

Coroner's Inquests into the London Bombings of 7 July 2005

Hearing transcripts - 7 February 2011 - Morning session

1 Monday, 7 February 2011

2 (11.00 am)

3 MR KEITH: Good morning, my Lady. Today, my Lady, we  
4 commence the evidence in relation to the generic  
5 response and, to that end, may I invite you to call  
6 Andrew Barr, please, of London Underground Limited?

7 MR ANDREW CRAWFORD BARR (sworn)

8 Questions by MR KEITH

9 MR KEITH: Good morning. Could you give the court your full  
10 name, please?

11 A. My name is Andrew Crawford Barr.

12 Q. Mr Barr, we know that you are employed by  
13 London Underground Limited -- which I am going to refer  
14 to as London Underground, if I may -- as the network  
15 coordination manager. In essence, what is that role?

16 A. My role is to manage the Network Control Centre, to look  
17 at the wider issues concerning incidents on the  
18 Underground, to also manage the customer service centre  
19 and to look at contingency and emergency planning on  
20 behalf of the Underground.

21 Q. Thank you. Mr Barr, may I commence in this way?

22 I think it would be remiss of me if I did not  
23 acknowledge, through you, the first Transport for London  
24 senior management witness, or London Underground senior  
25 witness, the outstanding courage and fortitude of those

1 members of the London Underground staff who, in their  
2 individual ways, responded to the attacks on 7 July.  
3 You've prepared for my Lady a statement in response  
4 to a number of issues that were outlined for you by the  
5 Inquest team. I don't propose to go through that  
6 statement line by line, but may I add my thanks to you  
7 for the thoroughness of that statement and the detail?  
8 I'd like to start with the main issue that the  
9 statement addresses, which is the Network Control  
10 Centre. It now has a different name, the Network  
11 Operational Centre, is that right?

12 A. Yes.

13 Q. In terms of what it does and the way in which it  
14 operates with the individual line Control Centres, does  
15 it have an overall command function? Is it responsible  
16 for the overall operation of the London Underground  
17 network?

18 A. The Network Operations Centre -- sorry, the Network  
19 Control Centre has the role of overseeing exactly what's  
20 going on on a line-by-line basis. However, the  
21 individual command and control for the management of the  
22 individual lines is vested within the lines. The role  
23 that the NCC takes is to ensure that incidents are  
24 managed properly and particularly to make sure that  
25 customer information is going out in a timely and

1 informative way to our customers.

2 Q. My Lady has received evidence from a number of  
3 witnesses, in particular the drivers of the respective  
4 carriages, the respective train sets, who spoke of how,  
5 in the immediate aftermath of the explosions, they  
6 attempted to contact their Line Control Centres.

7 Is the primary obligation on a member of the  
8 London Underground to contact always their  
9 Line Control Centre as opposed to the Network Control  
10 Centre in the event of an emergency?

11 A. That's correct. In fact, train operators do not have  
12 any means of contacting the NCC. It can only be done on  
13 the radio and, in the time when the incidents happened,  
14 the radio was direct linked to the Line Control setup.

15 Q. Are there certain circumstances over and above the usual  
16 issues that might confront the network on a day-to-day  
17 basis in which the Network Control Centre will take over  
18 operational command of the network?

19 A. There are four particular types of incident where the  
20 NCC does take control, and they are: if there is  
21 industrial action; if there is any major fire alert or  
22 incident on the Underground; if there is terrorism; or  
23 if there is flooding.

24 Now, what normally happens is that the lines  
25 themselves shall deem the downside of an incident, so

1 the stopping of trains, unless there is a pan-network  
2 system, in which case the NCC will issue certain  
3 instructions.

4 But the main function of the NCC is actually in the  
5 rerunning of train services to make sure that there is  
6 a coordinated response so that one line does not start  
7 in advance of another, because, with the numbers of  
8 people which we take on board, if the press say the  
9 Victoria Line is running and everyone suddenly descends  
10 on Victoria and King's Cross, then we have a situation  
11 which is clearly dangerous.

12 So the role of the NCC is to coordinate the restart  
13 but, as I said a few minutes ago, in the event of some  
14 particularly network-wide threat, then the NCC has the  
15 power to issue to particular instructions.

16 Q. The events of 7 July constituted a paradigm example of  
17 a situation --

18 A. Absolutely.

19 Q. -- in which the NCC -- the NOC now -- would take  
20 command?

21 A. Yes.

22 Q. The ability to take command is heavily influenced,  
23 though, is it not, by the information that the Network  
24 Control Centre would receive?

25 A. Yes, it is.

1 Q. May one also presume the effects of carrying out of  
2 whatever command decision it reaches is equally  
3 dependent on being able to communicate to the various  
4 parts of the network what the NCC has decided to do?

5 A. Yes, it is.

6 Q. So the flow of information goes both ways, does it not?

7 A. It has to be both ways and, in order to make a command  
8 decision, you have to be in possession of the cogent  
9 facts.

10 Q. We'll examine this issue in a little more detail in  
11 a moment, but would you agree, Mr Barr, that on the  
12 morning of 7 July, the flow of information to the NCC  
13 did not work as well as you might perhaps have expected?

14 A. Because of the nature of what was going on, the flow of  
15 information to the NCC was actually coming in from  
16 a myriad of sources, some of whom were primary, but  
17 others were what might be termed secondary -- for  
18 example, a station phoning in to say that their ticket  
19 equipment wasn't working -- and it was not as good as it  
20 should have been.

21 Q. Similarly, although the NCC issued under your authority,  
22 and that of, I think, Mr Dunmore, a Code Amber at around  
23 9.13 and also ordered subsequently evacuation of the  
24 whole network, many of the Line Control Centres  
25 themselves and many of the operatives working on the

1 network were not, in fact, made aware from the NCC of  
2 what actually was going on in the Underground system.  
3 A. The instruction to evacuate the Underground, the  
4 Code Amber, was transmitted to all of the line  
5 controllers. That was done on two means: one was using  
6 the telephone; but in some cases, where the telephone  
7 was occupied, was busy, it was also done on our computer  
8 system called Simlink, and Simlink has the capacity to  
9 transmit instantaneously to the Line Control Centres  
10 that instruction.  
11 It is then expected that the messages will be  
12 downloaded in a controlled way from the service control  
13 offices. It's important it's done in a controlled  
14 fashion, because we don't want people doing differential  
15 things.  
16 Q. I may have misled you in my question, or not perhaps  
17 phrased it as elegantly as I might have done, Mr Barr.  
18 I said: although you did issue a Code Amber, by  
19 implication then, in other areas information did not get  
20 disseminated back down to the operatives working on the  
21 ground, so to speak.  
22 A. May I ask, my Lady, can we define what "other areas"  
23 are, please?  
24 Q. Yes, let me put it another way. After the events of  
25 7 July, you instigated a chief operating officer's

1 review.

2 A. Yes, I did.

3 Q. One of the major complaints made known to you in the  
4 course of that review was that a great deal many members  
5 of staff in the London Underground were not aware or  
6 made aware from the NCC as to what was going on, and  
7 they felt that they might have been assisted in knowing  
8 what, ultimately, you realised, which was that there was  
9 a terrorist attack in the making and that there had been  
10 a number of explosions across the network?

11 A. Yes, that was the findings from the report.

12 Q. Thank you. Right. Taking a step back, then, to the  
13 obligations upon London Underground, could we look,  
14 please, at the extract from the London Underground  
15 Safety Case, section 17, which is at TFL607. Mr Barr,  
16 it will appear on the screen to your right.

17 A. Okay.

18 Q. This is the emergency planning incident response and  
19 incident investigation part of the London railway  
20 Safety Case, to which you'll see reference right at the  
21 bottom of the page. I know you're familiar with the  
22 document.

23 If we could go to page 4, exhibit 4, [TFL607-4] page 4 of the  
24 document, there is there an introduction which sets out  
25 the purpose, in essence, of the section, and it explains

1 the arrangements for emergency planning and the  
2 arrangements for incident response investigation, and  
3 makes the obvious point that these are designed to  
4 minimise risks associated with emergencies and  
5 incidents.

6 If we go over to page 6 [TFL607-6], please, of this document,  
7 you'll see there -- again, I know you're very familiar  
8 with this, Mr Barr -- the levels of emergency plan in  
9 the top third of the page, the London Underground  
10 Limited network plan, the line plans and local plans?

11 A. Yes.

12 Q. Quite properly, there are all number of contingencies  
13 envisaged and prepared for and managed, dealing with  
14 network, line and local level.

15 We are concerned, of course, primarily through you,  
16 with the network plan and, in this regard, could we go  
17 to page 7 [TFL607-7]? You'll see there the reference to incident  
18 response, and at 17.4, the second paragraph, you'll see  
19 a reference there to the rostered duty officer who acts  
20 as overall coordinator and liaises with managers from  
21 all affected organisations.

22 Could you tell us, please, something about how the  
23 assembly of information in the Network Control room is  
24 managed? Who takes responsibility for assessing the  
25 information that is coming in and then saying, "Right,

1 this is what we're going to do"?

2 A. The information comes in to duty managers and there are  
3 up to five or six of them, and they receive information  
4 from the lines and, indeed, from individual stations.

5 That then gets fed through and there is a central  
6 logging system which is kept by -- at that point, it was  
7 an individual written log, and the information is then  
8 fed into, in that time, myself, as the rostered duty  
9 officer, in order that we can make a simulation of  
10 exactly what the issues are and how to manage the  
11 particular incident. Then, in the light of any possible  
12 risks to anywhere else, to actually set out the response  
13 that we have.

14 You'll see in the paragraph after that it talks  
15 about the Emergency Response Unit, for example. They  
16 are called out by the NCC, and also at that time we had  
17 two other companies -- we had Tube Lines and we had  
18 Metronet -- to make sure that the engineering response  
19 is actually put in track to get that to actually work.  
20 But the essence is that the rostered duty officer  
21 collates the level of information.

22 Q. He or she is a senior member of the management team?

23 A. That's correct.

24 Q. In response to the Safety Case, London Underground  
25 prepared, did it not, and still prepares, its own

1 network emergency plan?

2 A. Yes, it does.

3 Q. Could we have [TFL634-2]?

4 There is a reference there, you will see, to the  
5 "plan custodian" and, halfway down the left-hand side of  
6 the page, we will see there that the particular version  
7 that was in force in June 2005 was, in fact, approved by  
8 you, as the network coordination manager.

9 A. That's correct.

10 Q. In essence, you had to approve this plan, and you no  
11 doubt worked on it throughout its drafting, to ensure  
12 that it met the statutory obligations imposed on  
13 London Underground Limited?

14 A. Yes.

15 Q. In particular, the railway Safety Case regulations.  
16 Whilst preparing this emergency plan, you no doubt  
17 had in mind the possibility of a terrorist attack  
18 occurring on the Underground?

19 A. Yes.

20 Q. In what way was such a possibility addressed? Were  
21 there table-top exercises as well as discussions to  
22 address the possibility of such an attack and how  
23 London Underground would respond?

24 A. Our previous experience over twenty plus years had been  
25 single-point attacks at various locations and, indeed,

1 we had actually had that. As part of the preparation,  
2 we had done individual table-tops that look at attacks  
3 on the Underground. I have to say that those were  
4 almost all single-point attacks.

5 Earlier --

6 Q. Could I pause there? Is there a particular significance  
7 in describing them as "single-point attacks"? Do you  
8 mean a multitude of attacks across the network at  
9 various single locations or a singular attack?

10 A. No, I mean singular attacks, because that's what our  
11 previous history had been, with the exception of 1991,  
12 which was the previous time when a network Code Amber  
13 had been issued.

14 Q. Was December 1991 the occasion on which Irish Republican  
15 elements attacked, I think, a number of depots on the  
16 London Underground system --

17 A. Yes, that's correct.

18 Q. -- and that resulted in the closure of the entire  
19 network?

20 A. Yes, that's right, but then we began, within the back  
21 end of 2004/2005, intermarried or interspersed with  
22 London Resilience Team, to look at the possibility of  
23 how we coped with multipoint attacks and, therefore, we  
24 were thinking about what the best way to do it was.  
25 Just before the attacks, we took part in a table-top

1 exercise which was called Atlantic Blue where the  
2 Underground participated with Metropolitan Police and  
3 various other agencies to look at that. As a result of  
4 that, we came back and started to -- I have -- had  
5 a planning team of about ten people, and we started to  
6 look at what the key issues were for this exact point.  
7 Regrettably, before we had a chance to put that in, then  
8 events overtook us.

