC) (proposed amendment 1.5.2023)
  - The distance (usually a required minimum distance) between the lowest point of a ship's hull and the sea bed.
  - *Remark; Estimating UKC is a complex process that requires consideration of, as a minimum: height of tide, sounding depth, vessel squat and other motions (e.g. pitch and heel), and, an allowance for measurement inaccuracies of these factors*
- Static Under Keel Clearance (proposed 1.5.2023)
  - The under keel clearance when a vessel has a static draught
- Dynamic Under Keel Clearance (proposed 1.5.2023)
  - The under keel clearance when a vessel has a dynamic draught.

UKC- definitions 03/2023 – Depth, Bottom

- Observed depth (accepted 9.5.2023)
  - The vertical distance from the sea surface to the sea floor, at any state of the tide, based on S-44 measurements
- Sea floor (accepted 7.10.2010)
  - the bottom of the ocean and seas where there is a generally smooth gentle gradient. Also referred to as sea bed (sometimes seabed or sea-bed), and sea bottom

UKC- definitions 03/2023 - Margins

- Margin to Cater for Uncertainties of Observed Depth Accuracy (accepted)
  - margin to cater for uncertainties of the charted water depth. This margin considers uncertainties of tidal height in tidal areas, or height with respect to the surface of still water in non-tidal areas, comprising tidal height during transit and maneuvering accuracy, sounding or dredging execution accuracy, and siltation of soundings.
- These definitions are proposed by ITPCO, but awaiting some further information / confirmation and will be submitted when finalized.
  - Margin to Cater for Uncertainties of Static Draught Accuracy (pending)
    - margin to cater for uncertainties in a vessel's reported static draught, or draught reading
  - Margin to Cater for Uncertainties of Dynamic Draught Accuracy (pending)
    - margin to cater for uncertainties in a vessel's reported dynamic draught, or draught reading