

SPIRE

Minutes

Minutes of Preliminary Design Review, COM
DEV, Ontario, 17Jul01

Ref: SPIRE-USK-MOM-
000804

Issue: 1.0

Date: 17Jul01

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MINUTES OF MEETING

REFERENCE		MIN/SPI/50018/005	SHEET 1 OF 6
REV.		PO	
DATE		July 17, 2001.	PLACE COM DEV
SUBJECT SPIRE Preliminary Design Review			
PARTICIPANTS		AGREEMENT (SIGNATURE)	
CUSTOMER	Don Peterson, CSA Gary Davis, U. of Saskatchewan Joe Taylor, U. of Saskatchewan John Coker, MSSC Doug Griffin, RAL		Don Peterson Gary Davis Joe Taylor John Coker Douglas Griffin
	COM DEV	Terry Girard John Hackett Dwight Caldwell Robert Deschambault	
COPIES:			
PREPARED BY:			

Attached: Presentation

REFERENCE:

SHEET: 2 OF: 6

ACTION/DATE

G. Davis presented the science overview of SPIRE

D. Peterson presented the Technical Document Tree.

-IRD Requirements are captured in Gary's Shutter Subsystem Spec.

G. Davis presented the Shutter Requirements

QMW black is planned for SPIRE. Different blacks will may be required for the different instruments

R-13 TBD1 (Temperature) has been penciled in as 1K, but 2K is probably acceptable. (D. Griffin)

J. Taylor presented the Shutter Usage

STM need only be representative for the "out of the beam" condition

- Doug Griffin will confirm.

July 24

A

J. Hackett presented the Compliance

GSE Cavity may provide an additional testing configuration

- Joe Taylor to get information
Doug Griffin

July 24

A

J. Coker stated optical cube has been moved to be in-line with the optical bench. Mounting feet and protective cover for cube will be implemented not to further encroach on shutter envelope.

REFERENCE:

SHEET: 3 OF: 6

ACTION/DATE

183B green scotchweld used for staking - not used at cryogenic temperatures yet - MSSL will look into this. RAL uses stycastr Stycastr 2850 is used by PAGES as a base for their block.

HIFI beam info - looks like 1.4mm clearance if we taper at HIFI angle - John Coker will confirm and define angle

July 24

Need clarification: ^{Does} if the cryoharness comes all the way to the shutter? COMDEV currently assumes there are no connectors or harnessing to the filter boxes needed.

Doug Griffin
July 24

Overall harness field is shared with non-shutter harnessing is a correct assumption.

Doug Griffin

(Confirm harness and who provides)
Currently FCU harnessing shows latch status for BSM and SMEC going through J 27 + J 28 - these must be split out - so Shutter EGSE does not interface with flight hardware for BSM and SMEC

July 24

REFERENCE:

SHEET: 4 OF: 6

ACTION/DATE

Current rating on 10 Ω wires is 30mA. Prefer 120mA

Doug Griffin

Can we run at reduced duty cycle at 120mA?

July 24

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Is 30 mA relevant and accurate for the shutter-

Doug Griffin

Variations in 10- Ω vs Temperature.

July 24

A

The motor requires 50mA. Need 100mA for redundant windings.

Can latch be driven in opposite polarity to minimize current on return line?

COM DEV

July 24

A

CDMU common to Planck + Herschel

Doug will clarify the 10 ohm Alcatel spec - is it at the electronics or at the switch? Also how will it be sensed (duty cycle)?

Doug Griffin

July 24

A

Details of final vane stowing and latching are requested -

Doug Griffin

is it in vacuum? How accessible is the EGSE re-connection port?

Aug 24

A

COM DEV to prepare a note on vane latch telemetry monitoring for S/C level

July 27

A

REFERENCE:

SHEET: 5 OF: 6

ACTION/DATE

COM DEV TO CONSIDER ^{PUT} ~~PLACING~~ ^{HEATERS} (WINDINGS) ON THE
MOTOR AND LATCH ^{SIMULATORS} FOR STM TESTING.

CONNECTORS: RAL looking at crimp style. COM DEV
would like to know the style of connectors and wire
used by the project (AL or SS body) and wire

COM DEV to forward schedule to CSA

July 18

A

Cryostat lid temperature and emissivity are serious
factors in the thermal design. Doug Griffin
to follow-up on these properties

Aug 24

A

Joe Taylor to follow-provide details of QMW
black coating

July 27

A

COM DEV to provide Harness table
with current limits

July 18

A

COM DEV to provide ICD and solid
model

July 20

A

COM DEV to ^{discuss} ~~provide~~ thermal model
with Sam Heys

July 27

A

COM DEV to comment on common
return for temperature sensor and motor drive
vs return on shield (as per J. Delderfield)

July 27

A

REFERENCE:

SHEET: 6 OF: 6

ACTION/DATE

Don Peterson to formally request
that the mass allocation for
the shutter to be revised.

~~A~~
July 27

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