



**QUEENSLAND HEALTH PAYROLL SYSTEM
COMMISSION OF INQUIRY**

Statement of Witness

<i>Name of Witness</i>	[Alan] Brett Cowan
<i>Date of Birth</i>	Know to the Commission
<i>Address and contact details</i>	Know to the Commission
<i>Occupation</i>	Test Manager
<i>Officer taking statement</i>	Jonathan Horton
<i>Date taken</i>	16 April 2013

I, [Alan] Brett Cowan state;

Background

1. I commenced work with K.J. Ross & Associates (KJ Ross) as a contractor/consultant in or about March/April 2009.
2. The first major job I was asked to undertake was working with Queensland Health in connection with the Queensland Health Payroll System. My task in doing so was to manage the User Acceptance Testing (UAT).
3. Before working for KJ Ross, I had spent 9 or 10 years in Switzerland working with the banking and insurance industries as a test manager. In the period between returning from Switzerland and working for KJ Ross, I worked with Caterpillar, consulting to raise the professionalism of its testing regime. I did that work for a period of three or four months.
4. I hold a Bachelor of Engineering in Manufacturing Systems, a Bachelor of Business (Management) and some IT certifications including in the programming language known as Java. I also hold a certification known as Certified Testing Professional (CTP) in Test Management.

Working with Queensland Health

5. When working with KJ Ross as a contractor in Queensland Health, I reported to Mark Pearce from a KJ Ross managerial perspective. From a Queensland Health project reporting perspective, I reported to the Project Manager Amanda Doughty and to her successor, Naomi du Plessis. When I began that role, Terry Burns and Tony Price gave me a run down on what was required of me. I do remember Terry Burns or Tony Price saying to me in those early meetings that I had been

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engaged to “keep those IBM bastards honest”. Terry Burns did express the view to me on a number of occasions that he thought IBM was not performing adequately under the Contract. At times throughout my engagement with Queensland Health it was clear to me that Tony Price and Terry Burns were at their wits’ end. I remember feeling sorry for Tony Price because he was trying so hard to push the project in the right direction.

6. The UAT testing for Queensland Health was something that I understood to be managed and completed by Queensland Health. I do not know the source of that obligation but I understand that UAT Strategy and Approach was made a QHEST deliverable under a contract change (which had been completed before I commenced work).

Types of Testing

7. It is essential in order to understand my role within Queensland Health that the different types of testing and their purpose is properly understood.
8. There are, in a general sense, four types of testing.
9. The first is unit testing. This testing is ordinarily done by the developers of the system and it focuses on the developer confirming that each individual module that it has developed works without failure. It normally is very self contained to the code the developer developed and which is generally “modularised” into “methods” within the code base. It can also allow the developer to know that the code that it writes is robust, since a facet of this testing also validates how its “method” deals with unexpected data/situations (“exception handling”).
10. With respect to SAP it would have focused on the individual developers having a clear set of expectations of the interface between SAP and WorkBrain and coding against them. This is not necessarily relevant to the requirements which Queensland Health might have had for the use of the overall system. It normally takes the form of a set of guidelines and principles (an “Interface Contract”) for how data will be passed from one system to another and back again. And the “contract” should also define how “exceptions” are dealt with. So for Unit Testing in SAP and WorkBrain, each developer codes for the defined functionality of their tiny modules/methods and also to conform with the “interface contract”, and the developer then use “unit testing” to validate that it has correctly coded for that functionality and contract.
11. The next relevant form of testing is Functional/System Testing. Functional Testing was signed off a year before I came to work for Queensland Health - in about December 2008. This tests the functionality of a system. So, for example, if a roster needed to be entered into WorkBrain, Functional Testing first confirms that there is a “Create Roster” button in WorkBrain which the user can actually enter the relevant roster data into WorkBrain. Functional Testing then would also confirm that other areas of WorkBrain actually see the entered roster, and that other functions in WorkBrain (like changing the roster or deleting the roster) actually worked successfully. At this

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stage, Functional Testing is not trying to confirm the connection between (or integration of) SAP and WorkBrain, just that each system within itself actually functions correctly.

