

ICL Pathway

**Schedule of Corrective Actions
NR2 Mid Stage Audits (Consolidated)**

Ref: IA/CAP/001
Version: 2.0
Date: 04/05/00

Document Title: Schedule of Corrective Actions
NR2 Mid Stage Audits (Consolidated)

Document Type: Schedule

Abstract: This document presents the Observations and Recommendations resulting from the referenced Internal Audit(s) along with the agreed corrective action, the action owner and the date by which the action is to be complete. A status field is included for quick reference purposes.

Status: APPROVED

Distribution: Pathway Management Team
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0 Document control

0.1 Document history

Version	Date	Reason
0.1	26/05/98	Initial draft for comment
0.2	09/06/98	Following review with action owners. Introduction of 'Actioned' status.
1.0	17/06/98	Raised to Issue status.
1.1	21/01/99	Final review for end-of-year closedown.
2.0	04/05/00	Raised to issue for formal sign-off

0.2 Approval authorities

Name	Position	Signature	Date
M. Coombs	Programme Director		
M. Bennett	Director Quality & Risk Management		

0.3 Associated documents

	Reference	Vers	Date	Title	Source
[1]	IA/REP/004	1.0	18/06/98	Report on Release 2 Process Improvement Programme	
[2]	IA/REP/002	1.0	04/12/97	NR2 MSQA#1 : Design	
[3]	IA/REP/003	1.0	03/03/98	NR2 MSQA#2 : Development	
[4]	IA/REP/005	0.2	17/04/98	NR2 MSQA#3 : Technical Integration	
[5]	IA/REP/006	0.2	18/05/98	NR2 MSQA#4 : Test & Integration	

0.4 Abbreviations

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1 Introduction

This document presents the Corrective Action Plan that emerged from a number of post audit meetings which themselves followed on from the Mid Stage Quality Audits [2], [3], [4] & [5] run as part of the Release 2 Process Improvement Programme [1].

2 Process

This Plan will go through a number of iterations and reviews following production as Corrective Actions (CA) are worked on and, subject to agreement between the CA Owner and Internal Audit, amended.

The status will remain OPEN until such time as the CA Owner and Internal Audit agree on a course of action to address the issue at which time the status will be changed to ACTION. Once the actions have been carried out, subject to agreement between the CA Owner and Internal Audit, the status will change to CLOSED.

Once actions have been agreed the Plan will be monitored by the Programme Office and subject to periodic review by Internal Audit.

3 Key to Plan

Column	Meaning
Ref.	Observation/Recommendation number based on Report reference.
Observation/Recommendation	Narrative detail taken directly from Audit Report
Owner	The identified owner of the Corrective Action (CA)
MTM	Management Team Member to whom the CA Owner reports
Status	CA status. OPEN pending agreed corrective action ACTION pending completion of agreed corrective action CLOSED on completion of agreed corrective action
Agreed Action/Commentary	Detail of the CA agreed between the CA Owner and IA. If the CA Status is OPEN or ACTION it will contain a commentary of the current position.
Due Date	The date of the next important event in the CA. Where the Status is CLOSED the date will be the closure date.

