Data Flow System

Document Title:	VISTA Infrared Camera Data Flow System FDR RID Responses with Board Disposition

Document Number:	VIS-TRE-IOA-20000-0013

Issue:	1.0 Pre 2

Date:	2005-03-04

Document Prepared by:	Jim Emerson	Signature and Date:	
Document Released by:		Signature and Date:	
Document Released by:		Signature and Date:	

Change Record

Issue	Date	Sections Affected	Remarks
0.4	2005-01-26	All	Sent to ESO
0.5	2005-02-22		Disposition of RIXs
1.0 Pre 1	2005-02-28	All	PSB drafts BDs.
1.0 Pre 2	2005-03-04	All	MJI+STH updates

Notification List

ATC:	Malcolm Stewart
	Steven Beard
RAL:	Gavin Dalton
Cambridge:	Mike Irwin
	Will Sutherland
QMUL:	Jim Emerson
ESO:	Michele Peron

Contents

1 Introduction

1.1 Scope

This document presents the responses by the VISTA Infrared Camera Data-Flow System Team to the RIDs, RICs and RIOs generated by the VISTA IR Camera Data-Flow System Review Panel following their review of the Final Design Review (FDR) pack, comprising the VISTA DFS User-Requirements [RD1], Calibration Plan [RD2] Data-Reduction Specification [RD3], Data Reduction Library Design [RD4], Exposure Time Calculator [RD5], and Survey Definition Tool [RD6].

1.2 Acronyms and Abbreviations

ADxx   Applicable Document No xx
CASU   Cambridge Astronomical Survey Unit
IOA   Institute of Astronomy (Cambridge)
PDR   Preliminary Design Review
RDxx   Reference Document No xx
RIC   Review Item Clarification required
RID   Review Item Discrepancy
RIO   Review Item Observation
TBD   To Be Decided
TRE   Technical Report
VIRCAM   VISTA Infrared Camera
VISTA   Visible and Infrared Survey Telescope for Astronomy

1.3 Applicable Documents

[AD1] *Data Flow for the VLT instruments requirements specification,* VLT-SPE-ESO-19000-1618, issue 1.0, 1999-04-21.
[AD2] *Data Flow for VLT/VLTI Instruments Deliverables Specification,* VLT-SPE-ESO-19000-1618, issue 2.0, 2004-05-22

1.4 Reference Documents

[RD1] *VISTA Infra Red Camera DFS User Requirements,* VIS-SPE-IOA-20000-00001, issue1.0, 2004-12-15.
[RD2] *VISTA Infra Red Camera DFS Calibration Plan*, VIS-SPE-IOA-20000-00002, issue 1.0, 2004-12-15.
[RD3] *VISTA Infra Red Camera DFS Data-Reduction Specifications,* VIS-SPE-IOA-20000-0003, issue 1.0, 2004-12-15
[RD4] *VISTA Data Reduction Library Design,* VIS-SPE-IOA-20000-0010, issue 1.0, 2004-12-17
[RD5] *VISTA Infra Red Camera Exposure Time Calculator Specification*, VIS-SPE-IOA-20000-0009, issue 1.0, 2005-01-10
[RD6] *VISTA Survey Definition and Progress Tools: Functional Specification,* VIS-SPE-ATC-20500-0001, issue 1.0, Date: 2004-11-17

2 Review Items

2.1 Review Items referring to the User Requirements URD [RD1].

3	Discrepancy
2	Clarifications
0	Observations
5	Total

Table 2-1 RIx Count for User Requirements

2.1.1 PBA-001 URD Sec 0:D:1618v2:PSB

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	PBA-001
Review Item	Page 5 and Title page
Document Title:	VISTA IR Camera DFS User Requirements
Document No:	VIS-SPE-IOA-20000-0001
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

For consistency, all VISTA DFS documents should be upgraded to 1618/2.0

Action Recommended by Initiator:

Update reference AD1 (page 5) to 1618/2.0, 2004-05-22
Rename document to "VISTA IR Camera DFS Impact"

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
Will do so. [We had understood that as these documents were originally designed with respect to 1618v1 it had been agreed that a complete rewrite to conform to v2.0 was not required, and indeed has not occurred. Thus we deliberately still referred to v1.0]
However we note that, the User Requirements Document, (originally designed to adhere to 1618v1), does not seem to map well onto the v2 Impact Document. Rather, elements of the User Requirements in addition to the Survey Definition Tool provide the same information that would, under the new scheme, be in the Impact document.

Date/Signature Actionee: PSB

Board Disposition:
Rename User Requirements to Impact and refer to 1618 issue 2.0 as requested, but do not restructure document.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.1.2 MPE-008 URDetc Sec 4.2.2:C:Rephrase VISTA Pipeline...:PSB

Review Title:				Discrepancy
		Review Item	X	Clarification
FDR VISTA DFS				Observation

RI No:	MPE-008
Review Item	Page 15, section 4.2.2.
Document Title:	DFS User Requirements and all documents
Document No:	VIS-SPE-IOA-20000-0001
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

In the ESO terminology, the dataflow systems includes all applications supporting the end-to-end operations model. It includes Phase I, P2PP, on-line archiving. ETC…
Therefore the sentence " Therefore the dataflow system is responsible for …" should be rephrase to "The VISTA pipeline is responsible for…"
I have seen that "Data Flow System" is used in may places in the document while "VISTA pipeline" should have actually been used.

Action Recommended by Initiator:

Upgrade documentation

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Will upgrade the documentation with the suggested change.

Date/Signature Actionee: PSB

Board Disposition:
Implement requested changes.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.1.3 MPE-007 URD Sec 4.2.1:D:OB processing:PSB

Review Title: FDR VISTA DFS	Review Item	X	Discrepancy
			Clarification
			Observation

RI No:	MPE-007
Review Item	Page 15, section 4.2.1
Document Title:	DFS User Requirements
Document No:	VIS-SPE-IOA-20000-0001
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

The DFS pipeline does not know about Observation Blocks, see also MPE-004

Action Recommended by Initiator:

Rephrase

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will modify the text to remove the words "or observation block".

Date/Signature Actionee: PSB

Board Disposition:
Implement requested change.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.1.4 WHU-022 URD Sec 4.3:D:Data Rate:WJS

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	WHU-22
Review Item	Data rate, page 17 of 24
Document Title:	User requirements
Document No:	VIS-SPE-IOA-20000-001
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

The document states a daily raw data production rate of 0.4 Tbyte uncompressed.

The assumption is 30% of : every 10sec 1 exposure 14h long.

Another estimate is the following:

ISAAC generates 1Gbtye a night, including day-time calibrations. Here we used service mode nights, ISAAC alone at the telescope, mostly done imaging during the night.

We scale this number by the number of pixel ratio (VISTA has 4 x 16 more pixels). The telescope diameter (4m versus 8m) and the pixel scale (3''/pix versus 1.5''/pixel) cancel out when scaling the number of photons per pixel. VISTA should therefore produce 64Gbyte a night. Taking in addition an operational factor into account (=2), since WFI survey programs are much more homogeneous (no deep imaging, better planning), we get 128Gbyte a night as the mean rate for VISTA, and maybe 3 times more for the maximum rates. This number is still three times smaller than the numbers given in the document.

The ISAAC pipeline generates (for nights with 1Gbyte raw data) 200Mbyte a day of science and calibration products, scaling this number by 64 (pixel) and 2 (operational), we expect about 13Gbyte pipeline products a day.

Action Recommended by Initiator:

For reasons of long-term planning for the ESO-archive the numbers average rate should be reviewed.

Date/Signature of Initiator: Wolfgang Hummel, 2005-01-19

RI Classification: (to be completed by Board Chairperson)		
Major	**Minor**	**Withdrawn**
Date/Signature Chairperson:		

Actionee Corrective Action:

0.4 TB / night (uncompressed) is a high-end estimate for the long-term average, but is not impossible to happen.

A "typical" average day+night may be 13 hours at 1 frame per minute ~210 GB, somewhat higher than the 128 GB suggested but consistent.

However a shallow "Atlas", if attempted, may produce 1 frame per 20-30 sec, 400-600 GB per night, so a lot depends on what fraction (if any) this is scheduled.

A medium-depth survey with frequent microstepping could be similar.

Also, note the reduction factor from raw to processed frames will depend significantly on the choice of microstepping procedure.

Date/Signature Actionee: WJS

Board Disposition:
Include description of average, required, and goal data rates (0.2/0.5/1.2 Tb/night discussed).
RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.1.5 WHU-001 URD Sec 5.4:C:OB Parent:JPE

Review Title: **FDR VISTA DFS**	**Review Item**		**Discrepancy**
		X	**Clarification**
			Observation

RI No:	WHU-01
Review Item	Page 21 of 24
Document Title:	VISTA IRCAM DFS User Requirements
Document No:	VIS-SPE-IOA-20000-001
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Last line: 'parent OB', is maybe an item within the Survey Definition Tool, but not a DFS item.

Action Recommended by Initiator:

Please clarify

Date/Signature of Initiator: WH 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Don't understand the issue here. Want to clarify at FDR.

Date/Signature Actionee: JPE

Board Disposition:
Make it clear that the term `parent OB' is internal to the SDT and only used during OB creation.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2 Review Items referring to the Calibration Plan CP [RD2].

5	Discrepancies
4	Clarifications
10	Observations
19	Total

Table 2-2 RIx Count for CP

2.2.1 PBA-006 CP Sec 0:O:1618v2:PSB

Review Title: FDR VISTA DFS		Review Item	☐ Discrepancy ☐ Clarification ☐ Observation

RI No:	PBA-006
Review Item	Reference AD1, page 5
Document Title:	VISTA IR Camera Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

For consistency, all VISTA DFS documents should be upgraded to 1618/2.0

Action Recommended by Initiator:

Update reference AD1 (page 5) to 1618/2.0, 2004-05-22

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Yes. Please see response to MPE-002.

Date/Signature Actionee: PSB

Board Disposition:
Implement requested change.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.2 AKA-003 CP Sec 1.3:Errors Breakdown:MJI

Review Title: FDR VISTA DFS		Review Item	x	Discrepancy
				Clarification
				Observation

RI No:	AKA-003 CP
Review Item	Error budget breakdown to achieve Science Requirements
Document Title:	VISTA DFS User Requirements / Calibration Plan
Document No:	VIS-SPE-IOA-20000-0001 / 0002
Document Originator:	P.Bunclark

Discrepancy/Clarification Required/Observation:

Sect 3 of the User Requirements defines the science requirements on the astrometric and photometric accuracies to be achieved by the DFS. Sect 4 defines the respective requirements on the DFS to achieve these accuracies.

I am missing here a breakdown of the acceptable errors in the different reduction steps to guarantee that the required accuracies can be achieved. For example, what flatfield accuracy is required, what accuracy is needed for dome, sky, object flats?

This relates also to the calibration plan which also does not provide details on the required quality of the defined calibrations (e.g. – just to pick an obvious one - no SNR requirements are given for twilight flats, and subsequently, how many filters can be done in the short twilight periods, …).

