

A IN THE CROWN COURT T20100218
AT GUILDFORD

Bedford Road,
Guildford,
Surrey
GU1 4ST

B 14th October 2010

C Before:
HIS HONOUR JUDGE N.A. STEWART

R E G I N A

D -V-

E SEEMA MISRA
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F -----
MR. W. TATFORD appeared for the Prosecution.

MR. K. HADRILL appeared for the Defence.

G -----
TRANSCRIPT OF PROCEEDINGS.

DAY 4

H -----

(In the absence of the jury)

A

MR. HADRILL: My expert, Professor McLachlan, tells me he is due to fly to South Africa on Saturday for three weeks for business and I have asked my learned friend if we can interpose him if the need does arise and I do not think it is resisted but we **B** will see how the – what progress we make.

JUDGE STEWART: Yes.

MR. HADRILL: It is not his fault but nobody expected it to – the unexpected arrival of **C** further information and time needed.

MR. TATFORD: Your honour, I am quite happy if it is – if - I do not want to inconvenience anybody.

D

JUDGE STEWART: No.

MR. TATFORD: And if – if it is better to call the experts back to back, then so be it.

(The jury returned into the court).

E

MR. TATFORD: Can I call Gareth Jenkins, please?

GARETH JENKINS, sworn,

Examined by MR. TATFORD.

F

Q Your full name, please? A. Gareth Clifford Jenkins.

Q And, Mr. Jenkins, first of all, can I ask you about your occupation? What is it, please? A. I'm a system architect working for Fujitsu Services.

G

Q Could you just repeat that? A. A system architect working for Fujitsu Services.

Q And how long have you worked for Fujitsu Services? A. Well, Fujitsu used to be called ICL and I have worked for ICL and Fujitsu for thirty seven years.

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Q Did you join ICL after university? A. Yes, straight from university.

Q And what degree did you do at university? A. I did a degree in Mathematics and

A got an MA.

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Q And the degree was where, please? A. From Cambridge.

Q And do you have any computer qualifications? A. Yes. I'm a Member of the British Computer Society. I'm a Chartered Engineer and a Chartered IT professional.

Q Can I ask you about your – your knowledge of the Horizon system? For how long had you been involved with the Horizon system? A. Since 1996 which was before the first system went live.

Q And just in a couple of sentences or so what has your involvement been with Horizon? A. I've been involved in designing various parts of the software within the Horizon system and, in particular, I've been involved in a number of changes recently in terms of the way the accounting is done within the system and how it ties in with the backing systems in the post office.

Q Do keep your voice up. A. Sorry.

Q The jury are quite a way away from you. A. Yes, sorry.

Q Can I also ask you to keep your evidence at a slow pace? A. Yes.

Q Because some of your evidence may be of a rather technical nature and it is vital that we can all keep up and a note can be taken of what you say. Have you actually ever given evidence before? A. No, I haven't. This is all new to me, I'm afraid.

Q Well, let us take it slowly, both for your benefit and, indeed, I suspect, for ours.

Now, you have made a number of witness statements in this case, is that right?

A. That's correct.

Q But your final witness statement is an amalgamation of all the work that you have done on the case, is that right? A. That's correct, yes.

A Q And, your honour, I am going to follow that last statement if I may. It is a statement dated 8th October. Now, I am going to ask you, first of all, about what you were asked to do. What did the Post Office legal department request that you should do?

B A. They asked me to comment on the report that I received from the defence's expert witness.

C Q That is Professor McLachlan? A. Professor McLachlan, yes, that's right.

C Q I think he is the gentleman who sits behind - A. Yes.

D Q - Mr. Hadrill with the laptop computer. And to provide comments on his report – in fact, I think, Professor McLachlan provided a number of reports himself, is that right? A. He's provided a number of reports. I think there's about five or six altogether and I've gone through each one at various stages and again I think the final one is an amalgamation of all the earlier ones. So I restricted my comments in the statement I did last week to the final report.

E Q Now, can I ask you about what data you have examined in order to provide comments on the defence expert reports? A. I was provided with data of all the transactions that took place in a particular branch which I understand to be the West Byfleet branch concerned here between December 2006 and December 2007. That is a period of thirteen months. And there was something like about 430,000 transactions during that time period.

F Q And in addition to – so you have looked at every single transaction within that -

G A. I've not looked at each –

H Q Right. A. – individual transaction but I've got spreadsheets which contain them and I've done – and I've filtered through for significant ones following various hypotheses that Professor McLachlan has come up with.

A Q And it is right, as well as seeing the reports of Professor McLachlan, you have been in close contact with him for a number of months? A. Yes, I've had a number of conversations with him on the 'phone and we had a meeting together in July, I think it was, and I've had other discussions with him as I've talked to him this week.

B Q And Professor McLachlan comes to this case as a computer expert, is that right?
A. So I understand, yes.

C Q And you have seen all his qualifications, presumably? A. Yes.

C Q But he comes to the case as something of an outsider to Horizon, would that be right? A. Yes. As far as I know, he's had no contact with Horizon before.

D Q And has part of your role been to explain some of the technicalities of the system to Professor McLachlan? A. Yes, I've given him some overview information as to how the Horizon system works and I've also spent some time going through explaining how to interpret the various transaction logs and so on that we provided to him to examine.

F Q In addition to the transaction logs – well, a figure not far off about half a million – have you had access to the papers in the case as well? A. I've seen a few of the witness statements. I don't know that I've seen all the witness statements but I have been shown various witness statements and other bits of information like that.

G Q Your – does your role as a witness, as you see it, does it extend beyond giving expert evidence about the Horizon computer system? A. No, my role is purely the Horizon side of things. I've got no knowledge as to what goes on within Post Office and what Post Office do with the data that we pass them from the systems.

H Q Nice and loud with the voice. A. Sorry.
Q But if you try and speak perhaps a little bit slower – more slowly? A. I normally

get accused of shouting.

A

Q Well, I do not think shouting is a problem in this court.

JUDGE STEWART: Shouting is a virtue here.

MR. TATFORD: Yes. A. Okay.

B

Q It is a big room, is it not? The defendant is a long way away and the jury are a long way away. If you would just try and hit the back wall behind the jury - A. Okay.

Q - and perhaps look at them when you give your evidence, it may help you speak at the right - right sort of volume. Can I ask you, first of all, then about some general information about the Horizon system? When was it created, please? A. The first system went live in about September of 1996 and it went into an extensive pilot for a number of years and in 1999 we started rolling out Horizon in general to all the post offices in the country. That roll-out took about two years to actually get all of the post offices installed with Horizon.

C

Q So the installation of Horizon throughout the Post Office system, that took place, did it, between 1999 and 2002? A. Yes.

Q Now, the pilot, what do you mean by an extensive pilot? A. We - initially we had the system running in one post office, then it went out to about ten post offices for about six months or so and then it went on to about two or three hundred post offices and it was running in those two or three hundred post offices for two or three years before - to make sure that it was all working properly and the system was being extended to cover additional functionality during that time before we started rolling it out to the whole country.

D

Q I suppose there was a need to see how - how Horizon operated in practice rather than in the lab? A. Indeed so, yes.

A Q Now, Horizon was rolled out to all post offices by 2002, is that right? A. That's correct, yes.

B Q And the time we are concerned with, 2005 to 2007, are you able to assist as to how many post office branches there were in the country? A. I'm not sure exactly but there's something of the order of about fourteen thousand at that time. The original target was nineteen thousand post offices but over time, as people are probably well aware, a number of post office closures have taken place. So by now it's down to about eleven and a half thousand but in the time we're talking about there was something like about fourteen thousand, I believe.

C Q And we have heard evidence that every single post office transaction goes through the Horizon system? A. That's correct, yes.

D Q And so, putting those fourteen thousand or so branches together, can you give us an idea of how many transactions Horizon would be processing each day?

E Q A. Several million each day, probably up to about ten million a day. At the peak time, which is in December, it's getting close to twenty million transactions on a single Monday. So it's a very large system.

F Q The contention by the defence in this case is that the Horizon system, as used particularly at West Byfleet, may have had a fault. Have you found any evidence in all the work you have done to suggest that there was any such fault with the West Byfleet equipment? A. No. I can't find anything that shows there's any faults there.

G Q And you are aware, are you, of the witness statements of Mr. Dunks - A. Yes, I am.

H Q - who provided a rather exhaustive list of all the calls to the helpline. Do any of

A those calls to the help - helpline – I do not know if you heard his evidence yesterday? A. Yes, I did indeed.

B Q Did any of what you have read or of what you heard yesterday from Mr. Dunks, did that cause you any concern as to your view that there is no evidence of any computer fault? A. No, I – I've not – I haven't got Mr. Dunks's experience in examining call logs and things like that but I was quite happy with his comment that the level of calls from the branch were typical for other branches.

C Q Can a computer system be perfect? A. No, I don't think so.

D Q But if there is a fault, does the fault remain hidden or does it manifest itself by symptoms? A. There are usually – there is usually a trail by looking through the various events and other things that go on within the system to actually show where the fault is and help people try and work out what the cause of the fault is and rectify it.

E Q Are you also aware – are you also aware of the evidence of Mr. Vasarmy in this case? A. I – I've read his witness statement but I wasn't in court when he actually was in court.

F Q Yes, I think at that stage you were working – you were at the coal face – face with Professor McLachlan, working together outside? A. Probably, yes.

G Q Yes. But Mr. Vasarmy has given evidence that he did not have a computer problem in the time that he was the sub-postmaster at the West Byfleet post office. He took over from Mrs. Misra, the defendant. A. Yes, so I understand.

H Q Does - how does - does that have any bearing on your view that there is no evidence of any computer fault? A. Yes, because if there was a problem with the hardware,

A then – then it is surprising that the problem did not occur again afterwards when Mr. Vasarmy had taken over the post office.

B Q We are also going to hear evidence later as to – from the investigator who is involved in the investigation as a whole that when Mrs. Misra took over the post officer in 2005 an audit took place which yielded a deficiency of £1.88, I think. Does that – does that help you in any way as to your view as to whether there is any evidence of an ongoing computer problem? A. Not particularly. I mean, I would expect there to be small discrepancies in that there are going to be problems with giving change and things like that. Getting the accounts to balance to the nearest penny is – is probably quite difficult but getting them fairly close, which £1.88, in the sort of turnovers we are talking about, ought to be reasonable.

C D Q And how – if this – can I put this – put this scenario to you? The suggestion may be made that, although there was no computer problem for Mr. Vasarmy and no – no great deficiency on the handover audit, it still may be the case there was a computer problem whilst Mrs. Misra was in charge of West Byfleet. Are you able to comment at all on that suggestion? A. We've looked – I've looked at the event logs or the events that happened and there is no indication of any problems from – from those and the accounts certainly appeared to balance up each time though there are clearly a lot of financial discrepancies within them.

E F G Q You understand that Mrs. Misra has pleaded guilty to a number of counts of false accounting? A. I didn't know that, no.

H Q All right. Now, I am going to touch, if I may, on Professor McLachlan's report in brief terms at first and then perhaps move on to a little detail as we progress in your evidence but Professor McLachlan has suggested a number of possible hypothetical

A problems with the Horizon system. A. He has indeed.

B Q I am looking now at page 4 of your compilation report. In relation to the hypotheses that Professor McLachlan has put forward, as you understand it, has he or yourself found any evidence to support any of the hypotheses? A. There's no evidence to say that the system is corrupt. Some of the hypotheses have been expanded on in some – some further detail as to expanding on the hypotheses but I don't see that there's anything valid there in terms of saying that the system is at fault.

C Q But, of course, it is all – it is perfectly possible to suggest possible theories but have you found any – have you or Professor McLachlan found any evidence to support any of the theories that he has put forward in his report? A. I don't believe that there's anything there to show that there was any prob – problem with the system and the accounting there.

D Q Some of the hypotheses, as we mentioned a few moments ago, they are theoretical.

E Q Originally Professor McLachlan was putting forward in his reports theoretical hypotheses, is that right? A. Correct.

F Q So theories that he wanted to examine? A. That's right, yes.

G Q By your communications together, do you understand whether he still maintains all his theories or has he abandoned some? A. He has abandoned one or two. Many of them refer to process issues rather than to technical issues with the computer system and those are –

H Q What do you mean by process issues? A. Things like lack of training and business processes in terms of following up transaction corrections and things like that.

Q Would you put that sort of issue within your expertise or is it outside your field? A. I'd consider those to be outside my expertise.

A Q One of the theories that Professor McLachlan, and I quote his report, is this: "The user interface gives rise to incorrect data entry. Poor user experience design and inadequately user experience testing can give rise to poor data entry quality." Can you just explain to us what that means? A. What the hypothesis is stating is that if the user interface, *i.e.* the screens that are presented to the user, are of a poor quality then that would encourage the user or help the user in getting things wrong in what they're actually typing in and so what – what's being hypothesised there is that if the user interface is poor, then there is a greater likelihood of mistakes being made in terms of the way the data is input into the system.

B Q So it is essentially a potential design criticism of how the screen appears?

C D A. Correct.

E Q So, essentially, the point is if the screen was all complicated, it is easier to make mistakes? A. That's right.

F Q Now, you are – you are very familiar with the design system of the Horizon screen, are you not? A. I'm familiar with the thing. I wasn't responsible for the actual design of it but I am certainly familiar with what the screen looks like and how it's presented to the users.

G Q Was this – and you have had a chance, I think, to have a look at a document titled 'Horizon Office Platform Service Style Guide'? I am looking now at the top of page 5 of your report. A. Yes.

H Q Does that set out some of the design principles involved in Horizon? A. Yes, it does. That is – that was something that was produced right at the beginning of the design process which was really giving the guidance to the – the people who've designed and developed the screen interface as to what it should look like and how it

A should operate and so on.

B Q Just in very brief terms, what were the central principles behind the design of the screen? A. That it should be easy to use and that it was intended for people who were not computer literate - because remember this was back in 1996 and it was not particularly common for people to have computers in those days, it's much more common nowadays - and the expectation was that most post office staff would not necessarily be computer literate and, therefore, they would need something that was fairly easy and straightforward to use for a layman or woman.

C Q Were there, indeed, principles behind the design so that – with at least the aim of allowing people to use the system who had disabilities? A. Yes, indeed. So, therefore, it was – it was intended that it would be possible to use the system either by using the touch screen or by using the keyboard or using a combination of the two, again to assist people who had various types of disability.

D E Q Can I ask you just to look at the document that we have attached to your report? I am not going to go through it in enormous detail but it perhaps may give us some flavour of the principles that were in mind when this system was designed. A. All right.

F Q And, your honour, this, of course, is attached to the back of the supplementary report after page 23.

G JUDGE STEWART: You just carry on, thank you.

MR. TATFORD: So the – it is designed to be simple to use? A. Yes.

H Q For somebody without any IT experience? A. Correct.

Q And what about – I am looking now at B-1(1) 'General Design Guidelines' – were there any principles in mind to try and avoid mistakes? A. It should be clear that

A whenever you've done something or entered something that that would be visible on the screen so you could see that you'd done it and if you could – if – from what you could see on the screen that it was wrong, well, you could then go back and correct things.

B Q So when you have put – when – when an operator goes to a transaction selling a book of stamps, the amount charged, does that appear on the screen? A. Yes, the amount charged appears on the screen and, in the case of selling a book of stamps, the system would automatically supply the price. Clearly, for some things then the price is variable, depending exactly what sort of transaction is going on, but a book of stamps has always got a fixed price and, therefore, all that is required to sell a book of stamps is to select the icon that represents the book of stamps and press that and then the book of stamps (inaudible) and the value appears on the screen and the amount of cash due from the customer is also visible.

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E Q Well, what do you mean by an icon? A. It's – I probably should have referred to it as a button. A little button on the screen which can be pressed or - or selected from the keyboard.

F Q And the button on the screen, how big is it? A. It's about an inch in old money, an inch wide and three-quarters of an inch high, something like that. It – it's quite a – it's quite a big area for you to stamp your finger at when you're attacking the touch screen.

G

H Q And the icon, does it have a pic – do they usually have pictures? A. They have pictures in them to represent what's going on. That's really where the term icon comes from because icon is strictly the picture.

Q And does the icon also have words to explain what the icon - A. Yes, it will have

A the name of the product and it will also identify a function key that can be used instead of the icon.

Q So, just returning to some of the general design guidelines, one of the principles borne in mind was 'the need to prove information feedback'? **A.** Yes.

B **Q** What does that mean? **A.** So what that means is that if you've actually interacted with the screen at all there should be something coming back from the screen - or interacted with the keyboard, either come to that - there should be something coming back to make – to make it clear that you've actually done so and – and what it was that you pressed.

C **Q** Another of the general principles of the design, 'to offer simple error handling mechanisms.' What does that mean? **A.** That's really what I was referring to earlier, that, having done something and you've seen that the amount that you typed in was incorrect, you could then go back and correct it.

E **Q** Another guideline borne in mind in the design, 'allowing easy reversal of actions.' What does that mean? **A.** Similarly, being able to correct something that had been done incorrectly.

F **Q** In terms of language, I am now looking at B-1(2), was there any principle as to the sort of language that should be used? **A.** It should be simple and clear and consistent and that's really to allow for the fact that some of the users may not have been native English speakers.

G **Q** And there was a principle that 'affirmative rather than negative statements should be used'? **A.** Again, along the lines of it's always better to encourage people by saying what they've done rather than sort of slapping their wrist all the time saying you've got it wrong.

H

A Q I am just looking over the page at B-1(4) of these guidelines. They're guidelines about colour usage. What were the principles borne in mind in the design as far as colour is concerned? A. It's primarily to allow for the fact that you needed to make sure that the colour contrasts worked well and taking into account also that a reasonable proportion of the population are colour blind and, therefore, would have problems with colours clashing and things and, therefore, not being totally reliant on the fact that it was colour.

B Q So the colour is there to help - A. Yes.

C Q - but also not to hinder somebody who is colour blind? A. Correct.

D Q I am now looking at your document that you have produced at B-2(1), 'Principles of Universal Design.' The principles set out include these, do they not? 'There is a need to minimise complexity.' A. Yes, a need to keep it nice and simple so that it was fairly – the idea was that the system should be as obvious as possible to use so that – that if you – if it was presented with something it would pretty obvious and it would be consistent as to what was going on, again, to minimise mistakes.

E Q And one of the principles of universal design was the need to accommodate a wide range of literacy and language skills? A. Again, this was to allow for the fact that not all postmasters are necessarily particularly well educated. Many are but – and also some would not necessarily be – have English as their native language.

F Q And just on the same page, looking higher up, 'Design Standards,' it was borne in mind that some users might suffer from disability? A. Yes, it was, indeed.

G Q And was the des – was the design intended to be such that even people with disabilities could use it? A. It was.

H Q So it bore in mind that some people had a hearing impediment? A. Yes. So – yes,

A the system does give you beeps every now and again when things happen but you should be able to see from looking at the screen whether – whenever something was beeping, there should be something on the screen to sort of make it clear that there was a problem or whatever.

B Q Or, indeed, it was designed so that – was it designed so deaf people could use it?
A. Yes.

C Q And was it designed so that people with low vision could use it? A. Yeah, that was one of the reasons why the icon – the – the things on the screen were fairly large so you didn't need to have particularly good eyesight to be able to see what was going on.

D Q Although would it be right that a blind person would be unable to use the system?
A. No, I think if you were totally blind then you would have great difficulty in carrying on.

E Q And the system was also designed, was it not, to allow for the fact that some people might suffer from cognitive impairment? What does that mean? A. (No response).

F Q I am looking at B - A. Yes.

G Q - B-2, the bottom bullet point. A. I'm trying to think what cognitive impairment is. I think it's sort of a difficulty in thinking, isn't it, cognitive impairment?

H Q Yes. And perhaps we could look – if you could turn to B-6 in the report, there is some – some of the design principles applied for somebody suffering from cognitive impairment. How was somebody with cognitive impairment meant to be assisted by the design? A. B-6?

Q Bottom – bottom of the page it says B-6. It is in a box. A. All right. I don't seem

to have page B-6 here.

A

JUDGE STEWART: You probably do but it is at the bottom left. Sorry, bottom right of the page, B-6. A. Oh, B-6, sorry.

B

Right, B -

Q There is a box there dealing with people with functional impairment - A. Yes.

C

Q - and then setting out a design principle applied. How were people with cognitive impairment meant to be helped by the design of the system? A. By highlighting what's important so that they can sort of concentrate on the bits of the system that are actually important to them. Keep things nice and simple so that if a box looks like this on one screen and you see a box looking like that on another screen then it'll behave in the same sort of way and make sure that the language used was kept nice and simple.

D

Q There was also a principle, was there not, establishing the need to limit the number of choices where practical? A. Yes. That's really a case of when – when putting up lists of choices, keep them fairly small because – well, again, because of the size of the print that is being used, not many choices can be presented on the screen so if you have to look through two or three screens to decide what to do, then you're gonna get confused and maybe it's not what's on the first screen.

E

Q I think you have obtained some colour copies of how the screen can – can look on occasion, is that right? A. I have indeed.

F

Q Do you have copies in front of you at the moment? A. I – if I can find them in my file, yes.

(Pause).

A MR. TATFORD: Can I pass up six copies of each for your honour – one copy for your honour and six for the jury and that is the first page and I will just get together the second bundle.

(Pause).

B JUDGE STEWART: Thank you.

(Pause).

C MR. TATFORD: We have on these, there is a – there is one with a figure 2-1 and the next document figure 3-8 and can I pass up to you copies to be formal exhibits? If 2-1 could be exhibit 11 and 3-8 exhibit 12, please?

(Pause).

D MR. TATFORD: If I could pass them to the usher? I am so sorry, thank you.

(Pause).

E MR. TATFORD: So if we look at 2-1 first of all, what does this show us? A. This shows the Horizon system on one of the many screens when – and this will be what the user would see on the system when they're in the middle of serving a customer.

F Q Doing what sort of transaction? A. Well, the screen that's actually shown here is showing a number of National Savings transactions. I'm not sure that all those transactions are still valid today but they certainly have been during the lifetime of Horizon.

G Q So how does one get to the screen showing National Savings transactions?