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4 MSQA#1 - Design

Report Reference IA/REP/002

Ref.	Report Observation/Recommendation	Owner	MTM	Status	Agreed Action/Commentary	Due Date
002/1	Toward the end of the audit, and during report production, I was notified of an initiative in the Design unit which, if brought to a successful conclusion, will address some of the concerns and recommendations contained in this report. It will require time and effort to undertake the work identified in the initiative and I strongly recommend that Pathway management actively support this activity.	R. Long	TPA	Action	<u>Openframework Initiative</u> Initial study by Openframework Consultancy completed. Draft Proposal to be prepared Agreed Position Implementation Plan	12/06/98 03/07/98 03/07/98
002/2	I recommend that the document is re-engineered to conform to the PD as it(the document) was in June 1997.	R. Long	TPA	Action	<u>Openframework initiative</u>	See 002/1
002/3	Re-engineering the document would incur unnecessary delay and is not recommended.	R. Long	TPA	Action	<u>Openframework initiative</u>	See 002/1
002/4	I recommend that the production of the Object Model Document is adopted as part of the Design process and becomes an explicit deliverable from the design process.	R. Long	TPA	Action	<u>Openframework initiative</u>	See 002/1
002/5	As most of the documents are for external interfaces and most have been signed off for R2 I do not recommend that re-engineering the documents is carried out.	R. Long	TPA	Action	<u>Openframework initiative</u>	See 002/1
002/6	I recommend that this document is re-worked to make it compliant with the established PD for High Level Design documents.	R. Long	TPA	Action	<u>Openframework initiative</u>	See 002/1
002/7	I recommend that the Product Descriptions for the System Outline Design (SOD), Product High Level Design (HLD) and the Interface Specification (IFS) are reviewed for completeness and where shortcomings are identified updates made.	R. Long	TPA	Action	<u>Openframework initiative</u>	See 002/1

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Ref.	Report Observation/Recommendation	Owner	MTM	Status	Agreed Action/Commentary	Due Date
002/8	I recommend that the policy and practice of naming and numbering documents is reviewed against the following guidelines : i. Document names should provide some clues as to their content. ii. There should be some way of identifying the distribution status of the document, eg. Contract Controlled, PDA Visibility, Pathway Eyes Only. iii. Documents should be grouped by Product/Service stream and not Organisation Chart. Where appropriate, changes should be made to the Project and Item Codes in the Document Management process and a programme of activity to address and shortcomings identified put in place.	M. Coombs	JHB	Closed	<u>Baseline Management Initiative</u> 20/01/99 : Programme Office have delivered a strategy paper defining how this will be achieved. This paper has been agreed within Pathway and is being implemented. This will be audited during R2+ MSA. The initiative was also affected by the Treasury review which instigated a complete top down review of baselines. Again, being implemented.	20/01/99
002/9	I recommend that this issue is addressed and a series of baselines established within the Pathway Development Method, these baselines to be populated with the appropriate levels of documentation. The Baseline Management process on the Online Standards should be updated to reflect the agreed position.	M. Coombs	JHB	Closed	<u>Baseline Management Initiative</u>	See 002/8
002/10	In order to have any confidence that all R2 CPs have been successfully incorporated into Release 2 I recommend the following actions be taken : a. Review the PCMS R2 CP List and remove any links to redundant documents that may be present. b. During this activity also consider breaking the links to documents that clearly do not contribute to the functionality or contractual commitment at Release 2, eg CP644 to PA/PRO/001 Change Control Process. c. Reproduce the PCMS R2 CP List and review against the R2 Design Baseline and R2 Plan for any gaps.	R. Long	TPA	Closed	This recommendation targeted the CPs currently identified for R2 and their relationship with existing documentation. It was agreed that the recommendation addressed two key areas : a. Conformance to the Change Control Process - do CPs correctly identify the associated documents for updating? b. As a consequence of (a), what is the risk to Release 2? The conformance issue will be dealt with as part of the Document Sets & Baselines initiative. Actions have been taken within Design, subsequent to the audit, to review	See 002/1

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					the CPs for Release 2 and while the current status is understood, the PCMS mapping (on which the original list was based) has not been corrected. It is proposed to roll this activity into the Document Sets & Baselines Initiative.	
002/11	Although recently updated to reflect changes for Release 2 development and testing I believe that there is a need to substantially review the current development approach and such a review is recommended.	R. Long	TPA	Action	<u>Openframework initiative</u>	See 002/1

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Date: 04/05/00**5 MSQA#2 - Development**