Action Recommended by Initiator:

Add quantitative requirements on the calibration products, e.g. in the 'Purpose' section of the respective calibration plan items. Summarise how the quality of these products will assure the overall accuracies given in the science requirements.

Date/Signature of Initiator: 2005/01/23 Andreas Kaufer

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We were unsure in which document the section on error budgets should appear.
We will add a section along the following lines to the calibration plan document.

The error budgets for the astrometric, photometric and flatfielding requirements have two generic components: systematic and random, that contribute to the overall errors.

We discuss each in turn and indicate how the requirements will be met by the stratgey adopted.

The astrometric calibration will be based on the 2MASS PSC. 2MASS astrometry is derived from direct calibration to TYCHO 2 and is in the ICRS system. [Note that his requires RADECSYS ='ICRS' in the FITS headers].
It is known to have average systematic errors better than ~100mas and rms errors better than ~100mas, for all point sources with S:N > ~10 DRS Sec   We will be using 2MASS as the primary astrometry calibrator and in tests on similar mosaic instruments we have shown that

our suggested ZPN distortion model, combined with a linear plate solution for each detector, achieves astrometric calibration at the 100mas or better level.

We also anticipate using 2MASS to monitor systematic variations in extinction for each camera exposure. Tests on WFCAM using 2MASS photometry suggest that this is achievable at the few % level per exposure, since even in high Galactic latitude fields there will be hundreds of unsaturated 2MASS stars per VISTA exposure. Offline nightly trend analysis of these measures combined with regular observations of secondary photometric standard fields, set up in the VISTA instrumental system, will enable calibration of most nights to the level of 1% to 2% global.

The error budget for photometry of astronomical sources requires photon noise to be the dominant noise source. For this to be the case, integration times should be chosen such that observations are sky noise limited, ie. Sky noise should be much greater than rms readout noise and dark current contributions. Clearly, this places a comparable requirement on the rms contribution from flatfielding. However, providing the master flats used for this are combined from multiple observations with at least a total of 100,000 detected electrons this is easily achievable. In practice a goal of 0.1% rms flatfield noise due to photon noise contribution is the aim.

More difficult problems to quantify are the systematics present in the various correction stages due to, for example, changing flatfield characteristics, reset anomalies, unexpected background variation and so on. The additive components of these will be dealt with using a background tracking algorithm which effectively monitors and removes background variations to the level of 0.1% of sky, prior to performing object photometry.
This will be part of the catalogue generation software.

The final photometry correction stage is to use the illumination correction measurements to reduce the effects of uneven illumination e.g. scattered light in the flatfielding, to below the 2% level. This is a master calibration processing task that is probably best done at the database interface level or as a post-processing stage.

Date/Signature Actionee: MJI

Board Disposition:
Add extra sentences as above and also quantify effect of systematic errors and their impact on the total error budget with respect to requirements.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.3 WHU-004 CP Sec 1.6:O:Confidence Map:MJI

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	WHU-04
Review Item	Page 7 of 58
Document Title:	Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

The confidence map is associated with a product image, not with a raw image ?

Action Recommended by Initiator:

 with an image -> with a science product image

Date/Signature of Initiator: Wolfgang Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Confidence maps are applicable to all images. For raw images in the same passband a single confidence map applies to all. For processed product images, each image has its own confidence map (see MPE-009).

Date/Signature Actionee: MJI

Board Disposition:
Explanation accepted, no change required.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.4 FCO-007 CP Sec 3.2.2:O:Why flat-field HOWFS?:SMB

Review Title:

FDR VISTA DFS

Review Item

	Discrepancy
	Clarification
X	Observation

RI No:	7
Review Item	
Document Title:	VISTA Infra Red Camera Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:
Sect. 3.2.2, why is flat-fielding of HOWFS data required?

Action Recommended by Initiator:
Explain why HOWFS data need flat-fielding

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

The HOWFS needs to be flat-fielded because it uses a beam-splitter filter whose unique signature needs to be removed from the HOWFS data before it can be analysed. However, this flat-fielding is carried out within the HOWFS image analysis software (which is part of of the camera software) and not by the pipeline. The HOWFS flat-field template is mentioned because the calibration plan needs to list all the camera templates

Date/Signature Actionee: SMB

Board Disposition:
Incorporate expanded explanation.

RI Closed:

RI Closed with Actions:

Date/Signature Chairperson:

2.2.5 SCA- 001 CP Sec 4:D:Master/Mean:STH

Review Title: **FDR VISTA DFS**		**Review Item**	**X**	**Discrepancy**
				Clarification
				Observation

RI No:	SCA-001
Review Item	Page 15, figure 4-1
Document Title:	VISTA Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	

Discrepancy/Clarification Required/Observation:

In order to follow the standards, please use the word <u>master</u> instead of <u>mean</u> when referring to a calibration product such as in figure 4-1, mean dark frame and mean flat field frame. They should be master dark frame and master flat field frame, respectively.

Action Recommended by Initiator:

Add changes throughout text, when appropriate.

Date/Signature of Initiator: Sandra Castro

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Intended to follow standards. However we need to discuss this terminology since, for example, a mean dome flat is not necessarily the same as a master dome flat.

Date/Signature Actionee: STH

Board Disposition:
Review how the terms are used and clarify if necessary.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.6 WHU-05 CP Sec 4.3:C:Dark doesn't move telescope:SMB

Review Title: **FDR VISTA DFS**		Review Item		Discrepancy
			X	Clarification
				Observation

RI No:	WHU-05
Review Item	Page 17 of 58
Document Title:	Calibration Plan
Document No:	0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

'The Dark template will not move the telescope';
you certainly mean, that the dark template, as a day-time calibration does not require the telescope at all.

Action Recommended by Initiator:
Please rephrase

Date/Signature of Initiator: Wolfgang Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Agreed. The sentence will be rephrased to say, "The Dark template does not require the telescope".

Date/Signature Actionee: SMB

Board Disposition:
Change to agreed wording.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.7 WHU-06 CP Sec 4.3:D:trend:PSB

Review Title: **FDR VISTA DFS**		**Review Item**	**X**	**Discrepancy**
				Clarification
				Observation

RI No:	WHU-06
Review Item	Page 17 of 58, Dark Frames
Document Title:	Calibration Plan
Document No:	00002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Pipeline Outputs

Action Recommended by Initiator:

Please omit 'stability trend'

Date/Signature of Initiator: Wolfgang Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

The wording was meant to imply a QC parameter with the potential for future use in trending outside the pipeline. The word trend will be deleted to ensure no confusion.

Date/Signature Actionee: PSB

Board Disposition:
Rephrase to be consistent with the corrective action.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.8 FCO008 CP Sec 4.4:O:Spectral energy in flats:MJI

Review Title:			Discrepancy
	Review Item		Clarification
2.2.8.1.1.1.1 FDR VISTA DFS		X	Observation

RI No:	8
Review Item	
Document Title:	VISTA Infra Red Camera Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:
Sect. 4.4, while it is true that sky flats should have a colour closer to that of the night sky, dome flats may have a spectral energy distribution closer to that of some objects of interest and thus be more adequate for gain correction.

Action Recommended by Initiator:
None

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

We agree, but note that for batch processing an average gain/flatfield correction for typical objects is the usual method.

Date/Signature Actionee: MJI

Board Disposition:
Explanation accepted; no change required.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.9 MPE-013 CP Sec 4.6:C:Trend:PSB

Review Title:

FDR VISTA DFS

Review Item

	Discrepancy
X	Clarification
	Observation

RI No:	MPE-013
Review Item	Page 19
Document Title:	VISTA Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

The pipeline recipes do not perform any trend analysis. They only generate QC1 parameters which are used for trend analysis after processing

Action Recommended by Initiator:

Rephrase.

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

An oversight, we will edit.

Date/Signature Actionee: PSB

Board Disposition:
Purge trend reference.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.10   SCA-002 CP Sec 4.6:O:Even no. of dome flats:JRL

Review Title: **FDR VISTA DFS**	**Review Item**		**Discrepancy**
			Clarification
		X	**Observation**

RI No:	SCA-002
Review Item	Page 19
Document Title:	VISTA Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	

Discrepancy/Clarification Required/Observation:

Either here or in list of input files for the pipeline recipe, it might be appropriate to specify that an <u>even</u> number of dome flats should be used in order to measure the linearity of the detector.

Action Recommended by Initiator:

Date/Signature of Initiator: Sandra Castro

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We don't understand the need for a restriction to an even number.

Date/Signature Actionee: JRL

Board Disposition:
Clarification accepted, no changes required.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.11   WHU-07 CP Sec 4.7:D:Dusk and Dawn:MJI

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	WHU-07
Review Item	Page 20 of 58
Document Title:	Calibration Plan
Document No:	VIS-SPE-IOA-200000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

It is not possible to combine dusk and dawn flats, since they originate from different OBs, TPLs. There will also not always dusk AND dawn flats be available.
A possible workaround would be, that the dusk pipeline recipe requires the dusk raw stack plus a master dawn flat taken on the same operational day.

Action Recommended by Initiator:

Please correct and rephrase

Date/Signature of Initiator: WH 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   Minor   Withdrawn
Date/Signature Chairperson:

Actionee Corrective Action:

This relates to our desire to maintain a regularly updated series of master (library, reference) flatfield calibration files by combining with new information from dusk and dawn flats when they are available.

We would prefer to have the master flats as needed and use these in the pipelines rather than relying on solely information from within an operational day.

Date/Signature Actionee: MJI

Board Disposition:
Reword, to explain that master calibration frames will be used for the Paranal and Garching pipelines.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.12   WHU-08 CP Sec 4.9:O:Persistence:PSB

Review Title: **FDR VISTA DFS**		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	WHU-08
Review Item	Page 21 of 58
Document Title:	Calibration plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Is it true that persistence is measured and monitored but not corrected for?
I guess in WFI, the probability of having bright objects within the FOV is quite high and jittering could contaminate the jitter box region ~30'' of all bright objects.

Does it makes sense to scale the first frame of the stack by the decay law and subtract if from the second third …, scale the second frame by the decay law and subtract it from the third, fourth in a cascaded manner ?

Action Recommended by Initiator:
Please comment

Date/Signature of Initiator: Wolfgang Hummel 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Persistence across templates will not be dealt with in the pipeline since we anticipate it will generally be a second order effect. Within a template the optimum way to deal with persistence will depend on its defining characteristics, which have yet to be completely determined.
The suggestion offered will be considered as a possible method of handling it.

Date/Signature Actionee: PSB

Board Disposition:
Check wording and clarify No further action required.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.13   PBA-007 CP Sec 6:D:in Cal Plan but not DRLD:PSB

Review Title: **FDR VISTA DFS**		**Review Item**	**X**	**Discrepancy**
				Clarification
				Observation

RI No:	PBA-007
Review Item	Page 27, 29, 37, 39, 40, 41
Document Title:	VISTA IR Camera Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

The following recipes are listed in the Calibration Plan but not described in the Data Reduction Library document:

Page 27: vircam_flat_combine
Page 29: vircam_distortion_update
Page 37, 39, 40, 41: vircam_microstep_interleave and vircam_jitter_combine

Action Recommended by Initiator:

Refer to the correct recipes or describe these recipes in the DRL Design.

