# Claim Nos. HQ16XO1238, HQ17X02637 & HQ17X04248

## IN THE HIGH COURT OF JUSTICE

## QUEEN'S BENCH DIVISION

The Post Office Group Litigation

MR JUSTICE FRASER

BETWEEN:

# **ALAN BATES & OTHERS**

**Claimants** 

- and -

## POST OFFICE LIMITED

**Defendant** 

NOTE ON POTENTIAL APPEAL OF HORIZON JUDGMENT HANDED DOWN IN DRAFT ON 28 NOVEMBER 2019 (with updated Appendix sent on 3 December 2019 and Part M on 6 December 2019)

- 1. In a Note dated 16 September 2019, Simon Henderson set out the likely approach of the Courts to an application for permission to appeal the Horizon Judgment, and some preliminary thoughts about the sorts of challenges which any potential appeal might face. We will take that Note as read (although for convenience, we repeat in this Note some extracts from that Note and some summaries of its conclusions).
- 2. This Note was drafted principally by Simon Henderson. Owain Draper has reviewed it and his comments are incorporated in this draft. Tony de Garr Robinson QC has also read it but he is still in the process of reading the Judgment and so cannot add his name to the Note. However, on his current knowledge of the Judgment, he has asked that it be made clear that there is nothing in this Note with which he disagrees.
- 3. The Horizon Judgment has now been issued in draft and is due to be formally handed down on 16 December 2019.

- 4. The one positive finding is that the current Horizon system, referred to as HNG-A, is recognised to be "relatively robust" and the Judge, while highly critical of previous versions of Horizon, appears to accept that the problems are historical rather than current. Other than that, Post Office has lost on virtually every point.
- 5. At the time of writing we are still waiting for Section M of the Judgment the "Final Section" to be sent by the Judge. We understand this is due to be sent by the Judge on 6 December. It is anticipated that this Section will set out the Judge's overall conclusions on the Horizon Issues. It is therefore of considerable importance and any decision on whether to seek permission to appeal should not, in our view, be made until that Section has been sent and considered. The parts of the draft judgment that we have received to date do not address all the Horizon Issues. Please note that Section M has now been received and is considered in a post script to this Note: in summary it has not altered the views set out in this Note.
- 6. Post Office now wishes to consider whether there are any grounds for appeal.

# The Legal Tests for Permission to Appeal

- 7. The test for granting permission to appeal (for first appeals) is set out in CPR 52.6:
  - (1) Except where rule 52.7 applies, permission to appeal may be given only where—
    - (a) the court considers that the appeal would have a real prospect of success; or
    - (b) there is some other compelling reason for the appeal to be heard.
  - (2) An order giving permission under this rule or under rule 52.7 may—
    - (a) limit the issues to be heard; and
    - (b) be made subject to conditions.
  - (Rule 3.1(3) also provides that the court may make an order subject to conditions.)
  - (Rule 25.15 provides for the court to order security for costs of an appeal.)
- 8. In the vast majority of cases, the focus is on 52.6(1)(a) i.e. whether the appeal has a real prospect of success. It is difficult to envisage circumstances in this case where the Court of

Appeal could be persuaded that there was "some other compelling reason" for the appeal to be heard.

- 9. Meeting the real prospect of success test on an appeal against findings of fact will be difficult since the appeal court will need to be satisfied that the findings were either unsupported by the evidence before the judge or that the decision on the facts was one that no reasonable judge could have reached (The Mayor and Burgesses of the Haringey LBC v Ahmed & Ahmed [2017] EWCA Civ 1861).
- 10. As explained in the previous Note, the Court of Appeal has made it clear that appeals on questions of fact from the TCC will only be heard very exceptionally. The position is summarised in the White Book at 52.3.13. We refer to the TCC line of cases mentioned in the previous Note and in particular to the observations of Coulson LJ in Wheeldon Brothers Waste Ltd v Millennium Insurance Company Ltd [2019] 4 WLR 56. Coulson LJ was, of course, the Judge who recently turned down Post Office's application to appeal the Common Issues Judgment and who earlier turned down the application for permission to appeal the recusal decision. He is likely to be the Judge to whom any application for permission to appeal from the Horizon Judgment would be made.
- 11. We note that in paragraph 72 of the Horizon Judgment, the Judge observes that while the case is not being tried in the TCC, it readily could have been. This reinforces our view that the Court of Appeal is likely to apply the TCC approach to this case. It may be that the Judge had this point in mind when he made the observation.
- 12. The position in law is, in summary, as follows:
  - (1) It is always much more difficult to appeal facts than law;
  - (2) As noted above, in order to succeed on an appeal of fact, the appellant needs to show that the judge's finding was unsupported by the evidence before the judge or that the decision was one that no reasonable judge could have reached. That said, the judge should give reasons for the decision and should explain the basis for rejecting contradictory evidence;

- (3) The Judge is entitled to reach conclusions on the credibility of individual witnesses. The Court of Appeal will almost never interfere with such conclusions. To the extent that the Judge's conclusions are based on such findings, they are extremely difficult to appeal;
- (4) Equally, the Judge is entitled to weigh up the respective credibilities of the expert witnesses and to reject any part of such evidence that he does not find credible. Again, this is very difficult to challenge;
- (5) Where conclusions of fact involve not only findings of primary fact based on the credibility or reliability of witnesses but also an assessment of different factors which have to be weighed against each other and involve an overall evaluation of the facts, there is even greater reluctance to allow appeals;
- (6) If a judge draws inferences from the primary findings of fact, it can sometimes be easier to appeal that inference than the underlying findings of fact. Equally, however, inferences can sometimes be so interlocked with findings of primary facts and evaluative assessments as to be inseparable from them;
- (7) There is a strong preference, which is product of both practicality and policy, that complicated and technical matters should be examined judicially only once;
- (8) All of these factors are typically present in complex TCC cases. Although in theory the same tests apply, the practical reality is that it is more difficult to get permission to appeal in technically complex cases than in other cases.
- 13. These points are amplified in the earlier Note.
- 14. Some preliminary observations on the Judgment itself:
  - (1) There is virtually no contested law in the Horizon Judgment. By "contested", we mean arguments of law on which the parties made competing submissions. There are a few authorities referred to in the Judgment, but these generally go to the proper approach

to be taken to various matters. Those authorities are not controversial in themselves, and it is only if they have been misapplied that any prospect of appeal arises. We do not think there is mileage in any such argument;

