

# **RTCM 10900.7, RTCM Standard for Electronic Chart Systems (ECS), May 5, 2017**

This Standard specifies the minimum operational, performance and technical requirements, and methods of testing for RTCM-compliant ECS. RTCM-compliant ECS are designed or adapted for use as back-up arrangements for ECDIS, and as an alternative to ECDIS or IEC-compliant ECS aboard ships that are not required to carry ECDIS. The majority of the requirements for RTCM ECS are inherited or derived from requirements specified in International Standards IEC 60945, IEC 62288, IEC 61174, IEC 61996-2, and IEC 62388.

The requirements for RTCM ECS include requirements that are “above and beyond” the requirements specified in International Standard IEC 62376, for example:

- Class A RTCM ECS shall meet the requirements for ECDIS back-up arrangements;
- Class A and Class B RTCM ECS shall meet additional requirements for voyage data recording, and shall provide a Human-Machine Interface (HMI) for an AIS Minimum Keyboard and Display (MKD); and
- Class A, Class B and Class C RTCM ECS shall meet requirements for interfacing with AIS and displaying information from AIS.

NOTE Interfacing with AIS is an option for ECDIS.

In order to apply different levels of functionality to within this Standard, four classes of RTCM ECS are defined:

- Class A RTCM ECS are intended to qualify as back-up arrangements for ECDIS and as a primary means of navigation for ships that operate offshore. They are required to display electronic chart information and eMSI; and to provide voyage planning, voyage monitoring and voyage recording functionality.
- Class B RTCM ECS are also intended to serve as a primary means of navigation for ships that operate offshore. They are not required to have all of the navigational functionality of a Class A ECS, but are also required to display electronic chart information and eMSI; and to provide voyage planning, voyage monitoring and voyage recording functionality.
- Class C RTCM ECS are intended to plot and monitor the position of ships that do not generally operate offshore. They are not required to have all of the functionality of a Class B ECS. They are required to display electronic chart information and eMSI, but are not required to provide voyage planning or voyage monitoring functionality; and
- Class D RTCM ECS are intended to plot the position of ships that do not operate offshore. They are not required to have all of the functionality of a Class C ECS. They are required to display electronic chart information and plot a ship’s position, but are not required to display eMSI, or to monitor the ship’s position or to provide voyage planning or voyage monitoring functionality.

RTCM ECS shall meet the requirements specified in this Standard, as applicable by Class. Where this Standard inherits or derives requirements from IEC standards, the requirements are addressed in a table identifying the applicable clauses and subclauses of the IEC standard. Additionally, if this Standard does not inherit an IEC standard’s requirement exactly, the table includes a cross-reference to one or more subclauses in this Standard providing clarification for the application of the inherited requirement. The cross-referenced subclauses include further indication of applicability to class, usually at the beginning of one or more paragraphs. Paragraphs marked “(A B C D)” apply to all Classes of ECS; paragraphs marked “(A B C)” or “(B C D)” or “(A B)” or “(C D)” apply only to those combinations of Classes of ECS; and paragraphs marked “(A)”, “(B)”, “(C)” or “(D)” apply only to those individual Classes of ECS.