BOOK I	**I. INTRODUCTION**		
		Mission Statement	Mission Concept Registration Data Package
		Team Members, Advisors & International Liaisons	Mission Concept Registration Data Package
		Teammates & Sponsors	Mission Concept Registration Data Package
	II. CONCEPT OF OPERATIONS		
		Concept of Operations Narrative	Mission Concept Registration Data Package
		Concept of Operations Diagram	Mission Concept Registration Data Package
	III. MISSION CONSIDERATIONS		
		Development Considerations	Mission Concept Registration Data Package
		Ground Segment Considerations	Mission Concept Registration Data Package
		Structural Considerations	Mission Concept Registration Data Package
		Launch Considerations	Mission Concept Registration Data Package
		Deployment Considerations	Mission Concept Registration Data Package
		Trajectory Considerations	Mission Concept Registration Data Package
		Attitude Control System Considerations	Mission Concept Registration Data Package
		Communication Considerations	Mission Concept Registration Data Package
		Articulated Subsystem Considerations	Mission Concept Registration Data Package
		Electrical Considerations	Mission Concept Registration Data Package
		Navigation Concepts	Mission Concept Registration Data Package
		Propulsion Considerations	Mission Concept Registration Data Package
		Command & Control Concepts	Mission Concept Registration Data Package
		Thermal Considerations	Mission Concept Registration Data Package
		Conceptual Considerations	Mission Concept Registration Data Package
		Conceptual Method of Disposal	Mission Concept Registration Data Package
	IV. PRELIMINARY FREQUENCY ALLOCATION DATA PACKAGE		
		EL-CID Status	Mission Concept Registration Data Package

BOOK 2 + AVAILABLE BOOK 3 ELEMENTS

	V. ACS PRELIMINARY CUBE QUEST DESIGN PACKAGE			Cube Quest Design Package
	A. System Design			Cube Quest Design Package
			Mission objectives (goals) (from MCDRP Sect. 2.2). Competitor Teams need to include in their MCDP Sect. 2.2, their complete list all of the 4 possible Lunar Derby Prizes and all of the 4 possible Deep Space Derby Prize(s) for which they intend to compete. Judges evaluate scores in Score Card 1-Likelihood of Mission Success with respect to only the list of Prizes stated in your MCRDP Section 2.2	Cube Quest Design Package
			? List all system-level requirements.	Cube Quest Design Package
			? System-level block diagrams (CubeSat, ground systems including ground stations, mission operations center, data center, communications networks, ground operators, etc.)	Cube Quest Design Package
			? System-level design description	Cube Quest Design Package
			? Complete Subsystem Requirements. Show how the subsystem requirements are derived from, and their relationship to, the system-level requirements. Judges will assess how subsystem design support the subsystem and system-level requirements.	Cube Quest Design Package
			? Identification of transport, storage, launch, and in-space operating environments for the CubeSat	Cube Quest Design Package
			? Analyses supporting completeness of subsystem requirements and demonstrating that taken together, the subsystem requirements will meet the mission objectives	Cube Quest Design Package
			? Technology Readiness Level (TRL): As defined in NASA/SP-2007-6105 Rev 1 pg 296. Include rational for stated TRL.	Cube Quest Design Package
			? Summary of appropriate system level margins	Cube Quest Design Package
			? Summary of key mission risks and descriptions of mitigations being considered	Cube Quest Design Package
			NOTE: Be sure to include trajectories, ranges, velocities, orbital mechanics and propulsive maneuvers analysis that support communications range and directional elements (antennas, solar arrays, pointing requirements, etc).	Cube Quest Design Package
	B. Implementation Plan			Cube Quest Design Package
			? A description of the integration and test flow with schedules and flow diagrams as deemed appropriate by the team	Cube Quest Design Package
			? Test environments and test plans	Cube Quest Design Package
			? Identification of necessary test facilities and personnel	Cube Quest Design Package
			? Key tests, both within the spacecraft bus and with external systems, including ground stations and mission operations center(s)	Cube Quest Design Package
			? Other requirements verification plans	Cube Quest Design Package
			? A development schedule. The schedule must at least, show milestones relative to phased safety review milestones and demonstrate compliance with schedules of SLS-PLAN-217 SLS Secondary Payload Safety Review Process, Sect. 4.	Cube Quest Design Package
			? SLS Safety Hazard Verification Plans and Methods as defined in SLS-SPIE-RQMT-018 IDRD Sect 4.0 and App B VCRM if the Competitor Team is requesting a launch on EM-1; or as required by the third party launch vehicle if the Competitor Team is electing for a third party launch.	Cube Quest Design Package
	C. Ground Systems and Mission Operations Design			Cube Quest Design Package
	D. Subsystems Design			Cube Quest Design Package
			There should be a subsystem chapter for each element in the system-level block diagram.	Cube Quest Design Package
			Each subsystem chapter must contain the following information, in this order:	Cube Quest Design Package
			1. Clearly stated requirements repeated from the System Design Chapter 8.A that are relevant to the subsystem described in the subsequent chapters. The subsystem design will be judged in part on the completeness of this set of requirements and the ability of the design to meet these requirements.	Cube Quest Design Package
			2. Complete description of the baseline subsystem design, including state of design development, flight heritage, etc.	Cube Quest Design Package
			3. Analyses demonstrating ability of subsystem design to meet requirements, including complete descriptions of the analyses performed, inputs used and results. The Judges should be able to repeat or verify your results based on the information provided solely in the System Design Section and the relevant Subsystem Design chapter.	Cube Quest Design Package
			4. Technology Readiness Level (TRL): As defined in NASA/SP-2007-6105 Rev 1 pg 296. Include rational for stated TRL.	Cube Quest Design Package
			5. Include margin analysis as appropriate.	Cube Quest Design Package
			Evaluation and scoring criteria are given in Appendix A. More detailed guidelines for evaluation are given in subsequent chapters.	Cube Quest Design Package
			NOTE: Be sure to include trajectories, ranges, velocities, orbital mechanics and propulsive maneuvers analysis that support communications range and directional elements (antennas, solar arrays, pointing requirements, etc).	Cube Quest Design Package
		1 Communications Subsystem (COMM)		Cube Quest Design Package
		2 Electrical Power Subsystem (EPS)		Cube Quest Design Package
		3 Data Management Subsystem [Command and Data Handling/Flight Software] (DMS)		Cube Quest Design Package
		4 Guidance, Navigation & Control + Attitude Determination & Control Subsytem (GN&C)		Cube Quest Design Package
		5 Structures & Mechanisms Subsystem (S&Mech)		Cube Quest Design Package
		6 Propulsion Subsystem (PROP)		Cube Quest Design Package
		7 Thermal Control Subsystem (TCS)		Cube Quest Design Package
		8 Primary Payload Subsystem (PPS) - Encoded Bit Stream		Cube Quest Design Package
		9 Secondary Payload Subsystem (SPS) - Scar		Cube Quest Design Package
		10 Ground Subsystems (GRDS)		Cube Quest Design Package
	VI. PAYLOAD QUESTIONNAIRE FOR LAUNCH SERVICES PROVIDER			Cube Quest Design Package

