

Transcript of Proceedings

Issued subject to correction upon revision.

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IN THE MATTER OF THE COMMISSIONS OF INQUIRY ACT 1950

COMMISSIONS OF INQUIRY ORDER (No. 1) 2011

QUEENSLAND FLOODS COMMISSION OF INQUIRY

BRISBANE

..DATE 03/02/2012

..DAY 60

THE COMMISSION RESUMED AT 9.00 A.M.

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JOHN VINCENT TIBALDI, CONTINUING:

COMMISSIONER: Yes, Mr Ambrose?

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MR AMBROSE: Mr Tibaldi, can I ask you to have a look at Situation Report 8, please? That's one created at 0600 on Saturday, the 8th of January. Thank you. And could you scroll down, please, to where it deals with the impacts downstream of Wivenhoe and the second paragraph, "The current available assessments", do you see that?-- Yes, I do.

Now, why would a flood engineer give any consideration to this unless he was considering the possible impact on the urban areas?-- I agree. I thought we might have covered - sort of recall covering this point yesterday, but I agree. I mean, what's occurred - my interpretation of that would be that a model run's been done around that time - oh, no, he must have looked at the projected flows against the tides and made an assessment that, you know, the impact down in urban areas at that time was very small, only 50 to 100 millimetres, you know, on the tide.

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All right. Let me take you back, then, to Situation Report number 1. That's Thursday, the 6th of January at 8.14 a.m.. Now, just have a quick flick through that. Is there any evidence that the flood engineer was considering any impacts in the lower Brisbane area?-- Do you mind if I just get out - oh, I will read it here .

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If you want to get out the hard copies, that would be-----?-- Oh, no, it's fine, I can see it now, it's okay. I just need - I need a minute just to read it. Well, in terms of impact on urban areas, I guess the fact that it talks about, "The three councils will be talked to", Somerset, Ipswich and Brisbane, that would indicate to me that when they speak to each of those councils they would have given an indication as to what the likely impacts were as they were judged at that time.

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Any suggestion of the degree of contemplation as evidenced in Situation Report 8 that I have just taken you to?-- Oh, no. Well, this was the first - this was at the start of the event, so-----

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That's right?-- Yes.

So, it wasn't significantly in the contemplation apparently at the beginning of the event?-- No, I expect at that stage we were are just touching base with the councils and-----

Right?-- -----availing them of the situation. Sorry.

I take you to Situation Report 2, 3, 4 and 5, and I suggest that that's exactly the situation that was pertaining at that time?-- I will get out the hard copies because it-----

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Yes, it will be quicker?-- -----I have to - see what volume they are in. Yeah, well, 2, 3 and 4 again indicate that there's been discussions with the three councils, so they would have updated them of the situation at that time. Five appears just to be an update on North Pine Dam.

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But by 6, I suggest to you, the situation has changed somewhat and for the first time there were discussions held with the Brisbane City Council and with BOM and all agencies agreeing that the combined flow in the lower Brisbane River will add a certain number of millimetres, et cetera, to the releases?-- Yeah, certainly that entry indicates they have had some more specific discussions with Brisbane about the impacts down there. That was on the 7th of January at 6 p.m.

That's right?-- Around 6 p.m.

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And, indeed, we can see from the entry under the heading, "Wivenhoe Full Supply Level.", that it was intended to ramp up the release from Wivenhoe to about 1200 CUMECS during the next 18 hours?-- That's correct, that's what the - that's exactly what it says.

So, then we come to Situation Report 7 and there's a response from the Brisbane City Council about the estimates. Do you see that?-- Yes. That would indicate to me there's ongoing discussions with the council about the impacts.

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Then we come to the Situation Report number 8 at 0600 hours on Saturday the 8th and under the, "Impacts Downstream.", there's another clear reference to what was contemplated by the flood engineer on duty at that time concerning the impacts of releases in the urban areas?-- Yes, I'd agree with that. Particularly the last paragraph of that section would indicate that to me.

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Just identify that last paragraph, please?--

"Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy."

Thank you very much. Now, what, if anything, does that tell you about whether the strategy was going through a different phase at about that point?-- I guess - if I'm reading that what that indicates to me is they're certainly carefully considering strategy. That alone, without looking at the data and what's occurring in terms of rainfall at the lake and the river flows, wouldn't necessarily indicate to me there's been a change in strategy, but it certainly indicates to me they're thinking carefully about it.

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Now, it was put to you by Senior Counsel assisting this Inquiry that the flood report was calculated to convey an impression because you were afraid of what people would think if they knew there had been no choice of strategy during the

event?-- I can recall words to that effect yesterday. I am not sure of the exact words.

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Looking at those Situation Reports and the contemplations that I have taken you to, I suggest to you that Strategy 3 was contemplated even as early as Friday, the 7th?-- It appears that way from the entries.

Yes?-- But - yes.

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Indeed, if the intention was to ramp up the releases to 1200 CUMECS, we know that when the lake level, which is steadily rising, hits 68.5 Strategy W2 will automatically be bypassed?-- On the information that was available in the model runs at that time, I think you would have - I agree that you would have been able to see that.

Yes. On the other hand, if the releases weren't ramped up, as was intended, and W2 was engaged, lower releases would have been effected?-- That's correct and, as I said yesterday, there's examples of that in just the flood event two weeks before this one.

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That's right. And if lower releases were effected, then we know, do we not, that if as things transpired then W4 would have been reached earlier, the inundation of Brisbane would have been sooner went for longer?-- Yes. Certainly the flood peak would have been higher, it's just unquestionable.

It follows, doesn't it, that the operation followed an impeccable application of the manual to optimise protection of urban areas using the storage capacity and the release rates?-- Well, everyone just did the best they could. I think it's - I am not going to make a self-judgment on the decisions that were made. The decisions are in the report. People can make their own judgment on them.

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This was the case, wasn't it, I suggest to you, until Sunday night when it became apparent that releases needed to be ramped up even further because the storage capacity was approaching a point where it could no longer be used in that manner?-- The report certainly indicates the decision was made at that time and that's my belief.

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And had there been no more rainfall, the operation of Wivenhoe would have protected Brisbane from an equivalent of about a 1974 flood?-- No. There would have still been substantial flooding in Brisbane due to the water that impacted Brisbane from the Lockyer and Bremer Rivers-----

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All right?-- -----that came in below the dam and obviously the dam can't control that, that flow.

And in addition to that, there was an unforecast second peak 24 hours after the first?-- There certainly was that second peak. The details of the forecast that were available at that time are contained in the flood report. People can make their own assessment based on that data as to whether - how

accurately that peak was forecast.

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And the data, I suggest to you, clearly shows that if one reads it - and I am talking about the Situation Report and the fact that the dam was being used for storage - that the storage capacity was being used time and time again as time progressed?-- Well, I would have certainly - you know, certainly I agree with that, we were certainly using the flood storage, that's what occurs when the water goes over the peak full supply level.

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If one was reading the Situation Reports one could see from contemporaneous entries that the storage capacity was being gradually used up?-- You could - yes, you could make that interpretation from the Situation Reports. For me, to make that interpretation, I would need to look at the Situation Reports and the other data available.

Sure, but the Situation Reports, as they progress, record that the storage capacity in the dam is getting smaller as the dam is used for storage, do they not?-- Yes, I believe they record the level of the dam so that's an accurate reflection of what you are saying.

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If someone is reading a Situation Report and sees that you're allowing the dam to fill up, they know, don't they, that that water isn't lapping their toes in the urban areas, it's being kept somewhere else?-- Yes.

So they can read in the clearest possible terms, unless they want to bathe in general ignorance, that the dam is being used to mitigate against flood?-- Certainly the information's in the Situation Report, there's no doubt about that, but having said that and - you have got to realise that some people that would be reading that, the level wouldn't mean a lot to them, and I guess that's one of the difficulties and I guess one of the things that's come out of the flood that, you know, there is this education factor. We can write a Situation Report that gives accurate information but if people are not able to interpret that that becomes a problem, but certainly the information was there in the report, I agree with what you're saying.

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Have you misled the Commission?-- No.

Did you create a misleading or a false Flood Event Report?-- No.

Does the flood report, in fact, reflect accurately the events of this flood event?-- I believe it does and I reflected on everything yesterday and I still have that firm belief.

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Could you have a look at Exhibit 1,052, please, and in particular the annexure? You have seen this document before, I understand?-- I can't recall ever seeing this document until it was shown to me a few days ago, but an e-mail that was sent during the event indicates that it was - it would be reasonable to assume I did see it at that time but I can't

recall it.

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Did you create it?-- No - well, having been shown the Cabinet submission which I obviously created and couldn't recall, it's - I am not sure about anything over that period any more, but certainly there's nothing I have seen to indicate that I created this.

It's obviously wrong, is it not, in terms of the times that the Ws were attributed to certain times?-- It's obviously wrong, it's obviously wrong, the - you know, I didn't look at it in detail the other day, but - I think actually when it was first shown to me the problem I can see on the screen now occurred, and I am talking about a couple of days ago, you can't see what's in the right columns. So, you sort of need to see the whole bit of spreadsheet to appreciate what's being discussed there. I don't know if you can do that. But, anyway, the review I had the other day, having been shown it, was, yeah - look, it's obviously wrong, it contains errors, it's just simply incorrect.

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COMMISSIONER: What's the significance of the right columns, sorry, Mr Tibaldi?-- Oh, well, all I can see on the screen is "Action" and "Time", but I think if you go to the right - see how there's additional columns there with information in them?

We will do that?-- I thought if you scroll down there was additional information. I could be wrong. Yes. See how there's additional information there? Say, for example in row 70 - oh, sorry, say - a good example is probably row 72.

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What should we make of that?-- Beg your pardon?

And what should we make of that?-- Well, it's just - it's an error, it's not correct - well, if you then scroll back, as I said, you really need to look at the whole thing, need to see the time that entry was made, 9.53 p.m.

Would you like to look at a hard copy so that if you do want to make any point about it you can?-- All I'm saying really is there's errors in it, there's obvious errors in it. That's, I guess, what I am saying, I can point some out.