- (2) It follows that any potential appeal is in effect an appeal either on a primary finding of fact or on inferences drawn from primary findings of fact;
- (3) In many cases, the Judge's conclusions on the witnesses are, in our view, one-sided and hard to credit. But it would be virtually impossible to appeal a conclusion on the credibility of a witness or the usefulness of his or her evidence;
- (4) Similarly, we think there is no prospect of the Court of Appeal interfering with the Judge's views of Dr Worden's evidence or his finding Mr Coyne to be a more impressive and impartial expert;
- (5) It will be difficult to criticise the Judge for not spelling out every aspect of the evidence which he has considered. In paragraph 73, the Judge says that simply because he does not refer specifically to a particular submission or piece of evidence, it should not be thought that he has not had regard to it, and that he has considered all material "multiple times". He also refers (in paragraph 74) to the guidelines in Simetra Global Assets Ltd v Ikon Finance Ltd [2019] EWCA Civ 1413 and for the need for: succinctness; evidence that care has been taken (although not that every point needs to be dealt with expressly); the advantage of using a "building blocks" approach which marshals the evidence and gives sufficient reasons; and the need to deal with apparently compelling evidence which is contrary to the conclusion he proposes to reach and to explain why he does not accept it. The Judge seems to have had in mind a potential challenge for a failure to deal with evidence or argument, and he has sought to defend his approach in advance.

## Possible Grounds of Appeal

- 15. It follows from the above that there are huge tracts of this Judgment where, given the nature of the case and the guidelines summarised above (and dealt with more thoroughly in the earlier Note) an appeal would not have a realistic prospect of success.
- 16. There are, however, four areas where we think it might be worth considering the possibility of an appeal:
  - (1) The Judge's apparent failure to take into account concessions made by Mr Coyne in cross-examination ("Potential Ground 1");
  - (2) The Judge's conclusion that Legacy Horizon was "not remotely robust" and that there are questions about the robustness of Horizon Online at least up until 2017 (e.g. Appendix/431) ("Potential Ground 2");
  - (3) The Judge's apparent failure to take into account concessions made by Mr Roll in cross-examination ("Potential Ground 3");
  - (4) The Judge's treatment of the claimant-specific witnesses ("Potential Ground 4").

## Potential Grounds 1 and 2

- 17. There is overlap between these two Potential Grounds so that it is useful to deal with them together.
- 18. The Judge concludes in paragraph 889 that Mr Coyne "emerged more or less unscathed from his four days of cross-examination". To anyone who was present in Court for those four days, that is an extraordinary statement. The general feeling within the legal team was that significant progress was made and that Mr Coyne emerged as having a clear agenda, namely that he had attempted to find as many faults as he could with Horizon and had made little or no attempt to put forward a balanced account. More importantly, he made clear and important concessions as to the robustness of Horizon over its lifetime.
- 19. Despite the enormous length of the Judgment, there are important areas where the Judge deals lightly, or not at all, with relevant material. The cross-examination of Mr Coyne is a strong example: the questions asked and the answers given are hardly touched upon, even as to the general thrust of the cross-examination and the oral evidence that Mr Coyne gave.

This is in stark contrast to the systematic approach taken to Dr Worden's evidence (and to many other witnesses).

- 20. That contrast in itself is unlikely to be a fruitful ground of appeal. It is likely to be said that:
  - (1) The Judge made it clear that the cross examination of Mr Coyne did not impress him, so that it is not necessary to deal with the points put in any detail, particularly since much of the effort went (so it will be said) to attempting to demonstrate lack of objectivity on Mr Coyne's part;
  - (2) While the Judge did not deal point-by-point with the points put to Mr Coyne, his views on the relative merits of Mr Coyne's evidence compared to Dr Worden's are clear from the overall treatment of the expert evidence;
  - (3) In any event, the Court does not have to deal with every single point, and the Judge made it clear that he had considered all of the evidence.
- 21. Although we remain of the view that it is unsatisfactory for the Judge not to have dealt thoroughly with the points put to Mr Coyne in cross-examination, for the reasons outlined above we think it unlikely that the Court of Appeal would be prepared to criticise the Judge on this point taken in isolation. Accordingly, we think that Potential Ground 1 is unlikely to succeed unless paired with Potential Ground 2.
- 22. However, the Judge's conclusion on the robustness of the Horizon system merits consideration in this context, and this brings us to Potential Ground 2.
  - (1) Section B of the Judgment is called "The Horizon Issues". The Judge spends some time describing the parties' slightly different approaches to the definition of "robustness". He concludes in paragraph 53 that, as Post Office had submitted, "there is not a great or material difference in the definitions of robustness adopted by the parties' experts". He makes a finding about what robustness is in paragraph 54:

Robustness is indeed an engineering concept. It means the ability of any system to withstand or overcome adverse conditions. A robust system is strong and effective in all or most conditions. The robustness of a system is the effectiveness of the system in managing the risks of imperfections

(which are inevitable in any system) and their consequences; this is the same meaning as how robustness was described in the Post Office's written submissions dated 18 July 19. Robustness does not mean perfection.

# (2) Importantly, in paragraph 56 he states:

I find that both experts correctly understood what robustness in fact means, and applied the definition at [54] above in considering their expert evidence. I will return to the expert evidence in some detail later in the judgment, including in the Technical Appendix.

- (3) In paragraph 747 the Judge records that both experts agree that the current version of Horizon is robust. In paragraph 748 the Judge records that "robustness is an important aspect of the Horizon Issues" and that there has been, over time, an increase in the robustness of Horizon so that "in earlier times, Horizon was less robust, or not as robust as it is now".
- 23. This is all uncontroversial. However, what the Judge does not consider is the cross-examination of Mr Coyne in relation to robustness and the important concessions which he made and which were set out in detail in Post Office's Closing Submissions.
- 24. We set out as an Appendix to this Note two extracts taken from Post Office's Written Closing Submissions.
- 25. "Extract 1" sets out paragraphs 374 to 385 of Post Office's Closing Submissions which contain a summary of Mr Coyne's oral evidence on robustness. There is a reference in paragraph 384 to the evidence of Fujitsu's working practices which is dealt with in paragraph 340 et seq of the Closing Submissions. That is set out in "Extract 2".
- 26. We recommend that the reader reads both extracts in full.
- 27. What these extracts demonstrate is Mr Coyne's acceptance that Horizon was robust throughout its life, although less robust during certain initial periods i.e. when Horizon was first introduced and when Horizon Online was first introduced. The extracts also

