STATEMENT OF NICKOLAS KWIATKOWSKI

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PRELIMINARY

1.   I have been employed by IBM Australia Limited (**IBM**) since 1998. I originally joined IBM as a Senior Java Developer. I currently hold the position of Senior Architect and Practice Manager in the Architecture Services Group of IBM. I worked on the SSP project (including aspects of the QHIC project) from approximately June 2008 until after Go-Live, though there were periods in that time where I was assigned to other projects

2.   I have referred to emails and project documents to refresh my memory in preparing this statement. I also have provided with this statement various documents. Some documents produced are marked draft or not marked as final versions. Where I rely on those documents for their content I consider that the information is correct to the best of my recollection.

QUALIFICATIONS AND EXPERIENCE

3.   I worked in the IT area at Colourview Electronics from 1989 to 1993, performing system operations for the business core UNIX system. I then pursued an IT degree, graduating with a Bachelor of Information Technology with Honours from the Queensland University of Technology (**QUT**) in 1996.

4.   Following that I became a Research Scientist and PhD Student at QUT from 1996 to 1998, where I was part of the Programming Language and

System Laboratory. I published a number of research papers on parallel computing and combinational optimisation until I left QUT in late 1998.

5. In 1998, I joined IBM as a Senior Java Developer and worked in that role for approximately three years as a Project Team Leader, before moving to the Architect Services practice. I am a Certified IT Architect and a Senior Architect and Practice Manager in the Architecture Services Group.

SOFTWARE

LATTICE

6. LATTICE was a HR Information System that was bought by Mincom (now Ventyx) in the late 1980s. It has not been supported by Mincom since 2007, as product development had been discontinued some time prior. LATTICE was previously supported by Talent2 until some point in 2008, when CorpTech took over as part of the PJ30 project (see for example, QHIC Scope Definition document at paragraphs 2.1, 2.1.2 (Document 1, CTB Vol. 4 pp 72-73)).

SAP

7. SAP AG is a major Human Resource (**HR**) system vendor, which offers a software product suite generally referred to as SAP. SAP stands for "Systems, Applications and Products in Data Processing". Its core product is Enterprise Resource Planning (**ERP**) application systems and management solutions. For convenience, I will refer to the company SAP and its products collectively as SAP in this statement.

8. ERP systems are designed to integrate internal and external organisational data, across key business areas of finance, accounting, manufacturing, sales, customer and supplier relationship, and human resource management (including payroll). The benefits are to drive consistent and end-to-end (sometimes called **E2E**) business process, and the efficient management of resources (people, assets and income).

9. SAP ERP was, I understood, selected by the State as being the core product for the Shared Services Initiative (**SSI**) in 2005.

10. As part of being a core system for businesses, there are defined methods for integrating other HR systems into SAP. SAP is very mature in its

handling of this. It supports third party systems by allowing for time and attendance data to be loaded and processed by SAP payroll processes.

Workbrain

Generally

11. Workbrain is a well-known, mature and market-leading work-force management product from a large Canadian company known as Infor. Workbrain has been deployed by a number of large organisations, including Qantas, Bunnings, Woolworths, Australia Post, Disney, and Verizon (a large telecommunications provider in the US).

12. Workforce management is part of the domain of human resource management and focuses upon the business processes to support a productive workforce. These include:

   (a) Employee self-services (**ESS**);

   (b) Manager self-services (**MSS**);

   (c) Forecasting and scheduling/rostering;

   (d) Time and attendance;

   (e) Absence management;

   (f) Talent management;

   (g) Learning management; and

   (h) Performance management.

13. Each of (a)-(e) above are core Workbrain product capabilities.

Pay Rules

14. Workbrain has an award engine within its Time and Attendance Module to support that product business functionality. The number of awards isn't the issue when it comes to system performance, it is the complexity of the pay rules that support a given award. An organisation needs some form of award interpreter to understand the time data and then to create, for example, leave accruals and payment types based upon that time data.

For the Queensland Health solution, some awards had about 50 pay rules, others had 150 pay rules – each of those pay rules could be simple or complex.

Workbrain - Development Advantages

15. Workbrain is a self-contained product. Development and extension of Workbrain can therefore be done independently of:

    (a) development within SAP;

    (b) any shared development environment (in that developers may program aspects of the system on their own work-stations, which can be more efficient as they may do so without interference from other developers).

16. Workbrain development predominantly requires technical skills in the languages known as "Java" and "XML". As compared to SAP development (which requires use of the specialised "ABAP" programming language), Java and XML skills are common in the market place, so getting skilled resources is easier, and less expensive.

17. The development of pay rules in Workbrain is XML based and may be developed in a "Rule Builder" tool called the Workbrain Toolkit. The Toolkit is used to design and configure all the time related components of awards, Enterprise Bargaining Agreements (**EBAs**) and business pay rules. This is generally more efficient than developing such rules in ABAP.

18. Once created, these pay rules and pay rule conditions form a common repository of business rules.

19. Rules in the common repository could then be configured across multiple awards and calculation groups to address the complexity of the business requirements. That is to say, Workbrain provides the ability to 're-use' items in the common repository so that a single pay rule would be used by multiple awards and therefore only needs to be written by a developer once. This then speeds-up development time for deploying award interpretation.

20. I was aware that the State of Queensland had held a Workbrain licence since 2005 as a part of the Shared Services Initiative. Further, at the time

of the ITO, CorpTech had already completed the design for Workbrain and had developed an Initial Release of the Workbrain solution. Hence the State had invested a large amount of time and money over and above the initial license cost for Workbrain. To have used a different software package, such as Workbrain's primary competitor, Kronos, would have required a licence for Kronos as well as losing the investment in the work done to date. That would have added cost in the order of several million dollars, if not more, to the program.

ITO Process & Selection of Workbrain

21.   I was not involved in the ITO or Corptech's selection of Workbrain. I was aware of IBM's 2005 bid for WoG (which was won by Accenture) and I supported the bid team with some specific technical inputs. However, I was not involved in the selection of the product for the bid.

SAP <-> Workbrain Integration

General

22.   There was no particular technical or technical architecture difficulty with integrating SAP and Workbrain.

23.   Both of SAP and Workbrain are highly mature, and versatile, products that are designed to import and export data so that they can integrate in a range of work environments. These software tools are designed to be deployed in environments in which there are complicated legacy systems that they need to work with.

24.   SAP even has modules for this purpose (SAP XI) and one called CATS (described below). CATS has the express purpose of integrating with non-SAP time and attendance software. Workbrain similarly can import and export data in industry-standard CSV forms, as well as provide interfaces for direct communication with other systems.

Integration Difficulties

25.   Though I am aware of some minor integration difficulties that have been suggested by Jane Stewart and Janette Jones in the immediate post go-live period, these were quickly fixed (as I set out below). These difficulties are referable to business data being incorrect, either from bad data being

imported from LATTICE, outstanding corrections from cut-over or (missing) business process steps; rather than any real issue between SAP and Workbrain.

SAP / Workbrain Deployment

26. SAP is deployed for the QHIC project as a server-based application with a desktop-based application client. Workbrain is a web-based application (that is, accessed via a web browser on a web-page) that generates a user interface on the user's desktop. The interaction between the two applications occurs at a particular stage of an overall process. A simplified outline of that process can be separated into five distinct phases, which I set out below.

27. In phase 1, an employee, job family or cost area is created in SAP by staff of the Queensland Health Shared Services Partner (**QHSSP**) via the standard SAP desktop Graphical User Interface (**GUI**). This reference data is exported via a standard SAP interface and is collected by SAP Exchange Infrastructure (**SAP XI**). SAP XI reads that information and transports it to the Workbrain system. This is then imported by the standard Workbrain import process.

28. In phase 2, work data is entered into Workbrain by QHSSP staff via a web-based user interface, operating from the user's desktop. Mostly, the data entered into Workbrain by QHSSP were Roster Adjustment forms. These forms were completed by the employee, and then signed by their line manager before being provided to QHSSP staff for entry. These forms could be emailed, posted or faxed to the QH SSP staff. Workbrain essentially acted as the primary system of record for rostering, attendance and leave information. Alternatively, this could have been configured to be done in ESS electronically (bypassing the need for timesheets to be entered by hub staff), but this option was not within the scope of the QHIC project.

29. In phase 3, the data entered into Workbrain is passed into Workbrain's "Award Engine" where pay entitlements are calculated (in accordance with previously entered pay rules) and leave accruals are generated for each employee in accordance with their applicable award. This occurs in near-real time.

30. In phase 4, the interpreted work data is exported to SAP via a standard payroll export interface, and leave absences are exported to SAP via a leave balance interface.

31. In phase 5, SAP populates the data imported from Workbrain (through SAP XI), via a SAP module called Cross Application Time Sheet (**CATS**). CATS is a software component in SAP designed to support integration with external time and attendance systems (such as Workbrain or Kronos). This provided a standard way to import time and attendance data for loading into SAP to process, and finalises payment and leave information accordingly.

Technical Processes

32. The integration approach chosen was flat file processing, using a Comma Separated Value (**CSV**) format file. This is a common data file format that was first used in the late 1960s and a standard format for most Independent Software Vendors (**ISVs**), including SAP and Workbrain.

33. Essentially, the two systems would, at defined times, pass plain text files in CSV format back and forth. In terms of the technical capabilities of each of the products, there were no issues in the low level technical implementations.

Integration Choices

34. The way SAP and Workbrain were integrated together was based upon the design developed by the Shared Service Solutions team in CorpTech. IBM's Technical Validation team conducted a technical validation of the program, and produced a report in January 2008 in which the team outlined the key risks and recommendations associated with the technologies used (Refer to Document 2, page 2s – 12 of supporting documentation)). Under section 3.2 ("Data Management") and 3.3 ("Integration Architecture") of the Report (pages 15 and 17 respectively) (pages 4 and 6 of the supporting documentation), the Technological Validation team sets out in its recommendation as to how best to integrate SAP with Workbrain. The team did not recommend the way in which SAP and Workbrain (which was ultimately the CSV approach or file based). File based integration was meant to be the last resort, not the default method for integrating two products together. The IBM team recommended the

more modern method that was message based and used the more advanced functions of the products.

35. CorpTech defined the options available between Workbrain and SAP, which related to which system would be the 'owner' of a particular business data (for example, time and attendance data or leave data). The Conceptual Design Position Paper - Workbrain_SAP Integration in Rostering_Payroll details these matters at pages 10-20 (Document 3, pages 13 – 37 of supporting documentation).

36. In the approved position 'Option 4' (detailed on pages 13 – 14, approval on page 20):

   (a) Workbrain is used for Rostering, Time and Attendance, and Award Interpretation for rostering agencies; and

   (b) SAP Time & Attendance and Award Interpretation is used for non-rostering agencies, Leave Accruals and Gross Pay for WoG.

37. The IBM ITO proposal changed that by consolidating the non-rostering agencies into the same component as rostering agencies, thereby removing the duplication of having award interpretation being performed in two software application. For Queensland Health, being a rostering agency, this was the same solution pattern that was originally proposed for them.

38. SAP and Workbrain could have *directly* communicated, and indeed, IBM recommended that approach (this is mentioned in section 3.3 of the SSS Technical Validation report at page 19 under the heading "Risk: Inconsistent Levels of system decoupling across the application landscape)" (Document 2, page 8 of the supporting documentation). This would have had the following advantages:

   (a) No possibility of data getting "out of sync" as when a record would be updated in one system, it would be immediately updated in the other;

   (b) A more even processing load: there would not have been "batch" import and export jobs adding load to the system at different times. Rather there would have been a "smooth" line of processing throughout the day;

(c) This would have further reduced the windows in the pay cycle that the system was unavailable for QH SSP use.

39. However, it was CorpTech's decision that they only *indirectly* communicate by passing CSV files back and forth to each other. Specifically CorpTech owned the 'integration method' and the 'strategy for integration'.

40. CorpTech's standard platform for integration was SAP XI, and that was used for integration between Workbrain and SAP, as well as the integrations to the other external systems developed for the project.

41. The way CorpTech defined the standards and use of XI was problematic, in that the version of XI software they were using couldn't handle large files, especially given the additional processing that CorpTech defined within XI. IBM identified to CorpTech some of the issues dealing with XI in the SSS Technical Validation at section 3.3 starting on page 17 (Document 2, pages 6 – 10 of supporting documentation) and elsewhere. However, CorpTech did not alter its method of integration.

42. In the end, CorpTech had to bypass XI as the delay in getting data from Workbrain to SAP was impacting system availability for Queensland Health post Go-Live.