12. The next relevant form of testing is Systems Integration Testing. This testing is focussed on the actual connection (or interface) between SAP and WorkBrain, in both directions. So whilst Functional Testing focuses on the actual functionality of each system by itself, Systems Integration Testing (**SIT**) focuses on the transfer of data between the systems and how successfully that data is sent and received. SIT is very much validating the "Interface Contract" as a whole between the two systems. As an example, the SIT for this project should have tested the sending of the roster which was entered into WorkBrain, and seeing that the figures are reflected correctly in SAP.
13. SAP is what I describe as a big and complex application, well proved in the industry and regarded as being robust. In this case, IBM introduced into that application a product known as WorkBrain. To do so was not, to my knowledge, inappropriate. However, the unusual part of IBM's proposal was the need to use WorkBrain as the awards interpretation engine. SAP is capable of that function but scale of the requirement for the entire Queensland Health payroll to work from a single system instance with the complexity of the award is something that SAP could not deliver.
14. However, having made that decision it became important to know and to check how SAP and WorkBrain would interface. Using WorkBrain this way involves "slicing into" SAP's validation system to insert WorkBrain. It is often not appreciated how important this is and unit testing and SIT ought to have focused on this aspect. If SAP was being broken up, then there arose a need to ascertain whether, in doing so, the way in which SAP validates data would remain correct given that SAP's overall approach is to have a validation system which, in a way, assumes it will not be corrupted by other applications. The definition of a clear Interface Contract (which would have detailed SAP's data requirements) together with SIT to validate its implementation should have provided the confidence that this was achieved.
15. The third form of testing is UAT. This form of testing is an acceptance test. It is not designed or intended to reveal defects and particularly not functional nor integration defects, ones which ought to have been revealed at earlier stages of testing. The sorts of errors which one might expect to find in UAT testing are, for example, the need for fax machines to be differently located, or the need for some additional staff in particular areas. These are all to do with the user experience of system as designed and built. UAT is about business processes, not about the way in which the system has been constructed in a fundamental sense.
16. If problems are manifested at the UAT stage, which are not about business processes, then it shows that there may have been a problem with the earlier stages of testing.
17. That, as I explain below, is what happened here. I would say that in the seven or eight major projects on which I have conducted UAT, I have never struck such a large number of the kinds of

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defects which were repeatedly raised in connection with my testing of the Queensland Health Payroll System.

UAT Report – 27 January 2010

18. I was the author of a UAT Test Completion Report dated 27 January 2010. This was the culmination of the testing which I undertook for Queensland Health.
19. In the report, under the heading "2.2 What is a UAT?" (page 2), I explain what UAT is designed to achieve and what it is not. I say there that "It is not designed to provide a complete coverage of functionality, nor can it give a comprehensive indication of the risk involved with deploying a system. It should, as a side effect, give a good insight into the quality of the System Requirements and the quality of the System and Integration Testing which happened in a prior phase of the project".
20. That report records my conclusion that the defects identified showed that there were symptoms of fundamental problems in the system which ought to have been revealed in testing at earlier stages. In my report, I identified a large number of symptoms which UAT had identified as well as explaining that UAT was not the means by which to address them. It is for that reason that I recommended (at page 21) that there be a full System and Integration Test to give a better insight into the risk for production rollout. UAT could only provide a superficial insight into such risks. This was the only real way to assess the quality of the system at this stage.
21. I advised in my report that there were two options:
 - a. delay the rollout of the system until that full System and Integration Test could be conducted;
 - b. accept the risk that the functional scenarios not touched by UAT will not perform as expected and that the defects discovered will need to be fixed in production.
22. No part of my role involved making a call on whether to go live or whether further system or unit testing ought to be undertaken. My role was to identify the risk arising from UAT. It was for the project directorate to recommend and the project board to approve the "go live" and to assess these risks. I was not privy to knowledge about the sustainability or otherwise of the current lattice system and whether it will continue to be supported by its vendor (other than knowing there was a general concern that such support was about to cease).
23. I have been shown a copy of the QHIC Project Management Response to KJ Ross User Acceptance (UAT) Completion Report (Response). I make the following comments about the IBM response:
 - a. at page 5 of the Response under the heading "UAT Defect Numbers", IBM makes a number of assertions regarding defects. These statements are misinformed and are for the purpose of sowing doubt in the UAT. Throughout the project, any results which were questionable were

