

T&Ps and ECDIS: considerations for deck officers

ECDIS was designed to improve safety and ease the workload of navigators. One activity which has burdened navigators since the invention of paper charts is that of chart corrections. ECDIS could have eliminated this task entirely because updates to Electronic Navigation Charts (ENCs) are applied automatically and can be date dependent. Standard ENC updates are applied easily via digital media, but the situation regarding Temporary and Preliminary Notices (T&Ps) is more complex.



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What are Temporary and Preliminary Notices?

Temporary and Preliminary Notices are issued by Hydrographic Offices when the information will only be valid for a short period of time or needs to be promulgated quickly and a normal chart correction would take too long to prepare and distribute.

T&Ps and digital navigation

Prior to ECDIS, officers plotted T&Ps on paper charts in pencil and retained information on valid/current T&Ps on the bridge. This meant that the officers of the watch (OOW) were aware of any T&Ps which the vessel may have encountered whilst on passage, provided the list of T&Ps had been kept up to date using the weekly notices to mariners.

The complexity surrounding T&Ps and ECDIS is caused by two issues, specifically:

- the relative lack of visibility of T&Ps when included in ENC data – essentially how they are displayed on the ENC



- the differing approaches of the various Hydrographic Offices (HOs) to T&Ps for ENCs.

This article looks at each of these issues.

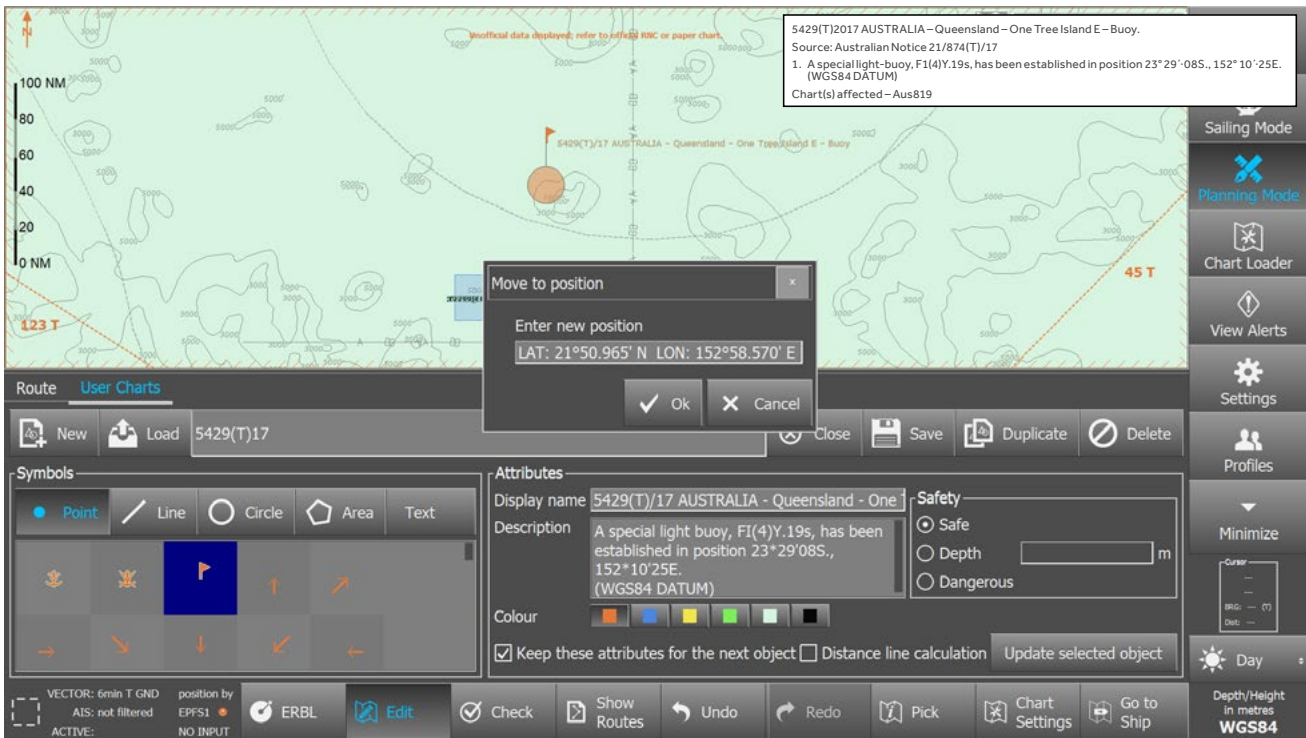
Relative lack of visibility of T&Ps

Officers correcting paper charts were free to use bold annotations to ensure the visibility of T&Ps and draw the OOW's attention to them. When T&Ps are included in ENC data, they are applied as a standard update, but with a date dependent attribute (a valid to/from date). Unfortunately, T&P updates are not always obvious to the user. An ECDIS route scan will only detect the presence of a T&P (within the cross-track corridor) if it has a danger attribute. If there is no danger attribute, the T&P will not appear in the route scan report.