- demonstrate Mr Coyne's view that Fujitsu ran what is referred to as "a tight ship" and that conclusion had contributed to his changing view on the robustness of Horizon.
- 28. The Judge does not consider these parts of Mr Coyne's evidence. Instead, principally in the Appendix to the Judgment, he goes through each of the bugs identified in what was referred to as the bug table and concludes that 27 of them were indeed bugs (although one he says was an error or defect not a bug). Of those 27, 12 affected Horizon Online and the other 15 affected Legacy Horizon.
- 29. Based on this analysis, the Judge concludes in paragraph 431 that:
  - (1) Horizon Online was "not remotely robust"
  - (2) HNG-X was "a little<sup>1</sup> more robust than Legacy Horizon, but still had a significant number of bugs [so that] [i]ts robustness was ...questionable"
  - (3) HNG-A is "far more robust than either of the previous two iterations of the system...[and that] [t] he experts are agreed that this is robust"
- 30. These are not conclusions shared by Mr Coyne (or, for that matter, Dr Worden). It follows that the Judge has departed from the evidence of the experts in this important respect without either acknowledging that fact or explaining the basis for his departure.
- 31. It will not be realistically possible to challenge the Judge's findings on the individual bugs. Many of his conclusions seem to flow from his separate finding that even those bugs which were transient in nature and which were picked up by some countermeasure must go into the mix when determining the robustness of the Horizon system. That separate conclusion would be very difficult to challenge.
- 32. We suspect that many IT professionals would be very surprised to learn that 27 bugs in almost 20 years of a system operating is sufficient to bring the robustness of the system into question. Nonetheless, if that represented Mr Coyne's view, then it would be difficult to challenge the Judge's acceptance of it. Note also paragraph 677 of the main Judgment and

<sup>&</sup>lt;sup>1</sup> Note that the words "a little" appear in the revised Appendix sent to the parties on 3 December. The previous version stated that HNG-X "appears to be more robust than Legacy Horizon"

- the conclusion that even the number of bugs said to have been accepted by Post Office -21 is "a significant total".
- 33. What can perhaps be challenged, however, is the Judge's inference from his findings of primary fact to the conclusion that Legacy Horizon (and perhaps HNG-X) was not robust in circumstances where that inference is not explained and not consistent with either side's expert evidence. After all, the Judge's views on the bug table effectively coincide with Mr Coyne's own but Mr Coyne does not infer from such views that Legacy Horizon was not robust. The Judge does not provide any objective yard stick or measure that allows him to conclude that any given number (or severity) of bugs is inconsistent with robustness.
- 34. In paragraph 931 the Judge refers to the need, in the light of the <u>Simetra Global Assets</u> case, to deal with apparently compelling evidence which is contrary to the conclusion he intends to reach. One of those conclusions is that set out in the previous paragraph, namely that Legacy Horizon was not robust. He seeks to get around this in paragraph 932 by saying that "there is no such evidence advanced by the Post Office".
- 35. That is a fairly remarkable conclusion. It is not one which seems to have been shared by Mr Coyne (see extracts referred to above). We consider that, at the very least, the Judge should have explained why he rejected Mr Coyne's evidence on this issue. It might have been quite difficult for the Judge to have done so. Given that he appears to have accepted nearly everything that Mr Coyne said, in particular in relation to individual bugs, it is far from clear how he feels able to put an entirely different gloss on that evidence. As noted above, the Judge provides no standard against which he can assess robustness based on a given number of bugs.
- 36. We have tried to predict how the other side and/or the Court of Appeal would seek to answer these points. We suspect that the purported answer may say something along the following line: (1) It is a matter for the Judge alone to make findings about the underlying facts of the bugs. (2) He has done so and there is no realistic challenge to those findings. (3) It was then a matter for him to determine the robustness of the system. (4) In arriving at a conclusion about that, he had an advantage to him that Mr Coyne did not have, namely that he had heard

from the witnesses of fact, in particular the Fujitsu witnesses (including Mr Roll) and had generally formed a dim view of Fujitsu's procedures and, in some cases, candour. (5) He also knows that there are many more KELs than were made available to Mr Coyne. (6) In any event, it is not simply a question of choosing one expert's view over the others. The Horizon Issues were for the Court to determine. The question of robustness was central to those issues and the Judge's conclusions on robustness are inextricably linked with his findings of complex facts and assessments as to witnesses' credibility. (7) To substitute a different conclusion on the question of Horizon's robustness is effectively to circumvent the Judge's findings on all these matters; and any conclusion that Horizon has been robust throughout its lifetime flies in the face of the Judge's general conclusions about individual bugs and the processes adopted by Fujitsu. (8) The Judge made it clear (see paragraph 928) that whichever approach to the evidence is adopted "all roads lead to Rome" i.e. that the factual documentary evidence and that of the witnesses who gave oral evidence, all lead to the same conclusions.

- 37. We also suspect that, if an application for permission to appeal on this basis is made before the Judge, he will dismiss the application and put forward some further explanation for his approach. That may present an additional hurdle to overcome.
- 38. Candidly, given the appellate history of this matter to date, on balance we would expect the counter-arguments set out above to prevail. That does not mean that we think they should.
- 39. In our view, there is a reasonably arguable case to be made that the Judge misdirected himself in arriving at his conclusions on robustness and/or reached a conclusion which no reasonable judge could have reached. If that were to be established, it is possible that the Court of Appeal would substitute its own findings and that in future breach trials the Court would be forced to start from the position that Horizon was robust and therefore very unlikely to be the cause of shortfalls. That would of course be a significant advantage to Post Office.

## Potential Ground 3

- 40. The Judge is obviously entitled to reach his own view as to the credibility of all witnesses, including Mr Roll, and Post Office itself accepted, in its Closing Submissions, that Mr Roll's oral evidence was careful and precise. However, the Judge appears to have paid little or no heed to the progress that was made in the cross-examination of Mr Roll or even the content of certain important answers that he gave. Post Office's ultimate conclusion was not that Mr Roll was wrong but that his oral evidence presented a picture which was far removed from the impression created by his witness statements (see, e.g., paragraph 84 of Post Office's Written Closing Submissions). In summary, the impression left by Mr Roll's oral evidence was of a situation which was much less concerning than his witness statements suggested There is a long section in Post Office's Written Closing Submissions (paragraphs 81 to 134) that provides many examples of this.
- 41. In considering, and accepting, Mr Roll's evidence, the Judge appears not to have considered this oral evidence, or these submissions, at all. The Judge appears to accept a version of Mr Roll's evidence which is much closer to the version contained in the witness statements, notwithstanding that he moved very substantially away from that evidence at trial.
- 42. We consider the Judge's approach here to be very unsatisfactory. Ultimately, however, we do not consider that this ground of appeal would succeed, both because of the general reluctance to allow appeals which undermine a Judge's findings on fact or in relation to the credibility of witnesses and because:
  - (1) The Judge's conclusions about Mr Roll are wrapped up with his conclusions about other witnesses, in particular Mr Parker, and it will be very difficult to unravel all that. This is particularly so given that Mr Roll was asked to agree with Mr Parker's evidence (and often did) in circumstances where the Judge concluded that Mr Parker was not a reliable witness. The Judge having disbelieved Mr Parker, he was perhaps entitled to attach little weight to Mr Roll's willingness to agree with his ex-colleague.
  - (2) On balance, we think that the Judge has done just about enough to satisfy the Court of Appeal that his approach to Mr Roll's evidence was adequate. He felt able to reach very general conclusions that did not require him to engage with the more specific

points addressed in oral evidence. On this see in particular paragraph 180 of the Judgment:

Notwithstanding the limitations on his evidence due to the passage of time, I found Mr Roll to be a reliable and helpful witness. I also found his evidence to be very important. The Post Office set out to demonstrate that he did not have the expertise that he claimed to have: that he was at too low a level in 3<sup>rd</sup> line support to have been involved in the matters which he described, certainly so far as software issues were concerned; and that Mr Parker's evidence in particularly about what he had been doing should be preferred. On those two former points the Post Office failed, in my judgment. The success or failure of the latter point also, but not exclusively, depended upon the evidence of Mr Parker. After Mr Parker was cross-examined, it was clear to me that Mr Parker's exercises put to Mr Roll could not be relied upon to demonstrate what they sought to demonstrate. I prefer the evidence of Mr Roll to that of Mr Parker and the other Fujitsu witnesses (with the exception of Mr Godeseth) by some considerable margin. I find that during the years when Mr Roll worked at Fujitsu, 2001 to December 2004, SSC were not infrequently involved in attempting to remedy unexplained shortfalls and discrepancies in branch accounts reported by SPMs. If they were unable to find the cause of the discrepancy then the assumption would be made that it must be the SPM to blame. I will return to this subject when I have dealt with the bug table. and my findings on the number of bugs present in the system.

## Potential Ground 4

- 43. The way in which the claimant-specific evidence is dealt with is open to criticism. Although the Judge states in paragraph 921 that the evidence of fact submitted by both parties was "limited as expected and required", it is arguable that the Judge: (i) fails properly to address the point that there was no permission for claimant-specific witness evidence and Post Office's submission that it would be unfair to make findings but (ii) nevertheless goes on to make such findings and in each and every case in the Claimants' favour.
- 44. In doing so the Judge does not grapple at all with the inconsistencies between the written and oral evidence given by the Claimants' witnesses; and nor does he deal in any appropriate way with the ARQ data and the fact that, unless that data is wrong, it disproved much of what the witnesses said.

45. In light of (i) the general guidelines relating to TCC cases and (ii) the experience in the Common Issues Judgment, however, we think any such argument is unlikely to succeed. It will be said that Post Office chose to challenge the evidence put forward, that it had information available to it which the claimants had not seen and could not be expected to respond to in detail and that by, in some cases, questioning the honesty of the witnesses, the Court was duty-bound to deal with matters so that the issue of integrity would not be left hanging. We think it is very unsatisfactory that the Judge did not deal at all with the strong evidence provided by the ARQ data, but we expect he would escape criticism for this because of his (unfair) statements to the effect that such evidence was not advanced fully and fairly in Post Office's evidence at trial. Challenging that characterisation of the procedural background and content of the trial on appeal would be almost impossible, notwithstanding that it is entirely unfair, for reasons that we do not have to set out here.

## Conclusion

- 46. It needs to be recognised that any appeal against the Horizon Judgment is challenging. Given the Court of Appeal's approach to appeals generally, and appeals from technical cases specifically, that would have been the case even absent the appeals history of the proceedings. The fact that Post Office has made two attempts to appeal first, against the Judge's Order (re recusal) and secondly against the Common Issues Judgment should not in theory make matters any more difficult, but in practice there must be a likelihood that any application will come before Coulson LJ again and it would be unrealistic to suppose, in light of his two decisions so far, that he would start from a position of sympathy for Post Office. Given this background, we regret to say that we would have a concern that Coulson LJ might not approach a further application with an entirely open mind.
- 47. For all these reasons, we think if an attempt to appeal is made, the grounds should be drawn as narrowly as possible. We have identified four potential candidates. Of these four, ultimately we think only Potential Ground 2 has any realistic prospect of success (carrying with it much of the content from Potential Ground 1). For the reasons identified above, and given the history of this case, we think Post Office is probably unlikely to be given

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permission to appeal even in respect of this Potential Ground, but on a fair and objective

reading of the applicable law, we consider that Post Office has a reasonably arguable case

here and that it would be appropriate for permission to appeal to be granted.

48. Obviously, there are wider commercial and tactical considerations to be taken into account

here. Post Office may take the view that given (1) Coulson LJ's emphatic dismissal of Post

Office's application to appeal the Common Issues Judgment and (2) the challenges of

appealing given the nature of the Horizon Issues, it may be better to be seen to be taking a

less aggressive line in relation to the Horizon Issues Judgment. One advantage of such an

approach may be that if and when any further appeal becomes necessary (e.g. in relation to

the Further Issues Trial) Post Office can claim to have responded appropriately to criticism

from the Court and to be taking a measured and moderate line. By contrast, Post Office may

take the view that it is better not to give up on arguable points and to press its case robustly

(making clear to the Claimants that there is still a fight to be won), and that the best way to

do that is to have an application for permission to appeal outstanding.

49. Finally, as noted above, an important part of the Judgment which we anticipate will contain

the Judge's overall conclusions about the Horizon Issues, is yet to be received. This is

potentially an important part of the Judgment, and Post Office's final decision as to whether

an application for permission to appeal is made should, in our view, not be made until this

part of the Judgment has been considered.

Simon Henderson

**Owain Draper** 

5 December 2019

Post Script

50. We noted above that when this Note was produced, an important final section of the

Judgment – Part M – had still not been sent by the Judge and that any final decision on

whether to appeal should not be made until that section had been sent and considered.

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51. Part M was finally sent by the Judge on 6 December 2019 and it sets out, in reasonably concise form, the Judge's answers to the Horizon Issues. We do not think it raises any new possible grounds of appeal – although it does again point to the fact that the Judge appears not to have had any, or any full, regard to the cross examination of Mr Coyne so that there is nothing in Part M which, as it were, cures the overall Judgment of the potential criticism that we identified in our Note as Potential Ground 2. Accordingly, Part M does not alter the views expressed above.