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will make them consistent (this was a failure to fully backport evolving design into older documents).

Date/Signature Actionee: PSB

Board Disposition:
Correct inconsistent recipe references across the documents.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.14   FCO-009 CP Sec 6.1.1:O:Spectral energy in flats:MJI

Review Title: **FDR VISTA DFS**	**Review Item**	☐ **Discrepancy** ☐ **Clarification** **X** **Observation**

RI No:	9
Review Item	
Document Title:	VISTA Infra Red Camera Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Sect. 6.1.1, the meaning of the sentence 'The advantage over twilight flats is the identical colour match between the sky observations *and the targets'* is not clear. The colour variation in the gain correction depends on the spectral energy distribution of the targets.

Action Recommended by Initiator:
Rephrase the sentence noted so that its meaning becomes clearer.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

We will rephrase this to: The advantage of dark sky flats over twilight flats is the better colour match to the average astronomical object. This minimises the sensitivity of the gain and flatfield correction to differential colour terms with respect to astronomical objects.

Date/Signature Actionee: MJI

Board Disposition:
Implement agreed wording change.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.15   MPE-014 CP Sec 7.2:C:No QC0 filtering:PSB

Review Title: FDR VISTA DFS		Review Item		Discrepancy
			X	Clarification
				Observation

RI No:	MPE-014
Review Item	Page 31, section 7.2
Document Title:	VISTA Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

There is not QC0 process on Paranal which filters the data. Every file generated on the instrument ws goes through the pipeline.

Action Recommended by Initiator:

Rephrase.

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Will revise the statement.

Date/Signature Actionee: PSB

Board Disposition:
Revise as advised.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.16   WHU-09 CP Sec 7.3:O:QC table:PSB

Review Title:

FDR VISTA DFS

Review Item

	Discrepancy
	Clarification
X	Observation

RI No:	WHU-09
Review Item	Page 32 of 58
Document Title:	VISTA Infra Red Camera Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Several points:

a) Table, 4.2 description, see WHU-011

b) Generally, the description column could be a little bit more informative, e.g. 4.6, could contain the statement that the QC parameters are the coefficients of a polynomial fit.

c) 4.10 How many QC parameters are monitored for the cross-talk matrix.

d) 5.2 is a QC0 (constraint set) and is not a product of the pipeline.

e) this list does not match the QC dictionary (Appendix 10 of the DR Library Design)

Action Recommended by Initiator:

Date/Signature of Initiator: Wolfgang Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

The calibration plan QC list requires updating.

The DRLD contains a more detailed discussion of the QC parameters.

In general, the DRLD represents the evolved Library design, and in particular the QC dictionary is a definitive version of the current plans for QC parameters.

Date/Signature Actionee: PSB

Board Disposition:

Back-port changes in DRL Design regarding QC parameters to the Calibration Plan.

RI Closed:

RI Closed with Actions:

Date/Signature Chairperson:

2.2.17 AKA-002 CP Sec 8:O:DPR - Recipe table:PSB

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			x	Observation

RI No:	AKA-001
Review Item	DPR keywords – pipeline recipes, Sect.8
Document Title:	VISTA Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	P.Bunclark

Discrepancy/Clarification Required/Observation:
The calibration plan provides an excellent level of detail, including the relation of which templates will trigger which pipeline recipe.
It would be an important addition to define in this stage the corresponding data product (DPR) keywords which are the interface between raw files produced by the templates and the pipeline recipes to be triggered.

Action Recommended by Initiator:
Add a table in Sect 8 which provides:
TSF name –> DPR keywords DPR.CATG, DPR.TYPE, DPR.TECH -> pipeline recipe.
(valid DPR keywords are defined in DICD)

Date/Signature of Initiator: 2005/01/23/01 Andreas Kaufer

RI Classification: (to be completed by Board Chairperson)
Major   Minor   Withdrawn
Date/Signature Chairperson:

Actionee Corrective Action:

Such a table is provided in table 4-2 of the DRLD (currently with errors!).
Should we just copy it into the Calibration Plan?
(see MPE-011).

Date/Signature Actionee: PSB

Board Disposition:
Copy DPR table into Calibration Plan (to make it a more stand-alone document).

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.18   FCO-010 CP Sec 8.3.1:C:Offset Pattern in Templates:SMB

Review Title:

FDR VISTA DFS

Review Item | **X** | **Discrepancy**
Clarification
Observation

RI No:	10
Review Item	
Document Title:	VISTA Infra Red Camera Calibration Plan
Document No:	VIS-SPE-IOA-20000-0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:
Sect. 8.3.1, contrarily to what had been discussed earlier there is no provision now for including in the acquisition the information on offset pattern to follow in the observation templates. Has the guide star selection strategy been modified so that specification of the offset pattern at acquisition is no longer necessary?

Action Recommended by Initiator:
This can be clarified during the FDR discussion.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
Yes it has. This is one of the major improvements we have made to the design since the PDR. The guide star selection strategy now allows guide stars to be selected in advance or while executing an observation template. The improvement has been made possible because there is some degree of flexibility in the interface between the VISTA IR camera and VISTA telescope software. We can discuss this further at the FDR.

Date/Signature Actionee: SMB

Board Disposition:
Specify the design and content of PAF file.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.2.19   WHU-10 CP Sec 10.2:O:ORIGFILE keyword:PSB

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	WHU-10
Review Item	Page 54 of 58
Document Title:	VISTA calibration plan
Document No:	0002
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

The ORIGFILE as a keyword not specific for a detector should go to the primary header. (typo only)

Action Recommended by Initiator:

Date/Signature of Initiator: Wolfgang Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Will fix in future FITS illustrations but we would be interested to know if it is acceptable to have top-level keywords such as ORIGFILE and EXPTIME in both the top level header _and_ in the IMAGE extensions. At the moment these keywords end up in both places because of the behaviour of the BOSS and IRACE software.

Date/Signature Actionee: PSB

Board Disposition:
MPE will check. [Note added by PSB: IRACE creates 16 separate data files and so there is a case for an ORIGFILE in each extension plus one in the primary header]

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3 Review Items referring to the Data Reduction Specification DRS [RD3].

7	Discrepancies
7	Clarifications
3	Observations
17	Total

Table 2-3 RIx Count for DRS

2.3.1 PBA-008 DRS Sec 0:D:1618v2 + ADs:PSB

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	PBA-008
Review Item	Page 5
Document Title:	VISTA IR Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

For consistency, all VISTA DFS documents should be upgraded to 1618/2.0

Action Recommended by Initiator:

Update reference AD1 (page 5) to 1618/2.0, 2004-05-22
Rename document to "VISTA IR Camera Data Reduction Library Specifications"
Add as Applicable Documents:
[AD4] Common Pipeline Library User Manual, VLT-MAN-ESO-19500-2720, issue 1.0, 2003-12-15
[AD5] Common Pipeline Library Reference , VLT-MAN-ESO-19500-2721, , issue 1.0, 2004-05-04

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Yes. See response to MPE-002. We note that the 1618 issue 1.0 DRS is fairly close in specification to a 1618 issue 2.0 DRLS.

Date/Signature Actionee: PSB

Board Disposition:
Update references and DRS->DRLS.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.2 MPE-005 DRS Sec 0:C:DO wording:PSB

Review Title: FDR VISTA DFS	Review Item		Discrepancy
		X	Clarification
			Observation

RI No:	MPE-005
Review Item	
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Functionality for manipulating and grouping data files using information from the FITS headers will be provided by the DFS pipeline infrastructure (i.e. the Data Organizer) rather by than the FITS routines. Classification and grouping of data is typically done before a pipeline recipe is being called.

Action Recommended by Initiator:

Rephrase

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)		
Major	**Minor**	**Withdrawn**
Date/Signature Chairperson:		

Actionee Corrective Action:

Will do so but which part (sec/page) of the DRS requires the rephrasing?

Date/Signature Actionee: PSB

Board Disposition:
Remove most of Appendix A (including this anomaly) which is now obsolete.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.3 MPE-001 DRS Sec 1.1:D:Rephrase:PSB

Review Title: **FDR VISTA DFS**		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	MPE-001
Review Item	Page 5, section 1.1
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

The sentence "The Data Flow System pipeline will provide a set of standard functions" should be " The Common Pipeline Library will provide …".

Action Recommended by Initiator:

Rephrase

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Will rephrase as requested.

Date/Signature Actionee: PSB

Board Disposition:
Correct the phrase.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.4 MPE-002 DRS Sec 1.3:D:1618 v2:PSB

Review Title: **FDR VISTA DFS**		**Review Item**	**X**	**Discrepancy**
				Clarification
				Observation

RI No:	MPE-002
Review Item	Page 5, section 1.3
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

AD1 should be issue 2.0, 2004-05-22

Action Recommended by Initiator:

Upgrade document

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Will change.
[We had understood that as these documents were originally designed with respect to 1618v1 it had been agreed that a complete rewrite to conform to v2.0 was not required, and indeed has not occurred. Thus we deliberately still referred to v1.0]

Date/Signature Actionee: PSB

Board Disposition:
Update reference.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.5 SCA-003 DRS Sec 2:O:Colours:STH

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	SCA-003
Review Item	Page 8, figure 2-1
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	

Discrepancy/Clarification Required/Observation:

The text in some coloured boxes is not very legible. Perhaps using lighter colours for the boxes will improve readability.

Action Recommended by Initiator:

Date/Signature of Initiator: Sandra Castro

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Noted – will try this.

Date/Signature Actionee: STH

Board Disposition:
Improve readability of coloured diagrams.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.6 WHU-002 DRS Sec 3.2:D:look for stability:JRL

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	WHU-02
Review Item	Page 9 of 19
Document Title:	VISTA IR Cam DRS
Document No:	VIS-SPE-IOA-20000-003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Vircam_reset_combine: 'look for stability'. Related to page 16 of 58 of the Calibration Plan. This statement is a little bit fuzzy. I see two possible interpretations:

- the reference frame is required to retrieve only its QC parameter and to perform trending within the recipe, comparing the new QC parameter against the QC parameter of the reference frame. This is model is not supported within the ESO DFO. The recipe should generate a QC parameter, that will be ingested in a database. Trending as a QC task works on the ingested QC parameters, but is not checked on the recipe level.
- In case the reference frame is required to reasons of data reduction or for reasons to calculate a QC parameter (e.g. to subtract a reference flat from the current flat to get rid of the fixed pattern noise and to monitor the pattern coherence). This makes sense and is part of operations of some instruments (e.g. UVES). The reference frame is a static entity of the DO calibDB on Paranal, it is not dynamically updated. The reference frame usually uses a different PRO.CATG than the product (e.g. REF_MASTER_FLAT versus MASTER_FLAT).

