

## Additional Instructions when Applying for a Private Aid to Navigation with an Automatic Identification System

The use of Automatic Identification System (AIS) as/on a Private Aid to Navigation (PATON) is permissible on a case-by-case basis. Applicants intending to deploy an AIS PATON—in addition to all the information in the pertinent blocks of either CG Form 2554 or 4143—must provide in the application's REMARKS section (see samples in the following next pages) the following information:

1. The physical AIS Aids to Navigation (AtoN) device: make, model, FCC ID number (located on its label plate), and AIS Type (i.e., I, II, or III, see the International Association of Marine Aids to Navigation and Lighthouse Authorities' (IALA) R0126 on The Use of The AIS In Marine Aids to Navigation Service. **Only FCC type-certified AIS ATON devices (listed here) are permissible and should be installed considering pertinent guidance provided in IMO SN.1/Circ.227 and IALA G1062.**
2. Its AIS message 21—AtoN Report ([www.navcen.uscg.gov/ais-aton-report](http://www.navcen.uscg.gov/ais-aton-report)), Type of AtoN coding (i.e., 1—Reference Point (used by AIS stations that are solely used to transmit AIS Application Specific Messages (ASM), 2—RACON or Mobile AIS, 3—Fixed Structure, i.e., offshore platform wind turbine), 28—Isolated Danger or 30—Special Mark, etc.). AIS PATON used to delineate a dynamic or temporal regulated navigation or limited access area (denoted in 33 CFR 165, i.e., rocket launch area, marine event, etc.) should use cardinal mark codes 21-24, accordingly. Other code types, such those denoting lateral marks are not permissible nor codes to denote a static charted area.
3. Its transmission antenna height above mean low low-water (MLLW) in meters. Nominally, antenna height on offshore structures (i.e., wind farm towers, rigs, etc.) should be sufficient to provide for the reception of AtoN Reports from at least 8 nm from the reported AtoN.
4. Its transmission antenna location (reference point) expressed with ABCD values which also denote the maximum length and breadth in meters (not including protuberances, i.e., cranes, nacelle, rotary blades, etc.) of the object/structure the AIS station is fitted or resides on (i.e., buoy, tower, platform, etc.).  $A+B+C+D > 0$ , except Virtual and/or Reference Point AtoN where  $A=B=C=D=0$ . See IALA R0126 and AIS message 21 ([www.navcen.uscg.gov/ais-aton-report](http://www.navcen.uscg.gov/ais-aton-report)).
5. Longitude and latitude (i.e., 42° 19' 40.5810" N, 70° 53' 24.3601" W) positions, that are not auto-generated by an internal global navigation satellite system, shall be derived from an NOAA nautical chart not Google Earth or from a survey to 2-DRMS Note, Synthetic AtoN Reports Repeat Indicator should be  $> 0$  and only permissible on fixed, or floating ATON that are monitored a can provide an accurate reported position at least every 3 minutes. Fixed AtoN and other manually inputted positions shall be derived from. This may be provided in a separate table that also includes additional columns for assigning their MMSI(s) and AIS AtoN name(s). Mobile AIS AtoN should provide the position of its planned deployment and anticipated recovery location; and include a charlet of its voyage plan.
6. A brief detailed description of its: purpose, concept of operation, monitoring plan, installer, installation details, and of any additional AIS messaging (i.e., ASM DAC, FI, version number, safety text, their broadcast schedule, etc.), including why, when, and how their broadcast(s) will be triggered.
7. Floating AIS PATON should be set to transmit an AIS message 14—Safety Related Broadcast when it's reported position exceeds by  $[(\sqrt{\text{Chain Length}^2 - \text{Water Depth}^2}) * 110\%]$  meters from its approved position, i.e., OFF-POSITION; and may also report LIGHT OUT, LIGHT DEFECT, and/or RACON ERROR, when its signals are unhealthy, when its 8th AIS AtoN (Health) Status bit = 1. Other safety related messages to forewarn of a navigation condition or hazard, i.e., AREA ACTIVE, AREA ACTIVE 1330-1500, STAY CLEAR, EXIT AREA, NO ANCHORING, AVOID ATON, WHALE SIGHTED, SLOWDOWN, may be considered; as well as pertinent Application Specific Messages (ASM, AIS messages 6 and 8) as detailed in IMO Circ. 289 on Guidance on The Use Of AIS Application-Specific Message, IALA G1095 on Implementation of Application-Specific Messages, and IALA G1062 on The Establishment of AIS as an Aide to Navigation. A PATON's AIS name may also be amended to reflect a status, i.e., MY LB1 (LT OUT/DEFECT), XX BRIDGE (OPEN/CLOSED/INOP). The reporting rate and access scheme of PATON broadcasts, should nominally be every 3 minutes, alternating on AIS 1 & 2 channels, using Radom Access Time Division Multiple Access (RATDMA) or Fixed Access Time Division Multiple Access (FATDMA, with a start slot = the last 3-digits of its USCG assigned MMSI; fixed off-shore AIS PATON, the last 3-digits of its USCG assigned MMSI + 1000).

**USCG PATON approval is conditional to its FCC licensing.** FCC licensing of AIS PATON must be sought—prior to operating—by submitting a waiver request through the FCC's Universal Licensing System (ULS) at [www.fcc.gov/wireless/universal-licensing-system](http://www.fcc.gov/wireless/universal-licensing-system)), stating: Pursuant to Section 1.95 of the Commission's Rules, we request a waiver of 47 CFR 80.393 and 80.1101 which does not currently accommodate use of AIS AtoNs. The purpose of the rules would not be served or would be frustrated by application to the instant case. In view of unique or unusual actual circumstances of the instant case, application of the rules would be inequitable, unduly burdensome, or contrary to the public interest, and the applicant has no reasonable alternative. Therefore, a grant of the requested waiver would be in the public interest; and include a copy of the USCG Approved PATON application with its USCG assigned AIS AtoN MMSI number(s); a physical geographic description that mirrors the PATON's Light List Name on its application.

Note, although most commercial vessels are required to, and many others voluntarily have AIS they do not necessarily have the capability to portray AIS AtoN or Application Specific Messages. IALA and IMO references are available at [www.navcen.uscg.gov/ais-references](http://www.navcen.uscg.gov/ais-references).