



Documentation Management Requirements

Solar Orbiter Project

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T A B L E O F C O N T E N T S

1	Purpose of the Document.....	1
2	Introduction.....	1
3	Project References	1
3.1	Definitions.....	2
3.2	Documentation Plan	2
3.2.1	Responsibilities.....	2
3.2.2	Revision of Documents	3
3.2.3	Document Origin and Reference System	3
3.2.4	Project Identification	4
3.2.5	Originator	4
3.2.6	Document Code	4
3.2.7	The Numbering System.....	6
3.3	Correspondence.....	6
4	The ESA Document Management System	6
4.1	ESA Outgoing Correspondence	7
4.2	ESA Outgoing Document	7
4.3	ESA Incoming Correspondence	7
4.4	ESA Incoming Documents.....	7
4.5	Electronic Communication.....	8
4.5.1	Electronic Mail	8
4.5.2	File Exchange	8

1 PURPOSE OF THE DOCUMENT

The purpose of the document is to provide all participants of the mission from the very beginning with a common guideline to implement and adhere to common document references. These references are to provide a uniform approach to enable efficient control of documentation and communication, and to support a structured approach to the Documentation Management System (DMS).

2 INTRODUCTION

It is the purpose of this document to leave sufficient flexibility for individual non-ESA participants to adapt the provided guidelines to their specific needs, but maintain overall compatibility.

3 PROJECT REFERENCES

The project requires all mission participants to adhere to the following references for documents and correspondence. On the other side the reference system will allow flexibility to accommodate reference and registration systems already in place by external mission participants.

Within ESTEC (D/SCI) the project administrative assistant will be responsible to assign document references, to distribute the documents and enter them into the D/SCI- Document Management System (DMS).

External participants are responsible for the assignment of the proper document references for documents produced under their responsibility and for their distribution.

3.1 Definitions

1. Documents are narratives (including Technical Notes, Reports, any formally required documents, Minutes of Meetings) that describe the formal status of a project element within the project or toward external contractors, experimenters and international participants.
2. Correspondence, for the purpose of this document, covers communication and exchange of information via fax, surface mail or e-mail. Examples of such communication items are Letters and Memos or the exchange of opinions or questions/answers. Only written correspondence that carries the signature of an authorised person will be considered as committing. As a consequence, e-mail and electronic file exchange are considered as informal and non-committing.

3.2 Documentation Plan

The Documentation Plan is to define the document identification, its location in the documentation hierarchy and is the initial tool for configuration control.

3.2.1 Responsibilities

Every document cover page shall include the list of all relevant people concerned in the document generation. A “visa control box” shall thus be available for each of them.

The corresponding visa roles explanation and distribution of responsibilities are described below.

When issuing a document, visa from “author” and “authorised” are mandatory whereas the remaining ones are recommended but optional.

- Author (*mandatory*) : the person, persons or team who elaborate the document; is responsible of the document content and development, hypothesis and methodology.
- CAD (when applicable) : for documents consisting on arrange or scale drawings, the person who draw it is responsible of the generation of the drawing according to the author inputs and applicable realisation standards.
- Checked (recommended) : expert or experts in the relevant content purpose or discipline (must be different from the author) who becomes responsible of the content correctness (calculations if any, cross verification between documents, etc).
- Approved (recommended) : is in general the technical responsible / officer of the discipline, system, subsystem, process, work area, etc who guarantees and becomes responsible of the content conformity with the applicable technical and/or contractual requirements.
- Accepted (recommended) : is reserved to the project (or process) Product Assurance (or Quality Control) manager who assumes the responsibility on the content conformance with the quality applicable standards and specific requirements.
- Authorised (*mandatory*) : is the project manager. Once a document has been authorised, the document is ready for internal or external distribution.
- Configuration control (optional) : verifies that the document fulfils the formal identification and presentation requirements and checks the correctness and completeness of the ‘change log’ sheet.

The generation / revision sequence shall be :

Author => configuration control => checked => approved => accepted => authorised.

The 'approved' visa should assume the responsibility of the former ones when they are missing.

The 'authorised' visa assumes the responsibility of any former missing one.

