VESSEL : _____ DATE : _____

Training: Recording Positions using Furuno 3000 Series

- OOW shall use Radar fixes (bearing/range and parallel indexing) and visual navigation aids. i.e., landmarks in coastal areas to support electronic position-fixing methods,
- During the voyage parallel indexing and transit bearings should be utilized wherever possible. Targets suitable for radar parallel index are to be highlighted/prepared on the charts where beneficial.
- At least two methods of fixing the ship's position shall be used at all times in accordance with the passage plan requirements. These will be termed —primary and —secondary. This rule is also applicable when the vessel is under pilotage or is navigating in confined waters.
- The sole use of only electronic position finding devices is not acceptable. GPS derived positions should always be verified by alternative methods.
- The frequency of position fixing should be such that the vessel cannot run into danger during the interval between fixes. In determining a fixing interval, a good —Rule of thumb is to fix the ship in half the time it would take to stand into danger. Using this rule a vessel coasting 12 miles off and steaming at 12 knots must be fixed at least every 30 minutes.
- During ocean navigation, the interval between check fixes should not be greater than 30 minutes.
- During coastal navigation, the interval between check fixes should not be greater than 30 minutes, but a radar information overlay alignment check with the coastline should be carried out at not more than 15-minute intervals between fixes, if available.
- Fixed points such as lighthouses and headlands should always be used for position fixing.

Reference: Refer ECDIS Maker Manual Section 19.1.2 - Position Events – LOP
Refer ECDIS Maker Manual Section 12- Parallel Index Lines
Navigation Manual – Section 10

Training conducted to following staff onboard:

CO _____

2O: _____

3O: _____

JNO _____

Deck Cadet _____

19. RECORDING, PLAYBACK FUNCTIONS

19.1.2 Position events

The purpose of a position event is to record current position data to the [Voyage] log. Position events can be shown in the chart area by checking [Positions] on the [Tracking] page of the [Symbol Display] menu. Do as shown below to record position events.

How to record position events

1. Get into the Voyage planning mode.
2. Click the [Record], [Event Log] and [POSN Event] buttons on the InstantAccess bar to show the [Position Event] dialog box.

3. At the list box at the top of the dialog box, select position type.
   [LOP]: Latitude and longitude position of a fixed object at ship's position.
   [Position]: Ship's position fed from navigator selected.
   [Manual]: Manual entry of position.
4. If you selected [Position] at step 3, click the [Record] button.

The [Position Event] window shows the position at the moment the [Record] button is clicked. The position is recorded to the [Voyage] log.

5. If you selected [Manual] at step 3, enter latitude and longitude position and comment (optional), then click the [Record] button.

The [Position Event] window shows the position at the moment the [Record] button is clicked. The position is recorded to the [Voyage] log.

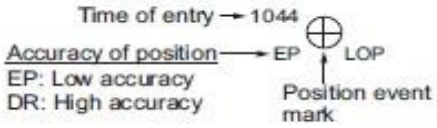
6. For [LOP], see the description below.
A plotted line on which a vessel is located, determined by observation or measurement of the range or bearing to an aid to navigation or other charted element. Two or more simultaneous observations can be combined to produce an estimate of the ship's current position. If the position is based on only two observations, it is an "estimated position" (EP); otherwise it is called a fix. A maximum of 6 observations can be entered to obtain a fix.
Basic operation: Coordinates of the aid to navigation can be entered into dialog boxes or they can be selected graphically on the chart:

- S57: Click on a charted object (beacon, light, buoy etc.) or any location. Description of the object appears above coordinate boxes.
- ARCS: Click anywhere in the chart.

Default values for bearing and range are approximated from ship's current position information. The time of observation is stopped when the object is selected (or when the [Add] button is clicked). Click the [Add] box to include the observation in the fix computation. The counter shows "new/1", at the input of the second observation. The word "new" indicates that the observation currently displayed is not yet included in the fix computation, and it appears as a dashed line or ring on the chart. The added observations can be edited or deleted after selecting them at the counter. When at least two measurements are entered, the EP or fix is computed and the coordinates are shown in the top part of the dialog. To show a position symbol on the chart, click the [Record] button. In the case of an EP, the letters EP are shown on the right side of the coordinates. If a valid position estimate cannot be obtained, a message is displayed under the coordinates. This may happen, for example, if the lines / circles have multiple crossings that are far apart, or if two lines are nearly parallel or don't intersect at all. The accuracy limit (estimated standard error) is 1.0 NM. If the estimate is valid, the [Record] box can be clicked to record the current position estimate in the [Voyage] log. Discrepancy between LOP result and ship position is also recorded in the log (this information may be viewed by Info query on the position event symbol on the chart - which is displayed if position event display is on in chart display settings).
Time transfer: If the observations are not simultaneous, they should be transferred to a common time. Transferring is based on dead reckoning of ship movement. If a position line (or ring) is transferred, the letters TPL are shown beside its

timestamp on the chart. The method of transfer may be selected in the bottom of the dialog. **Transfer to latest** transfers the measurements as if they were all made at the time of the newest measurement. **Continuous transfer** transfers all measurements to real time. **Transfer off** can be used to check where the measurement origins are. The position estimate and the record function follow the same logic, which means that Transfer off shows a position that has no relevance and Transfer to latest sends an old position to the [Voyage] log (timestamp in the log does not match the position).
If you are satisfied with the position shown in the latitude and longitude fields, then click the [Record] button to save the position observation to the Voyage log. If you wish you can also enter latitude and longitude values manually.
Timeouts: The observations cannot be used long after they were made because dead reckoning is inaccurate.

Click the [Record] button to put a position event at the LOP-calculated position. The position is recorded to the [Voyage] log.



How to find position event information

You can find information about a position event in an ECDIS mode other than Chart maintenance. Put the cursor on the event mark then left click to show the [Event Information] window. This window shows event type (position event), time of entry, event position, name of sensor ([Position] only), comment (automatic for [LOP] and [Position]; user-entered comment* for [Manual]), and position line data ([LOP] only). *Comment cannot be changed from this window.

Position event: Position

Position event: Manual

Position event: LOP