



**TRANSCRIPT
OF PROCEEDINGS**

SPARK AND CANNON

Telephone:

Adelaide	(08) 8110 8999
Brisbane	(07) 3211 5599
Canberra	(02) 6230 0888
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Hobart	(03) 6220 3000
Melbourne	(03) 9248 5678
Perth	(08) 6210 9999
Sydney	(02) 9217 0999

THE HONOURABLE RICHARD CHESTERMAN AO RFD QC, Commissioner

MR P. FLANAGAN SC, Counsel Assisting
MR J. HORTON, Counsel Assisting
MS A. NICHOLAS, Counsel Assisting

IN THE MATTER OF THE COMMISSIONS INQUIRY ACT 1950

COMMISSIONS OF INQUIRY ORDER (No. 1) 2012

QUEENSLAND HEALTH PAYROLL SYSTEM COMMISSION OF INQUIRY

BRISBANE

..DATE 18/06/2013

Continued from 30/05/13

DAY 36

WARNING: The publication of information or details likely to lead to the identification of persons in some proceedings is a criminal offence. This is so particularly in relation to the identification of children who are involved in criminal proceedings or proceedings for their protection under the *Child Protection Act 1999*, and complaints in criminal sexual offences, but is not limited to those categories. You may wish to seek legal advice before giving others access to the details of any person named in these proceedings

THE COMMISSION COMMENCED AT 10.05 AM

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COMMISSIONER: Mr MacSporran, welcome back.

MR MACSPORRAN: Thank you, commissioner.

COMMISSIONER: Mr Horton, good morning.

MR HORTON: Yes, good morning, Mr Commissioner.

Mr Commissioner, before we turn to today's business, might I tender what I expect will be the last two statements in the proceeding of the commission. One is the statement of Mr Geoffrey Waite, W-a-i-t-e, signed 28 February 2013. And the further statement of Ms MacDonald signed on 31 May 2013.

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COMMISSIONER: Thank you. Now, there are some other statements that I've received that haven't formally been marked, so I'll make these exhibits, too. This, I think, is the up to date list. The statement of Brooke Freeman, 29 May 2013, I'll make exhibit 158. The statement of Joseph Sullivan, also dated 29 May 2013 will become exhibit 159. The statement of Ian Raymond, 29 May 2013, exhibit 160. The statement of Simon Saliba, 29 May 2013, exhibit 161. There's a further statement by Michael Walsh, 31 May 2013. That will be exhibit 162. There's a statement by Mark Robert Dymock, 4 June 2013, exhibit 163. Statement of Nicholas Kwiatkowski, 4 June 2013, exhibit 164. There's a report by Shane Parkinson, which is undated, exhibit 165. Mr Waite's statement will become exhibit 166. And Ms MacDonald's statement, her statement at least will become exhibit 167.

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MR HORTON: Thank you, Mr Commissioner.

COMMISSIONER: All right. Before you go on, Mr Horton, there's a matter I'd like to raise with Mr Webster, if I

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HORTON, MR

could. Mr Webster, good morning.

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MR WEBSTER: Good morning.

COMMISSIONER: I've received IBM's submissions in relation to the procurement part of the inquiry.

MR WEBSTER: Yes.

COMMISSIONER: It came accompanied by a letter that seems to contain a veiled threat that submissions shouldn't be put on the website. I couldn't understand that because it seems to me that section 20 of the Commissions Inquiry Act and section 27 of the Defamation Act provide complete protection for all concerned with respect to the publication. Is there some sensible reason why they shouldn't go on the website?

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MR WEBSTER: I can tell you that my instructions, commissioner, are no veiled threat was intended, but the concern that's been expressed from my client is that there's some ambiguity in the language which is used, particularly in the Defamation Act while it covers submissions made in the commission. There is a question of some ambiguity about whether it continues to apply to the republication of submissions on a website. It's only in view of that ambiguity which my client takes the position that it doesn't specifically authorise that republication. Ultimately, of course, it's a matter for the commission and for you, commissioner.

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COMMISSIONER: I would have thought the section was clear enough. I mean, the provision of submissions in written form takes the part of the oral presentation, which would occur in open court and in the presence of the public, which will be transcribed and the transcript will go on the website.

MR WEBSTER: That's right.

COMMISSIONER: So I can't see a difference. So I am concerned to the largest extent possible the proceedings be public and that what's said be available to public scrutiny. So on that basis, I will have the submissions put on the website.

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MR WEBSTER: I understand the commission's position. Thank you.

COMMISSIONER: Thank you. Yes. Now, what's happened this morning is that there was three witnesses who Mr Horton will call, but I want you to examine the first, Mr Webster, for no more than half an hour each, and Mr Horton will examine for no more than an hour each, and then, Mr MacSporran, if you wish to ask any particular questions, you'll need leave.

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MR MACSPORRAN: Thank you.

COMMISSIONER: All right. Thank you. 1

MR WEBSTER: Can I just raise in relation to that, commissioner, before we start.

COMMISSIONER: Yes.

MR WEBSTER: I intend to be very brief in chief with the witnesses but I do make the point that there may be things which arise in the course of cross-examination by Mr Horton, which we don't know what it will cover yet, which may need to be addressed briefly in re-examination. 10

COMMISSIONER: If you want to re-examine, ask me.

MR WEBSTER: Thank you, commissioner.

COMMISSIONER: Yes, Mr Horton.

MR HORTON: I call Mr Nicholas Kwiatkowski. 20

KWIATKOWSKI, NICHOLAS affirmed:

COMMISSIONER: Yes, Mr Horton.

MR HORTON: Mr Kwiatkowski, you have prepared a statement dated 4 June 2013. Is that correct?---That's correct.

I think it's become, at least for your information, exhibit 164?---Correct. 30

Are the statements you make in that statement true and correct to the best of your knowledge and belief?---Correct.

Thank you. Do you have a copy there with you?---Yes, I do.

I'd just like to take you through some aspects of it, please.

COMMISSIONER: Mr Horton, I thought - - - 40

MR HORTON: Sorry.

COMMISSIONER: Mr Webster.

MR WEBSTER: Thank you, Mr Commissioner.

Mr Kwiatkowski, have you got your statement there?---I do.

At the start of it, you deal a little with your qualifications and experience. I'd just like to ask you a little bit more about that, if I can. You have an IT degree from Queensland University of Technology?---Yes, I do. 50

In 1998, you joined IBM as a senior java developer?---That's correct.

Does that position involve basically programming for software?---Correct. Yes. 1

In the programming language java?---Yes.

Is java one of the languages which is used in the Workbrain product which form part of the Queensland Health solution? ---Yes, that is correct.

You say in paragraph 5 that you did that for approximately three years and then you moved to what's called the Architect Services Practice?---That is correct. 10

Could you just tell us a little bit about what Architect Services encompasses?---What does it mean?

Yes?---I guess very akin to the building industry, we have architects who are like the chief designers or lead solution designers. In IT, we mirror that type of construct. So my role is like an architect in terms of a building, in terms of laying out the individual - the overall plan, and then the various teams would then come in and build out that plan or we would take the products off the shelf in terms of and in case of SAP or Workbrain. 20

Is one of the things that you have to look at in the course of that role ways to get different software products to integrate with one another?---Yes. Predominantly more now in IT, we're doing less custom development and we're doing more package integrations. Integrations is our primary work that we probably do now. 30

I see. I'll come back to that in a moment. You say at paragraph 5 that you're a certified IT architect. Can you just explain what the certification means?---Yes. So back in the early 80s, or late 80s to be correct, IBM started an internal certification program. So for me to be a certified architect, I need to be practicing for five years and then go through a package process where I put a submission to a board and that gets peer reviewed. Basically, in early 2000, IBM aligned with an external industry body called (indistinct) Group, so our certification practices are aligned with that international standards body. 40

I see. Thank you for that. And you've been in the position of architect since approximately 2001. Is that right? ---That's correct.

A bit over 10 years. In that time, about how many software projects have you worked on for IBM?---Probably in the order of 30 to 40. 50

And any comparable in size in complexity to the Queensland Health?---Yes.

How many?---Probably at least two or three about the same size

and probably one that's probably larger than Queensland Health.

1

Can I ask you in your experience is it common or uncommon for scope to change to some degree during the course of a project?---I think that's part of a normal, healthy project, scope will change.

Can I ask you to think about the extent to which the scope changed during the Queensland Health project to your knowledge, how does that compare with the amount of change to scope you experienced in other projects that you've been involved in?---I think in the case of Queensland Health, the scope was constantly changing, so that was probably the worst example of actually scope change.

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From your own observations and experience, was the way in which IBM handles scope change during the Queensland Health project consistent with the way it generally handles scope and scope changes on other projects?---Yes.

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That's the examination-in-chief, Mr Commissioner.

COMMISSIONER: Sorry, I missed that last point.

MR WEBSTER: That's the examination-in-chief, Mr Commissioner.

COMMISSIONER: Thank you. Mr Horton.

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MR HORTON: Mr Kwiatkowski, you say in paragraph 1 there was periods of time in which you were assigned to other projects. What were the other projects which you were assigned in the period June 08 to after go live?---This is probably more just towards go live, where I started actually rolling off my role and the project ended pretty much in February of that, so I was no longer full-time on the actual project, so I started doing other activities.

So February 2010 is the point from which you roll off the project, is it?---Yep.

40

For how long after go live do you have any involvement in the Queensland Health payroll system?---I was involved around go live, so I came back, I guess, full-time during that go live period, and then I came back in about June 2010 around - sorry, correction, I came back in probably March/April to oversee some of the performance management of the Workbrain application and then again in June when there was a payroll stabilisation performance review, and I conducted that review, especially around the pay run process.

50

The review is done for IBM?---No, that was partly for IBM but partly actually to be part of a forum with Queensland Health/CorpTech representatives, so it was an open forum. 1

In between those times you have mentioned, after go live you were on the projects as well, were you, you would come and go?---Yes.

When were you first asked to prepare a statement on the matters which you have in Exhibit 164?---That was approximately, I think, around about March of this year. 10

When did you finalise this statement?---Probably closer to that date of 4 June.

Were you asked any time before June to finalise your statement?---No.

I'm asking you because the matters that you deal with are matters which were the subject of evidence of witnesses who gave evidence some considerable time ago, but Dr Manfield, for example, his report I want to suggest to you was served on your solicitors 30 April. Were you given Dr Manfield's report on or about 30 April and asked to comment on it?---Yes. 20

When did you provide comments back about Dr Manfield's reports to the solicitors?---I don't think I actually really made any comments on his report as it stood. 30

And Mr Cowan's statement, do you recall receiving Mr Cowan's statement at all?---Yes, I did, and I think there's comments on his statement in my statement.

When did you receive Mr Cowan's statement, do you remember? ---I can't recall a specific date, I'm sorry.

Was it shortly before 4 June or a long time before 4 June? ---It would have been at least a couple of weeks prior to that I actually would have commented on that. 40

Were you generally watching the commission on webstream or at of that kind?---Occasionally I was watching that.

And do you know of any reason why you weren't asked to finalise your statement before 6 June, until after these witnesses have given evidence?---No.

Can I just return to your statement, please? Can I take you to paragraph 18, please? You talk about Workbrain and you talk about pay rules and pay rule conditions providing a common repository of business rules?---Correct. 50

That's the sort of heart, if you like, of the application, isn't it? It's got to calculate people's pay by reference to

pay rules?---Correct.

1

On any payroll system, that at the end of the day is the source of the dollars which come out at the end?---It's part of it. What comes out of Workbrain really is, I guess, calculation of the time against it and wage types. SAP provided the actual dollar calculation adherent to the Australian Pay Rule Regulations.

I think the point is made that it's at phase 4, I think, that the data's exported into SAP - - -?---Correct.

10

- - - which then does the final bit of work?---Yeah.

It's critical then, isn't it, for the pay coming out of SAP to be accurate, that those pay rules and those pay rule conditions are accurate?---Yes.

If a pay rule is missing or inaccurate, which an employee is entitled to, the pay for that employee would be wrong? ---Correct.

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Can I take you on, please, where you deal at page 25 with integration issues? You say the difficulties that were experienced were minor?---Did you say "page 25" or - - -

COMMISSIONER: Paragraph 25.

MR HORTON: Paragraph 25, sorry. The bottom of the page? ---Yes.

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You say that the integration difficulties were minor. You u that, really, the effect of Ms Stewart's evidence is that she was dealing with these difficulties for some considerable period after go live?---Yes, and I think in the evidence that she gave, and also from my recollection of the events, there was a number of issues. The main one was actually data issues, which was actually part of Queensland SSP, to actually deal with it separate to smaller instances in terms of numbers of integration issues that the actual technical teams needed to address.

40

Well, main is your boss, it's not Ms Stewart's?---Sorry?

Main problem is your boss. You said the main problem was? ---The main problem was actually these data errors which actually were not integration errors as such, they're actually business data errors.

I'm suggesting to you that's not what - Ms Stewart didn't say it was the main problem?---Okay. I would disagree with what that statement says.

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It was Ms Stewart who was having to deal with those problems, wasn't it, because she was the one responsible for the pay, so to speak?---She was responsible for the management of the

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systems, not responsible for the pay, that was Queensland
SSP's responsibility. 1

Yes, I take your point, but still they're matters which are
within her responsibility?---Overall, she was the system owner
from a technical perspective.

And then page 6, commencing at paragraph 26, you make the
point there's a number of phases. Over the page to page 7,
you say, "It's at phase 4 that the integration happens," the 10
interface, is it, because that's when the data goes from
Workbrain over to SAP?---Yes.

But it's still important, isn't it, that each of the preceding
phases, 1, 2 and 3, are working properly so that what's
exported is accurate?---Yes, it's all part of an overall
cycle.

Yes, thank you. Then you talk at paragraph 34 and following
about integration choices?---Yes. 20

You say IBM had recommended - is this as high as you put it -
recommended that they use a messaging system rather than a CSV
system?---Correct.

And you say the state opted for the second of those two
options?---They decided not to change their architectural
design in that place, they didn't take on our recommendations
from the report that was done in the beginning of 2008. 30

Did IBM at any stage say, "Do not use the current system you
are using, CSV, separate variable"? Is that what it stands
for?---No, it didn't say "not", but I guess there was no
compelling event to say that it was incorrect for its
purposes. I mean, it's an integration pattern that's been
around for many, many years, it's probably just not as
contemporary in terms of efficient as what we're dealing with
these days.

But if it's been around for years and was the system that the 40
state was using, how can you say then as you do at
paragraph 43, "This was the responsibility of CorpTech, and
despite identification of a potentially difficulty IBM were
required to proceed with CorpTech's approach." You seem there
to be saying they chose this other option and they're
responsible, if you like, liable for what might flow from it?
---I mean, they defined the architecture. We asked and
suggested that is not a good way to go forward, but they said,
no, that's the architecture that they wanted to use, that was 50
the method of integration they wanted to select. I guess the
issues comes more as what would have been the benefits of
changing.

You said "good", but in fact you said it wasn't a good system,
in fact, it wasn't the preferable system on the evidence
you've given, was it?---Yes.

You didn't say it was a bad one, a bad option, you just said it wasn't a - - -?---It wasn't a bad one but there's implications, like any technical decision you make there's implications, and implications of using an older style of integration there's more manual effort in terms of managing that integration. 1

But nowhere does IBM say to the state, for example, "Look, if you use the CSV system there will be problems which we can't resolve, and it's a very bad idea because the system won't function properly"?---No, I never said that. 10

No, and it's not a case of that, it's just you're saying a preference for one option over the other?---Correct.

Can I take you, please, to really the next topic: Scope Change Request, which is at the bottom of page 9? You say you carried out a multi-instance review at paragraph 45. What is that just out of interest?---When I joined the program in June 2008, there was still, I guess, a debate about whether to have a single instance of SAP for all agencies or to have multiple instances of SAP for each of the, as I say, a separate instance for Education, a separate instance for Health and then a separate instance for the other remaining agencies. So I conducted, I guess, a more thorough review, there had been a number of consulting companies that had reviewed and provided their views to CorpTech prior to that. 20

Just read from your conclusion?---My conclusion was really that from a total cost perspective a single instance would have been preferable. 30

Thank you?---But it was unachievable given the government structures that CorpTech had in place at the time.

Thank you. Paragraph 49, on the same general topic, now you turn to customising the Department of Housing solution?---Yep.

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And you say - rightfully I suggest, that the Department of Housing rollout which had previously occurred was something that was foreshadowed as being of some use in the proposed interim solution and maybe ongoing implementation?---Correct.

1

That was something which - correct me if I'm wrong, IBM had mentioned in its ITO response and had included in statement of scope number 1?---From my vague recollection, that would be correct.

10

Yes. Now, you say for example at paragraph 51, just the end of the first introductory words of that paragraph, that a basic code review or quality check would have identified that it didn't confirm with best practice and there appeared to be issues. Was any basic code review or quality check done before IBM mentioned the Department of Housing solution and its ITO response or in statement of scope 1, to your knowledge?---To my knowledge, CorpTech had SAP do thorough review of the code base and they had a number of actions that they needed to address and my understanding is they had addressed most actions out of that report.

20

Yes, okay. Did IBM do a basic code review or quality check?---I'm not - I can't - I don't have any reflection or knowledge of that.

So not to your knowledge?---Not to my knowledge.

I understand. In fact, it's even more basic than a coder view, isn't it, because I want to suggest to you this; that the Department of Housing had no rostering. Is that right to your knowledge?---Correct.

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It didn't use Workbrain?---Correct.

It didn't have anywhere near the complexity that Queensland Health possessed?---In terms of their current employee set, that would be correct but I guess the question is that against functionality or against - - -

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Just speaking generally. Just saying without inquiring into code or function, Department of Housing system is likely to be a very different beast from what Queensland Health might require?---No, I wouldn't agree with that comment because payroll is payroll. We still need to conduct payroll functions and in terms of SAP core or what was the standard offer, those same payroll functions apply to Queensland Health (indistinct) Department of Housing or any other agencies.

Okay. So you think that rostering and non-rostering; no substantial difference?---From an SAP point of view, there's no substantial difference.

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Whether Workbrain is included or not, it doesn't matter?---Correct.

Whether the organization has 260 awards or a handful, it doesn't matter?--From an SAP point of view, no. SAP takes the wage types and will calculate the - - -

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No, you want to limit it to SAP. I'm talking about the system, the rollout. The use that you can make of the Department of Housing system in the Queensland Health rollout?--Yes, but I just - I'm trying to understand your point saying - you're asking about the whole solution at the time.

10

Yes?---Department of Housing was an SAP-only solution. CorpTech hadn't rolled out Workbrain. They had done initial release of it, they hadn't employed it to any agencies.

I suggest that to you. I said it didn't include Workbrain, you agree?---Yes, correct.

And Housing is nowhere near as large as Queensland Health?---No, it's not.

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So what I'm really suggesting to you is that on no even basic view could Housing have been thought by IBM reasonably to provide any utility of substance in rolling out the interim solution for Health?--No, I disagree with that.

Can I take you, please, to paragraph 53. I think you're on the same topic again, still at scope but this time you're dealing with SOW 4. This is the go-forward. Do you remember that topic?---Yes.

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As far as I understand it - correct me if I'm wrong, IBM was to prepare some more specific estimates of what it would cost to complete the rollout of the overall program?---Correct.

SOW 4 was produced and there were two presentations given; one in August 08 and one in October 08. Is that correct?---Yes. SOW 4 started at the beginning of the year. The conclusion of SOW 4 was the presentations and a number of statements of work compiled to take the program forward.

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Yes. Now, you make a point in paragraph 55 at the top of page 14, "Treasury would not release more funds for the SSSP until CorpTech could prove it could deliver on its project." IBM had originally tendered cabinet in its ITO response for an amount which was below the budget or about the budget then allocated for completion of the program?---I can't comment on that directly but I know that there was a price in the ITO.

Yes?---I don't have - I can't comment on that, sorry.

50

So in 55, we shouldn't really have been critical, should we, of Treasury announcing it wouldn't release more funds until CorpTech could prove it could deliver on its projects?---I guess I'm not making a statement against CorpTech, I'm just making a statement of fact is that that was an issue that

CorpTech was dealing with at the time.

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I'm asking you because at the time of IBM's ITO response, one would have no reason to revisit the budget made allowable for the SSSP because IBM's price that it estimated in the tender response was at or about the budget amount. Were you aware of that?---Not specific at that time, no.

And then you say ultimately CorpTech had adequate funds to move forward with the projects, including the SSSP. Again, you don't mean any criticism from that?---Not directly but it did seem to - from my perspective at the time, we kept on getting conflicting messages about how to take the program forward and they kept on asking us different ways to try to slice and dice the program so we spent quite a bit of time over that three-month period reputting back proposals to try to work within the constraints that CorpTech were trying to - - -

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When did it first occur to you that the budget which Treasury or CorpTech had to complete the SSSP was going to be far short of what was required. What stage in the project?---I don't know if I ever got that view directly. It was more that - I got the view that towards the end - actually December when we got told is that they weren't going to proceed.

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Yes. In August, though, the presentation given under the go-forward was for the amount of - I know the way you have arrived at the figure might be contestable because bits have been hived off but you have seen the figure, haven't you, about 180 million or something of that kind to complete the program?---I don't know if that's the correct figure. I was only working on specific elements of it so I can't agree or deny that point.

30

Were you working on the element of it which concerned your services of the go-forward?---No.

Because that was one area, it seemed, in which the price seems to have jumped a portion allocated to what were called additional services in the go-forward?---Yes, no. I don't have any ability to talk to those points, I'm sorry.

40

Who, do you know, did the additional services component of the go-forward pricing?---That would have been a range of people because that would have been the staff under statement of work 4 would have come up with both core and additional service items.

Yes. So it identifies some improvements that could be made to the program, wondering who identified those improvements and what they were. You can't tell?---No.

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Then you go on to discuss some RICEFs, R-I-C-E-Fs?---Correct.

