

 MEMO	 	Alcatel Space Industries Herschel Planck project office OS/I/H Fax + 33 4 92 92 30 10 Tel Secretary: + 33 4 92 92 30 85	Nb pages 1/6
		Date 30/04/02	Référence HP-ASPI-LT-1330-issue 1

DE / FROM : B.Collaudin

A / TO Instrument PI's

ESA G.Crone

Astrium W.Ruehe, E.Hoelzle

Alenia M.Sias, M.Cesa

Alcatel: G.Lund, J.P.Chambelland, P.Rideau,
D.Montet, J.Y.Charnier, J.J.Juillet, S.Raphel

Ref: ESA Fax SCI-PT-12165 Instrument interface Toward PDR

Instrument interface recovery Plan

Following instruments IBDR and System Quarterly progress meeting, it has been proposed to adjust the instrument interface organisation in the 2 following directions:

1: Instrument Interface Documents (IID) change process:

The change process has to be enhanced to cope with a non yet frozen design and a relatively large number of changes. The objective is to reach together a consistent and agreed set of IID's at the satellites PDR data package delivery (end 06/2002).

Instead of processing every change via formal change request, we propose to use list of desired changes, which are debated (ESA-Industry-Instruments) to agree them or not, identified the critical changes (design change with cost & schedule impact). This method will be continued after PDR.

2: Clarification of the role of Alcatel and Astrium with respect to the Herschel Instruments FPU interfaces.

To improve the efficiency for the design of the Herschel instruments FPU interfaces, the responsibility of the management of these interfaces is fully delegated to Astrium FN. Alcatel keep overall responsibility, and interfaces FPU/Warm units.

The details of this improved organisation is described in an update of the instrument interface organisation document H-P-1-ASPI-RP-0122 (issue 1)

B.Collaudin

J.J.Juillet

Attached:

Annex 1 IID Change process update and recovery plan for IID's for PDR.

Annex 2: Organisation of the Herschel-Planck instrument interface management

 MEMO	 	Alcatel Space Industries Herschel Planck project office OS/I/H Fax + 33 4 92 92 30 10 Tel Secretary: + 33 4 92 92 30 85	Nb pages 2/6
		Date 30/04/02	Référence HP-ASPI-LT-1330-issue 1

Annex 1: IID Change process update And recovery plan for IID's for PDR.

1 Objectives

The objective of this note is to define the action plan to obtain for the PDR (June 2002) an agreed and consistent set of Herschel & Planck Instrument Interface documents (IID A describing the spacecraft interfaces, and the 5 instruments IID B).

Consistent means that the IID-B document should be consistent with the instrument status at the IBDR's (Instrument baseline design review performed in Feb-March 2002), and the IID-A consistent with both the IID-B and the Spacecraft design at PDR.

Agreed means that they can be signed by Instrument and industry as requirement and commitment.

The IID-B shall be updated to version 2.1 or 2.2, according to current changes requests which have already been submitted to industry for analysis, together with all known information representing the IBDR instrument status, and is known and used by Alcatel in the system design but not yet embodied in the IID-B's.

The IID-A shall be updated to version 3.0 in line with the IID-B's (2.1 or 2.2) and fully in line with the system design for PDR.

2 Background

IID's issue 1 (Sept 2000) which accompanied the ITT was used by industry to base design compliance, cost & schedule.

IID's Issue 2 (originally foreseen at kick off meeting) was the result of an ESA update delivered together with the industry SRR data package (Sept 2001). Although not formally accepted due to the large number of changes, the version 2 was used as engineering baseline.

The SRR recommendation was to proceed to consistent issues 2.1 by end 2001.

To track the changes, (and avoid the confusion of the various non-configured intermediate versions 1.1) the IID's have been set to configuration control from this version 2.0.

The normal change process proved to be very slow, due to the too large number of proposed changes required, and the serial processing of the CR's (Instrument ->ESA->Alcatel->Astrium/Alenia, then back.

The current situation is as follows:

HIFI IID-B 2.1 has been signed in January by industry, but has to be updated to v 2.2 again as most of the warm unit have been modified. Negotiation meeting about new update took place on 24/4/02 (HP-ASPI-MN-1367), where agreement has been reached.

SPIRE IID-B. Convergence meeting held on 13/2/02 to conclude about on going change requests, with 2 open points (FPU thermal & cryoharness). Further meeting was held on 19/04 at

 MEMO	 	Alcatel Space Industries Herschel Planck project office OS/I/H Fax + 33 4 92 92 30 10 Tel Secretary: + 33 4 92 92 30 85	Nb pages 3/6
		Date 30/04/02	Référence HP-ASPI-LT-1330-issue 1

RAL (HP-ASPI-MN-1346), resulting in a fully agreed set of updates to be submitted to ESA approval as version 2.2.

PACS: Convergence meeting taking into account on going Change Requests and recent instrument update was held on 26/04/02 (HP-ASPI-MN-1369).

HFI IID-B 2.1: All changes have been processed, and DCN is about to be signed, and is in line with IBDR design.

