

ICESat-2 Controlled Document
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ICESat-2

RAPID III OBSERVATORY DO

ATTACHMENT K

Applicable and Reference Documents

Revision A

Effective Date: June 7, 2011



**National Aeronautics and
Space Administration**

Goddard Space Flight Center
Greenbelt, Maryland

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TO VERIFY THAT THIS IS THE CORRECT VERSION PRIOR TO USE.

Applicable and Reference Document List for the Spacecraft Procurement

The documents listed in this Attachment apply directly to the performance of the ICESat-2 Delivery Order (DO). These documents establish detailed specifications, requirements, and interface information necessary for the performance of the DO. Unless otherwise specified, the document version in effect at the time the DO is executed shall apply.

Applicable Documents

<u>Document Title</u>	<u>Doc #</u>	<u>Rev:</u>
ICESat-2 Mission Assurance Requirements (MAR)	ICESat-2-SMA-REQ-0009	C
ICESat-2 Risk Management Plan	ICESat-2-SYS-PLAN-0097	-
ICESat-2 Spacecraft Contract Data Requirements List	ICESat-2-SCPM-CTR-0300	-
ICESat-2 Spacecraft Government Furnished Equipment List	ICESat-2SCPM-CTR-0296	A
ICESat-2 Deliverables Item List	ICESat-2SCPM-CTR-0298	-
ICESat-2 Spacecraft Requirements Document	ICESat-2SYS-REQ-0002	A
ICESat-2 Spacecraft Statement of Work	ICESat-2-SCPM-CTR-0301	B
ICESat-2 Spacecraft and Observatory Surveillance Plan	ICESat-2-SCSMA-PLAN-0193	A
ICESat-2 System Review Plan	ICESat-2-MGMT-PLAN-0085	-
ICESat-2 System Safety Program Plan (SSPP)	ICESat-2-SMA-PLAN-0494	A
ICESat-2 Spacecraft-ATLAS Interface Description Document	ICESat-2-SYS-IFACE-0325	B
ICESat-2 Launch Services Interface Description Document	ICESat-2-SYS-IFACE-0326	-
ICESat-2 Environmental Requirements Document	ICESat-2-SYS-REQ-0518	-
ICESat-2 Engineering Peer Review Plan	ICESat-2-SYS-PLAN-0100	-
ICESat-2 Spacecraft – Ground Interface Description Document	ICESat-2-SYS-IFACE-0324	B

ICESat-2 Mission Operations Center Requirements Document	ICESat-2-MOC-REQ-0537	A
ICESat-2 Mission Operations Center SOW	ICESat-2-MOC-CTR-0472	A
ICESat-2 Mission Operations Center CDRL	ICESat-2-MOC-CTR-0473	A
ICESat-2 Radiation Specification Document	ICESat-2-SMA-REQ-0037	A
ICESat-2 Spacecraft – ATLAS Mechanical Interface Control Document	ICESat-2-MECH-IFACE-0478	-
ICESat-2 Spacecraft – ATLAS Mechanical Interface Drawing	2153300	B
ICESat-2 ATLAS Electrical Block Diagram	ICESat-2-ELEC-SPEC-0501	A
ICESat-2 GOLD Rules Applicability	ICESat-2-SYS-RPT-0620	A
Security of Information Technology	NPR 2810.1	A
NASA Space Flight Program and Project Management Requirements	NPR 7120.5	D
NASA Export Control Program	NPR 2190.1	A
NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping w/Change 5	NPR 8621.1	B
GSFC MANAGEMENT SYSTEM NONCONFORMANCE CONTROL	GPR 5340.2	I
REPORTING OF MISHAPS AND CLOSE CALLS	GPR 8621.1	B
ANOMALY NOTIFICATION SYSTEM FOR CODE 400 PROGRAMS AND PROJECTS	400-PG-8621.1	H
CONFIGURATION MANAGEMENT	GPR 1410.2	D
NASA Systems Engineering Processes and Requirements w/Change 1	NPR 7123.1	A
SYSTEMS ENGINEERING	GPR 7123.1	A
NASA Software Engineering Requirements	NPR 7150.2	A
ENGINEERING PEER REVIEWS	GPR-8700.6	B
Space Network Users Guide,	450-SNUG	9