9 Q. As part of your consideration of the possibility of  
10 multipoint attacks, a multitude of attacks on the  
11 system, there must have been some consideration to how  
12 such an attack would evidence itself to the NCC. In  
13 other words, what the hallmarks of such a terrorist  
14 attack might consist of.

15 Can you help her Ladyship with what sort of signs,  
16 in the course of your preparation for this possibility,  
17 you associated with the carrying out of a terrorist  
18 attack on a multitude of locations?

19 A. All of it would have been as a result of reports of  
20 actual devices that have gone off on trains.

21 Q. Why?

22 A. Because that's what our previous history has been.

23 Q. You will know, of course, perhaps better than anybody,  
24 Mr Barr, that on 7 July, because of the dislocation to  
25 the communication system, the damage done to

1 transreceivers on the train and the radios in the cabs,  
2 the drivers had some difficulty in getting through the  
3 information that there had been a bomb on the train,  
4 even if they were aware of that fact, although  
5 Mr Batkin, the Aldgate driver, was able to communicate  
6 to the line controller that there had been a bomb on his  
7 train.

8 Why did you assume that, in the event of a terrorist  
9 attack, it would be immediately known that there had  
10 been a device on a train as opposed to a certain level  
11 of confusion as to whether or not there was a device at  
12 all?

13 A. Well, clearly there would be a significant level of  
14 confusion, and what we were talking about was, once it  
15 had been defined as that type of attack, then that's  
16 when the emergency plan would come into place and, any  
17 incident, we have to make an assessment of exactly what  
18 the true cause is and, as happened on the day, it was  
19 some time before we could categorically say exactly what  
20 the nature of the incident was.

21 Q. The NCC received information that there was smoke,  
22 because there was a report of smoke in the tunnel at  
23 King's Cross, multiple reports of explosions, latterly  
24 a possible report of a bomb towards 9.30, and loss of  
25 power at various different places on the network, not

1 just in the Mansell Street area, but of course across  
2 the network --

3 A. Yes.

4 Q. -- as well as a tripped TT, a tunnel telephone trip, in  
5 the Piccadilly Line tunnel.

6 Were these signs not envisaged, in advance of 7/7,  
7 as being redolent or associated with possible terrorist  
8 attack? In other words, did these signs not alert the  
9 NCC to the most obvious cause, which was a terrorist  
10 attack?

11 A. Well, they didn't, because our previous history was  
12 that, in 2003, we had a fairly significant power  
13 failure. Just before the incidents here, and I think --  
14 I can't remember the time, sitting here, but I think  
15 it's in my statement --

16 Q. It is.

17 A. -- we had a derailment on the Central Line at  
18 Chancery Lane. We had a collision where a train  
19 actually hit the tunnel wall. In all of those, there  
20 were initial reports of very loud bangs and of smoke.  
21 It's quite common, when we have a train that has that  
22 sort of incident, then that's the sort of reports that  
23 come in, because people will use their -- in their mind,  
24 they will try to assimilate with words and language that  
25 they know, and that was exactly the case that happened.

1 Indeed, on the morning when the bombs went off, we  
2 had previously had three separate incidents.

3 Q. You had.

4 A. It was a very bad day on the Underground.

5 Q. Indeed.

6 A. We had a train with locked wheels, which was on the  
7 Northern Line and was still being rescued, which the  
8 initial reports were there was lots of smoke and a loud  
9 bang. We had a train on the Bakerloo Line where  
10 a mainline hose had burst and the hose takes somewhere  
11 around about 70 to 80 -- in fact, slightly more than  
12 that, 100 pounds per square inch. That had burst.

13 There were similar reports to that. And we had the  
14 Piccadilly Line train which had a traction motor which  
15 fused. That also was a report of a loud bang, and of  
16 a great deal of smoke coming from underneath that train.  
17 So those are the types of symptoms which are not  
18 inconcurrent with the same sort of symptoms that we were  
19 receiving when the report of the bombs went off.

20 Q. You do indeed, Mr Barr, address in your statement how,  
21 in the past, there have been incidents involving the  
22 tripping of these enormously powerful circuit breakers  
23 and then they can cause bangs or an explosion. I'm  
24 bound to say there's no reference there to smoke being  
25 associated with circuit breakers tripping, but is it

1 your evidence that, in fact, it can cause smoke?

2 A. It can cause smoke.

3 Q. The incidents that morning -- the train at, I think,

4 Balham --

5 A. Yes.

6 Q. -- and the train at Caledonian Road that was emitting

7 smoke and the incident on the Bakerloo Line, had all

8 been addressed, not insofar as the consequential impact

9 upon the network was concerned, because there were

10 delays on all three lines as a result, but by 8.50 you

11 knew what the cause was of each of these incidents, and

12 so you're not suggesting, are you, that these incidents

13 led you to believe that the subsequent reports of

14 explosions, bangs, loss of power, were connected to

15 those earlier incidents that morning?

16 A. What I'm saying is that I didn't know.

17 Q. The train at Caledonian Road I think had started

18 emitting smoke -- I'll be corrected if I'm wrong -- at

19 7.27 and was already in the process of being moved by

20 8.50.

21 A. That's correct.

22 Q. The train at Balham had been shunted out of the way but

23 had caused suspension of that particular branch of the

24 Northern Line.

25 A. Yes, it did.

1 Q. So the problem had been identified and addressed but not  
2 the consequential delays. And the Bakerloo Line,  
3 I think the fault occurred around 8.00.

4 A. Thereabouts, yes.

5 Q. Again, the fault had been identified. There was no  
6 question in relation to any of those incidents of  
7 a general network-wide loss of power?

8 A. No.

9 Q. No. Your statement refers at paragraph 83 to the fact  
10 that some of the emergency exercises, Mr Barr, that  
11 London Underground quite properly carry out were stopped  
12 after 7/7, as I think they had been deemed by you and  
13 others to be insufficiently realistic.

14 There's no suggestion naturally that all the  
15 emergency planning was stopped, but can you just tell  
16 my Lady what it was about some of the emergency  
17 exercises -- perhaps some of the table-top exercises --  
18 that, in light of 7/7, led you to believe that they were  
19 insufficiently realistic?

20 A. Yes, I can. In particular, it was about the interaction  
21 between London Underground and the emergency services,  
22 because part of the information flow must be that people  
23 understand what the reaction of the other services is  
24 going to be, so that if the Fire Brigade are going to  
25 declare a major incident, what exactly the implication

1 is and how that means that London Underground shall  
2 change its operating plan, and also how the interaction  
3 on the individuals on-site will work, so that if a major  
4 incident is declared, that steps up the response  
5 on-site. It means that the type of officer who will  
6 appear is that much higher a level. The need to ensure  
7 the interaction between the two has got to be that much  
8 closer.

9 The event that I was talking about where we -- the  
10 last one, that was at Tower Hill, where we actually  
11 simulated a train being derailed. There were only four  
12 London Underground staff on duty, because that's the  
13 normal staffing of the station, and I felt that we could  
14 get a heightened response and a better understanding  
15 across the network by having people interactively  
16 working, and the sort of scenario that we would do --  
17 and we've chosen four or five since that time -- would  
18 deal with asking London Underground to actually relay  
19 what it would expect and then cross-relaying that with  
20 the emergency services, "Do you agree with that? Is  
21 that what you would want to do?", and in one of the  
22 exercises we put people in their own natural teams, so  
23 we had Fire Brigade, we had police, we had ambulance, we  
24 had London Underground, sitting together, and then,  
25 after lunch, we moved them around, because the objective

1 was to get this heightened level of understanding, to  
2 get this greater level of corroboration of each other's  
3 impact.

4 Q. Do we take it, therefore, that before 7/7 some of the  
5 exercises had not sufficiently engaged the other  
6 emergency services, that they were perhaps too --  
7 I don't mean it derogatorily -- parochial, that they  
8 concerned London Underground only and they hadn't  
9 engaged the wider emergency response?

10 A. The wider emergency response was present, but there was  
11 a -- you can't stop an exercise in mid-flow and say to  
12 people -- well, you can, but it tends not to happen --  
13 and say to people, "Do you understand why the emergency  
14 services have done this?", and say to the emergency  
15 services, "Here is what we need to do".  
16 There is always a debriefing process after those,  
17 but in some cases the learning is much more heightened  
18 by demonstrating to people that there is a level of  
19 learning that they can actually achieve.

20 Q. Do you feel --

21 LADY JUSTICE HALLETT: Sorry, just before you go on, I'm  
22 afraid I didn't follow from that answer, Mr Barr, the  
23 difference between the exercises now and the exercises  
24 in the past.

25 A. Well, they involve -- I mean, the exercises now, we do

1 them at a bespoke location which is Ashfield House,  
2 where we have a simulated train, we have a track, we  
3 have control rooms, and we have other emergency  
4 facilities, and we actually put people in to doing their  
5 day job, whereas the previous exercises, it was a little  
6 bit simulated, that we would import some staff in, we  
7 would actually get some people to work, but the reality,  
8 I didn't think, was there, and the learning across from  
9 each of the various groups was not as positive as it  
10 could have been.

11 There was a level of learning, it would be wrong of  
12 me to say there wasn't, but the level of learning was  
13 not as great as we were able to achieve on the global  
14 table-tops.

15 LADY JUSTICE HALLETT: That's what I'm not following. The  
16 level of learning, as you call it, between the different  
17 organisations, how have you improved that aspect of your  
18 planning?

19 A. By having the wider level of sharing of information and  
20 stopping things and being able to get people to actually  
21 answer specific questions to see if they understood how  
22 the interaction with the other services was.

23 MR KEITH: Thank you, my Lady.

24 Do you feel that the drawbacks, such as they were,  
25 in the former system of table-top exercises contributed

1 in any way to the difficulties encountered by the NCC on  
2 the morning of 7 July?

3 A. No, I don't believe so, because the NCC managers are all  
4 fairly experienced and do understand what the  
5 requirements are of the emergency services.

6 Q. Could we go back, please, to TFL634 and the emergency  
7 plan? On page 4 of 634 [TFL634-4], you will see there a graphic  
8 diagram which shows or highlights the importance of NCC.  
9 It is the focal point, as you've described earlier, for  
10 receiving and then communicating necessary information.  
11 You've set out in your statement a number of reasons  
12 why there must be a body responsible for this overall  
13 function. It has a collective and overall picture. It  
14 has direct lines to the emergency services. Its staff  
15 are experienced in relaying the necessary information,  
16 and it has an overall view of what the individual lines  
17 are doing. Is that all right?

18 A. Yes.

19 Q. But on 7 July, although the NCC was technically in the  
20 position of collating all the necessary information, it  
21 was still, of course, dependent on receiving information  
22 from the individual places in the London Underground to  
23 enable it to make a proper, focused, overall decision?

24 A. That's correct.

25 Q. Do you think, in hindsight, that the NCC did receive

1 accurate information as quickly as you would have  
2 expected it to have done? You now know that the NCC  
3 wasn't in a position to conclude that there had been  
4 a bomb, a terrorist attack, until certainly after 9.30,  
5 approaching 9.40, when you ordered evacuation of the  
6 network. There were a number of other organisations who  
7 were plainly aware of the possibility of a bomb because  
8 their own individuals had reported such to their  
9 respective control rooms.

10 Were you surprised that that information, vital as  
11 it was, hadn't found its way to the NCC before 9.30?

12 A. My principal interface was with British Transport  
13 Police, and at the time when I was dealing with Chief  
14 Superintendent Crowther, then both of us were still in  
15 the situation where we were trying to make a simulation  
16 of exactly what was going wrong.

17 We have to deal with, in the NCC -- I, as RDO, was  
18 dealing with a number of key aspects, one of which was,  
19 because of the nature of a power failure on the  
20 Underground, we are liable to have very, very many  
21 customers who are trapped on trains. As well as making  
22 an overall assessment of the situation, I also had to  
23 deal with a number of colleagues to make an assessment  
24 of how many trains were stalled, where were they and how  
25 many people were on those trains.

1 So it really was an extremely busy period.

2 However --

3 Q. Mr Barr, that is taken as said, I can assure you.

4 A. However, with hindsight, it's always better to have  
5 clearer communications systems. We have refurbished the  
6 Network Operations Centre, as it is now known, and we  
7 have a much more direct system of telephone calls and  
8 a much better way of clarifying who exactly is calling.

9 The major problem we had is that we have  
10 a telephone -- we had a telephone system which  
11 illuminated individual lights, numbers, and therefore  
12 the operators in the NCC knew that they were receiving  
13 telephone calls but could not specifically identify who  
14 the call was coming from, other than it was at a line  
15 level or a line controller level.