				Morph SLS Secondary Payload Questionaire Answers		Cube Quest Design Package
		VII. LAUNCH SERVICES PROVIDER REQUIRED SAFETY DATA				Cube Quest Design Package
			Safety Requirements abstract			Cube Quest Design Package
			Updated Safety Requirements Compliance Matrix			Cube Quest Design Package
		VIII. ENGINEERING WORKBOOKS, VENDOR DATA & OTHER REFERENCES				Cube Quest Design Package
			1 Communications Subsystem (COMM)			Cube Quest Design Package
				COMM Engineering Workbook		Cube Quest Design Package
				COMM Vendor Data		Cube Quest Design Package
				COMM Other References		Cube Quest Design Package
			2 Electrical Power Subsystem (EPS)			Cube Quest Design Package
				EPS Engineering Workbook		Cube Quest Design Package
				EPS Vendor Data		Cube Quest Design Package
				EPS Other References		Cube Quest Design Package
			3 Data Management Subsystem [Command and Data Handling/Flight Software] (DMS)			Cube Quest Design Package
				DMS Engineering Workbook		Cube Quest Design Package
				DMS Vendor Data		Cube Quest Design Package
				DMS Other References		Cube Quest Design Package
			4 Guidance, Navigation & Control + Attitude Determination & Control Subsytem (GN&C)			Cube Quest Design Package
				GN&C Engineering Workbook		Cube Quest Design Package
				GN&C Vendor Data		Cube Quest Design Package
				GN&C Other References		Cube Quest Design Package
			5 Structures & Mechanisms Subsystem (S&Mech)			Cube Quest Design Package
				S&Mech Engineering Workbook		Cube Quest Design Package
				S&Mech Vendor Data		Cube Quest Design Package
				S&Mech Other References		Cube Quest Design Package
			6 Propulsion Subsystem (PROP)			Cube Quest Design Package
				PROP Engineering Workbook		Cube Quest Design Package
				PROP Vendor Data		Cube Quest Design Package
				PROP Other References		Cube Quest Design Package
			7 Thermal Control Subsystem (TCS)			Cube Quest Design Package
				TCS Engineering Workbook		Cube Quest Design Package
				TCS Vendor Data		Cube Quest Design Package
				TCS Other References		Cube Quest Design Package
			8 Primary Payload Subsystem (PPS) - Encoded Bit Stream			Cube Quest Design Package
				TCS Engineering Workbook		Cube Quest Design Package
				TCS Vendor Data		Cube Quest Design Package
				TCS Other References		Cube Quest Design Package
			9 Secondary Payload Subsystem (SPS) - Scar			Cube Quest Design Package
				SPS Engineering Workbook		Cube Quest Design Package
				SPS Vendor Data		Cube Quest Design Package
				SPS Other References		Cube Quest Design Package
			10 Ground Subsystems (GRDS)			Cube Quest Design Package
				GRDS Engineering Workbook		Cube Quest Design Package
				GRDS Vendor Data		Cube Quest Design Package
				GRDS Other References		Cube Quest Design Package