Now, you seem to take the base for the RICEFs from SOW 8?---Yes. 1

Why do you want to go back to the ITO response, because that's the price given from the program as a whole?---The ITO talked about what would be an indicative RICEF account for completing Queensland Health. Then there was a statement of work 7 which did the detailed analysis which ended up being statement of work 8 which was the refined view of - actually this is the scope to actually went and deliver the outcomes at that point. 10

I see. So these RICEFs, we shouldn't take as being related to the entire program, just to the interim solution?---Correct.

Thank you. Then you go to the topic of testing at paragraph 62?---Yes.

On page 15. Now, first you mention that 65 system testing?---Correct. 20

You have seen, I think, that Mr Cowan raises the question about whether systems testing was completed adequately, using a neutral term. You have seen me say that?---Yes.

Were you provided with the documents from KJ Ross which were in March and April which were earlier considerations of the system test?---Yes, I had seen those documents.

Yes. You have seen, no doubt, that in March, KJ Ross said there were some defects, test cases not run which was a very big concern about the result of the systems test?---I saw that but I didn't see that as being major because of the report, but that was in their report in terms of their order of process. 30

You would agree that they express a concern which is serious about the results of the system testing?---I don't know if I agree to say that they were serious. I would say that they raised (indistinct) that were addressed in the subsequent report that was delivered in April. 40

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We'll get to subsequent in a minute. I'm really just asking you to recall that report. The words, you know, were that there were a number of major defects still outstanding?---I mean, in any project you'll have defects outstanding; it's how you treat and manage those defects that's probably critical and important, not the defects themselves. 1

Yes. And then you've seen the 24 April, let me know if you need to see it, but you've seen the 24 April document again, which doesn't seem to be a complete sign off, if you like, of the systems testing at that stage?---No, that's correct. I don't think that document was signed off until later, but that is more of an issue with managing with CorpTech because they just would not sign off documents. 10

Yes. And then June the scope - - -

COMMISSIONER: Sorry, I missed your last answer?---CorpTech wouldn't sign off documents in a timely manner. 20

Do you mind speaking a little bit more loudly, please, Mr Kwiatkowski - - -?---Yeah. 20

- - -I'm having trouble hearing?---Sorry about that.

Thank you.

MR HORTON: And then in June, the scope of the project is clarified in change request 184. Do you recall that?---Yes, because that whole process started in February 2009. 30

Yes. So you make the point in your statement that scope is changing, but if system testing is being done and scope is changing, then how are the changes ever tested in a functional sense?---I mean, if you looked at - what happened is that every time scope changed, be that through defect or a CR, we would go back through basic principles and re-test those changes.

Yes. But you couldn't have gone back and done full system testing after the change, you wouldn't have had time by mid 2009 because UAT is under way as well?---I mean, any time you make a change to the system, you have to go through a regimented process of testing that change, so you would go through unit testing, your system testing before delivering it to your IT, that's a fundamental process that IT projects do. 40

Yes, but it's before here which is the trouble, isn't it, because the two lots of testing are being overlaid here. You're not doing systems testing before UAT, you're doing them concurrently?---Yeah, but you have a structured phase. You do your system testing in a, you know, an isolated, consistent manner, but any time you find a defect in UAT you have to correct that and you have to re-test it, and so that's, I guess, my comment, scope was changing and scope being introduced, we would have to re-test that and go through that 50

testing cycle.

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Yes. It doesn't seem to have been, I'm suggesting to you, rigorously or adequately tested in systems testing, maybe because the scope was changing, but the fact remains it wasn't a satisfactory system test given the changes which were occurring to its scope?---Well, I don't think you can make that comment that it was not a satisfactory system test. System test tests through a defined baseline of scope and we test it to that defined baseline of scope.

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Which changed?---Which changed, yeah, but you can't then say that system testing was inadequate or deficient.

Yes. I think you're trying to fuse two things, though. I'm really just saying as an objective fact - don't worry about blame for a minute. Assume someone else is responsible for the changes for a minute. It places the system's tester in a bad position because what is being tested can't be regarded as the final system, don't take blame for a minute for that, it's - - -?---No, but I don't think it's - it's not so much an issue with system test because we have our baseline, we have tools like the RTM to actually allow and assist us to understand where scope is changing, the impact in test cases that need to be re-run, so we rely on our processes and our documentation to understand what scope has changed and what needs to be re-tested to validate that new baseline that we have.

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But you're working with an RTM which was unusual, I want to suggest to you, in that it wasn't an agreed RTM?---But it doesn't matter whether it was agreed by the client, it made sure that we could actually validate and have assurity around our system test.

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I understand, but if the RTM is missing important requirements, I'm going to come to this document in a minute, but important requirements, that is pay rules and pay conditions, like we've spoken about, then - - -?---But the RTM referred to the baseline configuration documents that they had captured those pay rules.

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Correct?---So RTM doesn't define scope; it captures what the scope documentation is for the project to work with.

Yes, exactly, so if the scope documentation is wrong, and by that I mean do everything on the scope documents but it still won't deliver a system which pays everyone accurately, then the system testing, too, is flawed?---No, I'd actually then say the requirements is flawed, not the system test.

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Yes. Requirements which you were working on at the time, which were, so far as the RTM was concerned, agreed with your customer. Were you aware of that?---Sorry?

Were you aware of the RTM not being agreed with the customer

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at that time?---Yes, I agree with this.

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Yes. Dr Manfield said he was given these documents, some of which I've taken you through, but he said that the situation with system testing is "puzzling", is the word he used?---I mean, ideally we would like to have the RTM signed off by the client because it just makes the discussion on scope and defects a lot easier because that's the use of that tool. It allows you to get to the heart of the document that contained that scope quickly because it's an index.

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What I'm suggesting to you is these audits that are done on the system by K.J. Ross of systems testing in only March and April 2009, there's a change in scope in the project in June 2009 and there's no other record, I'm suggesting to you, of K.J. Ross having done more on any subsequent systems test or further systems test. I'm suggesting to you there was none done after the scope change?---I'm not aware of any specific review that they did after that point, that's correct.

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Thank you. Now, just continuing on that part of your statement. Can I take you, please, to paragraph 98. You say Mr Mark Dymock, who's giving evidence today, was the IBM team leader in charge of testing. So did you have any involvement beyond a passing involvement in user acceptance testing?---My role in the project was, I guess, technical lead or technical liaison, so part of my role was to support all technical phases of the project and work with the CorpTech team, so my relationship with UAT was to provide and work with CorpTech in the provision on environments and also to deal with any performance defects and technical defects that came out of that process.

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Yes. So you didn't conduct any form of user acceptance testing yourself?---No.

Did you liaise then closely with Mr Cowan, then engaged by K.J. Ross on that exercise?---Correct.

Paragraph 101, "Tests done for UAT was a constant sort of difficulty, it arrived late and would be incorrect." Have you had access to - well, you probably saw at the time Mr Cowan's weekly and daily summaries he did through the courses of UAT? ---Yes.

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Have you read or saw Mr Cowan's evidence that he gave about these topics when he was in the witness box?---Yes.

So you'll recall him saying, "Yes, there were some false defects," and they were taken into account. You will have seen that's been in other documents?---I've seen where he put his view on that.

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And you'll see, I think he says, look, at some stage there was, you know, a considerable percentage of those?---I would say there was quite a large percentage of those.

We'll get to that, but he says, in any event, taking into account the figures which I'm getting of defects are the ones which remain?---My understanding is his report was for all defects. I don't recall any aggregation of those counts.

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I see. So you don't recall him ever separating out real defects from false or duplicate defects?---Correct.

Okay. And you don't recall ever seeing UAT status reports in which that was done?---Correct.

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If he has separated out false or duplicate defects, you'd want to revise the statements you're now making. Is that right? ---I would probably want to consider it, but given my understanding, and I used to look in the quality centre and the state of defects, I wouldn't see it changing very much.

After Mr Cowan had run a test script and so forth and identified issues - I'll call them issues for a minute - there was a meeting, is that right, in which IBM participated? ---Correct.

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Was that you who participated or someone else?---No.

Okay?---I'm not sure who would have participate in that. Mark Dymock would have a better view of who would participate in that.

COMMISSIONER: It wasn't you?---No.

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MR HORTON: Are generally aware, though, at those meetings that there's an assignment of the issues which have been found after a test had just been run?---Correct. 1

And that they were assigned to IBM if they were thought to be a coding issue, program issue?---Typically, they would assign it to us anyway to do the analysis of the system, to determine what the problem was.

Ultimately, there's an assignment to IBM of matters which are coding, all program problems?---That too. 10

The tendency then was to - or general practice - was to assign to QHEST, Q-H-E-S-T, those issues which were thought to go to missed requirements?---Yes, but I'd say in most cases they would normally go to us first for analysis before then being reassigned to QHEST after the fact.

IBM, as an immediate result of those meetings, had assigned to it by IBM defects which were to be resolved which went to coding?---I wouldn't quite use that language because it's a defect that needed to be investigated to understand what the cause was, and that would then lead to a number of outcomes, be it requirements, be it information, be it data and potentially, maybe, configuration code as one of the potential options. 20

Very reluctant, though, when it comes to coding, you say, "Maybe, potentially, coding." I want to suggest to you there were many, many defects which were identified, found, to be coding defects in the course of UAT?---I would not agree with that statement. 30

In fact, I want to suggest to you it's about 75 per cent which were found in the course of UAT allocated to IBM as coding problems?---I would disagree with that statement.

And about 25 per cent allocated to QHEST as requirements missed or requirement problems?---No, I would disagree with that statement. 40

You don't know in a way, though, because you weren't at the meeting, is that right, that's where this took place?---No, but if we could have the QC records, what IBM did was actually mark each of the defects that it said was actually change of scope rather than actually being a true defect of code. When we did our due diligence and did the recourse analysis, we captured those results into the defect record. In that log would be a clear record of our analysis and the actual outcome. 50

If that's right, though, that would have been made clear at the daily meetings?---I can't comment exactly what was discussed in those meetings, I wasn't party to those meetings.

You say at 109, test scripts, another issue in UAT was a lack

of detailed test scripts. Did you write the test scripts? 1
---No, I did not.

They came out of the Quality Centre, is that right?---They were stored in Quality Centre.

You don't have any direct knowledge of whether the test scripts were good or bad?---When I had defects assigned to me I look at the test scripts that were executed to understand what was the acceptance criteria they were trying to achieve from the test case. So I could see the test case and how it was structured. 10

Did you ever look at the test script for this, did you ever look at it in this light: these are the employee's pay rules, and pay which is generate, the test which was generated was wrong according to the test script. Did you ever look at it that way or did you always look back to acceptance and requirements and so forth?---I mean, I always would think from an acceptance requirements point of view, but what I did see in the test cases was the test cases were written in a fairly high level so they assumed a lot of knowledge by the tester to execute that, and I think that was one of our concerns and issues that we were raising constantly back to QHEST and Queensland Health is that they did not have detail in their test cases that matched the level of knowledge in their full set of testers that they had as part of their UAT testing. 20

Mind you, the UAT testers, they weren't agreeing people, weren't they, they had been doing this for a long time?---I can't comment directly on all of them. Some of them were quite experienced, and I guess towards the end when Janette had more of her own people there they were very experienced people. Some of them, they had very little knowledge of both the system and the business requirements they needed to validate. 30

What I'm going to ask you to do for a minute, though, is strip out business requirements for a moment. This system was one which had to pay staff. Do you agree with that?---Correct. 40

Assume for a minute the business requirements has missed some critical things which are required to know in order to pay staff properly. If a test script is run and produces a pay which is incorrect on the test in UAT, I want to suggest to you it's no comfort to know about whether that came about because a requirement was missed or not?---I think it's very important to know whether there was requirements missed or not. 50

Why is it important to know?---Because the business has built their support and change management all around that articulation of their business requirements. On top of us, we just provide technology, they've built all their business processes, documentation, training and all their change

management based on that business requirement, so it's quite important to know whether they got it wrong because then all of the rest of the processes that they need to manage that system is potentially wrong as well.

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So we know how we got to this position, missed requirement or wrong requirement?---Correct.

We know there might be other problems we have a business process sense?---Yep.

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But we still are left with a difficulty, aren't we, that employee A, unless it's fixed, is going to get the wrong pay or no pay?---I don't know how you can quite make that - sorry, let me re-phrase that. Because the requirement's wrong you actually don't know whether that actually is the system working correctly or was the way the system was tested correct. You've got ambiguity, you don't know which is right, you have to go back to base principles to define whether: is the system behaving correctly and the test case was incorrect, or the data was incorrect. You don't have any solace to say that it's an issue that's just going to affect someone's pay, because it could actually be quite correct for what it's doing.

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But if a test script or case is right, then what I say holds good?---Correct.

Or if the tester is someone who is knowledgeable and has got the script right for whatever reason, tweaked it and says, "No, I know what this employee should get," if we assume for a minute the tester has got it right then the problem I have put to you exists?---Correct, and it needs to be resolved.

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And that's a bit where I want to suggest to you, you differ from Mr Cowan. Mr Cowan says, "I run a test script, the pay is incorrect. I know the pay to be incorrect." It's no assistance as a UAT tester to be told, "Let me tell you the reason this has come about is that the requirement was missed," because at the end of the day the UAT tester says, "Yes, but employee A isn't going to still be paid," or, "Employee A is going to be paid wrongly"?---You're putting in two terms here about no pay versus pay incorrect, so I think - - -

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I'm really trying to draw up functionality problems, so the pay system doesn't work properly?---Yep, correct. But I think you still need to do that analysis to say whether is that result correct or not and understand why, and if that requirement has changed then that has to flow through all the system documentation and all the other documentation that's built around it, and it's very important to do that so that your training manuals that your business process, your FAQs, all those different elements that are based on that requirement, which is more than just the system, have to be

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aligned and correct.

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I'm asking these because earlier on in the process IBM had undertaken responsibility, for whatever reason, to fix all defects that affected pay. In a way what I'm suggesting to you is: the requirements become, by virtue of that, delivering a system which, although minimal functionality an interim, will still result in no defects in pay other than those which are worked around or by some other agreed process. I'm actually suggesting the requirements are a bit different from what you're saying by this stage, it's no defect in pays?---I think it's the same - at the core of it it's the same thing, because to define whether that's a defect you need to do the analysis. Actually, to make the system complete, the system is more than just the machine sitting in the corner executing code, it is the whole processes that are built around it and that has to be correct and aligned. So if there's a defect it needs to be determined and resolved.

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Good. So Mr Cowan is raising very many defects in his weekly reports and his daily reports in his final report, but nowhere do we see, can I suggest to you, and tell me if I'm wrong, IBM saying:

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You have this all wrong, Mr Cowan. All the test scripts you're running are false, they don't give you the right result on pay, and although you think this system may result in a system that's not going to pay people properly all the scripts are wrong. You've got it completely wrong, we just don't see that in the documentation, we see IBM accepting the assigned problems to it and dealing with them as a defect.

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---No, I disagree with that. The process of defect management - and I think my colleague Mark Dymock will talk much better to it than myself - I mean, as the system integrated we look at that issue, we do our analysis and we come up with the action, and that action would be a number of options. It's a change to baseline requirements, so not a defect, or it's data or information or end up being code. There's a number of different options it could be, but we do that due diligence is what I'm saying, and that's probably different to what you're suggesting.

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What I think in a way might be across purposes, what you're saying is a defect is something which you can only call a defect if you have a requirement?---That's in - correct. 1

What I'm putting to you is a bit different from that. Let's not call it a defect for a minute. What I am saying is Mr Cowan identifies an issue where correct pay hasn't come out of the other end. That, I'm suggesting to you, is an issue which - requirements aside, remains a defect and Dr Manfield said it, it's still a problem that has to be fixed if employee A is going to get the right pay and be paid?---Correct. It's an issue that needs to be addressed but when you use the term "defect" in IT, it's quite defined as saying that that's a defect of the system against a known baseline requirements. 10

Yes. I try to call them issues but you see my point is take an airline system, for example. If I go online and book a flight to Sydney and it doesn't, it brings up the flights for Melbourne, it would be no help that the requirement was in error in saying, "When someone plugs in Sydney, give him Melbourne." It's no solace to me as the customer, there's no solace to the customer, the company customer, that is giving me the wrong result. It doesn't function as it ought?---Yes, I can understand your point of view but you are making that comment against defects and IBM accepting defects which doesn't connect to your statement though. 20

The fact IBM does accept them as defects, I want to suggest to you on the material - now, I know that there might be difficulty but "defects" is the words that are used on the weekly, daily summaries, and "defects" are the words used by Mr Cowan?---Mm'hm. 30

Now, you refer at 117 to IBM reviewing all defects assigned to the daily basis, we have spoken about that. We have said (indistinct) at those meetings. Then 123, assessments and reports in relation to UAT, you have recently reviewed a copy of Mr Cowan's 27 January 2010 report?---Yes. 40

Now, you weren't sent that at the time?---No.

And that's because you didn't have responsibility for anything which it threw up at the time?---No. No.

So that's how we ought to view your comments now on the copy, is that right? You weren't specifically involved in the outcomes of UAT at the relevant time?---No, I had some responsibility for some of the criteria but that was more, I guess, technical, not really the outcome of the UAT testing itself. 50

Yes. Then you say paragraph 127, now focus only on defects without considering the context. That is probably the debate we have just had?---To a degree. I mean, what I would have liked to have seen would be to understand where those defects

will cluster around different functionality. That's probably which I thought was lacking in the report, is that type of breakdown of defects in terms of which were changes to business requirements versus system functionality, and which business processes were being impacted or affected by that and that would have given the state a much better view of where were the problem areas - - - 1

Yes. So you would want to see testing broken down into areas of the business?---Yes. 10

Did you ever see any of those documents in the lead up to the preparation of the 27 January 2010 report?---Sorry, which documents are you referring to?

Documents which break the defects down by reference to business areas?---I didn't see any documents that had that. I know that Brett's daily reports hadn't been put down into different groupings but they were finally high level. They didn't align to any of the business processes. 20

Yes. They have to be a bit high level, don't they, of course, the summaries is the whole idea of - - -?---But you still need to do that analysis and - sorry, I just didn't see no analysis done against the actual business process.

Sure. Did you ever ask for that analysis?---No, I was commenting on the report post.

Yes. Beforehand? I mean, your hearing or knowing of the weekly and daily reports throwing up frankly very large number of defects; I'm asking you, do you say, "Hold on, I need context. I need to know and have them broken down into areas of the business"?---That wasn't my area I was responding to. 30

I see?---I was mainly focused on integration defects and so I was only focused on those sections.

If Mr Cowan did in fact break them down into areas of the business, you would say he was attending to the right level of detail?---Again, I can't comment. I just didn't see any type of articulation to that detail. 40

Sure. And you can't comment because you weren't ordinarily the recipient of documents of this kind anyway?---Correct.

Like you weren't the recipient at the time of the January 2010 report. Now, could I take you to go live, please. You deal with that at page 29 and following?---Yes. 50

You say here an analysis was done at paragraph 137, past sentence. "Analysis done shows much the same number of people being paid under the new system as the old." You didn't do that analysis. Is that right?---That's correct.

You don't now provide us with that analysis. Is that right?---No, no. That was - I said to the whole project team. 1

Sure. So something was just delivered - it was verbal, was it? It was oral?---Yes.

Yes. And you don't know - you can't say whether that statement is true as a matter of fact other than saying the statement was made to you?---No but I'm sure he would have got that from his team which would have done that analysis. 10

Yes, thank you. Now, then you say there were difficulties post go live?---Yes.

Paragraph 139. You say that these difficulties were reported to you. What direct knowledge do you have of the difficulties post go live?---The main ones that I was responding to was the performance issues of Workbrain.

How do you have direct knowledge of them is what I am really asking. We will come to the defects in a minute?---Part of my role in the project was to be that technical liaison with the CorpTech technical team so I worked with their technology group who support the infrastructure and the application service et cetera that Workbrain execute on and I was also involved in terms of providing their project contact for the SMB testing team, so I had a good understanding of the actual infrastructure and that Workbrain was operating within. 20

Yes. Liaison sounds very much like people are reporting to you what they have discovered rather than you doing the discovery yourself of the problem?---Correct, but also then I was engaged by Mark Dymock who was the project director to oversee and to comment and direct and that was my recommendation that we get Greg Grier to get involved and put it under situation management. 30

Yes. We will come to where you say all that?---Yes.

There is a defect management plan which had been framed for go live and which was then implemented?---Correct. 40

It's fair to say, isn't it, the side of the defect management plan there were other issues which weren't on the defect management plan which the system had to confront?---Are you talking about post go live?

Yes?---Yes. I mean, that's part and parcel of any system going live, that you will have issues, systems that have been in production for years will still have issues that will come up on a daily basis. 50

Yes. Some of those problems were problems which were in the computer system itself and what I mean by that is not business processes within Queensland Health, for example?---Yes, correct.

And I think you raised the integration issue as well?---That would have been one issue.

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Yes. And the others?---The main one that comes to mind was the - it's from a system point of view, was actually Workbrain, and just the performance for it support the extra load that Queensland Health was pushing through it.

Yes, although you say it's the unexpected performance issues but that sounds to me rather like a euphemism. Do you mean problems which we didn't foresee?---They weren't foreseen, no.

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Workbrain functioned slowly, to put in complete layman's terms?---Yes, so that issue that was happening was the throughout-put or the response was slow given the volume of data they were trying to put through.

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Yes. And was one of the manifestation to that slowness or one of the symptoms consequences was that people were locked out from Workbrain and had to log back in?---Correct. 1

And that seems to have caused troubles then because you might be in the middle of completing a record, entering data, not knowing whether it had been - correct me if I'm using the wrong language - posted, lodged, and you might start again but it would be duplicated or something?---Potentially. I mean, well, whatever's been committed will be committed into the database. 10

Yes?---So the data integrity was always maintained.

Yes. But if I thought it's been committed wrongly and I try to re-commit it - - -?---It would tell you.

Yes?---And plus, I mean, these people go back in and continue where they left off. 20

Yes. Now, was it Workbrain then predominantly that resulted in IBM calling in specialists to assess the situation which you talk about in your statement?---Yes, correct.

And you've talked about Mr Grier, was it, did you say?---Yes.

