Horizon Issues with Notes for Expert Meeting of 11/04/18

No.	Issue	GPOC (and Reply) citations	Generic Defence citations	Charteris Preparation Notes (not	Jason Coyne (JC) suggested examination
				shared with the Claimants)	plan/ensuing discussion on 11 April 2018
1	To what extent was it possible or likely for	23. However, the Claimants aver	49. As to paragraph 22:	GPOC 24.1 introduces error	Attendees: James Hartley (JH); Imogen Randall (IR);
	bugs, errors or defects of the nature alleged	that there were a large number of		repellency.	Andy Parsons (AP); Jonny Gribben (JG); Robert
	at §§ 23 and 24 of the GPOC and referred to	software coding errors, bugs or	(1) If and to the extent that the Claimants		Worden (RW) and Chris Emery (CE).
	in §§ 49 to 56 of the Generic Defence to have	defects which required fixes to be	wish to assert that any of the shortfalls	Should the experts agree a	
	the potential to (a) cause apparent or alleged	developed and implemented. There	for which they were held responsible	definition of the term?	JC - we need to understand how bugs were recorded.
	discrepancies or shortfalls relating to	were also data or data packet	were Horizon-generated shortfalls, it is		In JC's experience, bugs are identified in two ways:-
	Subpostmasters' branch accounts or	errors. There was a frequent need	for them to make that distinct	If so, should the definition apply	by testing; and
	transactions, or (b) undermine the reliability	for Fujitsu to rebuild branch	allegation and seek to prove it. Post	specifically to the types of bug	by users.
	of Horizon accurately to process and to	transaction data from backups,	Office notes that they do not make the	identified in issue (1) - i.e. those	
	record transactions as alleged at §24.1 GPOC?	giving rise to the further risk of	allegation in the GPOC. It further notes	which cause shortfalls or poor	In both cases, we need to know where records of the
		error being introduced into the	that, in paragraph 20 of their solicitors'	reliability?	bugs are stored.
	[GPOC §23 and 24; Defence §§49 to 56]	branch transaction records. The	letter to Post Office's solicitors dated		
		Claimants understand that Fujitsu	27 October ?016, the Claimants make it	Should the definition attempt to	RW – we aren't looking at all types of bug, we need to
		maintained a 'Known Error Log'	clear that they do not allege that there	clarify the classes of error described	focus on narrow set that could have caused
		relating to some or all of these	is a systematic flaw in Horizon or	in 24.1?	discrepancies. JC agreed.
		issues which was provided to the	indeed any flaw which has caused any		
		Defendant, but which has not been	Claimant to be wrongly held	Should we classify 'shortfalls' into:	JC – we can strip out bugs relating to anything that
		disclosed.	responsible for any shortfall.	 transient shortfalls 	didn't go live, but if an issue has been recorded with
				permanent shortfalls?	live running software (internally or externally) the
		24. Further, the Claimants aver and	(2) It is denied that Post Office has		testing in respect of that software will be relevant.
		rely upon the following:	unreasonably or otherwise failed to	(this is quite a big question whether	
			provide "obviously relevant disclosure"	to reveal our thinking here)	RW – even stripping that out, still a lot to look at.
		24.1. Insufficient error repellency in	in relation to bugs, errors or defects in		Instinct would be to look at bugs from the start – is
		the system (including sufficient	Horizon. There has been no order or	Should the experts agree the scope	this a thing that could have impacted on branch
		prevention, detection,	application for disclosure and, in the	of Horizon?	accounts? Need to keep that focus.
		identification and reporting of	premises set out above, there appears		
		errors), both at the data entry level	to be no basis for providing such	Does JC consider that certain parts	CE – for example, I wasn't able to connect to the data
		and at the data packet or system	disclosure.	of Horizon were particularly prone to	centre, fixed in half an hour. Not relevant. JC agreed
		level (including data processing,		these errors, and if so which parts	– is there a track for looking into issues (we do have
		effecting and reconciling	50. Paragraph 23 is embarrassing for its lack	are they?	Peak numbers – need to look at them)?
		transactions, and recording the	of particularity, in that (amongst other		
		same);	things) it does not identify the errors, bugs	Does JC think the answer to issue 1	JC - I'm interested in the Peak system, which comes
			or defects on which the Claimants rely or	depends on:	after the helpdesk system (description from EDQ = "If

Alan Bates and others v Post Office

Horizon Issues v4 with notes - updated during meeting on 11 April.docx

Page 1 of 35

24.1A bugs and/or errors and/or defects in Horizon and any data or data packet errors had the potential to produce apparent shortfalls which did not represent a real loss to the Defendant;

24.2. Horizon is imperfect and has the potential for creating errors (as the Defendant has admitted in preaction correspondence, in the Letter of Response, dated 28 July 2016, at paragraph 1.3);

24.3. bugs and/or errors have on some occasions produced discrepancies and/or apparent shortfalls (as the Defendant has admitted in pre-action correspondence, in the Letter of Response, Schedule 6) and such shortfalls may also have arisen from data or data packet errors; and, further

24.4. the Defendant sought and/or recovered such alleged shortfalls from Subpostmasters (as is presently understood to be admitted by the Defendant in the Letter of Response, Schedule 6, paragraphs 4.1 to 4.5).

how "large" their number was or the period in which they are said to have occurred and nor does it identify the transaction data that Fujitsu is alleged to have rebuilt, how "frequent" was the need to rebuild it or the extent of the "risk of error" which is said to have been introduced. In the premises, Post Office cannot plead to the first three sentences of this paragraph.

However:

- (1) All IT systems experience software coding errors or bugs which require fixes to be developed and implemented. As is noted in paragraphs 53 and 54 below, there are robust measures in place in Horizon for their detection, correction and remediation.
- (2) All IT systems involving the transmission of data over the Internet experience data or data packet errors during transmission and such systems routinely have protective measures in place to prevent such errors creating any difference between the data transmitted and the data received and retained by the recipient. Horizon has robust controls making it extremely unlikely that transaction data input in a branch would be corrupted when being transferred to, and stored in, Post Office's data centre in a manner that would not be detected and remedied.
- (3) Like all IT systems, Horizon has backups to guard against any loss of data due to local hardware failure. Where hardware fails, the data on that hardware is recovered from the backup. Post Office takes the term "rebuild" to refer to the situation before the introduction of

- software design and code?
- development practices?
- tests and test results?in-service history?
- checks which would reveal the presence of such errors?

Fujitsu identifies an issue in Horizon or Horizon Online that requires a programmatic fix then it is logged in its database, the Peak System, and labelled as a 'Peak'.").

JC - there are several diagrams of the Horizon system in the technical documents. To assist the Court, we could produce a flowchart of the relevant ones.

AP - do you see bugs that impacted SPMRs but not any of the claimants, in or out of scope? JC – will produce a table that has the bugs and a column which says yes, no or potentially. JC – if we can say they are not relevant to the 500 claimants.

AP - this is not a general enquiry into Horizon; consideration must be given to relevance.

RW - we need to look at "shortfalls". The system contains lots of stuff to ensure that mistakes (e.g. human error) are detected. Are we looking at transient or permanent shortfalls? JC - not saying we need to agree an outcome, trying to agree a method for us to provide a joint opinion. RW - trying to think about how filtering the "peaks" works. JC - with your knowledge of the system, should be able to assist us with keyword searches, glossary etc. to identify relevant material.

JC - I have seen the KELs. and if the peak system is the same, we should be able to make progress quickly.

JH - discussion(s) between experts needs to start earlier than 22 June.

AP - you need to tell us what you are looking for. JC - shortfall, error or whatever the code words. AP: that still feels general – diff products, processes etc. – there is a logic in focusing search by reference to issues. This is not a general enquiry.

JC: we don't need to be specific – we have been ordered to look for issues.

AP - I expected to hear that you've spoken to 561

Alan Bates and others v Post Office

Horizon Online where a new terminal was introduced to a branch and the data stored on the other branch terminals (or on a disc where it was a single counter branch) was restored to the new terminal. In this context, Post Office does not accept that there was a "frequent" need to "rebuild" data from back-ups.

- (4) It is admitted that Fujitsu maintain a "Known Error Log". This is not used by Post Office and nor is it in Post Office's control. To the best of Post Office's information and belief, the Known Error Log is a knowledge base document used by Fujitsu which explains how to deal with, or work around, minor issues that can sometimes arise in Horizon for which (often because of their triviality) system-wide fixes have not been developed and implemented. It is not a record of software coding errors or bugs for which system-wide fixes have been developed and implemented. To the best of Post Office's knowledge and belief, there is no issue in the Known Error Log that could affect the accuracy of a branch's accounts or the secure transmission and storage of transaction data.
- **51.** In paragraph 24, the Claimants again bundle many ambiguous and/or misleading allegations together. Post Office separates out and addresses those allegations in paragraphs 52 to 56 below.
- **52.** As paragraph 24.1 does not explain what is meant by "error repellency", what sorts of errors are referred to, what is meant by "data entry level", what would constitute "sufficient" prevention, detection,

Claimants and present a set of common themes arising out of that. It is unhelpful to start from a premise that there are generic problems in Horizon when there are 561 Claimants. Draw some themes.

JC - as experts, not been asked to do that.

JH - you are suggesting that Claimants should identify what has gone wrong and get experts to look at it; we are saying that you need to look at it sequentially. In any event you have 561 Schedules of Information. AP - they don't cover this question.

JC – need to come up with terms to extract relevant information from the databases.

JH – don't forget about the work done on the mediation scheme.

RW - I am starting with a floodlight - it is for JC to produce a spotlight on certain issues and for RW to follow with his spotlight.

AP: looking for a two way street. What are you looking for? JC - it is dangerous to filter too early; you have to do collection first. AP: also needs Claimants to set out themes. JH: there is a third strand – Post Office needs to say what has gone wrong. AP - it is not for us to run your case.

AP - what is your objection to asking 561 claimants what they think the issues are? JH - we have spent £1million speaking to claimants;. AP - not about the theories of the causes of their losses. JC - by the time you get to the peaks, won't be any commentary on user experience. CE - original observation will be relevant. JC: - more likely to see that "there was a shortfall"

JC - TCs – Claimants would have no idea there was an issue and ten they'd get a TC.

JC - Peak system seems to be the point in time that someone has decided there is a bug (code needs to be

identification or reporting of these errors, or in what respects the error repellency of Horizon was insufficient, Post Office cannot plead to this paragraph. However, the general thrust of paragraph 24.1 is denied and the robust controls, procedures and practices pleaded in paragraphs 53 and 54 below are noted.

- **53.** As to paragraph 24.1A, it is a truism that errors or bugs in an IT system and data or data packet errors have the potential to create errors in the data held in that system. However, Horizon has at all material times included technical control measures to reduce to an extremely low level the risk of an error in the transmission, replication and storage of the transaction record data. These have varied from time to time and they currently include the following:
- (1) Horizon creates, transmits and stores transaction data in the form of "baskets". A basket is a complete transactional session between a customer and Post Office and may include one, several or many individual transactions taking place within the same session. Horizon will not accept a basket of transactions that does not net to zero (i.e. the value of any sales is set off by the value of any payment made or received). This reduces greatly the risk of any error in the data entered within any given basket.
- (2) If a basket of transactions fails properly to complete its transmission to the central database (because, for example, of a power loss), the system rejects any partial transmission and requests the full basket from the branch terminal This reduces greatly the possibility of baskets of transactions failing to be

changed).

JH - shall we discuss who at FJ and Post Office the experts want access to. AP - concerned by the suggestion that you want the experts to speak to individuals. JH - the order provides for further information to be provided and information can only be provided by meeting the relevant people. AP disagreed.

JC – I've given some thought to a process for understanding the issues and devised some questions. The numbering system is deliberate so that I can add supplemental questions as thinking develops and there are some gaps where I've decided questions aren't relevant.

- 1.10 explain how internal bugs are recorded.
- 1.11 how does a SPMR report bugs?
- 1.21 need to understand help desk system
- 1.22 second and third line support
- 1.25 If a bug is determined, how is the impact of that considered (some bugs may be cosmetic)?
- 1.26 how is this factored into the development cycle? 1.27 probably a code versioning system, where we can see the code changing
- 1.28 release management
- 1.29 release note

Peak system = very deep dives into code. JH - we have Richard Roll saying to Panorama that Fujitsu employed 30 odd people on code; constantly firefighting (fine, big system) pushing out code into system – therefore coding may be an issue. RW – code may be relevant, but Peak will require deep dives, to keep perspective as to where you are is quite demanding.

RW – cross-checks are important. If that bug had that effect, would manifest here, here etc.

JH - how would that information be gathered? JC – experts produce a statement, ask who the right people to speak to are and then potentially experts