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identified and removed from the reporting. In any event, the number of defects identified is still extraordinarily high;

- b. again at page 6 of the Response, IBM makes an argument against the assessment of defect numbers in a dot point commencing "any meaningful assessment of defect numbers measure them against application size". The argument made by IBM was misconceived. The assessment of the defects concerns the type of defect identified, this informs on the quality of testing previously executed;
- c. at page 8 of the Response, IBM comments on the use of descriptors and the usefulness of the information in the Report. The value of the Report is in its interpretation of the UAT results, rather than the test results themselves. A testing tool can only provide statistics. My and KJRoss' unbiased and experienced interpretation of the statistics delivered in testing is the purpose of the Report.
- d. at page 9 of the Response, IBM comments on the phases of UAT. I was not involved in the early phases of UAT. However, my understanding from conversations with those that were involved in the earlier testing was that the reason UAT1 and UAT2 failed was as a result of the system not functioning well enough to conclude the UATs successfully.

24. As to Queensland Health and CorpTech's (QH/CT) response, at page 9, QH/CT comment on the effect the complexity and high volumes of awards could have had on the number of defects. It is the very fact that the functional defects were found in UAT that was the concern in UAT4.

Defect severity re-definition

- 25. I have been asked to state what I know about the redefinition or reclassification of the severity of defects revealed in UAT.
- 26. There was here, as is usual in projects of this kind, a protocol for the classification of severity of defects which are discovered, in this case: 1, 2, 3, or 4.
- 27. I do not recall precisely where the definition of the severity of the defects is found. My best recollection is that it was in the defect classification guidelines dated on or about 4 August 2009. That document was, I think, written by Shaurin Shah with input from me and under close direction from the Project Directorate.
- 28. Initially at least, the "Exit Criteria" for UAT included that there be no unresolved severity 1 or severity 2 defects. Unless that criterion were satisfied, the project could not proceed through what was known as "Gate 1".
- 29. I noted in my 27 January 2010 Report, because I thought it significant, that on 7 July 2009, the Project Board made a decision to downgrade over 40 severity 2 defects remaining open from UAT3 to being severity 3, priority 1 defects and to moving them into UAT4.

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30. The way in which defects would be classified is that, on a daily basis, the testers would meet with IBM and with QHEST. The testers would, by then, have already allocated each defect into a severity classification.
31. We (IBM, QHEST, CorpTech, the testers and me) would then meet to ascertain whether those defects had been correctly classified. There was some adjustment at those meetings of the classification of the defects. By the end of each meeting, we had in the vast majority of cases agreed a proper classification for each defect. So, when a defect, for example, is referred to as a severity 2, that classification has come about as a result of agreement between the parties.
32. For that reason, and because it was a criteria for entering and exiting UAT, the way in which defects are defined is critical. It is very unusual in my experience for defects, particularly serious ones, to be redefined or reclassified, especially if that is for the purpose of achieving satisfaction of entry/exit criteria.
33. On page 9 of my 27 January Report, I set out the signed-off list of entry criteria for UAT4 and their agreed status. I do the same at page 11 for the exit criteria. By the time that report came to be published, the criterion for exit criteria included relevantly (at item 8) that "all severity 1, 2, and severity 3 priority 0 and 1 issues (from any test phase) had been fixed and retested by the responsible team. Any impacts to the UAT are accommodated within the UAT 4 cycle." In the "comments" column, I note that this was replaced by Amended Criteria via deliverable 44 that:
- "process for the management of defects (as detailed in the Defect and Solution Management Plan) has been endorsed by the PD [QHIC Project Directorate]. Final update of the Defect and Solution Management Plan to be approved by Cutover Go/No Go Gate 2, 1 March 2010. Changed control will be managed by the PD".*
- This is a reference to a document called the Defect and Solution Management Plan. That Plan set out ways in which severity 2 and severity 1 defects which had been identified could be dealt with, normally by manual workarounds.
34. The result was that if there was a workaround for a severity 2 defect, then it could be left in place and UAT could be exited. I expressed my disagreement to the modifications to the UAT Exit Criteria, but was explicitly directed to support the change. Had it been my choice, I would not have made that change. The issue with workarounds was not so much whether the workaround was effective (each workaround was effective taken on its own) but whether the volume and nature of those workarounds were such that system was sustainable in a practical sense. As hindsight showed, the number of workarounds and the nature of them was not reasonably sustainable.
35. There are a very large number of documents which show the number of severity 1 and 2 defects which existed in the period leading up to 27 January 2010.