What was Mr Grier's role?---We have, I guess, a process for managing these types of events. We call it a quick set or situation management. His role was to be the coordinator and to across teams and boundaries to get an application stabilised as their role was to deal with the crisis at hand to get the system back into a consistent state and then the business and then you can do your long-term planning after that point. 30

Yes. And what's his qualification or particular skill that you need him for?---Situation managers, I guess, are a special type of resource that we have, that he has that type of experience, so he understands underlying infrastructure and he knows how to work with technical teams to get outcomes, and they're very focused on understanding areas that will cause an application to be unstable outside of the application itself. So they think end to end more so than specific points. 40

Yes, but it doesn't mean that the problem is not in the application itself as opposed to, as you're saying, the ends of it, if you like?---Their role was really just to look at the whole environment because typically there's not one cause, there's normally a number of contributing factors. 50

Yes. Now, and in this case one of the contributing factors, and only one, was the problems which the application itself was then experiencing?---The application was experiencing problems, correct.

And then - so you mention at paragraph 145 you had Mr Grier in

as critical situation manager, IBM has requested Infor to come in, the vendor of Workbrain. Is that right?---That's correct. 1

You had people working remotely from Canada?---Yes.

And then you had someone come out?---Yes.

Why was that necessary? Why couldn't what needed to be done be done remotely? It's unusual, isn't it, to have someone travel from the other side of the world to assist with an application or solution which IBM itself has built but doesn't seem to have the expertise to fix?---Well, I mean, if you look at the expertise we had, we had expertise from Infor anyway on the project and that's around configuration use. What we were getting to is really we want engagement to go down to all levels of application as more of a due diligence. So we want that engagement initially. We also wanted, I guess, a separate opinion from the development team that were building with it, as in, you know, a second pair of eyes from the same vendor. Part of the reason for them to come out was also for them to look out how Queensland Health was using it. So part of their remit was actually to go on site to see how payroll hubs, et cetera, how were they actually utilising the system and were they doing it in an efficient manner or not. 10 20

Yes, but you don't call the vendor specialist out, do you, from the other side of the world to ask about whether the customer's business processes are right; you're calling them out because there's a problem with the technical application and the way it's been configured?---I think it's a bit broader than that. We're looking at both the application but also the environment the application was in, and that environment is the infrastructure that it sits upon, how Queensland Health are using it as well. 30

But you accept that one of the purposes was - - -?---Of course. We wanted to understand if the application was causing any issues that were contributing to the performance problems. 40

Yes. Now, just going on with your statement, page 33 you mentioned data migration problems?---Yes.

Over the page, business processes. Paragraph 163, "IBM had little visibility of Queensland Health's business processes." You had conducted workshops, though, hadn't you, early on? ---Early on.

Have you been involved in those?---No, I wasn't part of this. 50

Then you say at 164, "Lack of confidence from IBM and CorpTech about how the stream was progressing," but you are purporting here to speak for CorpTech, are you?---No, I'm not speaking on CorpTech's behalf but from a project point of view my understanding they shared our concerns.

Paragraph 166, you summarise issues, one of which is H, is Workbrain performance issues?---Correct. 1

You say in the first few weeks, and you've spoken about what had to be done, Ms Stewart, though, you might recall from her evidence, talked about some coding problems which she considered to exist in Workbrain, which she herself discovered at a later stage, ongoing stages. Do you recall that?---I recall that in a statement but at no time did I recall any performance in terms of memory leaks, et cetera, that was the cause of the performance issues post go live. 10

Yes. And would you be in a position anyway to know if Ms Stewart had found those problems?---I was working with the detail technical team in CorpTech working on application and hearing the reports from themselves, so it's the same group of people that reported to her, so I would have heard it from them.

But you would have seen she said when she had to fix the coding, by then she engaged, I think, and IBM had gone, with the people who were working for IBM, I think as contractors, who were knowledgeable about these things, who then went back and re-wrote the code, some of the code?---Potentially, but I guess she made a statement about memory leaks causing problems, one of the problems. 20

That was one example, yes?---And I saw no evidence of that in the logs or how the system was consuming memory at the time through that whole episode of dealing with the performance problems. 30

But you presumably weren't around when she was - by the time she had engaged those people who formally worked for IBM, you had gone because IBM had gone. Is that right?---Correct. I think that was at another time period that she's referring to.

Yes. Just let me check Mr Kwiatkowski that I've covered it. Oh, yes, paragraph 200, page 41, you say you weren't directly involved in the process of defining the workarounds and the workarounds were associated with the defect management plan. Is that right?---They were connected to it, but Queensland Health would define workarounds either for functionality that wasn't to be delivered or for a defect that wouldn't be resolved. 40

Now, paragraph 230, you then turn more specifically to Mr Cowan's statement?---Yes.

234, you agree with his description of purpose of UAT?---Yes. 50

And 236, "Don't know whether Mr Cowan has ever been involved in a large and complex SAP payroll implementation in the past." Have you?---I've been involved in other ERP systems previously, correct.

But with SAP?---Correct. Not just SAP; there's other ERP, so 1
PeopleSoft - - -

I'm asking you about SAP?---Yes.

COMMISSIONER: You have?---I have.

MR HORTON: Where was that?---Specifically, that was with one
of the mining customers. 10

237, you talk about the requirements traceability matrix,
we've been through that, and I've been through the debate with
you about requirements and the problem about ultimate
functionality, as I've called it. Just check with you,
Mr Kwiatkowski, whether I've covered these things. But then
you go on at paragraph 250, you talk about Mr Klatt's
statement, which was the SAP review?---Yes.

Who commissioned the SAP review?---I believe that was
CorpTech. 20

Yes. So to commission a review again by the applications
vendor would be indicative normally, would it, in this stage
in the project of problems?---No, I think it's behaviour that
I saw of CorpTech is they didn't want to make decisions on
their own; they would always want to seek some sort of
independent view to help form that opinion.

Yes. Well, this independent view wasn't very favourable, was
it, to the solutions integrity. It was a report done in 30
September 2009?---Correct.

If you look at the recommendations which you've set out, it
raises, at least on your face, significant problems?---If I
look at the report as it was tabled, I never got to see that
report; CorpTech didn't share that with us. If they had, we
would have commented on it and would have addressed any issues
that they would have raised out of that.

Yes, but CorpTech was communicating that they had difficulties 40
with the system?---Yeah, but, I mean, if they want us to do
something, they need to communicate with us. I did see a list
that James Brown provided that was very - it didn't match that
report. It was a very cut down list and it had probably about
three or four items.

Yes, but you might not have been the one, were you, who any
report of this kind would be provided to. Is that right?
---No, I would have. They invited us to see the results, but
then they cancelled the meeting on us and I was one of the 50
attendees.

Right. Did you ever ask to see a copy?---I asked and then I
got the email by John Gower from James Brown saying that the
report didn't have much substance and to assist these three or

four items that needed to be addressed.

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Thank you. Paragraph 294, comments regarding the statement of Jane Stewart. Paragraph 295, you talk about an email from Mark Dymock, but you're not saying you're involved in that exchange. Is that right?---Just bear with me.

End of paragraph 295. "Consider it unlikely these were tied to defects," but you don't seem to have direct knowledge of whether they were tied to defects or not?---But during that period I was actually engaged doing the payroll performance review, so I was aware of that communication. I would have CCD on that as one of the discussion items to see how we could actually try to better support Queensland Health, given the substantial larger volume they were pushing through the system.

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Yes. I've already suggested that you don't know for sure; you're just expressing your view it's unlikely. You don't have any direct knowledge or absolute knowledge of the truth of that statement?---Let me just - just bear with me one moment. No, I mean, we did that analysis and part of the work that I did was to actually understand why the system was performing the way it was at that point.

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At that point, but Ms Stewart, I think, is talking about a stage much later by the time she's effected some of these coding changes and so forth for which she had assistance from people formally employed by IBM or engaged by IBM as contractors?---Correct to that point. I'm not sure what time period she was referring to.

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Yes. Well, if she's referring to a period after that, you wouldn't have knowledge of it?---No.

Thank you. That's the evidence of Mr Kwiatkowski.

COMMISSIONER: Thank you. Mr MacSporran, have you got any questions?

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MR MACSPORRAN: Commissioner, just two very brief matters.

COMMISSIONER: Yes, I'll give you that.

MR MACSPORRAN: Para 194.

COMMISSIONER: Sorry?

MR MACSPORRAN: I was going to detail what they were.

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COMMISSIONER: No, I'll give you - - -

MR MACSPORRAN: Great, thank you.

COMMISSIONER: We're doing quite well for time, so I'll give you leave.

MR MACSPORRAN: Thank you. Mr Kwiatkowski, can I take you to paragraph 194 of your statement. You suggest there, I think, that part of the problem with Workbrain was the use by Queensland Health that was not intended, or the misuse as you put it?---Yes. 1

And you refer to the work done by Infor - - -?---Correct.

- - - to identify areas of misuse of the product?---Yes. 10

Would you agree that it's part of or was part of IBM's responsibility to instruct the client, being Queensland Health, in how to best use the system?---That was an area, I think, that we would have liked to have had more coverage of, but that was an area that Queensland Health and QHEST owned and we had no direct involvement in.

Was direct involvement sought and refused or just not pursued?---My understanding was it was never part of our scope. They weren't going to give us that scope of work. We probably would have liked it. 20

Did that include not providing - that is IBM not providing any manuals or documentation as to how the system should be optimally used?---We've provided work constructions and those kind of materials, and the type of trainer to articulate our elements of the solution.

Did that documentation cover the use of Workbrain in the areas we're talking about in para 194, for instance?---No. So they were not using it based on the materials we provided or in the materials they had developed themselves. 30

So did materials you provided, though, outline the best use of Workbrain as subsequently found by Infor in this summary here?---My understanding, those were areas that were outside of our remit or additional to what we had actually - - -

So those topics weren't covered with Queensland Health?---No. 40

They were left to their own devices to best use Workbrain rather than being told by IBM how best to use it?---I don't think that's probably quite the way I would infer it. I think we would have, if requested, we would have provided that information and we weren't - I know I wasn't involved in terms of the team providing that documentation but they were more than willing and open to provide that information as were Infor.

All right. Just very quickly, then, can you go to - I think it's attachment 25 you refer to in the para 194, just to see what Infor's recommended top 5 are. Do you have that with you?---I don't have that with me. Is that here? 50

That's it?---Correct.

If you just go to the recommendation number 1. I think it's the second page in there. The recommendation is: use the timesheet for all rostered edits, ABAC adjustments after the roster had been published in MBS. That's the recommendation by Infor?---Correct.

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We see what's set out as why it should be done that way and how, and the first dot point under the how heading is the functionality already exists, it just needs to be opened up to all SSP security groups and so forth, and it's recommended that Workbrain experts liaise with QH, Queensland Health, to ensure best practices are communicated to users. That's a fairly basic step that I'm suggesting to you should have been taken at the outset to instruct Queensland Health in a way to optimise the use of this program?---But I guess what you also need to put in context is that CorpTech and Queensland Health have spent a number of years prior working out how they're defined and how they would have been used, so we inherited a fairly well established design in terms of how they were planning to operate the solution, and we were working within those parameters.

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So IBM was aware of the way Queensland Health intended to use Workbrain?---Correct.

And presumably, given these recommendations, was aware that it wasn't the optimal way to use it?---I think the way they articulated their business process and how they were planning to use it was different to what was articulated here, so they weren't expecting as large of volume of adjustments being put through that process compared to how they were executing it past go live. So their business process had fundamentally changed to how the system was originally designed or envisaged.

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Right. Recommendation number 2 there. Do you see that? "Increase our usage"?---Yes.

Is that a tweaking of the method of operation or is it a change in the system itself? How would you describe what's set out in recommendation number 2?---Yeah, so my understanding is that the RLF came out of a requirement from Prince Charles Hospital where they were doing bulk updates, and that was a very efficient way of actually putting in large sets of rosters, so it's more trying to say: well, you're using that process in one hospital, use it in other areas and derive the same business benefits.

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All right. Number 3, recalculation range?---Yes.

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12 months to a more sustainable level, three months or less. That is a way of speeding up the use of the system?---Correct.

Again, that was something that could have been dealt with at the start?---We raised that numerous times with Queensland Health saying that it was a performance

consideration they would need to make, that having such a long forecast in terms of calculation put a lot of performance implications on the system and that a shorter timeframe would be more reasonable. So we had numerous discussions all through July 2009 trying to get a more reasonable setting on that. 1

Were those issues documented, those discussions?---There would be email exchanges, I know, on that topic. 10

Number 4, revised security model, to significantly reduce the organisational scope of the average user?---Yes.

That was in the same category, was it, to try and speed up the operation of the system?---The way that Queensland Health wanted it initially configured was they wanted to be able to see all different groups and that meant that for an individual's view a lot more data would need to be put in to that, so rather than having that situation configure it so that only the set of data they need to see in terms of employee sets should be loaded. 20

Then finally can I take you to paragraph 203. You talk there about the difficulties in running the full parallel run with LATTICE and SAP, and Workbrain. Do you see that?---Bear with me. Yes. 30

In the last sentence of that paragraph, you speak about the - because of the volumes of data that needed to be entered into the system to run both systems in parallel, you would need to double the staff involved?---Correct. 1

It was a huge task, was it not?---It would have been a huge task, correct.

So if we assume for a moment that there was something like 650 employees in Queensland Health working on the Workbrain SAP payroll, to run a back up LATTICE payroll at the same time, you would need something like 1300 staff members, an estimate?---Correct, yes. And in there, there was probably core of 150 people who were quite specialized in terms of that was their swap team. That would have been a very hard group of people to try and duplicate in such a fashion. 10

So the reality is that it was essentially not only not practical but probably impossible to run a parallel LATTICE payroll at the same time as you were running the new run?---Correct. 20

Thank you.

THE COMMISSIONER: Yes. Mr Webster.

MR WEBSTER: I did have a few questions in re-examination, Mr Commissioner. Thank you.

Mr Kwiatkowski, you were asked first of all by Mr Horton about the time you gave your statement?---Correct. 30

I will just clarify a couple of things with you about that. Is it the case that you were provided with a series of statements and transcript excerpts for evidence given in the commission over a period of time?---Yes, correct.

Is it true that you found it quite time consuming to go through all those things in detail and provide feedback? ---Yes. I have my day job to do. 40

You're working full-time down in Canberra?---Yes.

Isn't it the case that you provided your last set of comments for the statement shortly before you signed the file version on the 4th?---That would be correct.

Thank you. Can I ask you now about the second topic about the use of the Department of Housing baseline in scoping and developing the Queensland Health solution. Do you recall some questions about that?---Yes, I did. 50

I think it was suggested to you something along the lines that it was wrong or imprudent for IBM to rely on all bases design of Queensland Health or its scope in Queensland Health on the Department of Housing baseline. I think you disagreed with

that suggestion. Do you recall something about that?---I did. 1

I would like to ask you to explain the reason that you disagree with that?---I guess I look at it from the point of the view as technology, is that the state had invested a large amount of money in terms of delivering that functionality and they developed a large set of functional requirements out of that baseline solution so that was their standard offer to rollout to all the actual agencies at that time and you leverage that, there was time and effort and that was the whole premise to the LATTICE replacement is to leverage that solution and that work that had been done previously. 10

I think you were asked whether a code review had been done before that proposition was put forward by IBM. You weren't involved in the ITO process?---No, I was not.

So you don't know whether it was done?---I don't know whether IBM did any inspection of it. 20

You also don't know whether IBM would have been permitted, if asked, to have done such an inspection?---Correct.

Thank you. That's all on that topic. Can I ask you then about testing. You were first asked a few questions about system testing?---Yes.

And you were asked something like this; that IBM did a full system integration test and produced a report in April 2009?---Yes. 30

But there were changes after that?---Yes.

And we don't see another audited system test and system integration of set report after the April report. Do you remember that topic?---Yes.

My question is this: how were changes to the system dealt with in terms of testing after April 2009?---I probably wouldn't talk to the topic as well as probably my colleague, Mark Dymock, would - - - 40

Just tell us what you can recall?---But any form of change goes through a process of due diligence where the documentation needs to be updated and we would use the RTM to actually capture that, to understand what are the facts that need to be addressed by that change, be it scoping documents, configuration documents, technical or functional specs and code. 50

Can I ask you to look at paragraph 64 of your statement? ---Yes.

I'm about to clarify it in this way: if there were a change to the code in this system after the system testing report is produced in April 2009 - - -?---Yes.

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- - - does paragraph 64 describe the process that that code would have gone through before it was delivered into user acceptance testing or production?---Absolutely. So the process in terms of the fundamental development cycle doesn't change whether we have a formal system test cycle or we're support UAT. We retest each of those higher environments to validate that change is correct and good. 1

So changes to the software go through a series of tests including the sorts of tests which are done in system testing and system integration testing?---Absolutely. 10

But it's just the case that you don't do a full system integration testing of the entire software again in October or November 2009?---No, but you end up doing a little bit more in terms of regression tests. You want to make sure that that change doesn't regress any other functionality and probably the important part of it is ensuring that as well as making sure you do a change that your regression test - that other elements of the solution to ensure that you're not impacting or causing problem. 20

Was that sort of regression testing done to your knowledge?---Yes.

Okay, thank you. In the second part of 2009?---Yes.

Thank you. You were then asked about UAT and one of the topics that were discussed was the aggregation or disaggregation of the reporting of defects. I want to ask you two things about that: the first one was in relation to data errors. You, I think, said in your statement that there was significant data-related issues which directly caused defects. Is that right?---Yes. 30

During UAT?---Correct.

Did you have any direct involvement in looking at data issues during UAT?---In November 2009, UAT basically ground to a halt because of data inconsistencies and request basically sought the assistance of IBM and our data migration team to resolve those data issues within the environment. 40

Did you directly liaise with anybody in relation to that?---Yes. So for the November 2009 one, I took ownership and managed that from an overall process and - - -

Thank you. Can I show you volume 13 page 305. This is Mr Cowan's UAT final completion report?---So what page number was that? 50

305 is the page I want to take you to. It begins on page 283. I think it was put to you that if Mr Cowan had disaggregated defects so as to show false defects, then that would address part of your concern about the way defects were reported. The question I want to ask you is can you look at the table for me

on page 305 of volume 13?---Yes.

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Can you look down the left-hand column at the labels which are given to those rows?---Yes.

You will note close duplicate close no defect?---Yes.

Close with workaround. Does that table there disaggregate defects that relate to data quality issues as far as you can see?---No.

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Thank you. One other question on data disaggregation and for that I need to take you to volume 11 page 79. This is a document which starts on page 75, it's an email. 77 is the beginning of what I will ask you to assume is a daily defect status report from Mr Cowan and can I ask you to turn to page 79?---Yes.

Did you see any examples of these reports during 2009?---I do remember seeing - - -

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Okay. Can I ask you to look at the bar graph which appears at the top of page 79?---Yes.

Which is titled Opened Defect Severities at End of Day - By Business Function and look at the labels that are on the X axis, I think, of that table?---Mm'hm.

Is that the sort of data disaggregation reporting by business level which you had in mind, or did you have in mind something more specific?---That would have been a start and that would have been what I would have liked to have wanted to see in that final report. I probably would have liked to have a bit more detail breakdown in terms of the cause and reason from that in terms of what was the attributes behind those defects and potentially breaking down into some of the business processes, so maybe some of the areas probably breaking it down probably in further detail.

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Okay. And there was some discussion I think you had with Mr Horton about whether it's valuable in reporting defects to articulate whether it's a defect because of a missed requirement or a defect because of a problem with coding or something else. Can you just explain to the Commissioner in your own words how you see that decision as being important to the decision of how to move on from UAT to go live and that sort of thing, how is that categorisation of data important? ---A technical solution or system really is just part of an overall process, so the payroll system is really made up of software plus people and processes, and if there's an issue with the defect which is actually a requirement it goes to the heart of what is that process. How can I put it? The IT system is just an enabler for that business process and for that function to happen. 30, 40, 50 years ago we did these things without IT systems, so it's the process that's actually at the end that drives the IT system to respond and that's why understanding the business function and those requirements is quite important to know that all the other elements in terms of training, change management, understanding both staff and employees, that there's consistency, everybody knows exactly what's going to happen and everybody understands their place in it so the whole system as a whole works cohesively together.

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Have you been involved in programs in the past where issues to do with the distinction between business process defects and coding defects have been articulated and reported?---Yes, I mean that's common in all projects, is that you need to have that understanding and distinction.

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That's the re-examination, Mr Commissioner.

COMMISSIONER: Mr Kwiatkowski, I hope I'm pronouncing that correct, I understand what you say about the need to differentiate between defects and software and areas in processes. I understand, now, why Mr Cowan's report has become a focus of attention. At the time, wasn't the role of the UAT to determine whether the system - you've put in operation - would pay people accurately?---Yeah, that's what it should do, it should perform that acceptance of the solution.

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From the UAT tester's point of view, if the combination of software and processes weren't going to pay people accurately he should report that, shouldn't he?---Absolutely.

In a sense, it was of secondary importance to decide whether, or to know whether, the problem is with the software or the processes? Important to the software design, obviously, and important to the customer?---Yeah.

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In terms of deciding whether the payroll should go ahead or not, it didn't really matter, did it?---I think it does because certain parts of the system are probably more critical than others.

No doubt, and you'd want to fix?---Well, you want to know what to fix but you also want to know from a business which areas I'm going to have risk around, so what's my business risk for going forward and what areas do I need to focus and put mitigations in place to ensure that I've contained and managed that risk. Either I've avoided it or I've got capacity in my organisation to deal with that risk. 1

I understand that, thank you. Anything arising out of those questions? 10

MR HORTON: No, Mr Commissioner.

COMMISSIONER: Thank you for your assistance, you are free to go?---Thank you.

(THE WITNESS WITHDREW)

MR HORTON: Mr Commissioner, I call Mr Shane Parkinson. 20

PARKINSON, SHANE sworn:

MR HORTON: Mr Parkinson, you prepared a report which has become, I think, Exhibit 165 in the commission, is that correct?---That's correct.