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I will just get you you to look at a hard copy so you have got the opportunity say anything you want to?-- Okay. I have got the copy.

MR AMBROSE: I'm sorry, was the witness answering a question of yours?

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COMMISSIONER: I just invited him to have a look to see if there's anything else he wanted to make a comment about, that's all.

MR AMBROSE: Just let me take you to the fifth sheet, if I may, and you see the entry the 8th of January at 4.55 a.m.?-- Yes.

That suggests that according to the directive referred to, number 3, that strategy 1D was engaged at that time?-- Strategy 1D was in effect at that time, that's what this indicates. Whether that's correct or not, I would have to check back in to the flood report.

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We are talking about 8 a.m. at 4.55. Do you need to know the lake level at that time, do you?-- To make that determination I would. I mean, I know the lake level exceeded 68.5 at 8 a.m.. Were it was at 4.55-----

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Strategy 1D - it might be easier if I take you down to the next entry, 8/1 at 8 a.m.. That's a bit clearer, I think. Do you see that?-- Yes.

That says again, "Strategy W1D"?-- Yes.

It's clearly wrong, isn't it?-- Yes.

Because by that stage the lake had gone beyond 68.5?-- Yes, that's right.

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On the 9th, a few lines down, at 1 a.m. he's talking about the strategy being W1E, and again that's clearly wrong because the lake again is higher than 68.5?-- Yes, well, I would have been on at that time and I knew we weren't in 1E, I knew we weren't in 1.

So-----?-- But I did not write that entry.

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I understand that, but in the course of writing the flood report do you think you had occasion to look at a spreadsheet such as that?-- I looked at the event log, but I don't believe I have ever looked at a spreadsheet like this when writing the report. It's not part of official records that I can ever recall seeing.

COMMISSIONER: Can I just understand the sequence then? You did e-mail it on but you say you don't really recollect that?-- Yeah, for some - it was e-mailed to me - I think the records show it was e-mailed to me at about 7 o'clock, 7 p.m., because I was writing this Cabinet brief, and then I have e-mailed it on. I must have - what I assume is I'm at Margaret Street because it's been e-mailed from the Flood Centre to me and for some reason I have e-mailed it back to the Flood Centre and hour later.

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All right. Does it ever resurface?-- No.

Thank you.

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MR AMBROSE: At the Flood Operations Centre the situation with the computers there is that you have got a local area network in place so that if someone was at a monitor with that document, for example, in front of them, someone at another monitor could be working on exactly the same document simultaneously?-- Oh, you would have to ask - I don't know that. You would have to ask someone that understands how the

system works there.

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Right. Anyone can send an e-mail from the Flood Operations Centre from any of the PCs and it will come apparently from the duty engineer at SEQ?-- That's correct. Well, that's my understanding again, but you can confirm that with an IT person.

Now, in the preparation of the report I suggest to you that there was an initial meeting of the flood engineers and various parts of the report were allocated to different of the flood engineers?-- I don't think that was done at an initial meeting, I think if you look at - I think what indicates that too is if you look at my draft trail, you will see that the index wasn't formulated till about halfway through that and if you look at my statement, and there's the 29 attachments, you will see that the index wasn't formulated until well into it when I think I wrote a - you know, a proposed draft format for the report, so - and I - I'd have to look, refresh myself, to see how accurately that reflected the final report, so I don't believe - well, I can't remember any meeting, but that e-mail would indicate to me that there was probably no initial meeting. We obviously would have been talking, but - yeah, you know, my sort of vague recollection is it just sort of evolved that I was going to write the bulk of it. I don't - I can't specifically recall, unless the others can, that it was - there was this joint decision that it was going to be me, that's not my - that's not how I remember it.

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Whilst one of the engineers had completed the part that was allocated to them-----?-- Yeah.

-----probably at a point where it was nearly complete, I suggest that you would talk to the flood engineers, either singularly or together, and talk through the content of that part?-- Yeah, well, once the draft was finished I - well, look, I don't know if that happened. I don't believe that would have happened at the end of each section. It might have happened once or twice that I can recall, but certainly when a part was fairly complete, it would go to everybody and - or the four of us if it was one that the others had written, and we'd read it and, you know, give comment as to the accuracy or otherwise.

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For example, I suggest to you that when you were dealing with the executive summary, you had used in your draft an expression that it was an extremely large event?-- Oh, yeah.

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And Mr Ayre explained that that had a particular meaning from an engineer's point of view - a flood engineer's or a hydrologist's point of view and that that language had to be changed. Do you remember that?-- I do recall a discussion about extremely large, because there is a - I am not a hydrologist, the other three are - there is a definition of that in the Australian Rainfall and Runoff, I believe, and they had problems with that terminology. I can't recall - I would have to have a look to see if it was changed or not. I can't remember.

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And I suggest to you that, in fact, errors in a document much like that spreadsheet, whether it was that spreadsheet, I don't know, were discussed, and those errors were not - they did not find their way into the ultimate flood report because it was recognised that they were errors?-- Look, I can't recall that. I am sorry, I just can't recall it.

Thank you.

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COMMISSIONER: Mr O'Donnell?

MR O'DONNELL: You were asked a number of questions yesterday along the lines that the flood engineers on duty on the Saturday and Sunday did not consciously apply W3. I want to explore with you the release rates and were the release rates appropriate if W3 was applied. Do you follow me?-- On-----

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Hold on. I want to explain what I'm doing first. I want you to take us through what was the data the flood engineers had on the Saturday and Sunday into the Monday. Assume first thing Saturday morning around 8 a.m. the flood engineer on duty then consciously decides, "I will now apply W3." Let's say he writes it into the log so there is no doubt about it. My question is look at the data that's then available to the

flood engineers over the balance of the weekend and, considering the objectives of W3, were the release rates appropriate or not appropriate?-- They were appropriate.

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Well, I want you to walk us through it. Would you take us to what was the information that was available, the flow report-----?-- I will do that. I will do that, all right. The first thing-----

Hold on. You've got the flood report there in front of you. I just want to make sure you've got all the documents?-- Yes.

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We have a copy of a model that's not in the flood report. The model run at 7 a.m. on the Saturday morning that I'll hand you, and a copy of Exhibit 22, which is a summary of model results, and also volume 1 of Mr Drury's statement because it contains at least one situation report that's not in the flood report that issued over that weekend?-- Okay. So are we starting at 8 a.m. on Saturday?

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Yes, around then. There is a model run at 7 a.m.

COMMISSIONER: Mr O'Donnell, you have given my associate advance warning of anything we need on the screen, I take it?

MR O'DONNELL: I will.

So what's the situation at 7 a.m. on the Saturday morning?-- I will just need to have a look at the - so if we - so as far as the engineer's concerned, we need to look at the appendix A - we'll start with the flood levels, I think. Start with the flood models. So if we look in the flood event report, the main body of the report on page 155.

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Yes?-- So in terms of how the flood model works, that screen is essentially almost exactly what you see as you're sitting in front of your computer looking at the model, except that time now is, I guess, highlighted, and so you know everything above time now has occurred and that's history, and everything below time now is the projection as to what might occur into the future based on what you know at that time in terms of the rain on the ground and the modelling results. So if you - we're saying that time now is 8 a.m. on 8/1/2011. That will be the third row up from the bottom. We can see that the lake level's 68.52. So, to me you look at that, you immediately know you're not in W1. You can see the storage volume, which is not - you know, it is just a number, it is not overly helpful. You can see the inflow into the dam. The first figure's the inflow volume, the second figure's the inflow flow rate.

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The inflow is 1,515 CUMECS per second?-- I've got 1,253 as the net inflow. Could you get rid of that little box?

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I see. I was looking from the second - the column second from the right?-- I just can't see - you need to close down where it says "offline files need to synchronise".

If you want to look on the hard copy?

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COMMISSIONER: You're talking about net inflow after outflow is taken off, and you're talking about total inflow, aren't you?

MR O'DONNELL: That's right. We're looking at different columns?-- That's right. So - and you can see the gate opening, so you know you've got gate A at 1 metre - gate 1 at 1 metre; gate 2 at 1.5 metres, gate 3 at 4 metres, gate 4 at 1.5 metres, gate 5 at one metre. You can see the discharges from each gate, total outflow, which at that time was 927, and the total inflow is 1,515, and then there is the inflow - mine is Somerset.

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I'm asking you to assume you're the flood officer on duty and you have recognised you need to apply W3?-- Well, you look at that, you know you're not in W1-----

No, no, I'm not asking that question?-- Well, I-----

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I am asking you to assume you've recognised you're in W3, then look at what release dates are adopted, whether they are appropriate over a W3 strategy?-- Oh, just the - okay, well, if you're not worried about eliminating number 2, essentially what you're looking at is you'd look down - okay, so you're applying - so it has just gone over and because of the rainfall in the catchment you've decided that it is appropriate to still consider having - you know, maintaining Fernvale Bridge and Mt Crosby Weir Bridge open. That's the decision that was made at that time. It is stated in the flood report. So there is no thought that we're doing anything other than maintaining those two bridges open at least for the current point in time. Now, obviously that changed as we got rainfall later in the event but right at this time that was the consideration.

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Can I direct your attention to the - in appendix L of the flood report, the directive that issues 15 minutes later at 8.15, directive number 4, page 5?-- Yeah, well-----

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This is directing that the releases from Wivenhoe be increased until about 2 p.m. to release a total of 1,247 CUMECS by 2 p.m.?-- That's right, but I was just going to go through the other information that I'd look at though, at this stage. I'd look at rainfall in the different catchments over, you know, the last period of time just to see what occurred. Now, if you go to page 75 of the flood event report - you can see that's showing the rainfall as to what's - you know, what occurred between the 6th of January and the 12th of January, and you can see that period around Saturday, prior to Saturday at 8 a.m. there has just been, you know, very little rain in that 12-hour period, practically nothing in the Stanley River catchment. If you just scroll down we can look at each catchment, catchment by catchment. We can see Upper Brisbane, so that's above Wivenhoe, very little rain, and, you know, that shows really - you can see the rain not coming in till the Sunday, but just very little rain prior to 8 a.m. If we

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keep going down, you can see the same thing. That's the mid-Brisbane sort of below Wivenhoe but still in the Brisbane River catchment. Again, Saturday nothing. Lockyer Creek, exactly the - sorry, Lockyer Creek, a similar situation. Just keep going down to the Bremer, I think will be the next one. Again, you can see we've just come off a period where it just hasn't rained. There is just no rain. And then the next thing you'd do is maybe have a look at your forecast and your forecast in place at that time, that again will be in the flood event report. Probably the-----

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Is it appendix C?-- We could see the raw data in appendix C if we wanted to. It is in there in other places. And the current report at that time would have been the one issued on the Friday at 4 p.m.