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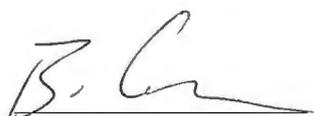


36. I prepared graphs showing the volume and nature of the defects, an example of which is attached to a memorandum of 27 July 2009 which has Margaret Berenyi and James Brown identified at the end of the first page. These graphs show the "open" (ie unresolved) severity 1 and severity 2 defects and the party responsible for them. Consistently the number of IBM open defects were very large.
37. I also prepared documents regularly (daily and weekly) which showed the volume and nature of defects. I understand that an example of a daily report is included in the Commission Contract Management Bundle at number 284 [CCMB, V10, 17 – 25]. An example of a weekly report is annexed and marked "BC1". I submitted the daily reports to an email distribution list of over 70 people which included the Project Directorate, the IBM senior people (including Bill Doak), and Senior CorpTech people. I submitted the weekly reports to the Project Manager's assistant for inclusion into the consolidated Project Position Paper.
38. My weekly reports informed the Project Position Paper which was produced (but not by me) on a regular basis. A "traffic light" system was adopted showing whether or not the particular issue has been satisfied. Regularly those documents show the UAT component in red because of the existence of severity 1 and severity 2 defects and the persistence of them.
39. The UAT Entry Criteria included Escalation Thresholds for each of severity 1, 2 and 3. Where the thresholds are reached, a risk assessment process is triggered, requiring the Project Board to determine whether UAT should be suspended or other action taken. I recall that the threshold for escalation of severity 1 defects was triggered on the first day of UAT4. The thresholds for severity 2 and 3 defects were also triggered. I was aware at the time each threshold was reached that a briefing note, to the attention of the Project Board, was drafted. I understand that a copy of the Briefing Notes are included in the Commission Contract Management Bundle at numbers 302, 303, and 304 [CCMB, V10, 129 – 133].
40. I have been shown a copy of a document titled "Audit & Operational Review Branch Working Papers - General Worksheet – Review of UAT4" dated 1 September 2009. This file note was prepared by Mr Paul Inns of Queensland Health Internal Audit following a discussion he had with me. I agree with the contents of the file note. I recall having a number of conversations with Mr Inns where I entreated Mr Inns to use his profile to raise the concerns I was expressing to him with the Project Board.

Exit Criteria re-draft

41. I mentioned earlier the redrafting of the exit criteria. I have been shown a document described as CorpTech QHIC Approval Board, Gate 1: Approval to Proceed with Technical Cutover, February 1st 2010. I was not a member of that the Approval Board but I can say from looking at the page headed "IBM Accountabilities 3 of 4" that the bottom row deals with the UAT exit criteria.