It's undated. Do you know what date it was that you finalised your report?---I would need to check the time that I sent it. What are we now? June? It would have been about two weeks ago. 30

The opinions you expressed in that report opinions you honestly hold?---Yes.

Thank you.

COMMISSIONER: Mr Webster?

MR WEBSTER: Mr Commissioner, my learned friend Mr Pintos Lopez will take this witness. He's retained by IBM. 40

COMMISSIONER: I'm sorry, I didn't get the name.

MR WEBSTER: Mr Pintos Lopez.

COMMISSIONER: Yes.

MR LOPEZ: Thank you, Commissioner. Mr Parkinson, I'd like to ask you a few questions about your experience and qualifications, if I may, please. Could you please explain to the commission what your current role for News Limited involves?---So I've been working as a consultant in testing for a large number of years, hence the grey hair. I frequently get asked to come into companies to help solve problems with some of their projects around their delivery with projects that are getting into trouble around software 50

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testing. My role with News was to come in for the paid content program, for any of you that are aware of the payment for paid content now on newspapers. I was asked to come in and assist with the performance testing of that application, it was part of a two year program and it was struggling to get the performance testing completed in the time frames it looked at, so I was asked to get that back on track and we focused the delivery of that to meet the deadlines that the business wanted to see as well as actually re-frame the risks that they were accepting and/or wanting to define to be mitigated so that we actually were all on the same page in terms of delivery of that piece of testing.

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What's your title with News Limited?---Subsequent to the delivery of that, I was asked to take over the head of testing for the digital side of digital media, as it was. We've restructured obviously since then so I now head up testing for pretty much most of News, and I have a cursory role across other lines of the business as well for delivery of software testing in other projects.

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It's correct to say, isn't it, that during your career you've spent about 15 years working in various roles in test management?---Yeah, my career's prominently been focused on that, it started back in Defence where I was working with the F18 when it was first introduced, so that's quite a few years now for most of you, but I was actually involved in the testing of the mission computers on that software system as well of the software changes related to that system, and the navigation systems. I was responsible for both the execution and the review of the software and the reviews of the pilots in terms of making that stuff, and I subsequently then worked with Defence and have changed through my career through Defence into finance, superannuation and a number of different other areas of industry. I'm predominantly, now, moving into consulting, which I've been in pretty much the last 10 odd years.

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Could you just please explain briefly to the commission your qualifications in relation to the testing of IT systems, your formal qualifications?---Testing over the last few years has never really had a formal qualification that people would generally hold up to say that we were formally qualified. Here in about 2000, between 1995 and 2000, the British Computing Society had a qualification system in place which was being adopted by the European people for a certification scheme. That was introduced in Australia in about 1996, and I qualified for a practitioner level certification with VCS in 2001. Subsequent to that, that certification has gone global, it is now called the International Software Testing Qualification Board, where a number of different certifications have been collated to provide a global certification of software testing around the globe, and I was involved in basically training up testers to pass that certification and sit those exams, covering test management, test strategy, technical testing and foundation

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level for the basics of software testing.

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Thank you, that's the examination-in-chief.

COMMISSIONER: Yes, thank you. Mr Horton?

MR HORTON: Mr Parkinson, you've got a copy of your report there, I take it?---Yeah.

I think you finalised your report about two weeks ago, is that right?---Correct.

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You were instructed, it seems, on the letter which is attached to it on 17 May, is that correct?---Yes.

Was that the time when you were first approached to provide an expert report?---Yes.

You weren't approached by IBM solicitors at any time prior to that?---No.

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Then you asked a clarification question, I think, and you get a letter back on 21 May which you've annexed to your report, is that correct?---That's correct.

Then you say you finalised it two weeks later. Were you at all watching the evidence given on webstreaming in that proceeding?---No, I was aware that the evidence was available online obviously being in software testing and being in education, it's obviously of immense interest from an educational point of view, but I actually abstained from reading any of the information when I actually was aware that it was occurring just for the fact that I wanted to stay as impartial as possible.

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Sure. That was presumably after you're retained, was it, but not beforehand?--Not beforehand. I was aware of the project but I hadn't actually gone in to look at it, no.

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Yes, before 17 May. Sure. And are you aware of any reason why you weren't instructed in this matter until 17 May?---No, not aware of any other reason.

The reason I ask is that the people, Mr Cowan, for instance, gave evidence some considerable time ago, as did Dr Manfield, who I think you've seen?---Yes, correct.

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Now, I don't want to know what was said, but in the 17 May letter you're invited to confer with, as were your solicitors, to discuss any of the matters raised above - sorry, to contact us for discussing the matters raised above. Did you do that? I don't want to know what was said?---I contacted them when I got the letter retainer with the questions that were involved in the report. That was the contact then in terms of writing that report and I wrote that report and then I actually provided it for review from the point of the view of the fact that I'm used to writing reports for technical people, not necessarily for the legal, and so I wanted to make sure that it was actually understandable for the audience that it was intended to be sent to.

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When did you provide that draft?---That would have been about a week and a half after the first set of questions came through.

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Thank you. So about 24 May?---Yeah, towards the end of the month.

When was it you finalised your report?---It would have been the first week of June.

Thank you. Now, can I take you to the material that you list under "Documents Provided", you refer to Mr Cowan's report, which I believe is the 27 January report?---Yep.

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You say you had Mr Cowan's statement, but did you have the transcript of his evidence? Did you read that?---Yes, I did have the transcript and I did read through that evidence.

Right. It's just I don't think you - oh, yes, you do mention there at number 5, report of Dr Manfield and his transcripts. Now, were you provided with any of Mr Cowan's reports before 27 January 2010?---No. I've seen none of this material until that point.

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Sure. Did you ever provide him with documents which were called daily or weekly summaries from UAT status?---No.

Okay. And are you familiar that in UAT testing with projects of this kind, you normally have documents of that kind?---You would normally have reports that were provided to relevant

stakeholders. The period or periodical time between those reports will depend on the state the project is in, so obviously the closer it gets to red or is red you will get more frequent reports.

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Yes. And did you think it necessary that you should have access to those reports also for a more comprehensive understanding of the UAT process in this case?---In terms of the evidence that was examined with and the questions that were posed to me, they were posed to me from a theory perspective in terms of how you would approach testing around some of those issues those questions presented, and so I answered those questions based on that presentation of those questions. I also then, in the conclusions of my report, went back and cross-referenced some of the information that I had actually read through in the evidence stated there to tie it back to the questions that I actually answered.

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Okay. But you wouldn't say that the questions you've been asked to address are in any way a comprehensive review of the UAT testing in this particular case?---No, but I was not requested to audit the UAT as well.

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I understand. And it's the case, isn't it, that you not being the tester, one would prefer the explanations given by the tester himself of what he undertook in the adequacy of the testing. Is that correct?---Can you reframe that question?

Yes, so given your level of - the level of information you were given and the detail to which you were exposed, I'm suggesting to you one would prefer the explanations given by the tester himself in this case - - -?---Yes.

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- - - as he was more fully immersed in those details?---Yeah. I would use them as the basis for a description in terms of what he was actually doing at the time based on those reports. Those reports to me are actually the legal documents that state that we've reached a certain sign-off period. Those reports form the basis from which people make decisions on, so they were the same documents that we relied on to make any assessment. If I was doing a review of this from the point of view of being engaged, which is what I often am going to do or requested to do, there is a lot more evidence that I would request besides those reports.

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And what sort of evidence would you request if you were doing that sort of exercise?---There's a couple of things that would certainly stand out to me. Certainly would be the weekly and daily reports. I would also like to see the traceability between those requirements and what was tested, how they related to the requirements that were transferred to the vendor or the solution provider and how they related in terms of coverage so that I had a complete understanding of this project from what I understand and read is following the V model, and that V model would detect from the top of the V to the bottom of the V that all of those requirements are

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interlinked and traceable back all the way from the bottom to the top and the top to the bottom. And they were the sort of things that I was looking at to see, basically in an audit review, whether they were following the process and whether they were diligent in following that process. 1

Sure. What would it tell you, though, in the context of UAT to be able to trace the requirements back? What's the purpose which you would undertake that task?---There's two reasons that we primarily do it and it becomes more important the bigger the project is and the larger the risk profile is. So the case in point, when we worked in defence, if you didn't have a risk matrix which was traceable back to all of those things, you wouldn't get sign off from all of the various parties that required it. Obviously the risk profile for an aircraft is a lot different to the risk profile for a business system. That traceability matrix gives you the view of how much of the core processes we need to cover are actually being covered, so we call that a coverage matrix. Testers should, by definition, prioritise those test cases against those processes such that if they get swamped for time they've actually covered off the most important things first. 10 20

Yes?---The other key aspect with a large project like this, which is where they become super critical, is when change occurs, and that change is then traced in terms of you being able to determine what to look at by going through the traceability matrix, and it's an impact assessment then. If that's not there, you become very reliant on asking lots of people, doing workshops or other alternative mechanisms which aren't always as, I suppose, as efficient as having a traceability matrix. 30

COMMISSIONER: I'm not sure I quite follow all of that. Are you saying that if a change is made to scope, that should be reflected in the RTM?---The RTM will tell you what that change they've submitted is impacting and as a consequence of that change being accepted, yes, the RTM needs to be maintained to reflect that it's now actually got a new set of requirements, a new variation to the requirements or even additional requirements, and that needs to be constantly updated to reflect that because you're moving forward in a project. If you don't, your data becomes old and therefore when you start doing your impact analysis, you're actually working with old information, so it's important that then is actually kept up to date. In large projects, you usually use tools to do that because it's very difficult to maintain it manually. I believe you have a quality centre. Okay? Quality centre as a tool enables you to do that. I would have expected that to be used for that purpose. 40 50

MR HORTON: Yes. Now, you spoken then of requirements in those sense, but what does the RTM add in terms of functionality? Let me know if you need me to explain what I mean by that?---I do because they're sort of two slightly different topics, so can you please clarify what you mean by

functionality versus - - -

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Yes. So in the context of a payroll system, one says - leave aside for a moment how we've defined requirements?---Yep.

The ultimate test at go live is: are the staff paid and are the staff paid according to the relevant awards. Accept that?---Yep.

That might be something entirely different from the requirements. Shouldn't be, but it may be. Is that correct? ---It definitely should not be. If it is, you've already got a problem.

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Yes. The reason I'm asking you is this: that if the UAT tester is running scripts which show that staff, particular nominal staff are not being paid or not being paid correctly, then it tells you there is a problem with functionality. Correct?---Possibly, but I would ask a few more questions around that before I would say that's a definite yes, but go on.

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Assume this was right. Assume this rightly defines the employee in their entitlements and has got the result right in the script, the system produces a different answer?---Right.

On those assumptions, you have a functionality problem? ---Based on what you just described then?

Yes?---Yes, that would be a functionality - - -

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Yes?---I'm going to actually point out that there's two possible reasons that you could have a functionality issue. So what we've got is cause and effect. Okay? So cause and effect is the equivalent of a requirement, but that's not right, which then therefore causes the effect. So what we tend to do in testing, which unfortunately is a symptom of where testing sort of finds itself, everything is lumped into a bag called "functional", okay, and the reason why it's functional is because when you look at the defect and how it presents to the tester in terms of what you're doing, especially if it's somebody who's a business SME, all they see is the functionality that they expected to see work doesn't work. To them, it's a functional issue. Okay? There's a thing called root cause analysis. Okay? And the one thing that needs to be done in these projects because requirements you can read through any number of papers, there's references in my report that constantly say the requirements are often the largest contributor to the cause of defects in any system. If you don't do the root cause analysis of that defect and you're just lumped with units functional, what you've actually missed is the opportunity to go back and say, "Why did we have an outcome that wasn't what we expected."

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Yes?---Now, that outcome is a functional defect that is caused by a coding issue. The question can be then answered in two ways: the developer had a mistake in his code and an error which is the definition of a defect, or the requirement in which he was encoding as code was actually incorrectly expressed. 1

So what you assume here for a minute which I expect is from Mr Cowan's evidence that there were - it has already been his evidence, there were meetings which occurred, daily meetings between IBM and the customer, that at those meetings, defects were assigned by agreement and the ones which concerned coding, we spoke about that, they went to IBM and defects which were about requirements went to QHEST, the customer. Does that sound like an ordinary process?---It does as long as what you are doing with the re-assigning of the defect to the customer is to go back and review the requirement to further correct it to then provide it back down the train - - - 10

I just want the assignment for the minute?---Sorry? 20

Just about the assignment for a minute. That assignment process, is that a usual process?---It was a business requirement, yes, it goes back to the business.

Good. Now, in this case, I want you to assume for a moment that 75 per cent of the defects which were identified were allocated to IBM on the basis of being a coding defect?---Okay, I can assume that. 30

Now, in that sense, one has a functional problem on any view. Is that correct? If there are a large number of defects being thrown up as coding defects in UAT?---No. If you constrain the assumption to say it's just that assumption - okay, and you haven't actually gone to explore the reason for that assumption, okay, you're actually - you're incorrectly attributing a cause which is not correct.

Okay. We will make one more assumption then. IBM says, "Thank you, we accept the assignment of that defect and it is for us to deal with it, to close it. It's an open IBM defect." Does your conclusion still hold?---In that instance, that conclusion would say that they have accepted responsibility that is a coding defect and in that case, it needs to be fixed by the person doing the - - - 40

You said you haven't seen the daily weekly reports but they allocate between the customer and IBM those which are open IBM and those which are open CorpTech on a running basis over the course of the project, so one would say, wouldn't they, if we see large numbers of open defects by the customer or the contractor, assuming the meeting processes worked and the allocation process worked, in UAT, "We have a problem"?---Yes. I will agree with the statement. You have a problem. 50

And I want to suggest to you that a UAT process which threw up

2422 defects - now, I accept some of them closed, some of them are dealt with workarounds, some of them are false defects but just looking at 2422 defects, there is a major problem with the system which is being tested?--In short, the answer to that would be yes but I would actually challenge you to rethink the definition of that. 2422-something defects in UAT and having four phases of UAT, in my mind is repeating the old wheel and hoping for a different outcome. The first thing I would have done which is what I do when I have to go in and do stuff on projects that are going behind schedule and all the rest of it is the first thing I do is do a defect analysis on all of the defects to find out what their root causes are because what I want to do is find out where the problem is. There was a note in the conclusions to the UAT report that was produced and the top two items in that was one was there was a large number of requirements changed, so section A to that report, there was five conclusions, four conclusions drawn in a table. The right-hand side of the top column of the first one said if the requirements were further - better defined, there wouldn't have been as many problems, something to do with those words but they were acknowledging that in that particular case with UAT that they had large number of requirements problems.

Yes?---That to me says that you have already started to challenge what was the root cause of two thousand four hundred and something odd defects which, by the way, if you look at that table just taking duplicates wrong, unable to be repeated during that matrix was 21 per cent of the total, so I did some calculations on that as well because it's a rather interesting matrix. The second point that they actually raise in that report was that a large amount of problems that they experienced were related to test data which was the second item in that table on the conclusions. Taking on face value the information that I was provided with, those reports and not having any further detail of any classification that were done to any other level on those defects, I would be asking a large number of questions as to what was the root cause behind all those defects and what was the defect leakage rate which is a metric that you use to analyse where the defects should have been found.

I understand you're asking questions but it might be questions that are answered, mightn't they, tests that haven't gone through?---I'm saying that I can't comment any further on those, they are questions that come out for me in report.

But it's unhelpful, isn't it, to offer a view on the base of saying, "There may be documents that testers brought into existence which would explain this but I haven't got them"?---I would agree with that.

Now, I want you to think about the requirements in a different way for a minute. If this is a payroll system and the tests or some of them - more than a negligible portion are saying, "Look, when we run the script, results in a pay which is

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wrong," it really is no satisfaction to anyone at that point to know how we got to this position. I mean, it might be in due course but one is confronted with a problem immediately that if this system were to go live, someone is going to get a wrong pay?---Based on that assumption, yes.

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So when Mr Cowan says in his report, "Look, I'm getting lots of problems." Just let's call them problems for a minute. "I'm getting lots of problems. More than I can just explain by the 21 per cent of data wrong, scripts not right, someone mucking it up. I'm left with an awful lot of problems, which show that there is a real risk more than a few people are going to get wrong pay or no pay," that is precisely what a UAT tester should be saying, isn't it?---The UAT test is to take the business processes that should have been driving the system through V model and to verify that those processes that were based on the systems specifications were actually being implemented correctly as per the business process requirement, so if those processes were what was driving the system specifications and subsequently the code, then the acceptance criteria would be that those tests should run successfully.

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Yes. If the acceptance criteria is there will be no defect in a pay or there will be no more than trivial defects in more than a trivial number of pays that can't be worked around, then that too is a problem, is that right, and something that UAT ought to pick up?---I would have hoped that those types of problems would have actually been found in systems testing because it says to me that if that problem that you're just describing was actually found, then there's a potential that it has leaked into a high level phase. As a practitioner, the questions that that would raise for me is why, and as a responsible person in testing, I would then go and ask questions to find out what the reasons for that were.

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When you say in testing, are you limiting yourself here to user acceptance testing or are you now broading it out beyond UAT?---Again, if the remit was only UAT which I suggest is what you're focusing on - - -

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Yes, it is?---If the remit was only UAT, I would still go and investigate to go and find out why we were getting that problem and the intent of that would be to find out where I needed to focus remedial work to try and correct that issue and that would be the basis of a recommendation to the project directorate or the project manager to say that we would need to do X to fix this.

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Yes, because if lots of these sorts of problems are being thrown up either you've got just some fatal problem with requirements or business processes or you have a system which isn't working, or a combination of them?--You have one or the other, yes. 1

Have you ever been in a large project or been involved in one that had four phases of UAT?---No, this would be a first.

Have you ever been involved in a project of this size and complexity for which there was no agreed RTM at the stage of UAT taking place?---The RTM has always been available and produced for projects of this size, and I consider it to be a mandatory document from my perspective. 10

COMMISSIONER: So is your answer "no"? You were involved in a testing where there wasn't an agreed RTM?---No, I've not been involved in a project of this size where there wasn't an RTM produced. 20

MR HORTON: Have you ever been involved in a project which threw up this number of defects in stage 4 of UAT, but in UAT this number of defects at such a late stage before going live?---I have seen this before in a number of different industries in different projects. The root cause of that, by the way, was actually requirements issues. The result of that was that we were in what I call "requirements gen", and that meant that we basically were digging just holes in the ground in the same spot while people tried to verify and actually understand what the requirement was that they weren't meaning to build. That took a while to resolve but subsequently it got back on track. 30

COMMISSIONER: Were you brought in as an outsider, so to speak, to lend your expertise and solve the problem?---I wasn't brought to solve a problem, I was brought in to ask and answer a number of questions that relate to, in the questions that I was asked, the cause of defects. If you look at the four sections of the questions, one of them was around data integrity within test environments, one was whether you could make a blanket statement that the system was functionally deficit because there was too many functional defects and whether that statement was valid. In the information that I have I said categorically that statement wasn't valid, but that was based on the information that I had to review and I gave reasons why I wouldn't think that statement was valid and what I would expect to see to validate that statement. I think the other ones were around the traceability matrix and the importance of that, which is what you're focusing on now. Does that answer your question? 40 50

I'm not sure it does, it was quite a long answer. But is this right: you were brought in, you looked at the situation, you asked questions, the answers you got indicated what had to be done to solve the problem?---To some extent, yes, and it's probably to do with the way that I get engaged in problematic

projects.

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I understand that. As a result of your intervention and your analysis, I take it some re-working had to be done either to define scope or change coding or change design?---In this case, it was based on those questions that I answered - - -

MR PINTOS-LOPEZ: Sorry, Commissioner, I very much hesitate to interrupt, but I apprehend that you're at complete cross-purposes in this questioning. Tell me if I'm wrong, Mr Commissioner, you're asking about the expert's past experience on another project?

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COMMISSIONER: Yes.

MR PINTOS-LOPEZ: And I think he's answering you in respect of his retention to give expert advice on this project.

COMMISSIONER: Is that right?---That's correct, yes.

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All right?---Thank you. I misunderstood you as well.

Going back to my question, can you answer that?---So going back to past projects? Is that where we're going to?

Yes?---Right. So past projects, yes, when I'm brought in to look at all these things I usually have a remit to make a set of recommendations and then get the project back on course. That remit is done with all parties to come to an agreed path to work forward, and it's not always testing that falls in some of these things, it's a combination of things. Just to clarify that, the majority of those projects that I've done that in have actually had requirements related problems, so it had to go back a little bit to go forward.

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MR HORTON: Can I take you to your report, please, just some specific matters in it? Would you turn to page 3, please? The second paragraph under .(i), about a third of the way doing, the paragraph beginning, "Defects as a number only indicated there's a potential problem," but then you say, "Large defect detection rates are an indicator that something." The effect of your answer prior to go is not right?---Mm'hm.

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So one wants to know, is that right, when UAT is throwing up a large number of defects what that something is, is that right?---Yes, one would ask the question what is causing those numbers of defects to be raised.

And you're saying that in a case where there are large numbers, and in this case specifically, one of the possibilities is that there has been leakage from systems test?---Leakage is the detection of which defects should have been found in a prior stage, so the short answer to that question is yes. The longer answer, though, is what was the

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root cause to therefore determine where that leakage was actually introduced, and in this case leakage is also classed in definition from requirements in the V model all the way through to the final phase.

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Are you aware here of there being a scope clarification, a scope change, in mid 2009 to the project?---I saw in one of the reports, which I think was the systems test and systems integration test, there was a (indistinct) baseline for.

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Yes?---That had a number of change requests in it and I do remember seeing a reference to change within the report of Dr Mansfield as well. I'm not quite sure what the dates were in terms of where those things actually lined up, but I did see there was changing requirements.

The KJ Ross audits of the systems and systems integration testing are in pre June, they're April and March, and then a scope change takes place and there's no audit again of any systems test results after that. Would you ordinarily expect, if there's been a scope change, for systems tests to be revisited and conducted further?---I would expect that those changes after the baseline had been signed off that we actually now have a baseline to move forward from. Those changes should have been then impact assessed in terms of the overall impact of this solution. The normal practice from that point of view, then, is to rewrite test cases, revisit test cases, re-execute test cases. In this case, if there's changes there will be changes to that, and there's also what we call "regression testing". And regression testing is then done increasingly every time you have a series of changes, you go back to reproducing the regression test, which should grow over time simply because the system is actually going to be changed.