16 Q. Or they recognised their voices, as we know from the --

17 A. Only when you've picked the phone up, but the problem is  
18 when you've got a limited number of telephones, then if  
19 you're on a call, you can't actually -- you don't want  
20 to put a call down and restart another one.

21 Q. Are you suggesting that there was such a magnitude or so  
22 many calls were coming in that the NCC staff had to be  
23 selective in the order in which they answered those  
24 calls and perhaps whether they answered some calls at  
25 all?

1 A. They had to do that, yes. But using the indication  
2 system, we would say that, if there was a call from the  
3 controller on the Northern Line, for example, then that  
4 was an issue, but if there was a call from the Circle  
5 and Hammersmith or the Metropolitan Line, then they were  
6 clearly involved. So you had to be a bit selective.

7 Q. Is it possible that members of staff in the individual  
8 Line Control Centres, or in the power control room, or  
9 perhaps station supervisors attempted to phone the NCC  
10 to detail what they knew of the events in their own  
11 station, their own area, but were, in fact, unable to  
12 get through?

13 A. I don't believe power control, because they have an  
14 individual button or a light. Similarly, line control  
15 and, similarly, the duty operations managers have an  
16 individual light. I believe those calls would be given  
17 priority.

18 Individual station supervisors then --

19 Q. They had to take their chances?

20 A. Absolutely. And as you -- because I have listened to  
21 all of the phone calls, and there was such a wide  
22 diversification of telephone calls, some that were  
23 clearly important and other ones that were not, but the  
24 NOC operators had a difficulty in making that sort of  
25 decision.

1 Q. They were overwhelmed by the sheer number of calls?

2 A. Yes.

3 Q. We've seen this in other areas as well. What steps,  
4 therefore -- I interrupted you, you were about to  
5 explain what is now different -- have been taken to  
6 ensure that calls are now queued or graded in terms of  
7 the importance of the caller or perhaps the information  
8 that they have to impart?

9 A. We have a fairly modern system where now individuals who  
10 are calling actually are able to be seen exactly who  
11 they are, and what we would do now is that, in the event  
12 of a parallel situation, people who are Silver controls  
13 would be given a particular number to call and,  
14 therefore, when that number is called, then that can be  
15 identified extremely quickly. That can be perceived as  
16 a priority and, therefore, would be answered above all  
17 the other calls.

18 So it's visibility of who's calling, and also it's  
19 making sure that people call the right numbers.

20 Q. You would presumably now give priority to, as you would  
21 have wished to have done before, calls from the duty  
22 operation managers in each of the lines, to the power  
23 Control Centre, as you observed was the case before,  
24 with its own line, and possibly station supervisors?

25 A. Yes, and in fact we now have -- the system allows us to

1 be very selective on -- what we would do is there is  
2 normally a team of five or six in the NCC, some of the  
3 functions we would close down. There would be an  
4 automatic recording on that telephone that would say,  
5 "This function is now closed, please ..." and then do  
6 some other function, dial later or deal with this  
7 particular person.

8 Questions like, if a ticket office is not getting  
9 its right equipment or if a gate line is not working,  
10 those can be diverted.

11 Q. Routine enquiries?

12 A. Yes. The other really important issue is that we have  
13 a new logging system which is very much like the police  
14 logging system and is called -- our code word for that  
15 is Nimrod. Nimrod is a digital logging system where  
16 individuals in the NOC and in the -- as part of the Gold  
17 team, can see what's coming in. So a log would be set  
18 up for a particular incident and that would be seen all  
19 the way through, so if someone in the room wished to  
20 input, for example, "ambulance called" or "an incident",  
21 then that can be identified on the Nimrod system.

22 Similarly, if I was in as the Gold Command, then  
23 I would have the ability, from step one to --

24 Q. To see what had happened --

25 A. Yes, and to --

1 Q. -- and what information had been received?

2 A. -- record my own points.

3 The other big issue that that does is that other  
4 senior managers in the Underground have the ability to  
5 view that, and, therefore, they get an awareness of  
6 what's happening, because there is always a thirst for  
7 information from senior managers, and that's right and  
8 proper.

9 But sometimes, with the greatest of respect, it can  
10 be, "Can you give me an update of what's happening?",  
11 which can get in the way of the people who are trying to  
12 do the primary call.

13 Q. The evidence plainly indicates, Mr Barr, that the radio  
14 operators, or rather the operators in the NCC who were  
15 receiving calls, once they'd received the call, had to  
16 turn away, and you can hear them calling out to other  
17 people in the room, saying, "I've just received this  
18 information", they were calling out to their other  
19 members of staff to tell them what they'd heard, going  
20 back to you and your colleagues in order to relay the  
21 information and then to take instructions as to how to  
22 respond.

23 There is no overall system that allowed any of you  
24 to see immediately what information had already come in  
25 so that you could respond to the next piece of

1 information. It was all word of mouth, was it not?

2 A. Word of mouth and on the log.

3 Q. Yes, but the log had to be written up in hand --

4 A. That's correct.

5 Q. -- which took time, which meant the operator or the

6 member of staff couldn't then take another call.

7 A. That's correct. Although the time to write it up,

8 because each of the operators develop their own

9 shorthand, and you became quite adept, having been in

10 the control room environment for quite a long time, you

11 could actually read what was being said, but

12 nonetheless, you are correct, there is a time delay.

13 Q. Could we go back to the network emergency plan, please,

14 that's TFL634 at page 23 [TFL634-23]? This is the plan for major

15 loss of national grid supply. It may be that it had

16 little relevancy that morning, but on the premise that

17 you had a loss of power supply, Mr Barr, was one of the

18 scenarios that you envisaged, or one of the

19 possibilities that you considered, a major loss of power

20 as opposed to a terrorist attack or a catastrophic

21 incident of some other type?

22 A. That is -- that's correct.

23 Q. So this would have been of some relevancy, then, that

24 morning, and if you could just enlarge the left-hand

25 side of the screen in the middle, we can see there that

1 the Network Control Centre is obliged to confirm with  
2 the shift supply engineer that there is a power supply  
3 problem and which areas are affected within two minutes,  
4 if possible, and then the Network Control Centre is  
5 obliged to broadcast network messages, request line  
6 controllers to assess a situation, and then to await, we  
7 can see from the wording in the top of the fourth row,  
8 information from the shift supply engineer as to what  
9 the correct message should be; that is to say what he  
10 thinks or she thinks the cause of the loss of power is.  
11 I want to ask you, please, about that structure as  
12 it affected events on 7 July.

13 The power Control Centre knew within, I think, two  
14 or three minutes that there had been a loss of power to  
15 the District Line, East London, Piccadilly,  
16 Northern Lines, Met and City, because they called in to  
17 the NCC and we can see from the log of the NCC  
18 references to loss of power and so on.

19 A. Yes.

20 Q. Do we take it that, as soon as those messages came in to  
21 the NCC, the shift supply engineer was contacted?

22 A. Yes, you can take it as such.

23 Q. The documents available to us show that someone spoke to  
24 the shift engineer about 9 minutes past 9 and he  
25 reported a loss of the high tension cable at

1 Mansell Street and also made reference to an explosion.

2 A. Yes.

3 Q. Did you feel, in hindsight, that the system whereby the  
4 shift supply engineer has imposed on him or her the  
5 obligation of trying to get to the bottom of what the  
6 problem is worked? Was that not rather  
7 a disproportionate burden to place on a single  
8 individual to try to determine the cause of the loss of  
9 power?

10 A. It would be if that was all that was happening, because  
11 the line control folks also were reporting that their  
12 trains were at a standstill and that they had lost  
13 indication. The conversation between the NCC and the  
14 shift supply is more in context of technical  
15 corroboration of exactly what's been lost.

16 The feeder system for the Underground is  
17 exceptionally complicated --

18 Q. There's no surprise there, I imagine, Mr Barr.

19 A. -- if not to say convoluted, and part of the  
20 conversation with the shift supply engineer is also  
21 about restoration, about how are the sections going to  
22 be switched around, because with electrical power supply  
23 there is a system of bypassing, of sub-switching and so  
24 on, because all of our aspirations at that time were to  
25 get the system back up and running.

1 Q. Was the shift supply engineer able, within the timescale  
2 envisaged in that response plan, to provide the  
3 information as to what the cause was, or was it an  
4 ongoing process that took you all the way to 9.30, 9.35  
5 when you made the decision to evacuate?

6 A. The shift supply engineer was able to tell us what the  
7 technical rationale behind the loss of the current was.  
8 However, what we were not able to understand in the  
9 context of what happened, was what the cause was. It's  
10 one matter to reenergise parts of the Underground.  
11 However, if the major cause, which we suspected  
12 initially, was because a train had ruptured a high  
13 capacity cable, then it really doesn't matter whether  
14 you reconfigure or not, then the cable will not  
15 reenergise.

16 Q. All right. Could we now look at page 26 [TFL634-26], which is an  
17 alternative plan or perhaps an analogous plan, which  
18 deals with catastrophic incident?

19 The plan envisaged for such an event identifies the  
20 obligation on the MICC, which is the management  
21 information Control Centre, which is the control room  
22 for the British Transport Police, to inform the Network  
23 Control Centre of a catastrophic incident if it's aware.  
24 We can see then underneath it the Network Control  
25 Centre is obliged to obtain details of, perhaps, the

1 nature of the catastrophic incident. Then underneath  
2 that, we can see that the Network Control Centre might  
3 then consider issuing a network-wide message, confirming  
4 with Centrecom -- of which we'll hear more later, but  
5 it's the control room responsible for London buses --  
6 that they are aware of the incident and alerting other  
7 organisations to what they believe to be the cause of  
8 the incident.

9 The Network Control Centre sent out a network-wide  
10 message, of course, at 9.13, which was the Code Amber  
11 that you authorised.

12 A. Yes.

13 Q. In brief, the Code Amber was an order that all trains go  
14 to the nearest, safe, available platform. Presumably,  
15 another network-wide message was sent out at 9.40 or  
16 thereabouts when you ordered evacuation of the network?

17 A. That's correct.

18 Q. Did you feel that more could have been done in the  
19 Network Control Centre to send out other messages  
20 relaying, perhaps, information as to what the NCC  
21 suspected was the cause of the problem other than those  
22 two major orders that they sent out at 9.13 and 9.40?

23 A. I believe that the hypothesising of possible causes,  
24 until you actually know, our experience is it is far  
25 better to deal with the precautions, far better to deal

1 with the evacuation of customers, rather than sending  
2 out a sort of estimate of what we believe the issues  
3 were.

4 Q. The chief operating officer's review that you carried  
5 out did refer, did it not, to a concern that  
6 insufficient use had been made of the Simlink to which  
7 you've made reference; that is to say the ability to  
8 send out a one-to-many message, an overall message, that  
9 morning. Would you agree with that observation or did  
10 you feel that the NCC sent out as much information as it  
11 could?

12 A. I believed it sent out the information it was prudent  
13 for the operators who were receiving that information to  
14 go out.

15 The Simlink only goes to line control offices. It  
16 does not go anywhere else.

17 Q. But they could presumably disseminate the information  
18 further?

19 A. That's correct.

20 Q. Why could the NCC not, for example, have sent out  
21 a message to this effect, "Suspected bombs on  
22 Underground, major loss of power, traction current off  
23 in the following areas, emergency services called", so  
24 that those who attended could speak to station  
25 supervisors, who by then may have been spoken to by the

1 Line Control Centres, to know a little more of what was  
2 suspected by the NCC so as to save time on their own  
3 arrival?

4 A. Because the key centres that were dealing with those  
5 incidents, which was the Metropolitan Line, the control  
6 office and the Piccadilly Line control office, were  
7 fully aware of the levels of information that we had,  
8 and, therefore, adding that across the piece could only  
9 have caused some other types of issues. It had to be  
10 disseminated in a controlled way.

11 Q. Sorry to interrupt you, when you first began to suspect  
12 that there were, in fact, terrorist attacks on the  
13 network, did you then, yourself, or through your  
14 colleagues, call the Line Control Centres themselves to  
15 say, "We've now reached the view that this wasn't  
16 a power supply problem, but it was, in fact, an attack"?

17 A. It was not done in that context because the lines and  
18 the stations were being evacuated. By the time we'd  
19 issued a Code Amber, frankly, adding other levels of  
20 information would not have made any significant  
21 difference.

22 Q. You received a call, or rather one of your colleagues  
23 received a call, at 9.28 from a man called Nigel who  
24 stated that he was at Bow -- and I know you've listened  
25 to the tape -- and he referred to an explosion having

1 occurred at Edgware Road and Liverpool Street. He was  
2 broadly right, and this was 40 minutes after the bombs  
3 had, of course, exploded, and he asked whether or not he  
4 could page out that information internally so as to  
5 assist the members of staff who were responding to the  
6 bombs or the explosions. You were asked whether or not  
7 that information could be put out and, whilst you  
8 plainly didn't want to exacerbate the problem further by  
9 putting out information of which you were not sure, you  
10 were fairly insistent that the only information that  
11 could be put out by pager was that a train had allegedly  
12 hit the tunnel wall at Edgware Road.