43. The integration approach was the responsibility of CorpTech and despite identification of the potential difficulties by IBM, IBM were required to proceed with CorpTech's approach.

SCOPE, CHANGE REQUESTS, ETC.

44. I joined the SSSP program in about June 2008.

45. In the period from about June 2008 until about August 2008, I carried out work on a multi-instance review. I then worked with the forward planning team from August 2008 until about January 2009, when I joined the Queensland Health Implementation of Continuity (**QHIC**) project. My role on the QHIC project was as both the joint leader of the technology stream with CorpTech and leader of payroll performance verification (**PPV**).

46. In about January 2009, when I commenced working on the QHIC project, I reviewed Statements of Work (**SOWs**) 7 and 8.

47. Under SOW 8 (clause 1.3.1, page 3), the QHIC solution was to use the Department of Housing (**DoH**) solution, combined with a number of new Workbrain components, and small amount of Queensland Health specific functionality. The DoH solution had been developed by CorpTech and Accenture. It was one of a number of the core components for the standard offer and already included programming to deal with many aspects specific to the Queensland Government deployment, including:

   (a) Enhancements to support Queensland Government payroll requirements, including WorkCover Claims, Superannuation Calculation, and Study and Research Assistance Scheme (**SARAS**);

   (b) The initial release of interfaces between SAP and Workbrain;

   (c) The set of external interfaces to key WoG payroll systems, including QSuper, Electronic Funds Transfer (EFT), 3rd Party Payslips and PAYG Summaries;

   (d) A standard set of WoG reports for management of the payroll;

   (e) Solutions already integrated into the enterprise infrastructure within CorpTech and CITEC, including security and identity management systems.

48. There were a number of significant changes to the scope of the QHIC project. The main changes in scope were as follows:

   (a) Customising the DoH solution;

   (b) Changes to Finance Integration (**FI**) with Queensland Health's Finance and Materials Management Information System (**FAMMIS**);

   (c) Including specific additional Queensland Health Agency Requirements;

   (d) Rebaselining of the solution in March 2009; and

   (e) Expanding the scope of UAT.

Customising DoH solution

49. The DoH solution was a poorly developed system in that:

   (a) There were significant functional defects with the system itself;

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(b)   Even though it was supposed to be a WoG tool, the system had been "hard coded" specifically for DoH requirements which were different to Queensland Health's requirements; and

(c)   There were non-functional deficiencies with the system itself.

50.   SAP had not discovered or commented on these items in the detailed reviews they had performed on the DoH system and it was necessary for IBM to correct the problems with the base functionality before it could use the DoH solution for the QHIC project. This increased the scope of the QHIC project.

51.   At one point, in the course of PPV testing (discussed below), IBM needed to decompose the DoH SAP code to understand a performance issue. In that analysis, IBM discovered that the development did not conform to best practice and there appeared to be issues that a basic code review or quality check would have identified. For example:

(a) One of the testing objectives (as part of PPV) was to test for an EBA calculation. Prior to the QHIC project, Queensland Health had no system to support the application of a back-dated EBA agreement. Queensland Health would use the DSS data warehouse system to support the calculation and that would be then done as a manual payment to staff. Queensland Health sought to automate the application of an EBA on the payroll as noted in the Executive Summary at page 4 of the FiHR Program_Payroll Performance Verification - Test Completion Report (Document 4, page 42 of the supporting documentation), acceptance of which is noted in the email from Brian Cox to me dated 16 December 2009 reproduced at Document 5, page 75 – 77 of the supporting documentation.

(b) The main performance consideration was the number of pay periods that would be impacted, and hence required to be re-calculated. A "pay period" is defined as a calculation of a pay for an employee for a given paycycle. For QHIC, our assumed population was approximately 80,000 employees, so in a normal pay period there would be 80,000 pay periods calculated plus any corrections to the previous periods. Assuming worst case an additional 40% pay periods requiring correction, as well as an EBA agreement for the largest employee group – Nurses; we tested for

an EBA processing event of 686,400 pay periods (refer to page 7 of the FiHR Program_Payroll Performance Verification - Test Completion Report (Document 4, page 45 of the supporting documentation)).

(c) We tested the solution and captured the system runs times. While, as expected, they were longer given the volumes being processed, we defined the payrun process so that Queensland Health would be able to plan for such a processing event.

(d) The core SAP process that does the payroll calculation is called PCALC. CorpTech indicated that the performance expectation for this process should have been in the order of 2 to 3 hours for such a large volume of data. When IBM first executed this for a volume half that number (380,000 pay periods), even in an IBM optimised environment, it took approximately 56 hours to execute that single function as recorded on page 1 of the FiHR QHIC Runtime Analysis - 8 September 2008 (Document 6, page 79 of the supporting documentation). This report also identifies (at p 2), that IBM optimisations caused the solution to make 76.8 billion fewer database queries, and 24.32 trillion fewer system function calls.

(e) SAP has a number of functions in its modules that support the execution of system transactions, particularly supporting large volume transactions, in an efficient way. The code we inherited from DoH/CorpTech bypassed all that function and capability within SAP, which was not best practice.

(f) IBM was obliged to re-write large sections of that customised DoH code. The performance result was dramatic: IBM were able to executed the process in under 4 hours for the lesser volume of 380,000 pay periods, as noted on pages 1 and 2 of the FiHR QHIC Runtime Analysis - 8 September 2009 (Document 6, page 79 – 80 of the supporting documentation) (that document was emailed to the Board and Project Directorate members on 9 September 2009; refer to the email from Heidi Morse to Board and Project Directorate members providing copy of FiHR QHIC Runtime Analysis 0.2 NK.doc dated 09 September 2009 (Document 7, pages 84 – 86 of the supporting documentation)). IBM were also able to

execute the process within 8 hours for 686,400 pay periods, instead of the projected 120 hours.

52. While this was probably the largest single improvement, typically any existing DoH HR function that IBM rewrote, an average 30% improvement in system performance was gained.

Go-Forward to Re-baselining of the QHIC solution in March 2009

53. On about 15 August 2008, IBM delivered the work products from SOW 4, being, amongst other things, the reconciliation between SOW 4 and the original ITO and the fixed priced SOWs (20, 22 and 29) to deliver the program. IBM then worked with CorpTech to define and price a 'way forward'. To do so, IBM were asked to price many different proposals. I was part of the team that developed the estimation for those proposals. I recall that some asked for more services and others asked for fewer services.

54. At about this time, IBM was receiving what it perceived as inconsistent messages from CorpTech about the SSSP. For example:

(a) towards the end of 2008, CorpTech publicly praised the relationship between the CorpTech and IBM teams (refer to the email from CorpTech Communications re CT News - 31 October 2008 (Document 8, pages 87 – 93 of the supporting documentation));

(b) CorpTech highlighted the collaboration between CorpTech and IBM to develop a Go Forward Strategy (refer to the email from CorpTech Communications re CT News - 28 November 2008 (Document 9, pages 94 – 100 of the supporting documentation)).

(c) at the same time, CorpTech publicly identified funding constraints it was facing and, what appeared to IBM to be, a fundamental change in the direction of the SSSP going forward (refer to email from Bill Doak re Go Forward Strategy, dated 27 August 2008 (Document 10, page 101 – 102 of the supporting documentation), and the CorpTech presentation entitled Go Forward Strategy - Initial Proposal for Discussion (Document 11, pages 103 – 112 of the supporting documentation)).

55. Treasury announced that it would not release more funds for the SSSP until CorpTech could prove it could deliver on its projects. Ultimately, CorpTech had inadequate funds to move forward with its projects, including the SSSP. In January 2009, CorpTech suspended the SSSP and focus was shifted to delivery of the QHIC solution.

Ultimate outcome of Scope Changes

56. Reports, Interfaces, Conversions, Enhancements, Forms (**RICEF**) counts are a standardised way of assessing work effort involved in developing a particular system. For example, a particular Form, with a particular level of complexity, will take an estimable amount of programming time and effort. This will be tied to an estimated cost.

57. I have reviewed the project documentation to assess the RICEF counts for this project, and the changes in the count over time .

58. The RICEF count from the start of Statement of Work 8 was as follows:

Category	Totals			Very High			High			Medium			Low		
	Total	Reusable	Lattice Specific	Total	Reusable	Lattice Specific	Total	Reusable	Lattice Specific	Total	Reusable	Lattice Specific	Total	Reusable	Lattice Specific
Reports	13	3	10	4	1	3	6	2	4	3	0	3	0	0	0
Forms	5	4	1	0	0	0	0	0	0	0	0	0	5	4	1
Interfaces	34	12	22	9	7	2	6	1	5	19	4	15	0	0	0
Conversions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Workflow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enhancements	7	7	0	3	1	2	2	1	1	2	2	0	0	0	0
Extracts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	59	26	33												

59. Ultimately, the RICEF count of the product delivered was in the range of 201. This was a substantial change from the original premise for the solution. I compiled the following table from a review of the relevant project documents:

Category	Totals			Very High			High			Medium			Low		
	Total	Reusable	Lattice Specific	Total	Reusable	Lattice Specific	Total	Reusable	Lattice Specific	Total	Reusable	Lattice Specific	Total	Reusable	Lattice Specific
Reports	39	29	10	5	2	3	17	11	6	11	10	1	6	6	0
Forms	14	13	1	1	1	0	1	1	0	7	6	1	5	5	0
Interfaces	44	19	25	15	7	8	9	3	6	20	9	11	0	0	0
Conversions	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Workflow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enhancements	98	98	0	16	16	0	34	34	0	38	38	0	10	10	0
Extracts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	201	159	36												

60. Out of the 201 RICEFs delivered, 59 were originally scoped for SoW7. So there was an additional 142 RICEFs delivered to the project. The majority

of the additional RICEF items were reports and enhancements. The increased scope came in the form of:

(a) Reports: there was an additional 26 reports delivered, of which there were 3 new reports and 23 of the existing Standard Offer reports that required modification;

(b) Forms: there was an additional 9 forms delivered, one was new and one was an existing Standard Offer form and the other 7 were existing Standard Offer forms that required modification;

(c) Interfaces: there were an additional 10 interfaces, 4 that were new and 6 that were existing Standard Offer interfaces that required modification;

(d) Conversions: there were an additional 6 conversions, 3 that were new and 3 that were existing Standard Offer conversions that required modification; and

(e) Enhancements: there were an additional 91 enhancements delivered, 29 that were new, 8 that were existing Standard Offer added to the solution and 54 enhancements that were existing Standard Offer that required modification.

61.   Therefore, out of the additional 142 RICEFS; there were 40 new RICEFs delivered, an additional 9 existing Standard Offer RICEFs brought into scope and 93 existing Standard Offer RICEFs that required modification or updating. The expectation and assumption from the initial planning for the LATTICE Interim replacement would be that functionality would have been able to be used without modification of this kind.

TESTING

How testing was performed

62.   The LATTICE replacement solution included Workbrain and SAP components. The development of these components was, for the most part, independent. The path to production was clearly defined for each of the SAP and Workbrain components.

63.   For each component, there was a separate stream of environments that supported the development of solution changes (code, configuration,

data). The developers worked in a development environment (sometimes referred to as a "sandpit") to define the required changes. The resulting changes would then be packaged into a "build" with a version number and promoted (i.e. incorporated) into a higher development environment for testing.

64. First, a build would go from the development environment to unit testing, where it would be tested by those involved in its build. After unit testing, a build would then be promoted into system testing, where the test team would test it.

65. System Testing is a form of testing that focuses upon the application itself. The SAP and Workbrain components were system tested independently at this stage.

66. After System Testing, changes were then promoted into System Integration Testing (**SIT**), where the end-to-end testing would occur. This form of testing was used to test SAP and Workbrain together as a logical system, however SIT also included other systems like FAMMIS for Finance and Controlling (**FI/CO**) integration tests.

67. Having passed SIT, changes were then promoted to User Acceptance Testing (**UAT**) for testing by Queensland Health.

68. The path to production was clearly defined and a change to the system (whether for defect correction or otherwise) was not promoted to UAT until it had passed the prior testing environments.

69. The QHIC Project also included other testing, which was developed to meet the specific needs of the project. These forms of testing included:

   (a) Parallel Payroll Reconciliation Testing (**PPRT**): to reconcile gross payments, tax, net payments, employer superannuation and leave accruals against the equivalent within LATTICE;

   (b) Payrun Performance Verification (**PPV**) testing: to test the performance of the key payrun processes;

   (c) Stress and Volume (**S&V**) testing to test the effect of user interaction upon the performance of the system.