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It poses special difficulties both for systems testing at that stage of a project and for UAT to have the scope changing while the testing is being conducted, is that right?---There was a comment in one of the reports about parallelism, which I'm inferring to mean that in this case you're saying that systems integration or systems testing was happening in parallel to user acceptance testing, is that correct?

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It seems to have been - just taking those dates I've given you - June 09 and UAT underway, yes?---Bad practice full stop. The reality is there is numerous organisations that for whatever reasons, business imperatives, levels of risk, do end up having test phases that run concurrently. They experience large amounts of problems with test environments and test data issues in general, and they also experience large numbers of churn in changing test cases. The risk profile for those projects goes up and it's the test manager's job to make sure that the communicates that risk profile has increased.

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So you would say that holds good for systems testing here as

well for user acceptance testing?---If both are being done in parallel, yes. 1

So one would expect to see the tester for systems testing as well as for UAT saying, "This is a risk which you have to face, and a very real risk is that you've changed the scope as the testing has been conducted"?---Yes, and I would expect to see those two test managers working very closely together to ensure that their scope was actually clearly understood for both of their test phases. 10

Would you expect to see that said in a completion report for systems testing as well as UAT?---Yes, I would expect to see there that they would end up with a completion report at the final phase of both those in terms of they were running a parallel. While you would expect it you often don't get it, and it's because of the parallel nature of those projects.

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And I think the comment you're referring to here is there's a high degree or high incidence of parallelism in this project. Now, do you know whether a defect leakage analysis was in fact done?---No, I have not seen any document that states that was done.

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Yes?---So the analysis that I've done and my looking of the information is based on the two key reports that were delivered. The final one was the UAT 4 user acceptance test report, and the actual systems integration test report that was signed off.

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December, is that right?---Yeah.

Now, a defect triage process is something you deal with, page 4, last paragraph, but I think you mention it elsewhere, with respect to sort of the defect triage process - - -? ---Yep.

- - - that occurred here, I'm telling you, and Mr Cowan spoke about in his statement. Do you see that?---Yes.

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That's an ordinary practice, as I think you've agreed with me?---Yes.

Now, over the page you were asked to assume some things. Assume that system testing is conducted, audited in the manner of the report dated - I think it's 24 April, but anyway, April 2009. You haven't reviewed the system test, scripts or processes. UAT wasn't conducted by reference to an RTM and a high number of those defects. You're asked - that you can't see certain things in the report, definitive data that would support the statements that system testing was not thorough enough, but you accept, I think, from the evidence you've already given, it's one of the things which a tester might reasonably have concluded was a likely problem?---Testing would normally turn around to say that the areas or the defects are functional because that's how they actually appeared to the testers in the system. My point about that report was, as I've written these reports before, is that you have to be very careful about making a blanket statement about a functional defect. So what would have been more appropriate is if that statement had been backed up by the records in a defect leakage analysis.

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But you're not really seeking to say the tester's judgement in this case was wrong on the material you have, are you?---I don't think you could make the judgement based on the material I have.

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No. And I think you've agreed with me already as a general rule, given the information you have, you would tend towards accepting the view of the tester who had the material and was immersed in the nuances of the testing regime?---I wouldn't accept the view until I had the clarifications to those two things that I just stated that I would expect to see.

I accept that, but you wouldn't substitute your own in those circumstances?--No.

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Now, then you go on, on the assumptions, what conclusions would you reach, you say, "More information would be required," under the first paragraph?---Yep.

Then over the page, page 6, number 3(II), "In my experience, any system that imports data needs to have a level of robustness to deal with a variety of data errors that the system typically expects to experience." So here we see, I think, in some of the references that the data isn't perfect going into the system and also every system must be able to cope with a degree of imperfection?---They're not requirements that we call data based requirements that are actually either defined as part of the functional specifications or they're defined as part of the performance robustness non-functionals, and that is to deal with the types of problems that the system should be expected to cope with on a normal daily operational basis.

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Yes. And now you say at the bottom of page 6, you haven't seen any documentation of whether a data migration strategy was included in the project, so there should be one, but you can't say whether there was one and you've not been instructed?---No, I haven't seen that, and the only reference to that which was made was in the user acceptance report where there was reference to data migration.

Yes. Now, can I just turn, then, further on your report, page 12. We've talked about the requirements traceability matrix. You say on the following paragraph there, "If you don't have a traceability matrix, you do not know what test cases cover, which requirements"?---Yes.

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You say you don't know what to give priority to, I guess, and you don't know how your problems come about which you might find?---The traceability matrix is purely and simply a way of enabling you to track how much is changing and what is the priorities in which you need to test to achieve a certain level of coverage against the risk profile you're willing to accept. Okay? We use tools to do that. I believe there was one for the SIT integration and system integration test that they referred to a traceability matrix. I was a bit surprised I hadn't seen reference to one in the material I had presented to me.

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You mentioned SMEs earlier, subject matter experts. Is that right?---Yes.

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They're people who will be conducting or assisting the testing. Is that correct?---In the case of the way the testing was done here, I believe they were included as part of the testing.

If those people are sufficiently accurate in what they do with

testing, they are an extra way in which the scripts can be verified, if you like, for their accuracy. Not against requirements but against accuracy and objectives. So in this case, against the awards?---From a business rules point of view, yes. So to be quite honest, business SMEs are better used to verify the business rules, which in your case, yes, it's the award, it's the things that they played on against their powers, et cetera, et cetera, and it's those business rules that need to be validated.

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Thank you. Now, can I just take you finally to page 14 and to your paragraph 6. We're now in your conclusions. You talk about data integrity and you talk about testing an application, the wrong test data significantly increases the risk, this is the end of the paragraph, that the system goes live and actually fails when real data enters the application. Now, you're able, I take it from the material which you saw, to say whether that was the case here?---The only reference that I saw that there was large numbers of or there was issues around data was in the conclusions in the report and there was also some references in other documents, I think Dr Manfield's document referenced it.

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Yes?---In projects of this level of complexity, in my experience, with legacy systems that get migrated, there's one definite phase that's usually a data migration phase. Again, I didn't see any reference to any of that, only in the conclusions of the final UAT report. That data migration phase is there to test that the actual data is going to the right places correctly. That would have been something I would have expected to see done here as part of UAT. Any system, in my experience, where you try to insert data into the database tables in the hope of populating it with test data tends to cause more grief than it does progression of the test case.

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Thank you. You know here that the tester took that reality into account, though, because he mentions it in his report? ---He said that he would have expected that the project was actually hampered by test data issues, yes, in the final conclusions.

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Yes. So I'm suggesting to you as a tester, the reasonable extrapolation of that is that the tester has, in his view that he's expressed, taken into account that there has been trouble with data and migration as well?---He may have expressed that but it certainly wasn't expressed in terms of the defect numbers.

Well, it's mentioned in his report?---Yeah, it's mentioned in his report, yes.

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That's the evidence of Mr Parkinson.

COMMISSIONER: Mr Horton, thank you. Mr MacSporran?

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MR MACSPORRAN: I have nothing, thank you, commissioner. 1

COMMISSIONER: Mr Pintos-Lopez?

MR PINTOS-LOPEZ: Yes. Just a couple of brief questions.
Mr Parkinson, you were basically asked a number of questions
about the proper definition of requirements and that when you
get to UAT missed requirements or poorly articulated
requirements can result in a UAT tester seeing results that
don't accord with their idea of what a person should be paid. 10
Now, you recall you - - -?---Correct.

- - - were asked questions along those lines about actual pay.
Now, I just wanted to ask you a very quick question, someone
who designs software doesn't know what the correct pay is, do
they, other than via the requirements that are provided to
them?---Yeah, the software developer is bound to write the
requirements as per those specified and provided to them.
Anything they do outside of that is not in line with those
requirements. 20

That's all.

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COMMISSIONER: Mr Parkinson, thank you for your assistance, you are free to go?---Thank you. 1

(THE WITNESS WITHDREW)

MR HORTON: I call Mr Mark Robert Dymock, Mr Commissioner.

DYMOCK, MARK ROBERT affirmed:

MR HORTON: Mr Dymock, you have prepared a statement, dated 4 June 2012, for the commission, is that correct?---Yes. 10

Are the statements it made in it true and correct to the best of your knowledge and belief?---Yes.

Thank you.

COMMISSIONER: Yes, Mr Webster.

MR WEBSTER: Thank you, Commissioner. Mr Dymock, do you have your statement there?---I do. 20

I just wanted to start by asking a little bit about the qualifications and experience section, if that's okay?---Sure.

You've been an employee of IBM since about 1999?---Correct.

Close to 15 years. You give a bit of history there. In paragraph 3C, you say that from 2001 you started work in the role of testing manager and became the leader for IBM Brisbane test centre?---Yes. 30

Can you just tell us a little bit about what that role involved?---When I was the manager of the Brisbane Test Centre I was responsible for all projects done by any of the IBM Brisbane test team, so that included projects like the large Telstra integration projects that we were responsible for at that time, managing the system testing, system integration testing, performance testing of that, for the FMS project which was an internal IBM project which was a large paying calculation, commission calculation project for the global IBM sales course which was essentially user acceptance test, manager of that. There are other projects, such as Centrelink, but basically at that was handled by the Brisbane Test Centre was handled by me. 40

Is it the case that your role was one in which there would be an individual test manager on the project itself that you would have a supervisory role in if problems issued were encountered?---It became that in that I took on responsibility also for the Melbourne Telstra and for the Canberra testing that our test practice did, and I'd have test managers reporting to me, yes. 50

You talk, then, in paragraph 4 about some specific projects you've worked on in a testing capacity. The first is a

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software development program for Telstra, and you worked in doing system testing, system integration and performance testing, is that right?---Yes. 1

And you managed that process?---That's correct.

Over what period of time did that project run?---That was around three years, two to three years.

And the test team you managed for that?---It was around 15 people, roughly. 10

The second one, you were the user acceptance testing manager for an IBM FMS system?---Yep.

Can you tell us what that stands for?---Field Management System.

You say it was used to calculate sales commissions and some other things. Compared to the Queensland Health system which you worked on subsequently, how does this system compare in terms of its size and complexity?---It's probably the closest that I worked on, it probably had thousands of calculations involved, maybe not the 24,000 odd I think that was in this one, and it also had a fairly wide ranging number of people that dealt with IBM's global sales. Again, it wouldn't have been the 86,000 that were in Health but it was in the thousands again. 20

Then over the page, you've worked as UAT manager on another project for Centrelink and also a test delivery centre manager. You were currently, though, employed in another role in IBM, that's a project management role and I just wanted to ask a little bit about that. At the moment, you're working on a project here in Brisbane, what's the timeframe of that project?---It's an 18 month program of work. 30

In your current role as project manager, do you have any qualifications or certifications?---I am a certified project managing professional with P and P through the Project Management Institute. 40

Very good, thanks for that?---Thank you.

Can I ask you, now, a little bit about the Queensland Health project? In your experience, is it right to say it's not uncommon during a software project for scope to change to some extent?---Yes.

Can you tell us how extensive was the scope change on the Queensland Health project in comparison to other projects you've worked on?---It was generally much higher in other projects. 50

From your own observations and experience, was the way in

which IBM handled and responded to scope and scope changes on the Queensland Health project similar to the way it generally approaches and manages scope on other projects?---Certainly where I was involved, yes. 1

COMMISSIONER: If the level of scope change was much greater here than the normal, shouldn't the response have been rather different?---In what way?

I don't know, you tell me. You're brought along here to say that this problem was bedevilled by changes in scope. You were asked if IBM responded to the changes of scope as it responded normally to changes of scope, but you have by definition here a different level of change. Was the level of IBM's response the same as it normally was or did it adapt to the more pressing demands of the change of scope in this case?---In terms of my role as a test manager, any change of scope was, I guess, dealt with in the way that I would normally deal with it, and it did come up, I heard, just before. 10

I'm sorry, I can't hear you?---Sorry, it did come up before around how we respond to changes in scope from a testing point of view, and to be clear we do, do system testing for that and do regression testing for that. In terms of the way the change of scope was handled in the way I would normally from a testing point of view handle the changes - - - 20

So your answer was limited to responses by a tester?---Yes, it was. 30

MR PINTOS-LOPEZ: Just on the question of testing, was the way in which IBM approached and conducted its system and system integration testing consistent with its usual practice and approach to doing those sorts of tests?---Yes.

Were the results and the way that results were reported consistent with IBM's usual practice?---Yes, it's a standard template of reporting. 40

Can I ask briefly a couple of questions about user acceptance testing? I think you say in your statement that in your view it should be conducted by reference to a requirement traceability of some kind. Why should that be done?---You need to be able to demonstrate to the business how their business processes is going to function in production, and you need to do that by showing through your UAT that you've demonstrated those business processes. Ideally, those business processes would be prioritised, that is how I would do it. 50

Do you have any recollection, thinking back to 2009, of Mr Cowan asking you for a copy of the requirements traceability matrix?---I don't have any recollection, no.

If he had asked you for a copy of it, would you have provided

it to him?---Yes.

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Would you have any reason at all to withhold providing it to him?---No, no, I sent it through to a number of people in Queensland Health at various times.

You might have heard, you were sitting in here earlier, some questions and discussion about the defect assignment meetings that went on during user acceptance testing which you attended, is that right?---Correct.

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I think an assumption was articulated in some of the questions you might have heard that if IBM accepted a defect at those meetings it meant that IBM was agreeing there was a coding defect that it needed to fix. Do you remember questions along those lines?---Yes, I do.

I just want to ask you by reference to your recollection of those meetings: did IBM allow defects to be assigned to it beyond cases in which it accepted that there was a coding defect which was IBM's problem?---Yes.

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Can you tell us the sort of things that were accepted?---I think it's important to make this clear to everyone - and, essentially, I was at most times the IBM senior representative in that particular daily defect meeting - there were a number of items coming through that we and I believed were changes to requirements. Strictly speaking, they were different from the requirement that was currently stated. Essentially, we had two choices to my mind in those meetings, and remember these meetings were every day, they were about an hour, they were pretty intense and they involved about 15 to 20 people in the project who could have been doing other things at the time. I made a decision fairly early on that - and I guess it's probably in line with some of the things that are being said, that we just needed to be able to move forward.

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COMMISSIONER: Sorry, I missed that?---That we just needed to be able to move forward. If I argued and gone through a complete change management process, which in theory I should have done, to be honest, a lot of these, just to outline what that process would have been, we would have done an impact assessment to estimate the effort. This is IBM. We would have then got pricing for that, it would have had to go through an IBM approval process just so this is a correct price. We would have then gone back to CorpTech and said, "Here is our price for this change, the change to scope, therefore it would need to be paid for this," and it would have gone through an approval process there, there would have been an agreement to this agreement, and finally it would have been approved and UAT would have been extended by a long period of time. So I essentially didn't want to do that, you know, 180 times or whatever the figure is. I just said, "No, we will - unless this is going to, you know, cause massive difficulty and months of work or weeks of work, then we really just need to accept that the original requirement was incorrect, update the requirements document and our solution and move forward."

MR WEBSTER: When you say the original requirements document was incorrect, you're not saying why it was incorrect, you're not necessarily - that wasn't part of your knowledge in your position?---No. All I would say is that it was changed as a result of UAT.

Put it another way, the requirement specification didn't match what Queensland Health at that time were saying they wanted for the system?---Yes, correct.

These meetings, you said, happen daily. The acceptance of the types of defects you've just spoken about in good faith, was that a fairly regular occurrence?---Yes.

And I don't suppose you've got any hard record of exactly how many meeting by meeting?---No, I don't. The only thing I had, which I think you had, is the analysis that Michelle did for me of the number of times we had to update our requirements document throughout the UAT period.

I did want to ask you about that briefly. You would have heard Mr Parkinson say something about the importance of keeping a requirements traceability matrix up to date. Was that something that you were conscious of and ensured was done during the testing process?---Yes, it was. I actually had one person doing that throughout the entire - it was their sole focus, really, throughout the entire project that I was there.

All right. Just one more topic. Could I take you to paragraph 101 of your statement. You talk there of issues being phoned through after the system was put into production, and this was at a time when you had assumed the role of project manager. Is that right?---Yes, correct.

Is it right to say that at the time if there had been issues which affected the calculation of pay, software defects that affected the calculation of pay, they would have been channeled through CorpTech to IBM?---Yes.

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And they would have been reported to you?---Yes.

And if there was a serious miscalculation affecting an employee's pay, it would have been classified as a severity 1 defect?---Yes, if there was a serious miscalculation of pay occurring because of a problem with the solution, yes, there would have been.

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And you would have been aware of it?---Yes.

And there was no such severity 1 or, indeed, severity 2 issues that you can recall or find any record of, of that kind?---Not of that kind where there was a serious miscalculation of pay or no pay, correct.

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That's the examination-in-chief, Mr Commissioner.

COMMISSIONER: Mr Dymock, thank you. Just remind me, when did you become project manager?---January 2010.

2010. Thank you. Mr Horton.

MR HORTON: Mr Dymock, I've asked everyone else this, so I shouldn't leave you out, when were you first asked to prepare your statement?---I'm trying to think, I'm sorry. Beginning to mid May.

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And when did you finalise it?---I think close to this date of time here, 4 June.

Thank you. Now, you've been IBM since 99, you started working while testing manager. What particular involvement then did you have with the interim solution in Queensland Health for the period that you identify. January 2010 you say you took over from Mr Gower?---Correct, yeah.

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But before that, what's the nature of your involvement? Is it as testing manager?---I was testing manager from - I originally came in to assist the current testing manager. I was his manager. That was around August 2008. And then he had to leave the project for personal reasons and I became the test manager from that time on.

From August 2008 until January 2010 you were the test manager?---Around September, I think it was, specifically, I was the test manager.

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Is it only with testing that you are concerned, is that right, you're not concerned with general customer management or scoping other than as it affects the tester?---Correct, after the test management piece, yes.

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DYMOCK, M.R. XN XXN

Yes. And are you involved in any of the changes to the contract which occur as a result or is that all dealt with by other people?---Generally dealt with - my only involvement during that period was providing estimates for impact assessments for testing.

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Can I just start by dealing with some topics which arose out of Mr Webster's questions. You say that you're involved in those defect triage meetings. Is that an accurate description? That's what Mr - - -?---Defect review, but yes.

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Anyway, defect meetings. And you say you accepted for IBM things which weren't strictly IBM's responsibility because it otherwise would have been unconstructive and possibly delay the project more than it needed to be. The defects then which you're accepting - well, let's call them issues. The issues which you were accepting on that basis, you accepted because you thought there was some real need for whatever they thought to be done needed to be done?---Yes.

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And in some cases, they - again, not wishing to arcade blame for a minute, but you took them on because they were problems which if not fixed would result in someone being paid wrongly or not being paid?---Yes.

I think IBM had made the decision earlier even than you were doing this to say, "Whatever our strict position is at law, we will fix defects which affect pay or NET pay," there's different references in documents?---I mean, I'm not actually aware of that either way, to be honest. Yes.

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What' I'm suggesting to you is what you did is consistent with the IBM approach. It wasn't just you who was doing this. IBM was saying, "We will fix the defects which affect pay so many as emerge?---That's true in as much as when I was there, the people that were working with me did not. I just can't talk about before that because I'm not across it.

Then if these defects have been thrown up in UAT, these issues have been thrown up in UAT and you're dealing with them in the daily meetings. Because of the nature of UAT, there will be issues of this kind - by that, I mean someone not being paid or not being paid correctly. It's reasonable to assume those issues will also exist in the system, albeit not brought to light by UAT?---Sorry, I'm going to ask you to ask that again.

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Sure. By that I mean: UAT is not a comprehensive way of finding out what defects would affect pay?---UAT is a verification that the major business processes including pay are priority business process that are going to work correctly in production. That is how I would put UAT.

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Yes. It doesn't run every possible permutation of pay to be included?---That is correct, yes. Yes, that's correct.

So it doesn't sample - I don't know how many, but it doesn't

sample. And if it's finding defects in the sample, some of those might affect more than one person but there might be new defects, problems which emerge if one did it comprehensively. Not suggesting UAT should have, but if one tested, it would be permutation?---What I would add to that, and this is why it was missing from the evidence that I saw in the completion report in particular, was you would want to make sure that your level of coverage of the critical business processes is very good, so you may not cover every single process in your solution as fair enough in UAT, but you would want to know that your critical high priority business processes had been thoroughly tested.

Yes?---I would expect that. I mean, that's what I would do in UAT, so I would do anyway.

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Yes?---Because, you know, that is a high risk.

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The RTM of which all the witnesses have spoken is one way, I think we have heard of prioritizing that, or looking at what are your most important things to test and so forth?---Yes, and demonstrate in your coverage.

Yes. There's a difficulty here because the RTM for whatever reason was never an agreed document between IBM and the customer?---Well, the reason was that the customer didn't want to accept it as being a common document. They were happy for that to be an IBM document but they did not ever want to accept that it was an IBM document.

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Rightly or wrongly, the customer said to you, "We don't agree that that RTM" - your RTM they called it, I think - "defines in an exhaustive way the requirements of this project"?---Just to be clear, I believe wrongly they said that, yes.

I understand?---Because it's a very comprehensive (indistinct) traceability matrix.

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Yes. Again, IBM is there working on a document that is not agreed which it considers honestly reflects the scope. The customer doesn't agree and as a result, testing must - because a tester has to choose between those competing positions, must be a rather difficult task?---In which testing are you referring to here?

Any testing but UAT?---If the user acceptance tester is not sure what they testing against, that would be a very difficult task, yes.

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And it raises difficulties too for this reason: if the RTM is in fact a comprehensive statement of scope but not a comprehensive statement of everything necessary to result in a pay system which pays people accurately and in fact does pay them. Then one might be conducting a test on the basis of ultimate functionality, if you like. Does it pay people? But that be something quite different from the requirements which exist between the parties?---I'm going to ask you again, sorry, to ask the question again and I will try to understand it better.