That's appendix C, page 171?-- So if you scroll down through that, you can see that - so that's the forecast you've got. That's the best forecast you've got, and you can see they're talking about 20 to 30 or 40 to 50. I mean, it is not a big forecast. You know you're going to get an updated forecast in two hours as well. So, you know, that forecast is almost going to be out of date, but you know that from 4 p.m. the day before you practically had nothing. So, you know, that would suggest to me that perhaps the weather conditions may be changing a bit because, you know, the rain's - the rain's subsiding. So you might either ring the bureau and have a chat, or you just might say, "Oh, well, we'll just wait till the 10 a.m. comes out in a couple of hours", because we know we're going to ramp - you know, yeah, because you sort of would know you are going to ramp anyway, and just see what that is and then assess that, but that's the forecast they would have looked at at 8 a.m. So, I guess to me, faced with that, you're thinking, well, we certainly don't want to - you know, we've passed over W1. So, you know, a fair release is justified, but there is probably not enough justification there, based on rainfall and forecast, to really say that we're going to ramp up anywhere near the limit of urban damage. Like, you know, if you do that, as I said, you do cause quite a few million dollars' damage, according to the Brisbane damage curves, and where is the justification, you know. It hasn't rained. I think - to do it I think on that information is just irresponsible. So-----

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Well, the decision then made to increase from the current releases of around 880 up to 1,247 by 2 p.m., do you say that was appropriate or not appropriate?-- Well-----

Let me finish?-- Sorry.

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Appropriate or not appropriate under a W3 scenario?-- It is certainly appropriate, and you can see - you can see - really, when you review that rainfall, you can see what a sound decision that was because another person might have looked at that and said, "Well, you know, the rain's dropping right off. We'll try and keep some of the lower bridges in and not ramp up at all." You could have thought about that. But they have ramped up and I think that's a pretty sound decision. You

know, people can judge it on the information available but that was the information available at the time, so-----

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Increasing the releases to 1,247 by 2 p.m. would that have an impact upon the bridges?-- Oh, well, that took all the - I would have to see if Kholo Bridge was already out at that time. It might have been. So it might have just been, you know, lifting the release to a stage where it is just lapping the bottom of Mt Crosby Weir. So you're just keeping that one open, and you're obviously keeping Fernvale open because it goes out at a higher flow. And, you know, actually I think Kholo had already gone then, so essentially what you're doing is taking the water right up to lap the deck of the bridge.

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And a release of 1,247, what flow will that produce in the Brisbane River downstream?-- Oh, it would have been in the order - I have to check as to what the model was, but you would know it was in the order of about 1,800 because that's the limit at which Mt Crosby Weir Bridge goes, and they were taking it right up to that limit to just keep that bridge free.

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What impact would you expect that would have on the urban situation?-- I doubt if people would notice it in Brisbane. You know, there is a slight increase in the tide - in the normal levels, but, you know, because of tidal variation, I don't think you'd notice it.

Let's press on then during that Saturday, looking at the information that's available to you. We see - if we go back to the flood report, page 155, we see, don't we, that the lake level rose gradually during that day?-- Yeah, well, you would have seen the - I mean, the next thing you would have seen as you work through the days, you would be waiting for the forecast issued at 10 a.m.

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Right?-- That's the next thing you'd see. I think it was a - I would have to look at it.

Page 172 of appendix C?-- So the - so it is an increase. I mean, Somerset Wivenhoe was 20 to 30, now it is 30 to 50, so you're thinking yeah, there is some rain coming in, but there is still no sign of that rain, you know, at 10 a.m. So, you know, there is nothing really to justify you to change your thoughts at 10 a.m. I mean, you're still ramping up the release at that stage because I don't think you finish ramping up till 2 p.m., and you're seeing a forecast similar to the one that was issued the previous day. There was actually no rain as a result of that previous day forecast. So you just keep ramping. You get to 2 p.m., I think - I think the ramming - you know, the increase in release finishes at about 2 p.m.

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By the term "ramping", do you mean opening the gates?-- Continuing to open the gates.

As per the directive we saw?-- As per the directive at 8 a.m. So my recollection of that directive - I would have to just go

back and check it - is that that directive continued through
until 2 p.m.

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That's right?-- So they continued to open gates at 2 p.m. So then you get to 2 p.m. and you think, "Let's just see what's going to occur." Again, you're always conscious that, you know, if you get - if you get rain suddenly below the dam, you've got these bridges that you're indicating are going to stay open. Well, that could take them out. So you've got that thought in your mind. At 2 p.m. you finished increasing the release and you are sitting there, everything seems okay, still no rain. You know, "Let's wait for the 4 p.m. forecast update from the bureau and see what that is." You see that that's - so that comes in and that's forecast 14. It comes in at 4 p.m. and see the forecast hasn't changed from the previous one but the rain hasn't come in yet. So, you know, there is nothing really to indicate that you're going to have any trouble managing this event, and, you know, containing the impacts within the dam. Nothing. And I think, you know, if you review the four events that occurred prior to this one, immediately prior between October and December, this point would have been reached in each one of those, that you get to this point where, look, you're just over the W1 trigger point, it appears you can hold it in, it is not - you know, it isn't raining, there is no - there is - there is rain forecast but it is not particularly alarming in terms of the 30 to 50. You have had that forecast already and you've got no rain. So at this stage, what it is telling me and the decision that was made - you know, I wasn't there to make the decision-----

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I'm asking you to assume you are there?-- If I'm there and I know we're in W3, I'm thinking let's sit tight. Let's just see - you know, let's just see, you know, what's going to occur. Now, if we get significant rain, we will ramp up. There is nothing to indicate to me we're going to get rain of the intensity and distribution that occurred on the Monday and the Tuesday. You know, how do you anticipate that - at this particular point in time, how do you anticipate that?

Can we look at the trend of what's happening with the lake level and the inflows during the Saturday, hour by hour. If go back to page 155. What does that tell you, as a flood engineer operating on W3?-- You probably need to go to the next page. You see it rises slightly till 10 a.m. And then if you look at it as if you work through, that's the second column on the - the second column from the left on that page, the first column is the date and time, the second column is the lake level. You can see it slowly rises and then it peaks at 68.65 at 17:00, and then it stabilises for a while because the inflow's matching - outflow's matching inflow. Then you can see it starts to reduce and it starts to head towards - back towards the W1. So you can see that by 10 a.m. - but rain has started by 10 a.m. so you would have known by then but certainly by 7 a.m. at the change of shift, you're saying, well, we've got it right, there has been no rain. You know, we've anticipated that the peak of the rain was on the ground and now it has fallen back towards W1 and it could hit W1.

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And the rate of inflows?-- Well, that's right. Because the lake level's stabilising, as you would expect, the inflow is reducing and certainly it looks like the inflow peaked at about 2 p.m. the previous day. So at 2 p.m. on the 8th, the inflow has peaked and it drops away from that point. So that's where you're at. Then change of shift occurs. But what also occurs at this time - we'll have to go back to those rainfall graphs so you can see what starts happening with the rain. I can't recall - I will have to point the page out again.

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173 is Saturday 4 p.m.?-- No, that wasn't the one I wanted to show. Sorry, the graph's on page 75 of the flood report that show the rain. So you can see - if you look at the first graph and that's the Upper Brisbane, and you can see that - no, no, sorry, my apologies, I did say Brisbane but I meant the Stanley which is that blue one there. You can see there was a bit of rain during the night but not a lot. You're talking about less than five millimetre in a one-hour burst. The rest of it is probably less than two. But then you can see - you can see the 8 a.m. mark on Sunday and you can see just before - so probably from about 5 a.m. I would have started realising there was a burst in the Stanley and I would have realised that. Like, you can see the rain coming in there. They had 25, almost, you know, 30 millimetres that hour. Then you can see soon after 8 a.m. - so in real time you can't see what's to the right, all you can see is to the left, so at 8 a.m. you can see, well, you've just had a burst of rain, you know, uncertain what's going to happen next. But you can see as it progressed through the day there was a massive burst of rain in the Stanley. If you go down to the Upper Brisbane and look at 8 a.m., again, that Stanley burst that was experienced, you can see it reflected but nowhere near as big, just a little burst about 5 mm - looks like 5 mm, 3 mm, and then 2 mm, then it peters off. So at 8 a.m. you got that burst, but again, as you progress through the day, you can see the rain comes down way heavy and certainly well in excess of what was forecast at that time. I just showed you the forecast of 30 to 50. Just keep going down to the mid-Brisbane. So this is below the dam. You can see again very little prior to 8 a.m., even - you know, you're talking about 1s and 2s, maybe a 3 in there, per hour. Then you hit 8 a.m., nothing for a while, and then it really comes in pretty solid. Go down to the - I think the Lockyer would be the next one. Similar pattern, really. Look at the Lockyer. Like, you've had nothing from 8 a.m. on Sunday really back to, you know, that's probably early afternoon on the Friday. Then all of a sudden you get the rain coming in with the big burst, you know, further on. And just look at the Bremer. You can see nothing in the Bremer. You know, we talked yesterday about, you know, what dictates your strategy. You can see there that really is obvious, that Lockyer Bremer, for two days you've had nothing. So there is no way Lockyer Bremer is dominating. There is no way it can be. You don't even have to look at the flows to realise that. You just can look at that rainfall. So you can't really be in W2. You sort of know from that that you're not going to be there. You know, but, again, you've got to still run the models, estimate the peaks, et cetera,

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but just based on the rain. But, yeah, you can see the thinking, you know. At 8 a.m. you've had no rain through the night, you've got this forecast, had a similar forecast yesterday and you got no rain, you've got the same forecast today. How do you anticipate - well, I'm not capable of anticipating, you know, the massive amount of rain that we got. I couldn't-----

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I want you to concentrate on what were the releases adopted over the Saturday and into the Sunday, and were they appropriate under a W3 operating strategy?-- Well, wholly appropriate.