13 By 9.28, it was plain to substantial parts of the  
14 Underground network, in particular the  
15 Line Control Centres and the station supervisors  
16 affected, that there had been a multitude of explosions.  
17 Could that information not have been disseminated?

18 A. The information from Nigel, who didn't work for  
19 London Underground at that point, worked for Metronet --

20 Q. All right, but he contacted the NCC?

21 A. Yes, he did, but what we wanted to make sure was that  
22 the level of information on what had happened was done  
23 in a way that would not alert different people at  
24 different times, because Metronet, if they had sent that  
25 information out, it would have only gone to their

1 technical people, and I was concerned that -- the ripple  
2 effect of a single-point level of information based from  
3 one source that would actually cause across the  
4 Underground, I was concerned it might interfere with our  
5 rescue operation which was ongoing.

6 Q. But the role of NCC is to send out information to  
7 assist. It could only have assisted individual members  
8 of the London Underground system to know that they were  
9 dealing with explosions at a multitude of stations and  
10 that they weren't dealing with a loss of power that was  
11 incidental to the explosions, that they weren't dealing  
12 with, if you knew it, a CBRN incident and that traction  
13 current was off in certain areas, because that would all  
14 have assisted -- this is all the information that had to  
15 be relayed again, and again, and again to every member  
16 of the emergency services who arrived at each individual  
17 scene.

18 Could that not have been done?

19 A. Again, with hindsight, yes, it could have been, and  
20 that's one of the things which I think we have really  
21 been looking at, as to the way that information could  
22 have gone out in a more effective way. We have better  
23 communications systems now.

24 However, on the day, my main concern was to ensure  
25 that the rescue function was not inhibited, and to make

1 sure that we allowed an adequate cascade of information  
2 which was meaningful to those people who were (a)  
3 involved, and (b) did not cause some sort of schism  
4 across the network.

5 Q. Those people who were involved, Mr Barr, by and large  
6 reported through the chief operating officer's review  
7 that they felt completely isolated, that they'd received  
8 little or no information from the NCC, that its role of  
9 acting as focal point had failed, and that they would  
10 have been assisted by knowing more of what was going on.

11 A. In retrospect, yes, that's correct.

12 Q. May I ask you one further question about that message or  
13 that call at 09.28? The point that you make, which is  
14 that you did not wish to disseminate information that  
15 might be inaccurate and exacerbate the problem further,  
16 is plainly understood. You wanted to know what was  
17 going on first.

18 But the caller had referred you to his knowledge of  
19 explosions, plural, at Edgware Road and Liverpool Street  
20 and, by 09.28, you knew that there had been a report of  
21 smoke in the tunnel at King's Cross, so you knew that  
22 there were a number of locations involved. All that you  
23 would authorise was the sending out of a message that  
24 there had been an alleged hitting of a tunnel wall by  
25 a train, a single train, at a single location,

1 Edgware Road.

2 It may be too long ago now, it may therefore be  
3 rather an unfair question, but can you recall why you  
4 weren't prepared to make reference, or allow him to make  
5 reference, to the fact that there were incidents not  
6 just at Edgware Road but at, as you then understood it,  
7 Liverpool Street and King's Cross? It was a very narrow  
8 message that was then sent out or relayed through that  
9 person, and it didn't take account of the fact that  
10 there had been a number of locations. Can you recall  
11 why that was so?

12 A. I believe that we needed to make sure that people knew  
13 effectively what was going on, and that was the  
14 rationale behind saying "no", because we also had to  
15 deal with Tube Lines, who dealt with the King's Cross  
16 incident, and I needed to make sure that the information  
17 was being sent out in such a way that all of the  
18 organisation understood.

19 I take the point from the feedback from the  
20 individuals from the report and, again, that's something  
21 we've tried to deal with.

22 Q. Mr Barr, we'll turn to, towards the end of the  
23 examination, if we may, all the improvements that you've  
24 quite properly put into place, and I don't want those to  
25 be ignored in this process.

1 You gave a statement to the police of course in  
2 reflection of your senior role shortly after 7/7 and in  
3 that statement you stated, or rather you told the  
4 police -- it may be it was their wording, not yours --  
5 that at 09.11, 11 minutes past 9, it was confirmed that  
6 the incidents at 8.50, 8.51 and 8.53 were explosions on  
7 trains in the Underground network believed to be the  
8 result of terrorist activity.

9 But in your statement to these proceedings, made in  
10 light of all the material and your greater understanding  
11 perhaps of everything that occurred, because your  
12 statement to the police was very shortly after 7/7, you  
13 now acknowledge, as you've inferred, that the Network  
14 Control Centre didn't really appreciate that the  
15 incidents were terrorist-related until shortly before  
16 you took the decision to evacuate the network. You  
17 suspected, but you couldn't reach the requisite level of  
18 certainty before ordering such an evacuation. Is that  
19 fair?

20 A. Yes, that's fair.

21 Q. The information that was recorded on the log in the  
22 Network Control room is at [INQ8577-3]. If we could  
23 rotate it and enlarge the top left-hand corner. At  
24 08.50, this is where your understanding of the  
25 terminology, Mr Barr, will come in useful, was there

1 a message from Met, the Metropolitan Line controller --  
2 A. Yes.  
3 Q. -- to the effect that Moorgate had lost traction  
4 current. Shortly after "explosion Liverpool Street?"  
5 A. Yes.  
6 Q. Then again from the Met "[something] explosion on train  
7 Liverpool Street-Aldgate O/C."  
8 Could you just interpret for us those last two  
9 lines?  
10 A. The bit that -- from Met, I don't know, I can't make out  
11 what the first bit is, "2", and I'm not sure what that  
12 says, "explosion on train", Liverpool Street to Aldgate  
13 out of commission. "Old Street sub" is the substation  
14 at Old Street.  
15 Q. Ah, yes, thank you. I'm very grateful to Mr Hay. It's  
16 actually 204, which was, of course, the set, the train  
17 set, at Aldgate.  
18 A. Oh, sorry, yes, thank you.  
19 Q. That reference from the Metropolitan Line controller,  
20 the DOM, the duty operations manager -- I think he was  
21 called Tony McKinnon --  
22 A. Yes, he was.  
23 Q. -- was to the effect that there had been an explosion on  
24 a train and that reflected the fact that Mr Batkin, the  
25 driver of the Aldgate train, had reported to his

1 supervisor -- I think it was somebody in the  
2 Metropolitan Line control room -- that there had been an  
3 explosion on his train on 204.

4 A. Yes.

5 Q. When that information came in, did that not tend to  
6 suggest that it was not a circuit breaker involved,  
7 because a circuit breaker would have been unlikely to  
8 have caused an explosion on a train as opposed to  
9 perhaps causing a bang or some sort of trip in a tunnel  
10 or on a station, wherever the circuit breakers are  
11 located?

12 I want to ask you, please, about what significance,  
13 if any, was attached to the fact that the explosion  
14 occurred, according to this report, on a train?

15 A. It was still in the information-gathering time, and  
16 a high capacity 25KV, kilovolt, cable which ruptures  
17 would have exactly the same impact, and that would tend  
18 to be very much like an explosion. The -- again, the  
19 high tensile capacity of a cable, when it fractures, has  
20 the same symptom as an explosion, exactly the same, and  
21 that's what we had before.

22 LADY JUSTICE HALLETT: So it would have such a similar  
23 effect that even the driver of the train might be  
24 confused as to the cause?

25 A. Yes, it would, my Lady. You would have an explosion

1 which would be a loud bang, you would have a fairly loud  
2 flash, or a fairly bright flash, because 25 kilovolts,  
3 when it goes off, is very much like a thermic lance-type  
4 of impact, which is very quick, and then the cable  
5 ruptures and, when you're in the cab of a train, you are  
6 a couple of coaches beyond the edge of it, you're really  
7 unclear as to exactly what it is. That's not dissimilar  
8 to reports we've had in the past.

9 MR KEITH: In the past, when there's been a major problem  
10 with a high tension cable or a power supply to one of,  
11 perhaps, the bulk supply points, to which we'll turn in  
12 a moment, have there been simultaneous explosions;  
13 that's to say, have circuit breakers banged, tripped,  
14 simultaneously across the network, or has it generally  
15 just been one?

16 A. No, we've had multiple explosions, because what would  
17 happen is you would get a cable or a connection which  
18 would rupture. If that brought out the circuit breakers  
19 as a consequence of that, both of those would actually  
20 give an indication of an explosion.

21 Q. All right. You record in your statement how that  
22 morning you were told by Mr McCluskey, who was one of  
23 the managers in the NCC, of the loss of traction current  
24 and the wide -- the power supply failure and you went to  
25 the NCC immediately --

1 A. Yes, I did.

2 Q. -- and you became Gold. I think you describe how you  
3 replayed trackernet to try to see whether there were any  
4 trains stranded in tunnels or which may have been left  
5 there by cessation of the traction current. But there  
6 was no trackernet, I think, for the Piccadilly Line --

7 A. That's correct.

8 Q. -- at that time. You then went to speak to the British  
9 Transport Police. We saw a reference on the emergency  
10 plan for catastrophic incidents of the closeness of the  
11 relationship between the NCC and the MICC, the control  
12 room for British Transport Police.

13 Why is it necessary, or why was it necessary, for to  
14 you speak immediately to the British Transport Police?

15 A. Because of the risk, which I felt, to have very  
16 considerable numbers of passengers trapped in tunnels.  
17 In this incident, I had made a guess somewhere around  
18 about 20,000 to 30,000 customers, I needed to get that  
19 information to Chief Superintendent Crowther, I needed  
20 to find out if he was able to deploy officers to assist  
21 us.

22 Q. Just pausing you there. He was the officer in charge in  
23 the MICC?

24 A. No, Chief Superintendent Crowther was the commander for  
25 London Underground L Division, and his office was on the

1 floor above the MICC. So I left the NCC and went  
2 upstairs to see Chief Superintendent Crowther, and then  
3 went back down straightaway. Mr Crowther then went  
4 downstairs to the MICC.

5 Q. The MICC, the control room for the British Transport  
6 Police, is immediately adjacent to the Network Control  
7 Centre --

8 A. The British Transport Police control room, that's  
9 correct.

10 Q. -- for London Underground?

11 A. Yes.

12 Q. Because of the number of their officers and their  
13 location throughout the network, they are also a very  
14 valuable source of information, are they not?

15 A. Yes, they are.

16 Q. Was that why Mr Martin, one of your colleagues,  
17 immediately put out a call to British Transport Police  
18 at 8.55 and why you spoke, as you've told us, to Chief  
19 Superintendent Crowther?

20 A. Well, we would always inform British Transport Police  
21 when we have risks with customers in the context of  
22 customers trapped on trains. That's one of our key  
23 communication protocols.

24 Q. Did you discuss with him, or anybody in the British  
25 Transport Police MICC that the cause of the power

1 failure might have been the loss of a bulk supply point;  
2 that is to say one of the major points at which  
3 electricity is fed into the ring main that powers  
4 traction current and the majority of the power in the  
5 Underground system?

6 A. Initially, it was the most susceptible point, so, yes,  
7 we did.

8 Q. You knew that there was a problem or you quickly found  
9 out there was a problem with the high tensile cable at  
10 Mansell Street, and Mansell Street is one of the four  
11 bulk supply points, is it not?

12 A. Yes.

13 Q. I think the other ones are Lots Road and West Ham and  
14 Neasden. They were then, certainly.

15 A. Yes.

16 Q. Were you aware that the electricity distribution is  
17 managed in such a way that the loss of one bulk supply  
18 point does not, in fact, deprive, or shouldn't deprive,  
19 the Underground rails of traction current?

20 A. It will deprive initially.

21 Q. Until it's all tripped back?

22 A. Until it is -- it's reset and so on. Now, the major  
23 problem we have is that the loss of a bulk supply point,  
24 not only implies the loss of traction current, it  
25 implies the loss of signalling circuitry as well.