70.   PPRT was undertaken as part of System Testing, PPV and S&V testing were undertaken on a production size environment using the same code base as UAT.

71.   System testing, SIT and PPRT testing occurred prior to UAT. PPV and S&V testing occurred in parallel with UAT. Testing was performed using infrastructure provided by CITEC.

72.   IBM agreed as part of CR184 (Document 12, CTB Volume 9, p 128 – 209), and the associated revisions to the scope of the QHIC project, to conduct an additional round of PPV testing (refer to section 6.11.4.5 on pages 5 to 6 of the QHIC Scope Clarification that accompanied CR184). The scope of the testing was expanded to verification of the full 14-day payroll cycle, as well as performance benchmarked to give the business guidance on expected run times for EBAs, and is detailed in the PPV Test Plan (Document 13, pages 114 – 157 of the supporting documentation). IBM developed the plan and it was signed off by CorpTech.

Data in Test Environments

73.   Data is the largest and most critical dependency for testing any payroll system. In particular, a large system like the QHIC solution required a large amount of data to test all the possible combinations of award conditions.

74.   SAP and Workbrain both have internal controls to ensure data consistency when a user enters that data through the normal screens, that is, the "front end". Accordingly, the data used in testing needs to be correct and consistent with what can be actually entered into the system, otherwise the system will generate errors or generate incorrect results based upon the incorrect data. For example, if it is not possible to enter an employee without assigning them to a particular job in the production system, but a record for an employee without an associated job can be forced into the database in testing, there will be errors suggesting defects, as the system is being asked to deal with something that could never happen in production.

75.   Given these matters, when testing a payroll system, it is necessary to assess and run the system as it would operate in production, especially for the high level testing like SIT, UAT and Performance Testing (PPV and

S&V). However, there were substantial and ongoing issues with data quality in the testing environments, particularly related to "bad data" causing errors that would not or could not occur in a "live" system.

Payrun Performance Verification testing

76. PPV is the process by which the duration of the pay run is assessed. I had a substantial role in this testing.

77. During February 2009, the performance criteria for PPV testing was defined and subsequently approved (the QHIC Payroll Performance Criteria - 31 March 2009 (Document 14, pages 158 – 167 of the supporting documentation)). This included identifying processing windows for the execution of system processes: that is, times when certain batch processes or system tasks could be run. The key aspects of PPV were testing:

   (a) Interim payruns conducted during the pay cycle;

   (b) Final payrun and pay Monday processing;

   (c) Integration interfaces between SAP, Workbrain and key legacy systems (FAMMIS);

   (d) Processing times for key system functions like database back-ups.

78. The aims of PPV were to:

   (a) validate that the technical solution would meet the defined processing windows;

   (b) validate that the technical solution could work with the agreed volume of employees being processed; and

   (c) that it was able to scale for additional load;

   (d) give some forward planning information into the capacity planning needs for the solution in the future. For example, for an extreme load situation like an EBA event, the timings from PPV could be used as baseline, which could be used in concert with metrics that would be gathered after go-live.

79. During test planning for the PPV test cycle, existing LATTICE data was provided by CorpTech. Amongst other figures for Master Data changes, the Sunday interface was expected to be no more than 300 master data changes. This was because the agreement of the payrun process with the QHSSP was that there would be a cut off of Master Data Changes (SAP) - SSP Process with:

    (a) QH SSP to receive last advice of changes from QH Friday Day 12 at 5pm;

    (b) QH SSP would process the of last MD changes on Saturday Day 13 until 6pm;

    (c) QH SSP would correct any MD transfer errors Sunday Day 14 until 12pm.

(Refer to the email from Brian Frederick re P42.QH_UAT - Defect #1492 CPS: Creation of Nightly Error Processing Job Chain & PDR Changes to support QH SSP Error Handling (Document 15, pages 168 – 169 of the supporting documentation)).

80. This detail and agreement was captured in the payrun model at the output of workshop conducted in August 2009. On 25 August 2009, I sent a copy of the FiHR QHIC QHSSP Error Handling & Pay Monday - 13 August 2009 to the Board by email (Document 16, pages 170 – 186 of the supporting documentation).

81. Multiple rounds of PPV were conducted at different loads and focusing on different items. The final round was properly known as PPV3 Regression, but was called PPV4 (**PPV4**) (refer to page 7 of the FiHR Program_Payroll Performance Verification - Test Completion Report (Document 4, page 45 of supporting documentation)).

82. PPV4 was based upon a target employee base of approximately 80,000. As such, sixteen periods of historical time and attendance for 83,324 employees was created to enable this PPV testing (refer to page 5 of the FiHR Program_Payroll Performance Verification - Test Completion Report (Document 4, page 43 of supporting documentation)).

83. The target required from the PPV Test Plan (Document 13, pages 114 – 157 of the supporting documentation) was for 94,734 Pay Periods to be

processed as outlined in Appendix E (on page 156 of the supporting documentation).

84.   A "pay period" is defined as a calculation of a pay for an employee for a given paycycle. In the case of Queensland Health, a pay cycle was one fortnight. So if all 80,000 employees were paid once in a given pay cycle and only for that cycle, there would be 80,000 pay periods processed.

85.   However, because of things like shift variations, "back processing" of adjustments from previous paycycles also need to be calculated. Hence PPV4 was based upon the modeling that there would be a level of retrospective changes in prior paycycles. Data from CorpTech identified that on average there would be 15,411 pay periods that would require re-calculation each pay cycle: hence the target data volume number for PPV4 of 94,734 (79,323 employees + 15,411 retrospective) pay periods to be processed (Refer to page 38 of the PPV Test Plan (Document 13, page 157 of the supporting documentation)).

86.   IBM tested at a higher load, being 152,920 pay periods in PPV4. IBM successfully completed each round of PPV to the satisfaction of CorpTech.

87.   I am aware of comments by Jane Stewart in respect of PPV testing. I deal with those points below, however, IBM modelled PPV usage based upon Queensland Health and CorpTech's direction on business process, expected use and load. Having performed an analysis at the time, the volume of master changes that I saw in production was at least an order of magnitude higher than those figures. For both the normal master data changes during the paycycle, instead of the expected 7,854 master data changes per paycycle, QH SSP was (as of June 2010) processing close to 44,000 master data changes per paycycle.

88.   The large volume of master data changes caused the import process to extend, placing the resulting closing of the paycycle at risk.

Stress and Volume testing

89.   Stress and Volume testing is the process by which a solution is tested to see how it will perform under load, including expected and greater-than-expected load. The goal is to identify at what point or load the system will fail or begin to encounter difficulties.

90. This is an iterative process that requires solutions to be repeatedly 'tweaked' or altered in specific ways. This may be as simple as adding more physical hardware (faster computer processors, more computer memory, or simply more computers), or more technically complicated, such as:

    (a) Altering/optimising the configuration of a server's operating system;

    (b) Altering/optimising the configuration of a network;

    (c) Altering/optimising the particular software deployed.

91. The CorpTech Performance Testing team was mainly focused on Workbrain performance. I was their support contact within the IBM project team.

92. From my discussions from the CorpTech team, I am aware:

    (a) Queensland Health provided the CorpTech team with its requirements for performance testing;

    (b) CorpTech used these requirements and business modelling as the basis for S&V testing.

93. Ultimately, the performance model defined by Queensland Health did not match how the system was actually used post Go-Live (discussed below).

User Acceptance Testing (UAT)

Conduct of User Acceptance Testing

94. Based on my recollection and review of contemporaneous emails and project schedules, I note that UAT was conducted as follows:

    (a) UAT1 (Shakedown) Started 01/12/2008 and finished 25/01/2009;

    (b) UAT1.1 Started 27/01/2009 and finished 20/03/2009;

    (c) UAT1.2 Started 20/04/2009 and finished 12/06/2009;

    (d) UAT2 Started 20/04/2009 and finished 21/07/2009;

    (e) UAT2 Retest (UAT3) Started 19/06/2009 and finished 24/07/2009;

(f) UAT4 Started 21/08/2009 and finished 22/01/2010.

95. Although UAT was the responsibility of Queensland Health, UAT was conducted by both Queensland Health and CorpTech. The UAT Test Team included staff from: QHEST, QHSSP, the CorpTech Payroll Bureau and CorpTech Application Management.

96. I do not recall who the UAT Test Manager for UAT1 and UAT2 was. However, for UAT2 Retest (otherwise known as UAT3), QHEST hired Bill Montoya from KJ Ross to be the UAT Test Manager. As far as I recall, he was on the project for approximately 4 to 6 weeks.

97. Brett Cowan, also with KJ Ross, replaced Mr Montoya as the UAT Manager for UAT4. Mr Cowan had coverage for all UAT and, therefore, reported on the performance of all of the above teams.

98. Mark Dymock was the IBM Team Lead in charge of testing throughout the period of UAT. I was mainly involved:

   (a) As liaison with CorpTech infrastructure staff for weekend support;

   (b) With supporting the Queensland Health SSP and UAT Test Manager on aspects of the payrun process;

   (c) With supporting CorpTech Service Management UAT; and

   (d) In the review of the UAT exit criteria, specifically the end-to-end cycle that became UAT4.

Issues affecting User Acceptance Testing

99. One of the key things I recall about UAT was difficulty with provision of proper testing environments. For example:

   (a) A significant issue from the previous phase of UAT was that the data was incorrect or inconsistent. This caused a large number of false defects to be generated during UAT;

   (b) Further, I observed that Queensland Health would often give the CorpTech technology team little or unrealistic notice to provide testing environments.

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100. Prior to UAT4, QHEST agreed to re-baseline its UAT, with the creation of clean data, defined test scripts and a detailed execution plan. However, in each of these aspects difficulties remained.

Test Data

101. The test data for UAT was a constant source of difficulty. It would arrive late and be incorrect. IBM had to assist QHEST to correct the baseline data so that UAT could commence. This happened in July 2009 for the commencement of UAT in August and then again in November 2009 when UAT was suspended due to further data errors. This incorrect data in the UAT environments caused delays.

102. The errors in the test data indicated that when test data was being loaded into the system by Queensland Health, either:

(a) referential and other checks were not put in place to ensure that dependent data (such as an employee without a link to a job) did not or could not occur; or

(b) there were changes after the data was loaded and those changes created a state breaching the referential and other checks.

103. As such, many false defects were raised, which were simply data errors that were not capable of occurring in the system when it was being used properly through the front end.

104. I am aware that in his evidence, Mr Cowan suggested that a system's "robustness" should perhaps be able to handle such incorrect data and therefore "defects" would be valid. I do not agree. If you cause a system to attempt to use data that has been forced into its datafiles or database, the system will not behave as expected with that data. For example, an employee is employed to perform a specific Job, that Job is defined in SAP. SAP uses that information as part of the system function to determine the correct action that can be done. A normal system user could not create an employee or even load an employee without that link (to a job) being provided. So, when the system attempts to validate an action on that employee and that information is missing, it will cause an error, as it doesn't know the Job the employee has been hired to perform. This is not a system or coding error, this is a data error.

105. SAP's history dates back to the late 1960s. At its core, it is a transaction processing system. As a result, SAP is designed on some fundamental principles of data processing. If the system cannot process an employee it identifies the error and creates a "dump" for an operator to investigate. A "dump" as the name suggests, is a dumping of all the information relating to that transaction so that an operator can determine the cause of the error and correct it. If the transaction was run in the background as part of a batch processing, the system would create a dump for that employee and then continue. If the same transaction was run "interactively", it will stop the process and allow an operator to inspect the error before moving on.

106. This approach to addressing "errors" or "issues" in the payroll is part of the normal process of managing a large and complex system. There are defined windows in the payrun processing for the Queensland Health SSP to address these types of errors/issues prior to the final payrun and the generation of the pay.

107. In any event, these data errors were causing "defects" to be shown in the core SAP software, and the Workbrain software.

108. The need to create additional test data and test scripts added to the work required in UAT. Accordingly, the baseline data that Mr Cowan was working with needed to change, however there was no clear control management of that change.

Test Scripts

109. Another issue in UAT was the lack of detailed test scripts. The undertaking of UAT without detailed test scripts meant that tests were not repeatable or would give inconsistent results. This is because the execution was dependent on the person who executed the test: whether they followed the same steps based on the correct data and indeed the knowledge of the tester as to steps to be taken.