(3) At the point of a basket being accepted by Horizon, it is assigned a unique sequential number (a "Sh") that allows it to be identified relative to the other baskets transmitted by that branch. This reduces greatly the risk of recording duplicate baskets or three being a missing basket. (4) Each basket is also given a digital signature, i.e. a unique code calculated by using industry standard cryptography. If the data in the basket were to change after the digital signature. (5) Initial data integrity rheeks are understand standard cryptography and the Horizon IT system itself alert such as the post Office data centre from a branch. Baskets are the redigital signature. (6) Horizon and the above controls are themselves subject to various audits and hebasets are extracted from the Audit Store. Seal" lift the baskets are extracted from the Audit Store. (6) Horizon and the above controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and hebave controls are themselves subject to various audits and	_				
by Horizon, It is assigned a unique sequential number (a "Shi") that allows it to be identified relative to the other baskets transmitted by that branch. This reduces greatly the risk of recording duplicate baskets or three being a missing baskets or there being a missing baskets or the being a missing basket or the distrepancies and shortfalls have been contained by using industry standard cryptography. If the data in the basket were to change after the digital signature. 2 Did the Horizon IT system itself alert subpostmaters of such bugs, errors or defects as described in (1) above and if so how? [GPOC \$23 and 24; Defence \$\$49 to 56] What kinds of alerts are envisaged here? If elease notes are given to SPMRs)? If elease notes a			recorded.		put the call in and go down to understand.
"Audit Store Seal"). If the baskets and/or the data within the baskets were altered after the application of the Audit Store Seal, this would be apparent when the baskets are extracted from the Audit Store. (6) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (6) Further as to paragraph 24.1A, in addition to the technical controls referred to	2	Subpostmasters of such bugs, errors or defects as described in (1) above and if so	 (3) At the point of a basket being accepted by Horizon, it is assigned a unique sequential number (a "JSN") that allows it to be identified relative to the other baskets transmitted by that branch. This reduces greatly the risk of recording duplicate baskets or there being a missing basket. (4) Each basket is also given a digital signature, i.e. a unique code calculated by using industry standard cryptography. If the data in the basket were to change after the digital signature was generated, this would be apparent upon checking the digital signature. (5) Initial data integrity checks are undertaken when baskets are received at the Post Office data centre from a branch. Baskets are then copied from the central database to the Audit Store 		RW – need to look at the KEL first and we would both have a better understanding of where we need to go. JC - we have been told that the KEL doesn't have everything (just what has/hasn't been resolved). 1.29.5 – need to know where the KEL ends and Peak begins. 1.30 experts review system and attempt to agree if the discrepancies and shortfalls have been considered and impact assessed. JC envisages Peak records saying something was likely to lead to a shortfall or, as a programmer, looked at it and won't lead to any shortfalls. RW – looking at peak, expect to see list of acronyms. 1.50 – the Defence para. 50(2) talks about robustness. RW – robustness is elsewhere.
were altered after the application of the Audit Store Seal, this would be apparent when the baskets are extracted from the Audit Store. (6) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (6) Further as to paragraph 24.1A, in addition to the technical controls referred to		nowr			JG - Ask the Claimants; JC agreed.
the Audit Store Seal, this would be apparent when the baskets are extracted from the Audit Store. (6) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (6) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (6) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (6) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (6) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (7) For we know that there were two specific by suspense and receipts and payments mismat could take those as specific examples. (8) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (8) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (9) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (10) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. (11) AP - does this extend beyond the scope? JC and the subject to various audits and checks including audits carried out by third parties.		[GPOC §23 and 24; Defence §§49 to 56]			JH sees it as an extension of the demo. Guidance and
extracted from the Audit Store. C - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. C - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. C - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. C - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. C - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. C - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. D - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. D - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. D - we know that there were two specific but suspense and receipts and payments mismat could take those as specific examples. D - we know that there were two specific but suspense and receipts and					(e.g. Dave). AP - Dave unlikely to know about that.
suspense and receipts and payments mismat could take those as specific examples. (6) Horizon and the above controls are themselves subject to various audits and checks including audits carried out by third parties. 54. Further as to paragraph 24.1A, in addition to the technical controls referred to			• •		
themselves subject to various audits and checks including audits carried out by third parties. 2.20 – Post Office ISO driven – is there a defir process for this? 54. Further as to paragraph 24.1A, in addition to the technical controls referred to					suspense and receipts and payments mismatch) –
and checks including audits carried out by third parties. 2.20 – Post Office ISO driven – is there a define process for this? 54. Further as to paragraph 24.1A, in addition to the technical controls referred to					could take those as specific examples.
addition to the technical controls referred to			and checks including audits carried out		2.20 – Post Office ISO driven – is there a defined process for this?
above, there are several operational					AP - does this extend beyond the scope? JC agreed.
			above, there are several operational		
	3	· · · · · · · · · · · · · · · · · · ·			3.10 what is a "shortfall" (JH – also "discrepancy") (AP
Horizon System "robust" and extremely unlikely to be the cause of shortfalls in Office and Subpostmasters that serve to increase the reliability of the data stored in dictionary - agreed).		· · ·		definition of 'robust'?	- may make sense to produce an agreed terms dictionary - agreed).

branch terminals. These currently include the following: (1) For many transaction types, Post Office compares its own transaction record against the corresponding records held by Post Office clients. If an error in Horizon were to result in the corruption of transaction data, this should be revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power Canada	branches?	the central data centre as an accurate	For shortfalls, see against issue (1)	
the following: (1) For many transaction types, Post Office compares its own transaction record against the corresponding records held by Post Office clients. If an error in Horizon were to result in the corruption of transaction attack its bladence. RW — I dead of the thorizon were to result in the corruption of transaction data, this bladence. RW — I dead of the chard allows revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. These are set out in the "Recovery—Horizon Online Quick Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the use of the system to identify any inconsistency between the information shown on the screen and the transactions shown on the screen and			above	3.20 – once we have agreed what a shortfall is, need
Size 3 are ference data? Could come up with useful headings. Logically need to compartmentalise, start to create boxes to put individual claims in the correspoint precords held by Post Office clients. If an error in Horizon were to result in the corruption of transaction data, this should be revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. These are set out in the "Recovery—Horizon Online Quick Reference Guide" and Horizon guides the system user throno Colline Quick Reference Suide and Horizon guides the system user through the recovery process (which include completing any transactions that are used out in short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user of the system as the series of the system to identify any inconsistency between the information shown on the screen and the transaction that the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the tuser of the system to identify any inconsistency between the information shown on the screen and the transaction that the tuser of the system to identify any inconsistency between the information shown in the screen and the transaction that the tuser of the system to identify any inconsistency between the information shown in the screen and the transaction that the user of the system to the system in t	[GPOC §23 and 24; Defence §§49 to 56]			,
(a) For many transaction record against the corresponding records held by Post Office cients. If an error in Horizon were to result in the corruption of transaction data, this should be revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. These are out in the "Recovery—Horizon Online Quick Reference Guide" and yritoria in data procedures should procedure should procedure should procedure should procedure should procedure should procedure any transactions that are cut short). These procedures should procedure any data errors arising from interrupted sessions, power quickes and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user of the system to user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user of the system to use of the system to identify any inconsistency between the information shown on the screen and the transaction that the user of the system to user a keystific the series of the system to use as keystific in number 5 to be		the following:		
compares its own transaction record against the corresponding records held by Post Office clients. If an error in Horizon were to result in the corruption of transaction data, this should be revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or teleconomications failures in branches. These are set out in the "Recovery—Horonomications failures in branches. These are set out in the "Recovery—Horonomications failures through the recovery process (which include completing any transactions that are cut short). These procedures should a errors arising from interrupted sessions, power data errors arising from interrupted sessions, powerd transactions that are cut short). These procedures should be received a discrepancy report; these are no longer available. How was the discrepancy report was the discrepancy report was made up, why replaced and between the information shown on the screen and the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-trike on number 5 to be				
against the corresponding records held by Post Office clients. If an error in Horizon were to result in the corruption of transaction data, this should be revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. The Ald Horizon guides the system user through the recovery process (which loude completing any transactions that are cut short). These procedures short the are cut short). These procedures short the are cut short). These procedures short the recovery process (which loude completing any transactions that are cut short). These procedures short the are cut short). These procedures short the remains allows the system user through the recovery expressed with sing from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information when on the screen and the transaction that the user has keyed into the transaction but the user has keyed into the transaction that the user has keyed into the transaction but the user has keyed into the transaction that the user has keyed into the transaction number 5 to be				
by Post Office clients. If an error in Horizon were obsult in the corruption of transaction data, this should be revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or televant of the recovery process (which include completing any transactions that are cut short). These procedures had recovery process (which include completing any transactions that are cut short). These procedures and telecommunications failures in transactions that are cut short). These describes and telecommunications failures in transactions that are cut short). These describes and telecommunications failures in the discrepancy report; these are no longer available. Now as the discrepancy report was made up, why replaced and by what mechanism? 3.30 - review design documents — bata trial balance. RW — loads of checks and balances, cataloguing them is non-trivial. JC — does in the anything in addition to the technical documents he is going to be getting for this. 3.40 review protective measures, procedures and controls to previet data or data packet errors during transmission. JC — don't need any further info. 3.40 review protective measures, procedures and controls to prevent data or data packet errors during transmission. JC — don't need any further info. 3.50 charles McLaughlin report mentions SPMR's previously used to receive a discrepancy report; these are no longer available. Now as the discrepancy report was made up, why replaced and by what mechanism? 3.50 charles McLaughlin report mentions SPMR's previously used to receive a discrepancy report was made up, why replaced and by what mechanism? 3.60 charles McLaughlin report mentions SPMR's previously used to receive a discrepancy report was made up, why replaced and by what mechanism?				to create boxes to put individual claims in.
Horizon were to result in the corruption of transaction data, this should be revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. Through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system on to the terminal were to cause a key-stike on numbers 5 to be				2.20
of transaction data, this should be revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or clear communications failures in branches. These are set out in the "Recovery—Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages or data packet and the communications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify inconsistency between the information shown on the screen and the transaction shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		, and the second		
revealed by the comparison. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. These are set out in the "Recovery —Horizon Online Quick Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data process in share are us thort). These process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause detailed.				
anything in addition to the technical documents he is going to be getting for this. (2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. These are set out in the "Recovery—Horizon Online Quick Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				· · · · · · · · · · · · · · · · · · ·
(2) There are detailed procedures in place to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. These are set out in the "Recovery —Horizon Online Quick Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		revealed by the companson.		
to address the risk of data loss resulting from interrupted sessions, power outages or telecommunications failures in branches. These are set out in the "Recovery—Horizon Online Quick Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction shat are user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		(2) There are detailed procedures in place		
from interrupted sessions, power outages or telecommunications failures in branches. These are set out in the "Recovery — Horizon Online Quick Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				Barrie and Bertrie Inc.
outages or telecommunications failures in branches. These are set out in the "Recovery — Horizon Online Quick Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				3.40 review protective measures, procedures and
"Recovery —Horizon Online Quick Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction but the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		outages or telecommunications failures		controls to prevent data or data packet errors during
Reference Guide" and Horizon guides the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		in branches. These are set out in the		transmission. JC – don't need any further info.
the system user through the recovery process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		· · · · · · · · · · · · · · · · · · ·		
process (which include completing any transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				
transactions that are cut short). These procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				
procedures should prevent any data errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				_
errors arising from interrupted sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		Section (1997)		
sessions, power outages and telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				by what mechanism?
telecommunications failures. (3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				
(3) The display of the transactions being effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				
effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		telecommunications failules.		
effected on-screen at the branch terminal allows the user of the system to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		(3) The display of the transactions being		
to identify any inconsistency between the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				
the information shown on the screen and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		terminal allows the user of the system		
and the transaction that the user has keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				
keyed into the system. If, for example, a hypothetical bug in the terminal were to cause a key-strike on number 5 to be				
a hypothetical bug in the terminal were to cause a key-strike on number 5 to be		PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS O		
to cause a key-strike on number 5 to be				
recorded as an input of number 6, this		· · · · · · · · · · · · · · · · · · ·		
would be detected rapidly by system				
users, given the large number of system				
users and the huge number of				
transactions effected on Horizon.				
		Sandana and an individual		
(4) The accounting and record-keeping		(4) The accounting and record-keeping		

	obligations placed on Subpostmasters	
	reduce the risk of any errors going	
	undetected. For example, there is an	
	obligation for each branch to count and	
	declare to Post Office the cash it holds	
	on a daily basis, which increases the	
	likelihood of promptly detecting any	
	overstatement or understatement of	
	the cash position on Horizon. If a	
	Subpostmaster detects that an error	
	has been made at an early stage, its	
	cause is more likely to be identified.	
	(5) Fujitsu operates industry standard	
	processes for developing and updating	
	Horizon and for investigating and	
	resolving any identified potential	
	system errors.	
	55. As to paragraph 24.2, Post Office admits	
	that, like all other IT systems, Horizon is not	
	a perfect system which has never had any	
	errors or bugs. However, as indicated in	
	paragraphs 53 and 54 above, it has robust	
	systems in place to identify them, fix them	
	and correct their consequences (if any).	
	and correct their consequences (if any).	
	56 . As to paragraphs 24.3 and 24.4:	
	(1) There have been occasions on which	
	bugs or errors in Horizon have resulted	
	in discrepancies and thus shortfalls or	
	·	
	net gains in some branch accounts, as	
	outlined in Schedule 6 of the Letter of	
	Response. It is denied (if it be alleged)	
	that such bugs or errors have affected	
	any of the Claimants.	
	and a second	
	(2) On each accession both the burners	
	(2) On each occasion, both the bugs or	
	errors and the resulting discrepancies	
	in the relevant branch accounts were	
	corrected. Post Office took steps to	
	ensure that it had identified all	
	branches affected by the bugs or errors	

			and that no Subpostmaster was ultimately held responsible for any resultant shortfalls. (3) Paragraphs 4.1 to 4.5 of Schedule 6 to the Letter of Response relate to the so-called Suspense Account Bug. Without prejudice to the burden of proof, none of the branches affected by the Suspense Account Bug are branches for which the Claimants were responsible. (4) None of the Subpostmasters whose branches were affected by the Suspense Account Bug were ultimately held responsible for the shortfalls that it generated. The Claimants are therefore wrong to understand Post Office as having admitted that it "recovered such alleged shortfalls from Subpostmasters". Where Subpostmasters in the affected branches had made good or settled centrally shortfalls that were later corrected, those Subpostmasters received a payment or credit in the amount of the shortfall.		
4	To what extent has there been potential for errors in data recorded within Horizon to arise in (a) data entry, (b) transfer or (c) processing of data in Horizon? [GPOC §§5, 14-15, 24.1, 24.1A, 94A, 95; Defence §§35(2), 36, 38(1), 50(1), 52-54; Reply §41	5. In each branch it is the Defendant which determines the products and services which must be made available. Over time, the Defendant has increased the number and complexity of the products and services which it has required to be provided through its	35. As to paragraph 14: (2) Post Office cannot meaningfully plead to paragraph 14.1A since neither the errors, nor the data entry, nor the "sufficient error repellency" alleged are identified. However, it is denied (if it be alleged) that Horizon had poor checks	Does issue 4(a) data entry include manual errors?	JC – need to look at design documents/technical control documents. Defence para. 16. JC – has the starting point. "Horizon is not perfect", need to see when the controls are triggered (links back to previous issue). "Error repellencey" = protections against user error.
5	How, if at all, does the Horizon system itself compare transaction data recorded by Horizon against transaction data from sources outside of Horizon THAT PROVIDE TRANSACTIONAL DATA INTO HORIZON?	branch network. 14. As particularised further below, the introduction and imposition of Horizon in 1999/2000: 14.1. significantly changed how Claimants were required and able	and controls for data errors. 36. Paragraph 15 is embarrassing for lack of particularity. In the absence of any indication as to the actual changes the Claimants intend to rely on and as to the effects) each such change is alleged to have had, Post Office cannot plead to this		5.10 – identify what sources are outside of Horizon; CE – quite a long list. AP – do you mean data that has fed back in? JC – yes. AP: where do you draw your line? JC – there is a batching layer – all transactions (e.g. national rail) get