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Just pausing there, can we look at the releases adopted in the situation reports, and then assess whether they were appropriate, given the rainfall and flow information you've been telling us about?-- All right.

So we see there is a situation report as at 12 p.m. on Saturday?-- Is that situation report 9? Okay, releases from Wivenhoe, the situation report says, "At 12 p.m. on Saturday Wivenhoe Dam was 68.6 and rising steadily with five gates open and a release of 1,150 cubic metres per second. River levels upstream of Wivenhoe have peaked and are now receding." I mean, that's what had occurred. The flow into the dam was receding, as we saw before from the model. "However, further inflows into the dam have led to elevated levels and it is intended" - so, I mean, he is obviously realising you're not in W1. "It is intended to increase the release from Wivenhoe to 1,250 cubic metres per second by 2 p.m. This will maintain flows of up to 1,600 in the mid-Brisbane throughout the afternoon."

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"Further assessments" - well, it slightly contradicts what I said before. I would have thought that we may be looking at flows maybe up to 1800 at that time, but, yes, this certainly says 1600. "Further assessments will be undertaken to determine increases above this level given the high likelihood of significant inflows in the next few days. The interaction with runoff from the Bremer River and Warrill Creek catchments will be assessed to determine an appropriate release strategy. Projections upon the forecast rainfall" - so if you put forecast rainfalls into the model - "suggest that flows of up to 1200 CUMECS will emanate from the Bremer River catchment." So it's, you know, thinking that, you know, your focus might change that instead of, you know, what's coming into the dam setting a peak flow in the river, what's going to come out of the Bremer will dictate your peak flow in the river. You might try to let that flow past. That's - to me that's what that's indicating and then it just talks about since the commencement of the event how much has flowed into the dam, how much more is expected based on rain on the ground and how much has been released.

To answer my question then, assume you're the flood officer on duty, you've consciously recognised you need to be applying W3 is this the appropriate rate of release to be adopting at midday on the Saturday?-- It would have been for me. I believe on the information that's before me and the information I've gone through there with the - certainly that's what I'd be doing I believe it to be appropriate.

If you look at situation report that issues as at 6 p.m. on the Saturday?-- 6 p.m. on the Sunday?

On the Saturday, that Situation Report 10?-- Now - no, this is the Sunday. The problem was that there was a situation report left out of the-----

I see. Yes. If you look at Mr Drury's volume you were handed, it's at volume 1 page 154. In the folder in front of you, in front to your left. Raise your left hand, that's it?-- Sorry. Sorry about that.

There should be page numbers in the bottom right hand corner. If you look at page 154?-- Yes, I've got that open.

The release strategy looks to be keep the release as at about 1250 CUMECS?-- Sorry, which paragraph are you referring to?

Under the heading "Wivenhoe", the full supply levels 67?-- Sorry, when was this issued? This was issued at - 7 a.m. so that was 7 a.m.-----

No, it should be at 6 p.m. Saturday. Are you looking at page 154?-- Sorry, I thought you said 144. Okay. So can you just refer me to the place again, sorry.

Under the heading "Wivenhoe", full supply levels 67 metres?-- Okay.

There's a summary of the strategy and my layman's paraphrasing is it looks to be keep the releases at the current rate of 1250 CUMECS?-- Certainly it's saying the current gate operation strategy will maintain flows of up to 1600 cubic metres per second in the mid Brisbane throughout the evening. So I agree with you on that.

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If you are the flood engineer on duty you are operating under W3, is that the appropriate rates for release to be adopting in the circumstances then prevailing?-- I believe so.

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Why is that?-- For the reasons I've stated there's - I just don't have any information in front of me at that time to indicate we're going to get sufficient rainfall not to hold - you know, not to contain the impacts of the flood within the dam at that time. So as I said we'd struck that situation several times in just the previous few months. I mean, there's just nothing to indicate that I think those release rates are appropriate.

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All right. Then the Saturday night into the Sunday morning you, in fact, worked that shift?-- Correct.

And you issue a situation report at 6 a.m.?-- Yes.

Which is - it's in Drury at page 164 or the flood report as Situation Report 10?-- I've got that.

You've told us before what happened in terms of the lake levels, the inflows, the outflows and the rainfall forecasts over that Saturday night, Sunday morning. So my question again is: on the assumption you're operating under W3 was that the appropriate rates of release to be adopting?-- Yes, I believe it was.

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Why is that?-- For the same reason I said previously that if we - if we increased to a larger release at that time we're going to have significant impacts in terms of closing the Brisbane Valley Highway plus, you know, access for people across Mount Crosby Weir Bridge. We're going to cause impacts down in Brisbane in terms of minor flooding and the costs associated with that in terms of disruption associated with cancelling or suspending RiverCat services, et cetera, you know, impacting on bike ways, you know, low level roads, that sort of thing. I don't see any justification for doing that at that point in time given the lake levels are falling, you know, we haven't experienced rain - significant rain for a long period and there's nothing in the forecast to indicate, you know, the massive amount of rain needed to take you into a situation that you can't contain the impacts of the event within the dam.

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You've also got the inflows to the dam were decreased, weren't they, from about Saturday afternoon about 2 p.m. until Sunday morning around 8 a.m.?-- That's right. It states that in the situation report and you could also take that from the fact that the dam levels are falling.

All right. Let's then progress on in time during the Sunday, look at what's occurring. My questions will be the same. On the assumption that W3 is applied were the rates of release appropriate or not appropriate? Could you walk us through the events on the Sunday, please?-- As you said, I've probably taken you up to about - we'd have to go back to the rainfall. I just look through the rainfall that occurred on the Sunday and you can see that through that - if we look at, you know, the Stanley first and you can see the sort of massive amount of rainfall that occurred during that day. I think we can - it might be better - we have to look at the graph - no, we've got the 24 hour rainfalls. Now, probably a better way to look at this is if you look at - on page 68 of the flood event report. Now, I think - well, what that's saying is rainfall in the 24 hours to 9 a.m. on Monday, so it's the 24 hours to 9 a.m. Monday, so it's the rain that occurred on the Sunday. And you can remember the QPF we had was essentially 30 to 50 millimetres over that period. You can see, firstly, the illustration of the - I'll just explain that diagram a bit for people who might not understand it. The big - those sort of big blue things in the middle are the two dams Wivenhoe Dam is the lower one in the yellow section and Somerset Dam is in sort of the bluish section above the yellow and what those numbers indicate are rainfall that's been recorded in the various rain gauges, the automatic rain gauges that are located in the catchment and we get that information in realtime. So if there is a one millimetre increase at any of those gauges - and this doesn't show all the gauges as the other one - it's automatically recorded and available to us in realtime. So if you just bear in mind that you know, as I said, the forecast was the forecast and it was 30 to 50 and you can see in the Stanley, for example, there's a record there of 310 millimetres, 183 millimetres, 182, 247. It's difficult to anticipate and you can see that's a very large amount of rainfall. Similar, if you look throughout the whole of the Wivenhoe catchment which is sort of a pale, very pale yellow in the top left of the picture you can see the very high rainfall totals. Not so much at that time in the Bremer which is the - the Lockyer which is the purple and the Bremer which is the green, but still quite significant and you can see also the - what's described as the lower Brisbane, the part below the dam where rain can fall and still significantly impact on the decision making because that does generate run-off into the river and will increase flows. So what you've got to realise is you don't have that snapshot at 8 a.m. all you've got is, well, it's raining and I've got a 30 to 50 millimetre forecast. But as it progresses through the day, you know, you become aware that this is getting big and, you know, you just come to that - you're in transition. You are thinking about the bridges but then all of a sudden as you progress through the day you see, well, this just can't continue. We've got to ramp up releases.

COMMISSIONER: Mr Tilbaldi, can I just understand this, these are gauge readings-----?-- Yes.

-----of the Stanley and the Brisbane. When do you actually get the readings?-- In realtime. But you only get them as

they increase, so at 9 a.m. - like at 9 a.m. on the Sunday it would have said 10 or something, you know, and then it gradually increased to 310 over the 24 hours, do you know what I mean? 1

And do we know the time period for these readings? I can't see it-----?-- Yes, this is the time period the 24 hours to 9 a.m. on Monday.

Thank you?-- So it's between 9 a.m. Sunday and 9 a.m. Monday, if you know what I mean, but it's progressing - you're watching this rain come down through the day. 10

And just so that - this information too, which are these gauges? I seem to remember seeing things about Gregors Creek, that kind of thing. Do you know the names of these gauges?-- Yes. The Gregors Creek gauge is the 221, you know, well, just - there's a distinction here. There's a distinction between rainfall gauges so these are giving us information on rainfall and there's also gauges that are giving us information on the river level. And Gregors Creek is a critical one for river level. 20

Is there not a rainfall gauge there?-- There is a rain gauge there, but when you are looking at rain you are looking at what's happening right across the catchment, you know, you could get a really high - you know, just two weeks ago there was an 80 millimetre fall recorded at Mount Glorious. It wasn't an error. It was a credible fall because of the, you know, it was confirmed, but in the gauges around it there was basically nothing. There was a storm, I think this was on the Saturday night before last. So you could get one spike of rain in one gauge, but that doesn't necessarily mean----- 30

All right. Well, you gave a lot of evidence about how that can be unrepresented, but can you just tell me the names of the gauges shown or do you not have that?-- Not off the top of my head. I'd have to - I sort of know things like, you know, Woodford, Perseverance, but----- 40

That's all right. If you don't know, that's fine?-- Yeah, I just-----

Thank you?-- I'm sure if you asked Mr Ayre or Mr Malone and probably Mr Rufini that question they could go through one by one and tell you which one.