3.2.2 Revision of Documents

Documents will be updated either by revision or by new issue. Revisions will be made for minor additions, deletions or changes of information. New issues or re-issues will be made when major changes in scope or in the text occur.

For the revisions of parts of a document, each page affected will acquire the next revision number compared to the previous revision of the page concerned for the same issue. Revisions are set to 0 in case of a re-issue of the document. Following the issue-number, and separated by a point, a number indicates the revision (example: Issue: 1.1).

For the re-issue of a document the Issue number will be changed. Issue numbers are indicated by numerical characters. In the case of a draft document the first version is "draft", a second draft version is "draft 2", and so on.

Changes (deletions, modifications and additions) in the text of the document between issues and revisions are to be highlighted.

Directly behind the cover-page the document change record sheet is to be kept up to date. It shall be updated with every revision / issue of the document. Each approved new issue should have a new issue number and a signed copy should be made available.

Following the change record sheet a distribution sheet shall provide traceability to whom and when the document has been issued.

3.2.3 Document Origin and Reference System

In order to identify unambiguously each document the following identification code is to be adhered to by all project and mission participants.

The documents will be numbered according to a coding system, which is made up of five elements:

- Project Identifier
- Originator
- Document Code
- Numbering System

Example: XX-XXX-XX-XXXX

3.2.4 Project Identification

The Project identifier code for Solar Orbiter is SOL

Example: SOL-XXX-XX-XXXX

All existing documentation (already issued from previous programmes) will not be re-referenced for Solar Orbiter.

3.2.5 Originator

A two- or three-letter code is assigned for the originator of the Document. The following codes have been allocated:

EST	For documents prepared by ESTEC
ESC	For documents prepared by ESOC
ESR	For documents prepared by ESRIN
F-ASTR	For documents prepared by Astrium GmbH (Friedrichshafen)
T-ASTR	For documents prepared by Astrium SAS (Toulouse)
C-ALS	For documents prepared by Alcatel Alenia Space (Cannes)
(tbc)	For documents prepared by other non-ESA participant

This list of originator codes will be updated in subsequent revisions of this document.

SOL-EST-XX-XXXX

3.2.6 Document Code

The document identification characters (two or three-letter) clarify the purpose and the objective of the document. The following codes have been allocated:

All existing document codes from other missions will not be re-referenced for Solar Orbiter.

AN	Analysis
AO	Annoucement of Opportunity
CH	Schedule Chart
CCN	Contract Change Notice
CON	Contract

CQ	Certificate of Qualification
DCR	Document Change Request
DRL	Document Requirement List
DRW	Drawing / Diagram
DS	Design Specification
ECP	Engineering Change Proposal
ECR	Engineering Change Request
EID	Experiment Interface Document
IF	Interface Document
INF	Information Item
ITT	Invitation to Tender
LI	List
MA	Manual
MN	Minutes of Meeting
NCR	Non-Conformance Report
PID	Payload Interface Document
PR	Procedure
PRO	Proposal
PRR	Progress Report
PRS	Presentation / Handout
RCD	Requirement Control Document
RFQ	Request for Quotation
RFW	Request for Waiver
RP	Report
RS	Requirement Specification
SOW	Statement of Work
SP	Specification
TN	Technical Note
TP	Test Procedure
TR	Test Report
TS	Test Specification

Example: SOL-EST-RS-XXXX

Note : On request new Document Types might be added to the list, but require update of the Project DMS.

3.2.7 The Numbering System

For each document a sequential number will be assigned.

Example: SOL-EST-RS-1912

- The reference number (last four digits “1912”) is sequential.
- Each originator (e.g. EST, ESC, ...) may create his own sequential reference numbers. The ESTEC project team will use the Chrono Number of the Documentation Management System

Generally the originator’s project office will be responsible for the assignment of correct and sequential document references.

3.3 Correspondence

The reference system for ESA correspondence is provided for information. Likewise, non-ESA mission participants shall inform the Agency of their reference system.

All correspondence shall bear the name of the originator(s), his organisation, the recipient(s) and those in copy, the subject of the correspondence, the date of transmission and the originator(s) reference number. It is suggested to include the Project Identifier (SOL) in the originator’s reference.