H A. There is – in – in the screen in the bottom left-hand corner, which is actually the majority of the screen, is what's known as a menu and you can see there that there is space for sixteen buttons. There's only twelve of them actually on that screen. And each of those buttons would be – would either transact a product or go to a lower

A level of menu. So there is a top level of menu when serving a customer and by navigating through some of the sub-menus from that you would eventually get through to the screen and I think this one's about two or three levels down in the menu hierarchy.

B Q So this covers the situation where a customer – a customer comes to the counter to deal with a National Savings transaction. The operator has pressed a button in the – the left-hand corner of the screen and then perhaps pressed another one or two buttons to end up with this screen? Is that right? A. Yes.

C JUDGE STEWART: Is this life size? A. Yes, it's probably about right, yes.

D MR. TATFORD: So we can see - A. It depends. There's two types of screen and I think one's about nine inches in diagonal and the other one's about twelve inches of diagonal depending on the type of post office. The picture might be bigger.

E Q I am so sorry? A. Yeah, I was saying this may be – this picture may be slightly bigger than life size.

F Q But the box size, as they might relate to somebody's fingers, is that more or less accurate? A. It – it's pretty reasonable for the – for the size of the screen, yes.

G Q So we can see there there are a number of boxes set out and there are pictures there and labels as well? A. Yes.

H Q And one can see 'Capital Bonds' with a little - a yellow box with a rosette and then 'Children's Bonds', words and icons, pictures, combined? A. Correct.

Q And help us with the right-hand side. What do we see going on here, please?

A. On the right-hand side that is what is referred to in Horizon as 'the stack' and what that's showing is the transactions that have already taken place with this customer, in particular, the bottom – the bottom of the – the bottom left-hand box,

A

which is labelled 'Finish', is identifying the running total of how much money is owed either by the customer or to the customer.

JUDGE STEWART: In the bottom right-hand? A. Bottom right-hand.

MR. TATFORD: Yes. As we – perhaps if we refer to the sight as we look at it - A. Yes.

B

Q - rather than it is for the screen? A. Yes.

Q So just on that point, I think you have said that the original menu is boxes in the bottom left-hand corner. Is that how we look at it? A. It is, indeed, yes – yes, sorry. I get my lefts and rights mixed up when I'm trying to navigate.

Q Hold the pic – hold the picture up for us. Now, when - A. That area is the stack area, that area is the menu area and that is the finish button.

D

Q Right. So when you have the – hold it up in front of you again – when you have the customer appearing at the counter, what – what side of the screen do you put your finger on first if you go down the menus? A. That side of the screen.

E

Q So the left-hand – bottom left-hand side - A. Is the navigational area.

Q So you navigate your way through a couple of routes to this position? A. Correct.

F

Q And so what are the – the boxes on the right-hand side as we look at it? A. Right, those three boxes are the last three transactions that the customer has carried out. Now, because those don't add up to the – to the value in the take button, that tells me that there must have been some other transactions within the session and, in fact, the other indication of that is at the very top right-hand side there's a button there called 'Open it' –

G

Q Yes. A. – and what that allows you to do is to actually open up which will actually then show the remaining transactions which would overlay the menu area if you want to actually look back at other transactions that have taken place earlier on

H

A in the customer session. Now, in fact, in general, I think, as I – as I understand it, the post office customer sessions tend to on average only have a couple of items. So for the average customer session all the items within the – the basket would be visible on the stack at the time you see it but if there are more than three items, they'd go off the visible screen and you have this open button that allows you to actually view the older ones.

B

C Q So can you just help us with what the right hand is telling the – what it is actually telling the user of the screen, please? A. Right. What it's saying is that the last three transactions were – excuse me if I get my glasses out – there was an ordinary account deposit for £100, there'd been a Capital Bond that has been purchased for £200 and there's a transaction called Reg Cust A - and I'm afraid I don't know what a Reg Cust A transaction means - where £50 was effectively to be given back to the customer. So, if you add those together, you've got £100 plus £200 minus £50 which comes to a net total of £240 that the customer owes. So the fact that the finish button is saying there is £450 that the customer owes means there must be £200 of other transactions which are off the top of the screen.

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F Q So it lists the three last. It looks like this customer, the hypothetical customer, has gone through a number of transactions. The last three are there for the user to see and the finish is the sum that you need to take from the customer? A. Correct.

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H Then when the session with the customer has actually completed, then the user presses the finish button and they're then presented with another menu giving various methods of payment which could be used to actually pay – pay the money across, whether it be cash, cheques or debit and credit cards and things like that.

I Q Now, you have been frank in saying you do not what Reg Cust A means. Have you

A yourself been trained to use the Horizon system as a counter staff person? A. No, I haven't.

Q No. A. Something that maybe I should do some time but I haven't.

B Q So, in fact, what we have here is a picture of a fairly complicated series of transactions, more than three, and the sort of view that the counter user has?

A. That's correct.

C Q And can you – can we now look at your – your – the other figure you have produced, 3-8, please? A. Yes.

D Q Now, what do we have here? A. This is the screen that is used for entering a numeric amount. So on – it's got two boxes. The one on the right-hand side is a script which is sort of driving the dialogue through and in this case it's a very simple dialogue, it's just asking for an amount to be entered, and that's on the right-hand side. On the left-hand side is the mechanism for actually entering in the amount and, as you – can be seen, it is actually showing the amount that's been typed in so far of £33.36. The – the label on the box on the right-hand side, 'In Vac Dep' is actually referring to the product and, in fact, if we go back to the previous screen there was a button there called 'In Vac Dep' which I suspect means an investment account of the National Savings.

E F Q Yes. So this is a calculator that the – that the user, if they feel fit, can summon up on the computer and we can see the approximate size that they had in front of them?

A. It's referred to as a calculator but you can't actually use it as a calculator in that you can only type in one value. So you can't type in one value, then another one and add them together as you would on a normal calculator. So it's just for entering a single value. But the layout of the keys is similar to that of a calculator.

A Q Yes.

B JUDGE STEWART: And the tick and the cross? A. The tick is to say, "I've finished," and, therefore, that is the actual amount that's finished and the cross will wipe the whole thing clear so you can start again when you've typed it wrongly and the black arrow allows you to backspace. So the way that it works in is when you first start typing you would have - it would be showing 0.00. So it would then change to 0.03, then 0.33, then 3.33, then 33.36 as you type in the figures from the right-hand side.

C Q So if it is a round number of pounds you have got to press the 00 button at the end?

A. You've got to type the two zeros at the end.

D Q Yes. A. And that's why there's a double zero key there.

E Q Just pause for a moment.

(Pause).

F MR. TATFORD: Could we – just so I understand, how do you end up with a decimal point there? A. The decimal point is fixed there so, as you key in the – the values from the left-hand side, you just – you just key – effectively key in the amount in pence and the decimal point is there visually but you don't need to key it in.

G Q So I suppose that is an extra way to simplify matters, is it? One does not need to put the decimal point in there? A. Yes, and, in fact, if you look - because those – those numeric keys, you can actually use those on the touch screen and you'll see that there isn't a key for a decimal point on there and if you were to use the decimal point key on the keyboard it would just be ignored as with any non-numeric key.

H Q Can you key amounts in using the keyboard as well as touching the screen? A. Yes, you can. And the effect would be the same.

Q Q So –

(Pause).

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MR. TATFORD: So what we have here, then, is perhaps rather different from, say, a cash register in a supermarket? Or is it essentially the same – off to the same – it is being

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used for the same purpose but in a different format? A. I think the main difference is that in a supermarket each product tends to have its price built into its barcodes and things like so there isn't a need to enter prices and that's true for some post office products as well but for many products - and then the amount is variable depending on the customer, so, for example, when you're depositing money into a bank account, there's – there's no fixed amount that you would be depositing into a bank account. I might be putting in £100. The next person might be putting in £10 or whatever. So – and someone else may be putting in a some amount of pence. So for each customer, their amounts would need to be individually keyed into the system.

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Q Now, I have been asking you about this topic and you have produced these diagrams

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to give us an idea of what the – what the screen looks like because of the possible hypothesis of Professor McLachlan that the user interface may have a poor user experience design and, therefore, cause mistakes. Now, do you understand what

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Professor McLachlan might mean about a poor design in relation to the Horizon system? A. My understanding of his position on this is that he has asked to

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examine the user interface and has not been able to do so and, therefore, is saying that, “Because I've not been able to look at the user interface, therefore, it might be poor and that might be what the problem is.”

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Q Do you actually have personal knowledge of any visits he has made to a post office?

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A. I don't have personal knowledge of any such thing.

A Q All right. A. Oh, but it does say in his report that he has visited a post office, yes.

B Q Yes. A. Yes, sorry.

C Q So – but has the – has the professor suggested any way in which he thinks the design is poor? A. Not that I'm aware of.

B Q Has he suggested any way in which the design is difficult to use? A. Not that I'm aware of.

C Q Now, can I come to potentially a slightly technical point? I am now looking at page 6 of your report. Professor McLachlan - A. I think my pagination is slightly different from yours so what's the section number, please?

D Q Oh, 2.12, I am sorry. A. Thank you.

E Q You refer to a section from his report where there is the hypothesis: "The Horizon system fails to properly process transactions. Accounting systems are usually carefully designed to ensure that accounts balance after each double entry transaction." Now, again, it is a lot of jargon. Can you understand what – can you explain to us what Professor McLachlan means? A. Yes. Double entry transactions is really saying that in an accounting system it – that - for every transaction there should be a balancing transaction somewhere. So, for example, if someone buys a book of stamps, then there is whatever the price of a book of stamps is, four pounds something or other, for the book of stamps but then there will be a corresponding entry into the accounts to represent the four pounds or whatever it is in cash that has actually been paid for that book of stamps. So what the system actually records for every customer basket will be a set of transactions of the items that have been purchased or the services that have been provided and then a similar set of transactions representing the mechanisms that have been used to pay for those

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A and if you add them all together for a particular session the sum total will be zero in that they all balance out with each other. And that is my understanding of what double entry transactions means and Horizon does that.

B Q Yes. Well, Professor McLachlan says that needs to be part of the design. Is it part of the design? A. It is – it is a fundamental part of the design that we – we ensure that in any session everything balances out.

C Q So do you understand what his criticism is? A. No, I don't.

C Q And he referred to the need for database systems to use two phase commit technologies. Are you able to explain to us in simple terms what that means?

D A. Simple terms is a little bit of a challenge. Two phase commit technology, that ensures that, when there are a number of things that need to happen at the same time, that they either all happen or none of them happen. So, for example, when all the transactions from a customer session are being written away to the hard disk on the system, there are interlocks in place such that if there is some failure along the middle then the end result will be that either the whole set will have been written away successfully to the disk or none of them have been written to the disk and so what – in – what that means is that, having made sure in the application that the basket will balance out to zero, when you actually look at it on the hard disk afterwards it will again all balance out to zero and in a failure scenario you can be sure that that particular session has either completely been written or not written at all and, therefore, recovered based on that after – after some sort of system failure.

F G Q So if there is a system failure, the failure is not put onto the hard drive, is that right?

H A. That – that would not corrupt the count. You clearly you need to understand after a failure – after – after you've had some sort of failure exactly what the stake

A was, in other words, had it all been written or had it not been written, which can be done by examining the transaction logs afterwards to see whether the last customer session had been successfully done or not and, having decided that, you can then carry on and either re-record it or not as the case may be.

B Q He says that there needs to be a two phase commit technology - A. And we have that in the Horizon.

C Q So, putting the technicalities perhaps on one side, do you understand what criticism he is making? A. No, I don't.

Q And the third area, hypothetical area, that he sets out in his report, relates to external systems having an effect on the data at West Byfleet. A. Yes.

D Q What does he mean by that? A. There are a number of systems within the Post Office Ltd. that have – that are - have an impact on the way that the accounting is done. However, anything that comes from those external systems has to be accepted by the user on the Horizon system and, therefore, the behaviour of those systems I don't believe to be relevant in that the fact that the user has accepted these transactions onto the system, which they have to do explicitly, means that it's all done within the remit of Horizon as to whether these are valid transactions or not and there's two examples that are quoted for that.

E F Q Well, give us a nice simple example of what you mean. Are you referring to – in part to what is called transaction corrections? A. Transaction corrections is one example and remittances is the other example.

G Q Give us the example of transaction corrections, please. A. Right. If some sort of business fault is found within the post office back end systems about a transaction having been entered incorrectly or whatever and, as, for example - but I am probably

A not the best person to ask, then it would be agreed that a transaction correction needs to be made and so a transaction correction is set up in the back end system and is then visible to the users as they log on within the branch that that transaction correction applies to.

B Q Can I just ask you to pause there?

(Pause).

C MR. TATFORD: Then if I can perhaps give a concrete example from some of the evidence that we have heard in the case? Mr. – Mr. Bayfield yesterday talked about cash being received at the cash centre and it is counted and it is photographed, the whole process is counted, and he explained to us that if the amount is wrong from the slip of paper that the postmaster has completed saying what the amount is - say the bag contains £100 when the slip of paper said it should contain £1,000 - then he explained to us that a transaction correction is sent via Horizon to the post office that was responsible for sending out that cash. Do you follow? A. Yes. Uh-hmm. Yes. No, that sounds like a very good example.

F Q So taking that simple example, they have counted the money and it is not the amount the post office said the – say in this – let us use the example of West Byfleet. They have counted the money, it is not the amount of money West Byfleet claimed it was.

G So a transaction correction is sent down the system. We heard yesterday often a telephone call is made but also the information appears on the Horizon screen, is that right? A. Yes. When – when certain users log on, namely, managers or supervisors, as they log on they will be informed that there are transaction corrections outstanding for them to process. Now, they do not have to process them, they can ignore it for a while, but they are told every time they log on until they

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process those transactions corrections that there are *n* or however many transaction corrections outstanding waiting to be processed.

JUDGE STEWART: Pause there. Sorry if I am being even slower than normal. But is

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what you are saying that if the postmaster has sent off his statement and he has said here is a bag with £100 in and when it gets to be counted it actually says – it has actually got a £1,000, then the people who count it, Chesterfield or whoever, send a message to the post office saying, “You miscounted the money,” that, “You are £900 out,” and, “There is something coming down the line to put that right. Do you want to accept it?” A. That’s correct.

Q Is that it? A. Yeah, that’s it, yeah.

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Q And if he says yes? A. If he says yes, it will then have an impact on the accounts in the branch at the time that they say yes.

Q And if the account in the branch appeared to be £900 out because of this mistake?

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A. That should correct it, yes.

Q That should correct it. Thank you.

MR. TATFORD: So the – so the accounts will be changed by the transaction correction if the sub-postmaster agrees to the correction? A. Correct.

Q If he – if he or she disputes it, then does anything happen to the accounts on his system while the dispute is being resolved? A. No, there is a mechanism whereby an option is presented where – which is referred to as “seek evidence” and what that effectively does is cancel out the transaction in question. So it marks it as having been processed but with having no impact on the local accounts and this then tells – sends a message through the system back to Chesterfield saying that this transaction correction is being disputed. There is then a manual process whereby this then gets

A sorted out and, should it then be agreed that the transaction correct is actually valid, then it will be re-sent and if it is re-sent it will not have the option of seeking evidence.

B Q So if – is there any way in which a transaction correction can come down the line from Chesterfield and the correction be made on the accounts of the office without the consent of the sub-postmaster? A. It could be accepted by another – another user that's been empowered by the sub-postmaster to do that but it would – it would need to be done by someone who's got a role of either a supervisor or a manager and would need to actually accept that transaction correction and, therefore, affect the accounts.

C D Q So the accounts at the sub – at the post office are only changed by correction if a member of staff has accepted the correction? A. That is correct.

E Q It cannot be done in secret? A. Correct.

F Q So what do you understand Professor McLachlan to be saying about transaction corrections and any theory that he may be suggesting of how they might cause a fault in the system at West Byfleet? A. I'm not really fully sure. The only thing that – I think the main thing that he's suggesting is that there may have been other missing transaction corrections, so, in other words, a transaction correction can be in favour of the postmaster or postmistress as well as being to their detriment and the example your honour gave of a pouch saying that it had £100 in it and actually having £1,000 in it, that correction would have been in the favour of the branch. What is more common, I think, is the other way round where they say that it's got £1,000 in and only has £100. But, therefore, I think what he's suggesting is that, without understanding the whole mechanism for transaction corrections, that there

A could have been mismatches and outstanding corrections that have not been picked up within Chesterfield that could be to the benefit of the branch and I have no way of commenting on that.

B Q Yes. Well, that, in fact, goes down to a question of human error, does it not, that the – the transaction correction? If there is a correction to be made which, for some reason, is not sent down to West Byfleet, is that the computer's fault or is it a human being's fault? A. No. Transaction corrections are all generated by humans –

C Q Yes. A. – in Chesterfield.

D Q And the example we had yesterday we have dealt with of cash being counted and photographed, the process. If somebody did that, realised the postmaster was owed some money but then forgot to send a message to the post office, then that might cause a problem? A. That could do, I suppose – I suppose, yes.

E Q But that process involves – does that process involve any faults with the computer system? A. No, it doesn't.

F Q And your expertise relates to the computer system? A. Correct. And the computer system will basically record on it what is entered in by the users.

G Q When a transaction correction is received does it state in clear language what the postmaster must do? A. It should do but again the language I think is down to whoever's been keying the information in on the system in Chesterfield.

H Q So it is a message sent through by somebody at Chesterfield? A. Yes, there's room for about, I think, five hundred characters which is – allows a fairly reasonable sort of description of what the problem is.

Q But if the – if the postmaster has a query, if there is some misunderstanding of what has been written down, are there mechanisms the postmaster can follow to try and

A understand what the message means? A. They – they should be 'phoning up someone to query it. I – in fact, in my statement I quote an example that I extracted from a transaction correction that I found in the logs for West Byfleet and that actually – that said to contact the cash centre if there's any queries. That one doesn't actually have a 'phone number in the docket but I have seen some where - where there's actually a 'phone number as part of the message.

C Q I think this is from – in the statement that your honour and the rest of us have. This is page 8 of your statement under paragraph 2.2.1.1, is that right? A. That's right, yes.

D Q And you have actually quoted an example of a transaction correction that you found when you were going through all the logs? A. That's right.

E Q And you have quoted it word for word, what it said? A. Yes, I've just cut and pasted it straight from the – from the transaction correction.

F Q Yes. So there is a reference number and then it says this: "Cash sent (a reference). For queries/disputes you must contact the cash centre. £400 transaction correction is issued for a shortage you sent to the cash centre. Press accept now. Then make good. Or assign to nominee if you are a franchise office and assign the resulting branch discrep also to nominee. If this amount is in your surplus suspense dated 28th June 2007, then redeem..." and then it suggests using a number of buttons, is that right? A. Oh, yeah, those are about the function keys which are on the keyboard.

G Q F1 - A. And they – and they could also be done through the menu-ing system.

H Q So F1, F13, F16, F8. "The date above..." and I think the date was given with the transaction correction, 3rd July 2006. "The date above refers to when the cash centre processed the REM." A. I suspect that's referring to 28th June, actually.

A Q Oh, thank you, thank you. Is there a typing error there? A. No, no. Saying the date above referred to when the cash - this is all part of the message that has been put.

B Q I see, I see. So the message sets out in English what the problem is and tells the postmaster what to do? A. Yes.

C Q And there is a reference number for the transaction? A. That reference number, I believe, is the number – is the barcode on the pouch that was concerned. So when cash is remitted out of branches, then they get packed into pouches and each pouch has got a unique barcode on the front which is used to track it through the system and that to me looks like the sort of barcodes that are used on pouches.

D Q So can the postmaster use the barcode to find the transaction on their Horizon system? A. I don't believe that the barcode is a searchable facility(?) on that, no.

E Q All right. But they have the date of the transaction? A. Yes.

F Q If they want to look at their records they can - A. Yes.

Q - look and can they find it easily? A. It would have been on – it would have been on the paper records, it wouldn't necessarily be on the system. So at the time that they – they'd despatched the pouch, then the barcode would have been on the receipt that was printed out at the time that that happened and I believe that they are expected to hold on to such receipts.

G Q So, as you understand it, what Professor McLachlan is saying is not in relation to a computer problem but he is simply saying, well, "If somebody makes a mistake and doesn't tell the Post Office that they need to correct their accounts, then the post office could be down on money when it should not be"? A. That's correct, yes.

H Q So he is not suggesting this is any kind of computer problem, is he? A. I don't

believe so.

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Q And you also said he was talking about remittances, another example of an external influence on the post office? A. Yes. The example we have here was about money being sent back from the post office but, in fact, the majority of post offices,

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I don't know about the one in West Byfleet, they actually receive more money than they actually send out, unlike most shops, in that they are actually tending to pay out money rather more than they're taking in because of still paying out benefit payments and doing cash withdrawals and things like that. So – so most post offices are – are giving out more cash so – so the main flow of money between the cash centres and branches is money going from the cash centre into the branches and the – both the process of money going in to - money or other stock going into and out of the branches is referred to as 'remittances'. So 'remitting in' to a post office is when cash is coming in to the branch and 'remitting out' is when cash is going out of the branch.

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Q So – so let us look at a remittance situation. Say £100 comes in to a post office?

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A. Right, now, that money again would come in in a sealed pouch which had been sealed up at the cash centre. When the cash centre are preparing pouches they're preparing individual pouches for individual branches and an electronic feed is sent through to the Horizon system from the cash centre which is indicating the list of all the pouches that have been packed up and what their contents is. So it would say that this particular pouch has got ten fifty pound notes, a hundred twenty pound notes and whatever and a total value of £10,000, say, and – so this would all be identified by the pouch identifier and the value of – and the breakdown of the contents within that pouch.

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A Q What do you mean by 'the pouch identifier'? A. The barcode number that's actually on the front of the pouch which is a twelve digit number.

B Q All right. A. And there's a barcode on it to make it easier to scan into the system. So when the Securicor van, or whatever it is, or post office cash van arrives at the branch, then the – the person in the van will actually take one or more pouches from the van into the post office. Each pouch will be scanned in to Horizon and a receipt will then be produced for the van driver to say that these pouches have been received within the branch. Also a check is made on the electronic feed that has been received of the pouches that are on their way and you can see from the barcode numbers that this barcode number refers to a pouch that contains £10,000. This barcode refers to another pouch which contains £500 or whatever. And so that value of money is then remitted into the accounts at that point and a receipt is produced for the – for the use of the system, it's done that remittance, laying down exactly what value have been remitted into the accounts which they can subsequently check up against what it says on the front of the pouch and also what's inside the pouch because when they break open the pouch and count the money they can then check that that matches what it says on the receipt. Now, if they feel that what is actually inside the pouch doesn't match what was on that receipt, then they need to be 'phoning up Chesterfield, or the cash centre, or somewhere to actually say, "I've got a shortage," or, "I've got a surplus," "What can be done about it?" But the -

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H Q Just wait there for the moment. A. Sorry.