Action Recommended by Initiator:

Reference frames should be used as recipe input calibration where appropriate.

Date/Signature of Initiator: WH, 2005-01-18

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

We agree this statement is somewhat vague. What we meant by this was after combining the reset frames, use a reference frame to assess the quality of the combined reset frames and produce QC parameters for later use via database. We will rephrase this.

Date/Signature Actionee: JRL

Board Disposition:

Rephrase this section to clarify the meaning.

RI Closed:

RI Closed with Actions:

Date/Signature Chairperson:

2.3.7 SCA-004 DRS 3.3.3 Trending

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	SCA-004
Review Item	Page 9 Sub item 3.3 and throughout the text
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	

Discrepancy/Clarification Required/Observation:

The pipeline does not do comparisons and/or perform trend analysis.

Action Recommended by Initiator:

Modify text.

Date/Signature of Initiator: Sandra Castro

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will remove any reference to trend analysis.

Date/Signature Actionee: PSB

Board Disposition:
Purge reference to trend.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.8 MPE-004 DRS Sec 3.4:D:OB processing:MJI

Review Title: **FDR VISTA DFS**		**Review Item**	**X**	**Discrepancy**
				Clarification
				Observation

RI No:	MPE-004
Review Item	Page 10,11,12
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-003
Document Originator:	

Discrepancy/Clarification Required/Observation:

The DFS pipeline only knows about templates, not about Observation Blocks that ~~it~~ is, it cannot ~~not~~ process files resulting from the execution of an Observation Block. We should discuss case by case whether a dedicated template should be created or whether some of the functionalities (i.e. computation of readout noise) can be integrated in existing template. The agreed upon modifications should be then reflected in all documents.

Action Recommended by Initiator:

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major X   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
We agree there needs to be further discussion at FDR about the link between Template and OBs and the DFS.

Some obvious issues for us are:
    How are files are grouped in the Data Organiser?
    What are the allowed DPR keywords and do they cover the range of processing options we require?
    Can the DFS pipeline use the archive to find suitable reference/master calibrations to use in its processing? If not, how are the night-time science observations calibrated using the day-time dome flats and twilight flats (which don't appear in the same template)?

If the DFS pipeline can use the archive, then much of our design still holds. For example, the "VIRCAM_detector_noise" Observation Block consists of a DARK template with two frames followed by a "domeflat" template with two frames. The pipeline processing is triggered by the completion of the "domeflat" template, not by the completion of the OB. The OB simply guarantees that the pipeline will find two suitable DARK frames ready and waiting in the archive.

We think our best strategy would be to integrate the functionality of the various templates where possible - for example, when a dome flat template completes, the pipeline attempts to generate both a combined dome flat and a linearity measurement. The contents of the template can be used to determine whether a particular processing step is feasible (e.g. don't

try a linearity measurement if there are too few exposures). This strategy would also make the instrument more efficient, since the same observations are reused. It would also help resolve the issues raised in MPE-011 and PBA-018.

Date/Signature Actionee: MJI

Board Disposition:
Revise template design and update DPR keywords; propagate this through the Calibration Plan and DRLD documents.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.9 MPE-003 DRS Sec 3.5:D:Prepared OB discrepancy:PSB

Review Title: **FDR VISTA DFS**		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	MPE-003
Review Item	Page 10, section 3.5
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-003
Document Originator:	

Discrepancy/Clarification Required/Observation:

There is an inconsistency between this document and the calibration plan:
The prepared OB (see my comments about OB/ versus templates) should be
VIRCAM_img_cal_detnoise as defined in the calibration plan.

Action Recommended by Initiator:

Upgrade documentation

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Will correct.

Date/Signature Actionee: PSB

Board Disposition:
Synchronize DRLS with DRLD as requested.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.10   WHU-003 DRS Sec 4.1.1:O:scan of FITS headers:JRL

Review Title: **FDR VISTA DFS**	Review Item		Discrepancy
			Clarification
		X	Observation

RI No:	WHU-03
Review Item	Page 13 of 19
Document Title:	DRS
Document No:	VIS-SPE-IOA-20000-003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:
Vircam_sky_flat_combine: 'scan of fits headers'

Action Recommended by Initiator:
It should be made clear if this is a list of all science/sky frames of the night, or if this is the usual list of raw science input frames for a science recipe (e.g. vircam_jitter_micro_process), meaning a stack of frames of the same template (all having the same TPL.START)

Date/Signature of Initiator: 2005-01-18 Wolfgang Hummel

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will make clear that this a list derived from within a template, though the software is more generally applicable than that.

Date/Signature Actionee: JRL

Board Disposition:
Insert suggested clarification.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.11   SCA-005 DRS Sec 5:O:Typo:PSB

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	SCA-005
Review Item	Page 16
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	
Discrepancy/Clarification Required/Observation: It must be a typo in last sentence of Item 5. "Error! Reference source not found.." **Action Recommended by Initiator:** **Date/Signature of Initiator:** Sandra Castro	

RI Classification: (to be completed by Board Chairperson) **Major**   **Minor**   **Withdrawn** **Date/Signature Chairperson:**
Actionee Corrective Action: Will fix **Date/Signature Actionee:**
Board Disposition: Fix WORD cross-reference. **RI Closed:** **RI Closed with Actions:** **Date/Signature Chairperson:**

2.3.12   SCA-006 DRS Sec 5.1:C:Parameter passing:JRL

Review Title: FDR VISTA DFS		Review Item		Discrepancy
			X	Clarification
				Observation

RI No:	SCA-006
Review Item	Page 16 item 5.1
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	

Discrepancy/Clarification Required/Observation:

How is the different information going to be passed to the pipeline in order to perform distinct tasks? For example, sky unstable requires an extra step to be performed by the recipe. Is it inside the same recipe or by using some input parameter or something else?

Action Recommended by Initiator:

Date/Signature of Initiator: Sandra Castro

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

The processing procedure will be determined by the template construction not triggered by sky conditions.

Date/Signature Actionee: JRL

Board Disposition:
Clarification accepted.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.13   MPE-006 DRS Sec A:C:Tile compression:MJI

Review Title: **FDR VISTA DFS**		**Review Item**		**Discrepancy**
			X	**Clarification**
				Observation

RI No:	MPE-006
Review Item	Page 19
Document Title:	VISTA Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

We will support tile compression if it becomes a FITS standard and if ESO decides to use it. At which level of the system would you like to use tile compression? Would you like to created tile compressed raw frames or would you like only to create tile compressed pipeline products?

Action Recommended by Initiator:

Provide information

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We need to discuss this since from a pipeline point-of-view it doesn't matter if the data is Rice tile compressed. This is more of an operational issue e.g. data storage and shipping requirements, and i/o overheads while processing.

If ESO were to support tile compression we would like to use it as early as possible in the chain - i.e. in the raw data saved by the IRACE controller. This is on condition that existing tools, such as RTD, would still be able to read and display the data.

Date/Signature Actionee: MJI

Board Disposition:
Drop most of Appendix A including compression requirement.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.14   PBA-009 DRS Sec A:C:Image sections:JRL

Review Title: FDR VISTA DFS		Review Item		Discrepancy
			X	Clarification
				Observation

RI No:	PBA-009
Review Item	Appendix A, page 18
Document Title:	VISTA IR Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:
Image and Image section access:

The proposed syntax for parsing filenames is applicable at a higher level than a software library, e.g. at the command line level if one wants to provide such a tool for pipeline access. In our opinion, this is not the right way to specify extensions in library functions, because this would force the reallocation and manipulation of the filename character string each time a given FITS extension needs to be accessed.

CPL has (like QFITS) the possibility to extract any given extension from a FITS file (as well as write it to disk) via variables specifying that extension (by number or name), thus accessing FITS extensions in CPL-based applications is no problem. Also, the functionality for extracting/inserting parts of CPL objects, e.g. images, once the whole object is loaded, is available as well. Optimizing access to subsets of extensions by combining the two tasks mentioned above in one function in a sophisticated way is an option which could be implemented in a reasonable time. However, one would need to get some more figures indicating that the subset access of FITS extension really is a bottleneck in pipeline processing before starting such CPL code modifications.

Furthermore, it is usually not required for instrument pipelines to extract specific extensions from a complex FITS file. At the VLT, software external to the pipeline splits up such multi-extension files and feeds the extracted extensions as plain table or image files to the pipeline recipes.

Action Recommended by Initiator:
Plan access by parameters rather than by string syntax.
Date/Signature of Initiator: Pascal Ballester and the CPL team

RI Classification: (to be completed by Board Chairperson)
Major X   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
Our only concern here was to ensure that there would be an efficient way to address and extract/write image sections or images in extensions. The suggested syntax was just an example of a method in common use. Efficient access to sections of images in extensions is required, for example, in the linearity correction and cross-talk correction.
Date/Signature Actionee: JRL

Board Disposition:
Use whatever functionality that will be provided in the future version of CPL.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.15   PBA-010 DRS Sec A:C:Tables:PSB

Review Title: **FDR VISTA DFS**	**Review Item**		**X**	**Discrepancy Clarification Observation**

RI No:	PBA-010
Review Item	Appendix A, page 18
Document Title:	VISTA IR Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Table subsets and selections:
This functionality will be integrated in the Common Pipeline Library

Action Recommended by Initiator:

Date/Signature of Initiator: Pascal Ballester and the CPL team

---

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

That is good

Date/Signature Actionee: PSB

Board Disposition:
Drop most of Appendix A including this section. CPL 2.0 will be released 1st March 2005.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.16   PBA-011 DRS Sec A:C:CPL Errors:JRL

Review Title: FDR VISTA DFS		Review Item		x	Discrepancy Clarification Observation

RI No:	PBA-011
Review Item	Appendix A, page 18
Document Title:	VISTA IR Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

Error status passing:

```
CPL provides an error handling subsystem which processes all
errors/warnings (also the ones originating in QFITS routines) in a
consistent way.  Checking an inherited status in each function and
returning immediately if that's not o.k. (as is done in CFITSIO) results in
a safe library but does not help the application programmer: grouping
several CPL calls before checking the status would, in case of an error,
not single out  the individual routine causing that error. Checking on
errors after each function call is, although maybe less convenient, the
only safe approach in our opinion.
```

Action Recommended by Initiator:
Follow CPL conventions for error handling.

Date/Signature of Initiator: Pascal Ballester and the CPL team

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will to adhere to CPL standards.

However we seem to disagree on the philosophy of error handling, and it would be useful to resolve this to avoid future confusion. For example we feel the statement here "...in case of error, not single out the individual routing causing the error." is incorrect, as in fact it will do exactly that.