	[CDOC 555 14 15 34 1 34 14 044 05	to work in their beauties for an it	navagraph Hausayan Dest Office action		mut together CE there are server at the server
	[GPOC §§5, 14-15, 24.1, 24.1A, 94A, 95;	to work in their branches from the	paragraph. However, Post Office notes that,		put together. CE – there are common gateways. RW
	Defence §§35(2), 36, 38(1), 50(1), 52-54;	position previously and, in	on the Claimants' pleaded case, any		– expects that in every case where POL has a business
	Reply §41	particular, the position which	changes in the Claimants' ability to access		relationship with a claimant, there will be some
		prevailed at the date the terms of	records and investigate shortfalls caused by		reconciliation.
		the 1994 SPMC were introduced;	the introduction of Horizon or by		
			subsequent changes to Horizon or to		CE – does Horizon itself (APS, DRS – the parts of
		14.1 A introduced the potential for	products and services offered has no		Horizon that have reconciliation).
		errors to be made during data entry	apparent relevance to any of the breaches		
		and/or failed to introduce any or	of contract or other claims advanced in the		AP – do you mean messages on a transaction by
		sufficient error repellency (as at	GPoC. As regards such changes, paragraph		transaction basis or periodic accounting?
		paragraph 24.1 below);	35 above is repeated, mutatis mutandis.		
					JH - can we agree in principal that the experts will be
		14.2. limited Claimants' ability to	38. As to paragraph 17:		working in parallel – same amount of information.
		access, identify, obtain and			AP - absolute parity v. difficult. AP – needs a
		reconcile transaction records; and	(1) Save for the "others" referred to,		mechanism for obtaining parity. JH – could have a
			whom the Claimants do not identify,		document listing what docs the experts have
		14.3. limited Claimants' ability to	the first sentence is admitted. The		requested/accessed. JH – significant things e.g.
		investigate apparent shortfalls,	processes for transferring transaction		meeting with FJ/PO person for a day, Freeths would
		particularly as to the underlying	data from branch to Post Office's		say they should have access. AP: this will cut both
		cause thereof.	central data centre, and the controls		ways - we would want access to Claimants.
		cause thereof.	ensuring the accuracy of that data		ways - we would want access to claimants.
		15. Further or alternatively,	transfer, are discussed in paragraphs 53		5.20 reconciliation (e.g. DRS).
					5.20 reconciliation (e.g. DK5).
		subsequent changes to it and/or	and 54 below.		5 12 beteling and in our it and and and info
		changes to products and services	/4\ 0		5.12 batching service says it sends and receives info
		which the Defendant required to be	50 (1) See above.		from XXX.
		offered had the aforesaid effects on			
		the Claimants.	52 - 54 See above		5.13 - key to answering question about how it
					compares = how does it agree with differences? RW
		24.1. Insufficient error repellency in			= huge question. Will be discrepancies being
		the system, including sufficient			detected all over the place. JC – does that difference
		prevention, detection,			end up on the branch account?
		identification and reporting of			
		errors), both at the data entry level			AP – the reconciliation (human bit) is outside of the
		and at the data packet or system			scope of Horizon (gap is out of scope – all agreed). JH
		level (including data processing,			– judge trying to keep it narrow, no factual evidence.
		effecting and reconciling			JH – judge needs to understand what happens in that
		transactions, and recording the			space, markers need to be put down.
		same);			
					5.13 – a need to look at ATM declarations. (branch
		24.1A bugs and/or errors and/or			operating book describes that process).
		defects in Horizon and any data or			, , , , , , , , , , , , , , , , , , , ,
		data packet errors had the			JC – lots of other things will come out
		potential to produce apparent			
6	To what extent did measures and/or controls	shortfalls which did not represent a		Issue 6 asks to what extent	6A – data entry errors
	10 What extent did medsares and/or controls	The state of the s		issue o asks to what extent	ort data critiy cirois

that existed in Horizon prevent, detect, identify, report or reduce to an extremely low level the risk of the following:

- a. data entry errors;
- b. data packet or system level errors (including data processing, effecting, and recording the same);
- a failure to detect, correct and remedy software coding errors or bugs;
- d. errors in the transmission, replication and storage of transaction record data; and
- e. the data stored in the central data centre not being an accurate record of transactions entered on branch terminals

In all cases above, the issue is limited to errors, failures etc. that have the potential to create shortfalls.

[GPOC §§5, 14-15, 24.1, 24.1A, 94A, 95; Defence §§35(2), 36, 38(1), 50(1), 52-54; Reply §41 real loss to the Defendant;

94A. The Defendant failed to provide a system which was reasonably fit for purpose, including and or adequate error repellency (as at paragraph 24.1 above).

95. By reason of bugs and/or errors or otherwise, the Defendant failed properly to execute and reconcile all transactions which the Claimants initiated or effected and/or to record and maintain accurate transactional records in relation to such transactions.

Reply 41. As to the allegedly robust controls pleaded variously at paragraphs 16, 50 and 52 to 54 of the Defence:

41.1. the Defendant's case that "Its design and technical controls, when supplemented by the various accounting and cash controls applied in branches, make it very unlikely indeed that an error in Horizon could affect a Subpostmaster's financial position and go undetected" (Defence paragraph 16, emphasis added), implicitly accepts that Horizon is likely to be the cause of discrepancies or apparent or alleged shortfalls in branches, unless detected by Claimants;

41.2. the Defendant has failed to plead to any material variations in the operation of Horizon and its control measures over the period of the Claimants' claims, and has

measures and controls in Horizon prevented certain errors, of categories (a) - (e).

For each of the categories (a) - (e), is it to be understood that the 'errors' include only those errors identified under issue (1) - i.e. errors which cause shortfalls or apparent shortfalls?

6.10 – need to look at design documents to see if the design considered these things.

6.12 – we have specific reports of accounts being mis-keyed and then cancelled which might need to shortfalls, need to look at this as a specific example. Might help us to understand iterative design process.

6.20 – search of data entry error entries in helpdesk, give a view as to whether there is a problem. How many data entry errors do you expect? AP – the scale of the exercise; not sure records are keyword searchable. JC – bet that one of the codes (A04) is a miskey error). AP - sampling?

RW – there will be guides re user interface that deal with data entry errors. Helpdesk search would have to be on a sample basis.

AP – input from the Claimants would be useful.

JC -how to guides get bigger as mistakes are spotted.

JH – management info in Post Office. JC – not sure of relationship between PO and FJ – mechanism for FJ suggesting improvements. JH - meetings between Federation and Post Office (website re report branch) – query what was done with all of that. CE – out of scope? JH – need Post Office to help us ID documents re errors. JC – specific measures and controls in the system – design comes from Post Office's desires, presumably they are introducing new measures and controls. Understanding the interface.

Reply 41.2 addresses the possible variability of the level of controls in Horizon over the period of the claim.

Has JC identified particular periods he intends to focus on?

Does JC endorse the argument put

RW – are we concerned with process of improving H? JC – we can look at today's version, in 2009 what controls and measures were in place. Source = what the parties were talking about. If there is a different way of doing it, happy to understand it. RW – presumably user guidance material over time. CE – documentation re actual controls built in. JC – process of what got in out of scope, changes in scope. CE – must be formal procedure for controls. RW – development team of several 100s over several

refused the Claimants' RFI in this	forward in Reply 41.2?	years. Need to do prelim survey first and get that
respect,	, , , , , , , , , , , , , , , , , , ,	right JC – proper change management system in
pleading only to the current	Reply 41.3 puts PO to strict proof	place.
operation of Horizon (and	on aspects of the robustness of	F-11-5-1
responding to the RFI only that 'in	Horizon, in various respects.	JH – concerned we are not nailing anything down.
general terms, the basis processes		any and any and any
and practices set out in paragraph	Has JC identified any of the respects	6B data packet or system level errors
54 of the Generic Defence have	(a) - (d) in which he thinks that	ob data packet or system level errors
been in place since the introduction	proof cannot be provided?	RW – funny conjunction. JC - understand that there
of Horizon');	proof carried by provided	is system level logging (net call logs) (FJ at the model
j virilizin ,,		office – record hardware and communication at the
41.3. as to the Defendants' pleaded		windows NT box) – what did H do with these logs? FJ
current position, the Defendant is		talked about communication, monitoring the
in any event put to strict proof of:		condition of disk platters.
many event pacto strict proof on		condition of disk placeers.
(a) the 'robust measures in place		6.20 – how did Horizon deal with system logging
in Horizon' for the 'detection,		(asking for information)?
correction and remediation' of		(asking for information).
software coding errors or bugs		RW – Q6 as a whole – is the scope any old error or
(paragraph 50(1)), what these		errors which lead to shortfalls. JC – errors that have
measures are, when they were		the potential to lead to shortfalls.
introduced and their efficacy;		
and		JC – by speaking to someone, can understand this.
		ye by speaking to semicone, sam anderstand this
(b) the pleading that "Horizon has		JH – in pleading this, presumably talked to someone
robust controls" in respect of		in PO/FJ? AP – not prepared to discuss production of
data packet and other data		pleading – privileged. JH – is POL going to help
transfer and storage errors		experts where the information is stored. AP – part of
(paragraph 50(2)), what these		a larger question. You clearly want information via
controls are, when they were		emails.
introduced and their efficacy;		
and then emergy		RW starting from a different position – floodlight,
(c) the pleaded "robust controls,		waiting for you to put the spotlight on it.
procedures and practices"		AP - are you asking if there is a person that could
(paragraph 52), what these		answer it? Hope so, don't know who. And how we
controls are, when they were	Reply 41.5 appears to raise factual	deliver that information to you.
introduced, and their efficacy;	issues about the KEL, rather than	RW – meeting could be about sources of information,
, and their emodely,	expert issues.	not delivery of information. Meetings = pointers on
(d) the pleading That "Horizon has		documents, not information.
at all material times included	How does JC intend to investigate	JC – if we had an hour with X (head of helpdesk at an
technical control measures to	the KEL?	operational level), they will see there are X
reduce to an extremely low		documents. CE – if we ask where the document s are
level the risk of an error in the		in a meeting.
transmission, replication and		o '
 transmission, replication and		