Thank you?-- I'm not quite as familiar with them as to what - each individual names, but it's the numbers that are important and the locations. So, yes, so as it's progressing through the day, so that rain is increasing through the day, you're obviously aware of that rain and considering when it's - when, you know, it's mismatched against the forecast and at some point it's appropriate to make a decision. It would be inappropriate at some point through that day not to make a decision that you've got to really increase your releases to the limit of urban damage. The flood report records that that decision was made at around, I think, 7 p.m. but that flows 50

weren't increased till later that night. I think it was 1 a.m., actually, until there was confirmation that the bridges below the dam were closed, particularly Fernvale Bridge because the concern was that bridge is not far downstream of the dam and if you increase release, you know, someone is driving across it or something, you know, it could be quite - quite a dangerous situation.

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MR O'DONNELL: Well, let's first look at the situation report at 9 p.m. and then at 1 a.m. as you've mentioned?-- Okay.

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In Drury, the one at 9 p.m. is page 232. Now, the flood report is report number 12. So, in summary, what's the strategy we see adopted in the 9 p.m. situation report?-- Well, it's - well, the first paragraph says "river levels upstream and the dam rising quickly" which when you see how that rainfall occurred during the day you can make that connection with significant inflow being generated from the intense heavy rainfalls. "Flows into the Brisbane River at Gregors Creek have already reached 6,700 cubic metres per second and the river is rising. The dam level is rising again." Gregors Creek is the gauge - is the river gauge immediately above the dam so it gives the best indication of flow into the dam. That's why Gregors Creek is significant and I'll just note that you asked me about it before. "The dam level is rising again with the current level being 69.1. Estimated peak inflow to the dam just from the Brisbane River alone may reach as high as 7,500 cubic metres per second and at this stage the dam will reach at least 73 during Tuesday morning. Given the rapid increase in flow volumes it would be necessary to increase the release from Wivenhoe Monday morning. The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and at this stage releases will be kept below 3,500 and the combined flows in the lower Brisbane will be limited to 4,000.", so indication that pretty firmly in our mind they were going to 4,000 at that time. "This is below the limit of urban damages in the city reaches." That statement "below the limit of urban damages" is slightly misleading. It's below the limit that we understood it that, you know-----

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We see in the next paragraph, "The current release is 1400 CUMECS", so that's what the dam is releasing at the moment. "The strategy is to start opening the gates from noon on Monday and increase the releases to about 2,600 by Tuesday morning." Now, my question to you is assume you're the flood officer on duty at this time, you've recognised the W3 as the governing strategy, you've seen the rainfall, you've seen the dam level has been rising during that Sunday, is this an appropriate strategy under W3 or should some different strategy be adopted?-- Well, it's the only strategy available under W4 at that time. All you can do-----

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Sorry, under W?-- Sorry, under W3 at that time. All you can do is take, you know, get rid of as much water as possible and W3 allows you to go to 4,000 and that's what they're doing. So, you know, you don't make that call lightly. As I said that 4,000, it mightn't take out the floors of people's houses

but, yeah, it still does a fair damage. So it's not a call you take lightly, but that's the call that was made at that time.

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So is the theory behind this if the releases of Wivenhoe are increased to 2,600, those releases coupled with other flows downstream will lead to a flow within Brisbane of 4,000 CUMECS?-- That's correct.

So do you say that under W3 some different strategy would have been more appropriate?-- No. That was the appropriate strategy at that time. I think, you know, the consideration was just on damage and trying to - trying to, you know, keep that in check if we could but, you know, it's recognised at that time you've got to - you've got to get rid of that water in the dam, it's starting to build up. They're talking about the EL 73 there and, you know, obviously a lot of rain is occurring and you could see that from those graphs that we looked at before.

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What about the timing of increasing the releases? Currently you've got releases of 1400 on the Sunday night. You're not proposing to begin increasing the release until noon Monday. Under a W3 operating strategy is that an appropriate timing for increasing the releases?-- Till noon Monday? No, I thought releases were ramped up from 1 a.m. on Monday morning.

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Well, you see that the strategy at the time this situation report says "gate openings will start to be increased from noon Monday"?-- Yeah, well, that must have been their thinking at that point, but that's not what occurred.

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All right?-- I mean, again - I know it says, "It will be necessary to increase the release from Wivenhoe Monday morning." Well, it occurred at 1 a.m. isn't that what it says there, the second paragraph under Wivenhoe Dam for supply level.

COMMISSIONER: It seems to be a bit of contradiction between that paragraph and the one - two down which suggests the gate opening will start to increase from noon; is that right?-- As I said, the Monday morning is more accurate because that's what occurred. I suppose it's a good point that shows you that you don't - you don't sort of sit down and write a situation report, you know, feeling you have all the time in the world to compose the words exactly as you like and then reread it and reread it and get the words right. You'll see ones and even by myself often have grammatic errors. I mean, you're writing them under pressure. You're writing them to write them and get them off and then get back to the event. That's how you do it. You know, even last week, trying to get that situation report out of the way and then you want to get back to see what's going on, but you're still under pressure to get the situation report out so people know what's happening. And, you know, yeah, I mean, they contain mistakes at times, no question. You just don't have hours to prepare them and you try to prepare them in 10 or 15 minutes. So, yeah, and there's an example of a discrepancy.

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MR O'DONNELL: The bridges had to be closed, the last two bridges had to be closed, didn't they?-- That's right. As I explained before, I mean, you don't want to ramp up Wivenhoe knowing that you're going to take out Fernvale Bridge which isn't far downstream and not be certain that the police or the councils have closed that bridge.

All right. Let's look at the next situation report to see what change in strategy becomes. So we're now as at 1 a.m. on a Monday morning. This is Drury page 255 and in the flood report situation report 13?-- Yes, I've read that.

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Just in summary, my layman's summary would be that the current release rate at 1 a.m. is still 1400 CUMECS and the decision is to start increasing those releases from early Monday morning to reach 2,600 CUMECS?-- That's right, and they're just noting there that Fernvale Bridge approaches and Mt Crosby Weir Bridge had been inundated and both bridges are now closed or in the process of being closed. I guess they were just wanting to confirm that before they jumped in.

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The expectations seems to be, "Releases from Wivenhoe at 2,600 CUMECS coupled with downstream flows will limit flows in lower Brisbane to 4,000 CUMECS."?-- And it says "4,000 if possible", knowing that it takes 24 hours from a release from Wivenhoe to get to the City. So, if you're initiating a release and you're right on that limit of 4,000, if you get heavy rain in the uncontrolled catchments, Lockyer, Bremer or mid-Brisbane, you know, within the next 24 hours you're going to go over 4,000, you can't - you know, because the water just doesn't get to Brisbane for 24 hours, so again you're anticipating 24 hours in advance and who knows what will happen in that period.

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Do we see the implementation of this strategy in a directive to the dam at 2 a.m. on that morning, which is in appendix L page 9. Sorry, volume 3 of the Flood Report appendices?-- Well, certainly that directive is for the increase - just the increase in gates progressively. You know, you can't just open up all the gates and have a wall going down to 2,600, there's a requirement to step through your opening and increase your opening at a rate, and I think you can judge that direction. If you want to understand how that affected releases from the dam, that's all explained in the Flood Report, again that table we were looking at before, I think it's about page 1870 or something. I don't know if you wish to go to that, but that's the confirmation of that directive.

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But my question to you again is the same one: assuming you're flood engineer on duty at this time, assuming you recognise you need to be applying W3, are the rates of release appropriate or not appropriate and if so why?-- Well, they're certainly appropriate. If I'd been there I hope - I hope - I would have made that same decision, because I believe it to be the right one.

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Right. Now, what about the management of the dam during the Monday?-- Well, then, on the Monday, you know, urban damage was in the forefront of our minds. You know, a matter that's been discussed at the Commission in length was on that Monday we got a call from the council to see if there was any possibility of maintaining a flow to three, three and a half thousand because of the damage that would eventuate if we exceeded three and a half thousand in the river. We attempted to do that for a number of - you know, for several hours. However, we just realised it wasn't possibly to maintain it at that level and once we realised that we continued on the 4,000. It's been shown that that pause had no impact on the final or not - an insignificant impact, you know, minor we're talking.

No, no, I'm not asking about impacts, I'm asking about what's the appropriate rate of release during that Monday in the prevailing circumstance on the assumption you're operating under W3?-- Well, I was operating that day and I believe the flood rate was appropriate. I take full responsibility for the decisions that day. My consideration was only on urban areas that day. That's how I worked.

We can look through the situation reports-----?-- I think it's appropriate under W3. I think it's consistent with W3.

If you can look through the situation reports that was issued on the Monday, but in summary were they to keep the releases from Wivenhoe at around 2,600 CUMECS, 2,700 CUMECS. So it's reduced rates of flow lower in the Brisbane of around 4,000 CUMECS?-- Yes.

Was that appropriate under a W3 scenario?-- Yes, I believe it was appropriate. I also believe it was the only possible course of action at that time

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You can close up the Flood Report, thank you. Can I ask you a few things arising out of your evidence yesterday? Can we start by looking at the manual, please? Go to page 22, please. You were taken to this page and it was suggested to you that this page where it talks about choosing the flood strategy required an active decision to be made by the flood engineer on duty to change strategies was the thrust of the questions. I want to take you to page 26, the last sentence on the page in bold type?-- Yes, I see that.

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"If the level reached 68.5 in the dam, switch to Strategy 2 or 3 as appropriate."?-- Yes.

Now, we have seen that on Saturday morning at 8 p.m. the level did reach 68.5?-- We did.

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At that time was it appropriate to switch to W2?-- No. As I have stated in the flood report and in my most recent statement you could not switch to W2 at that time because the conditions of W2 that are contained on page 27 of the manual could not be met, there was already flow in the river in excess of the estimated natural peak flow at Lowood excluding releases and in excess of the natural peak flow at Moggill excluding releases.

Well, then-----?-- You just couldn't meet that condition.

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-----if you as a flood engineer read the manual, was there any choice as to the appropriate strategy on Saturday morning at 8 a.m.?-- I think if you consider the intent of the manual there was no choice. I have stated that view in the flood report - well, that view's stated in the flood report. I believe it.