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Yes. What I'm really saying in UAT happened is this; that there are some subject matter experts running test scripts. That's correct?---Yes.

And they are specialists in what they do with the subject matter?---Yes.

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They run a test script based upon a scenario of paying a nominal employee and when they were running those tests in UAT, this case, the result would come up wrong. By that I mean contrary to the answer which the test script was said to be assured to produce?---Yes.

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So if one just looks at it that way, one has the concern in testing that this system, if that's right, isn't going to pay people properly but that might be an entirely different thing from what the RTM says is the outcome?---That could happen, yes.

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Yes. In fact, it's what happened in this case, isn't it?---I think it did, yes. I will expand on that, if you don't mind.

Yes?---What I believe happened looking at just what happened in UAT and looking at the fact that we had a requirements traceability matrix, it really just drew together all the approved requirements, and when I say "approved", I mean approved by Health as much as anyone else to then have other people in Queensland Health saying, "Actually, no. Those pay outcomes are wrong from our experience," suggests to me that the different people who were involved in UAT weren't properly involved by Health in the requirements, and to be more specific and more direct than that, my understanding is that a lot of the requirements came from the QHEST team and there were not many of them and I think they struggled from my observations around requirements, and UAT brought in some people from the Shared Services Provider who this was their day job, day-to-day, and they provided extra information that the QHEST team or were unable to do. That's what I believe happened.

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Yes. So had UAT done this: had UAT applied only the RTM, so had done the test scripts according to the RTM only, no-one had done any other test scripts based on the other requirements, one could have got a sign-off from UAT of no issues if things had gone well but still be left with a system which didn't meet the customer's desires?---I think I know what you mean. If you could just ask the same question again. You don't have to reframe it, just ask the same question again, please.

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Yes. I might not be able to - - -?---Yes, sorry.

UAT could run the requirement, the test scripts on the base of the requirements, and the system could pass, could pass UAT but in fact have a computer system which in reality won't pay people accurately?---So if the approved requirements were incorrect but the UAT tester was correct, yes, then what you say be a problem, yes.

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In fact, you could think of another way, pretend UAT were skipped altogether in this case which we know wasn't, there was plenty of it, but assume UAT were skipped, this system without UAT could have gone live according to the letter of the written requirements in the RTM but whoever's fault it was, let's take your case for the minute, for the fault of the customer not defining requirements, it just doesn't function in that it doesn't pay the bulk of people accurately or pay them at all?---Yes.

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Does that sum up in a way the tensions we see happening in UAT here?---A bit more explanation of that. What do you mean by tensions? 1

UAT seems to be being run here on the basis of, "Will this pay, on the sample that we have got, will this pay people?" Not troubling ourselves too much with an RTM but with what the written requirements were between client and the vendor but in terms of will it actually pay people according to what we know are the pay rules versus UAT which could have been run according to the letter of the law under the business requirements?---Two things, if you don't mind. One is I don't know how the UAT test cases were put together in any detail so it's hard for me to speak to how they did it but quite possibly, yes. I guess secondly the better process would have been for UAT to have been involved in the common understanding of the requirements traceability matrix and the documents there, just to get that out there because that probably would have been a better process. 10

THE COMMISSIONER: At an early stage, did you mean?---Yes, and again, we did provide - I did provide copies of the RTM as early as - late 2008 in an effort to try and get that common understanding and make sure - these are the requirements, the approved requirements we're testing to - are these the approval requirements that you are all going to be testing to. That was the whole purpose of what I was trying to do there. 20

Who did you give it to?---I have to check again but it went to Jack Van Der Zwan who was my peer at that stage. Later it went to Brian Frederick, Pia Pina, Amanda Doughty, Jane Stewart later, that was later in 2009, and Janette Jones. 30

MR HORTON: Doesn't though, on what you have said, UAT's carry if the UAT tester does it only on the RTM for this reason. Had Mr Cowan done it on the basis of the RTM, these problems which emerge in UAT, the very many problems which emerge, some of which you have accepted affected pay, would never have been identified?---Correct, yes. 40

And so if I'm the customer, even assume for a moment I'm being less than diligent in communicating my requirements, as a customer, that for me is in the past, for you it's not as IBM but what I'm worried about is when this goes live, will Bill be paid. So in a way, what I want to know is the customer is - I think we're going to be paid. Regardless of my sins, perhaps, about communicating business requirements?---That's what I wanted to - yes, that's specifically why rather than creating a fuss every time there was a change of requirements, I made sure the requirement was updated to the reflect the correct view now coming from Queensland Health and move forward and to be clear the issues that I expressed around UAT were not issues to do with that per se, I was just more concerned that the analysis was incorrect, that if it was going to suggest that all of those defects were coding defects and then suggest that we should therefore do a system test and 50

sit again, that was wrong, that was not a correct analysis in my view. 1

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Can we turn to those topics?---Sure.

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At least one of them. Let's turn to coding for a minute. You accept that some of the defect meetings during UAT, that issues were identified which concerned coding that was wrong or bad. Is that correct?---There were some, yes, but not all of those are accepted by us.

Sure. I call them issues because I'm really wanting to separate out whether they - - -?---Okay.

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- - - arise from - - -?---I'll be less - - -

Yes. And assume that all these questions that I'm asking you for the moment anyway, that - - -?---Sure.

- - - you can approach on the assumption you made that you should have known about this from the customer, really, but you didn't. So the issue that I'm talking about are the issues arisen, coding is not right and IBM has, in whatever capacity or for whatever reason, said, "We will fix that"?---A lot people were specific and maybe it's my testing background. I want to say that a solution catered change was required for one reason or another.

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Yes?---Yes. Okay. If that's - we can agree that.

Yes?---Yes.

And the code is a bit, in most cases anyway, that contains the pay rule. Is that right?---Well, all aspects of the function of the system. Obviously the pay rules were a big part of that.

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Yes. And there was a large percentage of the issues which were identified by Mr Cowan which were of the kind that you've just spoken of?---There were a number, yes, which required a coded change, whatever the reason for it, yes.

Yes. I want to suggest to you about 75 per cent?---If we're talking only about what required a solution change, I think it was probably a bit less than that because I don't think we did factor enough of the test data in other issues, but certainly if it was either because of the change to requirements or an actual defect in the code, then it's between half and 75 per cent. It's difficult for me to say, to be honest.

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I understand. And you would say about that to me, "Yes, Mr Horton, that's happening because we have scope changing and because we have an incomplete articulation or wrong articulation of business requirements from the customer"? ---Yes. I would say that a number of these are happening because - I guess I do say that the client didn't seem to have a good understanding of their own requirements or a consistent understanding. That's what I believe, yes.

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And fair to say that probably from your perspective getting a better idea of their requirements as they came close to going live and subject matter experts are formulating test scripts? ---It's certainly clarified some of those, yes, that essentially, if I could put it this way, UAT was - and it shouldn't normally be this, but UAT was almost exploratory testing, by which I mean they were checking to see - I'm not explaining this very well. I guess they were, yes, they were using their own experience to see whether the requirements that had been provided were corrected and in some cases they decided they weren't.

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Yes. And so what you would probably say, would you, of Mr Cowan's report is this: look, fine to identify issues based upon the very thing you've just described, people being exploratory, maybe correctly, about award rules. Fine to explore all that but you should somewhere make clear that the scope of the project, the requirements of the project may not be including all these things which are being explored?---I think what I was really saying was we needed to highlight the fact that I didn't see highlighted anywhere was that a number of the defects that were identified were, in fact, due to changes in requirements. And again, and I know you want to address this later, one of the conclusions is to re-do system and system integration testing and I'm suggesting that would have not helped in this situation very much at all.

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Sure. Just before the break, though, to finish off on this point, though, Mr Cowan's role is really to the customer in doing UAT. Is that right? UAT is a customer-focused exercise?---Correct, yes.

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So one can understand why Mr Cowan is telling the customer, "Look, whatever the requirements are, as a customer, I predict you're going to have problems on the scripts I've been running with the end result." So it's then juggled for a minute about why, but this isn't going to pay everyone properly?---I don't agree with that last statement necessarily. I've tried to get this logic right with that, that by the time UAT was complete they had run all of the test cases. Yes, they had found a number of issues which had required code changes, but other than those noted in the defect management plan at the end, they had completed, moved on, passed all of the test cases or 100 per cent of test cases attempted, 99 per cent passed. From that, if you were then able to say what those 99 per cent were in terms of the business processes, you should have been able to give a more detailed understanding to the business about where the risk was. So what I didn't agree with in the report, and still don't, is to say there were lots of defects raised, issues, whatever you call them, there will be lots more. And what I - because, if, you've identified them during UAT, if your business processes testing is focused on those critical business processes, you will actually find they're not going to get lots and lots more. They might get some more in some less critical areas because you haven't focused on them.

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Yes?---And to protect that a little bit further, my view when I was in the second role, essentially after we had gone live, was that, in fact, we did not see lots and lots of calculation defects come out. 1

Mr Cowan, though, is very measured about what he says about possibilities of discovering issues going forward. I mean, he doesn't say, "Look, you're heading inevitably for a problem." That's the tenor that he says there's a real likelihood of something that - - -?---And I'm not accusing Mr Cowan of doing that. I'm just stating that it was not made clear, and that's what I was trying to say, is the background that - - - 10

You wish for that to be made clear and you wish for the - it wasn't to do with the requirements, the bit that - - -? ---Yeah, I just - I think it needed to be much clearer in the business processes that had been covered, how much they had been covered, what the residual risk really was and what the options for the business were from someone who has run UAT a few times before. 20

Yes, but you do accept, I think - I think you've accepted earlier that one would - it would follow from the process that Mr Cowan has undertaken quite properly that although he might have discovered certain issues, his is only a sample in whatever sense and so if he's discovered issues in the sample he's done, it's reasonable to believe in the sample that he hasn't done other issues may well emerge?---That is correct and that is why we needed to see the business processes that had been covered. 30

Is that a convenient time, Mr Commissioner?

COMMISSIONER: Yes. We'll adjourn until half past 2.

THE COMMISSION ADJOURNED AT 1.03 PM UNTIL 2.30 PM

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Yes?---Because, you know, that is a high risk.

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The RTM of which all the witnesses have spoken is one way, I think we have heard of prioritizing that, or looking at what are your most important things to test and so forth?---Yes, and demonstrate in your coverage.

Yes. There's a difficulty here because the RTM for whatever reason was never an agreed document between IBM and the customer?---Well, the reason was that the customer didn't want to accept it as being a common document. They were happy for that to be an IBM document but they did not ever want to accept that it was an IBM document.

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DYMOCK, M.R. XXN

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- - - you can approach on the assumption you made that you should have known about this from the customer, really, but you didn't. So the issue that I'm talking about are the issues arisen, coding is not right and IBM has, in whatever capacity or for whatever reason, said, "We will fix that"?---A lot people were specific and maybe it's my testing background. I want to say that a solution catered change was required for one reason or another.

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I understand. And you would say about that to me, "Yes, Mr Horton, that's happening because we have scope changing and because we have an incomplete articulation or wrong articulation of business requirements from the customer"? ---Yes. I would say that a number of these are happening because - I guess I do say that the client didn't seem to have a good understanding of their own requirements or a consistent understanding. That's what I believe, yes.

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And fair to say that probably from your perspective getting a better idea of their requirements as they came close to going live and subject matter experts are formulating test scripts? ---It's certainly clarified some of those, yes, that essentially, if I could put it this way, UAT was - and it shouldn't normally be this, but UAT was almost exploratory testing, by which I mean they were checking to see - I'm not explaining this very well. I guess they were, yes, they were using their own experience to see whether the requirements that had been provided were corrected and in some cases they decided they weren't.

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Yes. And so what you would probably say, would you, of Mr Cowan's report is this: look, fine to identify issues based upon the very thing you've just described, people being exploratory, maybe correctly, about award rules. Fine to explore all that but you should somewhere make clear that the scope of the project, the requirements of the project may not be including all these things which are being explored?---I think what I was really saying was we needed to highlight the fact that I didn't see highlighted anywhere was that a number of the defects that were identified were, in fact, due to changes in requirements. And again, and I know you want to address this later, one of the conclusions is to re-do system and system integration testing and I'm suggesting that would have not helped in this situation very much at all.

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Sure. Just before the break, though, to finish off on this point, though, Mr Cowan's role is really to the customer in doing UAT. Is that right? UAT is a customer-focused exercise?---Correct, yes.

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So one can understand why Mr Cowan is telling the customer, "Look, whatever the requirements are, as a customer, I predict you're going to have problems on the scripts I've been running with the end result." So it's then juggled for a minute about why, but this isn't going to pay everyone properly?---I don't agree with that last statement necessarily. I've tried to get this logic right with that, that by the time UAT was complete they had run all of the test cases. Yes, they had found a number of issues which had required code changes, but other than those noted in the defect management plan at the end, they had completed, moved on, passed all of the test cases or 100 per cent of test cases attempted, 99 per cent passed. From that, if you were then able to say what those 99 per cent were in terms of the business processes, you should have been able to give a more detailed understanding to the business about where the risk was. So what I didn't agree with in the report, and still don't, is to say there were lots of defects raised, issues, whatever you call them, there will be lots more. And what I - because, if, you've identified them during UAT, if your business processes testing is focused on those critical business processes, you will actually find they're not going to get lots and lots more. They might get some more in some less critical areas because you haven't focused on them.

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Yes?---And to protect that a little bit further, my view when I was in the second role, essentially after we had gone live, was that, in fact, we did not see lots and lots of calculation defects come out. 1

Mr Cowan, though, is very measured about what he says about possibilities of discovering issues going forward. I mean, he doesn't say, "Look, you're heading inevitably for a problem." That's the tenor that he says there's a real likelihood of something that - - -?---And I'm not accusing Mr Cowan of doing that. I'm just stating that it was not made clear, and that's what I was trying to say, is the background that - - - 10

You wish for that to be made clear and you wish for the - it wasn't to do with the requirements, the bit that - - -? ---Yeah, I just - I think it needed to be much clearer in the business processes that had been covered, how much they had been covered, what the residual risk really was and what the options for the business were from someone who has run UAT a few times before. 20

Yes, but you do accept, I think - I think you've accepted earlier that one would - it would follow from the process that Mr Cowan has undertaken quite properly that although he might have discovered certain issues, his is only a sample in whatever sense and so if he's discovered issues in the sample he's done, it's reasonable to believe in the sample that he hasn't done other issues may well emerge?---That is correct and that is why we needed to see the business processes that had been covered. 30

Is that a convenient time, Mr Commissioner?

COMMISSIONER: Yes. We'll adjourn until half past 2.

THE COMMISSION ADJOURNED AT 1.03 PM UNTIL 2.30 PM

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THE COMMISSION RESUMED AT 2.31 PM

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MR HORTON: Mr Dymock, I want to turn finally to the question of system and system integration testing - - -?---Sure.

- - - that you conducted, that form of testing, or people underneath you. Is that right?---Correct, yes.

It's an IBM responsibility or deliverable?---Yes, it was.

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That form of testing seems to have been undertaken in substance before about March 2009. Is that right?---About then, yes.

And aspects of it continue because of changes to scope which are going on in the project, is that right, a bit longer than that?---Yes. If there was a change to the scope of the project, further system testing would be done, yes.

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When you perform the system and system integration test, you performed it against the RTM?---We performed it against the documents that are aimed in the RTM, yes.

Is this right, then, does the RTM against which you performed systems and system integration testing, take into account these additional matters which have come out of user acceptance testing which you, on the basis you've identified, agree that IBM will attend to?---Yes. So any changes that are made to the requirements or the design as a result of system testing, SIT or something else, will always require updates to that document and that needs to be reflected if there's a document update in the RTM.

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Yes. So you are conducting a systems test on the basis, in effect, strictly the RTM plus some additional things that come out of UAT?---Yes, and those things are then updated into the RTM if they require a change to those documents, and aimed in the RTM.

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That's in distinction to UAT, which you have said. In this respect, Mr Cowan would agree is not being conducted on the same basis, not strictly by reference to an RTM?---That's correct. As far as I'm aware, it did not use an RTM, yes.

Now, just going back to systems testing for a minute, scope change occurs in the project, one of them, middle of 2009. Is that right?---You're referring to - - -

Well, I'm really referring ultimately to change request 184, the scope clarification?---Right. Yes. Okay. Yes. So - and to be honest, I can't remember the exact nature of the changes in the CR, but yes, there was a change request then.

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Is it usual to have changes in the scope of that kind taking place after systems testing has been conducted?---I wouldn't

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say usual. It's not uncommon but it's not the usual practice, 1
no.

And it poses a special problem, doesn't it, for systems
testing has been conducted?---I wouldn't say usual. It's not
uncommon, but it's not the usual practice, no.

Then it poses a special problem, doesn't it, for systems
testing because she's tested the system as a whole in system 10
testing and now there are extra pieces, if you like, which
have to be tested. It's missed the boat in terms of the full
testing. It's now got to be smaller style testing?---Yes.
And we're used to that, to be honest, because this, as I say,
it's not uncommon. So what we do in that case, and we did
here, was we need to assess what the change is, the impact of
that change on the system identify the testing that needs to
be done to test that change. The other part of it is the
regression testing, which is to identify the other parts of
the system that aren't directly impacted by this change but 20
need to be retested just to make sure they haven't been
impacted by it. 20

Yes. And so when you regression test, it relies upon you
having accurately identified, if you like, that part of the
wider system that might be impacted by the smaller change
you're making?---Correct, yes.

So in a perfect world, you would have a system test which was
everything together, no changes afterwards. Is that correct?
---In a perfect world, you would have system test and system 30
integration test finish, and then, yes, you would hope for no
change after that. 30

You ordinarily would not have systems and system integration
testing of any phase taking place while UAT was being
conducted?---That's not true in that we - the reality is in
the delivery time frames that we have across projects, and I'm
just speaking from experience here, there's almost always a
degree, and I heard the evidence before that it's bad 40
practice, or words to that effect. There's almost always some
parallel testing but you make a risk assessment when you do
that. Obviously also in UAT, everything that's raised,
whether it's as a requirements change or as a defect as to go
back through system testing and there has to be regression
testing, so you would do it for that anyway. But in reality,
clients generally would not - they just don't want to pay for
everything to be done one after the other because that takes
too long, so they will generally ask you to squeeze it a bit,
which is why I say that there is some degree of overlap but
not a large amount of overlap, normally. 50

And the parallelism here that has attracted attention from
witnesses seems to be that there's quite a lot of parallelism
here. That is, there's lots of changes and there's lots of
things taking place at the same time, lots of different forms
of testing?---Well, I guess let's look at that in a bit more

detail if we can. So in the beginning of 2009, we were completing system testing and when we looked at when UAT could start, we needed to have completed at least the end to end testing within the system test phase. That was the risk decision that we took jointly with, at the time, Jack van der Zwan, I think it was. So we needed to have completed the Workbrain standalone testing, the SAP standalone testing, the interface testing between Workbrain and SAP, and the end to end testing of that complete solution. And then once end to end testing had been completed, we were able to start UAT, hence the delay in UAT because we needed to complete end to end. So then we completed the system integration testing, which is passing files out to some of those other external applications and UAT commenced at that stage. So as long as they weren't testing those external applications, they could progress their user acceptance testing, even though we were still completing some of the system testing. The other thing that happened, as you suggest, is that during user acceptance - and then after that, by the way, system testing, yes, only reacted to changes. We would do some testing, we would do some regression testing, we put them to UAT and UAT may have been occurring at that stage, yes.

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So when you say system testing reacted to changes, the risk at that phase up is: if you haven't identified the wider parts of the system which that issue might impact upon, that's where you might have leakage, is that the right word, into other forms of testing later on?---The risk is that you don't assess all of the impacts and therefore you don't do all the testing required. Because we had requirements traceability matrix for a start, we had the ability to see that if a change was made here, it may impact on these other areas here. That's a great advantage of the requirements traceability matrix. We also had some pretty experienced testers who were used to doing this in all manners of test engagements.

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But what you didn't have with the RTM was those additional issues which might have existed in the system which UAT had not exposed to be dealt with by the defect management process?---Yes, if you're referring to issues raised in UAT that were not in the requirements, yes.

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So if they existed, having been system tested, to the extent that they needed to be?---The processes would have been system tested but the results may have been different.

Yes, because you don't know yet, do you, of the particular issue on the assumption that I'm suggesting to you, which is that there are issues yet to be discovered?---Yes, or results that are different from what are currently recorded in the requirements, yes.

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So when we see K.J. Ross having audited the systems test in the early part of 2009, I think March and then revisits again in April, that's the main systems test that's audited. Is

that right?---Correct, yes.

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And there's no return to audit of the subsequent part system testing which was conducted with these new changes incorporated?---No, there's not, no.

So the issue then of which Mr Cowan speaks in his report is the possibility that, in fact, what's occurred is that some of these issues that haven't been discovered or some of the issues which have been discovered haven't been correctly tested or fully tested as part of the systems integration testing?---Sorry, you're asking me was that his view or you asking me is that - - -

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That's what we should understand that his reference to be when he mentions in his report - I'll mention it to you specifically?---Yep.

He recommends that through systems and system integration testing, would be able to get a better insight into the risk he identifies. And that's the possibility to which that alludes, as a tester I'm asking you, is two things: one is there are problems which UAT has identified, which haven't yet been thrown in a systems test for systems testing for whatever reason. That's one option?---Right. So I don't believe that is true. So if something had been identified in UAT as an issue and it required a change to be made to the solution, that was also tested.

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Let's deal with that issue first. It was the second one I was going to come to?---Yes. 1

So one is that issues be identified in UAT, it has caused you to revisit the systems testing and do whatever regression that is necessary?---Correct.