JUDGE STEWART: Yes.

MR. TATFORD: Yes, carry on, please. A. But the point is that the – so – so, although the – the value of the pouches had come from the external system, it only gets

A recorded on the accounts at the time that the pouch is accepted within the branch under the responsibility of a particular user. Now – and – now, admittedly, it does go into the accounts before they've had a chance to count it all up and things like that but they are then expected to do that checking up and if they don't check it up then it is their responsibility for – for – for that money and any – any differences there.

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C Q So the sub-postmaster is told by the Horizon system what money should be coming in in a particular pouch - A. Yes.

D Q - with the denominations and what the total value is and that information goes into the accounts at West Byfleet, say, and then, when the pouch arrives, the sub-postmaster counts the money - A. No, it goes into the accounts after the pouch has arrived.

E Q Yes. A. So it is part of the hand – the physical handover of the pouch from the – from the secure deliveries mechanism to the postmaster, that is the point at which the money goes into the accounts. There is then subsequently the chance to see whether any mistake had been made.

F Q So how does the money get into – say a pouch of cash arrives at West Byfleet, how does it make its way onto the accounts at West Byfleet? A. The barcode on the front of the pouch is scanned in. The system will then look for the records that it has of pouches that have been sent to West Byfleet and, if it finds the details of the barcode, which most of the time it will do, it will then enter the amount from the electronic feed into the accounts. If, for some reason, the barcode is not found on the local system, then there's the opportunity to actually key in the value that's actually been recorded on the front of the pouch but for the majority of times the details of

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the pouch will already be there in the – in the database in the local branch which can they be looked at and to then add it to the account. So, although the information about the contents of the pouch is there in advance, it's not considered part of the accounts until it is actually accepted into the accounts when the pouch is accepted into the branch.

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Q So the West Byfleet computer knows the money is on the way, yes, it has a barcode to look out for. When the money arrives – the pouch arrives, the barcode is read on a barcode reader and it is at that stage that, if there is a match, if it meets what is expected, that the money goes in as a payment into the post office? A. Correct.

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JUDGE STEWART: Subject to being actually physically checked once the pouch is D opened? A. Yes.

Q And if - A. But it's still in the accounts. If – if there's a dispute, then that gets recorded in what is called the suspense account whilst it's under discussion.

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MR. TATFORD: So if the postmaster after entering the barcode, after swiping the barcode, then checks the money and finds out it is short, then they can – they can put the money into a suspense account while the – the problem is being sorted out?

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A. Correct.

Q So, again, is there any way in which the computer system here is likely to cause a G problem or would any problem be down to human error or laziness? A. I think I – I can't see any way that the computer system is going to cause a problem, no.

Q I will deal with this briefly, if I may, because I hope we can, as much as possible, H avoid technicalities where there is - something is not in dispute but Professor McLachlan did suggest a theory in relation to the revaluation of foreign currency. A. I think we've now agreed that that's irrelevant.

A Q Yes. He was suggesting that if the foreign currency was revalued that could cause some sort of problem on the system? A. He certainly did suggest that.

B Q And how was it – were you able to – how did he come to the conclusion that that was wrong? A. Because I explained exactly how foreign currency revaluation takes place. Do you want me to go through that explanation really?

C JUDGE STEWART: No, thank you.

C MR. TATFORD: I do not think we need to, no. No, precisely. What is important is that we understand –

D MR. HADRILL: Well, can I say I have spent many, many, many tedious hours going through this. I do not want to go – re-visit it all again.

D MR. TATFORD: Yes. But that is an example, is it, of where Professor McLachlan has been assisted by your inside knowledge to look at his theory and decide, in fact, it does not work, it is irrelevant. A. Correct.

E Q So, going through all those theories that we have gone through so far, poor design, is there anything poor about the usability design as you see it in the Horizon system? A. I don't believe so.

F Q But the suggestion by Professor McLachlan is that poor design might lead to human error which then might cause false figures? A. That, I believe, is a suggestion yes.

G Q And his suggestion also is that remittances not being counted properly or transaction corrections not being sent through properly, that could cause all sorts of problems? A. It could do but not due to the system problems but due to problems in the operational process.

H Q So when we come down to is the bottom line here, those theories are not based on

A any suggestion of computer fault, they are based on the obvious possibility of human error? A. That is my – my – my understanding of the situation, yes.

Q And Professor McLachlan also talked about the fast cash button on the system?

A. Yes.

B Q The fast cash button in very simple terms is what? A. Right, can I go back to the picture that we had earlier on of my exhibit 2-1? At the end of the customer session, then there is this finish button which has got the total value that is owed to or from the customer. If that is selected, then another menu is displayed in this bottom left-hand side of the various methods of payment. Now, if cash is to be paid, you could either have selected the cash button and then key in the fact that in this example £450-worth of cash is being handed over but there's also a button for fast cash which is really a short cut in that what that is saying is everything that is owed has been paid. So it saves having to key in the total and it is just saying – representing the fact that the entire transaction has been processed by cash and so – so it's really a short cut to save having to type in the amount of cash to the system, again which clearly has the opportunity of having keying errors, but it does rely on the fact that the user has clearly read that the amount owed is £450 and that they have actually taken £450.

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G Q So pressing the fast cash button is a short cut and Professor McLachlan was concerned that if mistakes were made in using a fast cash button transaction then that could cause errors in the accounts? A. I think the hypothesis is that if a transaction had been mis-keyed for £100 as £10 and the user had not looked at the screen and had just automatically hit finish the fast cash and put the £10 - and put the £100 – given out the £100 instead of the £10, then there would be a discrepancy

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in the accounts but I would see that as being user error.

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Q Yes. Fast cash means you can do the transaction more quickly but, if you do not look properly at what the figure is and you have keyed in the wrong amount, the speed of the transaction could increase the possibility of error?

B

(A mobile 'phone rang)

MR. TATFORD: I am sorry, your honour. A. I am sorry.

C

Q Could you make sure that is off, please? A. Yes, I will. Just doing it. My apologies.

JUDGE STEWART: Right.

D

MR. TATFORD: So fast – fast cash is a short cut but if the – if the operator is not looking on what is the amount on the screen, it is possible to make a mistake? A. Yeah.

Q Now, did you look through the transaction logs to see whether that theoretical mistake was a real possibility on the evidence? A. It wouldn't be possible to tell. E There's no difference in the transaction logs between the use of the fast cash button and the cash actually being keyed in.

E

Q Yes. But this point of fast cash, again, it does not come down to any computer F problem. It is a short cut on the computer? A. That's right.

Q It comes down to the operator not looking at the screen properly. A. Correct.

G

Q Professor McLachlan has also suggested that there may be a problem with credit H card transactions? A. Yes. I think what he is suggesting – what he did suggest was that with credit cards transactions or - in fact, I think back at those days I think we were only taking - the post offices were only taking debit cards. But it couldn't – debit card or credit card transactions - if – let us step back one. When – when handling a transaction with a credit or debit card, an authorisation is sent through to

A the credit card company to ensure that there is – that that is a valid credit card that
B hasn't been stopped and there is money in the account to actually pay for it and that
authorisation would then come back from the credit card company to the counter to
actually say that everything is okay or occasionally it will come back and say that,
no, it has been declined.

Q So - A. And as for -

C JUDGE STEWART: Yes.

D MR. TATFORD: I am so sorry, you carry on, please. A. And I believe the hypothesis
was that if the credit card transaction came back as having been failed and the user
had not looked clearly on the screen which would have said that it had failed or the
piece of paper that comes out of the terminal to be handed to the customer saying
that it has failed that they would assume that that credit card transaction was okay
and then subsequently press the fast cash button thinking that the amount left owing
E was zero when, in fact, there was still a significant amount of money owing and,
therefore, have a cash shortage as a result.

F Q So a customer goes in, buys something with a credit card or a debit card. The
transaction fails for some reason. The operator does not realise that it has failed and
hands the goods over anyway? A. Yes. And then hits the fast cash button which
then tells the system to actually consider that money as having been taken in cash
G when, of course, it has not been.

H Q So the possibility of goods going out, say – say a book of stamps going out without a
payment being received? A. Yes.

Q So causing a loss on the account? A. Correct.

Q So a theoretical possibility? A. Yes, and this was presented to me some time ago

A so I actually searched through all the transactions for that thirteen month period looking for all cases where a failed credit card transaction – credit or debit card transaction had taken place and –

B Q Just pause there.

(Pause).

JUDGE STEWART: Right.

C MR. TATFORD: So you looked for failed credit transactions, did you see any sign that this problem – this theory had actually taken place, that a failed transaction had nevertheless led to the goods going out? A. I didn't look through all of them. I found ninety two such failed credit card transactions for a total value of £117,000-odd during that thirteen month period.

D Q It is at page 11 in the report. It was ninety two. But what you were looking for, were you looking for big transactions or - A. No, I – well, I was looking for all credit card transactions –

E Q Yes. A. – then I decided that I didn't really want to spend my time chasing through all ninety two –

F Q Yes. A. – so what I then did was say, okay, I'll look at all of those which have got a value of over a thousand pounds.

G Q Right. So you found - in thirteen months you find ninety two failed transactions? A. Yeah.

H Q For a total value of £117,000-odd? A. Correct.

Q Now, in this case we are not just talking about a loss of a few pounds or pence, we are talking about a hole of seventy – nearly £75,000? A. Correct.

Q So you - A. So – so at the face of it that could be an explanation.

A Q Right. So you decided to look at big transactions in the failed transactions?
A. Yes.

B Q Because a few pence here or there is not going to make any real difference.
A. Well, having actually selected all the transactions worth more than £1,000, I then added up the total value of all the remaining ones which I didn't want to analyse and the total value of those was just over £6,000. So that – so, even if all of those had caused this problem, they couldn't account for the losses of £70,000 that I was told had occurred here. So I didn't bother to pursue those any further. Clearly, it could be done.

C Q So you find just about £110,000-worth of transactions where there is an indication of a failed credit card? A. Yes.

D Q Now – so this is a possible area to examine Professor McLachlan's theory -
A. Yes.

E Q - that the transactions failed but, nevertheless, valuable goods had been handed out?
A. Correct.

F Q When you looked at it, though, and analysed those large transactions, did the theory actually happen in fact? A. No, it didn't. In all cases one of three things happened.

G Q Take it slowly. A. The first thing that could happen was that the cheque had been presented instead. The second –

H Q Wait a sec. Just on the first one, so a card does not work so, instead of paying by card, the customer pays by cheque? A. Yes.

Q Right. A. And that –

Q The second – second thing you found? A. The second thing I found was that the

A session was abandoned. So, in other words, all the transactions on the stack had got cancelled out. If we go back to the diagram here.

B Q That is the figure 2-1? A. The figure 2-1, yes. There is a button near the top, sort of fairly close to the middle, called 'Bin' with a picture of a wastepaper basket or a refuse bin beside it. By selecting that button and then selecting one of the items on the stack, that can cause that transaction to be cancelled. Now, not all transactions can be cancelled in that way but some can and so it is possible, if you have a failure of a credit card transaction or debit card transaction, to actually select the bin button and select the offending transaction, to remove it from the stack and that is – that means it's just not happened any more and, clearly, that will then adjust the total and it's a good way of cancelling out a transaction if someone hasn't got the money to pay for it.

C D E Q So if the credit card does not work and the credit card company say no, then the customer, if they do not want to pay in another way, can abandon the transaction and the count – the office – the person on the counter can press the bin button?

F A. Correct.

G Q Now is that a scenario you found happened in this - A. Yes, I found a number of examples of that scenario happening.

H Q With these failed transactions? A. With these failed transactions.

G Q And what was the other thing you found happening with failed credit card transactions? A. There are some cases where you are not allowed to cancel the transaction explicitly so in those case the transaction was, indeed, settled to cash as if cash had been handed over. However, soon afterwards, and from memory I believe immediately afterwards in nearly all the cases, there was then a separate

A reversal transaction which then reversed that transaction and then reversed the cash position so that the cash which had been recorded in the system as having been taken was then recorded a few minutes later as having been given back into the system and, therefore, cancelled out and in all those cases the transactions were for the sales of large numbers of premium bonds.

Q So what you – what you did is you took the theory which might work but then you compared the theory with the evidence? A. Correct.

Q And, although you found a number of valuable high value – a number of transactions where there was a failed credit card transaction and the value of the transaction was high, you, in fact, were able to see that none of these transactions should have resulted in a loss to the office? A. Correct.

Q Because in each time the transaction failed it was settled in another way, either by cash, or by the transaction being thrown in the bin, or by the transaction being reversed? A. When you say cash I think you meant cheque.

Q I am so sorry. Yes, you are quite right. Either by cheque or settled to cash or abandoned? A. Yes, and if it was settled to cash it was then immediately reversed afterwards.

Q Yes. So no double – no double loss to the post office? A. Correct.

Q So Professor McLachlan suggested, well, maybe there is an error here with the fast – with the fast cash button, perhaps failed credit card transactions that led to the goods going out without the money received, you found that, although that in theory that was right, it had not happened? A. Correct.

H JUDGE STEWART: I am going to need a break, I am afraid.

MR. TATFORD: I am sure, thank you.

JUDGE STEWART: Whether the jury want it or not. We will continue at ten minutes past

A twelve, please. Thank you very much.

(The court was adjourned for a short time).

JUDGE STEWART: Thank you.

B (The jury returned into the court).

JUDGE STEWART: Yes?

C GARETH JENKINS,

Examined by MR. TATFORD (Resumed).

D Q So the issues that we went through before our break, Mr. Jenkins, various hypotheses, theoretical ideas which might have happened, but, in essence, the hypotheses are really suggesting human error rather than computer fault? A. Yes, I think that's correct, yes.

E Q Now, dealing very quickly with this, I think Professor McLachlan dealt with a possible problem about the way travellers' cheques are dealt with in an office?

A. Yes.

F Q And I think that is an example of where you discuss matters through and it is accepted that is not a live issue in this case? A. I believe so, yes.

G Q Can I turn now to Callendar Square, Falkirk, please, and you deal with this at 2.4.1 in your report. Page 14, your honour, in the latest statement. Now, Callendar Square, Falkirk, there is a post office there that did suffer a computer problem?

A. That is correct.

H Q When was that problem, please? A. I think it was in 2005. I don't think I've actually recorded that –

Q But it was a problem that was fixed in March 2006, is that right? A. Yeah. That's

certainly correct.

A

Q Was it fixed by some – some sort of software? A. Yes, there was a – it was a – it was a fix to the underlying messaging software that we have.

B

Q So this is an example of a computer problem which came to the attention of Fujitsu?
A. Yes.

C

Q Do you happen to know how it came to the attention of Fujitsu? A. From looking at the call associated with that problem, a call was made by the postmaster because

10

they had an error, what is called the receipts and payments mismatch, when balancing one of their stock units and what that means is that, when balancing the stock units, there is a total for the amount of receipts into the system and another total for the amount of payments out of the system and they should always equal each other because of the double entry bookkeeping that I referred to earlier and in this particular case the two figures did not match.

E

Q And was that something that was visible on the screen in the balancing exercise at the end of the month? A. I'm not a hundred per cent sure if it was visible on the screen. I think it probably was. But it was certainly visible on the piece of paper that got produced – the report that was produced at that time.

E

Q So here was a problem in Scotland where there was a mismatch between receipts and payments and, in as simple terms as you can and just in a couple of sentences,

G

can you say – can you help us what the – with what the computer problem actually was? A. The problem was that information recorded on one terminal was not

H

being passed correctly to other terminals within the branch so, in particular, cash was being transferred from one counter position to another counter position and, although it could be seen on the counter that it was being transferred out of, it

A

couldn't be seen on the transfer it was being transferred back into due to this problem. So it was quite noticeable to the users that they couldn't see the cash transfer. If they'd left it at that and then restarted the position – the computer - everything would have sorted itself out the next day but they'd then compounded the problem by trying to do some further transfers to try and sort out the problem and that's what gave rise to the receipts and payments mismatch. So the actual –

B

Q Just pause there, sorry.

C

(Pause).

MR. TATFORD: So one stock unit –

D

JUDGE STEWART: It would be recorded as leaving one stock unit but not arriving at the other one, is that it? A. There are – yes, there are two separate operations. There's one operation that says that it is leaving one stock unit.

E

Q Yes. A. There's a separate operation that needed to be performed on the receiving stock unit to say, yes, I've got it and the way that that second operation works is by looking for a list of all the things that have been sent to it and the one that had been sent to it was not visible on the screen on the receiving terminal.

F

Q Was not being - ? A. Wasn't visible on the list on the screen on the – on the term – on the stock unit – on the terminal in the stock unit that it was being received into. However, if they logged on to one of the other terminals in the branch, they could actually see (tape malfunction)...

G

MR. TATFORD: Is it actually particularly surprising for a problem like this to emerge over the years when one is dealing with a complicated computer system? A. No, you'd expect there to be various problems occurring but the important thing is that they can be found and identified and there was a very visible trace in the logs for the

H

A

Callendar Square problem of a whole host of system events saying that there was a problem on one of the counters concerned.

JUDGE STEWART: And when you talk about transferred from one terminal to another, I mean are we talking about a cashier sitting next to another cashier and one has got lots of cash and the other one is running short and so he says well - A. It's that sort of thing. It's -

B

Q - have £1,000? A. Yeah. Or it could well be that the cash has come into the branch and it all gets received in one – put to one stock unit, the one terminal, and then it gets dished out so that there's £1,000 for you, £1,000 for you type of thing. So those were the reasons why you would do transfers if you've got more than one stock unit.

C

MR. TATFORD: So a very visible problem that was fixed in March 2006? A. Correct.

D

JUDGE STEWART: How? A. There was a software fix put into the system. But, at the time that the problem was diagnosed, then advice and guidance was passed to Callendar Square that, should the problem occur there again, not to try digging themselves into a bigger hole and just to re-start the terminal and that was then available at the help desk for anyone else that called in with a similar problem.

E

Q How did it happen that that problem arose at that branch and not other branches?

F

MR. HADRILL: Can I say I do not think this witness can actually say anything about it? I will question him about but he is being asked a lot of questions that he has no information upon.

G

JUDGE STEWART: Do you have information about which – on which you can answer my question? A. I – I don't know what the underlying – what the underlying problem was.

H

A Q I see. Right.

MR. TATFORD: You were asked to research the Callendar Square problem by - A. I was. I was indeed.

B Q - by the Post Office legal department? A. Yes.

Q And did you produce a summary of the problem which was the net result of your search – your research? A. I did.

C Q And did you send that summary to Professor McLachlan? A. I did.

Q And what - when you were looking into the problem to find out exactly what it was, what did you – what did you look into? What did you – where did you do your research? A. I looked into the call logs that we have within Fujitsu and I found the details of the original call and read through the various comments and so on on the – on that detail of the call.

E Q So you looked at the logs in relation to Callendar Square? A. I didn't look at the detailed logs, no. I relied on the information that had been put into the – into the – into the call history as to what had – what had been looked at.

F Q But the call history was the call history of Callendar Square? A. Correct.

Q So were you satisfied from your research that you understood what the problem was? A. Yes.

G Q And were you satisfied from your research that you knew what the symptoms of the problem were? A. Yes. At the time that I did the research.

H Q Now you have generally looked at – you were looking at all the transactions at West Byfleet from December 2006 onwards, so a period outside the Callendar Square problem which was cured in March 2006? A. That is correct.

Q Did you do anything else to look at whether this was a problem that was sustained at

A West Byfleet? A. Yes, there were some event logs that had been checked – that had been obtained for the period of 2005 to 2009 for West Byfleet and –

B Q Pause there, pause there. So you looked at system events for West Byfleet and I think the dates were between 30th June 2005 and 31st December 2009? A. That is correct, yes.

C Q So a period before what you were generally looking at? A. Correct.

C Q Because you needed to go to a period where the Callendar Square problem was a live problem? A. Correct.

D Q Looking at the system events from West Byfleet, did you see any sign that West Byfleet had suffered the Callendar Square problem? A. No.

D Q You have referred to a particular symptom of a receipts and payments mismatch between stocks? A. Yes.

E Q Did you see that symptom looking at the event logs from West Byfleet? A. The receipts and payments mismatch as such would not be visible on the event logs that I looked at.

F Q So what were you looking at for symptoms at West Byfleet? A. I was looking for the underlying root cause. The root cause was there was a host of time out waiting for lock events in the NT event log with them coming – and there would be tens or hundreds or thousands of them all occurring in fairly close proximity. There were a few of those events but they were all isolated in the event logs that I looked at.

G Q Pause there.

(Pause).

H MR. TATFORD: So the Callendar Square problem revealed itself in events logs from tens

A of thousands of – what was the phrase you used, please? A. A number of events. I am not sure it was tens of thousands but many events of the type time out waiting for lock.

B Q Time out waiting for lock? A. Yes.

C Q Are you able to explain in simple terms what that means? A. I'll try. That a process was trying to write something to the hard disk and was unable to do so because some other process was actually – had locked up the bit of the hard disk it was trying to write to. So it was failing to write information away that it needed to write.

D Q So there was – the symptom was a blocking of information that needed to be recorded? A. Yes. Basically information that – what was happening was that the information that was being received from one of the other terminals in the branch was not being successfully received on this terminal to actually write it away.

E Q It was locked out from the terminal? A. Correct.

F Q And that would be visible happening again and again? A. Yes, in this particular – particular branch.

G Q And was that present in any way at all in the West Byfleet events? A. Not with many events, no. There was – as I say, there were one or two isolated events but – of that type – but there weren't floods of them as had happened in Callendar Square.

(Pause).

H MR. TATFORD: And the software that dealt with the Callendar Square problem, was it just sent to Callendar Square or did it go out throughout the system? A. It went out throughout the system. There was a fairly major functional change that got distributed to the system in March 2006 and that was part of that.