It was implicit in the question that was put to you that during Mr Ayre's shift on the Saturday it had not occurred to him that he needed to change to a W3 strategy; in other words, he was subjectively operating under W1 all that shift. Are you able to comment on that?-- My comment is that Mr Ayre - all-----

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COMMISSIONER: Sorry, Mr Tibaldi, I don't quite see how he can comment on what Mr Ayre was subjectively doing.

MR O'DONNELL: Well, that was implicit in the questions put to him. I will put it a different way.

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COMMISSIONER: Surely he can comment from an objective point of view whether that's consistent with what Mr Ayre was doing, but that's about it, surely.

MR O'DONNELL: I will put it that way. From the objective criteria of what Mr - what information Mr Ayre had available to him and what we have seen was done during that shift, are

there any indications that you can see as a flood engineer as to what strategy he was operating under?-- He was certainly operating under Strategy W3. The only additional comment I'd make is-----

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No, no, that's drawing a conclusion. I am asking you to identify what are the things that indicate under what strategy he was operating under?-- Lake level in the dam, flow rate in the dam, also took into account the other - you know, the fact that he'd issued the directive at 8 o'clock, the fact that he had done an assessment at 9 o'clock, complete assessment, and, you know, the fact that he was sitting at a computer and manually typing in levels, he's obviously aware of the level, the level's mentioned in the Situation Report, certainly all the circumstantial evidence, I think - any - if I hadn't written the flood report and some neutral person had come in and gathered all the information and written in, I can't see how they would have come to a different conclusion, but that - you know, as to what occurred at that time, I can't just imagine how you could come to a different conclusion.

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What about your shift which started around 7 p.m. on Saturday night to 7 p.m. on the Sunday morning?-- Well, as I said yesterday, I cannot recall that shift or anything about that shift. I cannot recall whether the W3 was in the front of my mind or otherwise, but certainly if I put my mind to it, I could very, very quickly have seen that we were not operating under strategy W3, the lake level was too high and the release rate was too high.

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COMMISSIONER: I thought you just said-----?-- Sorry.

-----you could have very clearly seen you were not operating under Strategy W3?-- Sorry, I meant to say we were - sorry, I'm just, you know, getting a bit confused, I've gone over this so many times. I could very-----

Okay. Take a deep breath?-- I correct that.

And start again?-- Yeah. I could very clearly see we were in W - that - sorry, very clearly see we weren't in W1, the lake level was too high, we weren't in W2, the flow rate was way too high. The only thing we could be in was W3, so it's very clear you're in W3. You have just got to sort of sanity check yourself and you can see it. Whether I did that consciously at the time, I have no recollection of that shift. My apologies for that. That was correct in what I just said.

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MR O'DONNELL: It's implicit in questions put to you yesterday you missed the significance of the lake level, the flows downstream and so on, you missed it in terms of identifying the appropriate governing strategy. Can you respond to that?-- Well, I guess what - the significance is that you know then if you're in W3 as soon as that rate - as soon as that rain starts coming you need to really assess what you're doing, like immediately. Obviously if the rain doesn't come and the lake level falls, well, that type of assessment isn't needed, but if the rain does come you certainly need to think,

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well, do we need to transition into a situation where we're - you know, increasing our outflows. Now, I think if you look at the shift on from mine, there was an assessment of that at about 9 a.m.. The heavy rain had started and we were really starting to think, well, are we going to go down that track, and it's that point at which you make that changeover decision and that point - you know, that I'd selected based on the data, the three who were present at that time agreed, was around that 7 p.m. time. It took some time but it's - as I said it's a big call because, you know, you're going to cause a fair old - a fair amount of disruption and damage as soon as you make that call. So, that's what I can say.

I suggest it was implicit also that the engineers who followed your shift on the Sunday had missed the significance of these things and were continuing to operate under W1. I want to take you to some of the things that occurred on the Sunday and ask you to comment on them. Can I ask you to look at Mr Malone's e-mail on the Sunday at about 12.02? That's in Drury page 200?-- Which did you wish me to read, expected run-off, was it, or----

More particularly under the heading, "Forecast Rainfall.", and then, "Expected Run-off."?-- Yeah, well - sorry, what time was this again? I just forget.

About midday on the Sunday. You received that?-- I can see that. Well, you know, by midday, you can see that there's been - you know, shift changeover was about 7, he's been there approaching five hours. I mean, he would have written this before midday if he sent it out at midday. The heavy rain started to come if and you can see from this that he's starting to get pretty concerned - starting to get concerned certainly because the rain's meaning that - you know, there's potentially a fair inflow coming and the consequences are that you are going to have to increase to the limit.

He's concerned about heavy rainfall in the next few days?-- Certainly, yeah.

Does this prompt the meeting you then have at 3.30, you by telephone?-- I can't recall what prompted that meeting, I didn't recall the meeting, I would have been asleep at this time on a break. I'm not sure, you know, which of the three actually called the meeting. You would have to ask them.

All right. If you look in the Flood Log for the entry of that meeting at 3.30?-- I can see that.

Do you see about halfway through that entry there's a discussion about the potential rainfall that's forecast to come?-- That's right. I mean, that was - yeah.

Let me finish?-- Sorry.

You see it mentions the potential to significantly increase flows in Lockyer Creek and Bremer which could close the last two bridges and increase the risk of flooding in the lower

Brisbane. It then goes on to contemplate there may be a need to increase releases to produce flows up to 3,000 CUMECS in lower Brisbane. From the flood engineer's point of view, is that consistent with the only strategy being applied at the time to minimise disruption to rural life?-- No. Well, they're certainly thinking about what's going on about below Wivenhoe. I mean, again - do you mind if I talk about this for a bit?

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Sure?-- Okay. I think - I think this is significant when you read it because it was in people's - it was certainly in the flood engineers' minds for a fair period. The movement of the rainfall system was expected to travel south. Now, if it's expected to travel south that means that the bulk of the rain is going to fall below the dam. As he says there, that's got the potential then to increase flows in the Lockyer and Lockyer Creek and Bremer River which then could potentially close Fernvale Bridge. What he's saying is that natural flows can then mean that those bridges are going to close. And then he goes on to say, "Releases will be maintained" - "If required releases from Wivenhoe Dam will be reduced." We didn't reduce them, we increased them, and that's not a mistake, why he's saying "reduced" there is he's thinking about if the system does move south and you do get all this rain in the Lockyer/Bremer maybe - maybe a strategy as things develop will be to hold back water in the dam, let that peak pass, and then start up again. So, again, all you can do at that point is anticipate. Like, if you decide at that time to increase releases, it does - the system does move south, you could potentially make, you know, a terrible flood by doing that. It just is not appropriate at that time. I mean, you know, you have just got to make a judgment at that time as to what to do and I thought - as I say, I think the judgment was appropriate under W3 and I believe that, you know, they were very aware of what strategy they were in and they were very aware of, you know, the absolute importance of minimising impacts to urban areas at that time, and it's clear.

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If the engineers were thinking they're in W1, so their only consideration is minimising impact on downstream rural life, would there be any occasion for considering the risk of flooding in lower Brisbane, flows of up to 3,000 CUMECS in Brisbane?-- Look, the facts are - I mean, even if you're in W1, even if the flood event has just started, you are still giving some thought to how things might develop in the future, what the forecasts are, where you might head towards. So, it's not as if you - the flood event starts and all you do is think about - you know, bridges, the level change, the next bridge. It's not like that. You're always thinking ahead, you have to think ahead, and you have to, you know, think where things could go. So, even in W1 you're still thinking about urban impacts, that's just how it is. So, you know, I know it's not a consideration under the strategy in terms of determining all releases, but you are still thinking about it.

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All right. Then we get to around 9 p.m. on the Sunday night, you would look to that Situation Report that issues around that time, it gives consideration to abandoning all the

remaining bridges and increasing the releases from Wivenhoe. Is that consistent with the only consideration being to minimise impact on rural life?-- Well, once the bridges are gone there's no more consideration on rural life, because the consideration of impact on rural life is just about the bridges, that's all it's about, in practical terms.

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And deciding upon a release strategy that will increase the releases up to 2,600 CUMECS, is that consistent with an engineer thinking he's still under W1?-- No.

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Because you can't do that under W1, can't you?-- You can't do it under W1 and every bridge must be closed with that level of release.

All right?-- Will be closed, regardless of whether you - yeah.

Thank you. Would you go back to the Flood Report, please? Would you turn to page 194? On page 194 in the middle column headed, "Explanation of Strategies.", see the first dot point refers to a decision made to transition to W4?-- Yes.

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It was put to you yesterday that this flood report is a fiction, it doesn't record any conscious decisions to change strategies at all?-- Well, obviously - well, that's not true. If you consider this case, because we were - you know, all we were thinking about at that stage was W - you know, the transition to W4, it was clearly in our minds at that time.

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The decision made to transfer to W4, you told us before, was made on a forecast increase in lake level; that is, the anticipation that the lake level would go over 74?-- That's correct. I have given in evidence a number of times that my view was that there was no possible chance at 8 a.m. that the lake level would not exceed 74. Therefore, it was appropriate to transition to W4 at that time.

Is that a difference between the transition to W3 and the transition to W4? One is based upon a forecast movement of lake level, the other is based upon an actual movement?-- I guess either way you have got to be certain that - that - the manual allows you to go - I believe the manual allows you to go to W3 immediately if you're certain that the lake level's going to exceed 68.5. So, if you experience something like a probable or maximum flood event it may be - it might be very clear to you, even when the lake level's below full supply, that you are certainly going to - well, the level is going to exceed 68.5, but that's possible in a probable maximum flood event. If you were confronted with those circumstances, then I believe the manual would require you to go at least to W3 immediately. However, no circumstances like that have I ever experienced and those circumstances didn't occur in January 2011.

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It was put to you yesterday there was no contemporaneous record of the application of W3. Was there any contemporaneous record made of the decision to move to W4?--

In terms of written record, I don't believe there was. I could be wrong, I'd have to think about that, but I can't recall any.