Report Reference IA/REP/003

Ref.	Report Observation/Recommendation	Owner	MTM	Status	Agreed Action/Commentary	Due Date
003/1	Unit and Link Testing standards have been explicitly introduced in Release 13 of the OLS and greater emphasis must be placed on compliance with the standards . As yet there is no Product Description for LLDs and this should be addressed without delay.	C. Humphries	TPA	Closed	Unit and Link Test Strategy/Plan documents have been defined and introduced at OLS @ Release 15. Similarly LLDs for Host and Counter developments.	16/05/98
003/2	Requirements should be identified and arrangements made for the production of the required detailed instructions/standards.	C. Humphries	TPA	Closed	Detailed procedures for Team Leaders have been introduced to OLS @ R14.	27/03/98
003/3	Immediate action should be taken to put in place local procedures to minimise risk of loss within the Development Unit.	C. Humphries	TPA	Closed	Counter Dev have own server for working areas & backup up daily. Also use CM SourceSafe which is dumped every third week and stored offsite. KID01 baseline source at FEL01. Working code will be backed up, probably daily. MAN27 Previously a MAN27 SourceSafe but will migrate to CMSS.	27/01/99
*003/4	Ensure other units within Systems have archiving and back up procedures of key assets in place. Where existing facilities are not being fully utilised ensure that they are.	T. Austin	TPA	Closed	Dublin use managed service provided by CFM. Weekly full b/u of all areas using CVS. Offsite storage ~10 miles away.	27/01/99
003/5	Identify appropriate key measurement points (say 6 initially) and institute a measurement programme within the Development Unit.	C. Humphries	TPA	Closed	Subsumed into G. Chatten Metrics Programme Initiative.	See 006/7

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003/6	Investigate the capability of the PinICL system to record an indication of the cause or origin of the fault or problem. Introduce a process of fault cause analysis within the PinICL process so that PinICL incidents are analysed on resolution and the results recorded. Subsequent root cause analysis should inform process improvements and, potentially, changes in resourcing within the Systems Directorate.	G. Chatten	MJC	Closed	A Metrics Programme Initiative has been instigated.	See 006/7
003/7	Produce guidelines and update OLS. Agree guidelines, implement and manage compliance.	J. Holmes	MHB	Closed	See 3 rd Party Development OLS Topic	27/03/98
		C. Humphries	TPA	Closed	To be confirmed during next audit round.	27/03/98
003/8	Review/revise schedule for audits as appropriate.	J. Holmes	MHB	Closed	The 1998 Internal Audit Plan has been defined and distributed for comment. Will be maintained on a rolling 12 month basis.	20/05/98

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Report Reference IA/REP/005

Ref.	Report Observation/Recommendation	Owner	MTM	Status	Agreed Action/Commentary	Due Date
005/1	I recommend that the PIT Handover Checklist is introduced as a control deliverable between Development and CM. Thus Development cannot make a drop to CM until they and PIT have reached agreement about the state of that drop.	C. Wannell	TPA	Open	Review use of PIT H/O Checklist with CH and IM. Likely to involve the use of a subset form for incremental deliveries.	12/06/98
005/2	I believe that the 'Awaiting Review' PCMS status, with appropriate authority levels, would provide an effective control point for the Development Manager to review the status of a WP prior to delivery to CM. I recommend that this course of action is investigated with a view to its re-introduction.	C. Humphries	TPA	Closed	Recommendation not accepted. Alternative is that formal peer reviews will be introduced @ NR2+. This will be audited during NR2+	10/06/98
005/3	I understand that there has been some preliminary discussions between PIT and CM on this subject. I recommend that these be pursued so that effective causal analysis can be undertaken and recorded. Subsequent analysis of the 'Reasons for Reject' will target areas for improvements in the software development lifecycle.	C. Wannell	TPA	Closed	Draft proposal to be prepared on statistics gathering and use. Subsumed/incorporated into Programme Metrics Initiative.	See 006/7
005/4	I recommend that the Test Rig Plan, the overall T & I Activity Plan and the Development WP Schedule are linked so that changes to either can be reflected in the Rig Plan.	C. Wannell	TPA	Closed	Development Plan is now linked to TI Plan to T&I Plan. Test Rig Plan cannot be linked as was too volatile.	19/06/98
005/5	Define the approach for conducting Rig Reviews and Blitz Testing as required by the Build and Configure Test Rigs and ensure that it is deployed within SPTS.	C. Wannell	TPA	Closed	Agreed action with P. Mead. Will require update to OLS and new issue @ R16.	09/06/98
005/6	Formally register the forms in common use, obtain reference numbers and link directly to the OLS.	J. Holmes	MHB	Closed	Updated SPTS process with CW for review and acceptance. Issued @ R16	09/06/98