storage of the transaction record data ("paragraph 52), when each of the measures pleaded at subaragraph 51), when each of the measures pleaded at subaragraph 51) to (6) was introduced, what if any measures they replaced and subaragraph 51) to (6) was introduced, what if any measures they replaced and file of the process of these documents, information and dispection and dispections and dispection and dispections and dispections. 41.4. further, in respect of the alleged "robust measures in place in Natrotor for the detection, correction and remediation" of software coding error or bugs (paragraph 50(1)), the Claimant denies that these were effective, or the company of the process of the software coding error or bugs (paragraph 50(1)), the Claimant denies that these were effective, or the company of the process of the software coding error or bugs (paragraph 50(1)), the Claimant denies that these were effective, or the company of the process of the software coding error or bugs (paragraph 50(1)), the Claimant denies that these were effective, or the company of the process of the software coding error or bugs (paragraph 50(1)), the Claimant of the theory of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as the paragraph 50(1)) and the process of the software coding error or the same of the process of the software coding error or the same of the process of the software coding error or the same or the company of the process of the software coding error or the same or the code of the process of the software coding error or the same or the process of the software coding error or the same or the process of the software coding error or the same or the process of the software coding error or the same or the process of the software coding error or the same or the process of the software coding error or the same	,		
when each of the measures pleaded at subgragraphs (1) to (6) was introduced, what if any measures they replaced and, in each case, their efficacy; 41.4. further, in respect of the alleged robust measures in place in correction and remediation of software coding errors or bugs (paragraph 5013). We claimant denies that these were effective, including on the basis that two of three errors or bugs admitted by the Defendant (is Schodule 6 to the Letter of Response, referred to at paragraph 50 (4) the Obernoon's own in-bault cheeks and balances on with the Defendant (is Schodule 5 to the Letter of Response, referred to at paragraph 50 (4) the Obernoon's own in-bault cheeks and balances on which the Defendant (is Schodule 6 to the Letter of Response, referred to at paragraph 50 (4) the Obernoon's own in-bault cheeks and balances of the company of the obernoon's own in-bault cheeks and balances of the obernoon's own in-bault obernoon's own in-baul			
pleaded at subparagraphs (1) to (6) was introduced, what if any measures they replaced and, in each case, their efficacy; 4.4. further, in respect of the alleged robust measures in place in Horizon for the detection, correction and remediation of software coding errors or bugs (paragraph 501), the Caimann denies that these were effection of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 55 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimanns RPI - Reply 4.1.8: How does IC understand to answer the Claimanns RPI - Reply 4.1.8: How does IC understand to answer the Claimanns RPI - Reply 4.1.8: How does IC understand to error'? He sponses 34 to 36]; 41.5. in respect of the Known Error Log (Defence, paragraph 504)k: (a) It is denied that the Known Error Log (Defence, paragraph 504)k: (b) the Claimanns note Defendant's control; (c) the Claimanns note Defendant's control; (d) the Claimanns note Defendant's refusal to admit whether data derived from the Known Error Log (Defence, paragraph 504)k: (a) It is denied that the Known Error Log (Defence, paragraph 504)k: (b) the Claimanns note Defendant's refusal to admit whether data derived from the Known Error Log (Defence, paragraph 504)k: (c) the Claimanns note Defendant's refusal to admit whether data derived from the Known Error Log (Defence, paragraph 504)k: (derived from the Known Error Log (Defence, paragraph 504)k; the defence of the paragraph 504 the paragraph	., 0 , , ,		
to (6) was introduced, what if any measures they replaced and, in each case, their efficacy; 41.4. further, in respect of the alleged robust measures in place in horizon fur the identation, correction and remediation of the detection, correction and remediation of the place in the following and the basis that two of three errors or bugs admitted by the Defenands this shedule 6 to the Letter of Response, referred to at paragraph 50(4); the Defenand the better of each of the paragraph 50(4); the Defenand the term screen calibration error? 41.5. In respect of the Known Error Log is not in the Defenand with the Defenance with	when each of the measures		right ordering of the process of these documents,
any measures they replaced and, in each case, their efficacy; 41.4. Further, in respect of the alleged "robust measures in place in Horizon" for the "detection, correction and remeilation" of software coding errors or bug [paragraph 50](4). The Claimant denies that these were effective, including on the basis that two will be processed to the paragraph of the process. It is denied that these were effective including on the basis that two will be processed in the paragraph of the processed on a severe the claimants of the processed on the paragraph of the paragraph of the processed on the paragraph of the parag	pleaded at subparagraphs (1)		information and inspection requests.
and, in each case, their efficacy; 41.4. Further, in respect of the alleged "robust measures in place in Horizon for the 'detection, correction and remediation' of software coding errors or bugs (paragraph 50(1)), the Claimant denies that these were effective, including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) It is denied that the Known Error Log (Defence, paragraph 50(4)): (b) the Claimants note Defendant's refused to a thing the period of the defendant than the period of the defendant than the period of the defendant than the period of the period o	to (6) was introduced, what if		
### Al.4. further, in respect of the alleged "robust measures in place in Horizon" for the "detection, correction and remediation" of software coding errors or bugs (paragraph 501), the Claimant denies that these were effective, including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 55 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant (states) and shalonces designed to identify the same (as to which the Defendant as refused to answer the Claimants 8F1 - Responses 34 to 36); ### 41.5. in respect of the Known Error Log (Defence, paragraph 55) of the Defence) in the Defendant's control; ### 41.5. in respect of the Known Error Log (be inclined to the Comparagraph 504)); ### 41.5. in respect of the Known Error Log (be inclined to admit whether data derived from the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log (be inclined to admit whether data derived from the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log (be inclined to admit whether data derived from the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log is not in the Defendant's control; ### 41.5. in respect of the Known Error Log is not in the Defendant's control, and refusal to its which the south of the Morizon of the Error Log is not its passession or control, and refusal to identify whether the Defendant is contractually entitled to t	any measures they replaced		RW – meeting not the best way to kick off, might be
41.4. further, in respect of the alleged 'robust measures' in place in horizon' for the 'direction, carrection and remediation' of software coding errors or bugs (paragraph 50(1)), the Claimant denies that these were effective, including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 50(1) the Claimant denies that the control of the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 50(1) the Claimants of the Defendant of the Defendant of the Defendant of the Defendant's restrict of the Same (as to which the Defendant has refused to answer the Claimants RP - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal a derived from the Known Error Log is in the Defendant's control; (c) the Defendant has refused to the Horizon trial? (d) the Defendant has refused to the Horizon trial? (e) the Claimants note Defendant's refusal at derived from the Known Error Log is not in the Defendant's control; (e) the Claimants note Defendant's refusal to identify the spreasance of the Horizon trial? (e) the Horizon trial? (e	and, in each case, their		part of the process.
4.1.4 further, in respect of the alleged robust measures in place in Horizon for the 'detection, correction and remediation' of software coding errors or bugs (paragraph 50(1)), the Claimant denies that these were effective, including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 5 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 24 to 36): 41.5. In respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log (Defence, paragraph 50(4)): (b) the Claimants note Defendant's refused to answer the Claimants note Defendant's control; (c) the Claimants note Defendant's refused to admit whether data derived from the Known Error Log (and in whether data derived from the Known Error Log (and in the More) the Defendant's control; (a) it is denied that the Known Error Log (and in the More) the Defendant's control; (b) the Claimants note Defendant's refused to admit whether data derived from the Known Error Log (and in the More) that the Know	efficacy;		
alleged 'robust measures in place in Horizon' for the 'detection, correction and emediation' of software coding errors or bugs (paragraph 50(11), the Claimant denies that hese were effective, including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 56 of the Defence) were not identified through intorizon's procedures were unclear or own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refused to a derived from the Known Error Log is not in the Defendant's control; (c) the Claimants note Defendant's refused to a derived from the Known Error Log is not in the Defendant's control; (d) the School of the Claimants of the Defendant's refused to the Horizon trial? (e) 2.1 (—) (2.2 (—)			JC – matrix – his issues (methods of investigation)
Horizon for the 'detection, correction and remediation' of software coding errors or bugs (paragraph 50(1)), the Claimant denies that these were effective, including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RPI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) It is denied that the Known Error Log (Defendant's control); (b) the Claimants note Defendant's refused to and the term should be control, and refusal to admit whether data derived from the Known Error Log is in this possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log and the transition or control, and refusal to identify the same is a dispute about discrepancy/shortfal, are the experts and respectively whether the Defendant is contractually entitled to the Known Error Log and the through Error Log or any report	41.4. further, in respect of the		
correction and remediation of software coding errors or bugs (paragraph 50(1)), the Claimant denies that these were effective, including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 50 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI-Responses 34 to 36); 41.5. in respect of the Known Error Log (pefence, paragraph 50(4)): (a) it is denied that the Known Error Log (befence, paragraph 50(4)): (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log is not provided that the Experts and the term is contractually entitled to the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log is not provided that the Experts and Experts	alleged `robust measures in place in		6.20 understand the system level log in and how
software coding errors or bugs (paragraph 50(11), the Claimant denies that these were effective, including on the basis that two of three errors or bugs admitted to the Letter of Response, referred to at paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (a) it is denied that the Known Error Log is not in the Defendant's control; (a) it is denied that the Known Error Log is not in the Defendant's credit in the Claimants not be Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log is not provided in the Known Error Log is not in the Defendant's centrol; and refusal to identify whether the Defendant is contractually entitled to the Known Error Log is not provided in the Known Error Log is not in the Defendant's centrol; and refusal to identify whether the Defendant is contractually entitled to the Known Error Log is not provided in the Known Error Log is not provided in the Known Error Log is not provided in the Known Error Log is not in the Contractually entitled to the Known Error Log is not in the Contractually entitled to the Known Error Log is not in the Contractually entitled to the Known Error Log is not in the Contractually entitled to the Known Error Log is not in the Contractually entitled to the Known Error Log is not in the Contractually entitled to the Known Error Log is not provided and the Logical Error Logical Er	Horizon' for the `detection,		Horizon dealt with these
(paragraph 50(1)), the Claimant denies that these were effective, including on the basis that two of three errors or bug admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 50 (1) the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5, in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log (Defence, paragraph 50(4)): (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to learnify whether the Defendant is contractually entitled to the Known Error Log and refusal to identify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to denify whether the Defendant is contractually entitled to the Known Error Log and refusal to learnify and the experts able to the Experts and the term 'screen calibration error'? Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about indiv	correction and remediation' of		
denies that these were effective, including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify the Monw Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log is not in dendant is contractually entitled to the Known Error Log and refusal to identify whether the Defendant is contractually entitled to the Known Error Log and a region of the Carlon of the			6.21 []
including on the basis that two of three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI-Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's corror.) (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log is not proven from the Contractually entitled to the Known Error Log or any report			
three errors or bugs admitted by the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36f): 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is in its possession or control, and refusal to identify whether the Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report	denies that these were effective,		RW – numbering system has gone awry. JC to revisit.
the Defendant (in Schedule 6 to the Letter of Response, referred to at paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (b) the Claimants note Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log to go any report	including on the basis that two of		
Letter of Response, referred to at paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is control; or contractually entitled to the Known Error Log is not greatly in the potential of the Known Error Log is not greatly in the Claimants of the Known Error Log is not greatly and the term 'screen calibration error'? (a) the Claimants note Defendant's control; or contractually entitled to the Known Error Log is not greatly and the term 'screen calibration error'? (b) the Claimants note Defendant's control; or contractually entitled to the Known Error Log is not greatly and the term 'screen calibration error'? (b) the Claimants note Defendant's control; or contractually entitled to the Known Error Log is not greatly and the term 'screen calibration error'? (c) the Claimants note Defendant's refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and refusal to identify whether the Defendant is control, and			6C – software coding problems.
paragraph 56 of the Defence) were not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is it is possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report	the Defendant (in Schedule 6 to the	Reply 41.7 on recovery procedures:	
not identified through Horizon's own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report		does JC endorse this para? Has he	6D and E - difficult to separate.
own in-built checks and balances designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36): 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log over any report		·	
designed to identify the same (as to which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refused to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report	not identified through Horizon's	procedures were unclear or	6.40 data seals. JC – something to do with
which the Defendant has refused to answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report (b) Known Error Log or any report (c) To specifically looking at measures and controls. (d) JC – specifically looking at measures and controls. (d) JH – working back from deadlines in the order, if experts have an agreed timetable it will be useful for legal teams /how it will play out. (e) He – working back from deadlines in the order, if experts have an agreed timetable it will be useful for legal teams /how it will play out. (e) Log is in the Error Log is not in the Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report		ineffective?	transmission?
answer the Claimants RFI - Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report the term 'screen calibration error'? JC – specifically looking at measures and controls. JH – working back from deadlines in the order, if experts have an agreed timetable it will be useful for legal teams /how it will play out. Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.			
Responses 34 to 36); 41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report A1.5. in respect of the Known Error Log (Defence, paragraph 50(4)): Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? B2. Howoking at measures and controls. JH - working back from deadlines in the order, if experts have an agreed timetable it will be useful for legal teams /how it will play out. Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.			RW private/public key inscription ; seals
41.5. in respect of the Known Error Log (Defence, paragraph 50(4)): Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? Repliv 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? Replication = OK with it 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy, JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.		the term 'screen calibration error'?	
Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report Experts have an agreed timetable it will be useful for legal teams /how it will play out. Replication = OK with it Replication = OK	Responses 34 to 36);		JC – specifically looking at measures and controls.
Log (Defence, paragraph 50(4)): (a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report Experts have an agreed timetable it will be useful for legal teams /how it will play out. Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? Experts have an agreed timetable it will be useful for legal teams /how it will play out. Replication = OK with it 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.			
Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? Reply 41.9 balances changing overnight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? Replication = OK with it Replication = OK with it 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.	· · · · · · · · · · · · · · · · · · ·		
(a) it is denied that the Known Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether dat derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report (a) it is denied that the Known Error Log is not in the Dovernight: can the experts address this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? (b) the Claimants note Defendant's refusal to admit whether dat derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report (b) the Claimants note Defendant's refusal to admit whether dat derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report	Log (Defence, paragraph 50(4)):		
Error Log is not in the Defendant's control; (b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report Error Log is not in the Defendant's refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report this question without considering factual evidence about individual claimants, which is out of scope for the Horizon trial? 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.			legal teams /how it will play out .
Defendant's control; factual evidence about individual claimants, which is out of scope for the Horizon trial? 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts whether the Defendant is contractually entitled to the Known Error Log or any report	1.7		
claimants, which is out of scope for the Horizon trial? 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts whether the Defendant is contractually entitled to the Known Error Log or any report 6.42 – audit reports and checks carried out by third parties. Need to have a look at those. 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.		, ,	Replication = OK with it
(b) the Claimants note Defendant's refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report (b) the Claimants note Defendant's the Horizon trial? (c) the Horizon trial? (d) parties. Need to have a look at those. (e) 44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.	Defendant's control;		
refusal to admit whether data derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report refusal to admit whether data derived from the Known Error Log or any report 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.		The state of the s	
derived from the Known Error Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report derived from the Known Error 6.44 – JSN checks. Not clear if they are executed when we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.	The state of the s	the Horizon trial?	parties. Need to have a look at those.
Log is in its possession or control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report When we have a discrepancy. JC - if there is a dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.			
control, and refusal to identify whether the Defendant is contractually entitled to the Known Error Log or any report dispute about discrepancy/shortfall, are the experts able to. CE – you're asking if any failed checks are logged and if so where are they.			
whether the Defendant is contractually entitled to the Known Error Log or any report whether the Defendant is able to. CE – you're asking if any failed checks are logged and if so where are they.			
contractually entitled to the Known Error Log or any report			
Known Error Log or any report			
			logged and if so where are they.
or data derived from it JC – baskets, still don't understand, cash is handed			
	or data derived from it		JC – baskets, still don't understand, cash is handed

(0	7
(Responses 26 and 27 to the	over, if you then have a basket error and the
RFI);	transaction doesn't go to Horizon because (RW is
	this recoverable transactions).
(c) the Defendant is put to strict	,
	Chatura of ICN absolute and absolute assistance with
proof of the matters asserted	Status of JSN checks – do they correlate with
at Defence paragraph 50(4) 'to	discrepancies? RW – v interesting Q. JC – if there is a
the best of Post Office's	report of a shortfall and a failed JSN check What
knowledge and belief' (as to	does H do with them? RW – next reconciliation, it
which the Defendant has also	comes out in the wash.
	comes out in the wash.
refused to answer the	
Claimant's RFI); and	6.44 when does that check happen?
(d) the Claimants will provide	
voluntary particulars on this	
issue after full access to the	
Known Error Log has been	
facilitated and analysed by the	
Claimants' experts.	
41.C. naments F4(4) is subally	
41.6. paragraph 54(1) is wholly	
ambiguous as to which transaction	
types upon which the Defendant	
carried out such a comparison, the	
process and timeliness thereof, and	
its efficacy (including the	
statement, 'If an error in Horizon	
were to result in the corruption of	
transaction data, this should be	
revealed by the comparison'};	
,,,,	
44.7 is industrial should be a	
41.7. it is denied that the recovery	
procedures which the Defendant	
pleads 'should prevent any data	
errors arising' (Defence paragraph	
54(2)) were sufficiently clear or	
effective to prevent such errors, or	
indeed did prevent them, and it is	
averred that the processes in place	
were in fact ambiguous and/or	
otherwise difficult to follow or	
execute;	
41.8. the Defendants' pleading as to	
key strike errors (Defence	

		paragraph 54(3)) wrongly proceeds on the basis that such problems would be the result of a system wide bug rather than a screen calibration error; 41.9. paragraph 54(4) is denied in so far as it is intended to amount to a defence and in any event, breaks down for Claimants where balances change overnight without any transactions by the Claimants, which often occurred; 41.10. the Defendant is put to strict proof of the alleged wholly unparticularised 'industry standard processes for developing and updating Horizon and for investigating and resolving any identified potential system errors', what those potential system errors were, and what and when a resolution was introduced.			
7	Were Post Office and/or Fujitsu able to access transaction data recorded by Horizon remotely (i.e. not from within a branch) TO MODIFY DATA? [Defence §7; Reply §9]	Reply 9. At paragraph 7, the Defence materially understates the Defendant's knowledge of what happens in branches (in so far as material to this case) and overstates the knowledge of Claimants. In that respect, paragraph 7 is denied. (The Claimants plead below, at section A.2, in respect of the information available to Claimants after the introduction of Horizon.) As to the knowledge and access of the Defendant: 9.1. the Defendant and/or Fujitsu had access to all transaction data,	7. Subpostmasters run Post Office branches on behalf of Post Office. They have day-to-day operational control over those branches and they and/or their Assistants have direct knowledge of what happens in them. By contrast, Post Office's knowledge is largely based on the accounts, cash declarations and other information from Subpostmasters.	Issue 7 has a syntactic ambiguity. We assume 'remotely' refers to 'access', not to 'recorded'. If so, it seems the answer is trivially yes.	7.10 FJ accept that they did on at least one occasion. We need to understand what was the need for that remote access. AP – lack of clarity re access (some mean reading data, some mean writing data). JC - Only interested in modifying data. JH – still need to deal with both meanings. AP – 10 deals with modifying. 7.20 – is the transaction flagged in a particular way? Look at the record of FJ amending to understand what the impact on transaction was. AP – why is it relevant? JC – if they inserted it because there was a missing record, H has lost a record. Will help us to understand. Will be an indicator – JC second question is how many BTs have there been (will use data from