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Just a couple more questions. There was a question the Commissioner asked you yesterday, this is at page 5,037 of the transcript, I will just read out the question and answer you gave and then I want to ask you something. The Commissioner said, "Do you agree with the substance of the question that was put to you, never mind the dates, that the Flood Report was a reconstruction of what had occurred?", and you answered, "Certainly a reconstruction." Can you explain what you mean by the word "reconstruction"?-- Well, what my interpretation of my answer or what my answer was was that - what I did was gathered all the records together that I could find, be they - you know, the data model results and, you know, basically everything that's in the appendices of the flood report. Based on that data, given that my recollection of events - I believe the others' recollection of events will - you know, wouldn't have been too good either, even soon after the event because it, I guess, was dominated by that Tuesday and the events following that, you know, you can't rely on memory in those situations, you have really got to go back and look at the facts. I gathered all the facts together that I could find that - associated with the flood and based on that - you know, I wrote down based on those facts what I believed to have occurred, distributed it to the other people that were involved and they made an assessment as to whether it was accurate or not. I understand - I believe at this stage their assessment was that it was accurate. Obviously, though, they did recall certain things which they would have drawn to my attention in writing the report and I would have made changes accordingly.

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Can I assist you? I am still interested in the meaning of "reconstruction" as understood it when you gave the answer. Can I suggest there are two possible meanings for it? One is where you look at all the available data and you are a bit like Sherlock Holmes, you work out from the available data what actually occurred. The other is you look at the available data and from it you work out what should have occurred, whether or not it did. Both can be regarded in a sense as a reconstruction. One arrives at what the person believes actually occurred, the other arrives at what a person believes should have occurred, whether it did or not. In what sense were you using the term?-- Certainly what I was trying to write was what actually occurred. That's what I was trying to write. That was in my mind.

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And did you honestly believe that as from Saturday morning at 8 a.m. the flood engineers had actually applied W3?-- That was my belief. Unless I was presented with evidence to the contrary, I was not - could never be - recall being presented with evidence to the contrary so that was my belief when I was writing it.

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Did Mr Ayre come to you and say, "Well, from Saturday morning I was not actually applying W3."?-- I can never recall that

occurring. I don't believe it occurred.

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Or Mr Ruffini? He was on shift on the Sunday night. Did he come to you and say he wasn't actually applying W3?-- I don't believe that occurred. I have no recollection of anything.

Or Mr Malone, he did the shift all day Sunday from 7 a.m. to 7 p.m.. Did he come to you and he wasn't actually applying W3?-- Same answer, I don't believe that occurred.

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Last thing: you were taken to a number of e-mails on the 15th of January about preparation of a briefing note to the Minister?-- Yes.

There's a whole series of e-mails from that afternoon into that evening?-- Yes.

And you said in one of your answers to Council Assisting, "Can I just explain the state I was in?" He said, "No, you can't." Would you mind explaining it to me?-- I hadn't really slept for a week, even up to that point. Like a lot of people affected by the - a lot of people would have been in that situation. In terms of - you know, operating at a level that I can write, you know, something of that nature realistically I wasn't at that level at that time. You know, I just can't remember those two days apart from the incident I recalled yesterday. That's all I can say.

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You hadn't slept for a week because of the involvement in operating the Flood Centre or why?

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COMMISSIONER: I think we might take the morning break. We can come back and finish this question after that. So, we will break until quarter past by that clock, which is about three or four minutes slow, it will probably be 20 past by everybody else's watches.

THE COMMISSION ADJOURNED AT 10.57 A.M.

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THE COMMISSION RESUMED AT 11.16 A.M.

JOHN VICTOR TIBALDI, CONTINUING:

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COMMISSIONER: Yes, Mr O'Donnell?

MR O'DONNELL: Thank you. I was asking you about the state you were in on Saturday the 15th of January last year when you were involved in preparing the draft of those briefing papers for the Minister?-- I will just make the point I hadn't slept for an extended period, probably since around the 11th. Obviously I had some sleep but I was engaged in flood duties, this further report, I was answering all sorts of queries, trying to get information together, press statements, et cetera, when I wasn't on shift, and, you know, there was things on my mind, which I referred to in paragraph 6 of my most recent statement. I won't go through those. But, yeah, as I said, I just - you know, we did what we had to do. I was asked to, you know, come in after a shift and assist with a briefing and I felt that was the right thing to do and I came in.

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Thank you. One last thing. Can I show you a document called a Gate Operations Spreadsheet?-- Yes.

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We have one for each of the members of the Commission as well. I think you mentioned this in your evidence yesterday. Could you tell us what this is?-- Well, this is the - it is a screen shot of the tool that is used to evaluate different gate operating options. As you move through an event - I think I might have said somewhere this morning, as you move through an event in real time, you sort of know that - for example, on the first page if you were at Monday the 3rd of January 2011 at 19:00, which is sort of some way down the page, it corresponds to a lake level of 99.14, you would know that everything above that point is history and is what's occurred. Everything below that point is just a projection as to what might occur, but certainly subject to change based on rainfall on the ground. You can see the gauge board under the - I think it is the third column, "gauge boards". It is a yellow highlighted column and in this case has three red numbers in it. Those numbers are entered manually from the records provided from the dam. This was on the 3rd or 4th of January. You can see, you know, the floods were not occurring at that time so there is not too many records, but when you progress down to the start of the event, if you turn over the page and look at Thursday the 6th of January-----

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I would rather go to Saturday the 8th at 8 a.m., if you don't mind, on the third page?-- Okay. Sat the 8th at 8 a.m., so you can see that-----

Just before you get into that, let's just talk about the document for a moment. This is a tool that flood engineers use in real life in operation of flood?-- That's right. This spreadsheet will always be essentially up in front of you on the screen. I mean, you may switch to other screens if you're running different models, but, generally, this is the one you come back to most commonly because it allows you to evaluate different strategies for opening gates, you know, into the future. There is - I mean, the spreadsheet - the tool itself, the spreadsheet itself has maybe 20 tabs. This is just one of the 20 tabs. The other tabs allow you to look at graphical representations of how lake level and river levels will vary over time. Similar to - similar to but not the same as what's shown in appendix A of the flood event report.

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And does the flood engineer do things such as testing different gate opening arrangements and what impact they will have using this software?-- Yes. Yes, he does. The software allows you to look at - not only, as shown on this page, the discharge from the dam, but also projected flows at Moggill and Lowood based on various tests of gate operations strategies or - as I said, once a point in time has passed and the release has occurred, well, then, you can see - because remember, that release will take around two hours to get to Lowood, maybe 18 hours, depending on the size of the flow, to get to Moggill. So you're looking at something that could then - happen then in 18 hours, but, of course, you don't know the rainfall that's going to occur in that 18 hours. So you're just looking at an estimate of what it might be.

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All right. Let's assume I'm in the Flood Operations Centre at 8 a.m. on Saturday morning the 8th. Could you tell the Commission what would I see on the screen?-- Well, you probably - it is hard to say. It would depend on what the gate strategy was at that time. You can see in this particular one at 8 a.m. - just assuming this was the 8 a.m. one - they're projecting at that time an increase in the gate level releases. I mean, this is a reflection of what actually happened, I believe. This isn't necessarily what you would see at 8 a.m. In the blue where it says "Somerset", in those columns you might - we might have tested different arrangements for opening regulators or sluices. I mean, this particular shot shows an arrangement of two sluices open at that time, continuing through to have three open on Sunday at 10 a.m. - sorry, 9 a.m., but you might test other things, you know, just to see how that will affect your lake level in Wivenhoe and whether it is in accordance with the rules you need to operate under the Somerset. Similarly, with the - you can see where it says "Wivenhoe", which is the pale yellow and it has got 1, 2, 3, 4, 5, various numbers there, they indicate the amount each gate's open, gate 1, gate 2, gate 3, gate 4 gate 5, and just how that's going to project into the future. But, you know, what you've got there at 8 a.m., this didn't occur, but just say a lot of rain occurred between 8 a.m. and, say, 3 p.m., you would change based on - it is most likely you would have changed then by 3 p.m. what you had at 8 a.m., because you're taking account for rainfall as it occurs. You

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know, as we talked about before, you are also cognisant of what the forecast is, and, you know, where things might head, and that sort of thing.

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Let's look at the further columns. Under the "total column Wivenhoe", do you see the column headed in white "total Wivenhoe discharge"?-- Yes.

So is that column telling the engineer what the current discharge rates for Wivenhoe?-- That's right. It is the discharge - total discharge from the gates which is calculated by adding up the preceding five columns, which is the discharge from each individual gate.

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The next column is called "CAL" - C-A-L - "lake level". Is that calculated lake level?-- Yes, that's the lake level that's calculated from this model based on the inflows in the dam and the natural inflows from - and the natural flows from the Lockyer and Bremer catchment that you've used another hydrologic model to estimate based on either the rainfall on the ground or rainfall on the ground plus forecasts. So it is just a theoretical number.

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And then we've got REC. Is that recorded gauge boards?-- Yeah. Those numbers are - every time one of those is recorded, that means that the operator at the dam has gone and manually read the gauge board, written it down on a piece of paper and faxed it to the flood centre.

And then we've got-----?-- And then that's typed in manually into the spreadsheet.

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That's what-----?-- Normally by the flood engineer but sometimes I've seen a flood officer type it in.

That's what I was going to ask. Which of these are typed in by the flood officer?-- The flood officer would rarely change - rarely touch this sheet at all.

Sorry, the flood engineer?-- The flood engineer, he - what does he type in? Well, he types in the column under "Somerset" in the blue, which is on the left.

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I am particularly interested in the Wivenhoe columns?-- Oh, Wivenhoe. Under Wivenhoe, the pale yellow, the columns 1, 2, 3, 4, 5, he types in - always types in those numbers. They are only typed in by the flood engineer. And, again, you'd test various scenarios. He would type in the - where it says "regulator" and "hydro", that's the flow coming through the regulator valve in the hydro, which we still take into account. It would be typed in also by the engineer. And the gauge board readings would be the other one, which is one you referred to before, REC gauge boards in dark green.