110. This led to a large amount of testing during UAT that:

   (a) did not replicate the standard ways that the new payroll system would be used after Go Live, and therefore identified defects that were not defects;

(b) was not fully representative of actual use patterns; and

(c) incorrectly identified defects in the new payroll system, due to the lack of knowledge of the testers.

111. IBM's concern about this was that the testing would not demonstrate a true reflection of the QHSSP business requirements and how they would actually use the solution in production.

Test Planning

112. Test planning is important. As a matter of testing practice, it is ordinarily necessary to understand when test scripts are going to be executed and the functionality they are likely to affect. This makes it easier to allocate resources to ensure that defect corrections are available prior to the scheduled test case. This was a continuing issue affecting UAT for the QHIC Project.

113. Some defects can be turned around quickly, but others cannot. If it is not possible to plan against a test execution plan, there will be continuing problems because defect correction will not be timely.

114. Test planning also helps to ensure that the system is in the right part of the pay cycle in order to test certain scenarios. During UAT for the QHIC Project, test cases often could not be run, or would be attempted when the system was not ready. That is to say:

(a) For a certain function in a payroll system to be done, the system needs to be in a certain state to properly mimic the live environment;

(b) Assuming, say, 4 stages of processing for payroll, each of stages 1, 2 and 3 must have been completed before you can move to and test stage 4;

(c) If you attempt to perform testing on a system expecting the data to have already been processed in stages 1-3, and it hasn't been, there will be errors which are not genuine errors.

Test Reporting

115. At times, Queensland Health would raise a defect without any reference to the system data. Given the nature of payroll and the poor data management during UAT phases, a number of defects were returned for re-test as the development team had no data to be able to determine the original issue.

116. This significantly added to workload for those investigating and responding to items raised as defects.

Classification of defects by severity

117. IBM would review all defects assigned to the project on a daily basis, and would also assess the severity of the defects against the Test Strategy criteria. Following assessment, specific defects might be downgraded and then reviewed by Queensland Health to determine whether it accepted the downgraded classification. For example, the existence of a defined workaround for a particular defect might reduce a severity 2 defect to a severity 3, if it was within QHSSP's processing windows.

118. This was consistent: a defect's severity was lessened once there was some action performed and that the severity of that defect had been addressed, in agreement with Queensland Health or CorpTech, depending who was the owner of the system area impacted.

119. In some instances a defect would be corrected, but may raise a new, more minor defect. In such instances, IBM suggested the closing of the original defect and creating a new defect to describe the remaining issue at the appropriate severity level. This approach was not accepted by CorpTech/Queensland Health, so, even if the "severity 2" aspect of a defect had been fixed, if that fix caused or showed a more minor issue (say, an error message that Queensland Health wanted changed), the defect would remain open as a severity 2, even though the error message aspect was severity 3 or 4.

120. As I have noted above, there were also a large number of defects that IBM did not accept as defects within the agreed solution scope. In effect, accepting and correcting such defects would involve a change to the agreed solution scope. IBM flagged all such defects in the system. I am

aware of many cases where, though IBM considered that it could rightfully reject a defect as a change to scope, it nevertheless remedied the defect, in good faith, in order to assist the client, avoid arguments and to get the system delivered.

121. One particular defect I recall that encapsulated a lot of the difficulties in reclassifying a defect is defect number 1026. This defect was raised during UAT3 and was for "INT: Reconciliation of Transactions between WorkBrain and SAP". This defect was raised as there was the desire by CorpTech to have an automated process of reconciliation of data between the two systems.

122. The QHIC solution was an interim solution, so Master Data Management (which would have supported automated reconciliation) as well as other support systems were not included within the scope. We worked collaboratively with CorpTech to define documentation and utilities to support application management of the two systems. However, CorpTech would increase the severity of the defect, as they did with 1026, to seek something that they were after. Ultimately, IBM delivered this tool post go-live to assist CorpTech, even though it was out of scope. This is the "reconciliation tool" that Jane Stewart mentions in her statement at paragraph [91]. This was never part of the original project scope, and hence not a defect, however IBM accepted it as a defect on the basis it would be a collaborative exercise and it was included in the Defects Management Plan at row 90 (Document 17, page 200 of the supporting documentation).

Assessments and reports in relation to UAT

123. KJ Ross prepared a final UAT Test Report dated 27 January 2010 (Document 18, CTB Volume 13, Item 505, p 283 – 316). I did not receive a copy of the UAT Test Report at the time of the project, though I was aware of the issues that IBM had with it. I have recently reviewed a copy of the report and reviewed the further document identifying IBM's responses to the report.

124. My overall concern with the UAT Test Report is that the focus of the testing seems to have been purely on defect numbers, with only some reference to severities, and further more granular information.

125. UAT verifies that the required business function (people, process and system) can be performed in near real life conditions. The aim of UAT is to show that the system can execute in such conditions. It ensures that the business can expect an equivalent level of stability when the system is deployed into production.

126. Accordingly, when testing system functions and business processes, it is important that UAT prioritise the testing of functions/processes that are critical to the business. This assists the business to understand risks in relation to system failure and to identify the required business continuity planning for the system to progress into production.

127. While focusing on defects is important, it is too narrow to only focus on defects without considering the context of how the business will use the solution. This is consistent with the issues raised by IBM in its response to the report at the time (Refer to the Management Response to KJ Ross & Associates UAT Completion Report - 19 February 2010 (Document 19, CTB Volume 14, Item 51, p 380 – 391)).

128. The defect numbers identify a high number of severity 2 defects. This tends to reflect the misalignment on scope, and the use of the defect process to introduce changed requirements.

129. I am aware that in his evidence, Mr. Cowan suggested that "at most" 25% of the raised defects were not true defects. I disagree. In IBM's experience in the project, upwards of 60% were ultimately not "true" defects across the testing in UAT3 and UAT 4.

PROJECT MANAGEMENT

Methodology

130. I have been asked by Ashurst to comment about project methodology.

131. Prince2 is a project delivery method, and is the method that CorpTech and Queensland Government agencies use to manage the delivery of projects. It is a management method and doesn't support the delivery of capability into an organisation.

132. The equivalent within IBM is Worldwide Project Management Method (**WWPMM**). This defines how IBM internally runs its projects. IBM tailors

its reporting and other interlocks (linkages to other management systems) to suit the project management method employed by the client. This was used in this project.

133. Ascendant is IBM's method for the delivery of SAP, and is based upon SAP's ASAP method for delivery of SAP solutions. Use of this method was presented numerous times to CorpTech Solution Design Authority (**SDA**) and Vendor Management staff, including the Method Adoption Workshop that I conducted in late November 2008 as part of the preparation for Go Forward of the WoG program (Refer to the email Invitation to IBM Methodology Workshop - 25 November 2008 (Document 20, page 213 of the supporting documentation)).

134. One of the issues around IBM methodology was that CorpTech wanted IBM to provide all of its Ascendant materials, however, IBM declined as the Ascendant methodology is considered confidential, proprietary IBM information.

135. I believe it is IBM declining to provide copies of its internal process materials that has led to allegations that IBM did not follow a proper methodology. IBM did follow its methodology for the delivery of the project.

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GO LIVE

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Lead Up & Go-Live

136. The system went live on 14 March 2010, with the first payrun from the solution completing on 23 March 2010.

137. I recall that after the Go Live and the first payrun, Philip Hood addressed all staff as to the success of the first payrun from the new solution. This was on Level 20, 313 Adelaide Street Building where the project team resided, just after the Electronic Funds Transfer (**EFT**) file had been sent to the bank. I remember that an analysis was done which showed that much the same number of people had been paid under the new system as had been paid in the LATTICE system.

138. The new payroll system generated the bank files and payslips correctly and the QHSSP payroll staff were able to update and correct pays as per

their standard business functions. While there were some performance issues, the system was available and QHSSP staff could perform their jobs.

Post Go-Live Issues

139. There were difficulties that arose post go-live. The difficulties that impacted the technical aspects of the computer system delivered by IBM, as reported to me, were:

   (a) the matters already being managed and remedied under the Defects Management Plan (**DMP**) (Document 17, pages 187 – 210 of the supporting documentation);

   (b) the performance issues described below.

140. The matters in the DMP were being managed by QHSSP and a series of 'drops' or deployments of code were structured and planned to take place after go-live to update or change certain aspects of the system. This was a planned process. As well as the DMP, the project also managed a single risk and issue register that was managed by IBM but held jointly by Queensland Health, CorpTech, and IBM.

141. Save the DMP matters, all of which were managed, and the performance issues, there were no system issues I was aware of that would (or did) lead to no pays, miscalculation of pays, overpayments or underpayments (Document 17, pages 187 – 210 of the supporting documentation).

Performance Matters

142. Following the first payrun, there were some unexpected performance issues with the system. These were by QHSSP workers occasionally having "hung" sessions with Workbrain, which could sometimes require them to log-in to Workbrain again. Such sessions being hung would not have caused data errors in the system, as they were performance matters. Once this issue was reported to IBM, we, in conjunction with CorpTech, immediately began to investigate the issue and mitigation measures were put in place.

143. When the matter was not immediately resolved, IBM's Critical Situation (**CritSit**) process was enacted on about 26 March 2010. The CritSit

process essentially involves calling in a specialist to assess the situation, consult with all stakeholders and manage the situation to resolution. Within the first two weeks, a workaround was in place and the CritSit process begun to manage the project towards a stable outcome.

What Happened with the System?

144. The source of the slowness was identified down to some root causes. Essentially, it was the interaction between Workbrain and its Oracle database (both with respect to the queries that were running and the way the database had been configured).

145. To resolve these matters, IBM took a number of steps:

   (a) The Critical Situation management process started on the 26 March 2010, with proceeding to organise the engagement of Greg Greer as the critical situation manager;

   (b) At our request, Infor provided a team (consisting of Martin Jarosinski and Anton Xavier) who worked remotely while, in parallel, we arranged Anton Xavier to come physically on site from Canada to augment the local team. Infor visited a pay hub during the situation management, to get a direct understanding of what were the issue as seen from the pay hub perspective. This was so Infor could understand how the end users were using the system and correlate that to the system behaviours. This led to optimisations to the core Workbrain product.

   (c) IBM engaged Mark Rafter as a Database Engineer and specialist on the Oracle database platform. Mark is a deep technical expert who almost solely focuses upon the Oracle suite of database technology. He worked with the CorpTech database and infrastructure teams to analyse the problems, identify the root cause and define the set of actions to resolve the issues being seen in production.

   (d) We further engaged Murray Booth, a specialist Performance Architect to assist.

146. Ultimately, the team was comprised of Queensland Health, IBM, Infor, CorpTech and CITEC staff to ensure that end-to-end management of the situation was achieved.

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147. Once the database issues were resolved, there was further reconfiguration of the servers on which Workbrain ran (the Application layer servers at CITEC). This gave a further system boost.

148. By 20 April 2010 a number of configuration changes had been implemented to stabilise the environment. Further changes within Queensland Health Desktop through the Queensland Health IT infrastructure were also identified and acted upon. These changes were completed by 7 May 2010 and process was completed on 9 May 2010.

149. There were some other performance issues which related to system use and batch processes, and these are set out below.

150. These performance issues were "shake-down" style issues. Though they ought have been discovered in Stress and Volume Testing (and therefore dealt with pre go-live).

151. I am aware that Jane Stewart stated in her evidence that PPV testing ought to have identified these performance issues in Workbrain. I disagree. Rather than PPV Testing, S&V Testing was the testing cycle which was responsible for the detection of the original performance issues with the database and the application server configuration, as it was S&V testing which defined settings for the database and application servers. This is clear from an email from Frank Bajart of CorpTech to Kevin Hui dated 5 February 2010 (Document 21, pages 214 – 215 of the supporting documentation) (attaching "QHIC Round 5 System/Application Configuration") in which CorpTech, responsible for S&V Testing, provided the final Workbrain database and application server configuration for Go Live of the solution to the CorpTech team that managed the environment. If the performance model used by CorpTech had reflected the usage of the system post Go-Live, S&V Testing would have discovered that issue and the correct application server configuration and database configuration would have had been used. The locking issue Oracle/Workbrain issue would unlikely have been seen, and would only have occurred under extreme load.

152. These performance issues did not cause overpayments, underpayments, no-pays or miscalculations. Those outcomes occurred because of major business process issues and more minor data migration issues.

Data Migration

153.   It is convenient to deal with the topic of Data Migration first.

154.   The data migration exercise was handled by Queensland Health. Data migration and the cleansing of data is the process of extracting data from LATTICE in whatever format, and then transforming that data into a form that may be understood by, and then loaded into, SAP and Workbrain.