52. On costs, again the view (which was set out in Owain's email dated 5/12/19 @ 17:40) is unchanged. If anything, the fact that the Judge appears to portray the matters agreed as of marginal importance compared to the substantive disputed issues, means that the argument for a reduction to reflect agreed issues is perhaps fractionally less likely to succeed, but the change is very slight and really one of impression.

Simon Henderson Owain Draper 9 December 2019

#### Extract 1

latching onto any material that appears, however superficially, to be making any kind of criticism of Horizon.

372. It is true that, in computing terms, Horizon is relatively old. It is possible that that means that some hardware may be nearing end-of-life and doubtless that could cause cost and inconvenience. However, the fact that software is old does not mean that it starts to suffer from more bugs. On the contrary, the experts consider that the system has become more robust over time, including because bugs have been detected and eradicated.

Mr Coyne's written evidence on robustness

373. Post Office set out in its written opening submissions that Mr Coyne's written evidence on robustness was confusing and, in some respects, seemingly inconsistent: see paras 98-99.<sup>513</sup> His oral evidence was much clearer.

Mr Coyne's oral evidence on robustness

- 374. In response to cross-examination, Mr Coyne readily went much further than anything he had been prepared to set out in his reports. There were three important respects in which his oral evidence was strongly in favour of Horizon, departing substantially from the impression generated by his reports:
  - 374.1 He unpacked the high degree of reliability that was inherent in his conclusion that Horizon was robust relative to comparable systems.
  - 374.2 He clarified that his view was that Horizon had been robust at all times during its service life, contrary to the impression that might have been taken from his reports.
  - 374.3 He explained that his conclusions in favour of Horizon's robustness were informed by the positive impression that he had formed of Fujitsu's working practices in supporting the system, having obtained more evidence of this through his extensive review of contemporaneous documents (principally, his analysis of Peaks). This again was contrary to the impression that might have been taken from his reports.

<sup>&</sup>lt;sup>513</sup> {A/2/38}.

- 375. On the <u>first</u> of these points the high degree of reliability inherent in a robust system it is important to recall that Mr Coyne benchmarked Horizon against industry standards and comparable systems.
- 376. Mr Coyne initially did not wish to be drawn as to where he would place Horizon in terms of a quartile of comparable systems, but his use of the term "relatively robust" necessarily means that it is in the top half. Mr Coyne ultimately accepted the suggestion that "it is towards the 10 end rather than the 0 end" of the spectrum of comparable systems. To much the same effect, he said that Horizon "compares well" to such systems, and he agreed that the sense in which he used the adverb "relatively" was "in comparison to others", i.e. in the same way that a runner that is "relatively fast" is faster than most people with whom he runs. 516"
- 377. Mr Coyne was careful to select appropriate comparators:
  - Q. And these are systems where there are large numbers of users?
  - A. Yes.
  - Q. And a great complexity in the transactions being performed?
  - A. Yes.
  - Q. And these are systems which have measures and controls to achieve robustness?
  - A. That aim to achieve robustness, yes.
  - Q. Could you just define which sectors you are talking about as being comparable for the purposes of your judgment?
  - A. So point of sale systems, something where a transaction is taking place over the counter, is certainly comparable. Banking has elements of it, where automated payments are being transferred to different organisations, so that is certainly comparable as well. Stock control, things like that.
  - Q. And you are talking about large businesses with lots of users and lots of complexity, yes?
  - A. Yes, at a similar scale to what is seen in Horizon. 517

<sup>&</sup>lt;sup>514</sup> {Day14/44:6} to {Day14/44:8}.

<sup>&</sup>lt;sup>515</sup> {Day14/43:8} to {Day14/43:16}.

<sup>&</sup>lt;sup>516</sup> {Day14/43:8} to {Day14/43:16}.

<sup>&</sup>lt;sup>517</sup> {Day14/44:20} to {Day14/45:15}.

- 378. Mr Coyne's comparators were retail and banking systems of comparable scale and complexity to Horizon. He agreed that businesses that operate these systems can only afford a tiny proportion of errors:
  - Q. Okay, across both. But the kind of businesses you are talking about, banking, retail, those are private sector?
  - A. Yes.
  - Q. Those sorts of systems have quite exacting requirements of robustness, don't they?
  - A. Yes.
  - Q. No system can be perfect, everyone agrees that, but the large and complex businesses that use these sorts of systems, they don't have much tolerance for widespread errors in data entry, processing or storage, do they?
  - A. No, that is right. They certainly strive to remove that wherever possible.
  - Q. Given the number of transactions and the importance of handling and accounting those transactions properly, those businesses require the overwhelming majority of their transactions to be handled and accounted for properly, don't they?
  - A. They do indeed, yes.
  - Q. They can only afford for a tiny proportion to suffer from lasting errors, yes?
  - A. Yes. 518
- 379. Mr Coyne clarified later that the risk tolerance would be "a fraction of a percentage". 519
- 380. He accepted that, in a system with this degree of robustness, the vast majority of transactions will work successfully, even in adverse conditions:
  - Q. So when you say the Horizon system is relatively robust, you are saying that in the overwhelming majority of cases where conditions are both normal and adverse it works reliably, yes?
  - A. Yes, the vast majority of all the transactions that flow through the Horizon system will work successfully.

<sup>&</sup>lt;sup>518</sup> {Day14/56:22} to {Day14/57:18}.

<sup>&</sup>lt;sup>519</sup> {Day14/81:15} to {Day14/81:18}; {Day14/149:1} to {Day14/149:8}. As Dr Worden identified in his first report (relying on a "*Horizon Architecture Overview*" from 2006), Post Office and Fujitsu were acutely aware of the need for accuracy in the system, given the huge volume of transactions and small margins on those transactions: Worden 1/227-228 {D3/1/64}.

