PD IEC/TR 62396-6:2017

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Process management for avionics - Atmospheric radiation effects

Part 6: Extreme space weather and potential impact on the avionics environment and electronics

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National foreword

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TECHNICAL REPORT

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Process management for avionics – Atmospheric radiation effects – Part 6: Extreme space weather – Potential impact on the avionics environment and electronics

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PROCESS MANAGEMENT FOR AVIONICS – ATMOSPHERIC RADIATION EFFECTS –

Part 6: Extreme space weather – Potential impact on the avionics environment and electronics

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IEC TR 62396-6, which is a technical report, has been prepared by IEC technical committee 107: Process management for avionics.

This first edition cancels and replaces the first edition of IEC PAS 62396-6 published in 2014. This edition constitutes a technical revision. The technical changes with respect to the previous edition are the contents of the present document.

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The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
107/298/DTR	107/305/RVDTR

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62396 series, published under the general title *Process management for avionics – Atmospheric radiation effects* can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

This document provides information intended to improve the understanding of extreme space weather events.

Rarely occurring natural hazards can have a high impact to society and national economies. Natural events have no respect for national boundaries and the whole world can suffer. The April 2010 Icelandic (Eyjafjallajökull) volcano eruption and resulting ash cloud and the March 2011 Japanese earthquake and tsunami demonstrated how devastating rarely occurring natural events can be.

In 2011 the UK recognised “extreme space weather” (ESW) events (also referred to as solar super storms and sometimes simply as super storms) as one of these rare, but high impact, hazards. There is evidence of the impact of ESW events in the past. During an event in February 1956, which was monitored at ground level, a rise in radiation flux of more than 2 orders of magnitude was derived for aircraft environments.

The document does not consider high altitude nuclear explosions or any other man-made modifications of space weather.

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