1 Traction current can be restored fairly rapidly within  
2 four, five minutes, but the restoration of signalling  
3 circuitry takes quite a lot longer, certainly 20, 25,  
4 perhaps even longer, depending on how much circuitry has  
5 got to be reset, and --

6 Q. And all the ancillary supplies, escalators, stations and  
7 so on?

8 A. Absolutely, yes, that's right.

9 Q. So when it became apparent that the traction current  
10 could not be reenergised, tripped back on, that  
11 indicated, did it not, that there may be something more  
12 at work here than a failure of a bulk supply point,  
13 because, if it had just been one bulk supply point, you  
14 would have been able to reenergise the traction current  
15 within four or five minutes, as you described?

16 A. That's correct. However, the failure to reset a bulk  
17 supply point is often a symptom of what the true cause  
18 is. The tripping of a bulk supply point, and I'm not an  
19 electrical engineer, but in context of having to deal  
20 with it over a number of years, the tripping of a bulk  
21 supply point on its own can be reset fairly quickly, but  
22 it's what was the core problem that was causing that  
23 and, again, that happened in 2003, that the bulk supply  
24 point, when it tripped, that was a symptom of --  
25 I believe of some cables that burnt out.

1 Q. But the information that you had received in the NCC was  
2 to the effect that, if there had been a cabling problem,  
3 it was the high tension cable feeding Mansell Street  
4 distribution centre with the network because that was  
5 the information received from the shift supply engineer.

6 A. Yes.

7 Q. As soon as it became impossible to re-energise the  
8 traction current, it must have been have become apparent  
9 that this wasn't just a loss of power, that there was  
10 something else at work.

11 A. That is correct. However, we were still in the process  
12 of just finding out what it was, because --

13 Q. All right.

14 A. Sorry.

15 Q. No, please continue. I wasn't intending to interrupt  
16 you.

17 A. No, we had the report of the train hitting the tunnel  
18 wall and, when we had the derailment at Camden Town,  
19 a significant number of electrical cables were severed.

20 Q. Could we look now a little further on at what  
21 information was received by the NCC in terms of reports  
22 of explosions? Could we have INQ10426, [INQ10426-1] which is  
23 a schedule setting out the time-line for Aldgate? Of  
24 course, Aldgate was the one that was most immediate  
25 because it was the one that was reported straightaway to

1 the NCC.  
2 At 08.52.48, so I think over the page [INQ10426-2], the NCC  
3 contacted the Metropolitan, Circle & Hammersmith Line  
4 duty office manager to report that there was an  
5 explosion at Liverpool Street and Edgware Road.  
6 In fact -- and I know you've listened to all the  
7 tapes, Mr Barr -- it was Darren McCluskey who called  
8 Tony McKinnon, who was the duty operations manager, and  
9 said that the NCC had had a report of an explosion at  
10 Liverpool Street and at Edgware Road, and Mr McKinnon  
11 said there was a bang he'd heard of west of  
12 Liverpool Street, and he also reported, in that call  
13 back to Mr McCluskey of the NCC, what Mr Batkin had  
14 said, which is there had been an explosion or a bang on  
15 his train.  
16 Was that the information that the NCC received about  
17 Mr Batkin's information? Was that when you became  
18 aware --  
19 A. I became aware --  
20 Q. -- of the report directly from Mr Batkin, I think  
21 through -- I said, erroneously, directly to the  
22 Line Control Centre, but I think he called the station  
23 supervisor Ayo Puddicombe on his mobile. She was the  
24 duty station manager at Edgware Road, and then she then  
25 reported in to the DOM?

1 A. I'm not aware that I received a report that was  
2 specifically from a train operator. At this distance,  
3 it's really difficult to recall.

4 Q. I understand. At 08.53.28, or 08.53.38 in fact, as that  
5 page shows [INQ10426-3], the Aldgate station supervisor,  
6 Celia Harrison, contacted the NCC, and over the page,  
7 please, "to inform of [a] big explosion which she  
8 believes has affected train 447 on platform 2" and she  
9 reported smoke.

10 The two references in quick succession to  
11 "explosion" and to "smoke" there, was that when you  
12 began to suspect in the back of your mind that there  
13 might be more to this than a simple -- I don't mean that  
14 in any pejorative sense -- a simple loss of power?

15 A. At that point, no.

16 Q. At 08.58.35, although it's not on this schedule because  
17 this is the time-line for Aldgate, the NCC receives  
18 a report of smoke coming out of the tunnel on the  
19 eastbound Piccadilly Line. So in the first ten minutes,  
20 there had been two reports of an explosion, one on  
21 a train and of smoke on another line.

22 A. Yes.

23 Q. At 09.02.33 -- if we could have it back on the screen,  
24 INQ10426 -- [INQ10426-5] [INQ10426-6] Celia Harrison contacted the NCC  
again to  
25 request as many ambulances as could be made available

1 due to serious injuries.

2 When in the past there has been rupture of the power  
3 supply and the tripping of the circuit breakers, had  
4 there been many injuries?

5 A. No, there hadn't been.

6 Q. Had there been any injuries?

7 A. There had been people who were claiming smoke --

8 Q. Shock?

9 A. -- and shock, yes.

10 Q. But had ambulances been requested on other occasions  
11 when the circuit breakers had tripped, such as were  
12 required due to "serious injuries" having occurred?

13 A. Ambulances are always sent when there's an incident of  
14 that nature, but we would -- well, as I say, we would  
15 always send ambulances.

16 LADY JUSTICE HALLETT: But serious injuries weren't  
17 reported, do I take it?

18 A. No.

19 LADY JUSTICE HALLETT: Thank you.

20 MR KEITH: Were you made aware, as the rostered duty officer  
21 and Gold, that one of the locations of the explosion had  
22 been requesting many ambulances as possible due to  
23 serious injuries?

24 A. I was told the British Transport Police had asked for  
25 ambulances.

1 Q. Did you know that it was the station supervisor for  
2 London Underground itself?

3 A. No, I didn't.

4 Q. At around about this time, 09.03 -- not, I'm afraid, on  
5 this time-line because it's Aldgate -- there was a call  
6 from London Underground Network Control Centre to the  
7 London Fire Brigade concerning the smoke in the tunnel  
8 at King's Cross, to which you've referred, and the  
9 caller at the NCC also referred to an explosion at  
10 Aldgate, and then a couple or so minutes later, at about  
11 4 minutes past 9, Mr Gozka -- whom you know from the  
12 evidence and you may know him in any event --

13 A. Yes, I know Mr Gozka.

14 Q. -- the station supervisor at Edgware Road, queried on  
15 the call with the NCC whether or not the terrorist  
16 incident had occurred and a few minutes later he called  
17 in again to say he thought that something had gone  
18 seriously wrong.

19 Station supervisors are no doubt, as we've seen,  
20 experienced individuals, responsible for the control and  
21 running of their various stations?

22 A. If I may correct you, Mr Gozka was not the station  
23 supervisor.

24 Q. Sorry, group station manager.

25 A. Yes.

1 Q. So even more senior. Were you informed, as the rostered  
2 duty officer, that Mr Gozka, the group station manager,  
3 had himself phoned in or radioed in to say something had  
4 gone badly wrong and had queried whether or not this was  
5 a terrorist incident?

6 A. I wasn't informed immediately, but I knew that  
7 eventually Steve had phoned up because I saw his name on  
8 the logbook.

9 Q. When did you find that out?

10 A. Within about ten minutes of that.

11 Q. You've described for us how the system has now been  
12 reconfigured to allow a speedier access to existing  
13 information. Ten minutes to relay quite an important  
14 piece of information or quite an important call seems,  
15 with respect, to be rather a long delay. Would you  
16 agree?

17 A. If it was on its own as a single message, of course it  
18 is. However, there was such a plethora of information  
19 coming in. The main key was that Steve had asked for --  
20 make sure that fire, police and ambulance had been sent  
21 and, as far as I was aware, that was in the process of  
22 happening.

23 Q. Those were the first reports to the NCC from  
24 London Underground and, as you've told us, you were in  
25 close communication with the British Transport Police.

1     Could we look again at the time-line for Aldgate,  
2     INQ10426 [INQ10426-1]? At 08.49 -- so back one page, please, or two  
3     pages, sorry, one more, my pages are out -- at the  
4     bottom, DI Baker, who was a detective inspector with the  
5     British Transport Police, reported a bang at Aldgate and  
6     lots of dust.  
7     [INQ10426-2] At 08.50.01 British Transport Police called LAS and  
8     asked them to attend Liverpool Street.  
9     At 08.51.44, right at the bottom of the page, we can  
10    see there, DI Taylor again called in and informed --  
11    sorry, DI Taylor for the first time informed British  
12    Transport Police and informed them that there was smoke  
13    in the tunnel from the Aldgate end of Liverpool Street,  
14    and 08.51.59, BTP Control, MICC called LAS on the  
15    emergency line informing them of an explosion at  
16    Liverpool Street.  
17    At 09.11 [INQ10426-7] -- I'm afraid we'll have to scan down to  
18    the correct page, I don't have the actual page number,  
19    there we go, thank you -- Inspector Munn relayed to  
20    British Transport Police an urgent request for an  
21    ambulance from the paramedics who were there, and  
22    Fire Brigade on trains "There are people on these trains  
23    who will die if they do not get immediate care".  
24    Those references to "bang" and "smoke" and  
25    "injuries" and people dying were received, therefore,

1 within about half an hour of the bomb at Aldgate. That  
2 last reference in particular was not consistent, was it,  
3 with a circuit breaker or a loss of power problem?

4 A. No, that wasn't.

5 Q. Do you, in hindsight, feel that the relationship between  
6 British Transport Police and the NCC didn't work as well  
7 as it might have done because you didn't receive these  
8 equally important pieces of information that might have  
9 informed your conclusions?

10 A. Those pieces of information were going in to the MICC,  
11 to their control room.

12 Q. The next-door room?

13 A. Yes. My liaison was with the Chief Superintendent.

14 Q. I don't wish you to -- I'm not inviting you to apportion  
15 blame and I phrase my question very carefully. I just  
16 want to know whether you think, in hindsight, the system  
17 overall, in terms of the closeness of the link between  
18 British Transport Police and NCC, didn't work as well as  
19 it might because you weren't aware of this?

20 A. In the sort of first 30 minutes or so, then there was so  
21 much information coming in that all of us were in  
22 possession of a variety of information and I'm not sure  
23 if we shared adequately.

24 Q. Some pieces of information are more equal than others,  
25 Mr Barr. This piece of information clearly identified

1 that the caller had spoken to paramedics and the  
2 Fire Brigade, who had been on a train, that there were  
3 people on the trains who might die if they didn't get  
4 immediate care. So it was a very precise piece of  
5 information. It was the most advanced piece of  
6 information at that time, was it not?

7 A. Yes.

8 Q. At 09.17.11 [INQ10426-8], if we could scroll down, please, further,  
9 Mr Munn called in again to say:

10 "I'm with the train at Aldgate. [There is] clear  
11 bomb damage", bomb damage, so not just an explosion, "to  
12 one carriage. One carriage is decimated, the rest of  
13 the carriage on the train is severely damaged and two  
14 confirmed fatalities."

15 So the knowledge went beyond mere explosions then to  
16 "bomb", and a plain reference to an experienced police  
17 officer, an inspector rank, having been on the train and  
18 being able to relay accurate information.

19 In fact, Mr Barr, even if the system that you now  
20 have in place had been operable then and a driver had  
21 perhaps used his CONNECT TETRA-based radio handset to  
22 call the line controller, that is the sort of direct  
23 precise information that he might have reported: dead,  
24 dying, bomb, help.

25 Did you receive that piece of information --

1 A. No, I didn't.

2 Q. -- at that time?

3 A. No.

4 Q. The London Fire Brigade log referred to a suspected bomb  
5 at Aldgate at 09.03. The City of London Police CAD,  
6 computer-aided dispatch record, referred at 09.10 to  
7 a bomb in the carriage at Aldgate, and we've just seen  
8 Inspector Munn's call to MICC at 09.17.

9 Would you have expected, in hindsight, all those  
10 pieces of information some way or other to find their  
11 way to the NCC, the network commander?

12 A. I would have expected them to be channelled through the  
13 British Transport Police and then that would form part  
14 of our assessment of what the exact cause was.

15 Q. In light of that, Mr Barr -- and I acknowledge that  
16 you've been very frank in your statement and throughout  
17 with what went wrong and what went right -- could you  
18 just tell her Ladyship how the new system, in particular  
19 the CONNECT radio system that is now in place, might, if  
20 operated correctly, have allowed those sorts of pieces  
21 of information to find their way to the NCC? How, in  
22 practice, would the information have been relayed if  
23 comparable events were to occur now?