But the possibility to which that alludes is that you haven't properly understood, if you like, the ramifications which that little change could have on the wider system and have them tested accordingly?---What I took from Mr Cowan's report was that he was saying that because they had not done a comprehensive test across everything that there remain the concern of defects not having been found. I didn't pick up what you were saying, that there was a suggestion that in retesting UAT-sourced issues, defects, we would not have picked those up. I actually believe we were pretty good at doing that because we had an experienced team and particularly by that stage, experience in the solution. 10

Let's turn to your second example?---Yes. 20

That's issue not identified in UAT therefore never factored into systems test. You say that's what Mr Cowan was alluding to?---Yes, that's what I believe he was alluding to, yes.

That, you accept, is a possibility that occurred in this case because of the way in which we have discussed the UAT as being undertaken?---Yes, the only context I would add to that is we know that by default they ran a large number of the key business processes that were going to be used by Queensland Health in UAT, that despite the fact it wasn't reported in that way, just to run a pay and run the tests that they did run, it required them to exercise a lot of the code. I'm not sure where there was a 60/40 as presented in the report. I don't know, I don't have a reference for that but I would have expected that the major business processes were being run. I just couldn't see that in the report, so I just think that qualifies the risk that was there. 30

Does it raise one other larger issue then perhaps a less precise issue and that is this: if UAT has been conducted not using the RTM and systems testing has with these additions you have spoken of, then systems testing hasn't been conducted on a system which can be assured to pay people and pay them accurately?---It is a bit imprecise so I would rephrase that to say, if the requirements were incorrect, then the system testing occurred against those requirements, then there is a possibility some of those comments are incorrect that yes, the solution will pay people incorrectly as a result. 40

My real point is the two sorts of testing are being run with two different objectives in mind. UAT is running on one view, a test of, "Does it pay employee A?" and systems testing is being run on the basis of, "RTM plus some changes which we have identified in UAT"?---Of course, system testing has the 50

ultimate - same aim which is to ensure people are being paid correctly, it's the source of that information that is different, and that is the V model, so the system testing will always go to the functional specifications and the requirements and the UAT should be going to the business process. All of them should be linked and I'm going to just harp on it again because I do - is that they should all be linked in the requirements traceability matrix system. 1

That is, when one conducts a system test according to the RTM, if the RTM is right in the objective sense, one can finish the test, it is signed off and this system will, if there requirements say it, pay people correctly and pay them on time?---Yes. 10

Thank you. That's my only questions of Mr Dymock.

THE COMMISSIONER: Thank you. Mr MacSporran?

MR MacSPORRAN: Thank you, Commissioner. 20

Would you agree the signing of a system for a project like this, you would need to factor in a degree of robustness to cope with things such as poor data entry?---Yes. Of course, the definition of poor data entry is where you get the nuances, so typically when we do testing and I'm just giving my experience in this is you do what we call negative testing as well as positive testing. So a positive test says that if you put the right value in, you get the right value out. A negative test says that you then deliberately put something that is incorrect in and you want to see that the error handling occurs. 30

By that, you mean that the system picks up that there's an error?---Yes, correct, so it picks up an error and gives you an error message so certainly as far as that goes, I would say as far as user-entered data, then it should generally be able to tell the user that they have entered an incorrect value. If I could extrapolate or continue on from where your question is going I think, if there is sort of fundamental problems with the underlying data in your environment whether it's test or production, you can't build systems to deal with data to essentially - I'm trying to think of the word, not paradoxical, that's essential - just incorrect, just not compatible at all with anything - - - 40

It doesn't recognize it so you don't get a report saying it's an error because it's just wrong - - -?---Yes. You know, you may get - the way of handling that is what we call a less elegant way which is the short dump that were recorded, for example, in UAT and I don't claim to remember the cause of every single short dump but I do remember there were issues where the system date in UAT and the system date in the infrastructure that that sat on were different and that's just - - - 50

Fundamental problem?---That was the problem, yes, is what I am trying to say. 1

But for instance, you can build into the system at the start to recognize a manual error by a user putting in a wrong date, for instance?---Yes, and I'm speaking as a tester, not as a designer, okay, so I've just got to make that point but as a tester, we would expect to be - if a user put in a wrong date, you would expect normally that the system should handle that by giving an error message and saying, "This is the wrong date." 10

That's what we mean by the degree of robustness, it's built into the system, or should be, to cope with those sorts of routine things?---Yes, you do try to - you do try to do that.

Yes. If I could just take you to paragraph 91 of your statement?---Sure.

Have you got that in front of you?---Yes. 20

It's on page 19. You will see in subparagraph A, there's a reference to - under the heading Immigration Issues, there was one identified where an incorrect date was being put in by the user and a change was made to the system to cope with that?---Yes.

That's the sort of thing that should have been built into the system from the word go, isn't it?---Yes, this is an interesting one. So there were two things that work here. One was the fact that the user was allowed to enter dates that could be incorrect or in the wrong order, and the second was there were just so many matches - there were so many unexpected ad hoc payments being made at the culmination of these two things led to the defect. My honest assessment of this is yes, it would have been good if in testing, we picked up the fact that if the user did something like this, then there might be a problem but we couldn't have picked up in testing earlier was the sheer number of ad hoc payments that were being made. 30 40

So the volume was an increased complication to the equation, was it?---The volume seemed to be part of the equation and again, I'm speaking not as in-depth technical person but - - -

As a tester?---As a tester, yes.

You would agree - I think you have said this, just a moment ago, that the system integration testing should have picked up any occasion when the wrong date was entered?---I would normally like it to because that's what we do. I would make the point - I think I have made it in this statement, if I haven't, it needs to be clear, you never find all defects in eTesting. If you are able to do that, you would spend a long, long time testing. It's a fact of testing there will always be scenarios that you don't pick up. The fact that there were 50

some issues or defects after go live itself is not something that - I mean, I prefer that there were none but it's not an unusual occurrence at all.

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Does it follow, then, with 300 master data changes you would ordinarily expect there to be flow-on changes necessary for the master data changes?---I wouldn't expect that but that could be my lack of knowledge about how that works. The information about the 300 to 2000 came to me from my Workbrain lead at the time. 1

You don't know personally what the 300 master data changes actually involved and whether it did involve - - -?---Well, they were changes made in SAP so, you know, changes in SAP could be new employees or changes to employee data, they would come across to Workbrain. As I say, in terms of the volume we were expecting there would be 300 of those a day, instead there were 2000, you know, that's the essential nature of this. 10

But if you assess, for instance, by looking for 300 that there were necessarily out of the 300 a number of flow-on changes necessary from those, you'd need to factor that into the design of the system?---I believe that 300 is a total including any flow-on changes, so it's 300 coming across from SAP to Workbrain in that import job, that's what I took that to mean. That would include any flow-ons is what I believe. As I say, I'm not a particularly technical person. 20

Thank you.

COMMISSIONER: Thank you. Mr Webster?

MR WEBSTER: Thank you, Mr Commissioner, only a couple of matters. Mr Dymock, I think you were asked a little bit about the interaction between system testing and user acceptance testing, and I just wanted to clarify a couple of aspects of that?---Sure. 30

The first one was in relation to parallelism. I think your evidence was that there was a limited degree of parallelism overlap between the system test phase of the project and the user acceptance test phase of the project. Is that accurate? ---Yes, that is accurate. The parallelism that I described was fairly limited, yes. 40

I withdraw that. There were steps put in place by all participants to identify and mitigate the risks which were identified with that?---Correct. This was a strategy that was agreed upon as part of the planning for the master test plan amongst all parties.

And you see that parallelism as coming to an end by the middle of 2009?---Yes. So after that the only system testing that occurred would have been as a result of change requests that came through. 50

Tell me, is the process of system testing changes as they come

through out of UAT the normal process at approach to testing in a software implementation?---Yes, it must be done that way.

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Is there any other way to do it?---No, you should never put things straight into UAT.

Is there any other way if you are trying to do user acceptance testing to a timeline of testing changes except by doing system testing and regression testing on changes as they arise?---No practical way.

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Have you engaged in this process on other projects of system testing during UAT of changes and regression as part of the overall testing approach?---Yes, really on all projects.

You were asked some questions about what system testing was testing against versus what user acceptance testing was testing against. Do you recall those sort of questions? ---Yes.

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Is it possible to conduct system testing against something other than signed off requirements, from a vendor's point of view?---No.

You're now in the role of project manager, is that right? ---Correct.

From that point of view, if a project is designed so that the true requirements of a customer are designed in the course of the project to be elicited at the end during user acceptance testing, would you say that's a well resigned approach to the program?---You're asking if the intent was only to find out the requirements during user acceptance testing or - - -

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I put it badly. If a program is designed such that requirements are defined at the beginning and signed off, that there is an intention that the real requirements of the business will only be articulated once different people get involved at the end in UAT, and they will then tell you how close the requirements are to what they really want. Is that, in your experience, a prudent way to go about a software implementation project?---No, that's a really bad and inefficient way to go about a software project.

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Were you aware at the time that you were involved in this project that there was a view that the initial requirements which had been signed off shouldn't be relied upon by IBM in building the system?---No, I had the opposite view, that these were approved requirements by Queensland Health.

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Thank you. One final thing, Commissioner. I think you asked some questions about the provision of the requirements traceability matrix to the Queensland government, and I just want to give you some page references.

COMMISSIONER: All right. Thank you. 1

MR WEBSTER: In Mr Dymock's tender bundle, pages 157 to 160 are the emails by which Mr Dymock provided the requirements traceability matrix to various offices.

COMMISSIONER: Yes, thank you.

MR WEBSTER: That's the re-examination. 10

COMMISSIONER: All right. Thank you. Mr Dymock, thank you for your assistance, you are free to go?---Thank you.

(THE WITNESS WITHDREW)

MR HORTON: Mr Commissioner, we made better progress than we expected. May I call, now, Mr Cowan?

COMMISSIONER: Yes. 20

MR HORTON: I call Mr Alan Brett Cowan.

COMMISSIONER: Mr Ashton?

MR ASHTON: If it please the commission, I seek your leave to appear on this witness' behalf, my name is Ashton initials R.S. instructed by Small Myers Hughes.

COMMISSIONER: No objection I take it? 30

MR WEBSTER: No.

COMMISSIONER: I give you leave to appear, Mr Ashton.

MR ASHTON: Thank you.

COWAN, ALAN BRETT sworn:

MR HORTON: You are Alan Brett Cowan, is that correct?---Yes. 40

You have previously provided a statement to the commission, which you've been examined about?---Yes.

And you've been given, I think, in more recent times statements from Mr Dymock, Mr Kwiatkowski and a report of Mr Parkinson, is that correct?---Yes.

And you've had a chance to look through them?---Yes.

Thank you. Mr Commissioner, did you want me to examine Mr Cowan first? 50

COMMISSIONER: I think so, yes.

MR HORTON: Mr Cowan, you've obviously considered material provided to you. Rather than take you in detail through it, I

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don't want to prevent you from giving a detailed response, but I'd propose to really deal with that material by way of topics. I'll suggest them to you and see if you have a response, and if at the end you think that I haven't covered all the topics which have been canvassed please let me know and I'll give you an opportunity to speak to them?---Okay. 1

Could I tell you, first, what I would take from the material as the propositions. Before doing so, could I just ask the commission an example, if you like, of a test script which you would run in UAT, some practical example to understand what it was precisely that was the basis for your conclusions?---Even prior, maybe as a prerequisite to running the test case, it might require that there are certain data that's available to be able to execute that test case against. So maybe there's a default roster that needs to be in place or something like that, so as a result prior to the execution of a test case it may be that you spend some time creating data, the dataset that you may require. There are other ways of having that test data available, which may be that it exists as migrated data or something like that but ultimately you start with a known state. Then you might say, as a test case, I'm going to now play the role of a user who goes in and creates a roster, so you go in and you do a roster, and then I'm going to put the hat on as the payroll person and I'm going to execute the pay run, effectively, submit it to the pay run. The pay run is executed and then subsequent to the pay run being executed I will go and validate that the pay that has popped out as the pay slip appears to be correct based on what the test case has said it should be. 10 20 30

How do validate it, how do you know whether it's valid or not?---Well, as a general rule, when I have written the test case I have put inside the test case what data to put in and I also have put in what data I expect the system to respond.

Who has repaired the script in the instance you're talking about?---Generally, the testers themselves have written the test case as well as executing them. 40

So what do they do? They write the test case and give themselves the answer, if you like, that the system should produce?---Exactly. Those things are also reviewed so they tend to be created by a whole bunch, I think we had 25 to 30 different testers, and inside that test team there were five, I think, senior test people who were the senior payroll SSP sort of people and they were the ones who would then review the test cases to try and ensure that they were as good as they could be. 50

I see, so the people who were involved in it are people who might be expected anyway to know what the right result should be from a given set of circumstances?---Absolutely, yes.

By "right", I mean by reference to the award rules that they

knew existed?---And should they have any questions or concerns 1
they always had that senior person there to go and talk to and
say, "What do you think," blah, blah, blah, "Okay, this is
what we think it should be."

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So give us an example of a test case, a test script that has gone wrong or has not been able to be validated or is wrong?---A test case that is wrong or a test result that actually has come up as a defect, for example. 1

That will do?---Okay. So if I have executed a test case and it seems to be giving me the wrong answer - like the system is saying it's 5 and the test case says it should be 2, the first thing I will do is go to my senior test person and say, "Hey, can you come over here, have a look," and they would come over and have a look at what has happened and they would say, "Yes, I think that's a defect," and then they will raise a defect inside the defect management system, that's quality centre, and it's linked to that test case that I've just executed. 10

Yes. Some examples of the defects which you saw exist of this kind, how far out were the results from what the validated response was supposed to be?---I'm not sure I understand the question. 20

So there was the actual result that the system spat out?---That would be impossible to say. You know, depending on - when a defect was discovered, you could say it would really depend on the type of defect it was. I really can't give you a specific but what is more important is is the defect that we're seeing symptomatic of a big problem, or is it just that this - you know, there's maybe - this particular little flag that may affect 1 per cent of people isn't working, so that would be a determining factor in defining the severity of that defect, so I as a tester would have a go together with my senior person, the lead, to say, "I think it's about this severity," I would set it for what I thought it would be and then it would go to the defect management meeting the next day for an assessment. 30

So if the test script was about a nurse in sort of routine employment, sort of payroll has been applied and the result is wrong or there's no result, would that happen in those cases?---That would be a severity 1 or 2. 40

Yes. You would say it's going to effect - - -?---A lot of people.

A broad across?---Exactly.

I understand. Then it really brings you to my first topic. It has been suggested to you that you should have undertaken UAT by reference to a requirement traceability matrix? ---Mm'hm. 50

Did you conduct it by reference to an RTM?---No. Queensland Health was specifically trying to avoid being locked into a requirements traceability matrix that they felt potentially - I shouldn't actually even think about the reason why they didn't want to sign off on an RTM, that's - I have no visibility of that so I don't even want to make that comment.

What I do know is there was a lot of resistance to actually signing up to a requirements list. As a result from the testing perspective where I report and work for Queensland Health, it's pretty difficult for me to actually then start linking things to a requirements traceability matrix which I'm not really supposed to be acknowledging, if you will, in that sense. What we did do though in order to have a view of the scope and the coverage, if you will, of the test requirements as opposed to the requirements traceability matrix is within the test management system - quality centre was a test management and defect management system in one, so within quality centre, we arranged it in terms of business scenarios, so there would be a pay run, payroll sort of area, there would be a finance sort of area, there would be all sorts of different sorts of areas and within that, there would be high level scenarios going down into test cases, just like you would see in any sort of file system if you will that breaks it down so you have some sort of visibility of what sort of coverage you're getting but that doesn't necessarily link back to the requirements.

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Yes. Is UAT trying to - every requirement in the RTM as being covered?---No. You would say that system testing is intended to do that. From a user acceptance perspective, what we are really focused on in business process and whether the system would actually deliver, where it's implemented in production, if it's fit for purpose for actually what it needs to do, and that may or may not relate to the requirements.

Yes?---I would hasten to add and I back very much up what Mark Dymock said; in a perfect world where everyone is in agreement and when everyone is in a happy place, having that link straight through the requirements would be beautiful. In a situation as we had, that really wasn't possible.

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If your form of testing was right on UAT, if your conclusions are right, then had this system hypothetically bypassed user acceptance testing, one could have met the RTM requirements to the letter and still have a system which would not pay people?---What you would see is every single defect that we found, be it - again, I don't even want to get into the discussion of whether it was requirements defect, a coding defect; that's really less of a testing issue that can be defined by the business analysts, if you will, but all of those issues that we found in UAT would have occurred in production and the fact that it took us a lot of time and a lot of effort over probably six months to sort out all of those issues before we then did pull the trigger and go live gives you an indication of the sort of issues we might have had in production had we not done it that way.

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Your testing in the end becomes by reference to these scripts you said you were running is whether leaving aside the past, whether the system which you're presently dealing with is one which for those instances will pay people correctly?
---Absolutely. We had the people on staff in the UAT team to

know what those pay results should be and if there was any doubt, they were escalating them internally before they were trying to raise a defect as to clarification within their little user acceptance test team, they would seek clarification there so as a general rule, those test leads had five to ten years' experience and so they really should have been able to deal with - call it, let's say most of the non-defect defects, if you want to call them that, were probably dealt with there and never, ever entered into the system.

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Yes?---So the test that thought it was a defect, you went to the senior guy, they said, "No, try rerunning it and let's see what happens. Okay, it's fine, I understand what I did wrong there," it never got entered into the defect management system. It was only when there was a consensus within their little unit that this seemed like a problem did they raise it.

Now, these people who you have referred to, the subject matter experts, we have seen reference and heard reference to today?---Yes.

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Now, it has been said about you also that the testing you took wasn't sufficiently referable or analysed by reference to business areas or business functions. Is that correct?---Well, when you're dealing with effectively what we were trying to deal with, hundreds if not thousands of defects, you have to draw the line somewhere in terms of the granularity to which you sink. The concept of defining or describing each defect and what it actually meant and that sort of thing, if you have got 300 pages or 300 defects listed in a table, that makes it kind of difficult for people to understand. As a general rule, what we try and do in this level of reporting is to consolidate it up. Now, one of the ways you try to communicate that sort of information is to break it down into business processes and within those daily status reports, there were graphs there that broke it down into business processes. If I may - - -

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We can take you to one earlier today, Mr Cowan, I think?
---Sure.

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Page 79?---Exactly. So that breaks it down, that highlights by severity what - it is by severity, yes?

It is. Major, minor, cosmetic?---Exactly. So that breaks things down by severity in business processes. Now, the idea of a severity on a defect is to highlight what is the implication, what is the risk or what is the issue, how severe is it. So if you see something that has five severity 1 defects in a business process, you know that that business process is pretty broken.

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So when we see, for example, these graphs about business function, is this exhaustive of the level of detail analysis which you yourself undertook as a tester?---No. Obviously in

order to go through the defects, each defect in its individual sense is addressed especially within that defect management meeting, this is simply a consolidation to be able to present to people from the project board down through the directorate through any number of those recipients of that status report about where we were at in a high level sense. 1

Now, you have probably covered it already but it said about you that you didn't understand clearly enough your testing scope. Again, that seems to go back to the RTM. You're saying - - -?---The testing scope would normally be focused on - you would normally ask that question when you had lots of defects in production and say, "How on earth did this get through?" You know, "Where were our testers, what happened?" You wouldn't normally ask that question if you found lots of defects, right, that would seem - the fact that we found lots of defects would tend to indicate that our testing scope was pretty spot on. It's only if you didn't find lots of defects and they ended up in production that you would be starting to worry about how on earth did you not include this in your scope? Again, I think it's a very different question about system testing and testing against the direct documented requirements and signed off requirements as opposed to making sure that the system is fit for purpose and ultimately for a UAT which is the last quality check before you go live, the most important thing is that it is fit for purpose, not that it hits the requirements. 10 20

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All right. Said also that you use raw numbers of defects only, shear numbers, mere numbers, and give no context or explanation. That's more, I think, by reference to your final 27 January 2010 report?---Right.

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Is that a valid criticism, in your view?---Well, ultimately again with so many defects outstanding, it's a very difficult thing to go down and break it down to the nth level of detail. My biggest concern with this whole project and program was that there were just so many issues. If there was a grey area, if we were sitting in a grey area where it was like, "Well, maybe this would be considered okay or not," I'd be much more interested in going down to that level of detail to really provide a huge amount of context to give as much information as possible for people to make their own assessment of what shade of grey is it, but to me there was no shades of grey in this, this was a clear case of the system in distress and that there was a significant risk of (indistinct) issues in production should we go live with it.

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Now, there's a defect management tool. Is that something which helps us understand whether there might be more detail behind the analysis you're undertaking in your 27 January report?---Absolutely. So the tool is called (indistinct) Centre. It's the test management tool, it's the defect management tool. It provides the live status of all of the defects. So sometimes if you print out a report, it immediately becomes a date of somebody who then goes in and changes things. So as a general rule, it's much better to work from the live system and it's only when you hit milestones that you want to try and generate a certainty that level of report that if you're talking about hundreds of defects, again, a report can only deliver you so much, and a system like this, defects have a life span and in that life span they can generate an enormous number of comments and inputs as to what happened with the defect, who commented this and that. So per defect you could end up with two pages of comments. So maybe in legal circles, it's great to have boxes and boxes of binders of information. As a general rule, though, for us, we would normally print that stuff out, we would normally keep it in a live system, and if you need information about the detail of defects, that's where you go.

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Yes. Now, severity also presumably plays a role in identifying the seriousness, if you like, of issues which are discovered. Is that correct?---Absolutely, yes. So as mentioned before with regards to those business breakdowns, you know, if you have two or five critical severity 1 defects in a system specific area, then that would indicate that there's significant challenges there.

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Those severities were relied upon at the daily meetings of those defects. Is that right?---Absolutely, a large part of the meeting was to set that severity.

