Attachment B

Substitute sections 4.1 to 4.3 as follows for 4.1 through 4.3 of section 4.0 in Appendix V Data Deliverables to Implementing Arrangement No. 1 for ROCSAT-3/COSMIC Program:

4.1 Documents to be delivered to the UCAR

Delivered To: RSLP	Document	Date of delivery
	ATP Letter	* WSD
	Preliminary Payload (SC) drawings & Mass properties	WSD+6M
	Initial Payload (SC)-to-LV ICD Inputs	WSD+7M
	Payload (SC) PDR Data	WSD+9M
	Preliminary Payload (SC) Coupled Loads Model	WSD+11M
	Mission unique services definition	WSD+10M
	Payload (SC) CDR Data	WSD+16M
	Payload (SC) PRD Input	20 Sept 2004
	Final Payload (SC)/OSP ICD Inputs	WSD+17M
	Final Payload (SC) Drawing	WSD+17M
	Payload (SC) Annex to MSPSP	22 March 2005
	Payload (SC) final coupled loads model	1 May 2005
	Payload (SC) Operational Requirements Input	21 December 2004
	Payload (SC) Integration Test Plan	5 January 2005
	Checklist/Launch Constraints Inputs	22 June 2005
	Payload (SC) Launch Site Procedures and Preliminary Payload (SC) to LV Integration Procedure	7 March 2005
	Final Payload (SC) to LV Integration Procedure	7 May 2005
	Final Payload (SC) Mass Properties (Dry)	22 June 2005
	Final Payload (SC) Mass Properties (Wet)	1 October 2005

	ICD Verification Documentation	22 July 2005
	Launch Window Commitment	19 August 2005
	Payload (SC) Safety Approvals and Certification	22 August 2005
Range		
	OSP Range Safety System Report	15 June 2005-Updates As Required
	Operations Requirements. Document	22 April 2005
	OSP Missile Systems Pre-launch Safety Plan (MSPSP)	15 June 2005 - Updates As Required

Note: Payload in this context refers to the ROCSAT-3/COSMIC Spacecraft.
(all of them collectively)
*WSD denotes Work Starting Date of the Spacecraft Contract.

4.2 Documents to be delivered to NSPO

Delivered To: NSPO	Document	Date of delivery
	Preliminary Mission Analysis/Profile	11/15/04
	Preliminary LV-to-Spacecraft ICD	**WSD+8M
	MDR Data Pack	15 July 2004
	Final LV-to-Spacecraft ICD	20 July 2005
	Preliminary Coupled Loads Results	WSD+14M
	Final Coupled Loads Results	20 July 2005
	Final Mission Analysis/Profile	20 July 2005
	Integrated Launch Site Schedule	22 June 2005
	Mission Readiness Review Input	18 Sept. 2005
	Countdown Checklist and Mission Constraints	18 Sept. 2005
	Quick-Look Report	L+4 days
	Post Flight Report	L+5 Weeks

Note: Payload in this context refers to the ROCSAT-3/COSMIC

Spacecraft.

(all of them collectively)

**WSD denotes Work Starting Date of the Spacecraft Contract.

4.3 CDRL Title List

The CDRL items for required services are shown below:

CDRL Item Number	Approval Code	SOW	CDRL Title
RS3LV-CDRL-001	2	3.1	Integrated Management Plan
RS3LV-CDRL-002	1	3.2.1	Mission Design Review Report
RS3LV-CDRL-003	1	3.2.2	Pre-Ship Review Report
RS3LV-CDRL-004	1	3.4.4	Clearance/Coupled Loads Analysis Report
RS3LV-CDRL-005	1	3.5.2	Integrated Launch Site Operation Plan
RS3LV-CDRL-006	1	3.5.5	4-Day Report, Post-Launch Final Report
RS3LV-CDRL-007	1	3.6.1	LV-to-Spacecraft Interface Control Document

Note: The definition of Approval Code refers to the section 4.0 of Appendix III SOW.