24 A. Yes. My Lady, the CONNECT radio system has the ability  
25 to set up a number of specific channels. There are --

1 I think it's about ten for the Emergency Response Unit  
2 and a similar number for incident channels as well, and  
3 what we would normally -- what we would do now is that,  
4 in the event of multi-sited incidents, then we would set  
5 up each site with a particular channel and the people  
6 on-site would be able to be in direct communication with  
7 the Gold Command that would be located in the Network  
8 Control Centre.

9 Q. These are talkgroups, I think, as they're known as?

10 A. Yes, they are.

11 Q. We'll deal with other witnesses with how robust the  
12 system is.

13 LADY JUSTICE HALLETT: Sorry, talk as in T-A-L-K?

14 MR KEITH: T-A-L-K. So there are preset channels available  
15 in the system --

16 A. Yes, there are.

17 Q. -- which allow all sorts of different groups of people  
18 to communicate simultaneously, perhaps all the Silvers  
19 at a given scene --

20 A. Yes.

21 Q. -- so they don't have to be in face-to-face contact, or  
22 all the CONNECT radio handset users, which could be  
23 thousands, or a group of Fire Brigade officers, whoever  
24 it may be?

25 A. No, Fire Brigade officers cannot talk on the

1 London Underground system to us.

2 Q. Sorry, my analogy was too broad.

3 A. Sorry.

4 Q. Yes, in relation to London Underground, it would be  
5 London Underground staff of particular or varying  
6 seniority?

7 A. Yes, and indeed that's exactly the process we now carry  
8 out. The most recent occasion when we used it was when  
9 there was a battery loc who had derailed at  
10 Earl's Court.

11 Q. A battery what?

12 A. A battery locomotive derailed at Earl's Court and we  
13 used exactly that system to make sure that people were  
14 in communication.

15 Q. Under the new system, could a driver, assuming that his  
16 cab radio has been put out of operation and that he has  
17 a handset with him, contact the line controller, or  
18 failing him or her, somebody else on his radio handset  
19 to say, "I suspect a bomb, I've got dead and injured on  
20 my train"?

21 A. Yes.

22 Q. Does that radio also permit a group of  
23 London Underground managers and staff to speak to each  
24 other simultaneously as to what response, if any, is  
25 required?

1 A. Yes, it does.

2 Q. Again, I don't want to ask you in detail about the  
3 CONNECT system, because there are other witnesses who  
4 will deal with it in greater detail and the technical  
5 aspects are well beyond me, but the system has, we  
6 understand, worked, and in practice has worked.

7 Have you had yourself, however, any difficulties  
8 with its operation, as the network operations manager,  
9 in any of the scenarios that you have investigated by  
10 way of table-top exercise or any of the incidents that  
11 have occurred in practice?

12 A. I personally have not experienced any difficulty. I've  
13 had to use the system on a number of occasions, not so  
14 terrible instances, but certainly talking to people  
15 on-site, particularly when we have had accidents with  
16 people who have fallen in front of trains, it's not  
17 uncommon for us to be able to communicate with those  
18 people on-site and setting up talkgroups.

19 Q. Has it allowed the NCC to speak directly to people at  
20 site, where it's been necessary to do so?

21 A. Yes, it has.

22 Q. And to bypass perhaps, where necessary, and only where  
23 necessary, other parts of the system?

24 A. Well, those people who are on the talkgroups, we would  
25 ensure that the Command and Control structure is part of

1 that. The other key feature which the radio has is that  
2 there is a "person down" button or a squawk button, so  
3 that if a member of staff holds that button for three  
4 seconds, then they can communicate direct with the NCC.  
5 Its normal use is if a member of staff is assaulted on  
6 stations.

7 On the trains equipment, it contacts immediately  
8 with the line control.

9 Q. Would the line controller then have to call the NCC and  
10 say, "I've received this message, could we all please  
11 use our radio handsets on a predetermined talkgroup so  
12 that we can all talk simultaneously?"

13 A. Whoever is in the command decision would decide what's  
14 the best way of progressing that. If it was a pure line  
15 issue and not a network issue, then in all probability  
16 I would expect the line to manage that.

17 Q. They would just relay the information and then go on to  
18 deal with it?

19 A. Yes.

20 Q. But if it was a network emergency or a problem, those of  
21 you who would normally be engaged in deciding such  
22 issues and resolving how to respond could all then go to  
23 your predetermined talkgroup and speak simultaneously  
24 with each other?

25 A. There is a capacity to do that. We wouldn't -- when you

1 say the talkgroup is predetermined, we would assign  
2 a talkgroup, dependent on the individual location and  
3 the site.

4 Q. But the -- for example, the Silver managers might know  
5 that a fairly obvious talkgroup is going to be the  
6 Silvers?

7 A. Yes.

8 Q. Or the Silvers at a scene?

9 A. Yes.

10 Q. Or the experts in power management at  
11 London Underground?

12 A. Yes.

13 Q. They are the sort of people who might be expected to  
14 talk together? All right.

15 Two other questions, if I may, arising out of the  
16 response of London Underground. When the Code Amber was  
17 declared by you and Mr Dunmore at 09.13 or thereabouts,  
18 were the other emergency services told or were the  
19 emergency services told of that?

20 We can see the Simlink and the way in which you've  
21 disseminated that information to London Underground, but  
22 how were the emergency services, such as London Fire  
23 Brigade, LAS and so on, told of your decision?

24 A. Well, I informed Mr Crowther of that decision. Sorry,  
25 Chief Superintendent Crowther of BTP, and I would expect

1 that then to be disseminated from that point. Because  
2 the impact is on all of the stations on the Underground.  
3 So that level of information which would then go to  
4 Fire Brigade and London Ambulance Service, I think I'm  
5 not sure how they would use that.

6 Q. It is a very rare message, is it not?

7 A. That's correct.

8 Q. You described the events in December 1991 briefly. Very  
9 rarely has there ever been a Code Amber.

10 A. That's correct, a network Code Amber.

11 Q. A network Code Amber, rather than a line Code Amber.

12 Do you not think a piece of information of that  
13 magnitude and importance should be routinely -- not  
14 routinely, but should be automatically sent out to the  
15 emergency services directly by the NCC so that they are  
16 prepared for perhaps the appearance of 250,000 people,  
17 if there is a subsequent evacuation, or the fact that  
18 there may be trains stuck in a tunnel while they await  
19 entry on to their respective platforms, or that there  
20 will be confusion and inconvenience across the network?

21 A. The issue about telling the emergency services, again,  
22 in retrospect, yes, I think you're correct. However, we  
23 also had to make sure that the other modes of Transport  
24 for London, as we are now, are aware of what's going on,  
25 because we would put 200,000 people on to the streets,

1 they would want to get on whatever transport mode is  
2 available. So just -- one of the small delays in  
3 instigating Code Amber was to actually tell  
4 Network Rail, their central control centre, plus London  
5 Buses that we were about to do that.

6 Q. For very good reason.

7 A. Yes.

8 Q. My concern is, with respect, not that you didn't tell  
9 people in the network infrastructure of the Code Amber  
10 or possible decision to evacuate, but that you should  
11 have told the emergency services or there should be some  
12 system in place whereby they are automatically informed  
13 of something as important as a Code Amber or a decision  
14 to evacuate?

15 A. Well, having listened to the telephones, then there  
16 were -- that information was communicated to the  
17 emergency services, but not in the way that I would like  
18 it to be.

19 Q. Because what happened, in fact, Mr Barr, was that  
20 individual members of the NCC who were contacting the  
21 emergency services asking for them to attend the various  
22 locations would, by the by, tell them that there had  
23 been a Code Amber, but there was no single message sent  
24 out to the emergency services to the effect: we, the NCC  
25 of London Underground have declared a Code Amber?

1 A. Yes.

2 Q. All right. There was no London Underground  
3 representative at the Gold meeting at Scotland Yard at  
4 10.30.

5 A. No.

6 Q. Was there a reason for that?

7 A. Only that we weren't aware that the meeting was going  
8 ahead.

9 Q. In hindsight, given that you were the operator of the  
10 network in which these terrible atrocities had occurred  
11 and responsible for getting the network back together  
12 again, do you not think that your attendance at such  
13 a meeting would have been helpful?

14 A. Either myself or there were some senior directors around  
15 who were capable of assisting in that sort of  
16 conversation, so, yes, we should have been there.

17 Q. Were comparable events to occur now, would  
18 London Underground be represented in some shape or form  
19 at a Gold meeting at that level?

20 A. Yes, I think the inclusion of us, Transport for London  
21 generally, in closer network with the London Resilience  
22 agencies, that actually has happened. We are part of  
23 the central corps for Gold communication and the various  
24 other things.

25 Q. Lastly on this area, we know from material disclosed by

1 the Metropolitan Police and the British Transport Police  
2 that, where there are incidents of terrorism or murder  
3 in the London Underground, then the Metropolitan Police  
4 takes the primary role.

5 A. Yes.

6 Q. Was there, in July 2005, any means by which the Network  
7 Control Centre could communicate directly with the  
8 Metropolitan Police as opposed to the British Transport  
9 Police?

10 A. There was always the telephones and so on.

11 Q. Well, you can call 999, but I mean a direct automatic  
12 secure line?

13 A. At that point, we had a scenario code Operation Ring  
14 Main where we had discrete telephone numbers. However,  
15 in this instance, I felt it was better to do the  
16 communication through British Transport Police. They  
17 are our primary agency.

18 Q. All right. The decision-making process in relation to  
19 the running of the buses and the bus network, we'll be  
20 hearing later today from Mr Dell in relation to that  
21 topic, but I want to be clear from you that the power to  
22 suspend the bus network lies exclusively with Centrecom,  
23 which is the body or the organisation that addresses  
24 such issues and not with the NCC of the  
25 London Underground?

1 A. That is correct.

2 Q. We'll hear from Mr Dell as to what information Centrecom  
3 received. I hope I don't prejudge the evidence by  
4 suggesting that there wasn't very much in terms of the  
5 information received from the NCC as to what your  
6 thinking was as to the possible cause of the explosions,  
7 because they weren't aware, until the bomb detonated in  
8 Tavistock Square, of the explosions.

9 But there is a reference in Mr Dell's statement to  
10 a Mr Ken Maylin being sent to the NCC by Mr Dell at  
11 Centrecom to act as a liaison between NCC and Centrecom.

12 A. Yes.

13 Q. Do you recall an individual appearing to act as  
14 a liaison?

15 A. I do recall an individual appearing, yes.

16 Q. Do you recall -- I appreciate it's a very long time ago  
17 and it's not addressed in the material -- specifically  
18 considering the need to pass information about where  
19 your thinking was in terms of the NCC to Centrecom, so  
20 that when it came to make whatever decisions it would  
21 have to make, it could be properly sighted of what you  
22 knew?

23 A. That was the rationale for having someone in the NCC.

24 However --

25 Q. Quite so, but do you recall actually using that liaison

1 means?

2 A. I can't recall when Mr Maylin arrived in the NCC.

3 Q. All right. So you can't help us whether or not you  
4 specifically instructed somebody else, or perhaps  
5 yourself relayed information, around about 9.40 or 9.35,  
6 that you believed that these were terrorist attacks and  
7 you were going to order the evacuation of the network?

8 A. No, I can't recall.

9 Q. It appears clear, Mr Barr, from your witness statement  
10 that you had no inkling that there was a risk to other  
11 means of public transport and, had you thought that  
12 there was, you would have discussed the matter with  
13 Centrecom yourself.

14 A. I would have discussed the matter initially with our  
15 security manager on call, who is the person who is more  
16 appropriate to make that type of decision on the risk.  
17 However, as you have said, I had no inkling and,  
18 therefore, did not transmit that.

19 Q. Yes. Split attendances. In the broadest of terms, some  
20 of the emergency services went to locations that turned  
21 out not to be the places where the incidents had  
22 occurred. So, for example, Liverpool Street as opposed  
23 to Aldgate; Euston Underground station as opposed to  
24 King's Cross; and Praed Street, which was adjacent to  
25 Chapel Street, but not quite there in terms of

1 Edgware Road.

2 The system, in 2005, was fairly rudimentary, was it  
3 not, in comparison to the system that is now in place in  
4 terms of providing the London Fire Brigade, for example,  
5 with information as to the location to which fire crews  
6 should be directed? There is now a much more detailed  
7 system in place, is there not?

8 A. Yes, there is.

9 Q. I think at Aldgate, at 8.58, the London Fire Brigade  
10 were told by the London Underground NCC to go to  
11 Liverpool as the primary and Aldgate as the secondary.  
12 So it does appear that both stations appeared to London  
13 Fire Brigade for the purposes of assessing their  
14 response.

