

324-CD-005-001/  
412-CD-002-001

## **EOSDIS Core System Project**

# **Flight Operations Segment (FOS) Acceptance Test Report for Release B: Earth Observing System (EOS) Operations Center (EOC) for the ECS Project**

October 1997

Hughes Information Technology Systems  
Upper Marlboro, Maryland

# **Flight Operations Segment (FOS) Acceptance Test Report for Release B, Earth Observing System (EOS) Operations Center (EOC) for the ECS Project**

**October 1997**

Prepared Under Contract NAS5-60000  
CDRL Item #056 & #071

## **APPROVED BY**

J. A. Guzek	10/1/97
<hr/>	
Joe Guzek, ECS CCB Chairman EOSDIS Core System Project	Date

**Hughes Information Technology Systems**  
Upper Marlboro, Maryland

324-CD-005-001/  
412-CD-002-001

This page intentionally left blank.

# Preface

---

The content of this document defines the acceptance test report for the Flight Operations Segment (FOS). It addresses results from the FOS Release B Formal Acceptance Test which took place from June 1 to September 1, 1997 at the Goddard Space Flight Facility (GSFC) EOS Operations Center (EOC) - Building 32.

Included are detailed results for the entire suite of FOS tests conducted during the FOS Formal Acceptance Test Phase, including thread tests, end-to-end-tests, hardware tests, and regression tests. It defines test results and identifies deviations to procedures, problems encountered and NCR status. Thus, this document addresses the data item descriptions for CDRL 056 324/DV3 and 071 - 412/VE2.

This document is a contract deliverable with an approval code 2. As such, it does not require formal Government approval, however, the Government reserves the right to request changes within 45 days of the initial submittal. Once approved, contractor changes to this document are handled in accordance with Class I and Class II change control requirements described in the EOS Configuration Management Plan, and changes to this document shall be made by document change notice (DCN) or by complete revision.

Any questions should be addressed to:

Data Management Office  
The ECS Project Office  
Hughes Information Technology Systems  
1616 McCormick Drive  
Upper Marlboro, MD 20774-5372

This page intentionally left blank.

# Abstract

---

This document describes the FOS Release B Formal Acceptance Test status as reported at the FOS Release Readiness Review (RRR). It focuses on providing test results from various perspectives: FOS subsystem, level 4 requirements, Requirements by Release (RBR), and Interface Requirements Document (IRD) requirements.

Included are detailed results for the entire suite of FOS tests conducted during the FOS Formal Acceptance Test Phase, including thread tests, end-to-end-tests, hardware tests, and confidence tests. It defines test results and identifies deviations to procedures, problems encountered and NCR status.

**Keywords:** I&T, Results, RRR, CSR, Integration, NCR, FOS, Test, Requirements, RBR, Pass, Fail

This page intentionally left blank.

# Change Information Page

<b>List of Effective Pages</b>			
<b>Page Number</b>	<b>Issue</b>		
Title	Original		
iii through x	Original		
1-1 and 1-2	Original		
2-1 and 2-2	Original		
3-1 through 3-142	Original		
A-1 through A-14	Original		
B-1 through B-36	Original		
C-1 through C-604	Original		
AB-1 through AB-6	Original		
<b>Document History</b>			
<b>Document Number</b>	<b>Status/Issue</b>	<b>Publication Date</b>	<b>CCR Number</b>
324-CD-005-001/ 412-CD-002-001	Original	October 1997	97-1372 (FOS) 97-1376 (ECS)

This page intentionally left blank.

# Contents

---

## 1. Introduction

1.1 Identification .....	1-1
1.2 Scope .....	1-1
1.3 Purpose.....	1-1
1.4 Status and Schedule .....	1-1
1.5 Document Organization.....	1-2

## 2. Related Documentation

2.1 Parent Documents .....	2-1
2.2 Applicable Documents.....	2-1
2.3 Information Documents .....	2-1
2.3.1 Information Documents Referenced .....	2-1
2.3.2 Information Documents Not Referenced.....	2-2

## 3. FOS Release B Formal Test Results

3.1 FOS Test Program Context.....	3-3
3.2 FOS Testing During the Formal Test Phase .....	3-6
3.3 FOS Release B Formal Test Results.....	3-6
3.3.1 FOS Subsystem - General Results .....	3-10
3.3.2 FOS Individual Test Results .....	3-17
3.4 FOS Requirements Status .....	3-139
3.5 FOS NCR Status .....	3-140

## **Tables**

3.1-1. FOS Release B Test Suite.....	3-3
3.3-1. FOS Formal Test - Release B.....	3-7
3.3.1-1 General FOS Capabilities.....	3-10
3.4-1. FOS Level 4 Requirements Status.....	3-140
3.4-2. FOS RBR Requirements Status.....	3-140
3.5-1. TRR FOS NCRs.....	3-141
3.5-2. RRR FOS NCRs.....	3-141

### **Appendix A. FOS RBR Test Status Matrix**

### **Appendix B. FOS Level 4 Requirement Test Status Matrix**

### **Appendix C. FOS Requirement Status Matrix**

## **Abbreviations and Acronyms**

# 1. Introduction

---

## 1.1 Identification

This document is the final version of the ECS System Acceptance Test Report for Release B, Earth Observing system (EOS) Operations Center (EOC), which is items 056 and 071 on the Contract Data Requirements List (CDRL) and defined by Data Item Description (DID) 324/DV3 and 412/VE2 under contract NAS5-60000.

