

AIS Guard zone boundary alarm: add set of condition parameters and improve message box information

Current operation of the AIS Guard Zone Boundary Alarm for watchdog\_pi-1.9.051:  
Boundaries contour, type and state are defined in OCPN Draw. Watchdog AIS Guard Zone Boundary Alarms are defined for specified boundaries GUID. An enabled/activated alarm will be triggered by Watchdog for every AIS targets position report messages that are received which coordinates are located inside the specified Guard Zone boundary contour. The boundary type and state as described in OD are not treated as a set of condition parameters.

**\*\* Feature Request A:** Treat boundary type and state as a set of condition parameters for the Watchdog AIS Guard zone boundary alarm.

Note that at the time of creating/activating a boundary in OD, received AIS targets may be located inside or outside the defined boundary.

A1. WD alarm configuration to set Boundary State "Any", "Active" and "Inactive" that triggers a WD alarm

A2. WD alarm configuration to set Boundary Type "exclusion", "inclusion" and "neither" that triggers a WD alarm:

AIS GZ with boundary "exclusion" - hatched pattern inside the boundary contour:

- AIS targets located outside the boundary and moving inside the boundary trigger WD alarm
- AIS targets located outside and staying outside the boundary do not trigger WD alarm
- AIS targets located inside the boundary and staying inside the boundary do not trigger WD alarm
- AIS targets located inside the boundary and moving outside the boundary do not trigger WD alarm

AIS GZ with boundary "inclusion" - hatched pattern outside of the boundary contour:

- AIS targets located inside the boundary and moving outside the boundary trigger WD alarm
- AIS targets located inside and staying inside the boundary do not trigger WD alarm
- AIS targets located outside and staying outside the boundary do not trigger WD alarm
- AIS targets located outside and moving inside the boundary do not trigger WD alarm

AIS GZ with boundary "neither" - no hatch (just a line):

- AIS targets crossing the boundary contour trigger WD alarm
- AIS targets staying outside the boundary contour do not trigger WD alarm
- AIS targets staying inside the boundary contour do not trigger WD alarm

Basically, using boundary "exclusion" or "inclusion" as condition parameters will trigger a WD alarm for AIS targets crossing an AIS Guard Zone boundary contour in the wrong direction. Only AIS targets crossing from the "Clear" side to the "Hatched" side of the boundary contour will trigger a WD alarm. Using boundary "neither" as condition parameter will trigger a WD alarm for AIS targets crossing the AIS Guard Zone boundary contour in any direction.

**\*\* Feature Request B:** treat AIS targets MMSI as a condition parameter for the Watchdog AIS Guard zone boundary alarm.

It will be useful to manually list MMSI that trigger or not a specific AIS Guard zone boundary alarm. All AIS targets remain displayed though.

B1. WD alarm enabled for all vessels except those MMSI manually listed

B2. WD alarm enabled for only those MMSI manually listed

\*\* Feature Request C : WD alarm message box to display Time of alarm and availability to Center View

C1. When a WD alarm is set to be displayed in a “message box”, the Time of the alarm should be indicated in addition to exiting information.

C2. Also, it could be useful to be able to “Center View” to the AIS target that triggered the WD alarm, similar to the Center View button in the AIS target List.

\*\* I believe the WD Alarm Action “Check frequency”, “Repeat Alarm after xx seconds” and “Automatically Reset” should not apply to the AIS Guard Zone boundary alarm. For each AIS target, every consecutive AIS position report shall be checked against the previous message received. Message should time out to correspond to the “remove lost targets after (min)” parameter set in OCPN general options menu.