STEREO CONFIGURATION CHANGE REQUEST

For Office Use Only	TITLE:	CLASS:		NUMBER:
			I	
			II	DATE:

CONFIGURED ITEM:		ORIGINATOR:		PRIORITY:	
		Name:	Dave Curtis		
STS Number:	Payload: STEREO	Organization:	U.C. Berkeley	√	Routine
Component :	Experiment: IMPACT	Phone:	510-642-5998		Urgent
Component Part #:	Serial #:	Email:	dwc@ssl.berkeley.edu		Emergency

TYPE OF REQUEST:			RESPONSIBLE ORGANIZATION / INDIVIDUAL:	IMPACTS: (If yes attach additional pages)				
	Configuration							
	Deviation	#		COST:		Yes	√	No
√	Waiver	#						
	Other:			SCHEDULE:		Yes	√	No

REASONS FOR CHANGE:						RETEST REQUIRED:	
√	Improvement		Test / Payload Failure		New Document:		No
	Reliability		Specification Requirements		Other:		Yes

PROPOSED CHANGE (Attach additional pages as required):

The SEP Central power converter also powers SIT, mounted remotely. Both units connect secondary ground to chassis ground. This violates the Project EMC requirements as called out in 7381-9030d, section 3.2.2.6

RATIONALE (Attach additional pages as required):

SIT and SEP Central were originally one unit; recently they have been separated by a small distance (<10cm). Rather than incur the cost, resource penalties, and complexity of a separate converter or separate secondary for SIT, IMPACT proposes to continue to use a shared converter. Since both units are thermally isolated, their primary electrical connection to spacecraft chassis ground is via the ground straps. We can avoid spacecraft structure ground currents by connecting the ground straps for both units to a common spacecraft grounding stud. Note however that SIT is also connected to spacecraft chassis ground via harnesses to SEP Central and the spacecraft. It is unlikely however that any significant current would travel through the harness shield to spacecraft chassis ground and then back to SEP Central via its ground strap given the much shorter, lower impedance path through the ground strap to ground strap connection. AC ground currents shall further be limited by common mode filters between the two units. The maximum SIT DC ground current is estimated to be 50mA; with the proposed ground strap configuration we expect none of that to be on the spacecraft chassis.

DOCUMENTS / DRAWINGS AFFECTED (Document No. / Title / Section) :

AFFECTED (Check all that apply):

FLIGHT SYSTEMS:				GROUND SYSTEMS:			
	Avionics		Electrical and Cables				
√	Experiment		Software / Firmware				
	Structures and Mechanical		Other:				Other:

REQUIRED APPROVAL DATE: _____ REQUIRED JUSTIFICATION:	

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CONTRACT / AGREEMENT NUMBER EFFECTIVITY:

	STEREO NAS5-97271	√	IMPACT S-13635Y		PLASTIC NAS5-00132		SECCHI S-13631Y

DOCUMENTS / DRAWINGS TO BE REVISED:

Document / Drawing Number:	Document / Drawing Title:	Section(s) No.	EO No.:	Date Completed:

PROCESSING APPROVAL:

	CCB		
	Out of Board		
	Emergency	Systems Engineer	Date

CCB APPROVAL:

CCB ACTION DATE:		CCB ACTION ITEMS / CONDITIONS:
	Approved	
	Denied	
	Withdrawn	
	Hold	

CLOSEOUT COMMENTS:	DATE OF CLOSEOUT:
	CMO