- Q. And although there are occasions when it doesn't, those represent only a tiny proportion of the work that it does, correct?
- A. Yes, it will be a small fraction of the work that it does, yes.
- Q. Even within that tiny proportion, a large majority of the problems thrown up are picked up and corrected by the various systems in place that are designed to do precisely that?
- A. Certainly many of the ones that go wrong for one reason or another appear to be picked up. There are examples where they don't appear to have been picked up and examples which appear to have an impact.
- Q. That is a very important opinion, isn't it, in the context of this case?
- A. Yes.
- Q. For the purposes of this trial?
- A. Yes. 520
- 381. It is unfortunate that none of these important points was set out in Mr Coyne's reports. He allowed himself to give the impression that his conclusion as to Horizon's robustness was nothing like as significant as it in fact is. That is certainly what Cs took from his evidence, as was apparent from their opening submissions and the attempt to side-line the experts' agreed position on robustness.
- 382. On the <u>second</u> point set out above that Horizon was relatively robust throughout its service life Mr Coyne gave clear oral evidence.
- 383. Mr Coyne clarified that he did not think there was any period in which Horizon was <u>not</u> robust, simply that there were periods of time following Horizon's original introduction and then the introduction of Horizon Online when it was less robust than it was at other times. Mr Coyne's view on the overall robustness of Horizon over time was as follows:
  - Q. So both Horizon Online and Legacy Horizon have been robust for most of their lives but there were initial periods where they were less robust?
  - A. Yes.

 $<sup>^{520}</sup>$  {Day14/58:17} to {Day14/59:15}.

Q. In relation to those initial periods -- and do correct me if I'm wrong -- you are not saying they definitely weren't robust during that period, you are simply saying they were materially less robust, is that right?

A. Yes. 521

- 384. On the <u>third</u> point identified above the impression formed by Mr Coyne of Fujitsu's working practices the oral evidence here was striking as much for its clarity and for its absence from Mr Coyne's reports and contributions to the Joint Statements. This has been addressed in detail at paras 340 *et seq* above.
- 385. It is most unsatisfactory that these matters were not explained more clearly in Mr Coyne's reports, the more so since Mr Coyne provided detailed corrections and amendments to his second report, not only picking up typographical errors but also making some substantive changes. He also had the opportunity to clarify his position in the Joint Statements (by agreeing with more of Dr Worden's views).

# F8. The importance of countermeasures and the concept of a lasting financial impact

- 386. A reader of the expert reports might have gained the impression that there was a fundamental disagreement between Dr Worden and Mr Coyne as to the importance of countermeasures in addressing the Horizon Issues. The Court may recall a somewhat sterile question as to which of the acronyms used by Dr Worden to refer to various countermeasures were industry standard. There has been, at least in Cs' submissions, a concerted attempt to downplay the importance of countermeasures.
- 387. The real position, as appeared from Mr Coyne's oral evidence, was that each of the experts in fact considered countermeasures to be essential to any meaningful consideration of Horizon Issues 1, 3, 4 and 6 (the last two of which focus specifically on various risks of error and the measures and controls that address those risks and errors).
- 388. It is notable that Dr Worden was not challenged substantially on the importance of countermeasures to his analysis.

<sup>&</sup>lt;sup>521</sup> {Day14/127:8} to {Day14/127:23}.

#### **Common ground in the Joint Statements**

389. There are several important agreed statements on countermeasures in JS3 (which post-dates the expert reports): see paras 3.11-3.13<sup>522</sup>, 3.18, 3.20, 3.22<sup>523</sup> and 6.1.<sup>524</sup>

#### Common ground that emerged at trial - countermeasures are central to the analysis

- 390. Mr Coyne agreed that a consideration of countermeasures was essential to the issues:
  - Q. Very well, I understand. But you will then at least agree with me this far: that in asking you to give your opinion on the issues we have read, what you're being asked to do is to advise the court on the extent to which problems had happened -- or problems were likely to happen in relation to any given situation, the extent to which those problems were likely to have been caught by countermeasures in that situation, and the overall question of the extent to which Horizon is robust and extremely likely to be the cause of a shortfall in that given situation. Would you agree with that?
  - A. I don't believe countermeasures were asked in the questions, but broadly with what you say, yes –
  - Q. When I say countermeasures, you can take me as saying controls and measures if you want –
  - A. Okay.
  - Q. Subject to that correction, you would agree that that was the essential question being raised in the four issues that I read to you?
  - A. I believe they were the questions that were asked and I believe that in providing my reports I seek to address those. I have answered those. <sup>525</sup>

• • •

- Q. Mr Coyne, didn't one of the Horizon Issues specifically ask you to consider whether controls and measures in Horizon reduced certain problems to an extremely low level of risk?
- A. It certainly -- yes, it did.
- Q. And I think we have established, it has taken an hour to do this, I think we have already established that when making an overall judgment of robustness you both consider how the system operates and then consider how the countermeasures designed into the system also operate?

 $<sup>522 \{</sup>D1/4/4\}.$ 

<sup>&</sup>lt;sup>523</sup> {D1/4/5}.

 $<sup>^{524}</sup>$  {D1/4/9}. Mr Coyne's entry at para. 6.2 is impossible to reconcile with his oral evidence as to the quality of the SSC's investigations.

<sup>&</sup>lt;sup>525</sup> {Day14/16:24} to {Day14/17:20}.

#### Extract 2

and OCRs.<sup>470</sup> There is no reason for Mr Coyne not to have raised the point even after JS4, in a spirit of collaboration with Dr Worden.

334. Standing back from the detail, Mr Coyne conducted substantial further work on matters that he considered important to the Horizon Issues, identifying various documents that he considered material to his opinions, and he decided not to share the results of that work with Dr Worden and, instead, to keep it back for deployment in response to cross-examination. That approach is inconsistent with the principles identified in **ICI v Merit** and, more generally, the proper discharge of an expert's duties under the CPR.

#### F6. Fujitsu's support role and its importance to the Horizon Issues

335. Fujitsu built the Horizon system. The system was, from the outset, designed to ensure a very high degree of data integrity. It could hardly be otherwise given that it was always intended to handle vast amounts of important data. It was and remains a very expensive system to build and operate, and Dr Worden observed that Fujitsu had ample budget for its Post Office operations.<sup>471</sup>

336. In addition to building the system, Fujitsu has supported, monitored and upgraded Horizon throughout its life. The Court will have noticed how many of the same names appear over and again in the Peaks to which the experts and witnesses were referred trial – Anne Chambers and Pat Carroll, for example. It is common ground between the experts that these are experienced and highly-skilled workers. They had the benefit of working on the same system for years, even in some cases from its inception.

# Horizon as a "tightly run ship"

337. Dr Worden formed a strong favourable impression of both the design of Horizon and Fujitsu's working practices in supporting the system in operation. He reached the view that Horizon was a "tightly-run ship" based on, amongst other things, the high quality of its technical documentation, design, review and testing and the "high quality and

<sup>&</sup>lt;sup>470</sup> {Day16/14:11} to {Day16/15:4}. See the references to OCPs and OCRs at {D1/5/5-7}.

<sup>&</sup>lt;sup>471</sup> {Day18/106:23} to {Day18/107:5}.