155.   As a part of this process, two key issues arose.

156.   First, there were gaps or errors in the LATTICE data to begin with, which obliged QHSSP employees to make manual changes. This was a problem from the LATTICE system that could only be fixed manually, even if the gaps could be identified automatically.

157.   At the time, QHSSP had signed off on the QHEST data migration plan with the understanding that there would be approximately 40,000 adjustments required by QHSSP after cut-over and before the first pay. There were another 30,000 adjustments that were required to be addressed after the first payrun by the QHSSP. This was factored in to the cutover plan. That such adjustments were required is noted at the third assumption on page 6 and at steps 13, 21 and 22 on page 22 of the QHIC Implementation & Cutover Strategy (Document 22, page 245 of the supporting documentation).

158.   Second, there were additional data issues that were brought into the solution via incorrectly migrated data. This meant that there were errors in what was brought in to the new system. This manifested in two forms. First, this was the cause of approximately 1500 ex-employees being loaded as "live" employees in the new payroll system and receiving payments.

159.   QHSSP were required to consistently make retrospective changes going back to the go-live date to correct this data. This added to the workload of the QHSSP staff and hence the performance load being place on the system.

160.   These were not system errors. These were pre-existing data or data migration errors. The system performed the operations it should with the data it had.

Business Process

161. Once a solution has moved past deployment, the key elements of change management planning are exposed. These are:

      (a) supporting the staff through the change;

      (b) evaluating the adoption of the change; and

      (c) re-enforcement or adoption of key processing outcomes.

162. Each of these points is iterated over and over, until the business processes that have been impacted by the change have returned to business as usual (**BAU**) and hence are sustainable. None of those steps had been done with any consistency for the Queensland Health Payroll rollout which I observed.

163. Prior to go-live, IBM had little visibility to Queensland Health's business processes. Queensland Health owned the business change process and the lead for that stream reported into the project. At the Project Status meetings which I attended, IBM would seek to have Queensland Health report more accurately on their current status of preparation. I recall that John Gower had to escalate this subject numerous times, but Queensland Health representatives would report that the work stream was 'Green' and there were no issues.

164. Generally, there was a lack of confidence from IBM and CorpTech about how that stream was progressing. Queensland Health changed the staff managing that stream, but with little improvement. There was a brief time when I was part of a Business Continuity Planning group to assist Queensland Health with these matters, however, Queensland Health and CorpTech stopped that group in or about mid-2009 before any outcomes were developed. I do not understand why it was stopped. IBM were willing (and I was personally willing) to be part of the process.

165. After go-live, the Queensland Health Human Resources Performance and Business Throughput Improvements Forum (the **Forum**) was created, of which I was a member. The role of the forum was to identify the issues at hand and to target specific actions to address these issues to support the system for Queensland Health.

166. Through this forum process, and through my interactions with members of the project and Queensland Health/CorpTech teams post go-live, I became aware of the following issues having arisen which impacted the payroll:

    a. There was a backlog of entries prior to Go-Live;

    b. There were over 40 different types of timesheets / roster Adjustment Forms which caused difficulties;

    c. There were issues with the Queensland Health managed fax network;

    d. Payslips were confusing staff, or were exposing long-standing problems with individuals' pay;

    e. There was no ticket/tracking system for payroll issues;

    f. Incorrect data had been migrated, causing ex-employees to be paid (as discussed above);

    g. Unresolved issues from the LATTICE system were impacting QHSSP staff (the other data issues, described above);

    h. There were Workbrain performance issues in the first few weeks (discussed above);

    i. There was higher than forecast business transactions;

    j. There was incorrect usage of the system (Workbrain) for roster entry and timesheet correction; and

    k. No roster/timesheet, no pay.

167. I will discuss some of these points from the above in turn.

Backlog

168. An adjustment was an item from data migration that was not able to be loaded automatically, as there was conflicting data in LATTICE. Hence it required manual analysis from the QHSSP staff of the "error" to correct. This was in addition to the backlog of roster adjustments that were part of the business process.

169. As set out above, it was expected there would be approximately 70,000 adjustments outstanding from the data migration after cutover. About 40,000 of those adjustments needed to be corrected before the first pay run. The remaining adjustments were then to be addressed in subsequent pay cycles.

170. That is to say, there was a significant backlog before the system even was turned on.

Multiple Timesheet Types, Timesheet Errors & Training

171. Before the new payroll system was implemented, Queensland Health relied on handwritten timesheets being completed by staff, which would then be processed by local payroll workers in their hospital or facility. With the implementation of the new system, these timesheets were still used, but processing moved from a local processing to a hub processing regime.

172. There were over 40 formats of the roster adjustment forms being used by the local hospitals and hubs. Each adjustment form would have a different format and type of information with the localised content. This meant there was no common understanding across Queensland Health or the pay hubs of how to properly enter time. Certain time codes that would make sense in, say, Cairns would be meaningless to someone processing the form in, say, Brisbane. This was a significant contributor to the level of adjustments and errors entered into the payroll system.

173. The move to a hub-processing system significantly raised the change management requirement for payhub staff training and the management of roster adjustments with line managers.

Scanning & Fax Network

174. Queensland Health had implemented a fax network for staff to fax their timesheets through to the pay hubs. We became aware of substantial issues in the fax network after go live. This meant that often forms were lost, were not able to be faxed in at all, or got faxed in multiple times.

175. A further problem that arose was that many of the forms, even if they did arrive, were illegible because of poor handwriting or poor quality scanning/faxing. Or the forms were missing key information, like overtime hours, as that was assumed local knowledge.

Payslip Information

176. There had been delays and inadequate provision of information to staff with information on changes to payslips.

177. The design of the payslip itself was by CorpTech. IBM were informed that the pamphlet which explained the new payslip format was sent out to staff three weeks after the first pay. So for staff who had been used to seeing only a net figure, or generally, fewer details, they were now being presented with every calculation that went in to their pay. This meant staff were:

   a. Identifying potentially long-standing problems with the data used to calculate their pay; or

   b. otherwise confused about what was involved in their pay calculation.

178. This led to further issues being created for the QHSSP staff.

Issue Tracking

179. There was no method implemented from the start to deal with payroll queries. This meant people would call, email, fax multiple times about the same point. Each change would be ultimately implemented. I was informed that QHSSP that 20% to 30% of the outstanding adjustments were likely duplicates in any pay period.

Change of Forecast Business Transactions, Incorrect System Usage & Awards

180. Towards the end of May, there was a noticeable shift in how the business was using the system regarding the batch processing in Workbrain of master data changes imported from SAP. That batch processing was designed to run afterhours only, but because of the increased volume of master data changes being imported, processing was required in the business hours for the QHSSP. These are the issues referred to by Jane Stewart at paragraph [99] of her statement. Analysis of the volume of transactions within the system showed an order of magnitude increase in the number of changes that the QHSSP were processing in the system.

181. There also seemed to be a break down in the agreed processing windows that the QHSSP would utilise for the pay cycle.

182. That is to say, the QHSSP was pushing through a high volume of change, and they were processing those changes late in the pay cycle, beyond the mandated cut-off periods. This was having an impact on the system availability, as processing times became extended.

183. The mass of corrections had a 'snowball' effect on the system, whereby a backlog of issues and lack of necessary information created delays, which in turn prompted staff to resubmit their issue for resolution.

184. Often the request for rectification included incorrect or insufficient information to address the relevant issues. As issues were incorrectly addressed on the basis of the limited information received, often edits of a single issue were handled multiple times before resolution. As this continued to occur, the backlog worsened and delays increased. This was compounded by thousands of notices per day.

185. At the time, I performed an analysis of Pay Period 27 at the end of June 2010. I estimated that approximately 44,000 alterations were manually made that pay cycle. Furthermore, I was advised by QHSSP staff that at least 20% of these were double handled, or sent multiple times. The performance model and testing by S&V was for approximately 8,000 adjustments. From a system perspective, we could see that the volumes of adjustment data was an order of magnitude larger than what had been planned and forecasted.

186. I also performed a detailed analysis of the master data changes in one of the payrun employee import files and was able to see that 42% of adjustments were outside of the current and prior period and 19% were going back to the GoLive date. This analysis was captured in the Employee Import Patterns (Document 23, pages 263 – 265 of the supporting documentation).

187. The fact that Queensland Health would not close the payroll system to timesheet data until very late in the pay cycle compounded many of these issues. There was a policy that if a roster adjustment form was handed to the QHSSP even on the Monday morning of the pay generation, the QHSSP would process that form.

188. Most payroll systems have some form of cut-off period, with no processing of forms after a certain period prior to the generation of the pay. This is to ensure that there is a stable payrun and generation of pay. Examples of such rules are, no further cost centre changes from 5pm on the Thursday before Final pay Monday, and no further master data changes from 5pm of the Friday before Final pay Monday and a defined period for roster adjustment processing. After Go Live Queensland Health was still processing changes and roster adjustments beyond the cut-off that had been designed in the pay-run process for the new payroll system.

189. This was impacting the system and the basic principle Janette Jones had defined, that as QHSSP got closer to the final payrun, the focus was on correcting errors in the payroll, not processing new forms and changes.

Awards & Roster Groups (Incorrect use of Workbrain)

190. An award prescribes monetary allowances to compensate an employee for conditions and qualifications relating to their employment and could be complex. Workbrain's awards engine was designed to work in calculation groups for a single award. For example:

    (a) Queensland Health had an award that covered Nurses, Doctors, but also plumbers, electricians and other support staff;

    (b) Within that award there would be a number of calculation groups;

    (c) Each calculation group would be assigned a set of payrules that applied for that group;

    (d) For instance there were 38 different calculation groups for a Registered Nurse. An example would be a calculation group defined for Nurses (Queensland Public Health Sector) Award, Section B, Full-time Registered Nurses working a 12 hour shift. This calculation group was made up of approximately 55 payrules. The spreadsheet titled "2.11b Pay Rules Configuration – CalcGrps V1.2" shows the calculation group (Column B), award, sub award and employment type (Columns D to G). The rest of the spreadsheet shows the payrules that are associated with each calculation group (Document 24, pages 266 – 273 of the supporting documentation).

191. To manage part of this complexity, Workbrain would cluster employees into "roster groups". This meant that groups of employees would be processed together, significantly lowering system load as the system would only need to do calculations once for a group of people, rather than one-by-one. Queensland Health did not use roster groups as intended, but created roster "groups" on an individual basis (that is, groups of one). Should roster groups have been properly used this would have significantly reduced the overall Workbrain load.

192. There were also more general data entry and management errors. For example, QHSSP staff might overlook to remove someone from maternity leave.

193. In my opinion, Workbrain was fit for the purpose of being the main application that payroll staff used to carry out their day-to-day functions under a new payroll and rostering system for Queensland Health.

194. Whilst there were issues with Workbrain's operation, in my opinion these resulted predominantly from Queensland Health SSP staff increased usage of Workbrain and not using Workbrain as it was intended. The Infor Top 5 Recommendations (Document 25, pages 274 – 282 of the supporting documentation) after Go Live captures some of the key aspects of the misuse of Workbrain.

No Roster/Timesheet, No Pay

195. Queensland Health moved to "no roster/timesheet no pay" instead of "no roster/timesheet, previous/standard pay". The new payroll system could have been configured to operate under either of these approaches. The move to "no roster/timesheet no pay" was a design decision of Queensland Health to enforce policies which they could not do under LATTICE.

196. This meant that people (or their line managers) who were not used to lodging, or ensuring the lodgement of timesheets in a timely manner, would not be paid without one. This particular decision had very significant consequences in terms of staff payment.

Process Summary

197. QHSSP did not have any measure to track or identify trends in the overall performance of the solution. Because of this, they had no way to determine if the overall payroll process was on track. The sole focus was on the number of adjustments, and little insight as to what was inside those adjustments. This made it difficult to formulate any long term planning for the system to better support QHSSP.

198. In essence, IBM found that hospitals and sites with strong local processes had few or no issues with the new system. The hospitals that had poor processes and little or no discipline had the most issues with pay outcomes for staff.

Workarounds

199. I understand that the subject of workarounds has been raised. The core QHSSP StateWide Operations Team (**SWOT**) generally executed all the workarounds for the LATTICE system. It was this team that Janette Jones was targeting for the set of workarounds that would be present in the QHIC solution.

200. While I was not directly involved in the process of defining the workarounds, I did review a number of them with Queensland Health to understand the impact on the payrun process and to ensure that there was a defined processing window for Janette Jones' team to operate within.