A Q So no – no evidence of the problem occurring at West Byfleet and in any case the cure – the cure was sent out to West Byfleet? A. Correct.

B Q Now, the material that you have looked at to eliminate the Callendar Square problem from West Byfleet, have you made that available to Professor McLachlan? A. I have.

C Q And have you sought to explain it to him? A. Yes, I've spent some time earlier this week doing that.

D Q Do you understand it as still being a live issue between you in relation to West Byfleet? A. I – I'm not quite sure as to whether it's still a live issue or not.

E Q All right. Can I deal with just one final discrete topic and then seek to just put your evidence together in hopefully a readily explicable way? The – you are aware – are you aware of a situation occurring at West Byfleet where there were cash pouches that had gone through the system that did not, in fact, contain money? A. I'm told that that is something that has happened and there's – it's difficult for the system to know whether there had then – where money is being said to be put in pouches as to whether it has physically been put into the pouch or not but I am aware of some circumstances where money was put into a pouch on one occasion and then the pouch was emptied and the money put back into the system a few days later with the balance period in between those and that occurred on two occasions during the period that I looked at.

F Q Have you looked at - for your period, December 2006 to December 2007, have you looked for odd transactions in relation to cash in pouches? A. I did a – a quick analysis of the cash in pouches to see how they are moved during the period and I noticed that there was a pouch containing 3,900-odd pounds worth of euros that was

A

packed on 7th July and there was no sign of that pouch ever having been dispatched from the branch.

Q Pause there.

JUDGE STEWART: '07, was it? A. '07, yes.

B

Q Never sent to - ? A. The – the – the euros were packed into a pouch and I couldn't see any corresponding transaction for that pouch having been dispatched from – from the branch.

C

Q Thank you.

MR. TATFORD: So the computer had a record of €3,930 apparently being put in a pouch? A. 3,930 pounds worth of euros.

D

Q Oh, I am so sorry. 3,930 pounds worth of euros being packed in a pouch on 7th July? A. Yes.

E

Q But there was no record in the logs of that pouch actually being despatched? A. Correct.

Q And was there – sometimes it is possible to reverse a pouch transaction, is it not?

F

You put money in a pouch and then decide, in fact, you want to keep it rather than sending it out? A. And there was no – none of those transactions for that value either.

Q So no reversal - A. Correct.

Q - transactions?

JUDGE STEWART: Which page of your statement are you looking at?

MR. TATFORD: Oh, I am so sorry, I should have said. Page 23. It is my fault. I am so sorry.

JUDGE STEWART: Yes. A. Just below the graph.

A Q It was 3930 and 7 cents? That was it? A. Seven pence.

MR. TATFORD: It is the sterling value of – A. That's the sterling value.

JUDGE STEWART: The sterling equivalent. A. It's the sterling equivalent so –

B Q 07. A. – I would guess that was probably €5,000 in those days.

Q 3,930.07. Yes, thank you.

MR. TATFORD: Did you also find – find an unusual pouch transaction for 10th October?

C A. Yes. That was a case when a pouch for £15,000 was packed on 10th October in trading period 6 and then reversed out again on 22nd October in trading period 7.

Q Pause there. I am sorry, page 27.

D (Pause).

MR. TATFORD: The last page but one.

E (Pause).

MR. TATFORD: I am so sorry, would your honour just give me a moment?

F JUDGE STEWART: Yes.

MR. HADRILL: The problem that arises we had one at court and then you suddenly find you are given something which has got variations on it and –

G JUDGE STEWART: Notice of additional evidence 8th October is what I am looking at.

(Pause).

MR. TATFORD: So 7th July, 3,930-odd euros – pounds worth of euros in a pouch. The computer thinks it has been put in a pouch, there is no record of it going out. 7th July '07. Then the second transaction you found, 10th October '07, the computer records a pouch of £15,000 being packed up? A. Yeah.

H Q That is for one trading period, the monthly trading period, trading period 6?

A. Correct.

A Q And so, trading period 6, the computer has £15,000 ready to go out in a pouch.
A Then that transaction was reversed in the next period? A. That is correct.

B Q Reversed on 22nd October, trading period 7. So the person responsible for that transaction has told the computer, "I'm sending out £15,000" in one trading month period but then it is actually reversed the next month? A. That is correct.

C Q And have you found a similar transaction for 14th November? A. Yes, there's a similar pattern there but this time it was £18,000 not £15,000 and that bridged from trading period 7 and then it was reversed on 19th November in trading period 8.

D Q So the computer is told here is £18,000 that was going out in a pouch, that information going in on 14th November for trading period 7, and then the transaction is reversed on 19th November in the next trading period? A. That is correct.

E Q Over the thirteen month period for which you have had logs, December 2006 to December 2007, were you able to see whether there was an amount of money over that whole period that the computer was told was packed up to be sent out but was not, in fact, sent out? A. What I can say is the amount that the computer believed was in the position of waiting to go out increased during that period by a figure of just over £49,000.

F Q So there was –
G (Pause).

G MR. TATFORD: In comparison with the previous year, the computer was told that a total of £49,120 more than the previous year was going to be sent out in pouches?
A. Yes.

H Q The amount, obviously, sent out at the particular time from a branch will depend on all sorts of factors at the branch, would that be right? A. Yes. And I wouldn't

A be qualified to comment on the proper amounts to be expected.

B

C

D

E

F

G

H

A Q - and what would you have expected the auditors to find if they had gone in in December rather than January? A. They should have – they should have found the pouches for that money in the safe.

(Pause).

B MR. TATFORD: So if we can tie your evidence together, you have looked - using your computer expertise but also looking at the data, you have considered the various theories that Professor McLachlan has put forward - A. Yes.

C Q - and have you found any evidence to indicate that those theories applied to West Byfleet? A. No.

(Pause).

D MR. TATFORD: And have you - in your analysis of these just under half a million transactions, have you seen any sign, even the slightest symptom of any computer fault? A. No, but then I've been doing very sort of high level rough analysis on the stuff. But to find – to do any detailed investigation you need to have some sort of idea about a fault happened at that particular time.

E F Q Have you been given any information at all from Professor McLachlan as to any particular fault that might have been happening at a particular time? A. Other than the Callendar Square problem, no.

G Q No. And, in relation to computer problems, you have told us at the beginning of your evidence that a – a computer problem displays symptoms? A. In my experience, yes.

H Q And would a computer problem on the Horizon system display symptoms for the people working in the post office? A. Not necessarily for the people working in the post office but, if there was investigations carried on, there would be symptoms

A

Q And if a computer problem led to a problem with the actual figures on the accounts, would you – would that problem manifest itself to the staff at the post office?

B

A. Clearly, if there's a problem in the accounts then – and there were losses and things like that showing, I would expect the staff to be complaining to the help desk to investigate what's gone on and that could – that might trigger an investigation by ourselves.

C

Q Yes. Could you wait there, please?

Cross-examined by MR. HADRILL

D

Q Mr. Jenkins, that, as you have told us, I think you go under the title of distinguished engineer, is that correct? A. Yes.

E

Q Just to work out how you arrive at this title at Fujitsu. You have started, so you have told us, employment in the computer business thirty seven years ago? A. Yes.

F

Q At ICL. You have taken your various qualifications and you have progressed up through the chain of command and experience until you get to somewhere near the pinnacle which is distinguished engineer? Is that right or not? Am I taking it too high? A. That's sounds a reasonable summary, yes.

G

Q Am I placing it too high or not? A. It's the – the distinguished engineer was a scheme that was introduced within ICL and I think it's fallen into abeyance now but I –

H

Q Still use it. A. – I still use the title, yes. I think I'm entitled to. And there are about a hundred or so of the key engineering staff within ICL were awarded that honorific for want of a better term.

Q And you have obviously spoken and discussed matters with Professor McLachlan.

A He has a good understanding of computers from what you have said? A. Yes.
 Yes.

B Q You have had there no problems in regard to his command to deal with this topic as
 an expert, have you? A. No.

C Q And you are here – and I just want to go through this – because you are employed by
 Fujitsu, yes? A. Yes.

D Q Which is under contract to the Post Office? A. Correct.

E Q And the first you knew of Professor McLachlan was in February this year?
 A. Yes.

F Q And, in fact, you – to go through the sequence that you were handed, I think,
 certainly two if not three interim reports, one dated from him in September '09, one
 November '09 and one February '09 – 10, rather, 2010 – seeking assistance in
 regard to the integrity of the Horizon system? A. Yes.

G Q So what we have is this, that the reports had been provided by him, interim reports,
 setting out hypotheses and would wish to have information supplied by the provider
 which is Post Office and Fujitsu? A. Yes.

H Q It is as simple as that. He wanted some information? A. Yes.

I Q And it gets to February and you are nominated by Fujitsu and the Post Office to deal
 with the questions he has raised? A. Yes.

J Q And they were questions he needed answered before he could come to any
 conclusions? A. Yes.

K Q And so he wanted to speak to somebody who had an understanding of this computer
 system? A. Yes.

L Q Because all different computer systems are created – which are created are different

A for different industries? A. Yeah.

A Q And, effectively, what he wanted to do was to carry out an independent investigation as to the integrity of this computer system? A. So I understand.

B Q It had never been done before, had it, with Horizon? A. I'm not aware of any studies. I – I don't know.

C Q So this is basically the first outside look at the workings of the Horizon system which has been created by Fujitsu for the Post Office? A. I don't know.

C Q You do not know. And all the information he wants is in the possession of Fujitsu or the Post Office? A. Yes.

D Q And it is a question of what information is given to him by Fujitsu and the Post Office to assist him in his conclusions? A. Yes.

E Q You have the lot, he has a little. A. Yes.

E Q It is just a bit, is it not? A. Yes, yes.

E Q And you complain that he has not highlighted individual sorts of problems with your computer system but he has not been allowed access to the extent of it, has he?

F A. He's been given access to the – to the same logs that I had to look at.

F Q Yes. But he asks a question, you go and get it and he is not given, as it were, free rein to look at it to see – see if what assertions that are made by Fujitsu are correct or not? A. It's not within my remit to give or – or withhold that.

G Q So just dealing with perhaps the monitor, the screen and the touch screen, yes?

G A. Yes.

H Q You have never actually operated one, is that – do I understand what you said?

H A. I've not operated one in a real post office. I've operated them on test systems.

H Q Yes. So you do not know what it is like to operate it in the environment under

A conditions where you are serving the public? A. No.

B Q And what you have done and you have said to us this, all you have done is printed off a list of specifications as to what this guidebook when it was created. So it is basically the Post Office comes to Fujitsu or whoever makes this, says, "What we'd like it to have is have these – take these factors into account, the people who are deaf, people who are - speech difficulties, just don't understand IT." So what you have done is just recited to the court a list of guidance that is required and wanted in the final product. Yes? A. That – that is what – that's what I've done. However, I do know that at the time that extensive work was carried out. I just wasn't involved in doing that personally.

C

D Q Well, you are the expert on it. But what you have done to Mr. Tatford, all you have done is press a button saying, well, what was asked for by the Post Office, this was meant to meet these sort of criteria. You yourself cannot say you as a personal expert on this screen whether it does or does not. It is a matter of pure opinion?

E A. It's – it's – but I – what I have done, I think, is demonstrated what – what the screen looks like as well.

F Q Well, we can see that. A. Yes.

G Q And you hope it complies with the guidance that was set out from Fujitsu to succeed with their project? A. I believe it does comply with that.

H Q But some equipment, like breathalysers, have to be type approved by independent bodies, do you understand? A. Yes.

Q That they want to be satisfied to ensure that the piece of equipment meets a certain standard of quality that we can all be confident it works properly? A. And various

A bits of our equipment is also authorised for - the screen space is not because there isn't a standard body for that.

B Q So it has never actually been given to an independent body to certificate that we're happy it meets with all this guidance requirements? A. It was extensively validated between Fujitsu and the Post Office at the time that it met the requirements of Post Office and it's from Post Office that these requirements for what it needed to do came.

C Q Criticising Professor McLachlan because all that he is asking is, effectively, can you give me certificate approval, it has been approved by an independent person so I can have confidence, or let me loose on it and see what I think or somebody else who is in a position to be able to give the confidence which I want to be given to those who instruct me? A. That's not in my remit.

D E Q No. There is very little within your remit because it is totally focused upon Horizon? A. Because that's the area of my responsibility and expertise.

F Q And in the first interim report requests were made by Professor McLachlan in regard to the operation outside. You saw these requests in the interim report. The Post Office back, the area outside Horizon where they put manual information in and how that operates and how it is keyed in. You understand? It is important.

G A. I – I understand that the requests were made but I dispute as to whether they are important or not.

H Q Well, we will come to that in a minute. But you have never – you have never bothered examining that to give evidence on this case, have you? A. It's not never bothered, it's outside my remit and that's – that's actually on the part of the Post Office's responsibility, not Fujitsu's.

A Q Yes. It is their job, not yours? A. Yes.

B Q So you have not gone along to widen your expert knowledge to say, "Well, I'd like to have a look at all this so I can have confidence in my own mind that there's no errors there"? But your answer to the question is that you have not done that?

C A. I was not asked to do that.

C Q Because – if I can just quickly go through some of your evidence, the information which you and Mr. - Professor McLachlan have is information provided for West Byfleet from 1st December '06 - A. Yes.

D Q - to 31st December '07? A. Correct.

D Q And so you cannot say what was happening in '05 and '06 up to 1st December, could you? A. I wasn't asked to do so, no.

E Q Because the Post Office did not ask you to do so? A. Correct.

E Q And you cannot just freely give information to an expert unless you get permission from the person with whom you are contractually bound? Is that right? A. It's more to do with the commercials of things and that my time had to be paid for.

F Q Now, in regard to your report, an expert – and you are here as the expert – would like to be and we would like to have confidence that they have based their opinion on very firm foundations, do you follow? A. Yes.

G Q If I am building a house, I do not build it on quicksand because the whole thing collapses very rapidly and there is not much point spending a lot of time and money asking questions and having somebody come along unless they are confident in their findings and how they made those findings, do you follow? A. I understand.

H Q And so you start by looking at – I understand that there is a suggestion – this is your

A report I am reading from, it is at my page 4, I think it is the same with you -

A. Have you got a section number, please, because I think my pagination is different?

Q Oh, sorry. It is 1 background. A. Right. Right, I've found it, yes.

B Q Yes. "I understand that there is a suggestion that the equipment in the branch might be faulty. I am not aware of any fundamental issues through this though this is covered by Mr. Dunks. Specifically in his witness statement he states that all the calls are of a routine nature and do not fall outside the normal working parameters of the system or affect the working order of the counter." So these papers were read to Mr. Dunks who is an expert. If he makes a statement of that quality, you can adopt it? A. Yes.

Q And if he is not an expert and he has not got a clue what he is talking about, you have accepted something which could cause you problems in regard to the confidence you have in the conclusions of your report. Yes? A. I suppose so.

E F Q Now, no problem, were of a routine nature. We know that – and we went through some telephone logs. Did you bother reading those telephone logs, the hundred and seven, we understand, during the course of '05, '06, to 14th January '08? A. I skimmed through the report. I haven't read them in detail.

G Q Skimmed through them? A. Yes.

G Q Because we had a 23rd February '06, 08.59 hours, it is number 29, Anaty(?) NBSC – do you know who NBSC is? A. Yes. That's the post offices support desk and I think it's National Business Support Centre.

H Q That is it. "P.m. Postmaster states that she has losses every week into stock units." Did you bother reading that? A. I've read that, yes.

A Q "Call closed. PM was getting discrepancy. SSC have investigated." Who is SSC?
A. SSC is our system support centre.

B Q And have you bothered getting the information from them with regard to what was the problem? A. I did look last - yesterday afternoon just to see – see what was – what was the problem.

C Q This is the problem, you looked yesterday afternoon. And this is the report which you provided after many months of discussions with Professor McLachlan. The date is 8th October 2010. You make assertions as an expert and, clearly, you have already had this document showing that SSC have investigated so why did you get round to yesterday afternoon to make the enquiries? A. I've not been asked to look into those.

E Q Yes, that is the problem. You are giving here evidence and so there can be no problems whatsoever. It is a question within your power to ask anybody in Fujitsu, "Give me the information in the hard documents." It has not been done, has it?
A. I wasn't asked to do so.

F Q Because you are an employee of Fujitsu and rely upon what you are told to do by the Post Office? A. I rely upon what I've been asked to do by the Post Office in support of this.

G Q So that is Mr. Dunks. Now, my point with regard to Callendar Square – I have these for the jury and I will come to these in a moment – let me just ask you is this what you handed – this is what is called NT logs for West Byfleet?

H JUDGE STEWART: How long do you think this little passage will take, Mr. Hadrill?
MR. HADRILL: Can I just ask this question and then I will stop?
JUDGE STEWART: Yes.

MR. HADRILL: Now, NT log. We understood – and Professor McLachlan, who relies

A

upon you to provide information, he understood, he did, that you had event logs and transaction corrections logs, yes? A. Transaction logs.

B

Q Transaction logs. A. Yes.

Q So we have been working on the premise that there are only two sets of information that can be provided by Fujitsu, yes? A. Okay.

C

Q Questions are asked about Callendar Square and, lo and behold, you summon up then a third log and it is called an NT log. Yes? A. Yes.

D

Q Which you had not bothered looking at before? A. I had looked at them before when I was – produced my statement on what happened in Callendar Square back in March.

Q You had never given Mr. - Professor McLachlan the benefit of looking at them?

A. That's true.

E

Q You are compiling a - A. He hadn't asked me for them.

Q Sorry? A. He hadn't asked me for them. I – I'd passed on the information from Callendar Square –

F

Q But he - A. – and then there was nothing there to challenge. If – if he'd asked for the further information, I would have – I would have found it for him.

G

Q You have an expert who is asking you for assistance and information. You criticise him because he has not raised specific topics for you to investigate, yes? A. Yes.

H

Q And when one is raised you go off and do some research and come back with an NT log? A. I gave him the information about what happened in Callendar Square back in March –

Q Yes, I agree with that. A. – in an e-mail and said that the logs had been checked

A and that there was no signs of similar problems in West Byfleet.

B Q So you gave him an assurance then, yes? A. Yeah. Now if he'd challenged that and asked for what were these logs, then I could have provided those logs at the time.

C Q Well, all I am going to do is this because this was only provided to him, I think, it was e-mailed to him Monday night this week? A. Yes.

D Q By you? A. Yes.

E Q If I can ask you to look at the second page? A. Yes.

F Q And there we have an entry for 3rd May '06? A. Yes.

G Q And this would not be recorded on any other log but it appears on the NT log. On 3rd May '06 a corrupt storage unit was detected? A. Yes.

H Q That is fairly critical, is it not? A. Yes.

I Q Now the 3rd again, re post, a fatal error has occurred? A. That – that's a consequence of the earlier fault.

J Q Yes. And 15th December '07 - A. I mean, with those faults the system would not have been usable.

K Q Well, yes, but here you are, your first assumption is I am relying upon Mr. Dunks who tells me he has got the telephone logs and there is nothing which is out of routine? A. These – these sort of failures are routine. They do happen in other cases.

L Q Corrupt storage, fatal error? A. Yes.

M Q But you did not bother putting that into your report to say, well, I've looked at these which are to your – he had the benefit of – you just turned to Mr. Dunks and the telephone logs? A. Okay.

A Q And Mr. Vasarmy - and if I can just deal with this and then I will stop -
Mr. Vasarmy. You said, "I have also been shown the witness statement of
Mr. Vasarmy..." - he is the gentleman we have heard on the first day of this trial -
"...who I understand took over the branch from the defendant which says that there
was no problems with the equipment as far as he is concerned." A. That's what I
read in the witness statement.

B C Q Yes. Did you bother looking at the telephone logs as they related to the operation of
the post office for Mr. Vasarmy - A. No, I -

D E Q - to see whether it was corroborated? A. No, I didn't.

D Q So there if there problems, part of the building blocks - one of the lower building
blocks of your report is weakened, yes? If there had been problems with
Mr. Vasarmy? A. I was happy to take his word for it.

E Q Well, that is the problem. You are happy to take his word for it. We can stop there
for the moment.

JUDGE STEWART: Yes. Five past two everybody, please.

F (The court was adjourned for a short time).

F (The jury returned into the court).

JUDGE STEWART: Thank you. Yes?

G GARETH JENKINS,

G Cross-examined by MR. HADRILL (Resumed).

H Q Thank you. Mr. Jenkins, can I just go through the reason for the hypothesis? To get
to the conclusion - and I think it was explained by Professor McLachlan to you - that
there is a problem and so the easiest way to do is to identify relevant hypotheses.
Now, this could be - a hypothesis of what has happened. So you set a

number of different hypotheses out; yes? A. Yes.

A Q And that is what Professor McLachlan has done in his interim report, setting out various hypotheses covering the wide number of scenarios? A. Yes.

B Q Training, incompetence, the equipment itself, the manual inputs by Post Office Ltd. Services, the back office? A. Yes.

C Q So he has identified a number of relevant hypotheses in order to gather information, to get information for those hypotheses; yes? A. Yes, I understand.

D Q And, as he has got the information, you can test the hypotheses and from that draw conclusions as to whether it is a sound hypothesis or it is a waste of time? A. Agreed.

E Q And so what he is trying to do with you is to give hypotheses, to obtain information, discuss those with you, see if you can refute them and draw what conclusions he can? A. And I believe that's what we've done.

F Q I think that is what you have done. Now, in regard to the hypotheses in regard to external systems, I will just – I am not going to deal that greater data but Professor McLachlan has provided two volumes which supports his conclusions and there are annexes to it. A. Right.

G Q You have seen this, have you not? A. What I've seen is his final report so –

G Q Yes. A. – if that is what you are referring to –

G Q That is what I am referring to. A. – yeah. Yeah.

H Q And you have got it there now. I am going to ask the jury to look at – not his report, that has been torn or taken from the bundle which I am going to ask them to hand – to look at (inaudible). Your honour has a copy of this. They were handed in.

(Pause).

JUDGE STEWART: How can I tell what I am looking for? Perhaps I could just see what

A has been handed to the jury?

MR. HADRILL: It is headed, your honour – it is headed the – on the front page it says,

B 'This report contains fifty pages.'

JUDGE STEWART: Yes, right, thank you.