- effectiveness of problem analysis and problem solving shown in KELs and Peaks". He recorded this at para. 3.23 of JS3.<sup>472</sup>
- 338. By the time of JS3 (1 March 2019), both experts had conducted extensive reviews of KELs and Peaks, documents that provide ample evidence of how the SSC identified, investigated and resolved bugs and other issues. Each of the experts had by the time of JS3 produced a supplemental report, in Mr Coyne's case running to 273 pages.
- 339. Mr Coyne made in JS3 no positive comment on any of the aspects of Fujitsu's work that Dr Worden identified in the passage quoted above. He also made no substantial positive comment in his supplemental report. The Court may well have formed the view that Mr Coyne did not agree with Dr Worden's assessment of Fujitsu's documentation and the quality of the system support that it provided, including through the analysis and problem solving evidenced in the KELs and Peaks.
- 340. The true position was that Mr Coyne largely shared Dr Worden's assessment of Fujitsu. But this emerged only at trial. There were three important points on which Mr Coyne agreed with Dr Worden. These are set out below. In summary, Mr Coyne agreed that:
  - 340.1 Fujitsu ran a good support operation.
  - 340.2 If a bug was detected in the system, it was highly likely to be recorded in a KEL.
  - 340.3 Peaks and KELs provide a good source of information in relation to bugs.
- 341. These important revelations should not have been revelations at all. They were points that Mr Coyne should have set out fairly in his reports, or at the very least agreed in the Joint Statements. Each of them merits separate consideration.
  - (1) Fujitsu ran a good support operation
- 342. In JS1, Mr Coyne expressed the view that Horizon was <u>not</u> a robust system.<sup>473</sup> That was on 4 September 2018. By the time of his first report, dated 16 October 2018, Mr Coyne's

<sup>&</sup>lt;sup>472</sup> {D1/4/5}.

<sup>&</sup>lt;sup>473</sup> {D1/1/9}.

view had changed – Horizon was "relatively robust" (a conclusion the significance of which was unpacked at trial: see para 374 et seq below)

- 343. Mr Coyne was asked what had caused him to change his mind (given that this was not set out in his first report). Mr Coyne was readily able to explain:
  - Q. What is it that was good about Horizon that caused you to change your mind and where do you describe that, where do you consider that in your first report?
  - A. What was helpful was to understand the support process in more detail to understand how things such as fault determination is done, albeit it is only an understanding of how it is done within Fujitsu, to understand that process more. So that was an improving position for me.
  - Q. I see. And your judgment on reviewing the PEAKs was that Fujitsu actually had quite a good support process, is that right?
  - A. Yes, I mean the support process that Fujitsu operate, and again this changes over time so it is very difficult to pick a point in time and understand what obligations they had, what roles and responsibilities they fulfilled, but certainly by the time they become aware that somebody believed there was a problem, so it hit SSC, the support centre, third line support, the process they had of determining whether there was a fault appears to be a reasonably good process... 475
- 344. In short, Mr Coyne had assessed the evidence of Fujitsu's support operations, including in identifying and addressing problems, and he had been impressed. That was of sufficient importance to cause Mr Coyne to change on his mind on robustness, notwithstanding all the negative points he had set out in JS1. It is regrettable that he did not think it appropriate to set this out in his written evidence. At trial, Mr Coyne gave clear and consistent answers to the effect that Fujitsu did its job well.
- 345. Mr Coyne accepted that the system of Peaks and KELs was thorough and well run:
  - Q. Thank you. Let's move on to a different subject. Perhaps I can deal with this quickly. I would like to talk about PEAKs and KELs. From what you said yesterday about your change of mind on robustness between the first joint statement and your first report, I imagine you would agree that the system of KELs and PEAKs that Fujitsu developed was quite a thorough system?

A. Yes.

<sup>&</sup>lt;sup>474</sup> Coyne 1/3.7 {D2/1/26}

<sup>&</sup>lt;sup>475</sup> {Day14/90:17} to {Day14/91:12}.

- Q. And that you formed the view that members of the SSC were very familiar with the Horizon system?
- A. Yes.
- Q. And they were very familiar with the PEAK and KEL system?
- A. Yes.
- Q. And with their training and experience and with using search facilities they were able to navigate that system quite well?
- A. Yes.
- Q. Notwithstanding the limitations that you have fairly identified. And that using search facilities they were often able to find PEAKs or KELs addressing similar problems to the ones that they were facing?
- A. Yes.
- Q. And would you agree that the PEAKs show, generally show, the thoroughness with which they generally worked?
- A. Yes.
- Q. And they tended to keep a written record of what they did step by step in PEAKs, didn't they?
- A. Yes.
- Q. It wasn't comprehensive, no one is suggesting it is comprehensive, but it's quite a process-driven process, one doesn't often see something significant happening that isn't somewhere recorded or alluded to in the PEAK during the different processing steps that are described as you go down the PEAK from the top.
- A. Yes.
- Q. So in the scheme of things, compared with other systems with which you are familiar, you would accept, wouldn't you, that this is actually quite a well organised, well run system?
- A. Certainly the way of recording the information in the PEAKs and KELs is a reasonably good system, yes. 476
- 346. A reader would have formed a contrary impression from Mr Coyne's criticism of KELs as a source of evidence in his second report, <sup>477</sup> along with the litany of "*limitations*" that

<sup>&</sup>lt;sup>476</sup> {Day15/91:7} to {Day15/92:24}.

<sup>&</sup>lt;sup>477</sup> Coyne 2/paras 3.2-3.4 {D2/4.1/12}.

he identified in the Peak system.<sup>478</sup> It would have been easy for Mr Coyne to make clear that the system was a good one, albeit with imperfections. He could and should have done so.

- 347. Mr Coyne accepted that Fujitsu was good at spotting when there was a problem in Horizon and in fixing it:
  - Q. So what you found when you read the PEAKs was that when a call got referred to the SSC, either because it is a subpostmaster call, or perhaps it might be automatic, it might be from the MSU because of a reconciliation issue, your view was that Fujitsu was quite good at spotting if there was a problem in Horizon, is that right?
  - A. Yes.
  - Q. And it was quite good at making sure that problem was fixed, yes?
  - A. Yes. 479
- 348. He also accepted that Fujitsu was also quite good at identifying the branches affected:
  - Q. Just to go back to my question. Fujitsu are quite good at identifying the branches that have been affected by those kind of bugs?
  - A. In the main, yes. 480
- 349. Mr Coyne inferred from what he saw in the documents that the information Fujitsu obtained about effects on branches was passed on to Post Office. He had seen only one Peak which suggested otherwise (and even that was actually about a situation where there was no loss to correct):<sup>481</sup>
  - Q. And you don't assume -- you don't infer, do you, that having identified those branches Fujitsu then keep that information to themselves? You infer that that information is passed onto Post Office don't you?
  - A. I think so. There is certainly one reference in a PEAK where it says I suggest we don't tell the branch about this, but I'm not sure whether that's we won't tell Post Office about it, it is more keeping it from the branch rather than Post Office –
  - Q. And that's the only PEAK of any kind that you have ever found of that sort, isn't it?

