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Space systems — Rendezvous and Proximity Operations (RPO) and On Orbit Servicing (OOS) — Programmatic principles and practices

*Systèmes spatiaux — Opérations de proximité et de rendez-vous et
services sur orbite — Principes et pratiques programmatiques*



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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Programmatic principles for rendezvous and proximity operations (RPO) and on-orbit servicing (OOS) missions	3
4.1 Responsible design and operations.....	3
4.1.1 Promote safety and mission success.....	3
4.1.2 Space debris.....	3
4.1.3 Effective communications.....	3
4.1.4 Liability for damage and insurance.....	3
4.2 Transparent operations.....	3
4.2.1 General.....	3
4.2.2 Notification to states.....	4
4.2.3 Communications with entities.....	4
4.2.4 Notification protocols.....	4
4.2.5 Lessons learned.....	4
4.2.6 Notification of re-entry hazard.....	4
4.2.7 Registration of orbit.....	4
5 Programmatic practices for rendezvous and proximity operations and on-orbit servicing missions	4
5.1 Design for mission success.....	4
5.1.1 General.....	4
5.1.2 Formal review of hardware design.....	5
5.1.3 Resilient software design and verification.....	5
5.1.4 Concepts of operation.....	5
5.1.5 Approved and proven procedures.....	5
5.1.6 Trained and qualified operators.....	5
5.2 Design servicing operations to minimize the risk and consequences of mishaps.....	6
5.2.1 Contractual relationship with client.....	6
5.2.2 Communications discipline.....	6
5.2.3 Trajectory practice.....	6
5.2.4 Third party notifications.....	6
5.2.5 Collision avoidance practices in proximity.....	6
5.2.6 Anomaly resolution.....	7
5.2.7 On-orbit checkout.....	7
5.3 Avoidance of interference.....	7
5.3.1 General.....	7
5.3.2 Avoiding physical interference.....	8
5.3.3 Avoiding electromagnetic interference.....	8
5.4 Information sharing.....	8
5.4.1 General.....	8
5.4.2 Development of anomaly resolution standards.....	8
5.4.3 Sharing of anomaly information.....	8
Annex A (informative) Information related to programmatic principles and practices	9
Annex B (informative) RPO/OOS mission phases	12
Bibliography	19

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document outlines the principles and practices that rendezvous and proximity operations and on-orbit servicing (RPO/OOS) service providers are expected to follow in order to ensure safe operations and to encourage a healthy RPO/OOS industry. International law, treaties, and agreements have been researched for compliance and reference. If additional, more specific requirements are needed for Human Spaceflight (HSF) these can be provided in the future.

This document is intended to be the highest-level standard for the discipline of RPO/OOS for spacecraft systems. As such, there are several places in the document where a requirement is stated, but alternative acceptable methods of verification of compliance exist. Examples include but are not limited to: notification of authorities ([4.2.2](#)); certifications of design or operational procedures ([5.1.1](#), [5.1.2](#), [5.1.3](#)). [Clauses 4](#) and [5](#) specify programmatic principles and operational practices respectively. [Annex A](#) contains information related to [Clause 4 \(A.1\)](#) and [Clause 5 \(A.2\)](#). [Annex B](#) outlines notional RPO/OOS mission phases.

Initial drafts were produced by the Consortium for Execution of Rendezvous and Servicing Operations (CONFERS) team, an international team of 26 initial companies promoting standardization for RPO/OOS missions to improve safety and promote development of the RPO/OOS industry. Work was performed over a period of 18 months at six international workshops in the US and Germany. With this issue, the draft has been handed over to ISO TC 20/SC 14 for vetting and processing with the normal ISO standardization processes. In the further development within ISO, parallel commercial and governmental RPO/OOS efforts have contributed to the consensus requirements herein.

CONFERS is an independent, self-sustaining forum created to advocate and promote the spacecraft servicing industry and encourage responsible commercial RPO/OOS. CONFERS collaborates on research, development, and publication of voluntary consensus principles, best practices, and technical and safety standards. CONFERS also engages with national governments and international bodies on policy and oversight of spacecraft servicing activities.