MR. HADRILL: And there we have ripped out of it the report because it is the supporting
C documents. Your statement is not with the jury and it would be wrong for Mr. -
Professor McLachlan's to be - A. Yes.

Q - so, do you follow, so we just have to annexes? A. Yes. Ah, those are the
annexes to the reports, right?

D Q Sorry? A. So it is the annexes to the report that you are concerned about?

Q Yes. A. Right. I don't have the hard copy of those but I – in front of me.

E (Pause).

A. Thank you.

MR. HADRILL: If I can ask you to look at page 51, please? As we know, you and
F Professor McLachlan were put in touch with each other in February and so he asks
you for some information? A. Yes.

Q And this is an e-mail from you, author Gareth Jenkins, dated 8th March 2010. What
he was asking you to do in asking the question, Mr. McLachlan, was just to give you
G – you to give him a flow chart roughly of what he is meant to be looking at, what
connects with what, to give him an informed understanding - A. Yes.

H Q - of how to further his investigation? A. Yes.

Q And, obviously, there is nothing, as it were, official to assist and it was perhaps an
unusual request? A. Yes.

A Q Because perhaps nobody else was ever asked or asked to examine how the Horizon system works within the Post Office? You do not know. But there is nothing there which you can turn to as a document which you can just send off in response to reply, is there? A. That's correct.

B Q No. So you have got to try and put together as best you can some documentation to assist another expert? A. Yes.

C Q And so, introduction: "The purpose of this note is to pull together some high level architectural diagrams of the Horizon system. It is based on extracts from informal documents." So, effectively, what has happened is this is a working document which you have put together. It is not an approved architecture document, is it?

D A. This particular document is not, no.

E Q No. So what happens is often when you get a system put together we get an approved – all the experts sit down together or designers sit down together and say, "Yeah, this is – we can confirm if anyone wants to see the layout, the road map, we have confidence that this is the road map which it can be sent to anybody and it be correct." A. Yes.

F Q And so everybody puts their signature to it, to say, "Yeah, we're confident. Our department approves it. Their department approves it," and then it becomes authorised, approved, does it not? A. Yes.

G Q But one does not exist and so you have had to try and cut and paste as best you can something that goes to show how the Horizon system works within the post office.

H A. With a system this large there are a number – that information is covered over a large number of documents and so what I was trying to do was come up with a summary here.

A Q Yes. So this is what you have done as best you can putting together some documents. "This is intended to provide a summary for Professor Charles McLachlan, an expert witness for the defence in the case of Seema Misra."

B A. Yes.

C Q And there we get - I think, there is a diagram, 'IT Context and Users'. I think everything within the square, the inner square which starts at 'Core Horizon', is relevant to Fujitsu and everything outside that inner square is outside of Horizon?

A. Yes, that's correct.

D Q So left-hand top corner we have Horizon help desk. We also have on the left-hand side well outside Horizon is the Chesterfield help desk? A. Yes.

E Q A different operation? A. Correct.

Q And in the lower left-hand corner we have the reference data proving, whatever that may be. I am not going to ask you. Then we have got the Post Office reference data which is outside and then, obviously, on the lower right-hand corner, branch, it is just like West Byfleet, and below that there were cashiers and operators?

A. Correct.

F Q Outside the control. And if you look over the page, where it says – under number 4 it says, "Call Horizon communicates with the following systems," and these are all organisations outside Horizon and their control. These are external. Banks, Streamline, and so it sets up a list and Post Office Ltd., there is a bullet there, Royal Mail passport. They are all outside, yes? A. Yes. A number of those systems are within Post Office and some are totally external.

G H Q And then also if we turn to page 53 we get another flow chart to help how things are routed and in the middle it says 'Message Server'. That is Fujitsu, is it not?

A A. Yes.

B Q And then we get counter applications and then at the top grey left and right at the top this Chesterfield and external systems. Yes? A. Yes.

C Q And perhaps the most useful to look at is on page 57. It just gives an understanding because here the lower 4.2 (inaudible) and POL Financial services. Everything in white, which is the lower two-thirds of the lower rectangle, is Fujitsu and everything in grey and the dark shade is outside? A. Correct.

D Q In grey and out - and lower - a darker shade, has manual or human input and outside the control of the Horizon system. A. I don't know if they've all got human input but they're certainly outside the control of Horizon.

E Q So there is a lot here upon this architectural plan you have provided to show that there is a lot of different operations outside of Horizon which are inputting into your system and which are routine communications? A. It's inputting data into the system but not necessarily affecting the accounts of the system.

F Q Well, it all depends whether it is right or wrong but you cannot say? A. Sorry, what do you mean?

G Q If there is a (inaudible), you are – all it is doing is routing the information. You cannot say whether it is correct or incorrect information which is being put in externally, can you? You are just routing the information. A. Yes.

H Q And all your system does is to send information from A to B and then from B back to A again and if it needs to go to, say, a bank or building society, it will be diverted on the tracks to C. Yes? A. I don't quite follow what you're saying, no.

Q Well, I am going to – I will come – perhaps the easiest way round it is this? You have got lots of – let me just – let us just turn to page 87. The professor has got –

A has highlighted some grids on this and this is just to explain how your system works and I am not going to go into any – I hope not bore anybody - but if you take the second grid down, it is dated 10th January '07 and we have the transaction data session. Lots of numerals. If we go along to the middle it says, 'Taxation..' or 'Transaction data SC 9523.' That is the product number. Basically everything in the post office, whether it is a stamp, a national insurance bond, tax disc, has a product number; yes? A. Yes.

C Q It looks as though this is going to go off to the DVLA so it looks like it could be a tax disc? A. I would assume so, yes.

D Q And the DVLA is outside the control of the Post Office? A. Yes.

D Q And so the Post Office is like a mini-bank, is it not? It is selling services to all sorts of different financial organisations and government businesses? A. Yes.

E Q And this one is being sold – being conducted with the DVLA and so the next line down we have a lot of numbers, it is 15 22 22 5919. It says the sale value of this tax disc is going to be £60.50. A. Yes.

F Q And, obviously, the DVLA are not going to get £60 straight into their bank account, are they? A. No.

F Q So the idea is this, that the Post Office is acting as an agent for the DVLA?

G A. Yes.

G Q And it is credit card, one assumes, or a debit card? It says - A. Yes, that looks like a credit or debit card.

H Q And somebody has then decided it has got to go via a bank so I think – I think it is (inaudible) is it not? A. That is actually a failed credit card payment.

H Q Sorry? A. That is actually a failed credit card payment.

A Q That is – that is what I am going to go to in a moment because what happens is this that the Post Office machine goes to what is called Streamline. It is a merchant service. A. Yes.

B Q The same as if you went into an off-license or a supermarket, a petrol station, you get a – what is called a merchant service, a central bank, which is going to lend the money and then - A. They're acting as an agent on behalf of all the various banks.

C Q All the various banks. And so if somebody puts their credit card number in and we can see it is **GRO** and said, "We want to sell a tax disc from DVLA, will you give – will you pay the money over in due course? We are going to take the money now"? A. Yes.

D Q And so we get a sale is to take place and then the next entry says, no, they are not going to authorise this transaction? A. Correct.

E Q And so we get a balance of £65 - A. £60.50.

F Q - £60.50 – and then because it is rejected it looks as though it has been - A. It's paid for by cheque.

G Q - settled by a cheque. A. A cheque, yes. Product number 2 means a cheque.

H Q Yes. And this is the sort of example that, if you did not realise it had been refused by the credit card, you could have just hit the fast – fast button, fast cash button, and handed over - A. That could have happened in that circumstance but, as I say, in this particular case it was actually paid for by cheque which meant something had been noticed.

I Q We agree with you. A. Yeah, yeah.

J Q But the sort of situation we can see on this - A. And it was this sort of analysis

A that I did but only for the – those transactions that were for over a thousand pounds.

B Q Thank you very much. And you said, in regard to reversal of transactions - I just wanted to show the jury to see what this data is like. A. Yes, sure.

C Q Over the page to page 88. In the middle it is 25th – it is the one, two - third grid down but it is the lower half of the second grid, if you understand. It is dated 25th April '07. 11.11.33. Here we have – and I cannot understand all the numbers. We have the product number 5045 and we know that this is, in actual fact, NS&I. That is National Savings, is it? A. Yes. I believe that product represents Premium Bonds so -

D Q It is a Premium Bond. Somebody has come wandering in with money. They want to buy £10,000-worth of Premium Bonds. Yes? A. Yes.

E Q So they hand over a card and it is refused? A. Yes.

F Q And so, although initially it is sold, once it has taken it as cash, the money has gone, even though the credit card has been refused. So on the books it looks as though you should have £10,000 in cash? A. However, when I did my analysis I found for all those examples that there was actually a subsequent reversal of that transaction.

G Q Well, it says so there but this - A. Pardon?

H Q It says so. A. No, I can't see the reversal in this extract.

I Q Oh, I thought it says reversed £10,000? A. No. That is – that is the fast cash transaction, that transaction for £10,000. The reversal would be a subsequent transaction –

J Q Oh. A. – but I can't see it in this extract.

K Q So someone by mistake – the payment has been refused, someone has hit the fast

A cash - A. Yeah, the cash button has been pressed because for a National – for a – for product number 6638, which I believe I looked up to be Premium Bond sale, it is not possible to actually cancel that product. You have to actually complete it to cash and then reverse it afterwards and –

B Q Yes, so if some – somebody had not been observant – I agree with you it has been reversed - A. Yeah, yeah.

C Q - but there is an example that you have gone in, the payment has been refused by the credit card - A. Yes.

D Q - you have hit the fast cash button, you are meant to have £10,000-worth of cash in your till but you have not got it? A. So if you did nothing about it then you would be £10,000 out, I agree.

E Q All done within a second? A. Yes.

F Q Unless you actually get back to Chesterfield and say, “Oh, I’ve got to reverse all this?” I am just - A. You don’t need to go to Chesterfield to do the reversal.

G Q You can do it on - A. You’d soon find that you – you’d be well aware that – that you were out there. As I say, when I did my analysis, as I say, I’ve got all the details on the laptop, but – for all of these cases there was a reversal done fairly quickly which makes it clear that it was noticed.

H Q Well, I am not criticising. A. Yeah.

G Q I am just showing some examples – A. Yes.

Q - of what happens. It is clearly there. A. Yes.

Q Fast cash, the money has gone and you have got to reverse it. A. Yes.

Q So it could be easy to make mistakes, could it not, and be very, very expensive mistakes? A. Yes, I guess so.

A Q And it is not as if on the Horizon that you suddenly have, as with a checkout and a till that as soon as you make a sale the till drawer pops open. It is a hand pull drawer each time, is it not? A. Yes.

B Q So at least in a supermarket with the type of electronic equipment it is that, if you press a sale by mistake, the till pops open and you know something has gone wrong because you should not have made a sale? A. Yes.

C Q And so if you have got to physically pull the drawer out to put the money in, unless your eyesight is – unless you are alert, there is nothing to warn you that perhaps the sale has been made, there is no money coming over and you are going to be short on the till? A. Well, if you looked at the screen you would see.

D Q If you looked at the screen. That is depending also how much haste you may be in because you do not know what the quality of the clerk is who is serving the customer. You just rely upon the training of the person who is on the desk serving the customer? A. Yes.

E Q And the integral part of this is the quality of the training, to ensure that your system works? A. If the system is working, it's really a case of the system is reporting on what has been input into it.

F Q You are not going to be criticising your system, I take it? A. (No response).

G Q The transaction corrections. The screen layout I have discussed because there is a hypothesis put forward. A. Yes.

H Q Mr. – Professor McLachlan raised the issue of incorrect externally entered information. Well, you cannot assist on that, can you? A. I can't assist on the way that the external information is put together. What I can assist on is the way –

A

the way that it is relevant to Horizon in terms of it only affects the accounts when it's been accepted on Horizon.

Q Because what - your answer to Professor McLachlan's hypothesis that you have got to look at the external inputs outside the Horizon system – your answer to that is

B

simply this, "However, in my view, this is not really relevant since any transaction that is recorded on Horizon must be authorised by a user of the Horizon system who has taken responsibility for the impact that such a transaction has on the branch accounts." A. That is correct.

Q So basically what you are saying is that if the person is authorising on a (inaudible) transaction for monies to be taken, if they authorise it -

C

JUDGE STEWART: I sneezed right at the crucial moment. What were you saying, please?

MR. HADRILL: Simply this. By reason of a clerk authorising an (inaudible) transaction -

D

A. Yes.

Q - the (inaudible) transaction must be right? A. They should – they should ensure that it's correct before they authorise it.

E

Q They should ensure it is correct. A. I agree.

Q There is nothing to say whether it is correct or not. So what you are doing is putting the onus upon the clerk on the till or the postmistress or master? A. In this case it wouldn't be the clerk on the till, it would just be a postmaster or mistress or a supervisor.

Q Yes, the supervisor. So Professor McLachlan raises a hypothesis that you have got to look at the external system, that the manual input could be incorrect. You have not done that, have you? A. It's outside my scope.

F

G

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A Q And your answer to it is simply this, well, if the receiving branch does not complain, it must be right? A. Yes, it's their responsibility.

B Q It is a very sweeping assumption to make, do you not think? A. I – it is the responsibility of the branch staff to actually enter transactions correctly.

C Q Whether the correct – it is a correct external input or not, does not matter. It is the responsibility of the sub-post office? A. If the external input is incorrect, then they should be challenging it, rather than accepting it.

D Q They should be and if they have not you are assuming that it must be correct then? A. I'm assuming that they have accepted the responsibility for that into their system.

E Q But you cannot say whether it is right or wrong. You just make this sweeping assertion. A. I don't think anyone can say it's right or wrong.

F Q Looking at transactions corrections, Professor McLachlan raises the hypothesis that corrections – transaction corrections can give rise to changes in the cash that Horizon records, your system, which is true, is it not? A. Yes, if you accept the transaction correction that is going to affect the cash. If you take a transaction correction for a correction of £1,000, then you're expected to put £1,000 of cash into the till at the time that you accept the transaction correction.

G Q That is assuming a post office is being run according to procedure? A. Yes.

G Q If it is failing, then errors can occur? A. If they're failing to follow procedures, yes, but that's true in any case.

H Q Your answer to this is that corrections transfer – transaction corrections would give rise to changes in cash, the assertion by Professor McLachlan, "But as I have stated earlier in this statement, any transaction correction that has been generated by the

A external Post Office (inaudible) systems must be explicitly accepted into the branch accounts by an accredited user," saying the buck stops with the branch? A. Yes.

B Q And then you give three examples, 13th December '06 and two others on 14th March '07, but you have not examined the material for those correction transactions, have you? A. No. What I've done there is that those were cases where evidence was sought for further information.

C Q Yes. So you do not know what these are about? A. No.

D Q And you would expect the postmaster to do the checking over of the accounts and certainly by the trading balance both at the week's end and the month's end, would you not? A. Yes.

E Q But you give an account and recite the message that flashes up on the screen, there is a message on the screen which is 3rd July '06, "Cash sent to reference for queries dispute. She must contact cash centre. £400 transaction correction is issued for a shortage she sent to the cash centre. Press accept now, then make good." So basically what has happened is the message coming down the line saying, "You are £400 short, press accept and put the money in the till"? A. Yes.

F Q And if you do not, give an explanation? A. Yes. Well, you can ask for an explanation – yes. My understanding is that the expectation is that branches will be aware of these errors and be expecting the contents of them.

G Q The expectation? A. Yes.

H Q And then, obviously, foreign currency we can ignore. Professor McLachlan raised a hypothesis which you discussed with him and he was willing to accept your assurances. A. Yes.

A Q We have already been all through it, Professor McLachlan rises a – raises a hypothesis – hypothesis – it was not possible to examine the process of reconciliation conducted by the Post Office that could give rise to transaction corrections. Well, Professor McLachlan's complaint, he had not been given the information, yes? A. Yes.

B Q And you say, "As stated earlier this is not relevant since any transaction corrections have been accepted by a user (sub-postmistress) into the branch accounts and should not be accepted if not understood." So again you are just saying, well, if they have taken it, it is down to them? A. Yes.

C Q It must be correct. A. Yes.

D Q Not having known the person who is accepting this transaction at West Byfleet or maybe you do? You do not know who the person is? A. No.

E Q You just assume that if it is accepted they must have understood what was going on? A. Yes.

F Q And this implicitly means they are taking responsibility for it in accounting terms? A. Yes.

G Q I agree with you because there is a contract they have got to make up the difference of the shortfall? A. Yes.

H Q But this is a criminal trial alleging theft. Do you follow? A. I understand that.

G Q And then Professor McLachlan raises the issue –

JUDGE STEWART: Forgive me for interrupting, Mr. Hadrill, I just want to see if I am misunderstanding something here. You are talking about taking responsibility for the transaction correct? A. Yes.

Q The postmaster or somebody appointed - A. Yes.

A Q - to exercise that degree of responsibility at the branch who has to take responsibility? A. Yes.

B Q And so if - it is Chesterfield, is it not – if Chesterfield are wrong in the – what they say has to be corrected - A. Yeah.

C Q - but the postmaster accepts what Chesterfield are saying and if it is Chesterfield saying he is short, he accepts the correction for £1,000 and he has to find £1,000 somewhere to put in the till - A. Yeah.

D Q - and he does it - A. Yeah.

E Q - then what is the accounting system going to show? A. The accounting system's going to show that that £1,000 has been put into the till and the accounts then balance. The time the transaction correction has gone through there are a number of options in terms of how that is going to be handled. One of the options is to say, "I'm going to put cash into the till." You can write out a cheque to Post Office Ltd. and then treat that as cheque that has been taken from a member of the public. There is also an option for amounts over £150 called 'settle centrally' and what that basically means is it gets written off the local accounts in the branch and there is then a mechanism between the branch and Chesterfield to arrange for it effectively to be a payroll deduction in the future and that's the sort of thing that may well happen for large transaction corrections rather than them actually having cash put in the till, though I didn't see any signs of any 'settle centrally' transaction corrections in the data I looked at.

F G H Q I see. Forgive me for interrupting. I am so sorry.

MR. HADRILL: And Professor McLachlan raises this concern, that there is very little

A paper print out from the tills in the post office which would give hard copy confirmation of transactions, sales and credits - A. Not - not as you go along. There's plenty of reports that can be produced at the end of the day and you can produce historical logs of transactions when investigating problems.

B Q That is what I am coming to because it is a question of relying upon the Horizon system at the end of the day to press - you press a button, it gives you a print out of what would be the transactions? A. Yes.

C Q Whether it is right or wrong, you would not know because you have got no hard copy there to challenge it? A. There are bits of paper associated with some transactions but I agree -

D Q Some. A. - that many - for many transactions there isn't.

E Q Can I ask you this, that do you have any experience of creating computer systems for banks? A. No.

F Q You say this is analogous to a supermarket or grocers? A. Yes. The Post Office has had - had a number of debates over the years as to whether they are a retail organisation or a financial services organisation.

G Q Maybe they do but we have heard from Mr. Bayfield, I think - Bayfield or Bayfield - Bayfield - that the Post Office operates as a mini-bank selling financial services, not as supermarket, so I assume that certain criteria or other considerations need to be taken into account when building computer systems for banks compared to supermarkets? A. I'm not aware of any such criteria.

H Q Because you have got no experience of that? A. Not of doing systems for banks, no.

Q So you do not - cannot tell the court whether this Horizon system would be a failing

A system if you compared it to a retail bank? A. What I can – I – I – no, I've not compared it with a retail bank. However, the mechanisms we have for handling banking operations and credit card transactions and things like that have been accredited with the relevant financial organisations.

B Q Well, so must – the local off-license would be as well or pet shop but you are running a finance – a bank. And has it been tested against criteria that would be relevant to a bank? You cannot say? A. It has been tested against the Post Office

C -

D Q Well, I do not know. I am not a computer - A. No, I'm saying it's been tested against the criteria that's been put on us by Post Office.

E Q You see, what has happened, everyone has put trust in the Horizon system, that it is infallible, it is robust. I am asking you some questions as the expert. A. Yes. Yeah, yeah.

F Q And I am just asking for assistance and reassurance but you cannot give that, that it is compatible to a bank, can you? A. Because it is not seen as being a banking system.

G Q Incorrectly calibrated touchscreen, a hypothesis which is put forward by Professor McLachlan. Now, the reason I say that is because the screen pad – the visual display has lots of little dots, we can see it on the figure 2 – drawing 2-1, yes? A. Yes.

H Q But if the screen just shifts a fraction, it needs being recalibrated because behind the screen as you touch the icon would be a pad? A. Yes.

Q And so the 2 should be behind the pad for the 2, the nought should be behind the icon for the nought - A. Yes.

A Q - and it happens with these screens that they shift out of alignment? A. They can do, yes.

B Q And so - when - in the call log - and talking about - this is a screen which you say has not been - Fujitsu are happy with it but it has not been tested independently, has it? A. Yeah, there have certainly been independent tests on the screen.

C Q But, anyway, so the screen itself slightly gets out of kilter, just a fraction, and so you could be pressing the 1 icon but it is touching the 2 button behind it? A. That could happen but you would see it - on what's being entered into - into the screen.

D Q Yes. You see it's getting onto the screen. But take another example. Supposing you want to enter, say, £100? A. Yes.

E Q You have got a nought and you have got a double nought icon. You have got two icons, have you not? A. Yes.

F Q And if the nought gets out of alignment with its icon, they are close together, the double nought and the single noughts, are they not - A. Yes.

F Q - on this screen? Very close together. But if it's out of alignment, you think you are pressing one nought, you could actually be pressing a double nought? A. You could.

G Q So what could be thought is £10 is £100, what you thought is £100 could be £1000 or more? A. Yes.

H Q And there is no print out that is given by the machine to tell you that there are a few more noughts on the bill than you should have, *i.e.*, someone has handed over £100 and you have pressed in £1,000? There is nothing on the - A. It depends on the transaction. There is a print out for some transactions.

A Q You see, this is always dependant – this - the hypothesis which is put forward by Professor McLachlan but could occur, could it not? A. It could do but there's no – suggestion that it has in this particular – the status –

B Q There is no suggestion because there would be nothing on the transactions to show it, would there? A. No, but your – the cash position would be significantly out on the particular day that that happened.

C Q I agree with you. It could be several thousand pounds out, could it not? A. Yes. And that ought to cause investigation into why that money is missing.