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42. I note there that there were no severity 1 defects (noting that very many severity 1s have previously been reclassified as severity 2) but a number of severity 2 defects. Up until that time, it would not have been acceptable if severity 2 defects existed at all. The mere existence of them would mean that UAT could not be exited. The reference to the "management plan" is a reference to the Defects and Solution Management Plan which I referred to earlier.
43. In my view, it was inappropriate and inadvisable to redefine defects once they had been defined at the daily meetings I have referred to. While it may have been justified to occasionally redefine some of those defects, what amounted to a wholesale redefinition of them for the obvious purpose of achieving exit from UAT was, in my view, poor practice and one which ignored the real difficulties which the UAT had shown were likely to exist.
44. I wish also to emphasise that ordinarily a UAT tester would not expect to find even one severity 1 or 2 functional or integration defect in the course of a UAT. UAT is not a test which is designed to discover them and those defects are ones which ought to have been specifically targeted as part of earlier Functional, SIT and Unit Testing. I was not involved in earlier Functional, SIT or Unit Testing and I have never seen the signed acceptance form which ought to exist.
45. In my view, UAT in this case ought never to have started because the defects which exist in the UAT were ones which, in any view, proceeded that stage.
46. I have been shown a copy of a document titled "Note for Project Directorate Relating to 11 Severity 2 defects were identified by CorpTech Payroll Bureau and Hr Application Management". I cannot recall if I wrote this note. However, I remember having discussions with Mr Brian Frederick (CorpTech) about the sentiments expressed in the note. It is possible that I co-wrote this note for the purposes of me submitting it to my Program Manager or for Mr Frederick submitting it to his superiors. I agree with the comments contained in this note.
47. I had no further involvement in the Queensland Health Payroll System.

This written statement by me dated 16 April 2013 and contained in the pages numbered 1 to 9 is true and correct to the best of my knowledge and belief.

Signed at Brisbane Signature this 16 day of April 2013

Witnessed: 

Name

Signature





QUEENSLAND HEALTH PAYROLL SYSTEM
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Annexures to Statement of Witness

Items to be annexed to the statement of [Alan] Brett Cowan taken on 16 April 2013:

BC1. Example of a Weekly Report.

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QHIC UAT Area Weekly Summary Report: Week Ending 08 January 2010

Work Area	Lead Team	Last week	Current week	Next week	Comments																																																
UAT	Brett Cowan	R	A	A	<p>Overall Status QHEST UAT is now reporting Amber on the basis of:</p> <ol style="list-style-type: none"> The time available to complete testing of defect fixes to be delivered in the week of 11 Jan is very tight. <table border="1"> <thead> <tr> <th>Workstream</th> <th>Reason for Amber</th> <th>Remedial Action</th> <th>Owner</th> <th>Due Date</th> </tr> </thead> <tbody> <tr> <td>UAT</td> <td>1. The time available to complete testing of defect fixes to be delivered in the week of 11 Jan is very tight.</td> <td>1. Defect fixes should be delivered as early in the week as possible.</td> <td>Jason Cameron</td> <td>11/01/10</td> </tr> </tbody> </table> <p>UAT1:</p> <ul style="list-style-type: none"> Retesting of available defect fixes. <p>UAT2:</p> <ul style="list-style-type: none"> Retesting of available defect fixes. <p>Current Execution State for defect closeout before 18 Jan.</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Total scripts to be executed</th> <th rowspan="2">Scripts still required to be executed*</th> <th rowspan="2">Defect fixes "Ready for Retest"</th> <th colspan="3">Script retests</th> </tr> <tr> <th>Actual executed</th> <th>Passed</th> <th>Failed</th> </tr> </thead> <tbody> <tr> <td>HR Payroll</td> <td>28</td> <td>23</td> <td>6</td> <td>7</td> <td>5</td> <td>2</td> </tr> <tr> <td>HR FI</td> <td>8</td> <td>2</td> <td>3</td> <td>6</td> <td>6</td> <td>0</td> </tr> <tr> <td>Apps Management</td> <td>13</td> <td>13</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Payroll Bureau</td> <td>62</td> <td>43</td> <td>0</td> <td>19</td> <td>19</td> <td>0</td> </tr> </tbody> </table> <p><i>* total number of scripts to be executed less the number passed</i></p>	Workstream	Reason for Amber	Remedial Action	Owner	Due Date	UAT	1. The time available to complete testing of defect fixes to be delivered in the week of 11 Jan is very tight.	1. Defect fixes should be delivered as early in the week as possible.	Jason Cameron	11/01/10		Total scripts to be executed	Scripts still required to be executed*	Defect fixes "Ready for Retest"	Script retests			Actual executed	Passed	Failed	HR Payroll	28	23	6	7	5	2	HR FI	8	2	3	6	6	0	Apps Management	13	13	2	0	0	0	Payroll Bureau	62	43	0	19	19	0
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