## 1.2 Scope

This document summarizes the FOS acceptance test results for the Release B Formal Test period as presented at the FOS RRR.

In particular, the ECS System Acceptance Test Report for Release B, Earth Observing System (EOS) Operations Center (EOC) details the FOS system, as well as reporting on compliance with the Release B requirements as specified in the Functional and Performance Requirements Specification (#423-41-02), non mission-specific level 4 requirements as specified in the FOS Requirements Specification for the ECS Project, Volume 1 (#304-CD-001-003) and mission-specific Level 4 requirements as specified in the FOS Requirements Specification for the ECS Project, Volume 2 (#304-CD-004-003).

This document is under the ECS Configuration Control Board (CCB) and is the final release B submittal. Changes to these volumes must be approved by this ECS CCB prior to inclusion in the document.

This document reflects the February 7, 1996 Technical Baseline maintained by the contractor configuration control board in accordance with ECS Technical Direction No. 11, dated December 6, 1994.

## 1.3 Purpose

This document describes the FOS Release B Formal Acceptance Test status as reported at the FOS RRR. It focuses on providing test results from various perspectives: FOS subsystem, level 4 requirements, Requirements by Release (RBR), and Interface Requirements Document (IRD) requirements.

## 1.4 Status and Schedule

The submittal of DID 412/VE2 meets the milestone specified in CDRL of the National Aeronautics and Space Administration (NASA) contract NAS5-60000.

## **1.5 Document Organization**

Section 1 provides the scope and document organization.

Section 2 provides a list of related documents, which were used directly or indirectly in the preparation of this document.

Section 3 defines the FOS Release B Formal Acceptance Test results. It includes a brief description of the status of each FOS subsystem, description of test status for each test pass, test case pass/fail status information, and NCR status.

Appendix A contains the FOS RBR Test Status Matrix.

Appendix B contains FOS Level 4 Requirement Test Status Matrix.

Appendix C contains FOS Requirements Status Matrix Appendix

The section Abbreviations and Acronyms contains an alphabetized list of definitions for abbreviations and acronyms used in this volume.

## 2. Related Documentation

---

### 2.1 Parent Documents

The parent documents are the documents from which this FOS Acceptance Test Report's scope and content are derived.

304-CD-001-003	Flight Operations Segment (FOS) Requirements Specification for the ECS Project, Volume 1: General Requirements
304-CD-004-003	Flight Operations Segment (FOS) Requirements Specification for the ECS Project, Volume 2: AM-1 Mission Specific
322-CD-007-002/ 411-CD-007-002	Flight Operations Segment (FOS) Release B Integration and Test Acceptance Test Procedures for the ECS Project
412-CD-003-002	ECS System Acceptance Test Report Report for Release A, Volume 3: Earth Observing System (EOS) Operations Center (EOC) for the ECS Project
423-41-02	Goddard Space Flight Center, Functional and Performance Requirements Specification for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS)
423-41-03	Goddard Space Flight Center, EOSDIS Core System (ECS) Contract Data Requirements Document

### 2.2 Applicable Documents

The following document is referenced within this document, or is directly applicable, or contains policies or other directive matters that are binding upon the content of this volume.

307-CD-001-003/ 329-CD-001-003	Flight Operations Segment (FOS) Release Plan and Development Plan for the ECS Project
-----------------------------------	---

### 2.3 Information Documents

#### 2.3.1 Information Documents Referenced

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of the FOS Integration and Test Reports for the ECS Project.

194-201-SE1-001	Systems Engineering Plan for the ECS Project
194-202-SE1-001	Standards and Procedures for the ECS Project
193-208-SE1-001	Methodology for Definition of External Interfaces for the ECS Project
308-CD-001-006	Software Development Plan for the ECS Project
194-401-VE1-002	Verification Plan for the ECS Project

194-415-VE1-002	Acceptance Testing Management Plan for the ECS Project
501-CD-001-004	Performance Assurance Implementation Plan for the ECS Project
194-502-PA1-001	Contractor's Practices and Procedures Referenced in the PAIP for the ECS Project
604-CD-001-004	Operations Concept for the ECS Project, Part 1--ECS Overview
604-CD-002-003	Operations Concept for the ECS Project, Part 2B--Release B
604-CD-003-002	Operations Concept for the ECS Project, Part 2A--Release A

### **2.3.2 Information Documents Not Referenced**

The following documents, although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These documents are not binding on the content of the FOS Integration and Test Plan for the ECS Project.

104-CD-001-003	Data Management Plan for the ECS Project
193-105-MG3-001	Data Management Procedures for the ECS Project