15 A. Yes.

16 Q. There was a difficulty, though, at Edgware Road, was  
17 there not, because, at 09.07, the London Fire Brigade  
18 were told by London Underground to go to the Circle and  
19 Hammersmith at Chapel Street, but because of an existing  
20 call from a member of the public to go to Praed Street,  
21 it was entered as the same incident and only corrected  
22 10 or so minutes later when crews at Praed Street  
23 realised that there was nothing happening there?

24 A. Well, I believe that the operator in London Underground  
25 was aware that there was a discrepancy and attempted on

1 two occasions to get the correct address put in.

2 Q. There was a certain amount of debate over the call, we

3 can see, as to what the correct address was.

4 A. I don't believe there was any debate on our side.

5 Q. Well, the position appears to be that there are two

6 stations for Edgware Road.

7 A. Yes.

8 Q. There was a reference to a Circle and Hammersmith,

9 whereas, in fact, it would be a City & Hammersmith Line,

10 would it not, to be distinguished from the Circle Line?

11 A. No.

12 Q. No?

13 A. The CCAP, the contingency plan, has got the correct

14 address and certainly part of my research indicated that

15 the person who telephoned used -- from

16 London Underground's control room used the correct

17 address.

18 Q. Which lines go through Chapel Street as opposed to

19 Cabbell Street? I hear someone saying it's the same

20 place.

21 A. Yes.

22 Q. Which is the station to the north of the flyover?

23 A. It's the Bakerloo Line.

24 Q. It's the Bakerloo Line?

25 A. Yes.

1 Q. So in the emergency plan what is the address given for  
2 Edgware?

3 A. Do you have the document, please?

4 Q. I haven't got the number for the Edgware emergency plan,  
5 I'm afraid, to hand. TFL16, thank you very much.

6 Page 2 [TFL16-2]. Thank you, Mr Hay.

7 A. That is the correct address and that is the address  
8 which the operator in the NCC used. That's  
9 Chapel Street, London, NW1 5HD.

10 Q. You've listened to the tapes concerning that call?

11 A. Yes, I have.

12 Q. At 09.02.43, turning to King's Cross, London Fire  
13 Brigade received a call from London Underground  
14 concerning King's Cross Underground and there was  
15 a reference to "We've got that on the Euston Road"  
16 you'll remember from the call?

17 A. Yes.

18 Q. The LFB system had 44 possible addresses for various  
19 parts of King's Cross on their system and there was an  
20 attempt between the two operators to clarify what  
21 exactly was required and I think there was a reference  
22 by London Underground to the building works going on  
23 there.

24 A. Yes.

25 Q. You used the phrase "It's a mess down there", and there

1 was no secondary station --

2 A. No.

3 Q. -- offered by the controller there. So LFB were left to  
4 select, according to their own system, the appropriate  
5 location for the response, and took tunnels  
6 King's Cross/Euston Square station, hence the  
7 Euston Square attendance.

8 How, now, would such a call have operated?

9 A. We have a different and jointly agreed system, which is  
10 called Hotel Lima Uniform Lima, HLUL system, where every  
11 station has a specific identifier and it goes further  
12 than that, every platform has a specific identifier as  
13 far as the London Fire Brigade are concerned.

14 Q. Is that a unique number?

15 A. Yes, it is.

16 Q. So you can simply provide the London Fire Brigade with  
17 the exact number for the exact location?

18 A. That's correct.

19 Q. Trackernet, you've referred to the fact that there was  
20 no trackernet for the Piccadilly Line in 2005 and,  
21 therefore, it wasn't possible for managers in the NCC to  
22 ascertain the location of a train on the  
23 Piccadilly Line. Although you knew when it had left  
24 a station, you couldn't tell where it was in the tunnel.  
25 Is trackernet now available on all the lines?

1 A. Yes, it is.

2 Q. Does the CONNECT system, of which you've referred, have  
3 with it a device whereby the system will tell you the  
4 exact location of the CONNECT radio in the cab and,  
5 therefore, of the location of the cab?

6 A. Yes, I would -- when you say "exact location", it won't  
7 tell you in between stations, but it will tell you the  
8 sector. So if you take King's Cross to Euston Square,  
9 it will tell you the number of trains there are in that  
10 sector. Now, there could be three or four and,  
11 therefore, you can interrogate and see exactly what  
12 trains you have in that section.

13 Q. How would you, therefore, on the Piccadilly Line,  
14 ascertain the location of a train between stations?

15 A. Exactly the same way.

16 Q. If you know that there are a number of trains in the  
17 sector, do you have to then eliminate all the other  
18 trains to find the one that's missing on the screen?

19 A. I'm afraid you do.

20 Q. You do?

21 A. Yes.

22 Q. Has there been any improvement or increase in the CCTV  
23 camera coverage of the network to assist in this or not?

24 A. The CCTV camera system has been enhanced and, indeed,  
25 there are some processes for going through. At the time

1 when this incident happened, then we had a limited  
2 number of platform views. That has been increased, and  
3 also we have the ability to work on the same pictures  
4 that British Transport Police have.

5 Q. There is an operational standards notice so-called,  
6 I think it's number 89, which requires monitoring of  
7 trains every 15 minutes. Do we take it from that, then,  
8 that if a train doesn't appear or you don't have sight  
9 of that train for more than 15 minutes, it remains  
10 a question of having to isolate the train by assessing  
11 where all the other trains are and then finding out in  
12 the sector where a train that has disappeared from your  
13 monitor is?

14 A. That's correct, but there are different ways of doing  
15 it. You can contact the stations in advance and, if  
16 you've got three or four stations -- sorry, three or  
17 four trains in a section, you can find out if there's  
18 any trains in platform, you can find out what the  
19 nearest trains are. That operational standards  
20 notice 89 is designed for the Network Operations Centre  
21 or Network Control Centre, apologies, to do that  
22 independently of the line and acts as an independent  
23 backup for the location of trains.

24 We still expect the lines to do exactly the same  
25 thing.

1 Q. And to find out for you where their trains are?

2 A. To find out where their trains are, and then the  
3 information gained from the duty manager in the NCC and  
4 the information gained from the line management, from  
5 the duty manager for the line, for those people to do  
6 a handshake and to corroborate that level of  
7 information.

8 Q. Could you, though, in the event of an emergency, speed  
9 up the process by expecting or instructing drivers, in  
10 the event of an emergency, to use their radios which now  
11 work in the tunnels to contact either the line control  
12 room or the NCC directly to say, "I am at this location,  
13 I'm near signal post X or Y"?

14 A. Yes, I would expect them not to contact the NCC.  
15 I would expect them to contact their line control.

16 Q. All right.

17 A. Because the risk is we then get duplication of  
18 information and possible risk of transmission of  
19 incorrect information.

20 Q. But the importance of this point is that the new radio  
21 system, the TETRA-based radio, permits, in an emergency,  
22 another means of allowing a driver or a member of staff  
23 caught up in an emergency to tell the management system,  
24 the manager of the line, where he or she is located?

25 A. That's correct.

1 Q. We touched earlier upon the chief operating officer's  
2 review of lessons learnt, and I would just like to look  
3 at that particular document for a few moments, if I may.  
4 Could we have [TFL986-5], which contains the summary of  
5 the findings? Could we just enlarge the middle of the  
6 page, please, there, under "Communication".  
7 The finding is set out there, is it not, that the  
8 issue that generated the most concerns on the part of  
9 London Underground staff to whom you and your colleagues  
10 spoke was that there had been a failure in  
11 communications and, as you observed earlier, the NOC,  
12 formerly, the NCC, was heavily criticised for failing to  
13 proactively provide information to the front line and  
14 being unable to respond to approaches from staff for  
15 help.  
16 There was particular grievance, was there not,  
17 because some members of staff found out more from the  
18 press and television than they did from the NCC, they  
19 complained?  
20 A. Yes.  
21 Q. I think there was a line said by one responder to the  
22 effect that they found out more from switching on the  
23 telly than by calling the NCC.  
24 Are you confident that the system has now been  
25 reconfigured in such a way that the NCC is now able to

1 disseminate information where it deems it necessary to  
2 do so?

3 A. I believe that we have an awareness of what is required.  
4 I believe we have the capacity to enhance the  
5 communication processes.

6 Q. You mentioned earlier that the system formerly obliged  
7 individual managers in the room to log individual calls  
8 and then to have to relay the information that they had  
9 received.

10 How does the present system cater for the fact that  
11 there may be a moment when a quiet or usual day turns  
12 into a full pan-network emergency, the number of calls  
13 escalates into the NCC and there may not be enough  
14 managers on duty to cope with that proliferation of  
15 calls?

16 A. The way that -- we've looked at the organisations in the  
17 room and what would happen is that, on a Monday to  
18 Friday, there are two same grade managers who are in the  
19 room. I would now expect one of the managers to deal  
20 with the incidents, but the other manager now has the  
21 role of standing back and taking an overview as to  
22 exactly what has happened for precisely that point so  
23 that we can take an overview, and then, the way that the  
24 room works now is that visitors to the room do not go  
25 into the central control room. They go into the

1 situation room.

2 In addition to that, we now have, linked by video  
3 conferencing, a separate backup room where we put  
4 a support team. So the way it works now is that the  
5 Gold Command will have a very small team, and if you  
6 have a Command team of any more than five or six, then  
7 you've got too many people there, so they would get,  
8 then, this sub-team to actually work and work on details  
9 that they wanted to do.

10 All of those people have visibility of the Nimrod  
11 system. So --

12 Q. The system you described earlier for recording of  
13 informs?

14 A. Yes. So the system is more interactive, it is more open  
15 to question, and gives a better view on the flow of  
16 information, because when you have five or six people  
17 all inputting to Nimrod, you actually get quite  
18 a cohesive picture, step-by-step, each system is timed,  
19 dated, you can see who it is, you can see the level of  
20 message, and it actually is an extremely effective  
21 system.

22 Q. Does it permit managers to be moved from the secondary  
23 room into the Gold room, if you need more people to  
24 carry out the jobs that have to be done?

25 A. Yes, it does.

1 Q. Page 6 of that document, TFL986 [TFL986-6] , dealt with resources.

2 At the top of the page:

3 "Given the scale of the incidents concerned, it  
4 comes as no surprise that our emergency equipment was  
5 found to be inadequate."

6 The members of staff to whom you and your colleagues  
7 spoke identified a number of problems that they felt  
8 existed and you also received, did you not, a number of  
9 suggestions as to how matters might be improved.

10 Can we look, please, at page 21 [TFL986-21] of this document?

11 We can see there some of the suggestions set out. They  
12 covered issues such as whether there was enough  
13 equipment, equipment for multicasualty incidents, the  
14 location of equipment, not just in the station  
15 supervisor's offices but everywhere else, and did  
16 London Underground respond to these suggestions and  
17 these concerns by taking a number of steps?

18 A. Yes, they have.

19 Q. The Inquest team has been contacted by one particular  
20 former member of London Underground who posited the  
21 suggestion that the removal of guards from the trains  
22 some years back now may have contributed to a lack of  
23 confidence on the part of members of the public in an  
24 emergency because there are fewer London Underground  
25 staff there to deal with the situation, and that

1 particular person also suggested that the addition of  
2 a guard might have helped on 7/7, because, whilst  
3 a driver was off trying to contact the line controller  
4 through a signal box because the radio in the cab didn't  
5 work, a guard, if there had been a guard, could have  
6 stayed with the train or with the passengers and done  
7 what he or she was able to do by way of bringing them  
8 some degree of comfort or assurance.

9 Has the issue of the withdrawal of guards been  
10 re-examined in light of the events of 7/7?

11 A. The issue of reintroducing guards is not part of our  
12 current thinking.

13 Q. In brief, are there good operational reasons why there  
14 is no need to have guards on a train and why, in this  
15 sort of situation, a single driver in a train should be  
16 expected to be able to cope with it?

17 A. I believe a single driver should be able to cope with  
18 this sort of emergency.

19 Q. The particular scenario I advanced, which is that, in  
20 the need to contact NCC or the line controller, the  
21 driver might have to leave the train. Is that now  
22 addressed by the new radio system which should allow him  
23 communication means with the line controller or the  
24 NCC -- you say predominantly the line controller -- from  
25 the train itself?

1 A. That's correct.

2 Q. Therefore, he shouldn't ever have to leave the train to  
3 get help?

4 A. The old rules where you had not very good communication  
5 meant that a driver would have to, in some cases, walk  
6 along the track to go to a signal and use a signal  
7 telephone. The CONNECT radio completely changes all of  
8 that scenario.

9 Q. All right. One other area that was raised was at  
10 page 11 [TFL986-11] of this document, which was that the system was  
11 felt to be slow and bureaucratic and there are  
12 references, we can see there, to the belief that there  
13 was too much jargon.