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Report Reference IA/REP/006

Ref.	Report Observation/Recommendation	Owner	MTM	Status	Agreed Action/Commentary	Due Date
006/1	The Programme Office have confirmed that design and HLTP reviews are activities on the NR2+ plan and that they could be linked to the others work schedule. I recommend that there should be active linking of design reviews to T&I and HLTP reviews to Design.	R. Long P. Lindsey	TPA	Closed	G. Chatten has acknowledged that items will be on NR2+ plans. Will be checked during NR2+ MSQA.	01/06/98
	The 'Entente Cordiale' should then be implemented in full. Bring all elements of the Online Standards affected by the 'Entente Cordiale' up to date to reflect process requirements.	J. Holmes	MHB	Closed	OLS already reflect T&I involvement with Design Reviews (PF : Detailed Design) and Design involvement with HLTP Reviews (PF : Develop HLTPs for BTs)	01/06/98
006/2	I recommend that the Gap Analysis Matrix is reviewed to confirm full scope of work to be carried out by The Solution Centre.	J. Wooler	TPA	Closed	20/01/99 : The matrix was reviewed by Dave Johns and a report generated 07/07/98. This was delivered, as required to J. Wooler.	21/01/99
006/3	In the absence of a contract between TSC and Pathway the combination of the PID, the Work Packages and the Gap Analysis Matrix form the basis of an agreement. Given the high value of this work and its importance to the project I recommend that the relationship is formalised through these documents and any areas of ambiguity or misunderstanding removed.	J. Wooler	TPA	Closed	Operational ambiguities removed through Matrix review @ 006/2. Commercial agreements still under negotiation @ 006/4	17/06/98
006/4	I recommend that the current review with TSC is broadened to include all ICL donor departments and brought to an early conclusion. Where it is clear that resources are threatened by the new rules alternative resources should be identified and recruited.	M. Coombs	JHB	Closed	20/01/99 : TSC were reviewed but re-organisation and advent of AT&C as sole supplier. Since mid year there have been 4 separate reviews of AT&C.	21/01/99

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006/5	I recommend that limits are established on the proportion and number of configuration items delivered via incremental drops and that new baselines are drawn and delivered when either or both of these limits are met.	C. Wannell	TPA	Closed	21/01/99 : The approach to delivering increments has changed since the audit. There are three levels; baseline, increment and fastrack. Baseline and increments involve blitz testing to ensure the integrity of the build before use. Fastracks are subject to a review by PIT for impact before implementation. Each Fastrack is authorised by PIT.	21/01/99
006/6	Although mainly circumstantial there is sufficient evidence to suggest that effective unit testing did not take place during NR2 development. Improvements have been made in the Development processes and standards for unit and link test strategies and plans defined. It is imperative that these are implemented fully at NR2+. I believe that there are considerable opportunities to improve the effectiveness of unit and link testing through the introduction of a more target orientated test environment or harness. There will be extra costs associated with a change such as this, not least the ongoing costs of maintaining the environment. I recommend that an Investment Appraisal is conducted to determine the feasibility, costs and benefits of introducing improved test environments for unit and link testing.	T. Austin	JHB	Closed	New standards defined in R15 of OLS. Requires to be fully implemented.	06/05/98
		M. Coombs	JHB	Closed	20/01/99 : Development processes have been updated for R2+ and includes requirement to conduct full unit and link testing. This requires the availability of appropriate test rigs.	21/01/99
006/7	The findings of this audit confirm the need to introduce a coherent set of metrics across the Programme. These should cater for quality improvement as well as progress chasing and should be universally understood across the project.	G. Chatten	MJC	Closed	Programme Metrics Initiative Strategy paper completed and distributed 27/11/98. Ref : PM/STR/002	<u>27/11/98</u>