Interim Solution vs. Whole-of-Government

201. Queensland Health maintained a spreadsheet that listed the manual workarounds that were required to be deployed under the new payroll system (that is, specific adaptations that were required to be effected to the payroll system on a case-by-case basis, to ensure correct payments to staff were made). That spreadsheet listed the number of employees, man-power impact (that is, the number of Queensland Health SSP staff required to be available to support the workaround) and payroll amount covered for each of the manual workarounds. I do not recall it being an overly large number of FTE (staff) required, and Janette Jones was

thorough in determining that the processing of the workarounds would fit within their processing windows available in the pay cycle.

Comparison with Lattice

202. I am aware that there were both over and under-payments made to Queensland Health staff when LATTICE was operational. I do not believe that Queensland Health knew the extent of the payments, as there were insufficient controls in LATTICE and as such measurement of under or over-payments was difficult.

203. In this regard I note that one reason why a full parallel run could not be performed was that there was data in LATTICE that could not be easily compared to the data that was in SAP. For example, LATTICE allowed 24 hours of overtime to be entered in a single day (and there were instances of such data entered into LATTICE); such incorrect data would be rejected by SAP. Putting that aside, to execute both systems in parallel would require double the number of staff to support, given the volumes of data that needed to be entered into the system.

204. Data was captured from Lattice as part of preparing and scoping for PPV Testing (Refer to QHIC PPV Testing - Detailed Requirements, Scope & Scenario Definitions - 20 April 2009, sent under email from Brian Frederick re QHIC PPV Testing - Detailed Requirements v0.11 - 22 April 2009 (Document 26, pages 283 – 330 of the supporting documentation). The data contained from page 37 (page 321 of the supporting documentation) shows on average 200 pay adjustments per day, this averaged to approximately $1.8 to $3 million of under payments per fortnight. This is also based on 2008 population data, which indicated that LATTICE held 70,000 employees. When the system went live, we were supporting 84,000 employees – a 20% increase in staff levels.

OTHER MATTERS

SAP Stacks & Go-Forward

205. CorpTech's version of SAP was (and still is, as far as I am aware) ECC 5. This was the version of SAP which IBM were to conduct their work against.

206. At the time prior to Go-Live, SAP had deployed a new system: ERP 6, which replaced ECC 5.

207. The proposed migration from ECC 5 to ERP 6 was not straight forward for CorpTech, as they had with SAP (and Accenture) built a customised version of ECC 5 for the DoH platform, which included:

   (a) Heavy customisations done in the system for DoH Real Estate functionality;

   (b) Back-ported functionality of Australian version of concurrent employment from ERP 6.0 (AUCE) on to current ECC 5.0; and

   (c) Back-ported functionality of New GL from ERP 6.0 (AU-NEWGL).

208. There were only a handful of organisations around the world that had this customised configuration.

209. The ERP 6 release had these elements as core product functionality. However it required technical effort to migrate. IBM and SAP urged CorpTech to move forward with an upgrade, as we could foresee problems with supporting large systems of a customised version of ECC5.

210. In particular, there would be delays in getting support stacks released for the customised version. SAP support stacks are fixes and updates to the products. They are broadly akin to software updates on PCs. Sometimes Support Stacks correct functionality, others implement mandatory changes to conform to legislation (for example, tax or superannuation rates). Since CorpTech was on a customised version of ECC5, there was always a delay in getting SAP support stacks release, as well as compatibility issues that meant additional validation by project staff and re-work with SAP.

211. In August/September 2008, IBM started formulating a strategy with SAP to move forward with the upgrade to ERP 6. This upgrade was referred to as part of the "Go-Forward" aspect of the QHIC project.

212. SAP had another customer with a similar customised version of SAP going through that upgrade process. Accordingly the cost and technical risk would have been spread between the two clients. The upgrade was estimated to cost approximately $2.5 million.

213. After a number of presentations and meetings, and the development of an upgrade strategy, consideration of the upgrade was halted by CorpTech in

October 2008. There was never any clear reason conveyed to IBM behind not proceeding with the upgrade.

214. Similarly, defined work packages to upgrade other WoG products (SABA and RecruitASP), which are normal activities required for management of a stable application portfolio, were not proceeded with.

Maintenance of database servers and configuration, and JVM configuration

215. Ownership of the technology domains (Database servers, Database configuration and JVM settings) is captured in the Project Execution Plan (**PEP**) (refer to QHIC Project, Project Execution Plan CD-B08-002 / 1.03b and Work Product Acceptance Sheet (Document 27, pages 331 – 393 of the supporting documentation).

216. Appendix 3 of the PEP at page 55 (page 386 of the supporting documentation) details parties' particular level of responsibility for particular activities or areas, as defined by the following legend: R – Responsible; J – Joint; A – Assist; Q - Quality Check; and I – Information.

217. On page 56 (page 387 of the supporting documentation) under the heading "Activity", "Technology - QHIC Environments" states that CorpTech has an "R" and IBM has an "I". This means that CorpTech was responsible for all QHIC Environments and IBM was to be informed of any actions it performed. On the last three rows of page 57 (page 388 of the supporting documentation), the document identifies that CorpTech were also responsible for "Infrastructure QHIC – Size", "Infrastructure QHIC – Provide", and "Infrastructure QHIC – Manage". These functions encapsulate the maintenance of databases and servers and their configurations, and JVM settings.

COMMENTS ON OTHER STATEMENTS ALREADY PROVIDED TO THE COMMISSION

Comments regarding statement of Darrin Bond

218. I have read paragraph 40 of Darrin Bond's statement which suggests that assigning the task of award interpretation to WorkBrain as opposed to SAP, for Queensland Health, was problematic because SAP was better suited to complex award interpretation than WorkBrain. I disagree.

CorpTech had already selected Workbrain for complex rostering award interpretation. Implementing complex awards in SAP is laborious. SAP has a concept of Personnel Calculation Rule (**PCR**), which is similar to a pay rule in Workbrain. So, for a given award there must be defined the required set of PCRs. SAP provides an initial set, however for the custom work required by Queensland Health, these PCRs would have to be manually written in the ABAP programming language. Further, because of the programming effort required, errors are more likely to occur. In addition, if the award interpretations were performed in SAP, then that calculation would have to be provided to Workbrain to support employee rostering. This would have created a more complex data exchange/integration between the two products.

219. On the other hand, WorkBrain provides a configurable award interpretation (or pay rule interpretation) module as part of its core functionality. In other words, award interpretation is generally simpler, quicker and more reliable in WorkBrain than in SAP as Workbrain provides software tools to support rule development. For rostering agencies it also allows the award interpretation to occur in the same module which records the time which employees have worked and makes that information for future rostering decisions. This is an efficient solution.

220. Mr Bond also seems to suggest that because WorkBrain was used for award interpretation (in addition to rostering) this meant that there was a greater reliance on the interface between WorkBrain and SAP than would otherwise be the case. I disagree.

221. Even if WorkBrain was used only for rostering functions (and not for award interpretation), it would still need to regularly exchange data with SAP. Put simply, using WorkBrain for award interpretation does not change the need for a functional interface between WorkBrain and SAP (which would always be required), but primarily instead impacts the content of data to be exchanged.

222. In fact, the interface between WorkBrain and SAP would be no less complicated if WorkBrain was used for rostering only. That is because, if WorkBrain was used only for rostering it would still need to:

    (a) regularly receive from SAP (at least) updated employee name and ID information;

(b) regularly send to SAP (at least) details of all hours worked by all employees, in a decomposed form which separated out normal hours, overtime hours, extra allowance hours and so on, so that SAP could use that data to perform award interpretation; and

(c) send the result of the interpretation to Workbrain to support Rostering and scheduling decisions (as noted above).

223. CorpTech had already decided to use the award interpretation function of WorkBrain for rostering agencies, so that using this feature for Queensland Health did not represent a change from that which was already intended. As such, reliance on an interface between SAP and WorkBrain was always going to be necessary.

Comments regarding statement of Malcolm Campbell

224. I have read paragraphs 20 and 82 of Mr Campbell's statement dated 12 April 2013. I note as follows:

(a) Paragraph 20 of Mr Campbell's statement states that "IBM never completed a SOW deliverable on time". This is simply incorrect. There are countless examples of IBM delivering SOW deliverables early or on time.

(b) Paragraph 82 of Mr Campbell's statement contains Mr Campbell's opinion that there was a "fundamental design error in the interface design between SAP and WorkBrain". That is incorrect. I was directly involved in this process and there was no fundamental design error in the interface between SAP and Workbrain. I deal with this elsewhere in this statement.

Comments regarding statement of Anthony Price

225. I have read paragraphs 20 and 62 of Anthony Price's statement dated 29 March 2013, which both deal with HR/FI integration. I note as follows.

226. Paragraph 20 of Mr Price's statement seems to imply that the integrated Workbrain/SAP solution proposed by IBM to be used as an interim replacement for LATTICE should have included custom functionality to disaggregate into job codes and staff costings the $250 million fortnightly payrun, then post that disaggregated data directly to QH's finance ledger.

Those functions were, in 2007, not being carried out by LATTICE, but jointly by the "MAN" series of applications, the QH Decision Support System (**"DSS"**) data warehouse and FAMMIS.

227. If IBM were delivering a full HR and Finance software package then those functions may need to be replicated and possibly improved. But these functions were not replicable for an interim and minimal HR system replacement project.

228. I understand that this is what was originally accepted and documented in the QHIC Scope Definition document at page 128 (Document 1, CTB Volume 4, Item 28, pages 63 – 203).

229. Paragraph 62 of Mr Price's statement refers to a "cost allocation" function that was "de-scoped" from the QHIC project. It is not accurate to use the term "de-scoped". The kind of complicated and customised cost allocation functionality ultimately requested by Queensland Health was not part of any prior agreed scope. It was also not best practice for SAP and would have created a large performance problem which would have, in my view, added substantial technical risk and endangered the proper functioning of the FAMMIS system.

Comments regarding statement of Brett Cowan

230. I have read Brett Cowan's statement in its entirety. I respond as follows.

231. Paragraph 13 of Mr Cowan's statement contains Mr Cowan's opinion that to have Workbrain integrated into SAP was not inappropriate. I agree. It is hardly uncommon to implement another software program alongside SAP to supplement SAP's functions. It is for this reason that SAP has well-defined interfaces for the exchange of data with it.

232. Paragraph 14 of Mr Cowan's statement contains Mr Cowan's opinion that using SAP HR and WorkBrain together "involves 'slicing into' SAP's validation system in order to insert WorkBrain" and that SAP was being "broken up".

233. This description is inaccurate and could be misleading. Both SAP and Workbrain are self-contained products that operate and function independently of each other. They need to share and exchange information, and like any "conversation" between software programs,

there is a defined method or protocol for that exchange. The interface between SAP and WorkBrain was designed based upon these protocols and tested successfully in Systems Integration Testing.

234. Paragraph 15 of Mr Cowan's statement contains a description of UAT and its focus. I agree with Mr Cowan's comments in this regard, however the thing which Mr Cowan leaves out is that, because UAT is focussed upon business processes, the testing procedure and resultant test reports should focus upon recording the way in which articulated business processes are (or are not) being met, rather than recording defects without reference to defined business processes. Focus upon defects without linking them directly to individual business processes reduces the utility of UAT significantly.

235. Paragraph 17 of Mr Cowan's statement notes Mr Cowan's view that he has never encountered as many defects in UAT as he did when conducting UAT for the QH integrated payroll solution.

236. I do not know whether Mr Cowan has ever been involved in a large and complex SAP payroll implementation in the past. It is usual for larger and more complex projects to involve a higher number of defects during testing.

237. I note in any case that Queensland Health did not adopt and use IBM's Requirements Traceability Matrix (**"RTM"**) for UAT. The RTM, if used, would have tracked testing against business requirements and therefore would have helped to identify where:

(a) the software solution failed to deliver on agreed Queensland Health business requirements because of a fault in the system;

(b) the software solution failed to deliver because of uncommunicated business requirements; and

(c) the software solution failed because of an incorrect test script or incorrect test script execution.

238. If there is not a clear focus upon tracing business requirements to UAT test cases, then a large number of "defects" will likely be identified. That is because test cases will be formulated without a direct connection to agreed requirements and defects. The correct approach to linking business

requirements with each stage of development and testing is shown in the V-Model as shown in the System Engineering, Architecture & Test Life Cycle (Document 28, page 394 of the supporting documentation).