14 Mr Barr, we have been treated throughout these  
15 proceedings to acronym upon acronym and to technical  
16 expressions concerning management response and Command  
17 and Control and all the various issues that go along  
18 with it.

19 LADY JUSTICE HALLETT: To the ludicrous use of English.

20 MR KEITH: And the ludicrous use of English.

21 In what ways, if at all, did London Underground  
22 respond to the concern expressed by, in particular,  
23 members of staff on the ground that the system was  
24 perceived to be overly bureaucratic?

25 A. We have a system now for safety critical communications.

1 Q. I'm afraid to say you've -- I think you've trodden right  
2 back into it again, Mr Barr.

3 A. No, I haven't, I'm going to explain. We have clarity of  
4 messages, ensuring that people understand messages, so  
5 there is a transmission of a message from the person who  
6 wishes to state something. There is then a repeating of  
7 that message back by the person who receives it.  
8 In short, it's the military process which we've  
9 adapted and, therefore, by using that, then the  
10 communication has become clearer, it has become plainer,  
11 and it has become more succinct. Making sure that  
12 someone on the other end of a telephone understands what  
13 you're saying, then that is the essence of it all.

14 Q. In terms of the Command and Control structure: namely,  
15 the use of Gold, Silver and Bronze in accordance with  
16 the current emergency doctrines and the advice of the  
17 London Resilience Forum and so on, has that system been  
18 streamlined in any way or altered or has it been  
19 considered that there's no need to change it in light of  
20 the concerns expressed about the way in which the system  
21 operated that day?

22 A. The Gold, Silver and Bronze in itself is a system that  
23 we have adopted and we will continue to adopt. As you  
24 are aware and you've stated, its essence is in LESLP.  
25 In fact, there are really significant advantages in

1 doing that, because one of the reasons why we introduced  
2 it was that, before we used that, you would have  
3 a member of the emergency services who would arrive at  
4 a station, they would be met by someone who usually  
5 announced their job title, some of the emergency  
6 services may be aware what that job title meant, and  
7 some -- and others did not.  
8 Nowadays, we expect them not only to say, "I'm the  
9 Silver control", but also to wear tabards with that word  
10 on it. By doing that, you have an immediate recognition  
11 by either side of what the levels of Command and Control  
12 are, and we use it very effectively.  
13 LADY JUSTICE HALLETT: That's if everybody is identifiable.  
14 What if, though, you have ordinary members of the  
15 Fire Brigade or the Ambulance Service who have not been  
16 designated as Silver or Bronze and they come up against  
17 somebody who's calling themselves some job title that  
18 nobody can understand outside their own particular  
19 system? That system's not going to work, is it?  
20 A. It's the very point, my Lady, that the person -- the  
21 member of London Underground staff will say that "I'm  
22 the Silver control". What their grade is, what their  
23 job is, is secondary. The person they're interfacing  
24 with needs to know that that person understands what  
25 Silver control is.

1 In my experience, all of the emergency services at  
2 almost any grade you wish to talk about understand Gold,  
3 Silver and Bronze. It's for that reason why we've  
4 injected those titles so that people, a member of  
5 London Underground staff, will meet the emergency  
6 services and use the word "Silver" or "Bronze".  
7 I wouldn't expect them to use the word "Gold".

8 LADY JUSTICE HALLETT: One of the problems, it might be  
9 said, as far as these incidents were concerned, was that  
10 people from the emergency services were arriving at the  
11 various stations and they didn't seem to get together.  
12 So you'd have everybody going down to "I had to assess  
13 the situation on behalf of my organisation", and  
14 I didn't get a feeling that there was any designated  
15 point -- if anything, God forbid, were to happen at  
16 a Tube station tomorrow, is there somewhere that --  
17 obviously, unless it's been affected by the incident --  
18 is there somewhere where people know they have to go so  
19 that they can all be together and they haven't all got  
20 to go down and waste time assessing the situation for  
21 themselves?

22 A. Every station has a designated primary rendezvous point  
23 and that's where the emergency services are expected to  
24 arrive at.

25 LADY JUSTICE HALLETT: Is that new?

1 A. No.

2 LADY JUSTICE HALLETT: That should have been in place in  
3 2005?

4 A. It should have been in place in 2000, yes, and not only  
5 do they have a primary rendezvous point, because it's  
6 entirely possible that the primary RVP is not available,  
7 but every station has a secondary rendezvous point.  
8 It's quite common, if we send for fire or for  
9 ambulance, that the designated meeting point is the  
10 rendezvous point, and that is -- if you listen to  
11 recordings nowadays, then almost invariably it's "and  
12 you will be met at the rendezvous point", except we use  
13 a slang, which is RVP.

14 LADY JUSTICE HALLETT: So each organisation ought to inform  
15 or ought to be in a position to inform those responding  
16 the exact location of where they're to go, where they  
17 all meet their counterparts and the other emergency  
18 services and London Underground?

19 A. That's correct. Well, sorry, I apologise. Where they  
20 would be met by London Underground.

21 LADY JUSTICE HALLETT: That was in place in 2005?

22 A. Yes.

23 MR KEITH: Thank you, my Lady. We've seen, I think, in the  
24 emergency plans the actual sign in the plan that is  
25 supposed to be exhibited or put up at each of the

1 stations. We might have it, if I'm fortunate, at  
2 [TFL16-37]. That sign "RVP" should be located at every  
3 single station?

4 A. That's correct.

5 Q. Was that sign in existence, was it put up at each  
6 station as at 7 July 2005?

7 A. Yes, it was.

8 Q. Is it large?

9 A. Well, it's not enormous, but it's -- if I may, it's  
10 about that size, with "RVP".

11 LADY JUSTICE HALLETT: So who from London Underground should  
12 have been at that spot meeting the first ambulance, the  
13 first Fire Brigade?

14 A. A designated member of staff who was asked to be there.

15 LADY JUSTICE HALLETT: Who was that on the day? What sort  
16 of level of person? Who was the witness we should have  
17 been asking about this?

18 A. It could have been anyone on the station. It could have  
19 been the manager, it could have been the station  
20 supervisor.

21 LADY JUSTICE HALLETT: Their job would be to meet and  
22 greet -- sorry, "greet" is the wrong, horrid word, but  
23 to meet the representatives of each of the emergency  
24 services as they arrive, and then do what with them?

25 A. And convey them to the main part of the station or

1 where -- if there was a Silver control, where the Silver  
2 control was.

3 LADY JUSTICE HALLETT: So if, say, the Silver control was in  
4 the station control room, they should be taken there  
5 immediately?

6 A. Correct.

7 LADY JUSTICE HALLETT: Then the London Underground person  
8 should go back to the rendezvous point and wait for the  
9 next one --

10 A. Yes, that's correct.

11 LADY JUSTICE HALLETT: -- and take them to where the --  
12 right.

13 MR KEITH: My Lady, thank you. Mr Barr, those are all the  
14 questions I have for you. I'm sure there will be more.  
15 Thank you very much indeed. You've been most helpful.

16 LADY JUSTICE HALLETT: I have one more before anybody else  
17 does, Mr Barr.

18 As far as liaising with the other organisations  
19 concerned, to what extent has the training, inter-agency  
20 training changed since 2005? Because I don't detect at  
21 every scene an understanding by various organisations of  
22 what other organisations had to do?

23 A. It's part of our inter-agency relationships, primarily  
24 through the London Resilience Team, to make sure we  
25 understand and they understand what the key and cogent

1 features are of a particular incident. This is the  
2 major style of incidents. At the normal Fire Brigade  
3 attendance or ambulance attendance, then I believe our  
4 staff are well-versed in those sort of requirements. It  
5 is the major incident scenarios which we have to deal  
6 with and which we're continuing to do.

7 LADY JUSTICE HALLETT: But has the training, the  
8 inter-agency training improved through the auspices of  
9 the London Resilience Team?

10 A. Yes, it has. We send our senior managers to the  
11 Gold Command training course, which is done, and that's  
12 done through LFEPA and all the senior managers who are  
13 involved in incident management have been subject to  
14 that course, either by London Underground giving it or  
15 by LFEPA giving it.

16 LADY JUSTICE HALLETT: What about the people on the ground,  
17 the people who are likely to be at the scene, the people  
18 who are going to be actually dealing with the incident  
19 as it's developing and before those in the control room  
20 have been alerted to what's going on? How do they get  
21 trained between the various agencies?

22 A. Well, we do that through the table-tops. All of our  
23 supervisors and all of our staff are trained in the  
24 rule book 2, which is the sort of follow-on from NA100.  
25 So they're all trained in that. But the interaction

1 between the emergency services I guess is something that  
2 we need to look at.

3 LADY JUSTICE HALLETT: For example, would your staff be  
4 trained about the role of the first ambulance on the  
5 scene? Would your staff be trained about the Bronze,  
6 Silver, Gold, and all the rest of it? To what extent  
7 does this training reach the people who are likely to be  
8 dealing with the incident in the vital minutes after the  
9 incident has started?

10 A. Our staff deal with emergencies all the time, there are  
11 interactions with the emergency services. The role of  
12 the Ambulance Service with a first responder operating  
13 a triage, then that is -- that is known and we teach  
14 that in our competency training.

15 LADY JUSTICE HALLETT: Thank you.

16 Ms Sheff, are you starting? Would you like to just  
17 start?

18 Questions by MS SHEFF

19 MS SHEFF: Certainly. Mr Barr, I'll be asking you questions  
20 firstly on behalf of all the group of families who lost  
21 loved ones in the Tavistock Square bus bombing and, as  
22 you'll no doubt appreciate, many of them are very  
23 anxious to know whether it might have been possible to  
24 prevent the explosion on the number 30 bus.

25 One of the issues that her Ladyship will be

1 considering is whether some or all of the transport  
2 network should have been closed down before the bomb  
3 went off on that bus.

4 As Mr Keith has already indicated, we'll be hearing  
5 from Alan Dell later on. He was, of course, the man who  
6 took that decision or, rather, didn't take that  
7 decision, but one of the reasons that he gave for not  
8 taking that decision was because he didn't have  
9 sufficient information, and that's what I'd like to  
10 explore with you, the information that you had available  
11 to you and how that information may have been  
12 disseminated to others, specifically those in control of  
13 the bus network.

14 Mr Keith has gone through in some detail with you  
15 the various aspects of knowledge, the knowledge that you  
16 had on the morning of 7 July, and it's right to say that  
17 your position, as network coordination manager for  
18 London Underground, would have been partly an  
19 organisational role bringing in and assessing all the  
20 information, but part of that role, was it not, was also  
21 to speak to others and to disseminate information and to  
22 make decisions based on that?

23 A. For London Underground, yes.

24 Q. Yes. In that regard, you went to speak to Chief  
25 Superintendent Crowther of the British Transport Police?

1 A. That's correct.

2 Q. Now, we've heard that the British Transport Police have  
3 their own NCC, as it were, which is called the MICC.

4 A. Yes.

5 Q. It's intended that there will be very close  
6 communications between the two bodies in respect of  
7 emergency scenarios, isn't it?

8 A. Yes.

9 Q. To that end, the two facilities are actually linked.  
10 There are two rooms through which there is an intercom  
11 system, so that you, as the controller of the NCC, can  
12 have direct access with the duty officer at the MICC.

13 Is that correct?

14 A. No, it's not. The two offices or the two control rooms  
15 are directly adjacent.

16 Q. Yes.

17 A. The only direct communication media that exists between  
18 the two is through the normal telephone system.

19 In order to gain access from what is, in effect,  
20 a corridor into the MICC, there is an intercom where you  
21 let people know who you are, because it's a restricted  
22 access area, and they allow you in. There is not  
23 a direct communication between the NCC and the MICC in  
24 the context of a direct intercom.

25 Q. So in order to communicate between the two of you, are

1 you saying that you would have to go physically into  
2 that room or somebody from their office would have to  
3 come physically into your room to exchange information?

4 A. Or to use the telephone, yes.

5 Q. Or to use that telephone?

6 A. A telephone.

7 Q. Is that a direct telephone link?

8 A. There are direct telephone links from the operators'  
9 desks. In the Gold room there is a button so that you  
10 can talk direct to the British Transport Police duty  
11 officer.

12 Q. Did you make use of that facility on that morning?

13 A. I made use of that facility by face-to-face discussion  
14 with Chief Superintendent Crowther. The people in the  
15 control room, the duty managers, talked on the telephone  
16 direct with British Transport Police.

17 LADY JUSTICE HALLETT: Shall we leave it there? I probably  
18 shouldn't have made you start, Ms Sheff. Thank you.

19 2.05.

20 (1.00 pm)

21 (The short adjournment)

22

23