transaction data (MM. data) and all transaction freeing the accounts of individual branches, including transactions lined to individual users, system generated transactions. Indeed to individual users, system generated transactions, and those initiated by the Defendant and/or Fujitus; 9.2 the Defendant and/or Fujitus; 19.3 the Defendant and/or Fujitus and this change to database, they inserted a 8T. (2- we know they were alter to the historial countries of the certain of the cert			including a detailed stream of		record to frame search).
transactions affecting the accounts of individual branches, including transactions linked to individual users, system generated transactions, and those inditated by the Defendant and Of Fujitsu, 9.2. the Defendant admits that from the introduction of Horizon Online in 2010, transactions were effected through real time exchanges of data from branches to a certral Post Office data certre (Defence, paragraph 3-3); 9.3. the Defendant and/or Fujitsu had access to wereingth cash holding (DNCH) data (further pleaded at paragraph 2-2.4 below); 9.4. the Defendant and/or Fujitsu had access to wereingth cash holding (DNCH) data (further pleaded at paragraph 2-2.4 below); 9.5. or the exchange of data and reporting functions were available through Horizon to Post Office fidentlying the occurrence of alleged shortfalls and the causes of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or reports as were wailed to the Claimants infer, and will invite the court to infer, that the Defendant can allow the court of inference of the court to infer, that the Defendant can allow the court of inference of the court to infer, that the Defendant can allow to the Claimants infer, and will invite the court onliner, that the Defendant can allow to the Claimants infer, and will invite the court to infer, that the Defendant can allow to the Claimants infer, and will invite the court to infer, that the Defendant can allow to the Claimants infer, and will invite the court to infer, that the Defendant can allow to the Claimants infer, and will invite the court to infer, that the Defendant can allow to the Claimants infer, and will invite the court to infer, that the Defendant can allow to the Claimants infer, and will invite the court to infer, that the Defendant can allow to the Claimants infer, and will invite the court to infer, that the Defendant can allow to the court to infer, that the Defendant can allow to the court to infer, that the Defendant can allow to t					record to frame searchy.
of individual branches, including transactions individual users, system generated transactions individual users, system generated transactions, and those initiated by the Defendant and/or Fujitsu; 9.2. the Defendant and and/or fujitsu; 9.2. the Defendant and and/or fujitsu; 9.3. the Defendant and mist that from the introduction of horizon content of the property					AP – do you want disclosure of that transaction
transactions finited to individual users, system generated transactions, and those initiated by the Defendant and/of Fujitsu; 9.2. the Defendant admits that from the introduction of Horizon Online in 2010, Fransactions were effected through real time exchanges of data from branches to a central Phst Office data centre (Defence, paragoph 32); 9.3. the Defendant and/or Fujitsu had acres to rewright cash holding (ONCH) data (further pleaded at paragraph 24 below); 9.4. the Defendant and/or Fujitsu had acres to rewright cash holding (ONCH) data (further pleaded at paragraph 22.4 below); 9.5. for the avoidance of doubt, all such data and/or reports as were available to the Claimants on the Horizon system? [Defence \$77, Reply \$9] The avoidance of doubt, all such and and/or reports as were available to the Claimants in the Horizon system? [Defence \$77, Reply \$9] The avoidance of doubt, all sixty of the courtence of alleged horifalis and the causes of alleged as a paragraphs 38(2) and (3), were in avoidance of doubt, all sixty of the courtence of alleged shortfalis and the causes of alleged shortfalis in tranches, including whether they alleged shortfalis or the causes of alleged shortfalis or the causes of alleg					
users, system generated transactions, and those initiated by the Defendant and/or Fujitsu; 9.2. the Defendant and/or Fujitsu; 9.2. the Defendant admits that from the introduction of Horizon Online in 2010, transactions were effected through real time exchanges of data from branches to a central Poot Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding (TOKCH) data (further pleaded at paragraph 23.4 below); 9.4. the Defendant and/or Fujitsu had access to overnight cash holding (ToKCH) data (further pleaded at paragraph 22.4 below); 9.5. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or ercords of system bugs and errors; further town were available through Horizon to boat Office for a consideration of the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting the form the Horizon to be form the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting the form the Horizon to be form the Horizon to be form the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting the form the Horizon to be form the Horizon to be form the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting the form the Horizon to be form the Horizon to be form the Horizon to the Horizon to the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting the form the Horizon to be form the Horizon to the Horizon to the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting the Horizon to be form the Horizon to the Horizon the Horizon to the Horizon the Horizon to the Horizon the Horizon to the Horizon to the Ho			, ,		record: 3c - yes.
transactions, and those initiated by the Defendant and/or Fujitsu; 9.2. the Defendant admits that from the introduction of Horizon Online in 2010, transactions were effected through real time exchanges of data from branches to a central Post Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding (ToRCH) data (Further pleaded at paragraph 32); 9.4. the Defendant and/or Fujitsu had access to overnight cash holding (ToRCH) data (Further pleaded at paragraph 32); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; [Defence, \$7; Reply \$9] 8 What transaction data and reporting functions were available through Horizon to Post Office for Identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting functions were available through Horizon to Post Office for Identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting functions were available to course of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] 8 What transaction data and reporting functions were available to the Calimants on Horizon system? 10 June 10					7.20
the Defendant and/or Fujitsu; 9.2. the Defendant and affirst that from the introduction of Horizon Online in 2010, transactions were effected through real time exchanges of data from branches to a central Past Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding ("ONCH") data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to overnight cash holding ("ONCH") data (further pleaded at paragraph 22.4 below); 9.5. for the avoidance of doubt, all such advances to a larged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$77, Reply \$9] The answer to issue 8 would appear to be an extensive list, including for instance audit, data was able to access data and use reporting functions, which were not available to the Claimants: The answer to issue 8 would appear to be an extensive list, including for instance audit, data was able to access data and use reporting functions, which were not available to the Claimants: The answer to issue 8 would appear to be an extensive list, including for instance audit, data was able to access data and use reporting functions, which were not available to the Claimants: The answer to issue 8 would appear to be an extensive list, including for instance audit, data was able to access data and use reporting functions, which were not available to the Claimants infer, and will invite the court to infer, that the defendant was able to access data and use reporting functions, which were not available to the Claimants infer, should be controlled access. CE – that would be no logging access. 7.50 – there was reports of transaction reversals. These use system/fuser ID. Went through with SPMR's user ID. How was that done? AP — is that part of a bigger question — can so what they involve. The post of the word "alleged" seems inappropriate, since the process of identifying the occurrence of place by two place before liti					7.30
9.2. the Defendant admits that from the introduction of Horizon Online in 2010, transactions were effected through real time exchanges of data from branches to a central Post Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding (ONCH) data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the known Error Log and/or other similar logs or records of system bugs and errors; 8. What transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or effects in the Horizon system? [Defence \$77, Reply \$9] 8. What transaction data and reporting functions were available to the Calimants on Horizon, as the Defendant contends at paragraph 33], were in any location of the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$77, Reply \$9] 8. What transaction data and reporting functions were available to the Calimants on Horizon, as the Defendant contends at paragraph 33], and (3), were in any location of the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon, as the Defendant contends at paragraph 33], were in any location or allegations. Should 'alleged' be replaced by 'apparent? [Defence \$77, Reply \$9] 8. What transaction data and reporting functions were available to the Calimants on Horizon, as the Defendant contends at paragraph 334(2) and (3), were in any location or allegations. Should 'alleged' be replaced by 'apparent? 9.5. for the avoidance of doubt, all were not available to the Calimants on Horizon, as the Defendant contends at paragraph 334(2) and (3), were in any location of the Calimants on Horizon, as the Defendant contends at paragraph 334(2) and (3), were in any location of the Calimants on Horiz					7.40
9.2, the Defendant admits that from the introduction of horizon. Online in 2010, transactions were effected through real time exchanges of data from branches to a central Post Office data centre (Defence, paragraph 33); 9.3 the Defendant and/or Fujitsu had access to evernight case to everning a view as to what they involve. 8. In issue 8, the use of the word 'alleged'			the Defendant and/or Fujitsu;		
from the introduction of Horizon Online in 2010, transactions were effected through real time exchanges of data from branches to a central Post Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding (ONCH) data further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 9.5. for the avoidance of doubt, all such data and/or reports as were available through thorizon to Post Office for identifying the occurrence of alleged shortfalls hand the causes of alleged shortfalls in branches, including whether they were caused by bus, errors and/or defects in the Horizon system? [Defence 57; Reply 99] The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? Ji — we know they were able to do this through na BT, possible that and with strough nations and instinct could do that through uncontrolled access. CE – that would be no logging access. 7.5.0 – ther was reports of transaction reversals. These use system/user iD. Went through with SPMR's user ID. How was that done? AP – is that part of a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger question – can someone at FI pretend to be a bigger					
Online in 2010, transactions were effected through real time exchanges of data from branches to a central Post Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding (ONCH*) data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 9.5. for the avoidance of doubt, all such data and/or reports as were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence 97; Reply 99] Online in 2010, transactions were effected through Horizon to Post Office had reports as were available to the Claimants on Horizon system? [Defence 97; Reply 99] Online in 2010, transactions data entire (Defence, paragraph 38(2) and (3), were in any event also available to the Defendant contends at paragraph 38(2) and (3), were in any event also available to the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: Should the regarded as a factual issue rather than an expert issue? In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of identifying the occurrence of alleged shortfalls in branches, including for the process of identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence 97; Reply 99] 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to ac					FJ made this change to database, they inserted a B1.
effected through real time exchanges of data from branches to a central Post Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding (YoNCH) data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 9.5. for the avoidance of doubt, all substitutions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] B What transaction data and reporting functions were available to the Claimants on Horizon system? [Defence \$7; Reply \$9] B What transaction data and reporting functions were available through Horizon to Post Office of identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] B What transaction data and reporting functions were available to to compare the process of identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] B What transaction data and reporting functions were available to the Claimants on Horizon system? B What transaction data and dor reports available to the Claimants on Horizon system? B What transaction data and reporting functions were available to the Claimants on Horizon system? B What transaction data and reporting functions were available to the Claimants on Horizon system? B What transaction data and reporting functions were available to the Claimants infer, and will invite the court to infer, that the Defendant; B What transaction d			AND THE PARTY OF T		
exchanges of data from branches to a central Post Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding (ONCH) data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls in branches; including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$77; Reply \$9] RW — reading it as apparent shortfalls. 9.5. for the avoidance of doubt, all such data and/or reports as were available to the Claimants on the Horizon system? [Defence \$77; Reply \$9] RW — reading it as apparent shortfalls. JC — root is whether Post Office had reports available to the Claimants on the Horizon system? [Defence \$77; Reply \$9] RW — reading it as apparent shortfalls. JC — root is whether Post Office had reports available to the Claimants on the Lorizon system? [Defence \$77; Reply \$9] RW — reading it as apparent shortfalls. JC — root is whether Post Office had reports available to the Claimants on the Lorizon system? [Defence \$77; Reply \$9] RW — reading it as apparent shortfalls. JC — root is whether Post Office had reports available to 10 lb. 8.10 — is there a shortfall report? 8.11 — on that report, does it set out the causes? JH — definitions — can have experts, lawyers or a combination? JC — simplistically, a shortfall leads to a Time. JH — potential for confusion. Nervous about definitions involving Horizon data. JH — claimants: JH — clause 12.2 talks about a "loss" — potentially important distinction between shortfall/loss. JC — if					,
a central Post Office data centre (Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overright cash holding (ONCH) data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 8. What transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] 8. What transaction data and reporting functions were available through Horizon to place the causes of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] 8. What transaction data and reporting functions were available to the Claimants on the Horizon system? 9.5. for the avoidance of doubt, all such data and/or reports as were available to the Claimants on the Horizon system? 1. In issue 8, the use of the word 'alleged' seems inappropriate, since the process of identifying the occurrence' typically took place before litigation or allegations. 2. For the avoidance of doubt, all such data and/or reports as were and the process of identifying the occurrence' typically took place before litigation or allegations. 3. In or is there a shortfall report? 3. In or is there a shortfall report? 3. In or the reporting functions, which were not available to the Claimants: 4. In or the reporting functions, which were not available to the Claimants: 4. In or the report of the word 'alleged' seems inappropriate, since the process of identifying the occurrence' typically took place before litigation or allegations. 3. In or is there a shortfall report? 3. In or the reporting functions, which were not available to the Claimants: 4. In or the report of the word 'alleged'			_		
(Defence, paragraph 33); 9.3. the Defendant and/or Fujitsu had access to overnight cash holding ('ONCH') data further pleaded at paragraph 2.2.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 8 What transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] Defence \$7; Reply \$9] Defence \$7; Reply \$9] Defence \$7; Reply \$9] Defence \$1 + Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defence \$2; Reply \$9] Defence \$2; Reply \$9] Defence \$3; Reply \$9] Defence \$4; Reply \$4; And the province of the provi					
9.3. the Defendant and/or Fujitsu had access to overnight cash holding ('ONCH') data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 9.5. or the avoidance of doubt, all such data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] 9.3. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 9.5. for the avoidance of doubt, all such data and/or reports as were available through Horizon to place the process of 'identifying the occurrence' typically took place before litigation or allegations. 9.5. for the avoidance of doubt, all such data and/or reports as were available to the Orizon, as the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant; 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 9.6. the Claimants infer and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to t					logging access.
9.3. the Defendant and/or Fujitsu had access to overnight cash holding ("ONCH") data (further pleaded at paragraph 2.2. below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 8 What transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] 9.3. the Defendant and/or Fujitsu had access to overnight cash holding ("ONCH") data (further pleaded at paragraph 2.2. below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; In Issue 8, the use of the word "alleged" seems inappropriate, since the process of identifying the occurrence typically took place before litigation or allegations. at each yet of the process of identifying the occurrence typically took place before litigation or allegations. at paragraphs 38(2) and (3), were in any event also available to the Defendant; 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 8.10 – is there a shortfall report? 8.11 – on that report, does it set out the causes? 9.6. the Claimants: 8.11 – on that report, does it set out the causes? 9.6. the Claimants: 8.11 – on that report, does it set out the causes? 9.6. the Claimants: 8.11 – on that report, does it set out the combination? JC – simplistically, as shortfall leads to a CL. III – potential for combination? JC – simplistically, as shortfall leads to a CL. III – potential for combination? JC – simplistically, as shortfall leads to a CL. III – potential for combination? JC – simplistically, as shortfall leads to a CL. III – potential for combination? JC – simplistically, as better the			(Defence, paragraph 33);		
had access to overnight cash holding ('ONCH') data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 9.5. for the avoidance of doubt, all such data and/or reports as were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] Defence \$7; Reply \$9] Defence \$7; Reply \$9] Defence \$7; Reply \$9] Defence \$6; Reply \$9; Rep					
holding ('ONCH') data (further pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; Note that the provided and provided and provided as to what they involve.					
pleaded at paragraph 22.4 below); 9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 8 What transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? (Defence \$7; Reply \$9] Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and see reporting functions, which were not available to the Claimants: Defendant was able to access data and see reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions were available to the Claimants: Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions were available to the Claimants: Defendant was able to access data and use reporting functions were available to the Claimants: Defendant was able to access data and train an expert issue? Defendant was able to access data and use reporting functions were available to the Claimants. Defendant was able to access data and was allogued before litigation or allegations. De					·
9.4. the Defendant and/or Fujitsu had access to the Known Error Log and/or other similar logs or records of system bugs and errors; In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? Defence \$7; Reply \$9] Post Defendant was able to the Claimants on Horizon, as the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant; Post Defendant was able to the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: Post Defendant was able to access data and use reporting functions, which were not available to the Claimants: Post Defendant was able to the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: Post Defendant was able to access data and use reporting functions, which were not available to the Claimants: Post Defendant was able to access data and use reporting functions, which were not available to the Claimants: Post Defendant was able to access data and use reporting functions, which were not available to the Claimants: Post Defendant was able to access data and use reporting functions, which were not available to the Claimants: Post Defendant was able to access data and use reporting functions, which were not availabl			holding ('ONCH') data (further		bigger question – can someone at FJ pretend to be a
had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 8 What transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] Defence \$7; Reply \$9]			pleaded at paragraph 22.4 below);		SPMR?
had access to the Known Error Log and/or other similar logs or records of system bugs and errors; 8 What transaction data and reporting functions were available through Horizon to Post Office for identifying the available to the Claimants on Horizon, as the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant; [Defence \$77; Reply \$9] Defence \$77; Reply \$9]					
and/or other similar logs or records of system bugs and errors; 8 What transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] Defendant was able to access data and use reporting functions, which were not available to the Claimants: In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of the word 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. In Issue 8, the use of			9.4. the Defendant and/or Fujitsu		RW – worth drilling down on these and forming a view
Mhat transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence §7; Reply §9] [Defence §7; Reply §9] [Defence instance audit, data warehouse, etc. were not available to the Claimants: Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? Should it be regarded			had access to the Known Error Log		as to what they involve.
What transaction data and reporting functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence §7; Reply §9] Defence §7			and/or other similar logs or records		
functions were available through Horizon to Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] Defence \$7; Reply \$9] 9.5. for the avoidance of doubt, all such data and/or reports as were available to the Claimants on Horizon, as the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant; The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual and use reporting functions, which were not available to the Claimants: Should it be regarded as a factual issue rather than an expert issue? JC – root is whether Post Office had reports available to to ID JC – root is whether Post Office had reports available to to ID Should 'alleged' seems inappropriate, since the process of 'identifying the occurrence' typically took place before litigation or allegations. Should 'alleged' be replaced by 'apparent'? The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? JH – definitions – can have experts, lawyers or a combination? JC – simplistically, a shortfall leads to a TC JH – potential for confusion. Nervous about definitions involving Horizon data. JH – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if			of system bugs and errors;		
Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] Should 'alleged' be replaced by 'apparent'? 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: Should it be regarded as a factual issue rather than an expert issue? Should it be regarded as a factual issue rather than an expert issue? In any event also available to the Claimants on Horizon, as the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant; Should 'alleged' be replaced by 'apparent'? The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? JH – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if	8	What transaction data and reporting		In Issue 8, the use of the word	RW – reading it as apparent shortfalls.
Post Office for identifying the occurrence of alleged shortfalls and the causes of alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] Should 'alleged' be replaced by 'apparent'? Should 'alleged' be replaced by 'apparent'? The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual and use reporting functions, which were not available to the Claimants: Should it be regarded as a factual issue rather than an expert issue? In any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant; Should it be regarded as a factual issue rather than an expert issue? In any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant cont		functions were available through Horizon to	9.5. for the avoidance of doubt, all	'alleged' seems inappropriate, since	
alleged shortfalls and the causes of alleged shortfalls in branches, including whether they were caused by bugs, errors and/or defects in the Horizon system? [Defence \$7; Reply \$9] 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should 'alleged' be replaced by 'apparent'? The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? JH - definitions - can have experts, lawyers or a combination? JC - simplistically, a shortfall leads to a TC JH - potential for confusion. Nervous about definitions involving Horizon data. JH - clause 12.2 talks about a "loss" - potentially important distinction between shortfall/loss. JC - if			such data and/or reports as were	the process of 'identifying the	JC – root is whether Post Office had reports available
Horizon, as the Defendant contends at paragraphs 38(2) and (3), were in any event also available to the Defendant; Defence \$7; Reply \$9]			available to the Claimants on		·
were caused by bugs, errors and/or defects in the Horizon system? [Defence §7; Reply §9] 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: Should 'alleged' be replaced by 'apparent'? The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? ### A paragraphs 38(2) and (3), were in any event also available to the Defendant; ### A potentiall report? ### A potential report, does it set out the causes? ### A potential report. #			Horizon, as the Defendant contends		
the Horizon system? any event also available to the Defendant; Should 'alleged' be replaced by 'apparent'? 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: Should 'alleged' be replaced by 'apparent'? The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? JH – definitions – can have experts, lawyers or a combination? JC – simplistically, a shortfall leads to a TC JH – potential for confusion. Nervous about definitions involving Horizon data. JH – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if		,	at paragraphs 38(2) and (3), were in		8.10 – is there a shortfall report?
Defendant; 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 1 Defendent; 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 1 Defendant; 1 The answer to issue 8 would appear to be an extensive list, including for instance audit, data warehouse, etc. 2 Should it be regarded as a factual issue rather than an expert issue? 3 Should it be regarded as a factual issue rather than an expert issue? 3 H – definitions – can have experts, lawyers or a combination? JC – simplistically, a shortfall leads to a TC JH – potential for confusion. Nervous about definitions involving Horizon data. 4 H – definitions – can have experts, lawyers or a combination? JC – simplistically, a shortfall leads to a TC JH – potential for confusion. Nervous about definitions involving Horizon data. 5 H – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if			any event also available to the	Should 'alleged' be replaced by	And the second of the second o
[Defence §7; Reply §9] 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: Should it be regarded as a factual issue rather than an expert issue? JH – definitions – can have experts, lawyers or a combination? JC – simplistically, a shortfall leads to a TC JH – potential for confusion. Nervous about definitions involving Horizon data. Should it be regarded as a factual issue rather than an expert issue? JH – definitions – can have experts, lawyers or a combination? JC – simplistically, a shortfall leads to a TC JH – potential for confusion. Nervous about definitions involving Horizon data.					8.11 – on that report, does it set out the causes?
9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 9.6. the Claimants infer, and will invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: 9.6. the Claimants infer, and will invite the court to infer, that the to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? JH – definitions – can have experts, lawyers or a combination? JC – simplistically, a shortfall leads to a TC JH – potential for confusion. Nervous about definitions involving Horizon data. JH – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if		[Defence §7: Reply §9]			
invite the court to infer, that the Defendant was able to access data and use reporting functions, which were not available to the Claimants: to be an extensive list, including for instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? JH – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if			9.6. the Claimants infer, and will	The answer to issue 8 would appear	JH – definitions – can have experts, lawyers or a
Defendant was able to access data and use reporting functions, which were not available to the Claimants: Defendant was able to access data and use reporting functions, which were not available to the Claimants: Instance audit, data warehouse, etc. Should it be regarded as a factual issue rather than an expert issue? JH – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if			and the same and t		
and use reporting functions, which were not available to the Claimants: Claim					
were not available to the Claimants: Should it be regarded as a factual issue rather than an expert issue? JH – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if					
Claimants: issue rather than an expert issue? JH – clause 12.2 talks about a "loss" – potentially important distinction between shortfall/loss. JC – if				Should it be regarded as a factual	deminions involving Horizon data.
important distinction between shortfall/loss. JC – if					IH – clause 12.2 talks about a "loss" – notentially
				issue rather than an expert issue:	
PARTICULARS OF MATTERS RELIED Do the claimants intend to catalogue we can set them out in an agreed document, we can			PARTICULARS OF MATTERS RELIED	Do the claimants intend to catalogue	we can set them out in an agreed document, we can
UPON UPON the list exhaustively? refer to a key in a document.					
the list exhibitively?			51 514	the hat exhaustively!	refer to a key in a document.