239.   IBM created and used an RTM in its system and system integration testing so that it could build test cases that were traceable back to agreed baseline requirements and signed off design documents. As far as I am aware KJ Ross & Associates neither used IBM's RTM nor created its own. Hence there was no easy means by which the test scripts being used and the testing results could be validated against the agreed scope and business requirements.

240.   In these circumstances a large number of defects was inevitable and reflects the effort over time to get the UAT to align with the agreed scope. That is:

(a) a test script written without a direct link to an agreed and defined business requirement will, if followed, often result in a "defect", because the software will be expected to perform in accordance with the test script, not necessarily in accordance with an agreed business requirement (to which the software has been designed);

(b) the defect will be logged and investigated;

(c) as a result either:

(i)   the system will be changed to reflect the result which was expected by the test script (that is, some new or changed function or outcome will be added to the software);

(ii)   the test script will be changed to reflect the way in which the system was built.

241.   Paragraph 19 of Mr Cowan's statement extracts a portion of the UAT Test Completion Report dated 27 January 2010 that Mr Cowan authored. I refer in particular to Mr Cowan's extracted comment that UAT should provide "good insight into the quality of System Requirements", contained in section 2.2 on page 2 of the QHIC_UAT - Test Completion Report - KJ Ross & Associates - 27 January 2010 (Document 18, CTB Volume 13, Item 505, p 283 – 316).

242. I do not know on what basis Mr Cowan can make such a statement. It is inconsistent with the explanation which Mr Cowan earlier gives about the purpose of UAT and it is also incongruous in a situation where UAT is conducted without a means of achieving traceability from UAT test cases and test scripts back to agreed business requirements (through the use of an RTM).

243. Paragraph 20 of Mr Cowan's statement notes Mr Cowan's view that the defects identified in UAT4 showed that "there were symptoms of fundamental problems in the system which ought to have been revealed in testing at earlier stages". Without the use of an RTM there was no reliable way that Mr Cowan could have determined whether the "fundamental problems" that Mr Cowan asserts existed were system-specific or requirement-specific (that is, whether there was a defect in the execution of the system's processes, or a defect in the way the system attempted to deliver on QH business requirements).

244. Paragraph 21 of Mr Cowan's statement summarises that Mr Cowan's report identified two options for the QHIC project following the completion of UAT4. Those options were either delaying the rollout of the solution until a full System and Integration test could be conducted, or proceeding to Go Live but accepting the risk that functional scenarios not considered by UAT would not perform properly post Go Live. In my opinion, it would have been prudent for the report to provide guidance as to which QHSSP business processes were at risk of not executing correctly post Go Live. That would have assisted the QHSSP to make an informed decision on the risks of proceeding to Go Live and would have facilitated the development of risk mitigation procedures.

245. Paragraph 23 of Mr Cowan's statement is critical of IBM's response to KJ Ross & Associates UAT Completion Report (Document 19, CTB Volume 14, Item 51, p 380 – 391).

246. I consider that IBM's position was correct. The final KJ Ross report provided no meaningful analysis as to the number of defects that were system-specific versus requirement-specific against the key business processes for Queensland Health.

247. Describing the defects as "functional" defects is not of assistance, nor is the simple assignment of a severity level. That description still begs the

question of whether the test script which has resulted in the functional defect is traceable to a specified business requirement.

248.   Mr Cowan's comments in paragraph 34 appears misinformed. It is important to understand whether defects are system-specific or requirement-specific. Requirement-specific defects are more important than system-specific defects, as they have the greatest impact on the business (as they mean that the business is not receiving the functionality it requires). Mr Cowan does not distinguish between the two.

249.   Paragraph 43 of Mr Cowan's statement contains Mr Cowan's view that "it was inappropriate and inadvisable to redefine defects once they had been defined" at the daily meetings held between IBM, QHEST, CorpTech and KJ Ross & Associates. As I discuss earlier in my statement, that is appropriate as long as there is clear reasoning to the change in assessment of the impact of the defect and its severity.

Jacek Klatt's statement – and response to SAP review

250.   I have read Jacek Klatt's statement dated 27 March 2013 in its entirety.

251.   Paragraph 2 of Mr Klatt's statement refers to SAP's report entitled "SAP Project Management Review – Queensland Health" dated 14 September 2009 (Document 29, CTB Volume 10, Item 322, p 232 – 262). I have also reviewed that SAP Report.

252.   There were a number of recommendations made in section 1.1 of the report that are misleading or factually incorrect. Certain of these recommendations (in italics) and my responses to them are as follows:

253.   "***Recommendation 2*** – *Re-visit functional and technical specifications to ensure there are clear guidelines around defects and scope changes.*"

This was an area IBM sought to resolve by the use of the RTM (or similar construct), however Queensland Health and CorpTech didn't want to be bound by that defined scope.

254.   "***Recommendation 3*** – *Re-assess exit and entry points for phases and milestones and ensure all future milestones and phases have agreed exit and entry points which do not change*"

The agreement on UAT Entry and Exit criteria was being defined and approved at the time of this SAP report.

255. *"Recommendation 4 – Update the documentation on Interfaces between SAP and Workbrain as the current level of detail is insufficient"*

I disagree with that statement. The "Interfaces System Administrator Guide – Workbrain" (Document 30, pages 396 – 571 of the supporting documentation) provided a guide for the creation of detailed interface documents. I had cause to review the technical interface documentation (for example, Document 31, pages 572 – 587 of the supporting documentation)) during the first half of 2009, and it was detailed down to the individual field level.

256. *"Recommendation 5 – The knowledge transfer sessions to CorpTech (SAA and Payroll Bureau) should be backed up with fully documented support process (including Reconciliation and Error Handling between SAP and WorkBrain)"*
There was both an IBM process team and a training team producing that documentation, and had been since mid 2008. This was detailed and available.

257. *"Recommendation 7 – Build the necessary process to monitor and correct errors during the Payroll Run and generate appropriate documentation on the same"*

This was a CorpTech area of responsibility, they were already managing the existing SAP solutions and should have referenced their existing support processes.

258. *"Recommendation 8 – Ensure that leave balances (Infotype 2013) are not uploaded multiple times"*

At the time of the report, there was already interface controls in place to protect against that occurrence.

259. *"Recommendation 9 – Due to the nature of the integration between SAP and WorkBrain certain manual processes for WorkCover Claim, Terminations etc. have been introduced. Investigate and implement work arounds in the system to reduce reliance on these manual processes."*

To implement system workarounds outlined would require SAP Portal to be available, so that the workflow engine could be used. That was not available to the QHIC solution, hence the manual elements to the process.

260. *"**Recommendation 10** – Include a full pay cycle (15 days) with ad-hoc and interim runs as part of the Acceptance Test in a 'Business as Usual' Scenario using with an up to date data set including all employees. Ensure that post payroll run related manual processes (e.g. reconciliation of overpayments, correspondence on overtime etc.) are included in the Test"*

This statement indicates a misapprehension of the size of the solution and the staff that would be required to perform such an exercise. Queensland Health conducted two PCV testing cycles prior to Go-Live that addressed this point.

261. *"**Recommendation 11** – The Project has made several modifications to core SAP code which is likely to impact the solution when SAP changes the functionality in new releases. When support packs or SAP notes are loaded adjust the code based on transaction SPAU"*

This was a well-known point. I worked with Mr Klatt on the analysis of the three instance model in June 2008, and one of the issues moving forward with the program for WoG was that SAP built the major customisation for the State for concurrent employment. This is point is dealt with above in relation to SAP ECC 5 upgrade to SAP ERP 6. It was a matter for the State to choose to upgrade to ERP 6.

262. *"**Recommendation 12** – Plan and implement a parallel pay run on go live"*

Queensland Health did not have the available staff to perform a parallel pay run as proposed in the report.

263. *"**Recommendation 13** – Communicate the detailed schedule throughout the project with detailed explanations about the requirements to meet key milestones and critical project points"*

There was a detailed project schedule and part of the reporting to the directorate was the critical path as well as key project dependencies, issues and risks.

264. *"Recommendation 14 – Ensure there is enough emphasis and an allocated period for technical cutover and executive business cutover"*

Cutover was a very detailed planned event that covered a two-week business cutover period, with a technical cutover period prior with Go/No Go decision points during that process.

265. *"Recommendation 15 – Build necessary email alerts when Interface files are not available or if there has been a failure, otherwise additional manual processes will be required which will impact support costs"*

This was a CorpTech area of responsibility. At the time CorpTech did not have any complete form of system monitoring. IBM assisted CorpTech in providing input for what needed to be monitored and this was implemented by CorpTech.

266. Paragraph 13 of Mr Klatt's statement contains Mr Klatt's view of interview feedback from CorpTech staff. The concern was on error handling documentation for the integration between SAP and Workbrain. At the time CorpTech and IBM were jointly collating that documentation from product documentation, solution functional and technical design documentation.

267. Paragraph 18 of Mr Klatt's statement does not reflect the detailed planning for the S&V Testing as well as the PPV Testing that was being executed. S&V Testing was focused upon on-line user performance, and in particular the Workbrain application performance. PPV addressed the specific concern that the payroll system itself could process pays for 84,000 employees. The comment of 70,000 employees was the target from December 2008, hence I believe Mr Klatt may have been given inaccurate or out of date information.

Comments regarding statement of Michael Reid & Exhibit 93.

268. I have read Michael Reid's first statement in its entirety. I note as follows.

269. Paragraph 56 of Mr Reid's statement refers to "numerous problems/errors with the replacement payroll system identified following 'go live'". These problems/errors identified by Mr Reid (in italics) and my responses to them are as follows.

270. **"Higher duties** – *complex workarounds were required to allocate a single day of higher duties at the required increment level. A change was required to automate this process within Workbrain."*

    (a) This was a known issue prior to go-live that was being managed.

    (b) It was item 2431 in the Go-Live Solution and Defect Management Plan at row 62, leading to an agreed Change (Document 17, page 199 of the supporting documentation). Was to be deployed in PG3 drop, registered as Workaround 104.

271. **"On-call allowance** - *Directors of Nursing and Assistant Directors of Nursing were not being paid an on-call allowance due to system limitations. A change was made allowing the on-call allowance to be paid."*

    (a) This was dealt with as item number 2, on page 4 of Exhibit 99 ("Statement of Work No. 3 For Project: Minor Enhancements to QHHR – ECC System") (Document 32 of the supporting documentation) under the HRBS Agreement as a change request for which IBM was paid.

272. **"Public holidays, Not Required to Work** - *a change was required to allow Workbrain to automatically recognise when an employee was not required to work public holidays."*

    (a) This was dealt with as item number 3, on page 4 of Exhibit 99 (Document 32 of the supporting documentation) as a change request for which IBM was paid.

    (b) This was only an issue for a specific Award Free Calculation Group (QH_Award_Free_FT_76hr), as it appeared that PayRule 456518 (the payrule within Workbrain that automatically recognised that certain groups of staff did not need to work public holidays) should have been applied against this calculation group, but was not specified by Queensland Health prior to Go Live.

273. **"Public holidays, correct calculations** - *Workbrain was inconsistently determining if an employee was working on a public holiday or not. A change was required to ensure that Workbrain consistently recognised if an employee had worked a public holiday, and calculated payments accordingly."*

(a) This is a vague allegation. It appears to refer only to staff who were recalled to work on a public holiday and who worked less than 4 hours on that public holiday. The payment for less than 4 hours' work had to be manually added as QH required internal approval to be provided for that payment.

(b) The issue was that a normal operator did not have the security privileges to override the system. So the change was just a configuration change to enable overrides by operators.

274. **"SAP reporting impacts on system performance** - *when reports were run in SAP, they could impact on the speed of the system. Some reports needed to be reprogrammed so that they could be run in the background and not adversely impact the speed of the system."*

(a) All SAP reports can be executed in the background, this is standard SAP functionality. There was one reconciliation report provided by the DoH HR identified in the QHIC Solution and Defect Management Plan (Defect 2451 recorded at row 142) (Document 17, page 202 of the supporting documentation) that adversely impacted the speed of SAP when it was run. The report was altered to execute in multiple splits, which was delivered as per the agreed schedule and priority.

275. **"Recreation leave reversals** *(ie. when recreation leave is paid but not taken) – when an employee has been paid out for a period of recreation leave and there was a need to reverse the entry, the system was deleting the original entry and also entering a negative entry for the transaction. A fix was required to allow for the reversal of recreation leave to appear on the same day as the payment and not reduce the employee's leave balance twice."*

(a) Without reference to a defect number, this is vague, but it appears likely to be a minor item to fix.