IA#1 Data Requirements List			
1. Item #1	2. Title Integrated Management Plan	3. Approval Code 2	4. Distribution NSPO (2)
5. Date of 1st Submission WSD+3 Months		6. Subsequence and last submission N/A	
7. IA#1 Reference SOW 3.1			
8. Remarks			

The Provider shall provide NSPO the Integrated Management Plan (IMP) that UCAR receives from RSLP to ensure that the program schedule and performance objectives are achieved. The IMP will not include proprietary data or information from RSLP's contractors. The IMP shall describe the organization and management controls to be utilized in the implementation of the Implementing Arrangement No.1 for Launch Services. The IMP shall cover, as a minimum, the following:

- Management Plan Overview
  - Management Approach
  - ROCSAT-3 IMP
- Organization and Customer Interface
- LV-to-Spacecraft Interface Management Plan
- Program Control Methodology
- Subcontractor Management
- Data Management
- Communication Capability
- Master Program Schedule and Plan for Schedule Updates
- Process of obtaining all necessary launch permits, licenses, and clearances
- Risk Mitigation

The UCAR's format will be acceptable.

IA#1 Data Requirements List			
1. Item #2	2. Title Mission Design Review Report	3. Approval Code 1	4. Distribution NSPO (2)
5. Date of 1st Submission MDR+1 Month		6. Subsequence and last submission N/A	
7. IA#1 Reference SOW 3.2.1			
8. Remarks			

The Provider shall prepare and present a Mission Design Review. This review shall encompass all LV mission peculiar hardware, software, GSE, and related analyses. The Provider shall conduct the review so as to assure complete evaluation of the concepts, designs, and specifications for all services as defined in SOW. This design review will cover, as a minimum:

- Mission Requirements and Compliance
- Flight Environments
- Clearance/Coupled Loads Results
- Interface Definitions and Mechanical Clearances
- Mission Trajectory Profile and Timeline of Events
- Status of LV Program Schedule
- Summary of RF Compatibility Results
- LV and Spacecraft Integration Plan

The UCAR's format will be acceptable.

IA#1 Data Requirements List			
1. Item #3	2. Title Pre-ship Review Report	3. Approval Code 1	4. Distribution NSPO (2)
5. Date of 1st Submission PSR+1 Month		6. Subsequence and last submission N/A	
7. IA#1 Reference SOW 3.2.2			
8. Remarks			

The Pre-ship Review Report shall provide the NSPO with a set of viewgraphs of the material presented at the formal design review. The Provider and NSPO shall mutually agree upon Request for Actions for issues outstanding at the close of the review. The Pre-ship Review Report shall provide the current status and the planned activity in the future to close the items.

It shall include the following items:

- Status of configuration documentation
- Status of Product Assurance discrepancy
- Status of test discrepancies and solutions
- Status of requirements verification
- Status of safety documentation and transportation permits
- Status of readiness for shipping

The UCAR's format will be acceptable.

IA#1 Data Requirements List			
1. Item #4	2. Title Clearance /Couple Loads Analysis Report	3. Approval Code 1	4. Distribution NSPO (2)
5. Date of 1st Submission WSD+14 Months		6. Subsequence and last submission 20 July 2005	
7. IA#1 Reference SOW 3.4.4			
8. Remarks			

The Clearance/Coupled Load Analysis (CLA) utilizes the NSPO provided Spacecraft dynamic model to determine the Spacecraft and its components flight load.

The Clearance/CLA estimates the Spacecraft dynamic loads for lift-off, transonic flight, wind/gust, maximum dynamic pressure, separations and other critical events. The following data is requested at the conclusion of the Coupled Loads Analysis results:

- A listing of the ROCSAT-3/LV system mode descriptions, frequencies, and mass normalized eigenvectors for the coupled ROCSAT-3/LV configuration.
- System strain energy fractions.
- Modal damping schedule used for the transient time integration for the ROCSAT-3/LV system.
- Spacecraft response (transient or frequency) of all the model DOFs.
- Responses of all ATM and DTM DOFs.
- Time history plots with the associated data for the ROCSAT-3/LV interface to consist of the six interface force, acceleration, and displacement components. All the interface output shall be in ROCSAT-3 Spacecraft coordinate system.
- Max/Min table for all ATM, DTM, and LTM outputs.
- Shock response spectra at the interface grid 1.

The UCAR's format will be acceptable.