Q Ought to cause investigation. I agree with you. A. Yes.

D Q But there has been no theft or dishonesty, has there? It is the failing of the screen and the machinery. A. The failure of the user to check what they were doing.

Q Failure of the user. Not the machinery, you are saying, failure of the user. He is not paying attention. A. Yes.

E Q Or not understanding that they should be paying close attention? Yes? A. Possibly.

F JUDGE STEWART: It is a bit of both, is it not? It is a bit of a failure of the hardware –

A. Yes.

Q - and a bit of user failure? A. Yes, indeed.

G MR. HADRILL: Now, Callendar Square is very interesting, is it not? Because it is a failure of the Horizon system, is it not? A. Yes.

Q And I have got some print-outs.

(Pause).

H MR. HADRILL: Six for the jury. One for his honour, one for my learned friend and one for the witness. Do you have this already or - A. Not on paper.

A Q Right.

(Pause).

A. Thank you.

B MR. HADRILL: Let us deal with this how this comes about because Mr. Tatford was

C asking you to quite properly deal with this because if you look at the bundle which is the McLachlan big bundle, I hope I – (inaudible) Professor McLachlan - if we look at page number 66, because an issue had been raised about asking for examples and example is given of Callendar Square; yes? A. Yes.

D Q “Charles” – and this is dated 8th March 2010, 14.49, it is the same time/date as you have provided him with the architecture. We went through that earlier on in regard the cut and paste job you did. “Charles, I’ve been asked about the issue of Callendar Square, Falkirk, I’m not quite sure about the spelling, that came up at the Castleton trial. I thought I’d better keep you in the loop on this. I’ve now dug back into the E archives to provide the summary. The problem occurred when transferring cash or stock between stock units. I note that West Byfleet does operate multiple stock units so the issue could have occurred. (2) it manifests itself by the receiving stocks unit F not being able to see the transfer made by the sending stock unit and is compounded by attempting to make a further transfer. Note that such transactions usually G reappear the next day. It is clearly visible to the user there is a receipts and payment mismatch at the time that one of the stock units is balanced. This usually results in the branch at the sub-post office raising a call. There are no such calls in Andrew Dunks’s witness statement which summarises the calls raised by West H Byfleet.” Can I just tell you this, that you have been sold a pup here because Andy Dunks only deals with hardware. Chesterfield calls is a different line. All

A right? So you have been misinformed here by whoever it is. "Also this can be checked on any balance reports or branch trading statements that are available from the branch which should show that receipts and payments do match and the trading position is zero. The problem is visible when looking at system events associated with the branch. The system events from 30.06.05 to 31.12.09 to West Byfield(sic) have been checked. No such events have been found. The problem was fixed in the S90 release which went live in March '06 and so would not have been relevant at the time of the detailed transaction logs obtained for West Byfleet between December '06 and December '07. Therefore, I can conclude that the problems identified in Callendar Square, Falkirk, are not relevant to West Byfleet. Regards, Gareth." This is early into the enquiries being made by Professor McLachlan? A. Yes.

Q He is relying upon you as an expert and the assurances you give as an expert that – not to spend time with Callendar Square? A. Yes.

E Q But it raised its head again, did it not, certainly in your report and discussions? A. It only raised its head in my report because it was still mentioned in Professor McLachlan's report.

F Q That is right. Because I want to – A. So, as I say, I thought that – this had been put to bed from here but it's – it came back in – in further reports so I responded again.

G Q Presumably, although you are fairly senior and high up in the Fujitsu system for the purposes of Horizon, you knew nothing about this problem with Callendar Square, did you? A. Not at the time, no.

H Q And so we have a system in operation at Fujitsu that there can be computer errors which one set of personnel do not know about in carrying out corrections in

A operation. You knew nothing about it and you are an important person within the Fujitsu system on Horizon? A. I wouldn't know about every call that's been raised, no.

B Q It is a computer – it is your computer. It is a failing by your computer. A. Yes.

B Q It is not external? A. Yes.

C Q It is not incompetence by the desk clerk or a postmistress, it is a failing by your computer system which has no human input whatsoever. A. Yes.

D C Q Yes. What happens is this, that if you have a number of individual tills in the post office, a post office, and you want to transfer, say, a couple of thousand pounds from one till to the other, it will transfer from till A to till B the two thousand pounds but it does not deduct the two thousand pounds that has come out of till A to pay for it? A. It is the other way round, actually, but – it takes it out of till A but doesn't add it into till B properly but –

E E Q So suddenly you have got a reconciliation problem? A. Correct.

F F Q The Horizon system tells you that you should pay perhaps £10,000 in all your till systems and you have only got some £8,000? A. Yes.

G F Q So it is telling the bank manager – the shop – the post office master at the end of the day, "You are £2,000 light, reconcile it, please, or make a report"? A. No. What it is actually saying is that there is an error in the reconciliation and, therefore, something needs to be investigated.

H G Q But as soon as Chesterfield get to hear about it, your system sends the details from the sub-postmaster via your Fujitsu system up to Chesterfield who look at it and say, "Well, they've only declared £8,000 cash but the Horizon system says there should be £10,000 there." Yes? A. Yes.

A Q And so travelling along the computer waves comes this error correction, "You owe us £2,000, accept now and pay up or put a correction report in"? A. I'm not sure that there would have been a transaction correction associated with this problem.

B Q But that is the effect of it, would it not? And the poor postmaster has balanced the books, done nothing wrong and your system is saying they are short of cash? A. Well, no, they've failed to balance the books because an error has come up during the balancing process which is why they 'phoned up the help desk in the first place.

C Q Yes, but the help desk could not help, could it? That is why it came back to you. And so we do not know how endemic this problem would have been at the time?

D A. If the help desk had had problems – that – that problem would have been very noticeable in the account – to the users at the time and would have then caused them to 'phone the help line.

E Q It would be apparent to the users although they had not created the problem themselves, had they? A. No.

F Q And it is relying upon the alertness of the post office user to realise there is a problem which is being created by a computer system? A. Yes.

G Q Which they have been trained all along is robust and infallible? A. Yes.

H MR. TATFORD: No. Nobody has said infallible. (Inaudible).

G Q All right, sorry. Let us go through this Peak Incident Management, this system here, because this was given to Professor McLachlan, e-mailed to him Monday night by you? A. Yes.

H Q And you are clear in your report saying, "Accept my assurances, as I said in March

A

of this year, you can ignore it," because I've made some enquiries and I didn't bother getting information before but I've now got this call? A. No, I got this at the time when I –

B

Q Oh, did you? A. - when I made the report. I just didn't actually send – send the detail to him. I assumed that what I'd given there was sufficient. If he'd wanted some further clarification, I could have provided it at the time but I wasn't asked for anything –

C

Q Oh, it is accepted - for him to accept your word. A. I – that's what I assumed, yes. Maybe I was in error in not actually asking that explicitly but I was assuming that we were working –

D

Q Can I get this straight? I don't criticise you. A. Yes.

Q You – here you were being parachuted into this - A. Yes.

Q - to try and give some answers on behalf of Horizon. A. Yes.

E

Q You cannot give any answers on behalf of Post Office and you are doing the best you can in regard to the permissions you have got. That is right, is it not?

F

A. There is nothing to do with permissions. I don't know the details about how the Post Office systems work.

Q Yes. I am not suggesting - A. No. No.

Q - that there's any - (inaudible) - A. No-one is telling me what I can and can't say.

G

It's what I know.

Q Yes. It is just what you know and what information you have been provided with yourself? A. Yeah.

H

Q So this is the Peak Incident, the management system, it is known as PIMS?

A. Normally known as Peak, actually.

A Q All right. So then it goes to the call logger, call customer, customer calls EDSC(?) and that is the third line support. So the third line of support is sending this up, is it?

B A. What happened is that this will have gone through the first line help desk that Andy Dunks was talking about yesterday. They then – they record their – their incidents on a separate call management system which at the time was called Power Help and then, if it needs investigation by third line support, it gets passed through from the Power Help system into the Peak system and there should be a reference here – yes, there's a reference here and that's Power Help's reference number E0509210898 which was what – which would be a reference number that would have been given to whoever raised the call, which I believe may have been the postmaster in Callendar Square.

C Q And then it gets the priority, it's being business restricted? A. Yes. That means that it's quite serious but it's not stopping everything –

E Q It's impacting on the business but not stopping – A. Yeah.

Q - halting it? A. Yeah.

F Q And so it is quite serious problem, we are going to discover what it is. This is the Callendar Square problem, is it not? A. Yes.

G Q It is just a report. This is all you have actually seen about Callendar Square to date? A. Yes.

H Q And so when Professor McLachlan asked you, "Well, can I see the engineer's report and can I see the hard copy responses?" you had not got it, had you? A. Well, this is –

Q Well, this is just the telephone chit-chat, is it not, more than anything else? A. Well, it's not just the telephone chit-chat, it's – it's the discussions that has gone

A on by the analysts and the –

B Q Yes. But it is the core documents, the engineer's report, which another expert might like to see as to what was the problem? A. What do you mean by an engineer's report?

C Q Well, I will come to that in a second as we go through this because it is going to be interesting, I think. So then we get – as we get all of the references, the Power Help. That is basically the help desk, is it not? A. Yes.

D Q And we have got the E number you have referred to. Then we have got the KEL. That is the Known Error Log? A. That's right.

E Q It looks like there is couple of Known Error links or Logs existing, one in the name of Simpkins, one under Ballantyne. A. That's right.

F Q And it is also – it says call reference – because it can be logged – linked also to a similar complaint – problem – which is PC0126042? A. Yes.

G Q So it is not isolated necessarily, is it, this problem? A. That was referring to a similar problem in the same branch a week earlier.

H Q Yes. Supplier reference. Because here we have 03734 Esher. Now, what is of interest of this is that Fujitsu did not create the programme, did it? A. That's right.

G Q The communication. The communication programme, that was subcontracted to an American company called Esher? A. That's right.

H Q So Fujitsu take the contract from the Post Office or the Royal Mail. They develop its own accounting systems but the communications, *i.e.* in sending information from one machine, say, from the post office in West Byfleet to Fujitsu and then Fujitsu out to either any bank or to Chesterfield, rely upon this subcontracted system

A from Esher? A. Esher was only responsible for the communications between the post offices and our data centre.

Q All right. I - A. But, yes, it is not relevant, I'm sure.

B Q Well, it could be. A. All right.

Q This is raised on 21st September 2005. So we know that the problem is corrected in March 2006, well, purportedly corrected, but it could have been corrected in late April 2006, could it not? A. It could have been, yes.

C Q Because it is not when you get a patch to repair a problem, you do not just suddenly stick it into your main server apparently and it just spreads around the rest of the fourteen thousand post offices. You have to go round each individual post office. A. Not physically. It's done down the wire.

D Q Down the wire. So it takes, what, six weeks? A. It can do because the communications to some branches can be quite slow. The majority go through quite quickly but some of the ones in outlying areas take a while to get to sometimes.

E Q And so presumably whoever was complaining here would be the first in line to get it repaired? A. Not necessarily.

F Q All right. So as the patch comes out in March, it may not be until early – late April/early May that a problem with any particular individual post office is cured?

G A. Correct.

Q In which case, if it is raised in this thing in September '05, it could have been pre-existing long before that, could it not? A. It could have been, yes.

H Q It could have been there for many, many years? A. It could have been.

Q An error with the Horizon system which has not been discovered because a branch has not complained vociferously enough to complain about it? A. I don't think it's

A

because they haven't complained enough, it was because that particular set of circumstances was not occurring.

Q But you do not know, do you? A. I don't know.

B

Q It could have been happening in many, many post offices and people had just been putting money into the till from their own pocket? A. I don't think that would have been the case.

C

Q You do not think but you do not know? A. I don't know.

Q Because it is a serious problem and this is one which we have identified which you did not even know about?

MR. TATFORD: That is rather like – that is misleading, I am sorry.

D

MR. HADRILL: I am sorry, I am sorry, I am sorry. If you did know about it, you did not tell us.

E

JUDGE STEWART: Well, will you, Mr. Hadrill, try to stick to questions and remove some of the comments from what you are saying, please?

MR. HADRILL: I will. I apologise for the comment. I apologise.

JUDGE STEWART: You will have your chance for that.

F

MR. HADRILL: Let us go through this. So –

MR. TATFORD: Well, I wonder if the point can be clarified so the jury understand the position and Mr. Hadrill knows the position how disclosure follows.

G

MR. HADRILL: Well, can I say this, that it is raised – in which I have read the memo from you, yes, from 5th March - A. Yes.

Q - 2010. You have given assurances to our expert which have been accepted.

H

A. Yes.

Q And it raises its head again - again in the report of Professor McLachlan which you

A

deal with - A. Yes, I'm not sure why it's still raised its head again in the reports of Professor McLachlan because I thought I had sort of covered enough back in March.

B

Q Yes. And, as a result, you have obviously assisted as best you can, got this report and gave it to him Monday night? A. Yes. I was only asked on Monday for further details about it so I – I produced them as soon as I could.

C

MR. HADRILL: Oh, well, my learned – well, my learned friend wants me to correct.

There is a case called Castleton which appears in your e-mail. A. Yes.

D

Q And this Callendar Square was referred to in the Castleton? A. So I understand.

Q And my learned friend, I think, wishes me to say that he disclosed the case in authority of Castleton which within it there is reference to this post office.

E

A. Right.

JUDGE STEWART: Right, well, that is probably not something that –

MR. HADRILL: Well, it is just that Mr. Tatford just –

JUDGE STEWART: Yes, yes, well –

MR. TATFORD: I was worried about it factually.

MR. HADRILL: I have covered that as well just to keep him happy.

G

JUDGE STEWART: There it is, there it is. Anyway, everybody has the information they have now.

MR. HADRILL: Thank you very much.

JUDGE STEWART: Yes.

MR. HADRILL: Are you happy?

MR. TATFORD: Yes, that will do.

JUDGE STEWART: Yes?

A

MR. HADRILL: Fine. So a summary and it then goes down to the person on the
(inaudible), 21st September '05, 17.47.24, customer called. This is the branch
manager? A. I assume so but I don't know definitely.

B

Q So then call and then we get the PC0126376 and that is the reference number at the
top, yes? A. Yes.

C

Q "Postmaster states that he has been put through from NBSC." So basically it is
Chesterfield have sent him – diverted him to you? A. Yes.

Q Call type is L. A. I think it was a live system problem.

Q And priority B. The release is – the target release is BI373S82R. Basically what
this is saying is - you want to know if you 'phone up an engineer and they say,
"What's the serial number on the back of your computer? What's the last
programme you got in?" so this has got a programme in it which has that serial
number? A. Crudely speaking, yes.

Q Well, I have not mixed up - A. No, no, that's – I'm quite happy to leave it at that,
yes.

F

Q So, basically, it is unassigned, EDSC. And then we start to get – this is basically a
log of work to be done, well, work that has been done. The next bit is the repeat.
The postman we know now and I will not repeat his name. The originator is P Help.
That is the helpline. Product type, Riposte. That is part of the architecture, is it not?

G

A. That's the middleware that you referred to earlier that is used for doing the
messaging between the counters and the data centre.

H

Q Yes. So, basically, it just sends the signals up and down and the messages?
A. And it's also responsible for the source of the messages on the – on the local

A discs both in the branches and in the data centre.

A Q So – so it says product (inaudible) 160868. That is Callendar Square in Falkirk.

A A. I think that is the (inaudible) of Callendar Square.

B Q “21.09.05, postmaster states that he’s put through from Chesterfield. He has a (inaudible) till that will not accept a transfer, will not appear on the screen. Only on mode. The transfer’s not there but on the mode. One it is there.” So, basically, what he is complaining is this, it is not communicating and it is causing reconciliation problems?

C A. What he is saying is that on – on counter number 5 that he can’t see the sign of the transfer, whilst on counter number 1 he can see the sign of the transfer. So that implies that counter 5 isn’t talking to the other ones in the branch properly.

D Q So then he is told, “Postmaster” - this is you – not you but your - Fujitsu - “Advise postmaster this has to come from NHB to go through checks.” So basically saying, well, “We can’t do it because we need Chesterfield to tell us to go and do it.” Is that right or not?

E A. I assume so, yes. I’m not an expert on the help desk practices.

F Q Well, that is the trouble, you see, because you really know nothing about this Callendar Square problem, do you? I mean - A. I understand the technical details of the incident but what I don’t understand is all the processes they go through of who ’phones up who and when.

G Q Yes. Because, effectively, what has happened is you have got - only this has been said to you, yes, and you have got the NT log, we understand, for – which you do have for West Byfleet but you have got none of the supporting documents that relate to - A. The supporting documents that did have various bits of evidence, (inaudible) have been signed off by now.

A Q Yes. A. They could be retrieved if – if they were required.

B Q They would have been – but the trouble is you cannot say and stand here that I can accept this as accurate because you have not seen the core documentation? A. Well, this is the core documentation for the problem.

C Q No, this is a report. A. This is the re – this is the report that gets appended to as the problem progresses through the problem management system.

D Q As it dealt with there will be reports, technical reports, created for further engineers to use and to consider whether – the criticalness of the issue? A. I'm not aware of any other such reports. This is the mechanism that's used to communicate between the various engineers who are investigating the problem.

E Q Have you bothered researching for any other reports and supporting documentation? A. Any – any ones that have been retained would have been attached to this.

F Q And there are none there, in fact. All you can do is just 'phone up another member of your staff and ask them what the answer is. That is what you have been doing, is it not? A. I – I – I've asked other people to actually remind me of what the reference number for this is so that I could actually look up this report because it was March when I'd last investigated this and when it was it was – when I was asked on Monday to give further information about this I couldn't off the top of my head remember exactly where the details were. So, yes, I did 'phone up a colleague to – to help me in finding where – where the underlying details were but I pulled this off the system myself on Monday afternoon.

G Q Right. And then we move down to 21st of 09 '05, 17.06: "Information. Call arose last week for similar issue. Transfers not showing on notes. Advise pm that the following transfers not showing on note 4," and then there is information, "Claim

A experienced similar problems last week and wants us to investigate why this is happening.” And the implication is that it is a local – it is local to the post office and a software problem? A. It’s a software or a hardware problem. It is quite likely that in – that it’s – the underlying cause is something to do with hardware, the fact that it’s only happening in the one branch.

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Q But then it goes on in the middle, “When clerk had accepted transfer accepted, after she accepted she went back into transfers and no forward transaction for 608.13 appeared.” Do you know what that means? A. Yes. When doing a transfer between two stock units then there is a transfer out in the first stock unit which says, “This is the amount of money or goods that I want to transfer from the first stock unit to the second stock unit.” Then, having done that, then the second clerk, the one who is receiving the money or other stock, had to go in and say, “I want to accept that transfer,” and that is represented by the – so the first one is saying, “I’m taking the – the cash out of one cash drawer.” The second transaction is where the second clerk is actually - having been physically handed the cash is then putting it into their – into their own cash drawer. So what – what this is saying is that when the transfer had been – sorry, the clerk accepted the transfer – when the clerk - they accepted the transfer in and then they found that the transfer in was available for accepting again and accepted it again. So, therefore, they have effectively taken the cash and put it into two – into the drawer twice.

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Q Yes. A. And that’s what’s given rise to the discrepancy in the accounts.

Q And so then we know that this problem is reassigned to Rachel Parkinson of group HSH7 to Kenneth Hutton - so it is going on from group to group, is it, within - A. That’s within the – that’s all within Power Help.

JUDGE STEWART: I do not think it is necessary to follow through who was taking the

A call and so on.

MR. HADRILL: No. Okay. I do apologise. So then again: "Information. Have

B downloaded PS log for notes(?) 3 and 4." That is the detailed trace log for those -

A. That's the detailed trace logs from those counters to enable the things to be investigated.

C Q And then, "Please check why transfers are not showing. Please see logs for details,"

and this is all the peripheral services and it is held – it would appear to be – then it is reassigned and there is the tidying up and then it is then given to a lady - and if I say the name Ka it is assigned to her, because this name keeps reappearing, yes, over the page? A. Yes.

E Q And 22nd September '05, 16.13, "This is another occurrence of last week. Please see 016 – 0126042." A. Is this the one that is referenced at the beginning?

F Q So what we are trying to do is that if we notice that on the first page I referred to a similar problem appearing and we have got the reference number there on the first page, the call reference? A. Yes. Because it gives that – if you look above at 15.32.10 that's when Cheryl Clark had added in the reference to the other Peak and that's caused it to appear at the top.

G Q Yes, so – trying to link them together. However, those (inaudible) to Riposte errors. That is basically the communications? A. Yeah.

Q It is not the – it is not being received? A. Yes.

H Q It operates on one till but doesn't send information to another. "Last week PM - postmaster - did some duplicate transfers in transactions which caused reconciliation errors. Fortunately this week has not done so. PM knows – wants to know why

A these problems have occurred twice within two weeks. Pass the call to development for comment." That is you, Fujitsu, is it not? A. Yes.

B Q And below that, "Response code type error arrived category 4. Asset status, it is pending." So, basically, nothing has been done and it means it has got to be sorted out? A. It's still being investigated, yes.

C Q So, first of all, how do these reference numbers happen? If you were to 'phone the AA and say, "My car won't start," and the AA comes out and says, "Your car will start, it's got a flat battery. So, therefore, problem solved, you need a new battery." And so what happens is a person 'phones up and says, "There's a transaction problem." The engineer comes round and says, "There's no transaction problem. You just need a new piece of – keys," or something like that. So it is a different problem. You understand? A. I understand what you're saying, yes.

D E Q Lateral thinking is, like, I suppose, another example, you 'phoning up and saying, "I'm in a lock and I can't get the water in." So the lock man comes down and says, "Well, there's plenty of water. The problem is it's not being sluiced, (inaudible) opening from one to the other, but there's plenty of water." A. Yes.

F Q It's a different problem. Not the water. It's the sluice mechanically not working.

G JUDGE STEWART: I do not see how the particular category that it is assigned really concerns the jury, does it, Mr. Hadrill?

H G MR. HADRILL: Well, your honour – well, it does become obvious later on because it starts cross-referencing with – and I've tried to keep it as simple as possible. So what they happens is that they get this card. It is called evidence added and there is three blanks there and basically what has happened is that she has arranged to draw down the data from the post office in Callendar Square for research? A. Yes.