Date/Signature Actionee: JRL

Board Disposition:
DRL API will adhere to CPL error-handling convention.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.3.17   PBA-012 DRS Sec A:C:WCSLIB:PSB

Review Title:

FDR VISTA DFS

	Review Item		**Discrepancy**
		X	**Clarification**
			Observation

RI No:	PBA-012
Review Item	Appendix A, page 19
Document Title:	VISTA IR Data Reduction Specifications
Document No:	VIS-SPE-IOA-20000-0003
Document Originator:	Peter Bunclark

Discrepancy/Clarification Required/Observation:

A WCS Interface

```
WCSLIB is an outside library which, we want to use as a "preferred"
auxiliary library for CPL-based  applications. That means that, for CPL
release 2.0, we'll provide documentation about the integration of WCSLIB
functions within  CPL code which needs world coordinate system support.
This documentation will  describe code which has been actually tested with
CPL-based pipelines, thus, it can readily serve as template code. A similar
exercise has been done with the FFTW library which serves as our external
library for intensive FFT tasks
```

Action Recommended by Initiator:

Date/Signature of Initiator: Pascal Ballester and the CPL team

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Thank you for accepting this request.

Date/Signature Actionee: PSB

Board Disposition:
Drop most of Appendix A including WCSLIB reference.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4 Review Items referring to the Data Reduction Library Design DRLD [RD4].

6	Discrepancies
12	Clarification
10	Observations
28	Total

Table 2-4 RIx Count for DRLD

2.4.1 SCA-008 DRLD Sec 0:C:External Libraries:JRL

Review Title: FDR VISTA DFS		Review Item		Discrepancy
			X	Clarification
				Observation

RI No:	SCA-008
Review Item	No specific item
Document Title:	VISTA Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	

Discrepancy/Clarification Required/Observation:

Which external software libraries do you plan to use in the pipeline?

Action Recommended by Initiator:

Date/Signature of Initiator: Sandra Castro

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We only require WCSLIB from Mark Calabretta. This now appears to be available within CPL (see also PBA-012).

Date/Signature Actionee: JRL

Board Disposition:
Clarification accepted.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.2 PBA-013 DRLD Sec 1.2:C:+AD:PSB

Review Title: FDR VISTA DFS		Review Item	x	Discrepancy Clarification Observation

RI No:	PBA-013
Review Item	Page 7, Section 1.2
Document Title:	VISTA IR Camera Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

CPL documentation should be listed in the Applicable Documents

Action Recommended by Initiator:

Add as Applicable Documents:
[AD6] Common Pipeline Library User Manual, VLT-MAN-ESO-19500-2720, issue 1.0, 2003-12-15
[AD7] Common Pipeline Library Reference , VLT-MAN-ESO-19500-2721, , issue 1.0, 2004-05-04

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will add references as requested.

Date/Signature Actionee: PSB

Board Disposition:
Add references.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.3 PBA-016 DRLD Sec 2.13:C:How generate catalogs:JRL

Review Title:				Discrepancy
FDR VISTA DFS		**Review Item**	**x**	**Clarification**
				Observation

RI No:	PBA-016
Review Item	Page 19, Section 2.13
Document Title:	VISTA IR Camera Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

Which software or external libraries will be used for the generation of catalogues?

Action Recommended by Initiator:

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Catalogue generation software will be supplied as part of the software deliverables (e.g. see section 6.9 in DRLD).

Date/Signature Actionee: JRL

Board Disposition:
Clarification accepted.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.4 FCO-001 DRLD Sec 2.7:C:Persistence decay:JRL

Review Title: **FDR VISTA DFS**	**Review Item**			**Discrepancy**
		X		**Clarification**
				Observation

RI No:	1
Review Item	
Document Title:	VISTA Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
Sect. 2.7, is the persistence decay constant expected to depend on each detector?

Action Recommended by Initiator:

Note if tau is detector-dependent

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

The persistence parameters for each detector may indeed be different.
This was implicitly assumed in section 2.7, but we will make this clearer by adding a sentence to this effect.

Date/Signature Actionee: JRL

Board Disposition:
Expand text to make clearer.

RI Closed:

RI Closed with Actions:

Date/Signature Chairperson:

2.4.5 FCO-002 DRLD Sec 2.9:O:equation 2-22 typo:MJI

Review Title:			**Discrepancy**
		Review Item	**Clarification**
FDR VISTA DFS			**X** **Observation**

RI No:	2
Review Item	
Document Title:	VISTA Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
Sect. 2.9, there seems to be a typo in Eq. 2-22 ($k_{3,m}$ without ^{3})

Action Recommended by Initiator:
Edit to fix, if a typo

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

Yes it is a typo, it is meant to read $k_3 / k_1{**}3$ Will be fixed.

Date/Signature Actionee: MJI

Board Disposition:
Correct the typo.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.6 PBA-017 DRLD Sec 3:C:Association Map:STH

Review Title: FDR VISTA DFS		Review Item	x	Discrepancy Clarification Observation

RI No:	PBA-017
Review Item	Page 25
Document Title:	VISTA IR Camera Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

The association map should also describe the processing of science data.

Action Recommended by Initiator:

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Will comply. However we are uncertain about the purpose of this request given what we have already provided, and would like to discuss at FDR.

Date/Signature Actionee: STH

Board Disposition:
Add science-processing column to diagram.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.7 MPE-010 DRLD Sec 4:D:DPR keywords:PSB

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	MPE-010
Review Item	Page 36, Table 4-1
Document Title:	Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

The issue 3.0 of the DICB document (that will be released in the spring) lists possible values for the DPR keywords.

In particular:

 "Reset Frame": DPR.CATG=TEST -> DPR.CATG=CALIB

 "Twilight Flat": DPR.TYPE should be "FLAT,SKY"

 "Photometric", DPR.TYPE should be "STD,FLUX"

In addition, the list of keyword values provided in Table 4-1 is not consistent with the ones in Table 4-2.

(e.g. TWILIGHT, FLAT is used in Table 4-1 while FLAT,SKY is used in Table 4-2)

Action Recommended by Initiator:

Upgrade documentation

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

We would like to discuss the "TWILIGHT" issue but to help with this we would like to see a draft of issue 3.0 of the DICB document before FDR to see what possible DPR keywords are available.

  At the moment we are worried about the uniqueness of the combinations e.g. FLAT, SKY might be dark sky flat in a "blank" field, which is not the same as a twilight flat.

  We will fix the inconsistencies when we have resolved the DPR keyword issues.

  We would also like to agree on some DPR.TECH and DPR.TYPE keywords to identify the HOWFS data, as there is nothing in the DICD for a wavefront measurement. Does HOWFS data needs to be DPR.CATG=TEST?

Date/Signature Actionee: PSB

Board Disposition:

Update the DPR table according to future standards. New DPR TYPE values such as TWILIGHT should be acceptable and can be submitted to the DICB for consideration.

RI Closed:

RI Closed with Actions:

Date/Signature Chairperson:

2.4.8 MPE-012 DRLD Sec 4:D:Processing table:JRL

Review Title: **FDR VISTA DFS**		**Review Item**	**X**	**Discrepancy**
				Clarification
				Observation

RI No:	MPE-012
Review Item	Page 39, table 3-2
Document Title:	Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

Table is incomplete. I for instance could not find any reference to vircam_badpix_mask, probably because there is no template associated to this recipe.
See also MPE-004.

Action Recommended by Initiator:

The table should be upgraded. Relation between template- raw type and recipe should be reviewed.

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Agreed, we will add them.

Date/Signature Actionee: JRL

Board Disposition:
Update/complete data-processing table and check for consistency.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.9 PBA-018 DRLD Sec 4:D:Class keywords:JRL

Review Title: FDR VISTA DFS		Review Item	x	Discrepancy
				Clarification
				Observation

RI No:	PBA-018
Review Item	Page 39
Document Title:	VISTA IR Camera Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

The two data types img_cal_domeflat and img_cal_linearity share the same values of the classification keywords.

Action Recommended by Initiator:

Use different keyword values or define a single data type

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

see MPE-011

Date/Signature Actionee: JRL

Board Disposition:
see MPE-011

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.10 WHU-011 DRLD Sec 4:O:DPR table:PSB

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	WHU-11
Review Item	Page 36 of 116
Document Title:	Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

Table 4.2
-Within the ESO-DFS DPR keys are used to classify frames and determine to which recipe the file/stack is submitted. DPR.CATG=TEST is for all pipeline environments configured as the ignore tag, hence TEST/BIAS/IMAGE should go to CALIB/BIAS/IMAGE
- TWILIGHT is not defined in DICD, hence use SKY,FLAT
- the linearity template and the illumination template are missing
-some frames of a science stack could contain SCIENCE/SKY/IMAGE
- the HOWFS frames that pass the DO and should be ignored by the DRS but will be ingested into the archive must have dedicated DPRs as well.

Action Recommended by Initiator:

Date/Signature of Initiator: Wolfgang Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)		
Major	**Minor**	**Withdrawn**
Date/Signature Chairperson:		

Actionee Corrective Action:

Will fix the "TEST" error.
Please see response to MPE-010 re "TWILIGHT".
Linearity/illumination seem to be present.
Need to discuss if the combination SCIENCE/SKY/IMAGE can occur.
HOWFS (see response to MPE-010)

Date/Signature Actionee: PSB

Board Disposition:
Implement agreed changes and review with DFS group.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.11   WHU-012 DRLD Sec 4.2:O:DRP keys:JRL

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	WHU-12 (was a duplicate 11)
Review Item	Page 39 of 116, Table 4.2
Document Title:	DR Library Design
Document No:	0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
- See WHU-11 on DPR keys
- If the raw frames of the linearity template should go to a recipe different to the domeflat recipe they should be distinguished by the DPR keys. DICD maintains a list of approved DPR.TYPE keys. LINEARITY and DOME or SCREEN are maybe valid DPR.TYPE values.

Action Recommended by Initiator:
Please correct

Date/Signature of Initiator: Wolfgang Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will distinguish between types with appropriate values (see response to MPE-010).

Date/Signature Actionee: JRL

Board Disposition:
Use and submit new DPR TYPE value 'LINEARITY' to DICB.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.12   WHU-023 DRLD Sec 4.2:O:HOWFS data:SMB

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	WHU-23
Review Item	DPR keys, page 39 of 116
Document Title:	DPLD
Document No:	20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
HOWFS data will pass the DO on the mountain, and have to be classified to be ignored, hence DPR.CATG=TEST or TECHNICAL is a natural choice for these frames. The DPR.TYPE and DPR.TECH could be specified as well for classification on the instrument workstation and for header completeness for ingesting them into the archive.
Action Recommended by Initiator:
It could be mentioned in the document, how HOWFS data are ignored by the pipeline infrastructure.
Date/Signature of Initiator: 2005-01-19, WH

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
This is a good point - although the HOWFS data are not processed by the library, we need to specify how they are recognised and ignored.

In its current design, the VISTA IR Camera software identifies HOWFS data by classifying it as DPR.CATG=OTHER. It can easily be classified as DPR.CATG=TEST if this is a more appropriate value. The pipeline software can ignore any data product not classified as CALIB or SCIENCE.