Near Earth Network Users Guide	453-NENUG	1
Recommendation for Space Data Systems Standards. TM Synchronization and Channel Coding. Blue Book. Issue 1.	CCSDS 131.0-B-1	-
Recommendation for Space Data Systems Standards. Space Packet Protocol. Blue Book. Issue 1.	CCSDS 133.0-B-1	-
Recommendation for Space Data Systems Standards. TC Synchronization and Channel Coding. Blue Book. Issue 1.	CCSDS 231.0-B-1	-
Technical Corrigendum 1 to CCSDS 231.0-B-1	CCSDS 231.0-B-1, Cor. 1	-
Recommendation for Space Data Systems Standards. TC Space Data Link Protocol. Blue Book. Issue 1.	CCSDS 232.0-B-1	-
Low Density Parity Check Codes for use in Near-Earth and Deep Space Applications	CCSDS 131.1-O-2	-
Time Code Formats	CCSDS 301.0-B-3	-
The Application of CCSDS Protocols to Secure Systems	CCSDS 350.0-G-2	-
Recommendation for Space Data Systems Standards. Radio Frequency and Modulation Systems	CCSDS 401.0-B-17	-
Recommendation for Space Data Systems Standards. AOS Space Data Link Protocol.	CCSDS 732.0-B-2	-
Low Density Parity Check Code for Rate 7/8	GSFC-STD-9100	-
NASA Engineering and Program Project Management Policy	NPD 7120.4	D
Payload Test Requirements	NASA-STD-7002	A
Payload Vibroacoustic Test Criteria	NASA-STD-7001	A
Pyroshock Test Criteria	NASA-STD-7003	-
Force Limited Vibration Testing	NASA-HDBK-7004	B
Dynamic Environmental Criteria	NASA-HDBK-7005	-
Structural Design and Test Factors of Safety for Space Flight Hardware	NASA-STD-5001	A
Load Analyses of Spacecraft and Observatories	NASA-STD-5002	-

Electromagnetic Interface Characteristics Requirements for Equipment	MIL-STD-461	C
Definitions and Systems of Units, Electromagnetic Interference Technology	IEEEC63.14	
Inspection Program Requirements, Non-Destructive Testing for Aircraft and Missile Materials and Parts	MIL-HDBK-6870	
Certification and Qualification of Nondestructive Test Personnel	NAS-410	
Standard NDE Guidelines and Requirements for Fracture Control Programs	MSFC-STD-1249	
Nondestructive Testing	MIL-HDBK-728	
Range Safety User Requirements	AFSPCMAN 91-710	July 2004
Quality Management Systems - Requirements	SAE 9100 ,2004	
Attachment 1 to U.S. Air Force Range Safety Memorandum, "Joint 45 SW/SE and 30 SW/SE Interim Policy Regarding EWR 127-1 Requirements For System Safety for Flight and Aerospace Ground Equipment Lithium-Ion Batteries", dated	N/A	May 4th, 2005
Guidelines for Quality Management System Documentation	ISO/TR 10013:2001 2001	
Applied Engineering and Technology Directorate Safety Manual Safety Manual	GSFC 500-PG-8715.1.2,	B
KSC Safety Practices Procedural Requirements	KNPR 8715.3,	Revision G, November 12, 2008
KSC Ionizing Radiation Protection Program	KNPR 1860.1,	Revision Basic-1, October 15, 2004
Non-Ionizing Radiation Protection Program	KNPR 1860.2,	Revision Basic-1, October 15, 2004
Standard for Lifting Devices and Equipment	NASA-STD-8719.9,	Initial, October 1, 2007

NASA Procedural Requirements for Limiting Orbital Debris	NPR 8715.6A,	A
Expendable Launch Vehicle Payload Safety Program	NPR 8715.7	-
Safety Standard for Explosives, Propellants, and Pyrotechnics	NSS 1740.12, Initial,	August 1993
NASA General Safety Program Requirements	NPR 8715.3 Revision C with Change 3, March 12, 2008	C
Risk Classification for NASA Payloads	NPR 8705.4, Initial, June 14, 2004	-
Probabilistic Risk Assessment (PRA) Procedures for NASA Programs and Projects	NPR 8705.5	A
Software Safety Standard	NASA-STD-8719.13, Revision B with Change 1, July 8, 2004	
NASA Standard for Software Assurance	NASA-STD-8739.8, Initial w/Change 1, July 28, 2004	
For the Development of an Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)	ANSI/ESD S20.20-2007, March 2007	
Guidelines for Acceptability of Printed Boards (Class 3 Requirements)	IPC A-600G, Revision G, September 2004	
Generic Standard on Printed Board Design	IPC-2221A, Revision A, June 2003	
Sectional Design Standard for Rigid Organic Printed Boards	IPC-2222, Initial, February 1999	
Sectional Design Standard for Flexible Printed Boards	IPC-2223A, Revision A, September 2007	
Sectional Design Standard for Organic Multichip Modules (MCM-L) and MCM-L Assemblies	IPC-2225, Initial, March 2000	
Generic Performance Specification for Printed Boards (Class 3 Requirements)	IPC-6011, Initial, July 1996	