In case of the ESA project team the project code (tbd), the project identifier and a serial number (Chrono Number) make up the reference for outgoing correspondence.

Example: SCI-XX/SOL/44

4 THE ESA DOCUMENT MANAGEMENT SYSTEM

(For Information Only)

The Document Management System is an internal instrument for the registration of incoming and outgoing documentation and correspondence. It allows storing and filing of all project documents and correspondence registered in electronic format in logical groups. In return the application of the DMS will enable the project to benefit from advanced traceability and search of documents during all project stages.

The maintenance of the DMS, the storing and filing of the information is an ESA responsibility.

In order to explain the role of the ESA-DMS with respect to reference codes and numbers throughout the project, the flow of information and the applicable reference system is elaborated below.

4.1 ESA Outgoing Correspondence

If a *Fax* or correspondence is generated by an ESA team member (*Author*), the project administrative assistant will assign a reference number. The reference is made up by the Project Code, the Project Identifier and a chronological number, provided by the DMS, the Chrono Number (see 3.3). The *Fax* will be stored electronically in the DMS with the Chrono Number, before sent out to the recipient. The recipient himself may or may not store the *Fax* in his internal documentation system and assign an internal registration number, exclusively for his purpose. The ESA reference number, being the originator's reference, will be shown on the *Fax* and used as the unique identifier and reference for that specific *Fax* by all mission participants.

4.2 ESA Outgoing Document

The ESA project team member, as the author of the document, will provide the first identifiers of the document reference, i.e. the project identifier, the originator code (in this example EST) and the document code. The project administrative assistant will provide the last digits (number) of the document reference.

Example for issuing of a Contract Change Notice:

SOL-EST-CCN-1004

The document reference shows that the document is originated from the Solar Orbiter project, and specifically from ESTEC (EST). The identifier defines it as a Contract Change Notice. The serial number is the DMS chrono number. Thus the document is uniquely identified. The storage of the document in the DMS happens at the point of issue. Then the cover letter to the outgoing document will get a Chrono Number, as described above, and the Document is stored together with the *Fax*.

Again, on the recipient side, the document might get a registration for internal use. However, the original document reference is relevant as the project wide identifier.

4.3 ESA Incoming Correspondence

Incoming correspondence will bear the originator's reference number. While incoming faxes will be stored automatically in the DMS, any hardcopy correspondence (i.e. letter or fax not directed to the DMS) will be scanned in order to be stored in the DMS or stored separately. In both cases the incoming *Fax* is registered both with the originator's reference number and the DMS originated Chrono Number. To identify the individual document throughout the project, the originator's reference number is used.

4.4 ESA Incoming Documents

Any documents including those originated from non-ESA mission participants have to bear the Document Reference according to 3.2. The document may also bear an internal reference number of the originator, if deemed necessary.

To the incoming hardcopy documents a DMS-Chrono Number will be manually assigned and the document can be scanned for storage in the DMS.

4.5 Electronic Communication

Two means of electronic communication are distinguished in the project : e-mails and file exchange.

4.5.1 Electronic Mail

The exchange of electronic mail (e-mail) falls in principle under the category of informal, non-binding communication between individuals.

4.5.2 File Exchange

In order to ease and speed up the hardcopy distribution of documents, project specific FTP servers will be installed at ESTEC.

External project participants will have to request a FTP account from the project

The account will be accessed by a login-ID and password. Once the account has been created, it will contain three directories, "In", "Formal" and "Out", from which documents can be left or picked up. The "Formal" directory is for signed documents coming from the external participants for the ESA DMS. The "In" directory is for the exchange of working documents. The "Out" directory is for documents from the ESA team to the external participants.

The ESA team will not be able to access the external participants FTP accounts directly. When a FTP account is created for an external participant, equivalent "In" and "Out" directories will be set up on the main Science internal server ('P' Drive). From these directories the ESA team can retrieve and send documents to the external participants. The ESA team administrative assistant is notified via e-mail when documents arrive from these FTP accounts. The administrative assistant registers, stores and distributes the documents using the ESA DMS.