276. Two further issues:

"2009/2010 Payment Summaries - *a change was required to ensure that Payment Summaries could be reproduced accurately should someone request another print out of their payment summary. Previously, if the system had recorded that an employee*

was to move to another position either at higher duties or a higher level at a future date, this was not possible."

"Retrospective **payments** - *a fix was required to ensure retrospective payments paid in the new financial year were taxed correctly. The Australian Taxation Office (ATO) requires that retrospective payments are taxed according to the applicable rate in the period in which they are earned."*

277. Both of these preceding paragraphs refer to errors in the core SAP product. The first one impacted only concurrent employees, which may not have arisen as a problem if CorpTech had moved to SAP ERP 6 as advised, rather than using their highly customised version. In any event, SAP provided fixes and these were remedied as defects 623 and 625. It was identified in the SIT & Regression Test Summary Completion Report (9 June 2010) (Document 33, pages 589 – 613 of the supporting documentation) (refer to Appendix B on page 16 (page 608 of the supporting documentation)) which was signed by Philip Hood, and was ultimately deployed as a SAP Transport on 25 June 2010 (refer to the email from Gary Tyne attaching Production Release Notification - 25 June 2010 (Document 34, pages 614 – 622 of the supporting documentation), which notes RFC's 3390 and 3391).

278. **"Workbrain schedule compliance errors** – *when publishing rosters for a single week, the "Employee View" is used within the Multi View Scheduler (MVS). This view was applying fortnightly schedule compliance rules when it should have been applying weekly rules. A change was required to ensure that compliance errors in Workbrain were no longer misleading."*

   (a) This may be a reference to item 838238, which was fixed by an emergency transport on 16 March 2010 (refer to the email from Alice Wehl to Nick Kwiatkowski and others re ES-IA008 Associated to SIMS 838238 dated 17 March 2010 which refers to the emergency transport effected the night before, and the attached Impact Assessment form that refers to a Workbrain Publishing issue (Document 35, pages 623 – 627 of the supporting documentation)). This did not impact payments.

279. *"Roster load form (RLF), Workbrain - when on-call shifts were added through the roster load form function a meal break was automatically added. This required the manual removal of the meal break later in the roster publishing process, adding extra time to the process. A change was required to ensure that a meal break was no longer automatically applied."*

    (a) The functionality to automatically add the meal break was a request from Queensland Health when the RLF was designed (See: H2R 8.2.2 Roster Load Form Reference Number: CD-B08-0027 at p20, which was accepted on 03 November 2008 (Document 36, pages 628 – 651 of the supporting documentation)). This was not a defect and had no payment impact.

280. *"Selection of roster dates in Workbrain before 8 March 2010 - the system allowed rostering staff to select dates prior to 8 March 2010. However, only where the rosters were published did an error occur. A fix was applied so that an error message appears when the processor has chosen a date prior to 8 March 2010."*

    (a) This was a minor matter that hadn't occurred during testing. As far as I am aware, it was quickly fixed to preclude misuse of the system by choosing pre go-live dates.

281. *Roster publishing errors* - when publishing rosters in Workbrain, a 'Publish Failed" error occurred when the publish action had actually been successful. This caused confusion for payroll staff and made the roster publishing time longer than necessary due to the checking required. A change was required so that an error message would only appear where there was a genuine failure to publish the roster.

    (a) This was repaired by a "hot fix" on 25 April 2010. (See: Email of Greg Greer 25 April 2010 (Document 37, pages 652 – 653 of the supporting documentation)).

    (b) This was also the issue referred to by Jane Stewart in her statement dated 9 May 2013 at [76].

282. *Leave processing in Workbrain -* Workbrain was allowing processors to enter leave twice before reporting an error. This occurred because there was a delay in the leave processing action in Workbrain. When the processor realised that the leave had not been posted, and there was no

corresponding error message, the leave was re-entered and Workbrain then produced the error notification. A fix was required so an error message was displayed at point of submission by the processor.

(a) Once certain data was added to Workbrain, there would be processing in the background. This was expected behaviour, but I believe this was ultimately changed to cater to Queensland Health's request.

Comments regarding exhibit 93

283. I have read exhibit 93 in its entirety. I note that the majority of exhibit 93 reproduces paragraph 56 of Mr Reid's statement.

284. There are however eight (8) additional "problems identified after go-live" listed in exhibit 93 that are not referenced in Mr Reid's statement.

285. Those additional alleged problems (in italics), and my comments on them, are as follows:

286. **"Annual Leave Central Scheme (ALCS) report:** *incorrect calculations were occurring for accruals of ALCS entitlements. This was not impacting employees' leave balances, but required manual adjustments for Treasury reporting. A fix was required so that reporting to Treasury was accurate. "*

(a) This was defect number 2425, addressed in the defect management plan at row 22 (Document 17, page 197 of the supporting documentation).

287. **"End of Financial Year Compliance** *– change required to ensure the signatory on payment summaries is correct; change required to remove information about non tax deductible donations from payment summaries; and changes required because several wage types that are part of gross earnings were appearing in the wrong section of payment summaries "*

(a) I had limited visibility on this, but I believe that this refers in part to Change Request RFCa3402 (Document 38, pages 654 – 657 of the supporting documentation) (refer section 1 on page 1 (page 654 of the supporting documentation)). This was a service request from CorpTech. That is to say, not a defect.

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288. ***DSS key reporting tool*** – *As the new system could not produce an accurate employee list for each work unit, Qld Health's Decision Support System (DSS) was identified as a potential information delivery tool to line managers.*

    (a) This was defect number 2477, addressed in the defect management plan at row 255 (Document 17, page 206 of the supporting documentation).

289. ***Temporary employees, system details*** *–a fix was required to ensure that details held in both SAP and Workbrain match so that accurate payments can be made. On occasions, this information was inconsistent.*

    (a) This was defect number 2550, addressed in the defect management plan at row 45 (Document 17, page 198 of the supporting documentation).

290. ***"Loan" on payslips*** – *the word "loan" was appearing on payslips, was causing confusion for staff as there had not been sufficient education regarding the new payslips. As this text was unclear, it was changed to "Overpaid Wages" to make it easier to understand.*

    (a) Though I was not directly involved, I can see this was dealt with as item number 1, on page 4 of Exhibit 99 (Document 32 of the supporting documentation) as a change request for which IBM was paid.

291. ***Ad hoc payments report*** – *this report was being manually generated by payroll staff on a daily basis. A fix was applied to enable the report to run automatically, and be emailed directly to payroll staff.*

    (a) I had no visibility on this issue specifically, however note that it would have been a minor system configuration change to add the report to be scheduled automatically.

292. ***Remserv*** – *when an employee ceased employment the process of refunding money sitting in their RemServ account was a manual process. A change was applied to automate and simplify this process. This improves the accuracy and timeliness of refunds.*

(a) This affected Visiting Medical Officers (**"VMOs"**). It was defect number 2561, addressed in the defect management plan at row 74 (Document 17, page 199 of the supporting documentation).

293. **Leave processing-** *The leave request functionality in WorkBrain needed to be updated to automatically transfer leave to the Timesheet, Roster Load Form and Multi-view scheduler in a timely manner. This was required to improve the performance of leave processing.*

    (a) This was defect number 730, addressed in the defect management plan at row 84 (Document 17, page 200 of the supporting documentation).

Comments regarding statement of Jane Stewart

294. Whilst the majority of what Jane Stewart mentions about the system in her statement is dealt with above, there are some further items I have been asked to comment on.

295. I am aware that Jane Stewart in her evidence has stated that as a result of CorpTech improvements to the Workbrain system, the pay run can now be completed within 24 hours (previously 40 hours for the first 24 months after Go Live), and that a large part of these improvements arise from system defect fixes. I consider it unlikely that these were tied to defects. For example, prior to leaving, IBM identified a number of changes for the Queensland Health SSP to process, and so were not related to system defects (Refer to Email from Mark Dymock re Pay Model Quick Wins - 13 July 2010 (Document 39, pages 658 - 660 of the supporting documentation)).

296. I am further aware that Jane Stewart in her evidence stated that a custom pay rule within WorkBrain was causing what was referred to as "leakages" in the JVM and that this issue had to do with a particular custom code which had been developed in Workbrain. I am not aware of any custom pay rule in Workbrain which caused any such problem.

297. I am aware that Jane Stewart in her evidence stated that attempts to improve the payroll system after go-live were hindered by parties' obligation under the contract to identify whether an alleged defect was a defect or a new requirement. The contract intended to deal with this problem by including Statement of Work 9 in its scope. The purpose of

Statement of Work 9 was to institute support arrangements for the interim QHIC solution (Statement of Work 8 until the interim solution was replaced). Under Statement of Work 9, IBM would provide a group to offer support to Queensland Health/CorpTech, which was funded by two Statements of Work (Statement of Work 8 as well as Statement of Work 9) and which was dedicated to achieving outcomes focused on the QHIC solution.

298. CorpTech rejected SOW9 in late 2009. By declining to advance SOW9, CorpTech elected to progress the solution to go-live without IBM support arrangements for the QHIC solution in place. Such arrangements would have obliged IBM to fix or change the system at the direction of CorpTech beyond only dealing with defect fixes.

299. At paragraph 90 of her statement Jane Stewart refers to statements said to have been made in respect of errors in either the system not sending data or no error message coming up with an integration error. I did not make that representation, and I am not aware of anyone else at IBM making that representation. IBM said defects of that nature would be unlikely, but that it was still possible. For that reason the support documentation that made up the Work Product 3.13 Batch Framework included the QHIC Op Monitoring and Error Correction Manual Part B document which included all the product processes and work instructions for the technical teams to be able to address issues like the integration data issue, once the problem had been identified and the correction required determined.

300. At paragraph 108 of her statement Jane Stewart suggests that IBM was unable to resolve certain issues with the Workbrain resources on its team. IBM was in fact supplying staff who were working with CorpTech and CITEC to assist in supporting parts of the system which were not IBM's responsibility under the contract. It was in this context that the Infor resources were retained.

Comments regarding statement of Janette Jones

301. At paragraphs 53 to 55 of her statement Janette Jones refers to the working environment with IBM. I disagree that I or other IBM staff I was aware of, were being intentionally guarded and careful about our interactions with other parties. The main area of friction was on the

question of identifying whether tasks were in or out of scope. I found my counterparts could be disinterested in the issue, could be unwilling to try to address that question, or were not familiar with the documents which defined scope. This made managing issues to do with scope difficult.

302. At paragraph 56 of her statement Janette Jones refers to knowledge transfer sessions. These sessions were documented and signed off through the Knowledge Transfer Completion Report (Document 40, pages 661 – 667 of the supporting documentation).

Comments regarding second statement of Mal Grierson

303. At paragraph 24(a) of Mr Malcolm Grierson's second statement to the Commission (dated 24 May 2013), he states that "workarounds were needed for aspects of the system that IBM had not delivered causing an increase in the Manual input load for Queensland Health payroll staff." All workarounds were managed by QH SSP and Ms Janette Jones. Any item that was in scope for IBM to deliver and required a workaround, was contained in the Defect Management Plan (Document 17, pages 187 – 210 of the supporting documentation), which was signed off by QH and CorpTech.

304. At paragraph 24(b) of Mr Malcolm Grierson's second statement, he states that "the design of the payslip was complex and confusing." IBM did not design the payslip, it was specified by CorpTech.

305. At paragraph 24(c) of Mr Malcolm Grierson's statement, he states that "data input screens were complex and confusing, causing slow input of pay cycle data." The Technical Validation Report outlined the fact that CorpTech was missing any form of Useability Standards (see Section 7.2.9, last bullet point – top of page 126 (Document 2, page 12 of supporting documentation). With no useability standard, native application screens were used. There was minimal configuration of the screen layouts and as such they were approved by CorpTech, for example, Configuration Document – H2R 8.2.2 CONF Security Group Matrix and Screen Layout (refer section 1.8 starting from page 7) (Document 41, pages 674 – 679 of the supporting documentation).
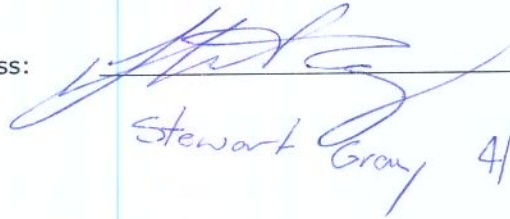
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Signed: _____

Date: _____ 4 | 6 | 2013 _____

Witness: _____

Stewart Gray   4/6/2013

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