Differing stances of the HOs

Different HOs have different approaches to the production and distribution of T&P notices; thus, dependent on each national HO, they may:

1. produce T&Ps for their ENCs and paper charts
2. not produce T&Ps at all
3. produce T&Ps for their paper charts but not for their ENCs.



Users may individually apply T&P notices to their ECDIS. In this example, a buoy is being added by the user. The applicable notice is provided in the top right of the image for reference.

The third approach is the most troublesome for the digital navigator, ie T&Ps produced for their paper charts but not for their ENC's.

A ship's response to these will depend on which HO has produced the ENC's in use on board the vessel. The United Kingdom Hydrographic Office (UKHO) publishes a [helpful list](#) of HOs and their stance in relation to T&Ps/ECDIS.

These variations of approach from the different HOs have created understandable confusion amongst officers. In fact, many officers are unaware that they may be using ENC's which do not contain T&P notices.

Officers should determine whether the HO which produced their ENC's also produces and distributes T&P notices. If so, they should confirm that they produce T&P notices for ENC's in addition to paper charts. If T&P notices are not produced for ENC's, they will need to be inputted manually using the information contained in the paper T&P notices to mariners.

To facilitate this, each brand of ECDIS is designed to allow users to input ENC objects and text. This process needs to be approached in a similar manner to that of paper chart corrections. The individual T&Ps need to be applied accurately to the

appropriate cells and records kept. Expired T&Ps will need to be deleted.

The ease with which objects can be applied to an ENC varies between ECDIS brands. Regardless, applying manual corrections to an ENC is a retrograde step, which will hopefully be eliminated over time.

Options to simplify ECDIS T&P issues

The problems associated with T&Ps (and ECDIS) have not gone unaddressed. The UKHO has responded with a product for Admiralty Vector Chart Service (AVCS) customers called the Admiralty Information Overlay (AIO). The AIO comes in the form of an additional display layer, which when selected by the user, indicates the areas affected by Admiralty T&Ps. Details of the T&P notice can be obtained via pick report by interrogating the affected areas, which are marked with hatched areas known as 'polygons'.

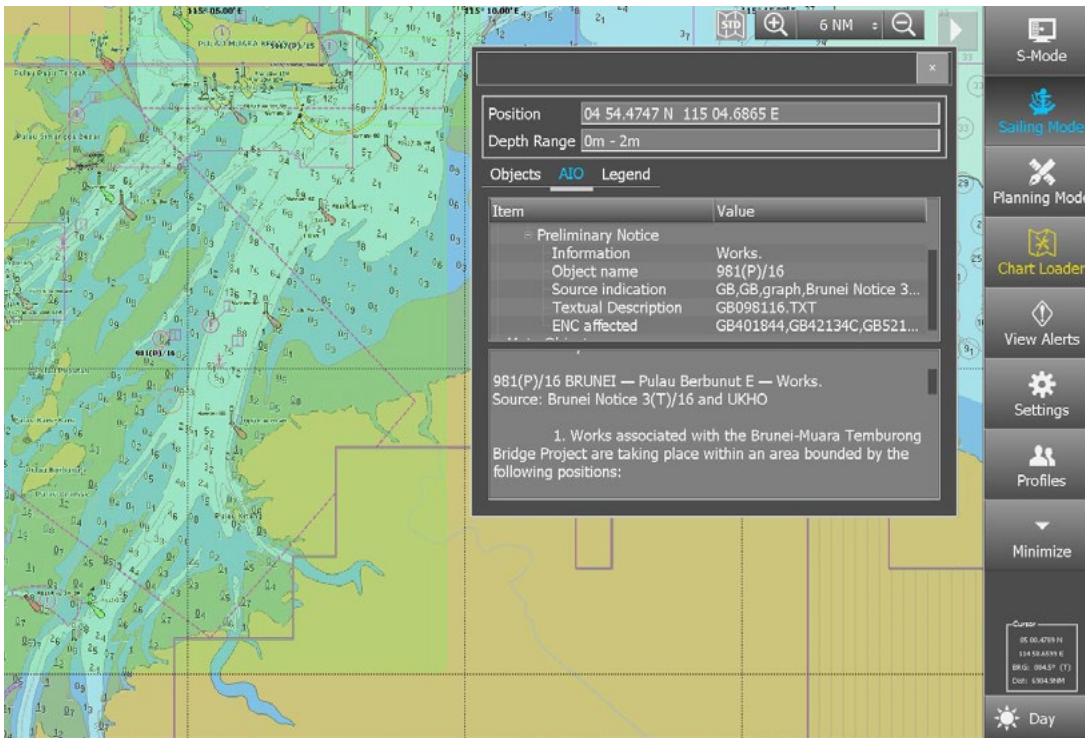
Before using AIO, users need to be aware of its various characteristics and any considerations which need to be taken into account. AIO considerations:

- AIO is designed to support passage planning and demonstrations of compliance, rather than be used during the navigation phase.