A Q And that is something which would be useful but you have not got in your statement? A. That has been archived off. As I say, I have not investigated to see whether - how easy it is to get that information from the archives.

B Q So what I am saying is to give your own independent expert opinion it would be quite useful just to have a look at it to say, "Yeah, I agree with what's in here," or, "I don't agree with what's in here." It has been archived off and you have not gone and got it? A. That's correct.

C Q And, as a result, Professor McLachlan has not been able to look at it to confirm what you say from what you have been told by others is correct or not? A. I suppose you could put it that way, yes.

D Q 22nd September '05, 16.20. This is the third line of support. "The errors (inaudible) completion." This has been explained to me like this. The communications are coming down the line and so where it is like driving down a motorway you may have three, four or five lanes and eventually a lane may slow down in one lane and you eventually get to your destination. What has happened is there has been a blockage and everything stops moving. Is that a good analogy or not? A. Well, yes, I guess, yes.

E Q You then get to the other end and so, effectively, what happens is you get what is called lock out and nothing gets communicated? Yes? A. Yes.

F Q "An unexpected error occurred while attempting to (inaudible). Can development comment on why this happened again at the same site?" A few of these errors seem to occur every week at different sites. So it is not just isolated, is it? A. Yes.

G Q And this is a problem which has been created by the computer system itself?

H A. Yes.

A Q The call has been transferred to team QFP. What is that? A. It's a filtering team, I think. I think it stands for Quality Filtering Process.

B Q Right. And so then we get to the last entry on that page, 22nd September '05, 16.12. It has been dedicated to a person in the team called Scardifield(?) and he is the person presumably that is involved in building the first system? A. He – he is the team leader for the – or was the team leader for the team that was responsible for – for the whole of that area.

C Q And then we get names appearing on the next page who are going to be part of his team? A. Yes.

D Q And then the second entry down, 26th September '05, 16.29 - A. Yes.

E Q Mr. McConnell says, "This is a Riposte problem. Nothing I can do about it. I'm afraid there's a replication problem. Passing over to the Esher development stack." So basically what is happened is Fujitsu are saying, "Well, it's not our problem. Go back to Esher." A. Not quite. What that's doing is that's transferring it to the person in Fujitsu who is responsible for communication with Esher and who will then raise a call with Esher passing the information across to them. As we see of we followed down a few more lines.

F Q The call record has been transferred to team Esher 26th September. Progress was delivered to Power Help. So from now on nothing has been done but what has happened is you are saying, "Well, it's not our problem but we're dealing with it. It's now been transferred" or passed the parcel to somebody else? A. We had to request from Esher to find the information about what the underlying problem was.

G H Q Then obviously you then get a contact number three days later, 29th September, and it has been assigned to a team member of Esher and Power Help helpline have been

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told that it is being dealt with still and then six weeks pass by because it gets to 8th November '05. Now this is actually a call from the helpline because nothing has happened for six – six weeks. It is complete silence; yes? A. Yes.

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Q And so the service desk is trying to make an enquiry, "What's going on?" Then they call the support to advise and told it was linked to a reconciliation issues. In fact, even Chesterfield HQ has been chasing. It is causing a problem. They want an update. And obviously things start to move then for November because obviously an add-on is to be sent to Pinnacle – is that the - A. Pinnacle's the old name for the Peak System. In fact, at the time this was running it was probably the Pinnacle system that was supporting this but all the data got moved across from the Pinnacle system to the Peak system.

Q Clearly – do you know what Astea – A-s-t-e-a – is? A. Erm –

Q It says empty, empty, empty, OTI and Astea OTI. A. No, is the simple answer.

Q Sorry? A. No is the simple answer. I don't know what Astea is.

Q You can give us no assistance? A. I do not recollect but I don't think it's relevant.

Q Well, the problem is you are here giving evidence in regard to how you can interpret this document. A. I'm trying – what I think I'm trying to give evidence on is the technicalities behind this, not the process involved in pulling this all together.

Q Well, we do not know – what importance Astea may be in this or not? A. I can't see –

JUDGE STEWART: Well, Mr. Hadrill, will you please go to the part that deals with what is said to be the cause of the problem, rather than who transferred the message from one person to another?

MR. HADRILL: Well, I will do but I just need to – anyway, it is chased on 8th November

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but response is delivered, there is no change in status. As we can see at 8th November 2005, 15.28, it is still pending. It has still got to be cured this problem.

A. Yes.

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Q And time passes by because an app - over the page, 10th November, an app has been sent to clinical. (Inaudible) has confirmed that they are not responsible for update."

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So basically what has happened is that the help desk is wanting information. It appears Ms Das is trying to find out - Ka is trying to find out what is going on and she has been told you can't come direct, you have got to go down a different route.

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So information is not being supplied to customers either, is it? A. It's a case of going through the - that seems to be someone not following the correct process for getting information.

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Q Yes. Somebody wants to give customers information and being told go through the proper process? A. Yes.

Q But anyway – and then 7th November this is a root cause –

JUDGE STEWART: Now, is that a misspelling of root?

MR. HADRILL: It is. I think it should be r-o-o-t, is it not? A. Yes.

JUDGE STEWART: I did not know whether it was some particular term - A. No, it's just a – it is just a - bad typing, bad spelling, I am afraid.

Q Right. Double -o - t? A. Yeah.

Q Root cause. Yes.

MR. HADRILL: And the Post office have managed to create a work around but that is only for those who know that there is a problem. A. Yes.

Q If you did not realise you have a problem, you are suffering with the problem

A continuously for September, October, November '05. "I am told (inaudible) for software fixes as they are delivered based upon a priority of severity," and so it is a question of waiting still further and another eight weeks passes by to 4th January and it is from the same (inaudible) - referring to note 5, (inaudible). The first - only thing that's happened – happened with this brief information another two months pass by, no activity, and then 30th January – so we are getting on for over four months have passed by now of this problem being current, yes? A. Yes.

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Q "I'm sure (inaudible) this call long ago. Esher assert that this problem is fixed in their latest delivery to us, UK/10 S90." Well, have you got the print-out for S90 to tell us what it is all about? A. S90 was the release that had a number of software changes in to provide new functionality in – in – for the Post Office.

Q Yes. Have you looked at it to see what it was doing for the purposes of creating – preventing this problem? A. This was - this was an underlying text to the underlying software which was just picking up a number of other fixes.

Q Was that (inaudible)? A. I did at the time.

Q All right. So, basically, it is going to be released. "Therefore this call should be closed accordingly and resurrected only if the problem occurs in S90." And so that is 30th January '06 and it still category still pending. And then, as you tell us, it is – then a decision is made that it will be corrected in the March? A. Yes.

Q And the reason being simply this, that it is expensive to start tinkering with your programmes with individual corrections or patches? A. It is.

Q And, even though there may be a serious problem, it is far better just to leave it existing? A. It's not just expensive, it's also risky.

Q And so when you get a number of corrections to make to a programme system you

A do it all at once? A. Yes.

B Q And so, although this problem, certainly to the Post Office and others, sub-post offices, has been a problem back in early September, mid-September, nothing is done about correcting it until some time in March? A. Correct.

B Q And then it can take six weeks for it to be effected throughout the various post offices. Late April/early May possibly? A. Yes.

C Q And those post offices will still be suffering reconciliation problems? A. Only if they had these exact circumstances of this scenario.

D Q And it is West Byfleet. It operated separate tills as was happening with Callendar Square? A. Yes.

D Q And we know that she moved in June '05, had an audit early October '05 and was £3,000 down. This problem was current then with the Horizon system? A. Yes.

E Q And we know that it continued to accrue reconciliation profits – problems through the latter part of '05, through '06. Yes? A. Yes, well, so I am told. I've not looked at that bit of her customer details.

F Q You have also provided – and may I say this – really this information only came to the defence – I am not criticising you because Professor McLachlan has only had – only been working – only being able to discuss this case with you since February, it may well be a eight months but – A. Yeah.

G Q - there is a lot of information to analyse and discuss, is there not? A. Yes.

H Q Six for the jury and you have got a copy of this I think already. One for his honour, one for Mr. Tatford. Have you got a copy of this? A. Is the same one which we had this morning?

Q Yes. A. Right.

A Q I just want to go through this because –

JUDGE STEWART: Thank you.

(Pause).

B MR. HADRILL: This is from the NT log.

JUDGE STEWART: Now, what should I call this?

MR. HADRILL: I do not know. I will have to ask Mr. Jenkins. What shall we call it?

C A. Well, this is an extract from the NT event log.

JUDGE STEWART: Extract - ? A. From NT event log.

D Q Do I know about NT? A. NT is Microsoft's term for their new technology. It's one of their versions of Windows which is now quite old technology, always a problem when they call it something new.

Q Yes. And for West Byfleet? A. Yes.

E MR. HADRILL: I put to you this morning because I was talking to you and asking about doubts and system – hardware problems and what obviously was apparent if we look at the first page. No, sorry, probably the second page. At the very top it says 3rd May '06 - second page. Well, to a layman when it says a corrupt storage unit was detected - A. Yes.

F Q - a fatal error has occurred - A. Yes.

G Q - it seems like there is a hardware problem? A. Yes, it does.

H Q Yes. Well, you knew nothing about this because all you are relying upon was what Mr. Dunks – and this was a document which you have actually only looked at over the weekend? A. Yes, I – I probably looked at it – this was a document that was produced at the time we produced the logs back in February/March time to actually

A sort of check what errors happened at the time that all this occurred. So I – I looked at it at that point but I only produced it for – and looked at it again this week.

B Q And so when you start your report - A. Sorry, when I referred – in the e-mail on 8th March, I – I make the comment at point 5 – sorry at point 4, “The problem is also visible when looking at system events associated with the branch. The system events from 30th June 2005 to 31st December 2009 for West Byfleet have been checked and no such events have been found.” So I had looked at them at that point to make that statement.

C Q Well, fair enough but you had not looked at the raw data which was referred to – A. Well, I – it was this spreadsheet that I’d looked at when I made that statement.

D Q Just this. But not the raw data which had been downloaded by – which we refer to in the Peak log, do you remember? A. Yes, I’ve not worked with that – that, no.

E Q So what you are doing is just looking at a simple analysis? A. Yes.

F Q Well, now -

JUDGE STEWART: When you said – I am sorry to keep interrupting and going back but when you just quoted, “No such incidents were found” - A. Yes.

F Q - what kind of incident were you looking for? A. What I was looking for in here was a large number of these time out waiting for lock events. That is what is referred to in the incident summary.

G MR. HADRILL: Is that because you had been told by one of your colleagues that is what you should be looking at? You had not confirmed it yourself that that is actually what you should be looking at? A. I confirmed it from looking at this and from discussing with colleagues.

H Q Yes but you had not looked at the material to discover whether what you had been

A told is correct or wrong? A. I've looked at this material to see that it's correct. I've not gone back to look at the original things there, no.

B Q It could be considered a failing on your part not to have checked the material so you can have the confidence that what you have been told is correct? A. I was confident to – in the information that I had.

C Q Anyway, I just highlight those having - again there is other fatal and we know that the page I have got, 4th February '08, that is after the event, and a fatal information error has occurred? A. Yes, I mean, those fatal errors would most likely result in the machine not being usable and I – I admit I've not checked but I would certainly expect to see a call to the help desk and a replacement for the hardware to occur when an such an event -

D Q So the equipment has broken down? A. Pardon?

E Q It looks like equipment had broken down? A. Yeah.

F Q 5th February '08. A. Yeah.

F Q But training – you can give us – it is a hypothesis which is raised by Professor McLachlan. Training, you can give no comment upon that. The jury can draw their own conclusions from evidence they hear in court, all right? A. Yes, sure.

G Q But you cannot pass any comment, I assume, for the purposes of training? A. Correct.

H Q But you carry out – you carry out an analysis – transaction corrections you have been through with my learned friend. A. Yes.

Q But I am not going to dwell upon that. You have talked about pouches which I will come to in a minute. But what is quite clear from the data we have looked at there

A would appear to be mismanagement of the financial running of this post office?

A. That's certainly what it looks like, yes.

Q And that is – whatever I want to criticise – not – it is quite clear that you spent much time looking at the events logs and transactions logs, it looks like financial mismanagement, does it not? A. As far as I can tell, yes. I can't see anything wrong with the system.

Q Now, simply this, that the information that is able to be provided to you in regard to discrepancies, what you have seen is that there be a reconciliation which gives a discrepancy of a certain figure within seconds and it is put back in again and the discrepancy figure much reduced and you give some examples. If we can go to, say, page 130? There are – here we have the 2007 – there was apparently variance checks month by month. It is from the event log. But if we were to, say, look at 6th January, we can see that there is a column says date, time, user and SU, which is the stock unit, and we know that there are different tills. There is three tills. There is a safe, which is a stock unit, and there is two other stock units. That is (inaudible) 00H and there is an SM01, I think. There are six stock units. A. There are certainly a number of stock units. I don't know how they're allocated and how they're used.

Q Right. And it would seem here that at 6th January '07 at 8.41.18 stock unit – this is DD so this is presumably a till – shows a discrepancy of £2,856.73 and then seven minutes later it is done again and the discrepancy is reduced to £151.63. A. That presumably means that someone has actually declared their cash, seen that there's a discrepancy and either done some transactions that they had forgotten about to correct them or they'd re-declared their cash with a different figure to come up with

A a different discrepancy. I can't tell from this exactly which of those scenarios it is.

B Q No. But it is repeated all the way through these transactions, is it not? A. Yes.

C Q And that is why I tell you and it shines out it happened from 2006 onwards. Perhaps – I do not know but you have got – not got the transactions for 2005 up to the end of November 2006? A. But, I mean, yes, clearly, there are a large number of discrepancies in – in this event log.

D Q So you cannot say what was happening for the purposes of declaring for 2006/2005 because you have not got the information? A. No, I haven't got the information.

E Q It has not been – has not been drawn down? A. No.

F Q But this information is easily available to Fujitsu. It is just pressing a button on a computer and getting it out? A. It's slightly more complicated than that. It does take a few days to actually get the information but it is obtainable, yes.

G Q There is no reason why this is not sent on or could be routinely sent on to the post office to show that there is repeated mismanagement of the account on the financial returns? A. It could be the Post Office asked us to do something like that, yes.

H Q And if you are not asked by the Post Office to provide this or raise these concerns, it is ignored? A. Correct. And these are not routinely looked at. I mean, this information about discrepancies is provided primarily for the benefit of the postmaster to manage their - their own local branch. So they could be looking at these discrepancies and then seeing that there's problems with – with members of staff and then attempting to sort it out.

I Q But from what you can see - A. They don't seem to be doing it.

J Q It is all mismanaged. I – I have got to deal with your cash analysis because you were asked by Mr. Tatford about your cash analysis.

(Pause).

A

MR. HADRILL: And this is six for the jury, one for his honour and one for the witness.

This is a document created by you? A. Yes.

(Pause).

B

JUDGE STEWART: Thank you. A. Thank you.

MR. HADRILL: First –

JUDGE STEWART: Just a moment. At West Byfleet, that is.

C

(Pause).

JUDGE STEWART: '06 to '07. To '08. No, to '07.

(Pause).

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MR. HADRILL: This – they both say it is cash movements. That is a little bit misleading, is it not? Because it is not actually the movements of cash. A. Yes. It's the absolute amount of cash and cash in pouches held at the branch at the end of each period between December 2006 and December 2007. So the numbers across the bottom are the trading period numbers –

Q Yes. A. – and the trading year changes in March so – so, in date terms, it will be December, January and February and so on up to December and hopefully there is thirteen there – I think so – yes.

Q So, in actual fact, this is fairly meaningless taken in isolation because it could have been more useful if you had the period June '05 to the end of '05 and then 1st of '06 to the end of '06 as well? A. It could have been.

Q And what this shows is this, that you have put together the cash movements, the purple, the top bar - of the bar, is basically what is in the pouches, cash, notes - A. Yeah, it could be currency as well.

A Q Currency? A. Cash and curr – sterling and foreign currency in pouches.

B Q So that is just the – what is declared in the pouches which is the purple and mauve, whatever? A. Yeah.

C Q The lower half, the blue, is not just cash? A. No, it's – it represents cash, foreign currency, other methods of payments that are in hand and postage stamps.

D Q And so, effectively, it is not just cash, you are saying, but the cash is going up and down, this is peaking, and we do not know whether they are getting greater stocks in, higher turnover, because more people are coming in? A. Yeah.

E Q It is just a bar chart? A. Yeah.

F Q So that in – not enough there for you – I know you are a mathematician - A. Yeah.

G Q - but that does not show anything of any assistance, does it? A. It probably isn't showing anything particularly helpful in this case. Although I think the main thing that comes out of this is that the amount of cash in pouches is raised significantly over the period of the – the actual cash itself is slightly increasing but it's rel – reasonably level.

H Q And there is, in fact - clear at 10, trading period 10, the cash was about fourteen and a half thousand pounds which is really at the bottom, is it not? A. Forty five thousand pounds.

G Q Fourteen – I know – yeah, but that includes - A. Ah, I see.

G Q - stamps, vouchers - A. You are going on to –

JUDGE STEWART: The page on the –

MR. HADRILL: It is the cash payments.

JUDGE STEWART: We are at the tagged part are we?

MR. HADRILL: No, no, I am talking about this – this chart.

JUDGE STEWART: So where are you getting fourteen thousand from?

A

MR. HADRILL: Well, I am taking that from the – if I just – I can go through the figures over the page, if that is just as easy.

JUDGE STEWART: Well, no, I am not suggesting either would be easier than the other, I

B

am just trying to establish where the fourteen thousand figure comes from.

MR. HADRILL: Well, I – A. I don't think it appears on the chart.

JUDGE STEWART: We cannot look at the chart and see fourteen thousand, can we?

C

MR. HADRILL: No, we cannot because what has happened – what I am saying is if we look at trading period 10 –

JUDGE STEWART: Yes.

D

MR. HADRILL: - on the chart –

JUDGE STEWART: Yes.

MR. HADRILL: - we have grouped together in the blue with the method of payment,

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cheques and so forth, stamps, vouchers, paying cash. And so it looks there with the blue that it is cash for trading period 10 which would be about fifty six thousand pounds the way you have drawn this particular bar - A. Yeah. Fifty odd, yes.

F

Q But that, having said it is cash with the blue bar, is - A. It's cash and other things, yes, I agree.

Q It is cash and other things. The cash element would only be about fourteen and a half thousand pounds? A. I'm looking to the BTS info on the 13th. I think it actually shows it's £31,592.72.

Q Oh, let us just go through that, shall we? If we look at the grid with the data on it. This is something which you have constructed? A. Yes.

Q It is for the trading period 10, 11th January '07 to 13th February '07. A. Sorry,

A

which – which particular grid are you talking about? The one called ‘Cash Analysis’ or –

Q The (inaudible) for BTS. A. Right, yes. BTS 13, you said?

Q Yes. A. Yeah, okay.

B

Q That is the period running from 11th January '07 to 13th February '07? A. I've constructed this from a very, very poor image of a – of a balance trading statement that I received, yes.

C

Q You cannot say it is correct either, can you? A. I can't say it's a hundred per cent correct but I think the figures are – are reasonably accurate.

D

Q Yes. Anyway, so, as a branch, this is cash, this is what Horizon says it should be, £31,592.72? A. Yes.

Q Till AA has within it – that is to say, £25,900? A. Yes.

E

Q Tills B, C and D are those numbers, £800, £2,200, £1700. That provides a total figure of £30,843? A. Yes.

Q Now, what you have not got and we do know exists there is two other tills. There is the OOH? A. There's three other tills actually.

F

Q Yes. But you have not got the details for that? A. That wasn't on the image that I had.

Q So this is an incomplete calculation? A. It's an incomplete calculation, yes.

G

Q And so what we get in the last – A. What I was trying to do here was reconcile the cash figures with hard copy.

Q But what I want is to be looking at – and this is provided initially as part of your annexe exhibits to assist Mr. Tatford as to cash flows and movements but – A. All I was providing as part of my exhibit was the – was the graph, not the details that

H

went behind it.

A

Q Yes. So it is the graph itself is misleading, is it not? A. In what way?

Q Well, the cash – this is cash movements, it is not - A. Oh, right, okay. It is talking about the value of stock in the branch.

B

Q Value of stock. And when we say the blue, as I say, that includes both cash, stamps, methods of pavements, vouchers, a great many card items? A. Yes.

C

Q And you have done no analysis of that? A. I did do some analysis last night and then came down to the same figures.

Q I can go through this chart, the BTS and the other, but, effectively, you yourself accept it is just some assistance but it is not accurate? A. I think it is pretty accurate.

Q But a lot of it you just did not have some information, it is OOH, the SN1, you

E

have made assumptions? A. No, I've got the underlying information about what's in each of those. What I was doing on this particular sheet was trying to represent what I had – what I was able to read off the – the VTS that I had a very poor – very poor copy of. What I have done is that the figures that I've got in the sheet called

F

'Summary' were all taken off the system and those figures are all accurate. What this sheet was trying to do was correlate them with the hard copy that I had very poor copies of to actually make sure that the figures that I was getting out of the system actually correlated with the hard copy that I – I'd been shown.

Q Well, the figures that you say are there which you consider are useful could be figures which have just been put down by reason of poor management by whoever is running the post office? A. Well, anything in the system – any figure in the

H

A system is one that has been put into the system by whatever person is operating the system, yes.

B Q So you cannot actually say these are the sums that should have been there or were there? A. They are reflecting what the system said should have been there for which the things are – the postmaster was accountable.

C Q What the system says should be there if all the transactions were correct, if the human inputs and external inputs were correct and whether - A. Well, it's nothing to do with any external input. It's to do with what's been put into the system.

D Q And finally this, that, in regard to Professor McLachlan carried out a thirteen month analysis of the turnover, that is to be found at – I did have it about - yes, it is just under £48,000 – £48,000,000, is it not? A. I – I've just – that figure sounds vaguely familiar, yes.

E Q I think – are you looking at page 85? It actually starts at page 72. It starts at page 72. We have there the product numbers. 1 is cash on the Horizon systems, 2 is cheques and then we get different product numbers for different commodities all the way through and for this trading period, which we have detail 4 provided for the December '06 to December '07, if we look at page 85, total turnover is 87,000,000 – 47,985,332.07. A. I think the figure for turnover would be half of that because everything is double accounted for but –

F Q Sorry? A. I think strictly the turnover is half of that because everything has been counted twice because of the double entry bookkeeping but, yes, it is a large amount of money.