Due to instrument funding problems, the definition of **LFI** was not well defined. Industry proposed to work with IID-2.0. LFI Design status review on 26-28/03/02 defined a new baseline (12 radiometer instrument) to be implemented, aimed to be compatible with frozen interfaces. During that meeting, update of IID-B was initiated (red-line copy), and was concluded during 2 additional teleconferences.

During these meeting, most of the changes were agreed, and will be implemented in a red-line copy of the IID-B's.

Critical points have been identified, and will be subjects to change request to be processed in parallel (not part of IID-B, or included with caveat).

3 Organisation

It is propose for PDR, and in the future, to adjust the IID change process to improve its efficiency. The number of change requests should be limited to the main technical evolution with potential cost or schedule impacts.

3.1 IIDA

The update of IID-A will be achieved using a redline version that reflects the modifications implemented in the design (from IID-B update, or from spacecraft design refinement).

It is proposed to update the IID-A to reflect the design evolution or of the agreed changes of the instruments (compatibility with IID-B's).

The document will be updated with input from payload teams and engineering teams from industry (Alcatel, Astrium, Alenia).

The main modifications will have to get the approval and agreement of ESA and instruments respectively (circulation of red-lined chapters) before to be implemented in the main document. The red lined document will be distributed to ESA and instruments for this agreement.

3.2 IID-B

For the update of IID-B 2.1/2.2 and further, the change process is adjusted to track only changes with potential cost & schedule impact.

Proposed changes are discussed in instrument interface meetings before they are issued.

 MEMO	 	Alcatel Space Industries Herschel Planck project office OS/I/H Fax + 33 4 92 92 30 10 Tel Secretary: + 33 4 92 92 30 85	Nb pages 4/6
		Date 30/04/02	Référence HP-ASPI-LT-1330-issue 1

Instrument will issue change list (see template in annex) which will be evaluated by industry to identify the changes that will have design impact (cost or schedule).

Instrument can also propose changes to IID-B, to reflect the assumption and formalise the data given by instruments and currently used for the design

This list is reviewed by ESA/industry,

- to identify the changes which have cost & schedule impacts,
- to identify which changes must be included in the next version of IID-B.

The change list will be discussed during interface meetings (or dedicated convergence meeting or teleconference as required) where changes are explained, negotiated (agreed, or rejected). At the end of the meeting, the list of changes should be agreed and signed.

Changes without cost & schedule impacts are to be implemented in a red line version of the IID-B.

For the changes that have cost or schedule impact, a change request will be issued, and action taken (with identified responsible) to evaluate the impacts (design, cost, schedule), and an ECP is established by industry to ESA. A maximum of 4 weeks should be allowed to propose the ECP.

This method is used for the short term convergence exercise required for PDR, where the changes are discussed in dedicated convergence meetings.

In the future, evaluation of these changes shall be fully part of the instruments interface meetings.

 MEMO	 	Alcatel Space Industries Herschel Planck project office OS/I/H Fax + 33 4 92 92 30 10 Tel Secretary: + 33 4 92 92 30 85	Nb pages 5/6
		Date 30/04/02	Référence HP-ASPI-LT-1330-issue 1

4 Timeline & mile stones for PDR issues

4.1 IID-A

For PDR, IID-A v3.0 will be edited from current version (red line copy) to reflect the PDR design. Section/Chapters will be distributed for review/update among Alcatel/Alenia/Astrium during April (see appendix 1). Return of modified paragraphs from industry partners by 30/04 (mail already sent to relevant partners)

IID-A v3.0 Draft Redline copy will be reviewed by instrument between 30/4 and 30/5/2001
 Final version 3.0 will be updated for 15/6.

IID-A	Date
Review of relevant paragraphs Alcatel/Astrium/Alenia engineering & instrument teams	April
Compilation chapters	15-May
Distribution to instruments	15-may
review by instruments	30-May
Final edition	15-June
signatures IIDA	30/june
System	
PM8	22-may
PDR Documentation	30-juin

4.2 IID-B's

IID-B	Date
Convergence meeting	
SPIRE	19/4
HIFI	24/4
PACS	26/4
ESA CCB	1-15 may
Edition IID's	May
Redline copy distributed to Instruments	20-31 May
Review by instrument	1-15 June
Final copy	20-june
IID-Signed	20-30juin

 MEMO	 	Alcatel Space Industries Herschel Planck project office OS/I/H Fax + 33 4 92 92 30 10 Tel Secretary: + 33 4 92 92 30 85	Nb pages 6/6
		Date 30/04/02	Référence HP-ASPI-LT-1330-issue 1

5 Appendix 2: IID Modification List (template)

This list is used to describe the instrument proposed changes (issued by instrument, and/or Industry), and is circulated to ESA & industry to identify the changes that can be implemented in a new issue of the IID, from the one that will need a formal change request (ie with expected financial or schedule impact)

Proposed updates of Instrument Interface Document Part B : Instrument XXX

Reference, version, date

Start ref. nr xx	paragraph	Paragraph title

Justification and Description of the change

End ref. nr. xx	Agreement	ESA	ASPI	ALENIA	ASED
				AGREE	