- The exact changes relating to the T&P are not displayed by the AIO overlay. The polygons indicate only the area affected. The details must be gathered by pick report.
- AIO reproduces the data contained in the UKHO's weekly notices to mariners.
- Where a HO does not distribute its T&Ps as part of the normal ENC update, AIO can be used to help plot the T&Ps directly onto an ENC using a manual update.
- AIO is free to AVCS customers.
- Some ECDISs are unable to display AIO.
- A small number of ECDISs are able to detect the presence of an AIO polygon in a route scan.
- AIO utilises intelligent zoom functions to ensure that the polygons appear on appropriate ENC's.

No Overlay

Where conflicts of scale occur between UKHO products and the areas covered by T&Ps, AIO will display 'No Overlay'. In such circumstances, AIO users should gather information from other sources, such as local Notices to Mariners to determine whether there are any relevant T&P notices.



ECDIS displaying an area covered by a green AIO polygon. The polygon has been interrogated by pick report for details of the notice.

ENC Preliminary Notices to Mariners

AIO also includes ENC P (EP) notices. Unlike the traditional NTMs and T&Ps, this type of notice is unique to ECDIS and is not carried over from paper charts. EP notices concern navigational significant differences between paper charts of the BA chart series and the related AVCS ENC. EP notices, whilst relatively new, are an important consideration for digital navigators.

In addition to the UKHO's efforts, other, commercial organisations have addressed the issue.

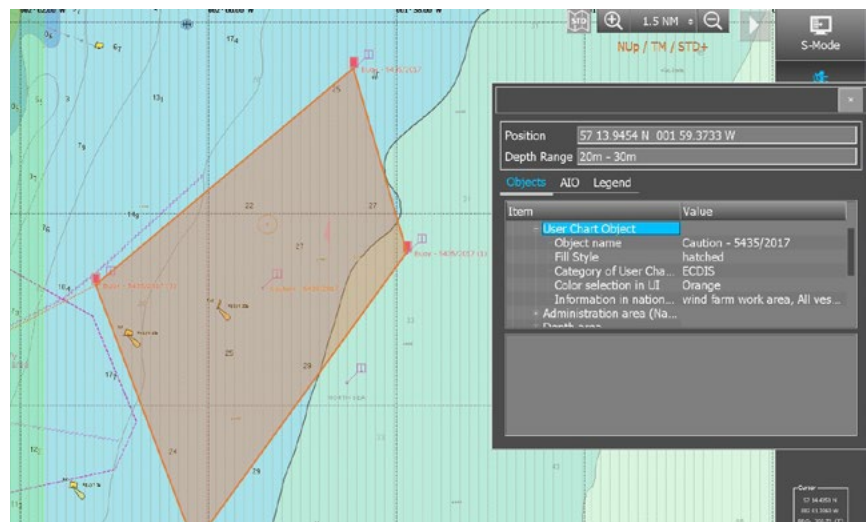
One such service, ChartWorld Information Overlay+ (CIO+), provides navigators with T&P information in a user chart layer.

- It is suitable for use during the navigation phase.
- It is not a free service.
- The detail of each T&P is visually depicted on the ENC (in a similar manner to traditional chart corrections) without having to resort to a pick report, although the pick report is available for full details.
- Objects included in this layer will be picked up during route scans by all ECDIS models. This is because all objects are given a danger attribute which ensures their detection.
- The data displayed is time dependent and subject to weekly updates.

- One important feature to note is that the overlay does not include ENC P (EP) notices to mariners.
- CIO+ is not designed to replace Admiralty Information Overlay, but to complement it and reduce the workload of the user.
- CIO+ also includes the T&Ps from HO's that produce them for their paper chart products but not their ENC's.
- T&Ps presented on screen appear different from the surrounding chart objects. This contrast enables the user to easily identify what has changed as a result of the T&P.

Conclusion

Until all HO's include T&P data in their ENC's, it will be necessary for mariners to keep a close eye on their ENC's and apply manual updates where necessary. Admiralty Information Overlay and ChartWorld Information Overlay + (CIO+) offer digital navigators greater visibility of T&Ps, but each system has its own unique set of user considerations. Companies should ensure that their personnel are sufficiently knowledgeable on the subject of ENC updates/T&Ps and the particulars of any product they use.



A ChartWorld Information Overlay + (CIO+) T&P notice, as it appears on an ECDIS display. The notice is depicted with 'user chart objects' and has been interrogated by pick report.