Now, of those defects, I don't know if you can give a rough

estimate, but how many of those defects are signed over the period which were assigned to IBM were ones which you would call coding or programming?--Well, I would like to - I'd actually like to support what has been said by our learned IBM colleagues. It's not that every single defect that was assigned to IBM in those defect meetings was explicitly a requirements defect or, sorry, a coding defect. I have to say that Mark Dymock was the voice of reason, from my perspective, on the IBM side. He was the guy who did make sure that program kept delivering. I do believe that - I didn't ever - we basically ended up with a truce, if you will, to say exactly as Mark described, there's no point in this level of meeting to try and argue whether this was in scope or out of scope of a requirements document that was signed, especially at a contractual level. It was certainly way out of our pay zone, if you will. So we go on with the job of actually just trying to make a system work. The fact that it was assigned to IBM implied that they needed to go and do some work with it, be that further analysis as they described, but ultimately I would say that a large part of the time, at least 80 per cent of the time, it caused - there was a need to change the system somehow, be that because the requirement or was incorrect or that, you know, there was some challenges, but the maximum, I would say, would be 20 per cent, by the time especially remember that it got to the defect management meeting, 20 per cent were probably identified as, "Okay, the tester got it wrong." 80 per cent were likely to be things that needed to be changed somewhere in order to make sure that people got paid correctly, not taking into the concept of was it a requirement issue, was it - we couldn't start to go down that path.

Yes. Which I think Mr Dymock accepted, that on the basis he explained about how IBM took them on a good faith basis, I think he said, he agreed with the two, I think, of over 50 per cent and up to, you know - - -?--Yeah.

- - - 75 per cent or so allocated to IBM, and the others were allocated to QHEST. Is that correct?---They could be allocated to CorpTech if there was a problem with the CorpTech sort of area, the infrastructure sort of area, or to QHEST, yes, that's right.

And so when you prepared your 27 January report, did you take into account that there had been false defects - - -? ---Absolutely. In the daily status reports, there were explicit exclusions. So when I generated all of these graphs and information from the quality centre, the defect management team - or the, sorry, system, there was a - you set filters and to the point where I actually - I got so many questions about, "What are in these numbers? What things are included, what things are excluded?" I actually documented at the back of the first few months of it a page which exclusively listed what the filters were on those reports and very consistently they excluded the close no defect and the close duplicate things. And when something was discovered, say, for instance,

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to be a testing issue, it was definitely set as close no defect. And when a tester had raised the defect that another tester had raised, it was always closed as closed duplicates, so we made sure that we did not factor those things in.

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Was there any view on which, in your opinion, the not real defects could amount to 60 per cent of those you identified? ---I guess it would depend on your definition of a false defect, but from my definition absolutely not.

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It was said also that the test data was not controlled?---Test data was definitely controlled. The challenge with test data was that we were under such time pressure that the ability to take a fresh migration - obviously I agreed with the other gentleman who gave evidence that the best approach would be to take a clean data migration set of data, put that into the test environment and run with that. What tends to happen in these projects, however, is that the data migration is equally as stressful and time constrained as everything else, and so is timed to be ready on go live rather than to be ready at UAT start. So that data migration was running as a completely separate area and they were trying to get that through. So what we started with in the UAT was one of the original cuts of the data migration, so we had that, and then we just had to, as we discovered, functionality that needed to be implemented through the UAT, et cetera, there might be additional things that needs to be added into that database, things like this, so we ended up in a situation where we were trying to manage the data set as best we could. What we did, and there are examples of the actual plans where we actually tried to implement this, was we would - there were different approaches. So we had that baseline of migrated data. We then had - if there were special things that have been done to the system as a result of new functionality being discovered to be replied in the system out of UAT, and there was, by definition, that functionality was not available yet to do stuff, we would have to insert bits of data into that data set. Equally, where the functionality was available, we would go into the system and into rosters or whatever it is to set the system up with the data set and then you would run a pay run, and then it would be established as the data set, so controlling the data was a very, very complex process but to say it was uncontrolled I would say would be false.

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COMMISSIONER: Do you say that the problems with data was that it was incomplete rather than erased?---No. I'm sure that there was certainly some situations where it was erroneous. Incomplete, almost by definition, you set up data according to the test cases that you wish to run, so it would be incomplete in the sense that it's certainly not the whole of the production data set. So we just make sure that for the test cases we want to run, we create data for that, but there could be lots of other data that - because we're not explicitly in the UAT, remember, we're not intending to execute data and tests around that data set, so we wouldn't include it. The easiest thing to do would be to pick up the

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whole production data set, have it migrated and then use that, 1
but that wasn't an option.

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MR HORTON: What sort of data is this that we're talking about when we say the data is uncontrolled, what sort of data is being migrated, what sort of information?---Historical data with regards to pay runs, the people, the actual nurses, the people actually being paid, there's a lot of retro stuff. You might see a lot of reference to retro stuff, that's all associated with past pay runs and where people haven't been calculated correctly so you have to retrospectively go and pay them, all of this sort of stuff. Basically, entire dataset for historical things and the configuration datasets, so all of the wages, all of the awards, all of that stuff is in there. The sort of things that you then need to create are things like new rosters and, you know, addition of new people, these sorts of things are the things that you'd actively go in and create.

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Subject to any data cleansing which takes place, it's the same data the system will face on go live, is that your point? ---It's likely to be similar. It's hard to say that it's exactly the same because hopefully the new system will start working as a migrated dataset, and because they're still working on that you don't have access to it so you have to approximate that as best as you can. The important point to note is: even the migrated dataset will have challenges and will have errors and will have issues with it, so to assume that the data is going to be pristine and perfect in your production system would be naive.

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Then it's said that most of the defects were the defects in requirements. I suppose it means wrong requirements. Is that something you experienced?---That's very difficult for me to say. I think what I could say to that is that we saw defects that meant that people would be paid incorrectly, right, and we also saw defects where the pay run would short dump. That sort of defect where you press a button and the thing just doesn't seem to be able to cope and dies, that's a real problem. Now, sometimes that could be traced back to data and other times not, so those are - there's almost no question about requirements in that sense. Where it comes down to a question of requirements, what I could say is: based on the amount of handing over to IBM when it came to that defect management process and where we basically passed a large proportion of things over, I can say that they accepted them, I can't say that it was absolutely requirements or not. But it was certainly not an issue that we had incorrectly reported and issue.

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Did you have detailed scripts or a test execution plan?---We certainly had a test execution plan. I'm not really sure even where it came from, the concept, that we didn't have any execution plan. IBM even were very supportive for us inside UAT where people were there to support when - in the same case when we thought we found an issue, a defect when somebody tried something and thought they found an issue, not only would they talk to their senior person but there was normally an IBM person there as well to try and understand and to sort

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of give support even before the defect was raised within the Quality Centre. In that sense, we really tried to minimise the overhead, if you will, of raising incorrect defects. That was also provided as a mitigation strategy from IBM to try and sort of limit the noise, if you will.

It's been said also that you ought to have conducted a defect leakage analysis?---Well, a defect leakage analysis is something you tend to do retrospectively. Also, a defect leakage analysis is like a quality assurance function as opposed to a testing function because it requires the input from many different people. If I as a tester stood up and said, "I'm going to do a defect leakage analysis," and started saying, "Well, VA should have done this and developers should have done this," I'm going to be the least popular person in the room. It needs to be done as a consolidated effort by the program to actually deliver this. A defect leakage analysis is also something which is done by a very mature organisation. I would probably, in my opinion, say that Queensland Health per se is not a mature organisation in this sense delivering this program. IBM, however, would consider themselves to be a very mature organisation, CMM level 5. Would that would mean is I think that it would be very interesting to see a defect leakage analysis, especially a defect leakage analysis from system test into UAT, which to me I'd be the one saying, "That's where I believe there's been a huge amount of leakage." So I would have welcomed the defect leakage analysis from system testing to UAT, and I believe that it would have supported what I've said in my final report.

You do, in your final report, mention the full system integration tests that should be done. What do you mean by a full systems integration tests as distinct from what was done here?---Right, well, ultimately once you - I absolutely agree with what Mark had said, yes, we did a systems and systems integration test. The problem was that from April, I think, where it was finished through to when we actually went live we found 2000 defects or so, of which a large proportion of those meant code change whether or not they were due to requirements or not. Now, yes, within each change system testing was done but you're compounding the error. One tiny little error in a change here and, okay, you do a little system test over here, unless you're being absolutely perfect another little error gets in here and suddenly you end up with the opportunity that all of these things multiplied out, end up with some significant risk. So it's all about risk identification, and so to say because we've had so many changes from when we actually initially did systems test to when we finalised the code base on which we are about to go live, I had absolutely no faith that the number of these multiplier effects of all of the different risks that you buy into when you make a change wouldn't have meant that there were significant risks left in the system. So what I wanted to see was implied in the system testing that I would like to have seen, system and system integration testing, would be a revisiting of the requirements to make sure the RTM was solid, now, based on what we had

discovered. Effectively, to say exactly as I think the guy said, "Is discovering defects towards the end of a project good practice?" Absolutely not, it's terrible practice, so why don't we just reset the goal posts and say, "Let's assume that everything we've done to date has primarily been requirements gathering, let's execute a system and a system integration test from now." Say, "Hey, we're now confident at the robustness of the system, we've really executed this test, now let's do a little bit of UAT because we know that all of the functional stuff is done, now we can go live," that's what I would have liked to have seen.

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Your final report, in effect, says, "Don't waste your time continuing with UAT, it's a waste of time"?---As I think most people who sat here have said the same thing, you're trying to crack a walnut with a sledgehammer, it's not going to work.

Is the risk you're identifying then in respect of system testing is that when you've gone and tweaked the system addressing these new issues and you've gone back into systems tests and done regression testing or something, you've just failed to understand, with the best of intentions as systems tester, all the precise ramifications it can have on your system as a whole?---Exactly. As Mark himself pointed out, testing is not going to find everything, but the more of testing is not going to find everything that you multiply means you're going to have a really big testing is not going find anything at the end. If you have a comprehensive systems and systems integration test, based on the code base that you have now and the requirements you have now and you execute that as a whole, you minimise the risk. Without that you have a real outstanding risk problem.

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Mr Cowan, I've tried to cover the topics as best I could in that manner. Is there something which occurs to you as a major topic that I haven't asked you about which arose from the evidence?---No, in most forms I agree very much with the people that I've heard this morning. I thoroughly respects Mark's work as he conducted it, and I think that he was under incredibly difficult circumstances within the program. As I say, I believe that he was one of the reasons why we were able to achieve what we did achieve in that in a good sense.

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It seems you wouldn't agree, though, with any criticism of your report which said you were undertaking a task which was not the proper one for a UAT tester to undertake?

---Ultimately, the defects that we found in UAT would have been disastrous had they gone live, so we were the sole real holders of the QA function for Queensland Health. We discovered 2500 odd defects that had they gone live into production would have caused six months of turmoil before we had achieved the state of where we then started to have the issues when we actually did go live. Absolutely, you can complain about the methodology, you can complain about all sorts of things but ultimately we achieved what we absolutely

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needed to achieve, which was to identify issues before they
went into production.

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Thank you. That's the evidence-in-chief of Mr Cowan.

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COMMISSIONER: Mr Cowan, can I ask you something, it relates to evidence you gave when you were here last?---Yes.

You mentioned Mr Doak had been spamming emails?---Yes.

Mr Doak, if I remember him correctly, told me that he had never met you. Is that right? Had you met or not?---We have, and a very passing - we certainly hadn't spoken more than three words together, but it was a testament to the environment at the time where rather than, you know, if there was some issues within, you know, something normally people would approach you and say, "Hey," you know, "I think what you've done, maybe there's a bit of misunderstanding here. I think we really need to work with this." The approach taken was really just to, want of a better word, spam. The tone of the emails, to me, said everything that needed to be said. They were very antagonistic.

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I've read some of them. But what I'm asking really, I suppose, and I think you've answered it, is that at no stage did Mr Doak come to you with the concerns expressed in the email and seek to discuss them with you?---No. At best, he probably assigned maybe Mark or John Gower to do that, even though we were in the same building. And, you know, I had a role where I needed to be very focused on delivering what Queensland Health wanted me to, so whenever that sort of action was taken, I went directly to my project manager, so Amanda Doughty or named places and said, "What do you want me to do with this? Do you want me to go and talk to Bill? Do you want me to respond? How do you want" - and I took direction very much from them as to my reaction, and generally that direction was, "Leave it with me; I'll deal with it."

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Thank you. Yes, Mr MacSporran.

MR MACSPORRAN: I don't have anything. Thank you.

COMMISSIONER: Mr Webster.

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MR WEBSTER: Thank you, commissioner, just a couple of things. Mr Cowan, you were asked a few questions about the role of data or problematic data in user acceptance testing?---Yes.

Can I just ask you if the statement I'm about to read out accurately summarises your view?---Sure.

It's this, "The data preparation quality proved to be a perpetual source of pain for the execution of UAT"?---Yes.

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"There were many days lost to either defects generated as a result of poor data quality or due to the pay run short dumping due to poor data quality"?---I would say yes, but I think you need to qualify that by saying that the pay run

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should not have short dumped because of data quality. 1

Well, that directs attention to the question of how robust the system should have been to cope and what particular types of data problems - - -?---Absolutely, yes.

- - - it was experiencing?---Yep.

MR ASHTON: Mr Commissioner, with respect, my learned friend should make it clear to the witness exactly what he's putting to him. He's reading from a document. I don't know whether he's suggesting it's the witness's document or exactly what he would describe it as. He said - - - 10

MR WEBSTER: I'm just asking him whether - - -

COMMISSIONER: With respect, I think the question - Mr Webster, let me stress, I think the question is appropriate. I mean, the witness was asked whether he agrees with the statements. He either agrees or he doesn't. I don't think the origin of the statement for the moment is important. 20

MR ASHTON: I understood him to be saying, "Is this your statement or is this what you would say, that - - -"

COMMISSIONER: I thought Mr Webster said - - -

MR ASHTON: As you please, commissioner.

COMMISSIONER: - - - "Do you agree with these propositions?" 30

MR WEBSTER: That's correct.

COMMISSIONER: That was the essence of it. I think that's quite acceptable.

MR WEBSTER: That's what I was meaning to convey, commissioner.

COMMISSIONER: I thought you had done that, in fact. 40

MR WEBSTER: Thank you.

For sake of clarity, I was reading from your final conclusion report, Mr Cowan?---Okay.

And it's fair to say that subject to the qualification you've just expressed, you stand by that statement about data quality?---Yes. 50

In terms of the particular robustness that the system should have had and the particular data quality issues, and whether they ought to have caused the problems they did, is it fair to say you didn't conduct a detailed technical analysis of each and every one of those things in your particular role as test manager?---I certainly did not conduct a deep and technical

analysis of that type of thing.

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Thank you. That's all I wanted to ask on data quality. Can I ask you about, then, the idea, the function of user acceptance testing in this project. And to understand the background, I think you said at the start of your evidence that you were directed by Queensland Health in this user acceptance testing not to use a requirements traceability matrix?---No, I'm not sure I said that. What I said was that I was directed that they did not want to sign one off. So there's a major distinction there, which is that anyway in user acceptance testing I don't like working against a requirements document because for this very reason.

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Well, maybe I can clarify this way: did you feel, given what Queensland Health said to you, did you feel at liberty to use IBM's requirements traceability matrix if you had wanted to? ---No, I did not.

Or did you feel that you shouldn't use it?---I felt that I should not use it.

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Thank you. Instead, the way that you approached the testing was to have a group of Queensland Health employees, a number of which at least were expert in the pay cycle process. Is that right?---Well, most of them were experts in payroll, yes.

Thank you. They would write test scripts to test whether this system, as they were testing it, met what they knew to be Queensland Health's requirements for a payroll system when it was implemented?---Yes. They made sure that the system was going to be fit for purpose when it went live, yes.

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It's fair to say that as far as you know, the way they approached writing the test scripts was to use their own expertise in terms of the functionality they would want or expect and to write the test case to generate a result which either confirmed or indicated that functionality wasn't to be met?---Not only that, but that's certainly a large part of it, that they would sit down and have workshops, and try to define as a team overall what are the high level and high priority business processes that they needed to be covered, and they would generate the outcomes and the scenarios based on their experience, yes.

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Is it fair to say, tell me if this distinction is a fair one to draw in terms of the types of test cases that can be designed, and I'll come back to that after clarifying one more thing, the phrase "pay people correctly" has been used a bit today and you would recall giving some answers in response to questions about whether the system could or did, or would pay people correctly. That's the context?---Yes.

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Now, when we're talking about a system that pays people correctly, is it right to think in this system there is, first, the pay rules themselves and whether they are

accurately captured by the system?---Yes. 1

And that involves, at a practical level, an award which a union and Queensland Health negotiated?---Yes.

Which has in text and some numbers rules in English about how a person is to be paid?---Yes.

And to turn that into a software program, you need to make a decision about what the words mean in terms of mathematical calculations?---Absolutely. 10

So a system might pay people incorrectly because in that translation process from the words of the award to the calculations in the system something has crept in?---Yes, though you would have to look at who was doing the interpretation of the award as the - - -

I agree. I'm not attempting to hear you identify it?---Sure. 20

I'm just trying to identify when we talk about a system paying people correctly, what are the core elements we need to understand?---Yes.

So the first one is: a pay rule which accurately reflects the award and a number of things could go wrong there. The person who interprets the award might interpret it wrongly?---Yes, that's true. If I - - -

I'm only talking in theory here, Mr Cowan, but if you do need to clarify something - - -?---Yeah. I don't know really know where this is going, but in Queensland, in the QHEST program, we had a team which were tasked with doing the analysis and delivering verdicts on what the award meant, so there was a centralised team that would ensure a consistent view on that. 30

Let me just clarify that?---Okay.

During the course of user acceptance testing - - -?---Yes. 40

- - - to the extent you were doing testing of calculations to check if they were right or wrong, you had a team there who if you had a question about whether the result was right or wrong you would go to and say, "Is this right or wrong? Does this match the award? Tell us how it should be"?---Yes, if there was discrepancy between our expected thing, and in that was in the defect management process when we would assign it to QHEST and that's when it would go to this team.

Very good. You had that team during UAT?---Yep. 50

Can I go back a step again to paying people correctly?
---Mm'hm.

You had a system which had pay rules - - -?---Yes.

- - - and we've identified that the award might be, if we end up with the incorrect pay, the award might have been interpreted incorrectly?---Yes. 1

That's one possibility. Another possibility is the award is interpreted correctly but it's coded incorrectly into the system by whoever does that process?---Yes.

And there might be other reasons as well. There's at least two problems there?---Yes. 10

Now, in addition to pay rules, there are also the other aspects of the system screens to enter people's data, forms to be printed off and other things like that?---Yes.

And they don't directly affect pay calculations but they're an integral part of the functioning system?---It would depend. I mean, some of them would affect direct pay but I'm assuming you're saying pull aside the things that may - you know, there is definitely a distinction between things that would affect pay and things that would not, yes. 20

And you would expect that in the specifications which were originally signed off, there would have been specifications which dealt with pay and pay rules?---Or a reference to, "It will affect this award."

All right?---Yeah. You wouldn't normally expect a sign-off document at that level to have all of the pay rules. 30

Ultimately, as a person designing the system, you would need to receive from the customer, though, information about the pay rules that needed to put into the system?---Yes. If I'm going to create something, I need to have it defined to me what I've got to code, yes.

And you need the customer to help you in that process?---Yes.

In terms of the system as it was initially specified?---Yes. 40

Assume captured in the RTM for now and tested in system integration and system testing, you weren't in a position as UAT test manager to pass judgement about how exactly that system would have performed against its agreed specifications?---No, I wasn't.

Okay. And you're also not in a position to say whether those agreed specifications may have captured a system which performed functions and paid amounts, albeit not the amounts and processes which Queensland Health ultimately wanted or needed?---I had no visibility of - personally? 50

Yes?---Okay. So there were people before me who apparently received your RTM. I'm not sure that I was one of them.

Sure?---So I don't think that I had clear visibility of the

requirements as being defined by - that IBM was asked to implement. What I can say is there was certainly - there were defects associated with people being paid incorrectly. There was certainly a lot of other defects that were not really associated with that.

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Yes, there were two categories?---Mm'hm.

And I think we've agreed that defects to do with paying people correctly predominantly resulted in some problem occurring between the award being written and the mathematics to do with that award being coded - - -?---And the award changing.

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And the award changing. From your point of view, you can't identify which - - -?---Where the source was.

- - - at what step along the way it went wrong?---Yeah, absolutely.

Similarly, for the system which went into system testing and system integration testing, it may be a system which when the subject matter experts and UAT got a hold of it was identified to produce wrong pay outcomes, but it may nevertheless, as far as you know, had been a system which produced pay outcomes which were met, communicated requirements, albeit requirements which ultimately turned out to be wrong?---Yes, 100 per cent.

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Okay. Just a minute, Commissioner. Nothing further, thank you. 1

COMMISSIONER: Mr Ashton, any questions?

MR ASHTON: Nothing, thank you, Commissioner.

COMMISSIONER: Mr Horton?

MR HORTON: No re-examination, Mr Commissioner. 10

COMMISSIONER: Mr Cowan, thank you again for your assistance?---No problem.

(THE WITNESS WITHDREW)

MR HORTON: Could I tender one final document, Mr Commissioner?

COMMISSIONER: Yes. 20

MR HORTON: They're documents I put to some witnesses. You'll know about provision of Mr Cowan's and Mr Manfield's material, they're just a bundle of emails asserting, if you like, the statement of Mr Cowan, the report of Dr Manfield and associated materials. I seek to tender that. Just so the dates are established, I would say it was done.

COMMISSIONER: Yes. 30

ADMITTED AND MARKED: "EXHIBIT 168"

MR HORTON: Thank you, Mr Commissioner.

COMMISSIONER: Mr Webster, I was thinking before of a point you raised about the submissions. It seems to me that section 27 of the Deformation Act is complete protection, of course, for your client and its legal representatives in giving the submissions to the commission. To the extent that our putting it on our website is a republication, section 20 of the Commission of Inquiry Act is complete protection, so I can't see a problem. 40

MR WEBSTER: I'm gratified for you spending your time to do that, Commissioner, and for that indication, thank you.

COMMISSIONER: I thank counsel for their efficiency in getting through the witnesses in the one day. We will adjourn again, thank you. 50

THE COMMISSION ADJOURNED AT 3.46PM