Introduction and use cases

1 Introduction

1.1 Scope

UKCM service is one of many Aids to navigation. In other words UKCM is not a complete route planning system.

- Override presentation of Safety contour or no override?

We only consider UKCM areas which are defined by regulatory authority (e.g. government, port, etc.). This means that UKCM meets certain standards for data transparency and data quality assurance standards.

The service provider should be able to meet with global standard/format of the UKCM system.

There are 3 separate outputs

- Pre-planning: Tidal windows at controlling lines for planning phases
- Actual plan and monitoring: Go/No-go areas as overlays which are near real-time information. These predicted areas come together with control lines for valid time period of the go/no-go information. This information need to be updated on fly.

The users (pilots and/or crew) should be trained or certified for use of the UKCM system as required by the regulatory authority.

1.2 Pre-planning

Name	Pre planning
Description	To identify potential tidal/water level windows for a nominated draught
Pre-condition	Area defined for shore based UKC management
Triggers	Passing through a UKCM area during passage plan • Cargo uplift prediction • Request by agent/master/pilot
Users	Agent/Masters
Inputs (from vessel)	Ship particulars/Stability parameters Intended passage speed(s) Data/time (ETA) inbound Date/time (ETA) outbound
Inputs (for UKCM area)	Bathymetry Environmental predictions • Tides • Tidal streams
Outputs	Possible windows for nominated draught Possible windows for nominated ETA/ETD Maximum draught for fixed ETA/ETD

1.3 Actual plan

Name	Actual plan
Description	To develop a finalized UKCM plan for • a set draught or • a set ETA/ETD
Pre-condition	Completion of pre-planning phase
Triggers	Defined time before ETD Defined time before ETA at the UKCM area
Users	VTS/Pilots/Masters/Agents
Inputs (UKCM area)	Quality controlled measured water levels, tidal streams, waves, weather trend, etc.
Inputs (vessel)	Updated arrival draught + stability data Updated departure draught + stability data
Outputs	Confirmation of sailing windows Confirmation of departure draught (maximum) Confirmation of UKCM speeds

1.4 Monitoring

Name	Monitoring
Description	To monitor a finalized UKCM plan
Pre-condition	Completion of actual planning phase
Triggers	Vessel departure in UKCM area Vessel entering UKCM area
Users	Pilots/Masters/VTS
Inputs (for UKCM area)	Quality controlled measured water levels, tidal streams, waves, etc. Modelled vessel motion
Inputs (from vessel)	Vessel position (by AIS)
Outputs (for onboard)	Go/No-go areas (near real-time updates) to ECDIS (vessel) and PPU (pilot) including expiry time/date
Outputs	Recording of UKCM transit data

1.5 Guidance on liability

[There is a need to check what kind of liability clause other S-10X Product Specifications use]
[There is a need to check if the UKCM service as described in this document is already covered by standard liability clause of the S-100]

The UKCM service provider should store input and output data for possible incident studies.

1.6 Guidance on system and communication failures

During monitoring phase the system used by the pilot and the navigation display of the vessel should share the same transmission of the data set from the UKCM service.

In case of communication failure there should be a clear indication for the mariner.

The ultimate method to inform the vessel that they there is severe problem in the UKCM plan or in the UKCM service could be communicated using the VHF voice calls.

A printed hard copy from Actual Plan before sailing should be kept as back-up.

1.7 Data quality in & out

UKCM service should include quality control of input data and redundant sources of input data.

The regulatory authority (government, port, etc.) should determine operational margins and expiry times for the input data (e.g. hydro-, meteo- and bathymetric data).

The regulatory authority should provide acceptable risk level (e.g. acceptable uncertainty) for underlying information and quality assurance for forecasts and measurements.

All input data from vessel should include self-check for plausibility. Special attention should be paid for draught data from vessel.