<sup>&</sup>lt;sup>478</sup> Coyne 2/para. 3.12 et seq {D2/4.1/14}.

<sup>&</sup>lt;sup>479</sup> {Day14/92:4} to {Day14/92:14}.

<sup>&</sup>lt;sup>480</sup> {Day14/93:12} to {Day14/93:15}.

<sup>&</sup>lt;sup>481</sup> See paras 771 et seg below.

- A. Yes, I believe so. 482
- 350. The Court will recall that the evidence of the factual witnesses was to the same effect.
  - (2) If a bug was detected in the system, it was likely to be recorded in a KEL
- 351. Mr Coyne accepted that once a bug is identified, a KEL will generally be produced and will address the first instance of that bug. 483 Further manifestations of that same bug might not be referred to in the KEL, unless the bug manifests in a slightly different way, in which case there will generally be an amendment to the KEL to explain the new issue. The KEL might also be updated with new information obtained about the bug. 484
  - (3) Peaks and KELs both provide a good source of information in relation to bugs.
- 352. Mr Coyne accepted that a KEL will generally indicate whether a bug had branch impact:
  - Q. Generally speaking then, if there is a KEL that addresses a bug that has a branch impact, generally it will tell you?
  - A. Generally speaking.
  - Q. On the vast majority of occasions, yes?
  - A. I'd prefer to stick with generally speaking. I don't know if it is the vast majority. 485
- 353. Dr Worden's evidence was to similar effect the general position is that branch effects will be identified in the KEL because the "*KEL is clear as to what happened*" and is a "*kind of distillation*" of the relevant information, with the Peak being a "*long-running diary*". 486
  - Conclusion on Fujitsu's support operation generally
- 354. It emerged only at trial that there was a good measure of common ground between the experts on the high quality of Fujitsu's support operation. That common ground provides important context to many of the Horizon Issues. It is inevitable that there will not be a

<sup>&</sup>lt;sup>482</sup> {Day14/94:10} to {Day14/94:21}.

<sup>&</sup>lt;sup>483</sup> {Day15/94:24} to {Day15/95:1}.

<sup>&</sup>lt;sup>484</sup> {Day15/95:19} to {Day15/96:8}.

<sup>&</sup>lt;sup>485</sup> {Day14/71:15} to {Day14/71:21}.

<sup>&</sup>lt;sup>486</sup> {Day20/11:17} to {Day20/11:20}.

perfect record of every step taken by the support team over the 19 years of Horizon's operation. It is therefore useful to know that the SSC could be relied upon to go about its work with skill and diligence. That is the thrust of the expert evidence as much as the factual evidence (see, in particular, the evidence of Messrs Parker and Roll).

#### F7. Robustness

355. There was, by the end of trial, a great deal of common ground between the experts as to (1) the importance of determining whether and to what extent Horizon is robust and (2) the answer to that important question. In short, it is possible and useful to measure robustness, and Horizon performs well against that measurement.

#### The central importance of robustness to the Horizon Issues

- 356. Horizon Issue 3 asks to what extent and in what respects Horizon is robust and extremely unlikely to be the cause of shortfalls in branches. It should not require argument to identify the central importance of that issue to the Horizon trial and these proceedings. The determination of Horizon Issue 3 is self-evidently central to the general likelihood of Horizon being responsible for any given shortfall in a branch account (although the facts of the individual case of course may tell one way or the other). Curiously, the point appears to be controversial between the parties, although not the experts.
- 357. In their Outline Allegations and opening submissions, Cs sought to undermine the importance of the question of robustness, placing the word robustness in "scare quotes" and calling into question whether the concept has any objective meaning outside of public relations exercises.
- 358. Horizon Issue 3 was agreed between the parties. It is in the Horizon Issues because it arises on the pleadings. Post Office pleaded that Horizon was robust, and that plea was denied.<sup>487</sup> It is in issue, even if Cs would perhaps now prefer that it was not.

 $<sup>^{487}</sup>$  Generic Reply and Defence to Counterclaim, para. 37 {C3/4/21}. Cs evidently now regret that pleading, as they have sought to argue that robustness was admitted all along: see Cs' written opening at para. 17.1, which is flatly untrue on the pleadings {A/1/9}.

359. Ultimately, the importance and utility of the concept of robustness was not at issue between the experts. The experts both say that robustness is (1) a mature area of IT practice and learning, (2) a key concept to be used in answering the Horizon Issues and (3) measured objectively, allowing benchmarking against an industry standard and suitable comparators. Cs attempt to side-line robustness finds no support from the experts.

(1) Robustness is a mature concept in IT and the subject of academic study

360. Cs' pleaded case is that robustness is "more commonly used in public relations than as an objective performance standard". As similar point was made in Cs' written opening submissions at para. 17.1, where it is said that "robustness" (in quotations) "has been one of Post Office's 'narrative boxes' and a favoured term in its public relations pronouncements".

361. That case is not supported by the experts:

361.1 In his first report, Dr Worden expressed the view that robustness "encompasses a large and mature area of modern IT practice", noting that there is a "large, mature and tested set of techniques for achieving robustness". 490

361.2 Mr Coyne agreed in his oral evidence that the concept of robustness is well-established in the IT industry, and is the subject of academic study.<sup>491</sup>

(2) Robustness is a key concept for answering the Horizon Issues

362. Dr Worden identified Horizon Issue 3 (robustness) as the most important, including because Horizon Issues 4 and 6 could be understood as "specific subsets" of issue that would affect the system's degree of robustness.<sup>492</sup>

<sup>&</sup>lt;sup>488</sup> Outline Allegations, para. 3.1 {C1/2/4}.

<sup>&</sup>lt;sup>489</sup> {A/1/9}.

<sup>&</sup>lt;sup>490</sup> Worden 1/48 {D3/1/11}

<sup>&</sup>lt;sup>491</sup> {Day14/31:19} to {Day14/32:1}.

<sup>&</sup>lt;sup>492</sup> Worden 1/48 {D3/1/1}.