I would like to ask the panel for their advice on appropriate values for DPR.TYPE and DPR.TECH for HOWFS data, since this kind of data does not match with any of the values listed in Tables 4.8 and 4.9 of the "Data Interface Control Document". If the DICB are open to extensions to these lists, we could propose:
  DPR.TECH=WFS (wavefront sensing), DPR.TYPE=CS (curvature sensor)
If not, then DPR.TECH=IMAGE, DPR.TYPE=OTHER
would be the closest match, but not very descriptive.
  Classification will be added to the data-frame catagories table.
Date/Signature Actionee: SMB

Board Disposition:
Use TYPE 'PSF-CALIBRATOR' and CATG 'TEST'

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.13   MPE-009 DRLD Sec 5.1:O:File keywords:JRL

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	MPE-009
Review Item	Page 40, section 5.1
Document Title:	Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

We do not recommend to associate files using keywords (with file names?) in the headers as file names might change as the files are flowing through the system and are not unique.
The files can probably be associated using the MJD_OBS keyword as index.

Action Recommended by Initiator:

Rephrase

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

An interesting suggestion, but we think we need to keep the original filename association since an association via say the MJD-OBS information is not always possible. For example, for raw data files the same reference/master confidence map per pass-band will apply.

Date/Signature Actionee: JRL

Board Disposition:
Reasons for using filename accepted. ?

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.14   WHU-013 DRLD Sec 5.1:O:Fits key/time stamp:JRL

Review Title:		**Review Item**		**Discrepancy**
				Clarification
FDR VISTA DFS			X	**Observation**

RI No:	WHU-13
Review Item	Page 40 of 116
Document Title:	DR Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

A fits key to associate each confidence map with it's the product image is not required. The primary header of the first raw frame of the stack is copied into all products of a recipe. The time stamp can be used to associate products.

Action Recommended by Initiator:
This is just a hint

Date/Signature of Initiator: W.Hummel 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

See reply to MPE-009 DRLD Sec 5.1- we don't understand how time stamp alone can be used to associate all the necessary products.

Date/Signature Actionee: JRL

Board Disposition:
Accept the need for a FITS keyword, no change necessary. ?

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.15   WHU-014 DRLD Sec 5.8:D:Persistence:JRL

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	WHU-14
Review Item	Page 44 of 116, 5.8 Persistence map
Document Title:	DRLD
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

A running list of all previous observations is not available on Paranal.

For the pipeline running in Garching this list is operationally not possible.

Action Recommended by Initiator:

Date/Signature of Initiator: W.Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We agree that monitoring persistence across OBs and templates is impractical for the summit and Garching pipelines. We will rephrase this such that it is clear that these pipelines will only deal with persistence arising within a template (see also WHU-008).

Date/Signature Actionee: JRL

Board Disposition:
Agree to Corrective Action.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.16 FCO-003 DRLD Sec 5.9:C:Explain need for extracted standards table:JRL

Review Title:

FDR VISTA DFS

Review Item

	Discrepancy
X	Clarification
	Observation

RI No:	3
Review Item	
Document Title:	VISTA Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
Sect. 5.9, 5.10: given that the extracted standards table is embedded in the matched standards table, is the first one really necessary?

Action Recommended by Initiator:
Describe the need for having both tables separately, if indeed justified

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:
The table is needed since it used as input to the matching algorithm and could provide cached standards rather than do another DB query.

Date/Signature Actionee: JRL

Board Disposition:
Agree with explanation, no action.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.17   SCA-007 DRLD Sec 5.11:C:Floating:JRL

Review Title: FDR VISTA DFS		Review Item		Discrepancy
			X	Clarification
				Observation

RI No:	SCA-007
Review Item	Page 46 Sub item 5.11
Document Title:	VISTA Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	

Discrepancy/Clarification Required/Observation:

Are floating numbers also going to be used for columns 1 (No. running number) and 25 (classification)?

Action Recommended by Initiator:

Date/Signature of Initiator: Sandra Castro

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Yes. The rationale was to keep the i/o simple so the plan is to use floating nos. for all these parameters.

Date/Signature Actionee: JRL

Board Disposition:
Change to integer data-type where appropriate.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.18   PBA-014 DRLD Sec 6.1.5:C:PRO/DRS keywords:JRL

Review Title:

FDR VISTA DFS

	Review Item		Discrepancy
			Clarification
		x	Observation

RI No:	PBA-014
Review Item	Page 49, 50, 52 and following
Document Title:	VISTA IR Camera Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

The usage of PRO keywords is now reserved to the exclusive list of keywords defined in the PRO dictionary. Data reduction specific keywords are written in a new section DRS.

Action Recommended by Initiator:

Such keywords like PRO XTCOR should be renamed DRS XTCOR.

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

This looks like a positive move and we look forward to seeing the new document as soon as possible.

Date/Signature Actionee: JRL

Board Disposition:
Use conventions in the document to be released in the future.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.19 FCO-004 DRLD Sec 6.3:C:FRINGE_RATIO QC Parameter:MJI

Review Title: **FDR VISTA DFS**		Review Item		Discrepancy
			X	Clarification
				Observation

RI No:	4
Review Item	
Document Title:	VISTA Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
Sect. 6.3, I could not find the definition of the FRINGE_RATIO QC1 parameter elsewhere in the document (but I may have overlooked it). Is it related to the fringe amplitude over the average background?

Action Recommended by Initiator:
Define FRINGE_RATIO, perhaps in Sect. 2.6

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:
It is defined in Appendix 10 QC1 parameters, but to clarify this we will add the following to section 2.6.

The success, or otherwise, of fringe removal is monitored by the computed fringe map scale factor and also by a robust measure of the change (ratio) of the global background noise/variation after defringing. This is encoded in the FRINGE_RATIO QC1 parameter.

Date/Signature Actionee: MJI

Board Disposition:
Accept Corrective Action. Check that this parameter is referenced in section 2.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.20   FCO-005 DRLD Sec 6.3.10:O:Negative fringe-scaling:JRL

Review Title:		Review Item		Discrepancy
FDR VISTA DFS				Clarification
			X	Observation

RI No:	5
Review Item	
Document Title:	VISTA Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
Sect. 6.3.10: a negative fringe scaling factor should produce a non-fatal error condition

Action Recommended by Initiator:
Add negative fringe scaling factor as a non-fatal error condition (unless the fringe scale determination algorithm already precludes negative values)

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

We agree, the fringe scale factor could be negative for valid reasons and should produce a non-fatal error condition. We will add this as an extra return condition.

Date/Signature Actionee: JRL

Board Disposition:
Agree Corrective Action (and noting that a Solar Flare can cause such an inverted condition).

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.21   FCO-006 DRLD Sec 6.5.10:O:Linearity Function error condition:JRL

| Review Title:

FDR VISTA DFS	Review Item		Discrepancy
			Clarification
		X	Observation

RI No:	6
Review Item	
Document Title:	VISTA Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
Sect. 6.5.10, a positive second derivative of the linearity function may produce a non-fatal error condition

Action Recommended by Initiator:
Add positive second derivative of the linearity function as a non-fatal error condition

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:
We are unsure of the reason for singling out this type of error condition.
If we fit up to a cubic or quartic polynomial, as planned, then the second derivative of the non-linearity function may validly be +ve, -ve or zero.

Date/Signature Actionee: JRL

Board Disposition:
Accept explanation, no action.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.22   PBA-019 DRLD Sec 6.6:C:Standard catalogues:JRL

Review Title:

FDR VISTA DFS

	Review Item		Discrepancy
			Clarification
		x	**Observation**

RI No:	PBA-019
Review Item	Page 56
Document Title:	VISTA IR Camera Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

The recipe vircam_getstds implies an on-line access to standard star catalogues. We could have local copies of catalogues but the list and volume should be mentioned here (this is one item we wanted clarify since PDR and that remains to be addressed).

Action Recommended by Initiator:

Provide a list and size estimates of those catalogues for which local access would be needed.

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We would want access to local copies of the 2MASS point source catalogue.
As an example, the FITS binary table version we use occupies 43 Gbytes of disk space. As the astrometry will be based on 2MASS we will want to use RADECSYS='ICRS' in the FITS headers.

Date/Signature Actionee: JRL

Board Disposition:
Access to 2MASS will be provided somehow….

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.23   MPE-011 DRLD Sec 7:D:one-to-one RAW/Recipe:JRL

Review Title: **FDR VISTA DFS**		**Review Item**	**X**	**Discrepancy**
				Clarification
				Observation

RI No:	MPE-011
Review Item	Page 78, section 7
Document Title:	Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

They must be a one-to-one relation between raw data types and pipeline recipe.
This is the only way the pipeline infrastructure can launch the appropriate recipe

For instance in table 3-2:
The DPR.TYPE= FLAT,LAMP has two related recipes (dome_flat_combine and linearity_analysis)
The DPR.TYPE = OBJECT has three related recipes.

Action Recommended by Initiator:

We need to discuss each case one by one. It might be that additional templates are needed, or that additional values for the DPR keywords are needed or that super-recipes must be added.

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major X   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

This has arisen from a misunderstanding on our part about how the appropriate processing recipes are triggered. It is related also to MPE-004 and MPE-010.
We want to discuss this at FDR.

Date/Signature Actionee: JRL

Board Disposition:
Revise DPR types as required and as discussed.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.24   PBA-015 DRLD Sec 7:D:Missing recipes:JRL

Review Title:

FDR VISTA DFS

	Review Item	X	**Discrepancy**
			Clarification
			Observation

RI No:	PBA-015
Review Item	All
Document Title:	VISTA IR Camera Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

Several recipes listed in the DRL Specifications document are not described in the DRL Design, including vircam_offset_sky_combine, vircam_wcs_fit, vircam_distortion_update, vircam_gen_catalogue, vircam_photcal_fit, vircam_photcal_apply.

The low level DRL functions vircam_stage1, vircam_converge are also not described

Action Recommended by Initiator:

Describe these recipes in the DRL Design

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Will fix. The DRS/DRLS has fallen behind the evolving DRL design.

Date/Signature Actionee: JRL

Board Disposition:
Synchronize document set.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.25   WHU-015 DRLD Sec 7.1:C:Library reset frame:JRL

Review Title: **FDR VISTA DFS**		**Review Item**		**Discrepancy**
			X	**Clarification**
				Observation

RI No:	WHU-15
Review Item	Page 78 of 116, Library mean reset frame
Document Title:	DRLD
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
With reference to WHU091, the meaning of the library mean reset frame is not clear.

Note that database connections should be avoided for the pipeline.
Note also that on Paranal, the only calibrations available for the pipeline during run-time are the calibrations in the DO-library (called calibDB), that are regularly updated by the QC group in Garching (around 6 times a year) and the new calibration products of the current night.

This partially applies to the vircam_dark_combine, vircam_badpix_mask

Action Recommended by Initiator:
If the library frame is used for trending, please take it out, if the library frame is used for data reduction or QC purpose (required to extract a quality characteristic of the current frames), then leave it in and call if reference reset frame.

Date/Signature of Initiator: Wolfgang Hummel 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

The intention is to use the library frame only as part of the data reduction and for generating QC information. We will rename it to reference reset frame.