<table>
<tr><td colspan="4">IA#1 Data Requirements List</td></tr>
<tr><td>1. Item

#5</td><td>2. Title

Integrated Launch Site Operations Plan</td><td>3. Approval Code

1</td><td>4. Distribution
NSPO (2)</td></tr>
<tr><td colspan="2">5. Date of 1st Submission
22 June 2005</td><td colspan="2">6. Subsequence and last submission
N/A</td></tr>
<tr><td colspan="4">7. IA#1 Reference
SOW 3.5.2</td></tr>
<tr><td colspan="4">8. Remarks</td></tr>
<tr><td colspan="4">The Launch Site Operation Plan shall include the facilities to be used and the operations to be performed for both launch vehicle and payload processing. The CDRL shall provide at least the following descriptions:

● Facilities
– Payload processing facility
– LV components receiving and processing and launch team stage/fall back area
– Mission control center
– Mobile access structure
– Checkout/monitor vehicle
– Launch pad/payload state of health monitoring area
● Operations
– Receive and stack of 1st, 2nd , 3 rd and 4 th stages.
– Receive/prepare of PLF and PLA
– LV PLA and Spacecraft mate
– Encapsulation
– Transport and stack encapsulated assembly to LV
● Spacecraft Processing
– Spacecraft receive and ground support equipment staging
– High bay Spacecraft processing
– Spacecraft fueling and propellant tank monitoring
– Launch countdown operations/procedure

The UCAR's format will be acceptable, the detailed content is subject to USAF approval.</td></tr>
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<table>
<tr><td colspan="4">IA#1 Data Requirements List</td></tr>
<tr><td>1. Item

#6</td><td>2. Title

4-day Report, Post-Launch Report</td><td>3. Approval Code

1</td><td>4. Distribution
NSPO (2)</td></tr>
<tr><td colspan="2">5. Date of 1st Submission
L+4 Days</td><td colspan="2">6. Subsequence and last submission
L+1 Month</td></tr>
<tr><td colspan="4">7. IA#1 Reference
SOW 3.5.5</td></tr>
<tr><td colspan="4">8. Remarks</td></tr>
<tr><td colspan="4">The Provider shall submit Post Launch Report to NSPO compiling the actual chronology of the ROCSAT-3 Launch. Post-launch initial evaluation and data summary shall be submitted within 4 days of launch as a preliminary report.

The final report shall provide at least the following items
● Orbital parameters (state vector) after separation
● Load , trajectory and orbital report
● Spacecraft post separation events including CCAM and ACS operations
● Launch environment
● Supporting telemetry data
● Anomaly/resolution and significant event report
● Photograph and video record of the launch

The UCAR’s format will be acceptable.</td></tr>
</table>

IA#1 Data Requirements List			
1. Item #7	2. Title LV-to-Spacecraft Interface Control Document	3. Approval Code 1	4. Distribution NSPO (2)
5. Date of 1st Submission WSD+8 Months		6. Subsequence and last submission As Required, 20 July 2005	
7. IA#1 Reference SOW 3.6.1			
8. Remarks			

The Launch Vehicle to Spacecraft ICD shall define all the interfaces among Spacecraft, LV, Payload processing facilities and launch complex. The launch vehicle to Spacecraft ICD shall provide at least the following interface definitions:

- Performance and Mission interface – Orbit injection, launch date and window, payload separation and post-payload separation operation (ACS operation, CCAM, and flight constraint)
- Reference Coordinate Interface – Define both Spacecraft and LV coordinate system and separation planes
- Mass Properties – Mass, CG, MOI and their accuracy
- Mechanical Interfaces – Payload volume, access, interface ring and separation interfaces
- Electrical Interface – LV to Spacecraft electrical interfaces and harness, payload separation connector, payload EGSE connectors, Fiber optics Interface between Payload processing facilities, launch mount/utility room and launch monitoring vehicle
- Functional Interfaces – Payload separation velocities, telemetry and command and electrical power
- Environmental Interfaces – Thermal, flow, humidity, pressure, load and structure, shock, acoustics, contamination control and EMC
- Ground Operation Interface – Facility (payload processing, launch complex, monitoring vehicle), communication, system safety, payload processing, MGSE/EGSE and power connector
- Interface Verifications – Verification method, level and owner, verification matrix

The UCAR's format will be acceptable, the detailed content is subject to USAF approval.