(1) the Defendent electronic to	H1 AB 11 11 5 5	
(a) the Defendant admits that it	JH and AP to come up with list of 4 or 5 scenario	os
and/or Fujitsu could investigate	DW	
apparent shortfalls: paragraphs	RW – concern – answer = lists of pieces of data	
46(4) and 54(5);	functions; verges on factual list (to what extent	is
	expert commentary required). JC – when we	
(b) the Defendant contends that	investigate specific scenarios with claimants – w	vas the
'more extensive transaction	report run and who was it run by.	
data was provided, and further		
data was provided outside [the	JC - can we obtain a list of shortfall reports?	
42 or 60 day] periods, where		
this was necessary': paragraph	8.20 – when discrepancies are discovered, is pa	rt of
136(2);	the review process to consider if a bug, error. A	
200(2))	out of scope. JC – if out of scope, scenario is the	
(c) the Defendant admits that	identify a shortfall, there is a report saying a sho	
'Fujitsu provided a telephone	but can't see what Post Office did with it. Abstr	
advice service to Post Office in	but can't see what Post Office did with it. Abstr	act.
	CE – lead cases. JH – relevant factual context.	
relation to technical problems	CE – lead cases. JH – relevant factual context.	
with the Horizon system or		
equipment': paragraph 48(8);		
(d) the Defendant contends that it		
had a process for the		
escalation of disputes including		
a 'team responsible for		
investigating branch matters'		
which 'undertakes a further		
investigation into the disputed		
amount, seeks to identify the		
reason for it arising and		
communicates with the		
Subpostmaster concerned':		
paragraph 46(4)(b);		
, , , , , , , , , , , , , , , , , , , ,		
(e) the Defendant had the		
discretion and contractual right		
to request further data and/or		
reports from Fujitsu (limited to		
a specific number of requests		
and/or at some cost to the		
Defendant), both as to the		
working of the system		
generally, including bugs,		
errors and fixes therein, and as		

		to particular transactions or			
1		branch accounts —further			
		voluntary particulars of which			
		will be provided once the			
		Claimants have been afforded			
		access to the Horizon system			
		and unredacted versions of the			
		contract with Fujitsu; and the			
		Defendant contends that 'For			
		many transaction types', the			
		Defendant is able to compare			
		its own transaction record			
		against the corresponding			
		record held by its clients:			
		paragraph 54(1).			
9	At all material times, what transaction data	As particularised further below,	38. As to paragraph 17:	Issue 9 also has the flavour of a	<u>9A</u>
	and reporting functions (if any) were available	the introduction and imposition of		factual issue rather than an expert	
	through Horizon to Subpostmasters for:	Horizon in 1999/2000:	Regarding the second sentence:	issue. Its answer is a list rather than	Branch operating manual.
				an opinion.	
	 a) identifying apparent or alleged 	14.2. limited Claimants' ability to	(b) While such transaction data is available,		Technical docs.
	discrepancies and shortfalls and/or the	access, identify, obtain and	Subpostmasters can search for, identify,	The parties might prepare factual	
	causes of the same; and	reconcile transaction records; and	organise and analyse data by means of a	evidence, and the experts are then	Also covered by the demo.
	 b) accessing and identifying transactions 		wide range of reports, including a	asked to endorse that it is accurate	
	recorded on Horizon?	14.3. limited Claimants' ability to	transaction log report which identifies each	and answers the question.	9.05 review Branch Operating Manual to determine.
		investigate apparent shortfalls,	and every transaction undertaken in the		
	[GPOC §§14.2-14.3, 17 and 19.3; Defence	particularly as to the underlying	relevant branch in the entire period. This		Scenario 10 – what receipts are printed (reporting
	§§38(2)(b), 38(3), 46(2); Reply §15.2-15.3]	cause thereof.	report can be		function) – two different receipts (one of customer
			focused in a variety of ways if desired,		one for SPMR).
		17. Horizon operated such that	including by reference to date ranges,		
		transactions entered by Claimants	transaction types, stock items, value ranges		9.10 – customer
		or others onto terminals in	and even particular users or terminals.		
		branches were transmitted to the			9.11 SPMR
		Defendant's central data centre	(2) Horizon provides Subpostmasters with		
		where they were processed,	tools for searching, checking and		If the figures are different? SPMR's doesn't have the
		recorded, reconciled and retained.	reviewing the transactions undertaken		value on it. May be. Reporting function – later told
		Claimants were subsequently able	in the branches for which they were		that the report was £100 but you gave them £1,000.
		to access transaction data, as	responsible.		,,,,,,,
		recorded on the system, for a		Reply 15, particularly (f) and (g),	JC – might be right, only SPMR receipt is of relevance.
		limited period (42, and after the	46 . As to paragraph 19.3:	seem to hinge on factual evidence	J.,,
		introduction of Horizon Online, 60	,	about individual claimants which is	CE – a factual question.
		days) and in limited report form by	(2) It is denied that Subpostmasters are	out of scope for the Horizon trial.	
		requesting reports to be generated	unable to carry out effective		JC - is the individual amount retained on the slip? If it
		by Horizon. These reports were	investigations into the disputed		is, will help them, if it isn't, they might struggle.
		generated from transaction records	amounts. So is the allegation that there		and the state of t
		Benefated Holli transaction records	amounts, so is the unegation that there	I .	

	held by the central data centre.	were unspecified "limitations" on	OP
	neid by the central data centre.	Subpostmasters' ability to access,	<u>9B</u>
	10 The investment of the		O 20
	19. The importance of the accuracy	identify and reconcile transactions in	9.20 were error logs sent to SPMRs/were they visible
	of Horizon was accentuated by the	Horizon and that Horizon had no	in branch?
	following.	"adequate report-writing feature". As	
		indicated in paragraph 38(2) above,	
	19.3. Disputing 'shortfalls':	Horizon provides Subpostmasters with	
	Claimants seeking to dispute	tools for searching, checking and	
	apparent shortfalls did not have an	reviewing the transactions undertaken	
	option within Horizon to do so, and	in the branches for which they are	
	were required to contact the	responsible.	
	Helpline to seek assistance (see		
	paragraph 29 below). Claimants		
	who contacted the Helpline were in		
	any event required to settle any		
	disputed amounts centrally, albeit		
	collection was in some cases		
	suspended, apparently pending an		
	investigation by the Defendant.		
	Claimants were themselves unable		
	to carry out effective investigations		
	into disputed amounts because of		
	the limitations on their ability to		
	access, identify and reconcile		
	transactions recorded on Horizon		
	and the lack of any or adequate		
	report-writing features		
	in Horizon (as repeatedly raised by		
	Mr Bates). There were no		
	provisions, nor was there any or		
	sufficient guidance in the		
	Operations Manual as to the		
	procedure or process for disputing		
	discrepancies or apparent or		
	alleged shortfalls. The Defendant		
	failed to carry out any, or any fair		
	or adequate investigations into		
	disputed amounts.		
	Reply 15. Further, as to Claimants'		
	access to transaction data and		
	reports:		
	15.2. as to the 'extensive range of		
	13.2. as to the extensive runge of		

re	other reports', the 'wide range of eports' and 'tools for searching and eviewing' averred, at paragraphs 15(3), 38(2)(b) and 38(3):	
	a) the 'transaction log report' was in fact a print out on narrow till paper, such that even a week's worth of transactions would produce 20 to 30 feet of paper;	
(t	b) like the 'Balancing Snapshot', the 'transaction log report' only showed one side of fine transaction, so that the cause of alleged shortfalls could (usually) not be identified;	
(c	the Defendant has failed to particularise what the available reports and tools were and has refused to provide the information sought in the Claimants' RFI relating to these paragraphs — no admissions are made that there are any such reports (or any that would materially assist Claimants in identifying the true cause or details of any alleged shortfall);	
(c	d) the Claimants note the Defendant's admission at paragraph 38(2)(b), that whatever reports were available, were only available to Claimants via Horizon during the 42 or 60 day period above;	
(ε	e) after the 42 or 60 day period above, Claimants had no access to transaction data, tools or reports (subject to paragraph 16 below) as the Defendant	

		implicitly admits at Defence paragraphs 38(2)(b) and 136(2); (f) when alleged shortfalls were raised, by way of Transaction Corrections or otherwise, outside the 42 or 60 day period above, requests for provision of the information which would have been available to the Claimants during that period were often refused;			
		(g) when a Claimant was suspended, Claimants had no access to the same (subject to paragraph 16 below) and had no access to personal records held at their branch, as the Defendant also admits at paragraph 136(3);			
		15.3. the Defendant is put to strict proof of the practical utility of the 'line by line' data and/or any transaction data or reports available or provided to the Claimants, for the purpose of the Claimants trying to investigate discrepancies or apparent or alleged shortfalls — as to which the Claimants contend that what they had was of limited utility and did not enable the Claimants to carry out their own effective			
10	Whether the Defendant and/or Fujitsu have had the ability/facility to: (i) insert, inject, edit or delete transaction data or data in branch accounts; (ii) implement fixes in Horizon that had the potential to affect transaction data or data in branch accounts; or (iii) rebuild branch transaction data:	investigations; 21. Pending full disclosure, the Claimants understand that Fujitsu's role included: 21.3. managing coding errors, bugs, and fixes so as to prevent, manage or seek to correct apparent	48. As to paragraph 21: (3) Paragraph 21.3 bundles together several different concepts and uses language that is open to different meanings and/or misleading. However:	The answer to issue 10(ii) seems to be trivially yes. It was obviously necessary for Fujitsu from time to time to implement fixes, and this could not have required the knowledge or consent of subpostmasters.	Change control process (see above). JC – were they following process? (iii) – Richard Roll – Post Office having to reverse engineer/rebuild. AP - Are you going to call him as a witness? JH – haven't decided yet. Depends where JC gets to. JH – on witnesses, do you have in mind