Date/Signature Actionee: JRL

Board Disposition:
Accept Corrective Action.
RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.26   WHU-016 DRLD Sec 7.6:O:darks/flats observing:JRL

Review Title:		**Review Item**		**Discrepancy**
				Clarification
FDR VISTA DFS			**X**	**Observation**

RI No:	WHU-16
Review Item	Page 82 of 116, vircam_linearity analyse
Document Title:	DRLD
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:
Associating many dark frames of different DIT is a complex association rule. One could think about to take the darks in an alternating order with the linearity flats.
This applies to vircam_twflat_combine as well. Is there a reason, why the DIT is used instead of the natural variations of the sky flux variations during twilight to gain a high flux ratio in the stack?

Action Recommended by Initiator:

Date/Signature of Initiator: W.Hummel, 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We want to simplify this given what we have learnt from WFCAM e.g. dark DITs,NDITS should be the same integration/exposure sequence as the frames being processed. Whether this is feasible via reference/master frames is an issue we would like to discuss.

Date/Signature Actionee: JRL

Board Disposition:
Rephrase the dark-frame association rules to simplify.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.27   WHU-020 DRLD Sec 7.14:C:Standard data source:JRL

Review Title: **FDR VISTA DFS**		**Review Item**		Discrepancy
			X	**Clarification**
				Observation

RI No:	WHU-20
Review Item	Page 91 of 116
Document Title:	Data Reduction Library Design
Document No:	VIS-SPE-IOA-20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

'Astrometric Standard data', 'Photometric Standard Data' , could you please specify the source of the data. Is it just a file of the library, or a database connection ?
Do you expect performance losses for large catalogues ?

Action Recommended by Initiator:
Please comment

Date/Signature of Initiator: Wolfgang Hummel 2005-01-18

RI Classification: (to be completed by Board Chairperson)
Major   Minor   Withdrawn
Date/Signature Chairperson:

Actionee Corrective Action:

See reply to PBA-019

Date/Signature Actionee: JRL

Board Disposition:
Access to 2MASS will be available.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.4.28   WHU-21 DRLD Sec 11:O:ORIGFILE:PSB

Review Title: **FDR VISTA DFS**		**Review Item**		**Discrepancy**
				Clarification
			X	**Observation**

RI No:	WHU-21
Review Item	Page 114 of 116
Document Title:	DRLD
Document No:	20000-0010
Document Originator:	Jim Lewis

Discrepancy/Clarification Required/Observation:

The ORIGFILE keyword in the example fits header should be part of the primary header.

Action Recommended by Initiator:

Date/Signature of Initiator: WHU

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

See response to WHU-010

Date/Signature Actionee: PSB

Board Disposition:
See WHU-010.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.5 Review Items referring to the Exposure Time Calculator ETC [RD5].

1	Discrepancies
3	Clarification
1	Observations
5	Total

Table 2-5 RIx Count for ETC

2.5.1 PBA-002 ETC Sec 6:C:New ETC infra?:STH

Review Title:				Discrepancy
FDR VISTA DFS		**Review Item**	**X**	**Clarification**
				Observation

RI No:	PBA-002
Review Item	Page 10
Document Title:	VISTA IR Camera ETC Specification
Document No:	VIS-SPE-IOA-20000-0009
Document Originator:	Simon Hodgkin

Discrepancy/Clarification Required/Observation:

In Section 6 (last paragraph), the document mentions that the interface should be accessible by a remote command-line call. Do you consider the current ETCs (e.g. ISAAC ETC) already fulfill this requirement or is there a new requirement on the ETC infrastructure?

Action Recommended by Initiator:

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

Here we simply want to ensure that remote command line queries via the web interface are not ruled out.

Date/Signature Actionee: STH

Board Disposition:
Investigate whether the existing ESO ETC infrastructure supports this capability, and if not we will remove the requirement.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.5.2 FCO-11 ETC Sec 7.2:O:Observing Strategy Limited:STH

Review Title: **FDR VISTA DFS**	Review Item		Discrepancy
			Clarification
		X	Observation

RI No:	11
Review Item	
Document Title:	VISTA Infra Red Camera ETC Specification
Document No:	VIS-SPE-IOA-20000-0009
Document Originator:	Simon Hodgkin

Discrepancy/Clarification Required/Observation:
Sect. 7.2: given that the ETC deals with single-tile, single-filter observations, the scope of the optimization of observing strategy via the ETC appears to be limited (e.g., one should calculate outside the ETC whether FTPJME would be more efficient than TFPJME).
Also, computation of overheads within the ETC requires consistency between the overheads yielded by the ETC and by the execution time reports in P2PP.

Action Recommended by Initiator:
Given the limited possibilities offered to the user within the ETC to explore survey strategy efficiency, the calculation of overheads from within the ETC may not be fully necessary.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
We agree that the treatment of the survey strategy and the associated overheads within the ETC is limited. However, we think it is useful in its current form because: it alerts the user that there are several ways to observe with VISTA; the form shows how observations with VISTA will be made up from the various modes (tiles, microsteps, jitters etc); and it gives the user an indication of how efficient observing will be.
    We plan to ensure that the results from the ETC are consistent with P2PP and the SDT. The SDT may interface directly with the ETC to use the ETC input to enable more detailed overhead computation for a wider range of different observing strategies. How to implement this is an issue we would like to discuss at FDR.
Date/Signature Actionee: STH

Board Disposition:
Close. Leave the ETC overhead computation as is.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.5.3 PBA-004 ETC Sec 8:C:Elapsed time:STH

Review Title: **FDR VISTA DFS**		**Review Item**		X	**Discrepancy** **Clarification** **Observation**

RI No:	PBA-004
Review Item	Page 17, Section 8
Document Title:	VISTA IR Camera ETC Specification
Document No:	VIS-SPE-IOA-20000-0009
Document Originator:	S.T. Hodgkin

Discrepancy/Clarification Required/Observation:

The calculation of elapsed time is certainly a VISTA DFS specific module that should be listed in Section 8. See also my next comment PBA-005 about providing ISO-C modules for the calculation part of the VISTA ETC prototype.

Action Recommended by Initiator:

- List calculation modules and provide ISO-C prototype code in an appendix.

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will note it so in section 8 of the ETC (see also PBA-005 response).

Date/Signature Actionee: STH

Board Disposition:
List the elapsed time as a calculation module in section 8. Provide C code modules for the numerical part of ETC.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.5.4 PBA-003 ETC Sec B:C:Mockup discrepency:MJI

Review Title: FDR VISTA DFS		Review Item		Discrepancy
			X	Clarification
				Observation

RI No:	PBA-003
Review Item	Page 20
Document Title:	VISTA IR Camera ETC Specification
Document No:	VIS-SPE-IOA-20000-0009
Document Originator:	S.T. Hodgkin

Discrepancy/Clarification Required/Observation:

In the "Observing Setup" section of the interface mock-up, selecting the "Observing Strategies" option removes the selection from both "Exposure Time" and "S/N" options. Should it not be independent from these options?

Action Recommended by Initiator:

Date/Signature of Initiator: PBA

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

This was a deliberate choice to retain a simple to use conventional style ETC with the option of more detailed computation once an exposure time, S/N combination had been chosen. The observing strategy generally has minimal impact on the exposure time, S/N aspect, but may have a noticeable impact on observing efficiency.

Date/Signature Actionee: MJI

Board Disposition:
Accepted.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.5.5 PBA-005 ETC Sec C:D:ISO-C/Perl:MJI

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	PBA-005
Review Item	Appendix C
Document Title:	VISTA IR Camera ETC Specification
Document No:	VIS-SPE-IOA-20000-0009
Document Originator:	S.T. Hodgkin

Discrepancy/Clarification Required/Observation:

While we appreciate the effort made to provide already at this stage a working prototype of the VISTA ETC, it will be easier to reuse and refer to this prototype if the calculations are made in plain ISO-C. 1618/2.0 allows languages like Matlab, IDL for the pseudo-code section, and ISO-C for the modules.

Action Recommended by Initiator:

Encapsulate the calculation fuctions in ISO-C modules, reserving the usage of Perl in the prototype for reading input parameters and producing the output graphs.

Date/Signature of Initiator: Pascal Ballester

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

We will convert the computational parts of the perl cgi script to ISO-C modules.

Date/Signature Actionee:

Board Disposition:
Corrective Action accepted.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6 Review Items referring to the Survey Definition Tool SDT [RD6].

1	Discrepancies
6	Clarification
4	Observations
11	Total

Table 2-6 RIx Count for SDT

2.6.1 FCO-012 SDT Sec 0:O:Priorities among runs:MFO

Review Title:			Discrepancy
FDR VISTA DFS		**Review Item**	Clarification
			X Observation

RI No:	12
Review Item	
Document Title:	VISTA Survey Definition and Progress Tool
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:
Generic comment: no specifications on allocation of priorities among runs are given

Action Recommended by Initiator:
Clarify if prioritization of OBs within surveys is important in planning and execution (most probably yes; certainly so for many surveys).

.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

See answer to FCO-014.

Date/Signature Actionee: 24 January 2005, Martin Folger

Board Disposition:
?

RI Closed:

RI Closed with Actions:

Date/Signature Chairperson:

2.6.2 MPE-015 SDT Sec 0:D:Describe PAF files, GUI:MFO

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy
				Clarification
				Observation

RI No:	MPE-015
Review Item	
Document Title:	VISTA Survey Definition and Progress Tools: Functional Specification
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:

The survey tool will create PAF files which can then be attached to OBs as parameter of a template. The contents of those PAF files should be described.
We would also need to have a mockup of the GUI and a design of the application itself.

Action Recommended by Initiator:

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

The PAF file format and the derivation of values from the template parameters should be discussed either at the FDR or in subsequent meetings. A mock-up and design (Rational Rose UML) can be provided (plus javadoc API documentation).

Date/Signature Actionee: 26 January 2005, Martin Folger

Board Disposition:
Provide a design and example PAF files, provide a real interface design within 3 months.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.3 MPE-016 SDT Sec 0:C:Tool on line?:MFO

Review Title: FDR VISTA DFS		Review Item	X	Discrepancy Clarification Observation

RI No:	MPE-016
Review Item	
Document Title:	VISTA Survey Definition and Progress Tools
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	

Discrepancy/Clarification Required/Observation:

Will the tool be used in the on-line environment?

Action Recommended by Initiator:

Date/Signature of Initiator: MPE

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:

The question can be interpreted in two ways:

Answer 1:

If guide/aO stars are to be selected from a SKYCAT-style online catalog then the SDT must run on a computer that has an internet connection. There are two offline-ways of getting guide stars but there both NOT RECOMMENDED:

(1) A user could install the complete USNO A2.0 locally on his computer (12 CDs). This methods is slow and NOT RECOMMENDED.

(2) SKYCAT catalogues can also reside as ASCII files on a local disk but to by knowledge this is only practical for tiny sets of stars (e.g. standard stars etc). So this would probably NOT WORK for the SDT.

Therefore, realistically, network access is required to run the SDT with guide/aO selection functionality switched on.

