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INTRODUCTION OF MODE S EXTENDED SQUITTER FOR FLIGHTS ABOVE THE NORTH SEA AREA IN THE NETHERLANDS

1 INTRODUCTION

This AIC specifies additional requirements for the carriage and usage of extended squitter (ES) capable mode S transponders for flights above the North Sea within the Amsterdam flight information region. The requirements have been identified in the Dutch task force North Sea as part of a programme to improve the safety of low level commercial air transport operations over the North Sea.

2 INTRODUCTION OF MODE S EXTENDED SQUITTER FOR NORTH SEA OPERATIONS

The introduction of mode S extended squitter for low level North Sea operations will significantly improve the surveillance capabilities at low altitudes. A wide area multi-lateration (WAM) and automatic dependent surveillance broadcast (ADS-B) system has been implemented in 2014 and 2015, enabling the receipt of mode S extended squitter information at very low levels (from 100 ft) in the core area of the North Sea area Amsterdam, North Sea area V, and at all helicopter main routes above 1500 ft. It is envisaged that this will greatly enhance the opportunities for the provision of alerting service as well as flight information service.

Therefore, from 01 July 2016, the carriage of a mode S transponder with extended squitter capability will be required for all flights above the North Sea within the Amsterdam flight information region at and below 3000 ft AMSL. These requirements will be incorporated in Dutch law (Regeling Boorduitrusting). Exemption for the extended squitter requirement is made for military jet aircraft flying en route through this area, for these flights only a mode S transponder is required.

3 TECHNICAL REQUIREMENTS

To perform an IFR flight within the Amsterdam flight information region civil and military aircraft shall be equipped with mode S elementary surveillance as required by Dutch law.

The additional requirements for the introduction of mode S extended squitter are based on the EASA AMC 20-24, which specifies the general acceptable means of compliance for airworthiness of product, parts and appliances (AMC 20) for the application of enhanced air traffic services in non-radar areas using ADS-B surveillance (ADS-B NRA) via 1090 MHz extended squitter. The requirements are supported by the EUROCAE Document ED 126 (RTCA 303, 2006) which specifies the safety, performance and interoperability requirements for the ADS-B NRA application.

On this basis, from 01 July 2016:

1. flights above the North Sea must carry a Level-2es mode S transponder in compliance with requirements from ICAO Annex 10 Volume IV and EASA Technical Standard Order ETSO-2C112b. Additionally the mode S transponder must conform to the minimum operational performance specification (MOPS) for ADS-B according to RTCA DO-260A¹⁾ or DO-260B, and;
2. flights above the North Sea must have a source of information available in the aircraft, including the wiring, that can provide the necessary information to the mode S transponder according to Appendix 4 of EASA AMC 20-24.

To ensure the quality of the onboard position-information, especially in offshore applications where the navigational ground infrastructure is limited, the position-information must be based on input from a GNSS receiver certified against ETSO C129A (class C), ETSO C145 or ETSO C146. It is strongly recommended to have a direct interface between the onboard GNSS receiver and the mode S transponder in order to minimise onboard data latencies.

It is noted that these requirements are additional to the standard requirements for the application of mode S elementary or enhanced surveillance that will be implemented in multiple ATC centres. As a direct consequence of this, the requirements to the input and operation of mode S transponders will increase. It is therefore considered useful to take these developments into account in the choice of transponders. A Level-2es mode S transponder is in principal also suitable for enhanced surveillance. By Dutch law mode S EHS is not required for helicopters.

1. In case flights already carry transponders that are in compliance with RTCA DO-260 (EUROCAE ED-102), these transponders can be accepted in a transition period until specific European interoperability regulations supersede the requirements expressed in this AIC.

4 FLIGHT PLANNING AND ATC PROCEDURES

In cases where CAA The Netherlands has specifically exempted an aircraft from the requirements expressed in this AIC, the item 18 of the ATC flight plan shall express "RMK/ No mode S-es".

5 CONTACT DETAILS

For further information on this AIC, CAA The Netherlands may be contacted:

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URL: <http://www.ilent.nl> , via the link "Contact met de ILT". You will receive a response within 5 working days.

6 DOCUMENT CONTROL

This AIC replaces AIC-A 11/07 (26 FEB 09) due to changed implementation date and some editorial changes.

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