[GPOC §§21.3, 23, 25; Defence §§48(3), 50, and 57] 23. Howe	eports produced by Horizon; vever, the Claimants aver ere were a large number of	(b) To the extent that the phrase "correct apparent discrepancies in the data" is intended to mean that Fujitsu implemented fixes that edited or deleted specific items of	assessment of the controls on that ability, if and when it existed.	Our thinking is the Judge didn't have a view – all he was bothered about is focus being on expert evidence. Risk is it escalates. All sorts of factual witnesses in POL that we would love to examine.
permission controls upon the use of the above facility, and did the system maintain a log of such actions and such permission controls? [GPOC §§21.3, 23, 25; Defence §§48(3), 50, 57] [GPOC §§21.4, 23, 25; Defence §§48(3), 50, 57] Software defects w developed were also errors. The for Fujitsu transaction giving rise error being branch transaction to the system of the system o	e coding errors, bugs or which required fixes to be bed and implemented. There so data or data packet There was a frequent need is u to rebuild branch tion data from backups, is e to the further risk of being introduced into the transaction records. The back understand that Fujitsu need a 'Known Error Log' to some or all of these which was provided to the land, but which has not been bed. St. Cher, the Defendant was, by did/or via its agent Fujitsu, alter branch transaction ectly and carry out changes ton and/or transaction data ould affect branch accounts.	transaction data, that is denied. (c) It is denied that Fujitsu has implemented fixes that have affected the reliability of accounting balances, statements or reports. (d) Save as aforesaid, if Post Office understands it correctly, the general thrust of paragraph 21.3 is denied. 60. See above 67. Paragraph 25 appears to be concerned with the editing or deletion of transaction data input by or on behalf of a subpostmaster without his or her consent. Accordingly, Post Office assumes that it is not concerned with transactions such as transaction Corrections which are sent to branches but must be accepted by or on behalf of the Subpostmaster before orming part of his or her branch account. As on the circumstances in which such ransaction data can be edited or deleted without the consent of the Subpostmaster: (1) Neither Post Office nor Fujitsu has the ability to log on remotely to a Horizon terminal in a branch so as to conduct transactions.		RW – understand 11 to apply to 10(i), not (ii) or (iii). We can talk about it in all three categories, but different. JC – is there a log of such actions and how did the permission control work? 11.10 – what are the specific authorisation requirements (Defence 57(3) – sounds like a transaction put in to change data)? 11.11 – how many occasions? 11.12 did any of the above have the potential to affect the claimants 11.20 – how did FJ go about tracing these effects/how did they ID bug in first place w/o amending transactions? RW – 11 refers back to 10, 10 doesn't refer to bugs. 11.30 – what is the process? 11.32 – how are these BTs readily identifiable? 11.40 – JC - I have seen a statement that PO has "never consented" to the use of this. AP – if you want to go down this route, need to properly plead your case on fraud. AP – a statement by PO after the event is not a governance question. JC – I need to ask that in a different way.

	(2) A Post Office employee with "global	
	user" authorisation can, when	11.16 – a log of issues in Richard Rolls where the cause
	physically present at a branch, use a	of the discrepancy could not be determined. Did FJ
	terminal within the branch to add a	make changes to Horizon on those particular
	transaction into the branch's accounts.	questions? AP – we need to understand what Richard
	The purpose of "Global User"	told you.
	authorization is to allow access to the	
	systems for during training and/or	JC – a separate log/source of data (excel spreadsheet
	audits. Any transactions effected by a	called issues where we can't determine).
	Global User are recorded against a	
	Global User ID and are readily	Do FJ have a record of the branches where the branch
	identifiable as such.	was told to stop using the equipment when remote
		access was used?
	(3) Fujitsu (and not Post Office) has the	
	ability to inject transactions into branch	11.71 JC – as I understand it, branch account needs to
	accounts (since the introduction of	be static when change being made
	Horizon Online in 2010, transactions of	
	this sort have been called "Balancing	
	Transactions"). These transactions do	
	not involve any removal or amendment	
	of the transactions entered at the	
	branch. Their intended purpose is to	
	allow Fujitsu to correct errors or bugs in	
	Horizon by cancelling the effect of an	
	error or bug on a branch's data. They	
	may be conducted only by a small	
	number of specialists at Fujitsu and	
	only in accordance with specific	
	authorisation requirements. They are	
	rarely used. To the best of Post Office's	
	information and belief, only one	
	Balancing Transaction has ever been	
	made so as to affect a branch's	
	transaction data, and this was not in a	
	branch operated by a Claimant. A	
	Balancing Transaction is readily	
	identifiable as such.	
	(4) There are a small number of Fujitsu	
	specialists who have certain privileged	
	user access rights which they could in	
	theory use to amend or delete the	
	transaction data for a branch. The	
	intended purpose of privileged user	

			rights is system support, not the		
			alteration of branch transaction data.		
			To have abused those rights so as to		
			alter branch transaction data and		
			conceal that this has happened would		
			be an extraordinarily difficult thing to		
			do, involving complex steps (including		
			the writing of sophisticated computer		
			programmes and circumvention of		
			sophisticated control measures) which		
			would require months of planning and		
			an exceptional level of technical		
			expertise. Post Office has never		
			consented to the use of privileged user		
			rights to alter branch data and, to the		
			best of its information and belief, these		
			rights have never been used for this		
			purpose.		
			(5) Post Office cannot conceive of a reason		
			why any Fujitsu personnel would have		
			sought to add, inject, amend or delete		
			any transactions in any branch accounts		
			so as to create a false shortfall. It would		
			for all practical purposes be impossible		
			for any of them to generate significant		
			shortfalls without detection and, even		
			if they were able to do so, they would		
			be unable to take the benefit of such		
			shortfalls for themselves.		
12	If the Defendant and/or Fujitsu did have such	•	48. As to paragraph 21:	Issue 12 appears to be a factual issue	12.10 Get the one BT
12	ability, how often was that used, if at all?		40. As to paragraph 21:	rather than an expert issue.	12.10 Get tile tile bi
	ability, now often was that used, if at all:		(3) Paragraph 21.3 bundles together	lattier than an expert issue.	RW – feels like a factual question.
	[GPOC §§21.3, 23, 25; Defence §§48(3)(c),		several different concepts and uses		NW – Teels like a factual question.
	[GFOC 9921.3, 23, 25, Defence 9946(5)(c),		language that is open to different		JH – we have agreed it.
	3/1		meanings and/or misleading. However:		JH – We have agreed it.
			meanings and/or misleading. nowever:		Number of KELs that might help us (e.g.) – makes
			(c) It is denied that Fujitsu has		
			implemented fixes that have		reference to something that can be done.
			· · · · · · · · · · · · · · · · · · ·		AP – KELs in general (8k) – what are we going to do
			affected the reliability of		
			accounting balances, statements or		with those? Going to review and pull out relevant
			reports.		ones. ID shortfall, then split them into buckets.
			FT Carlabaura		Identify Peaks referred to and see what they relate to.
			57 . See above		Once you start delving into them, can't get through

					relatively quickly (nightmare is abbreviations; a look up table will accelerate the process)
13	To what extent did use of any such facility have the potential to affect the reliability of Branches' accounting positions?				JC - if FJ can show us what they do re BT, we can inject one into the model office. Make enquiries.
	[GPOC §§21.3, 23, 25; Defence §§48(3)(c), 57]				
14	How (if at all) does the Horizon system and its functionality: a. enable Subpostmasters to compare the stock and cash in a branch against the stock and cash in dicated on Horizon? b. enable or require Subpostmasters to decide how to deal with, dispute, accept or make good an alleged discrepancy by (i) providing his or her own personal funds or (ii) settling centrally? c. record and reflect the consequence of raising a dispute on an alleged discrepancy, on Horizon Branch account data and, in particular: i. does raising a dispute with the Helpline cause a block to be placed on the value of an alleged shortfall; and ii. is that recorded on the Horizon system as a debt due to Post Office? d. enable Subpostmasters to produce (i) Cash Account before 2005 and (ii) Branch Trading Statement after 2005? e. enable or require Subpostmasters to continue to trade if they did not complete a Branch Trading Statement; and, if so, on what basis and with what consequences on the Horizon	Reply 17. As to the Defendant's case as to the balancing process and branch trading periods at paragraph 42: 17.1. the Defendant admits that a purpose of the balancing process (paragraphs 19.1 of the GPOC and 43(1) of the Defence) was to 'ensure the early identification and correction of any errors and defaults relating to the transactions and/or to the cash and stock field in the branches for which the Subpostmasters are responsible'; 17.2. the Defendant admits that the requirement to perform a balancing process was initially weekly, but was changed in 2005 to 'Post Office specified periods of 4 or 5 weeks' (Defence, paragraph 43(1)); 21. As to paragraph 12, 39, 40, 45 and 46 of the Defence in respect of Transaction Corrections issued by the Defendant and affecting branch accounts:	Branch Trading Statements, making good and disputing shortfalls 42. As to the first sentence of paragraph 19, it is denied that the matters addressed in paragraphs 19.1 to 19.3 "accentuated the importance of the accuracy of Horizon". Paragraph 19 addresses requirements whose purpose is to ensure the proper discharge of the Subpostmaster's contractual and common law duties to account to Post Office for the transactions they entered into on its behalf and for the cash and stock it entrusted to their care. Such requirements are to the mutual benefit of Subpostmasters and Post Office in that (amongst other things) they ensure the early identification and correction of any errors and defaults relating to the transactions carried out and/or to the cash and stock held in the branches for which the Subpostmasters are responsible. 43. These requirements are as follows: (1) Subpostmasters are required to perform a regular "balancing process", which involves counting all stock and cash at their branches, comparing it with the cash and stock indicated on Horizon and producing (and	Issue 14 appears to be a set of factual questions, with possible expert commentary on the answers. Therefore, two expert reports may not be the best way to address it. GPOC 21 raises a number of factual issues concerning what actually happened over several years, rather than what was documented in some Horizon manuals. Several sub-paras of 21 seem to depend on individual claimants and are therefore out of scope for the Horizon trial. Similarly, Defence 43 is largely about factual history of business processes outside Horizon.	AP – (if at all) present because POL says it doesn't do some of those things. 14.10 Is there a stock transaction/movement report (or similar?). 14.20 – examples of one-sided transactions – not clear if SPMR had evidence or if SS found them somewhere? AP - SS had a theory that it happened, but could never evidence it. JH – PO didn't say it doesn't happen ; AP – obviously, RW explained that it does earlier. JC – one of the first KELs talks about banking transactions in E26 (inconsistent state where bank has half). DO1 = a reversal fail. RW – high likelihood – errors for the guy at the till. RW – bank agrees to £50 being paid out, transaction doesn't go through, JH – complicating factor. £50 withdrawal, transaction fails, they are given the £50 – should the SPMR have given out the £50. Branch JC – difference between evidence
	system?	offering a "choice" to Claimants whether to accept a Transaction	confirming) an account of the transactions undertaken since the last		JH – good example of complexity; a number of ways to get to shortfall.
	[Defence §§42-46; Reply §§17.1-17.2, 21]	Correction, and in particular the Defendant's pleading at paragraph	balancing process and of the cash and stock held. Initially, Subpostmasters		AP – could sit down and postulate 1000s of

39(4) that "A Transaction
Correction notification sent by Post
Office to a branch is a proposal, not
an instruction, and it does not take
effect unless accepted by the
Subpostmaster concerned" and that
"[o]n receiving a Transaction
Correction. the Subpostmaster can
either accept the correction or
dispute it" (and similar pleading at
paragraph 12) is misleading and
denied;

- 21.2. in fact, Horizon operated such that Claimants were required to accept Transaction Corrections and there was no option within Horizon to dispute an alleged or apparent shortfall (as admitted at Defence paragraph 46(1));
- 21.3. Transaction Corrections were not proposals, rather the Defendant instructed Claimants in the Branch Trading Manual that Transaction Corrections were 'necessary when branch transaction data does not align with client or supplier data ... Transaction Corrections are basically electronic Error Notices informing you of transactions that have been carried out incorrectly on the Horizon Online™ system and not been corrected' and 'they must be processed before the last stock unit in a branch balances, otherwise Branch Trading Period rollover cannot take place';
- 21.4, the option to `settle centrally' in respect of amounts over £150 (Defence paragraph 39(5)) was not known about by all Claimants, but

- were required to do this weekly, but since 2005, they have been required to do so at the end of each "Branch Trading Period" (Post Office-specified periods of 4 or 5 weeks, of which there are 12 in the year and which, for convenience, are referred to herein as "trading periods").
- (2) Where this process discloses a shortfall and the Subpostmaster accepts liability for the shortfall, he or she is required to make it good (1) by providing his or her own personal funds to the branch or (2) if the amount involved is £150 or more, by settling it centrally. This election is made on the Horizon terminal in branch. By "settling centrally", a separate entry is added to the branch accounts which offsets the value of the shortfall, thereby bringing the derived cash figure on Horizon in line with the actual cash on hand figure. The amount of the shortfall is transferred to the Subpostmaster's personal account with Post Office. Arrangements can then be made to pay off the shortfall.
- (3) Where the Subpostmaster disputes liability for the shortfall, he or she is required to raise a dispute by calling the Helpline and in the meantime (if the amount involved is less than £150) to provide it from his or her own funds pending resolution of the dispute or (if the amount is £150 or more) to settle it centrally, thereby bringing the branch accounts into balance. Raising a dispute causes a block to be placed on the value of the shortfall that has been transferred to the Subpostmaster's personal account with Post Office. The blocked value is not (and is not treated

possibilities; only ones that go to a peak. A peak and a fix is made. JC-for me it is where they go to peaks ultimately.

14 B, C and D – questions of fact – ask the questions.

14 E 14.90 – can they continue to trade?

14.91 - how long for?

14.92 can you submit a branch trading statement?