G Q It is still a large amount of money - A. Yes, yes, yes.

A Q - whether it is forty eight or twenty four million pounds? A. Yeah, yeah. They're still large amounts of money.

B Q I think I may have already asked you this but we have been through the past cash problem, the Callendar Square problem, and you have shown us certainly an example of the Peak Incident Management Systems problem. You were unaware of the Callendar Square until it was brought to your attention? A. I think I had heard about it in the past.

C Q Similarly, there could be other problems which have been inherent which you do not know about?

D JUDGE STEWART: Well, there is always a possibility –

D MR. HADRILL: Yes. But I am just wanting –

D JUDGE STEWART: - that something exists that anybody does not know about.

E MR. HADRILL: Yes, I just want to make sure that –

E JUDGE STEWART: Mr. Rumsfeld's unknown unknowns.

F MR. HADRILL: Well, so be it, but I do not want to be criticised - that there could well be similar reconciliation problems which have been cured which you know nothing about for the relevant period of 2005/2006? A. It is possible. I do tend to get talked to when the reconciliation issues come up.

G Q You accept that it is possible, even though - A. Well, it is possible that there are some that I wasn't involved in.

H Q And so there could be problems which you are unaware of? A. It is possible.

H Q Thank you.

Re-examined by MR. TATFORD

Q Are there problems that the sub-postmaster at the post office is going to be unaware

A of? A. Most problems manifest themselves so they can be visible. So, for example, if there was some problem with balancing and so on, then that – that I would expect to be investigated to see whether there was an underlying problem as a result of it.

B Q Because any computer problem that led to a potential loss the sub-postmaster might have to refund presumably – does the post – sub-postmaster have any – any interest in investigating that sort of problem? A. Well, it depends if they – if the problem is in their favour, maybe not, but, if it is against them, then I – I'd be on the 'phone straightaway if it was me.

C Q Yes. The suggestion of financial mismanagement was put to you. Do you see your role as anything other than giving evidence about the computer system in this case?

D A. No, I don't.

E Q Do you seek to give any view about the issues that – the main issue in front of the jury as to whether a theft took place? A. I've no way of knowing whether the money loss was due to theft. I don't even know that money was lost.

F Q So the suggestion was put to you that this is a case of financial mismanagement, what did you mean by your agreement to that? A. Because there seemed to be large amounts of discrepancies going throughout the system and I would have expected in a post office that someone would have been spotting the discrepancies within the branch and doing something about it.

G Q Do you seek to give any view as to any person's motivation for not doing something about it? A. No.

H Q Can I ask you about Callendar Square, please? A. Yes.

Q You – we have seen an e-mail you sent to Professor McLachlan on 8th March?

A A. Yes.

Q And you were involved in discussion with Professor McLachlan from February onwards - A. Yes.

B Q - but throughout – well, throughout most of this year, in fact, were you not? A. Yes.

Q When was the first time after 8th March - you set out in the e-mail what happened in Callendar Square and you set out what your view is based on? A. Yes.

C Q When was the first time you heard from Professor McLachlan that this was an issue as far as he was concerned? A. I think – well, I think – I think that was at the beginning because it was in some of his reports and I did notice that it was still in the last version of his report that I was looking at last week.

D Q Well, did you see a report between 8th March and the final report? A. There was – I think there was an interim report some time about May time which was giving a list of points of contention.

E Q I see. A. I think that might be the fifth report, something like that, but that was about May time.

F Q You see, Professor McLachlan served his final report on you when, please? A. Friday 1st October. That'd be the first version of it. There's – there's another version that we have in front of us now.

G Q So the first time you received a final report, as opposed to a preliminary one, was, well, less than two weeks ago? A. Correct.

H Q And prior to receiving that report, did you have any idea that Callendar Square was still an issue for Mr. - Professor McLachlan? A. I can't really remember. I certainly wasn't thinking of it particularly as an issue.

A Q Well, for instance, had he asked you in all that time from March until the beginning of October, had he asked you for the material upon which you had given your information? A. He certainly hadn't asked me for the underlying material, no.

B Q When were you first asked for the underlying material? A. Monday.

C Q The first day of this trial? A. Yes, yes.

D Q You see, you have been criticised by Mr. Hadrell for providing this information late but the first time you were asked for it by Professor McLachlan was the first day of this trial? A. I believe so, yes. And I actually was able to show it to him because I happened to have the underlying logs still on my laptop so I was able to show them to him on – at the time and then, when I managed to get internet access after leaving the building, I was able to send them to him.

E Q And the evidence you gave earlier was you thought the issue had been put to bed. Is that something that you agree with still? A. Yes.

F Q So put to bed 8th March, out of bed 1st October? A. Yes.

G Q And since Professor McLachlan's renewed interest in this, have you – have you tried your best to give him all the material he needs? A. Yes, I believe so.

H Q Have you sought to explain it to him? A. Yes, I've spent some time, I think, this Tuesday morning going through in detail that peak that we went through earlier this afternoon and – and the detailed logs here explaining what all the various things were and I recognise some of the things coming back in questions this afternoon.

Q Now, you have gone through in some detail the print-out, all the various references about Callendar Square, and why did it take so long to fix? A. It – it was a case of getting the fix from our third party supplier and then scheduling it into a release. If the problem had been widespread and was seen to be occurring in a lot of branches,

A there would have been a lot more prob - pressure to get a - a fix out quicker but now I am not involved in the process for prioritising fixes and things like that but, if it'd have been sort of generally occurring in lots of places, then there would have been a lot of pressure to get the fix out there very quickly but – so I'm assuming, from the fact that it was allowed to take so long and not being chased up, that it was a pretty much isolated problem.

B

C Q I think you have told us – I think you told us earlier in your evidence this morning, I think, when I was asking you questions that if Callendar Square had not tried to make – do something about the problem, the problem would have repaired itself?

D A. Correct.

E Q You have been taken through the events log for West Byfleet? A. I have.

F Q And we see there often rather serious sounding words like 'fatal error'? A. Yes.

G Q How serious are those errors and what do they involve? A. Well, the example there of a fatal error, that would mean that, as a result of that error, it would not be possible for the system to come out properly and, therefore, it would be totally unusable and because of that then no further transactions could take place on that system until it was repaired or replaced.

H Q So a fatal error is just going to stop the post office functioning completely?

G A. Yes, and it's not going to have any impact on the accounts or anything like that. All it's going to do is just stop that counter trading and it's going to be very obvious to any users that that counter was dead for the moment.

H Q In all your – how many hours work have you spent on this and compiling your reports, have you any idea? A. I've spent most of last week on doing the last report.

I had not done anything –

A

JUDGE STEWART: Never mind. Do not try and tot it up exactly.

MR. TATFORD: No.

JUDGE STEWART: You have spent a lot of time on it?

B

MR. TATFORD: Yes. And in all that time and, indeed, looking through all the matters

C

Mr. Hadrill has raised with you as well, has your view changed in any way as to whether there is any evidence to suggest serious – a significant computer problem at West Byfleet? A. No, I can't see any evidence of a problem in the system.

Q Well, the evidence you do see – sometimes with computers all sorts of things go wrong with computers and no system is perfect but can you – have you seen anything, particularly I'm going to ask you about the matters that have been raised with Mr. – by Mr. Haddrill – have you seen anything out of the ordinary? A. I suppose the only thing that could be said to be out of the ordinary – ordinary is that there are such large discrepancies around and one bit of analysis that I did which I must admit I haven't shared with Professor McLachlan but I -

Q I - A. – did actually give him the information about –

Q All right then. A. – was an analysis I did of the cash declarations each day during that period and comparing that with the cash movements. So the system records every cash movement through the day and each till is supposed to declare how much cash they've got in the drawer at the end of the day. So by subtracting one cash declaration from another and comparing that with the cash movement it ought to come to the same figure and from what I could see looking over the whole period of the thirteen months there seemed to be very little correlation between those two sets of figures which suggested to me that things just weren't in control.

A Q But do you seek to suggest any reason as to why things were not in control?
A. No.

B Q Or is that outside your remit? A. That's outside my remit.

C Q Because we have heard in evidence that there is supposed to be a cash declaration on stocks every day? A. A cash declaration each day and most days a cash declaration was actually made, it just didn't seem to correspond very much to the cash movements during the day.

D Q So - A. There were some days it wasn't done.

E Q So the position is on your analysis that the cash declarations do not appear to bear - A. No.

F Q - do they bear any relation to the - A. Some but, in fact, that sheet that Mr. Hadrill was going through with me of the cash variances, that is actually those error messages do come from this daily cash declaration where it's comparing it with the cash figure.

G Q So what - for whatever reason - and the reason, as I understand your evidence, is outside your expertise - but, for whatever reason, cash declarations on a daily basis did not bear any real resemblance to the true position? A. They certainly seemed to vary quite a bit, yes.

H Q But do you seek to give a reason as to why that was? A. No.

G Q Because it is outside your remit? A. Correct.

G Q In fact, it is a matter for the jury? A. Yes.

H Q Now, anybody, of course, can make a mistake but one - one area of the analysis that you have gone through was the - in relation to Professor McLachlan's theory about credit card transactions - A. Yes.

A Q - the failed transactions, and I suppose if your analysis had showed lots of failed transactions which were not then corrected, or reversed, or dealt with by cash or cheque, that would be clear evidence of mistakes? A. Yes.

B Q But, in fact, your analysis of the failed credit card transactions shows – shows what? A. It shows that they – all those with a value of over about £1,000 were – were spotted at the time and something was done to sort out the problem, like taking an alternative method of payment like a cheque, or reversing the transaction, or cancelling the transaction.

C Q So the problem was – the failure was spotted at the time and something was done about it? A. Yes. This is what I would expect.

D Q Mr. Hadrill said – well, it was suggested to you it is easy to make mistakes if you are not looking at the screen. Can you imagine a situation in which somebody conducting a transaction in a post office would not be looking at the scene – at the screen? A. I suppose for simple transactions where you've only done one thing, you know that you've spoken the customer about taking £100, you've typed it on the screen and then you just take the £100 and don't look to see whether you've typed it in correctly would be a possibility but, if there's anything more complicated than that, then you'd probably be relying on the system adding up the total value of the transaction so that you know how much the customer owes you.

E F G Q And if you look at the screen you can see the figures? A. Yes. It's clearly down there in the bottom right-hand corner.

H Q And can I ask you about – a question which his honour raised with you and Mr. Hadrill has touched on as well – the situation where a sub-postmaster gets a transaction correction and it is wrong. Chesterfield says, "You owe us £1,000," and

A the sub-postmaster does not check it and writes out a cheque for £1,000 and puts – puts the – the cheque in the till. A. Yes.

Q Now, would that situation, that lack of checking by the – by the sub-postmaster or the person in authority, would that actually lead to a deficiency?

B A. No. That – assuming they did actually put the cheque in the till or the cash in the till, then that would all balance out in the accounts.

C Q So the accounts would balance - A. Yes.

Q - but the sub-postmaster would lose money? A. Yes.

Q So, in fact, that situation of a wrong transaction correction and the postmaster wrongly putting money in the till, that does not lead to a deficiency in the accounts?

D A. As long as they put the money in, correct.

E Q Now, have you found evidence that in relation to Mrs. Misra – the suggestion by the – by Mr. Hadrill is that, well, perhaps the sub-postmaster did not bother checking transaction corrections and did not bother asking for evidence from Chesterfield. Would that suggestion be right in terms of what you have discovered? A. Well, there were three cases where evidence was sought from Chesterfield. I've no idea where – whether the remaining ones were checked or not.

F Q Could you just give us the dates for that? I think page 7 and page 18 of your report may help. A. Thank you for the clue.

G (Pause).

A. Have you got a section number, please?

H MR. TATFORD: Oh, I am so sorry, it is my fault. I forgot that your – your format is slightly different. A. Yes.

Q Just give me one moment. Yes, 2.2 - A. Oh, yes, I've found it now, yes.

A Q - .11. A. Yes. 13th December 2006, there was one case where evidence was sought and then there were two cases, both on 14th March 2007.

B Q So three cases where you have found evidence that the transaction correction was not accepted and that evidence was sought from Chesterfield? A. Yes.

C Q You were asked a number of questions about the – the rather voluminous appendices of Professor McLachlan and you were taken through the – a schedule that he did of fast cash transactions. A. Yes.

D Q Now, in fact, is there anything between you on that at all? A. I'm not – I'm not sure if there's an issue. I - I've attempted to answer all his questions. I don't know whether there's anything that he still feels is outstanding there.

E Q Could you have a look at page 91 in his bundle, please? I think you – yes, the jury have it as well, thank you.

F (Pause).

E MR. TATFORD: This is a schedule that Professor McLachlan prepared, is that right?

A. Yes.

F Q And he was looking for fast track failed debit track card transactions where there might not have been a – there might have been a problem and there might not have been a payment to settle them by cash, or cheque, or reversal? A. Yes.

G Q Now, his – his bottom line at page 91 - A. Yes.

G Q - has a figure – there is a heading in white at the top of the headings in a grey shade above from white, 'Possible fast cash,' and he has put '-7,000'? A. Yes.

H Q And he has put, 'No reversal'? A. Yes.

H Q Is that correct? A. It's correct in that there's no reversal but it's not correct in that it's not a fast cash because that particular transaction was done as a cheque.

A Q So that, in fact - Professor McLachlan saw that as a potential failed credit card transaction which had not been settled and might have lost money to the postmaster?

A. Yes.

B Q But you checked it? A. Yes.

Q And you were able to find that, in fact, that had been settled by cheque? A. Yes.

C Q And the suggestion appears to be made that Fujitsu – some criticism has been made that there has been no independent testing of the Horizon system. Your evidence about that is what? Has there been some independent testing of different constituents? A. The actual system itself was tested by Fujitsu and Post Office together so whether you consider Post Office to be independent or not depends on your viewpoint. Certainly, as far as Fujitsu is concerned, Post Office are our customer so they are the people that we are providing the system for.

E Q Can you - and how – how vigorous was the testing? Did it go over a long period?

A. Well, yes, I mean, there's testing continuing for years. During the pilot the – the – the later versions of the systems were being thoroughly tested at that time.

F Q And what – can you see whether Fujitsu would have any interest in giving the Post Office a dodgy system? A. We definitely do not want to give the Post Office a dodgy system. It is part of our reputation that the system is sound.

G Q And were the Post Office – are you aware as to how demanding the Post Office were in relation to the checks they wanted? A. Yes, there were – as I say, I wasn't personally involved in the testing but I know that there was an awful lot of testing going on, going – they were working twenty four hours, seven days a week. Because I was involved in supporting it, I was getting calls at all hours of the day and night and weekends for about three or four years at that time. In addition, as I

A said before, when – for the interfaces that we had to the various banks and financial institutions, we've done accreditation testing with the banks and the merchant suppliers to ensure that we follow all their standards and processes and that goes from everything in terms of how the systems work end to end to exactly what gets printed out on a receipt and things like that.

B

Q Now, you have been tackled about this graph? A. Yes.

C

Q Now, when you prepared this graph did you have – we have been rather hampered by bad copies from bad printers – badly printed documents but did you have a good set of branch trading statements? A. No, I only had two branch statements, trading statements to look at, which are the ones that I've tried to reproduce in what

D

Mr. Hadrill's shown to me and that is from 13th February and 12th April and my – my purpose for trying to reproduce the figures from that was to actually calibrate the figures that I'd pulled out of the system to make sure they actually matched in with

E

what was printed on there. So there was one set of figures. All I could do was show movements and I hadn't got an absolute starting point but, by being able to calibrate it against this, I was able to deduce a start figure for the amount of cash that was held in pouches at the start of the period.

F

Q So preparing this chart you were not – you did not have in front of you the figures that Mrs. Misra had put into the branch trading statements for that period? A. No.

G

What I was doing is I was trawling through the logs, look – what the system does is every time a stock unit moves from one trading period into the next trading period it puts in a total of the value – value stock in hand and I'd extracted those from some low level logs that I had.

H

Q So in relation to the cash part of it, the blue part, is that very helpful for us?

A A. Well, that is showing how much the post – postmaster, postmistress is responsible to the Post Office for. In addition to that, they'd also be responsible for the value of all what's called non-value stock which means things like first class stamps and so on because they are at a fixed price so you don't need to worry what their value is at a time. So there would be a whole load of stock that they would be responsible for as well.

B Q Do you – do you, in fact, seek to put this before the jury as a particularly helpful document? A. No – no, I wasn't particularly, no. As I say, I was asked to prepare that and it's really, if it's felt to be useful, then it can be. I have actually earlier this morning gone through and I can actually produce the similar figures for the cash only but, as it didn't show anything significantly different from this graph, other than the fact that the – the numbers were lower, I decided there wasn't really much point in trying to present that separately.

C D E Q But what does go up in this period from what – the research that you have done on the – the data? A. The amount of cash that's held in pouches which is – which is really stuff that should be temporarily in the pouch before it gets despatched out of the branch to go back to the cash centre.

F Q And that is cash held in – in pouches. Was it temporarily held in pouches from what you could see? Did it go out? A. I can – I can see – most of it went out. There are two cases where it didn't go out and got returned back into the system and there's one case where it never left the system.

G Q Is it, in fact, easy to find – to correlate cash pouch movements looking at – looking at the data you are looking at? A. Yes, it was fairly easy to extract all the cash pouch data and I pulled those together into a single spreadsheet and I shared that

A with Professor McLachlan and explained how I'd actually obtained that from all the raw data. So there's something like about 500 such transactions out of the 400,000.

B Q And just so we understand, in this twelve – thirteen month period, what was the figure of cash in pouches that was put into pouches that was not despatched from the office? It probably helps you to look at the separate relevant part of your report.

C Page 22, please, or, in fact, 23, which is part 3. It is the page after your graph.

D A. Right. And I can see that over the thirteen month period that £49,120 more of sterling was packed into pouches than was despatched from the branch.

E Q So the record shows that £49,120 was packed into pouches but was not despatched or how do you put it? A. What I'd say is that the amount that was held in pouches at the end of the period was £49,000 more than it was at the beginning of the period so, therefore, I would think - the figure I had calculated at the beginning of the period was £11,000 so that meant – so there was £60,000-worth of cash in pouches when that last balance was done in mid-December 2007.

F Q But the £49,000 figure, that is cash in pouches that had gone out of the branch or what? A. No. That is in the branch waiting to go out.

G Q Yes. And so if the audit had taken place in the last month that you were looking at, rather than the next month - A. Then the auditors would have expected to find pouches in the safe with that value of cash inside them.

H Q Can I just ask you finally about calibration error? You have accepted that if the screen is moved over, you might think you are pressing one button when you are, in fact, pressing another one? A. Yes.

Q When the – when balances are done, *i.e.*, whether it is at the end of a week or the end of the – the branch – the branch trading period, that sort of error from

A calibration, is that likely to be picked up at the stage of balancing? A. I think you'd have found that out a lot earlier because if you're – if you're regularly using the screen and it's mis-calibrated, then you are going to be hitting wrong buttons all over the place and you're just going to get very, very confused and just – and whenever you're selling a stamp, you'll end up selling a petrol coupon or something like that.

B Q Yes. A. So – so you – so if the screen is that badly aligned, then you'd be making mistakes all over the place and you should spot it fairly quickly.

C Q Yes. If you hand over to a customer a book of stamps when they're asking for something else, the problem might manifest itself? A. Yes.

D Q And I suppose in terms of cash, if you find yourself – if – a calibration error means you've pressed the wrong button for cash? A. It would apply to every button on the screen. I mean, the whole screen would be out of alignment. It wouldn't just be one particular button on it, it's the whole screen that would be shifted slightly. So it would affect every single button on the screen.

E F Q Yes. Does your honour have any questions for this witness?

F JUDGE STEWART: Yes, one thing, I think. If I can press you by just asking you to bear in mind that what I am going to say – when people write down, for example, the dates on a document – I am not talking about Horizon at the moment - A. No.

G Q - they might get the date right, they might get the date wrong? A. Yes.

H Q Theoretically, if they get it wrong they could be wrong in any way but there is probably, would you agree, a tendency for people to get the date wrong at the start of the year by writing the previous year still? A. Yes, yes.

I Q And that is something that is sort of built in to the way in which the years fall and

A the calendar works and so on? A. Yes.

B Q Now, so far as the post offices working Horizon are concerned, the users or cashiers or clerks, whatever they may be, you said can make mistakes in handling cash, putting details into the touch screen and so on? A. Yes.

C Q A post office, as we have heard, has transactions involving money cash coming in and money cash going out? A. Yes.

D Q And I suppose theoretically an error could be going to – going - putting a figure too high on something coming in? A. Yes.

E Q Or too low on something coming in? A. Yes.

F Q Or the same for something going out? A. Yes.

G Q And, theoretically, they could be any of those - A. Yes.

H Q - at random. Are you aware of anything within the Horizon system and the way it's set up, for example, the layout of the screens, which brings in any sort of bias towards any particular kind of error? A. No, I can't think of anything.

I Q Take another - A. So you are just as likely to get it too high or too low or whatever. I – I – the only thing that might possibly be the case is this double zero thing which could make things go too high but, in general, I'd expect mistakes to be – just as much to be too much or too low.

J Q And finally this, I am going to grasp this nettle which nobody else has asked you about. But you have just said a moment ago that it is very much part of Fujitsu's reputation that the Horizon system should be sound and you are a Fujitsu man?

K A. Yes.

L Q Is there any question of your evidence having been influenced by the fact that you are a Fujitsu man? A. No.

A Q Are you sure about that? A. Oh, yes.

Q Very well. Thank you. That is it. All finished.

MR. TATFORD: Thank you, your honour. Just so I can outline how matters are likely to proceed tomorrow, we have discussed matters and decided that, in fact, for various reasons, it may be helpful to call – for Professor McLachlan to call – to be called next, albeit he is part of the defence case, so that the jury can assess the experts together.

C JUDGE STEWART: I think it would be very sensible. Thank you. 10.15 unless the list office have got any nasty surprises for me. Not yet. But there is time.

D (The court was adjourned until 10.15 a.m. tomorrow morning).

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