Answer 2:

The SDT itself is a Java application, i.e. a standalone program started by mouse click or on the command line (like P2PP). It does not run within a web page (as an applet or java web start).

Date/Signature Actionee: 26 January 2005, Martin Folger

Board Disposition:

The question related to use during observing; the answer is no, correct doc as necessary.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.4 FCO-013 SDT Sec 1.2:O:Cal tool functionality in OT:MFO

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			X	Observation

RI No:	13
Review Item	
Document Title:	VISTA Survey Definition and Progress Tool
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:
Sect. 1.2, last item in the Section: incorporation of calibration tool functionality in the scheduling software (OT) is not foreseen.

Action Recommended by Initiator:
Should calibration tool functionality be needed in the OT, requirements should be provided in the future.

.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:
ESO staff can comment on whether it is thought that automated calibration rule "enforcing" via some computer program running alongside/inside the OT is required or not. From my discussions I got the impression that the current method of having the TO manually follow a provided calibration strategy is sufficient. VISTA project scientist/leader might want to comment on this as well.

Date/Signature Actionee: 24 January 2005, Martin Folger

Board Disposition:
In the Calibration Plan, clarify the rate and conditions of standards.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.5 FCO-014 SDT Sec 2:C:Survey Plan should spec strat/priorities:MFO

Review Title: **FDR VISTA DFS**	Review Item		Discrepancy
		X	Clarification
			Observation

RI No:	14
Review Item	
Document Title:	VISTA Survey Definition and Progress Tool
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:
Sect. 2: *survey plan* probably should contain specifications on survey strategy, e.g. relative priorities among OBs.

Action Recommended by Initiator:
Allowing the user to specify internal priorities among OBs is planned in a future release of P2PP. The information on priorities may be generated in the Survey Definition tool and passed to the OBs.
.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
How to assign priorities to OBs, in the SDT (or OT for whole surveys/queues)

In terms of OB priorities an OB can be thought of as having the following 5 attributes:
   a. It is part of a particular survey.
   b. It is typically linked to a particular survey area (contiguous area of sky).
   c. It has settings (filter, exposure time etc.)
   d. It is linked to a tile.
   e. It has a "number" E.g. if a tile should be observed 5 times with identical settings then there would be 5 OBs in the repository: number 1, 2, 3, 4, 5.

   • OBs sharing attributes a, b, c, d, differing only in e (different "number")
     There should be no need to assign different priorities in this case. All the OBs are the same and should have the same priorities. There are only multiple copies to stack them together or to capture changes over time.

   • OBs sharing attributes a, b, c, differing in d (different tile)
     OBs "looking" at different tiles in the same survey area with identical settings should probably not have different priorities.

   • :OBs sharing attribute a, differing in c (different settings, filter, exposure time etc)
     Different priorities for different settings would probably have to be specified in the P2PP (or the part of the SDT replacing its "Create Parent OB" use, see Andreas Kaufer's RI below.)

   • :OBs sharing attributes a, c, differing in b (different survey area)
     This is a borderline case. There might be a case of having some areas within the same survey with higher priorities. If this functionality were needed then an extra field for the (relative) survey area priority would have to be added to the SDT.

   • OBs not sharing any attributes (different surveys)
     Different surveys can have different priorities.
     Assigning different priorities to OBs belonging to different surveys can probably be done at the OT level (?). There will be different queues for different surveys and these queues can be given different priorities (?).

Date/Signature Actionee: 24 January 2005, Martin Folger

Board Disposition:
MFO & WJS discuss

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.6 FCO-015 SDT Sec 2:C:Does SDT calculate overheads?:MFO

Review Title: **FDR VISTA DFS**	**Review Item**		Discrepancy
		X	Clarification
			Observation

RI No:	15
Review Item	
Document Title:	VISTA Survey Definition and Progress Tool
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:
Sect. 2: Does the SDT include functionality to calculate overheads, thus allowing the user to optimize survey strategy at this (early) stage?

Action Recommended by Initiator:
Clarify whether or not the STD is supposed to include execution time reports

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:
The SDT could automatically display a figure based on
    Number of tiles times (OB duration + fixed overhead)

Where fixed overhead is slew time etc and OB duration would be based on the output of the ETC. The result of the ETC would have to be input into the SDT by the user.

Date/Signature Actionee: 24 January 2005, Martin Folger

Board Disposition:
Also to go in new Design Doc

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.7 FCO-016 SDT Sec 2.1.3.2:C:Operator intervention:MFO

Review Title: **FDR VISTA DFS**		**Review Item**		**Discrepancy**
				Clarification
			X	**Observation**

RI No:	16
Review Item	
Document Title:	VISTA Survey Definition and Progress Tool
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:
Sect. 2.1.3.2: Is operation intervention expected for selection of guide/aO star (also while observing a tile when a change of guide star is needed?)

Action Recommended by Initiator:
Clarify this point in Sect. 2.1.3.2
.
Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**

Date/Signature Chairperson:

Actionee Corrective Action:
The SDT adds a number of suitable guide/aO stars to the OB (PAF file), e.g. up to 5 guide stars, up to 5 aO stars for LOWFS 1 and up to 5 aO stars for LOWFS 2. (The maximum number, 5 in the example above, as well as a minimum number, can be specified in a configuration file.) Which of these 3x5 guide/aO stars are used during observing is determined by the control software and/or the TO: automatic selection is planned with the TO being alerted if there is a problem.

The SDT shifts or skips according to rules specified and lets the user know whether it failed to find a guide/aO at some position. But the user can't really intervene if there simply is no guide/aO anywhere near the required position. (However that extreme case should never happen, see 2.1.3.3. i.)

Date/Signature Actionee: 26 January 2005, Martin Folger

Board Disposition:
Accepted.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.8 FCO-017 SDT Sec 2.1.3.5:C:Where can user specify categ.:MFO

Review Title:

FDR VISTA DFS

		Discrepancy
Review Item	X	Clarification
		Observation

RI No:	17
Review Item	
Document Title:	VISTA Survey Definition and Progress Tool
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:
Sect. 2.1.3.5: Regarding the sentence *The user can specify whether a survey falls into one of the following categories*: where is this intended to be specified?

Action Recommended by Initiator:
Clarify this point in Sect. 2.1.3.5
.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
The user selects the failure category in the SDT.
This failure category will then apply to a survey as a whole. There is a wider issue of where survey-wide information can be stored (the calibration strategy is another example for this). In the case of the failure category, lacking a location for survey-wide information, this could be made an attribute assigned to every OB generated as part of this survey. The OB template would have to contain a parameter for this.

Date/Signature Actionee: 24 January 2005, Martin Folger

Board Disposition:
?

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.9 AKA-001 SDT Sec 2.1.5:O:SDT - P2PP interaction:MFO

Review Title: FDR VISTA DFS		Review Item		Discrepancy
				Clarification
			x	Observation

RI No:	AKA-001
Review Item	Interaction p2pp – SDT: Sect. 2.1.5, 2.1.6, 2.1.7, 3.2
Document Title:	VISTA Survey Definition and Progress Tools
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	M.Folger

Discrepancy/Clarification Required/Observation:
The interaction of the SDT with P2PP appears to me too complicated and error-prone.
In particular the creation and export of a 'parent' OB in p2pp and subsequent re-import in SDT seems un-necessary.
Action Recommended by Initiator:
Option 1
Since a p2pp installation is present while using the SDT, the respective acquisition and observation template signature (TSF) file can be directly read by the SDT.
The few keywords, which the user has to provide in the observation template could be set by the user in the SDT using the keyword information from the TSF. All acquisition keywords are probably to be filled by SDT anyway. SDT can then eventually produce the OBX files for import in p2pp.
Option 2
Alternatively, the file with the generated tiles could be attached in the usual way as a setup file to the parent OB in p2pp. P2pp could then on user-request expand this parent OB into the set of OBs according to the information passed by the tile setupfile.
      I would consider the second option the proper way to go. The tile setup file is a clear interface to p2pp and the error-prone and cumbersome shuffling around of export/import files can be avoided.
      The parent OB with the attached tile setup file can the also be checked into the OB repository and easily be used for the progress visualisation tool (Sect 3.2). This appears to be the best way to store the tile information in the repository database for further usage.
Date/Signature of Initiator: 2005/01/23 Andreas Kaufer

RI Classification: (to be completed by Board Chairperson)
Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
Both suggestions sound reasonable but might need more discussion to ensure that no unforeseen knock-on effects have been overlooked.
Option 2 in particular is quite a departure from the current design. But given that the OB generation/expansion part of the SDT is completely separate from the rest of the SDT (and not implemented yet) it would not be too late to shift to either design Option 1 or 2.
This should be discussed during the FDR or on the days following it.
Date/Signature Actionee: 24 January 2005, Martin Folger

Board Disposition:
?

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.10   FCO-018 SDT Sec 2.1.6:C:Guide Star PAF information:MFO

Review Title:				Discrepancy
FDR VISTA DFS	**Review Item**	**X**		**Clarification**
				Observation

RI No:	18
Review Item	
Document Title:	VISTA Survey Definition and Progress Tool
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:
Sect. 2.1.6, which information should the PAF contain regarding guide/aO stars, and what is the location of this PAF? (presumably the acquisition template?)

Action Recommended by Initiator:
Discuss the content of the PAF. Section 8.3.1 of document VIS-SPE-IOA-20000-0002 (Calibration Plan) refers to the SDT concerning the origin of the guide star specifications.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:

To be decided (at the FDR or during the meetings following it).

Date/Signature Actionee: 24 January 2005, Martin Folger

Board Disposition:
To go into Design Doc.

RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

2.6.11   FCO-020 SDT Sec 3.4:O:non-UK QC:MFO

Review Title: **FDR VISTA DFS**	**Review Item**			**Discrepancy**
				Clarification
		X		**Observation**

RI No:	20
Review Item	
Document Title:	VISTA Survey Definition and Progress Tool
Document No:	VIS-SPE-ATC-20500-0001
Document Originator:	Martin Folger

Discrepancy/Clarification Required/Observation:
Sect. 3.4: non-UK surveys may not be expected to have access to the higher QC level made available through the SDT, which applies only to data processed by the UK pipeline in Cambridge.

Action Recommended by Initiator:
Discuss whether the SDT contains functionality that is customized to a set of specific users.

Date/Signature of Initiator: 20 January 2005, F. Comerón

RI Classification: (to be completed by Board Chairperson)

Major   **Minor**   **Withdrawn**
Date/Signature Chairperson:

Actionee Corrective Action:
The SDT does not contain functionality regarding the QC. This would be part of the Progress Tool (derived from the SDT) and it could be ensured that the Progress Tool does not depend on additional high-level QC information but would make use of it if it was there.

Date/Signature Actionee: 24 January 2005, Martin Folger

Board Disposition:
Needs better design requirements. Deliver tool to ESO that only uses ESO DB data.
Visualisation of survey progress?
RI Closed:
RI Closed with Actions:
Date/Signature Chairperson:

END OF DOCUMENT

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