CE - answers likely to be in the operating manual

for the avoidance of any doubt, in any event the effect of this (on the Defendant's own case) was to incur an immediate liability to the Defendant:

- 21.5. the limited option available to Claimants was to contact the Helpline to raise a dispute. This operation of the Helpline and advice provided was inadequate and ineffective for the reasons pleaded at GPOC and further herein, and the requirement for Transaction Corrections to be accepted as at paragraph 21.2 and 21.3 above applied even in cases where a dispute was raised, such that:
- (a) Claimants were in any event required to accept Transaction Corrections with an immediate effect on their accounts which they in fact disputed; and
- (b) the Defendant thereby operated a system which required Claimants to sign Branch Trading Statements when they could not or did not agree such statements as correct;
- 21.6. the Claimants rely on the Defendant's description at Defence paragraph 39 as to how Transaction Corrections are generated (including specifically at subparagraph (1) that "Post Office checks Horizon transaction data (i.e. data as keyed in to branch terminals by branch staff) against data taken from separate sources"),

- as) a debt due to Post Office.
- (4) These processes are addressed in pages 92 99 of the Branch Trading Manual. The same processes are followed where the Subpostmaster accepts or disputes a net gain, with the relevant transactions being the removal of cash from the branch or the creation of a credit on the Subpostmaster's personal account with Post Office.
- (5) Having followed these processes, Subpostmasters are required to produce and sign a statement setting out the quantities and values of the various receipt and payment transactions that have been carried out in the branch during the relevant period and the cash and stock held in the branch at the end of the trading period (called a "Cash Account" until 2005 and a "Branch Trading Statement" from 2005). Branch Trading Statements contain the following statement by the Subpostmaster: "I confirm that the content of this balancing and trading statement is an accurate reflection of the cash and stock on hand at this branch".
- (6) A branch cannot enter (or "roll over" into) a new trading period without the Subpostmaster declaring to Post Office the completion of the Branch Trading Statement as aforesaid. However, although Subpostmasters are required to produce Branch Trading Statements at the end of each trading period, if they do not do this, their branches can continue to trade within the previous trading period (although Post Office does not allow them to do so indefinitely).

and the instructions in the Branch Trading Manual at paragraph 21.3 above as evidence that the Defendant did not consider or take into account the possibility that Horizon transaction data was affected by bugs, errors or remote alteration;

21.7. paragraph 40(1) is denied for reasons aforesaid. Further, when there was an alleged or apparent shortfall, some Claimants were advised by Helpline operators that if Horizon was showing a loss, they were required to make it good/pay it immediately;

21.8. without prejudice to above, it is admitted that the Defendant's current practice is generally to provide specific contact details of an individual employee (Defence paragraphs 39(3), 39(6), 40(2) and 46(4)), but denied this was previously the Defendant's practice, and in any event the Claimants will aver that where persons were identified they were frequently not available and/or could or did not deal adequately with the particular queries raised and/or did not do so prior to the obligation on Claimants to rollover into the next Branch Trading Period;

21.9. in all or most cases, it is denied that the Defendant provided adequate information or evidence as to the reason for the correction so as to enable Claimants to carry out their own investigations into Transaction

Branch Trading Statements

44. As to paragraph 19.1, subject to paragraph 43 above:

- (1) The first and second sentences are admitted.
- (2) The third and fourth sentences are denied. Paragraph 43(1) above is repeated as regards the comparison between the derived figures for cash and stock shown on Horizon and the actual cash and stock as counted by the Subpostmaster; paragraphs 43(2) and 43(3) above are repeated as regards bringing Horizon's figures into balance with the cash and stock as counted; and paragraph 43(6) above is repeated as regards the ability to continue trading without entering a new trading period.

Making good

45. Paragraph 19.2 appears to be intended to allege that, whenever there is a shortfall between Horizon's figures and the cash and stock counted by the Subpostmaster: (1) unless some special arrangement is made, the Subpostmaster is required to make good the difference; and (2) if he or she does so by settling centrally, the amount of the shortfall is treated as a debt due to Post Office. These allegations are specifically denied. As explained in paragraph 43 above, Post Office's procedures provide Subpostmasters with the opportunity to dispute liability for shortfalls.

Disputing shortfalls

46. As to paragraph 19.3:

()	rract	IONC	raised	١.

- 21.10. the Defendant's response to the Claimants' RFI to identify material changes to the process in relation to the issuing of Transaction Corrections and process of disputing them is vague and inadequate (for example in not identifying the change in practice in the identification of a named contact, which is repeatedly relied on in the Defence) such that the Claimants are unable to identify what material changes have been made and when;
- 21.11, the Defendant's account of the process of investigation and escalation at paragraph 46(4) of the Defence is hopelessly vague and the Defendant's response to the Claimant's RFI of this paragraph only obscures the Defendant's case further. The Defendant is put to strict proof of the process in fact adopted and material changes to it, and the scope and adequacy of the investigation and communication with Claimants. The Claimants will in any event aver that any such processes were inadequate, insufficiently timely, and insufficiently communicated to them and/or did not work in practice, including because of the requirement by the Defendant for Claimants to sign Branch Trading Statements and/or accept Transaction Corrections and/or move into the next trading period in order to continue trading and/or because the Defendant's approach was substantially to require

- (1) It is admitted that there is no "option within Horizon" to dispute a shortfall, in the sense that the process of raising and resolving a dispute does not take place through the Horizon system. The process for disputing a shortfall requires the dispute to be lodged by calling the Helpline.
- (2) It is denied that Subpostmasters are unable to carry out effective investigations into the disputed amounts. So is the allegation that there were unspecified "limitations" on Subpostmasters' ability to access, identify and reconcile transactions in Horizon and that Horizon had no "adequate report-writing feature". As indicated in paragraph 38(2) above, Horizon provides Subpostmasters with tools for searching, checking and reviewing the transactions undertaken in the branches for which they are responsible.
- (3) There are provisions in Post Office's Operating Manual as to the process for disputing discrepancies (see, for example, page 34 of the Branch Trading Manual) and it is denied that these provisions give insufficient guidance regarding that process. In any event, the process involves calling the Helpline and, if further guidance is needed, it is available directly from the Helpline.
- (4) As to the last sentence of paragraph 19.3, it is denied that Post Office fails to carry out any, or any fair or adequate investigations into disputed amounts. Where a shortfall is disputed then the Claimants' first point of contact would be with the Helpline. In the case of a Transaction Correction, the dispute

		Claimants to prove why the	would first be raised with the individual		
		Transaction Correction ought not to	within Post Office who issued the		
		be applied in circumstances where	Transaction Correction notification and		
		Claimants had limited access to	then (if necessary) with the Helpline.		
		data and reports as aforesaid.	Disputes are generally resolved at this		
			stage, by Post Office and the		
			Subpostmaster reaching a common		
			understanding of the position. But if		
			this does not happen, the dispute can		
			be escalated. The steps in the		
			escalation process, and the Post Office		
			teams involved, have changed over		
			time and the specific escalation route		
			can differ depending on the nature of		
			the issue raised. However, in broad		
			terms these would include:		
			(a) After it is raised with the Helpline,		
			the issue would generally be		
			escalated to more experienced and		
			senior personnel within the		
			Helpline (or the team issuing the		
			disputed Transaction Correction)		
			for further investigation.		
			(b) If not resolved, the matter would		
			be referred to a senior person in a		
			Post Office team responsible for		
			investigating branch matters,		
			which is currently the Support		
			Service Resolution Team. This team		
			undertakes a further investigation		
			into the disputed amount, seeks to		
			identify the reason for it arising		
			and communicates with the		
			Subpostmaster concerned.		
15	How did Horizon process and/or record	Reply 21. See above	12. Post Office denies that Claimants could		Input (there is a gap)
	Transaction Corrections?		not effectively investigate losses in their		
			branches. Subpostmasters had access to	The technical issue of how Horizon	How do TCs enter the system and how do they
	[Defence §§12, 39-40, 45-46; Reply §21]		line by line data on the transactions they	processes transaction corrections is	influence a branches' accounts.
			undertook. Moreover, they had access to	embedded in a matrix of facts about	
			training, operations manuals, helplines and	business processes (and how they	JC – caught elsewhere?
			in-branch support if they wanted. Post	actually operated), as pleaded at	
			Office also undertook its own accounting	Defence 39.	JH – practical and commercial reality = 100+ people

reconciliations, where possible matching a		crunching data.
Subpostmaster's records against other	It would be useful if the experts	Continuing data.
records provided by third parties, and then	could start with an agreed set of	15.20 - In order for H to process a TC, what
notifying Subpostmasters of discrepancies	such facts, rather than dig them out	information is entered into it?
found and allowing them to choose	individually.	
whether to accept or dispute those		JH – bigger point – SPMR the only data they get is
discrepancies.		from Horizon. They have other info (minds, safe,
		paperwork). Should there be more channels of data
Transaction Corrections		that link into reconciliation piece.
39. Paragraph 18 refers to transaction		JH – a TC must be accepted by the end of the month.
corrections. One of the safeguards against		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
errors by Subpostmasters (or their staff is a		JH – volume is roughly 12k per month, 10,000s per
process by which Post Office proposes		months. AP – this is why it is for another trial.
corrections to a branch's accounts		,
("Transaction Corrections"). These are		JC – would like to see origins of TC
typically generated in the following way:		
		JC – user error will explain the vast majority of cases,
(1) Post Office checks Horizon transaction		should be able to get rid of 99% of shortfalls this way
data (i.e. data as keyed into branch		
terminals by branch staff against data		JH - to what extent does inability to investigate X, Y
taken from separate sources. For		and Z affect strength of opinion?
example, Post Office client banks		
provide their own records of		
transactions carried out in Post Office		
branches, which are transmitted		
directly from the chip and pin devices		
used in branches to the banks and Post		
Office compares these to the		
transaction data on Horizon.		
(2) Where there is a discrepancy between		
the two sets of data, Post Office		
reviews the available data with a view		
to determining whether the branch		
staff have probably made an error that		
requires correction (and it may contact		
the relevant Subpostmaster for further		
information to assist in that		
determination). Where this is the case,		
Post Office will generate a Transaction		
Correction notification which is sent to		
the relevant branch via Horizon. For		
example, where a cheque deposit into a		

	bank account is keyed in on Horizon as	
	a £100 credit but the true amount of	
	the cheque is £90, a Transaction	
	Correction with a value of £10 debit is	
	generated.	
	0	
	(3) A Transaction Correction notification	
	includes (i) a description of the	
	transaction to be corrected, (ii) the	
	contact details of an employee of Post	
	Office who will provide further detail if	
	• • • • • • • • • • • • • • • • • • • •	
	required, (iii) typically, the outline	
	reason for or nature of the correction,	
	and (iv) sometimes, evidence	
	substantiating the proposed correction.	
	(4) A Transaction Correction notification	
	sent by Post Office to a branch is a	
	proposal, not an instruction, and it does	
	not take effect unless accepted by the	
	Subpostmaster concerned. On receiving	
	a Transaction Correction notification,	
	the Subpostmaster can either accept	
	the correction or dispute it.	
	(5) On the Horizon screen, there are two	
	ways for a Subpostmaster to accept a	
	Transaction Correction. He or she may	
	"accept" the Transaction Correction:	
	this immediately increases or decreases	
	the cash or stock position (as	
	appropriate) in the branch's accounts	
	as recorded on Horizon. Alternatively, if	
	the amount of the Transaction	
	Correction is £150 or more, he or she	
	may "settle it centrally": this causes the	
	amount of the Transaction Correction	
	to be transferred to his or her personal	
	account with Post Office. Unless a	
	dispute is lodged with Post Office (see	
	below), he or she thereby accepts the	
	validity of the Transaction Correction	
	and Post Office will in due course pay	
	or collect the relevant amount to or	
1		

	from the Subpostmaster. This process is addressed in page 30 of the operating manual entitled "Branch Trading: balancing and dispatch of documents" ("Branch Trading Manual"). (6) If the Subpostmaster wishes to query or dispute the Transaction Correction, he	
	or she should contact the person identified in the Transaction Correction notification.	
	(7) This process is identified at page 34 of the Branch Trading Manual. If, having discussed the matter and reviewed any further information provided by the person identified, the Subpostmaster wishes to dispute the proposed Transaction Correction, he or she should accept it or settle it centrally and then lodge a dispute with the Post Office by contacting the Helpline. Where it is settled centrally, the amount of the Transaction Correction is transferred to the Subpostmaster's personal account with Post Office and a block is placed of the amount transferred to the personal account whilst the dispute is resolved.	
	40 . As to paragraph 18:	
	(1) The first sentence is denied. Post Office does not require that a Transaction Correction be accepted unless proven. by the Subpostmaster not to be correct.	
	(2) Save for the reference to "limited" reports (which is denied as indicated in paragraph 38 above), the second sentence is admitted. However:	
	(a) every Transaction Correction	

	comes with contact details for a person at Post Office who can provide more information and a Subpostmaster can in any event contact the Helpline referred to below to obtain more
	information; (b) depending on the subject matter of the Transaction Correction, the Subpostmaster may hold corresponding paper records in his or her branch which he or she
	can and should check; and (c) not all Transaction Corrections require further information (for example, a Transaction Correction could be generated for a missing cheque and the cheque might be found in the branch).
Mak	king good
to all between stock unless the State of by sea short Offic denic Post Subp	Paragraph 19.2 appears to be intended lege that, whenever there is a shortfall ween Horizon's figures and the cash and k counted by the Subpostmaster: (1) ss some special arrangement is made, Subpostmaster is required to make good difference; and (2) if he or she does so ettling centrally, the amount of the tfall is treated as a debt due to Post ce. These allegations are specifically ed. As explained in paragraph 43 above, Office's procedures provide postmasters with the opportunity to ute liability for shortfalls.
Dispu	uting shortfalls
46 . A	As to paragraph 19.3:
(1)	It is admitted that there is no "option

	within Horizon" to dispute a shortfall, in the sense that the process of raising and resolving a dispute does not take place through the Horizon system. The process for disputing a shortfall requires the dispute to be lodged by calling the Helpline. (2) It is denied that Subpostmasters are unable to carry out effective investigations into the disputed amounts. So is the allegation that there were unspecified "limitations" on Subpostmasters' ability to access, identify and reconcile transactions in Horizon and that Horizon had no "adequate report-writing feature". As	
	 indicated in paragraph 38(2) above, Horizon provides Subpostmasters with tools for searching, checking and reviewing the transactions undertaken in the branches for which they are responsible. (3) There are provisions in Post Office's Operating Manual as to the process for disputing discrepancies (see, for example, page 34 of the Branch Trading Manual) and it is denied that these provisions give insufficient guidance regarding that process. In any event, 	
	the process involves calling the Helpline and, if further guidance is needed, it is available directly from the Helpline. (4) As to the last sentence of paragraph 19.3, it is denied that Post Office fails to carry out any, or any fair or adequate investigations into disputed amounts. Where a shortfall is disputed then the Claimants' first point of contact would be with the Helpline. In the case of a Transaction Correction, the dispute would first be raised with the individual	

	within Post Office who issued the	
	Transaction Correction notification and	
	then (if necessary) with the Helpline.	
	Disputes are generally resolved at this	
	stage, by Post Office and the	
	Subpostmaster reaching a common	
	understanding of the position. But if	
	this does not happen, the dispute can	
	be escalated. The steps in the	
	escalation process, and the Post Office	
	teams involved, have changed over	
	time and the specific escalation route	
	can differ depending on the nature of	
	the issue raised. However, in broad	
	terms these would include:	
	terms these would melade.	
	(c) After it is raised with the Helpline,	
	the issue would generally be	
	escalated to more experienced and	
	senior personnel within the	
	Helpline (or the team issuing the	
	disputed Transaction Correction)	
	for further investigation.	
	If not resolved, the matter would be	
	referred to a senior person in a Post Office	
	team responsible for investigating branch	
	matters, which is currently the Support	
	Service Resolution Team. This team	
	undertakes a further investigation into the	
	disputed amount, seeks to identify the	
	reason for it arising and communicates with	
	the Subpostmaster concerned.	
•	·	