Qualification and Performance Specification for Rigid Printed Boards (Class 3/A Requirements)	IPC-6012B, Revision B with Amendment 1, January 2007	
Qualification and Performance Specification for Flexible Printed Boards (Class 3 requirements)	IPC-6013B, Revision B, February 2009	
Qualification and Performance Specification for Organic Multichip Module (MCM-L) Mounting and Interconnecting Structures	IPC-6015, Initial, February 1998	
Workmanship Standard for Staking and Conformal Coating of Printed Wiring Boards and Electronic Assemblies	NASA-STD-8739.1, Revision A March 2008	A
Workmanship Standard for Surface Mount Technology	NASA-STD-8739.2, Initial with Change 1, June 2008	-
Soldered Electrical Connections	NASA-STD-8739.3, Initial with Change 3, June 2008	-
Crimping, Interconnecting Cables, Harnesses, and Wiring	NASA-STD-8739.4, Initial with Change 4, July 2008	-
Fiber Optic Terminations, Cable Assemblies, and Installation	NASA-STD-8739.5, Initial with Change 1, July 2008	-
Microwave End Product Board Inspection and Test	IPC-6018A, Revision A, January 2002	
Requirements for the Calibration of Measuring and Test Equipment	ANSI/NCSL Z540.3:2006	
Specification for Destructive Physical Analysis	GSFC S-311-M-70	
Instructions for EEE Parts Selection, Screening, Qualification, and Derating	GSFC EEE-INST-002 with Addendum 1, April 2008	

Department of Defense Inspection Program Requirements, Nondestructive for Aircraft and Missile Materials and Parts	MIL-HDBK-6870, Revision A, August 28, 2001	
Guidelines for the Selection of Metallic Materials for Stress Corrosion Cracking Resistance in Sodium Chloride Environment	MSFC-STD-3029, Revision A, February 24, 2005	
Standard Materials and Processes Requirement for Spacecraft	NASA-STD-6016, Initial, July 2008	-
Performance Standard for Aerospace and High Performance Electronics Systems Containing Lead-free Solder	GEIA -STD-0005-1, Revision/Edition 06, June 2006	
Standard for Mitigating the Effects of Tin Whiskers in Aerospace and High Performance Electronic Systems	GEIA-STD-0005-2, Revision/Edition 06, September 4, 2006	
GIDEP Operations Manual	S0300-BT-PRO-010, November 1994	
NIST Special Publication	800.53	Rev 3
National Security Agency (NSA)/Central Security Service (CSS) Policy Manual No. 3-16		
Committee on National Security Systems (CNNS) Policy No. 12		
NASA Engineering and Program Project Management Policy	NPD 7120.4	D
Criteria for Flight Project Critical Milestone Reviews	GSFC-STD-1001	A
AIAA S-111 Qualification and Quality Requirements for Space Solar Cells		2005
AIAA S-112 Qualification and Quality Requirements for Space Solar Panels		2005

Reference Documents

These documents contain information relating to the work required by this ICESat-2 DO.

<u>Document Title</u>	<u>Doc #</u>	<u>Rev:</u>
ICESat-2 Configuration Control Procedures	ICESat-2-MGMT-PROC-0019	-
NASA Safety Manual	NPR 8715.3	C
Applied Engineering and Technology Directorate Safety Manual	500-PG-8715.1.2	B
Department of Energy 10 CFR Part 850 (Chronic Beryllium Disease Prevention Program)	Final Rule -- 12/8/1999	
Portable Simulation System and Simulations Operation Center Guide for TDRSS & GSTDN	STDN No. 101.6	
General Environmental Verification Standard (GEVS) for GSFC Flight Programs and Projects	GSFC-STD-7000	D
Atlas V Payload Planners Guide		
Delta IV Payload Planners Guide		
F-9 Payload Planners Guide		
Rules for the Design, Development, Verification, and Operation of Flight Systems	GSFC-STD-1000	E
ICESat-2 Ground System Requirements Document	ICESat-2-GSPM-REQ-0330	A
ICESat-2 Geo-location Budgets	ICESat-2-SYS-REQ-0450	A
ICESat-2 Mission Requirements Document.	ICESat-2-SYS-REQ-0147	E
ICESat-2 Mission Operations Concept Document	ICESat-2-SYS-PLAN-0006	Rev B
ICESat-2 Radiation Environment Description Document	ICESat-2-SYS-REQ-0277	Rev A
ICESat-2 Laser Safety Plan		

ICESat-2 Beryllium Safety Plan	ICESat-2-SMA-PLAN-0032	-
Process for Limiting Orbital Debris, 8/28/07	NASA-STD-8719.14	Initial w/ chg 1
NASA Security Program Procedural Requirements	NPR 1600.1 w/ chg 2	11/3/04
Risk Management Procedural Requirements, 4/25/02	NPR 8000.4	A
Safety and Mission Assurance Audits, Reviews, and Assessments	NPR 8705.6	A
Probabilistic Risk Assessment (PRA) Procedures for NASA Programs and Projects,	NPR 8705.5	A
Risk Management	GPR 7120.4	B
Systems Engineering	GPR 7120.5	A
Configuration Control	400-PG-1410.2.1	C
Management Review and Reporting for Programs and Projects	GPR 1060.2	D
Integrated Independent Reviews	GPR 8700.4	F
ICESat-2 Reliability Program Plan	ICESat-2-SMA-PLAN-0593	TBS