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All right. So if Mr Ayre is the flood engineer on duty at 8 a.m. Saturday morning, you think he would be typing in those figures?-- My view is he would certainly be typing in the pale columns, 1, 2, 3, 4, 5. I would expect he'd type the

vast majority of the REC gauge board readings, but there is a possibility - as I said, I have known it be for a flood officer to type that in, but generally not while I'm on shift. I normally do it. But I'm not certain of Mr Ayre's practice in that regard. You will have to ask him.

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Okay. And below 8 a.m. on Saturday morning would be blank, I take it?-- No, no, there would still be numbers there. There would still be numbers because what you're seeing is what your projection is. You know, like, you've still got to - to work out, you know, what you think is going to happen that afternoon, you've still got to put the gate openings in but it is your best projection of gate openings at that time. For example, say no rain was forecast after 8 a.m. and we thought it was the end of the event, you would probably start projecting in a closedown of the event. You know, you would anticipate that the lake level would drop below - drop into W1, a peak would pass, and then you would enter closedown. So if that's what you're anticipating based on forecasts and information from the Bureau, then the numbers would look completely different to what they are there at that time, if that was your projection-----

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COMMISSIONER: Can I just understand this? Do you then overwrite what's in the document, or do you preserve a copy of what's in that document at every given time? How does it work?-- Generally you overwrite, but there is some preservation. Why you overwrite is that within a period of - like, I might spend a particular time, say half an hour, fiddling with - you know, just examining different scenarios and different operating scenarios. Now, if I was to retain every time I changed it-----

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Don't worry about that, just tell me what you do retain?-- Well, I guess they are retained at sort of significant times. I think for the event there might be somewhere between a dozen and 20 of these spreadsheets retained.

Okay. So you have a dozen snapshots and then you also have the version that you're updating as you're going, presumably?-- Once you've retained one, there always has to be a live version. There always has to be a live version that reflects your current strategy.

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Yes, all right. Thanks, I understand that.

MR O'DONNELL: Right. In the column called "recorded gauge boards", I take it if you're there at 8 a.m. on Saturday morning, there would be no entries below the figure of 68.52?-- That's right.

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So that column would otherwise be blank?-- Yes.

For future. And this document, do we see, if we look in the bottom left-hand corner, there is some figures starting with STWD, then numbers?-- That's the file name of that - that's its file name.

Does this - I'm told you read it from right to left. So you start with a figure 900, or 0900 indicating-----?-- I see. Do you want me to explain that convention?

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Yes?-- To me this would look like the snapshot that was taken at the 9th of January 2011 at 9 a.m.

So Sunday morning 9 a.m. - sorry, is that right? Sunday morning, 9 a.m. snapshot?-- The 9th - yes, that would have been Sunday morning at 9 a.m.

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When you said before you couldn't tell what - I would see if I looked on the screen 8 a.m. Saturday morning, is that because the current figures are in play, as it were?-- Yeah, well, it would have had to have been the snapshot - sorry, I didn't notice that. Yeah, if you wanted to have a look at 8 a.m., you would have to see the snapshot at 8 a.m. if there was one taken.

Right?-- But yes, you can see this is the snapshot at 9 a.m. because there is no numbers under either the recorded gauge board readings at Somerset or Wivenhoe. The Somerset are the bold red ones in about the third column.

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The Sunday morning snapshot must record what were the final figures as at 8 a.m. on Saturday morning?-- I beg your pardon? I just missed that question, sorry.

The snapshot on the Sunday morning must record what were the final figures arrived at-----?-- Oh, yes.

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-----at 8 a.m. Saturday morning?-- Certainly, yeah. Yes. So that should all be history there then as to what actually occurred before 9 a.m. in the flood event, and my expectation that would match exactly what's in the event report. I can't recall checking this one specifically, but given what's occurred in the last few days I would be concerned, but it seems to match up pretty well.

So Mr Ayre, if he's looking at this document on Saturday morning, would see at a glance what was the current lake level, what was the current releases, what were the flows downstream, he'd have all of that information in front of him?-- You know, there is a clear awareness - you can't be sitting there not knowing what the lake level or the discharges from Wivenhoe. I mean, I can say with certainty that that's clear in every engineer's mind when he's on duty at all times because you're just sitting in front of this. That's my belief.

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Right, thank you. I will tender the document, Commissioner.

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COMMISSIONER: It will be Exhibit 1,054.

ADMITTED AND MARKED "EXHIBIT 1,054"

COMMISSIONER: We might get the hardcopy from Mr Tibaldi if you've finished with it.

MR O'DONNELL: I am sorry, there was one question I forgot to ask. I will just hand you another copy of the exhibit. If you go back to Saturday morning at 8 a.m., in the middle of the page we've got columns for the Lowood flow and the Moggill flow?-- That's correct.

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Can you work out from that what would be the naturally occurring flow at Lowood and Moggill without Wivenhoe?-- Not from this particular screen shot. Oh, well, you can. For Lowood - so you possibly could work backwards to find it but there is another - there is another tab in this that shows it more clearly. It just shows you what it is. You know, it - what it is based on is the natural flow, how that's calculated, essentially the flow from Lockyer Creek, and - that's at Lowood. For natural flow at Moggill, it is essentially the combination making allowances for the movement of water in time from - in addition of the flow in Lockyer Creek and the flow in Bremer River. So there is another tab associated with this that you would look at if you wanted that information.

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And that has the information-----?-- Yeah.

-----for the engineer?-- Yes.

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Thank you. That's all I had, thank you. Thank you, Commissioner.

COMMISSIONER: Thank you. I think Mr Burns, I will ask you?

MR BURNS: No questions, your Honour.

COMMISSIONER: Thanks, Mr Sullivan.

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MR SULLIVAN: Thank you, your Honour. Can I just, whilst we have the document, take Mr Tibaldi to this document? Mr Tibaldi, can I take you to page 3 of the document? And my friend directed your attention to Saturday 8th at 8 o'clock, about halfway down the page?-- Yes, I can see that.

And you came on that evening, didn't you, about 7 o'clock?-- That's correct.

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Can you just go down to 7 o'clock, and come across to the "recorded gauge boards" column, the periods after 7 o'clock?-- Yeah, well, there is two blanks and then there is 68.65. The fact there is no numbers there would indicate to me we didn't get a reading at that time, or we got a reading and I didn't type it in. That would have been my responsibility to type it

in.

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Certainly below that, the 68.65 and following, your practice when you were on shift was - who had the responsibility to type those in?-- Yeah, I'm confident that I would have typed in those numbers.

Can the witness be shown Exhibit 1,047, please? I am just going to show you the situation report, 6 o'clock that evening, 8 January 2011, and under the heading "Wivenhoe full supply level 67 metres AHD". Now, your evidence was that at some stage you would have expected you'd read this document?-- Sorry, is this the 6 a.m.?

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Yes - the 6 p.m. when you came on?-- 6 p.m.

So it is situation report the hour before you came on?-- Yeah, as I said yesterday, I can't recall reading it but it is a reasonable expectation that I would have read that.

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Given that evidence you identified other things that you would do and you gave some examples. One would be look at the lake level-----?-- Yes.

-----or the dam level?-- Yes.

Look at the rainfalls?-- Yes.

In respect to the large spreadsheet that you have in front of you, would this have been used?-- Oh, yes, that would have - as I said, at any one time there would have been a - there is always a live spreadsheet that reflects current operating practice open in front of me and it would have been up on the screen in front of me for most of the time, and - well, the majority of the time but I would have been switching to look at - use a different package to look at rainfall. You would use a different package to run the hydrologic models, so, yeah, I would have been switching between the three.

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Could I now take you to Exhibit 24, please, the flood report at page 68? I think you were taken to this before by my learned friend, Mr O'Donnell. Was there a screen with this type of information available to you?-- Yes, there is one that looks like this. There is also another one - we have access to a real time program also managed by the weather bureau which shows a lot more - shows all the rain gauges across South-east Queensland, so there is about 350 of those. So it is similar to this but there is many more gauges shown.

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If we just look at this one?-- Yes.

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The snapshot, is this the type of document - one of the types of documents you use when you come on duty on a shift?-- Yes.

Now, I just wanted to clarify - and the Commissioner did seek to clarify this, I just want to make it clear, you gave some examples about what they would show at different times, and you said, for instance, at 9 o'clock it may show 9 mm and then

later on show another level. Am I right to suggest that there is - there is a time when it starts at a zero level and then it moves up from that over a 24-hour period?-- No.

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What period?-- Well, you set the period. So you're looking at it - it is a historical database. So you're looking at a time now and you can either look at rainfall over the last hour, last two hours, whatever period you choose. Typically you look at the last hour to see the intensity of rainfall that might be occurring and making estimations as to what will occur if that intensity continues for whatever number of hours. I like to look at the last three hours to get a bit of a feel for how that intensity has been maintained over a period. Then I look at the last six hours, 12 hours and 24. So I - generally that would be the periods I'd have a bit of a look at. I think they all tell you something as to what's going on and give you a picture as to how the rainfall system's working. As I said, it is a database, but it is a database that's updated in real time because there is rain gauges in the catchment that are automatic rain gauges and every time they report one millimetre of rain, they send an additional piece of data into the database that updates it, and changes the values. So you could be looking at it and it might go up by one millimetre because it just got a signal that a millimetre occurred.

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Thank you. Can you look at page 75 of that same report, please? I'll bring it up on the screen. If we start with, for instance, the Stanley River and Somerset Dam. Is there a document such as this?-- You can derive a document like that without a lot of difficulty, but it would only show you to a point in real time. I generally - it is not something I generally use but the others use. But, yeah, it's available.

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Now, could I take the witness to Exhibit 21, please? This should be the Manual of Operation Procedures. Could I take you first to page 23? You made reference to a flowchart in your evidence?-- That's correct.

In some of the answers you referred to a dilemma?-- Yes.

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Can you just explain, by reference to that, what that dilemma was?-- Okay. If you look at that flowchart, it shows you that when the lake level exceeds 68.5. The next question you've got to ask yourself is is the lake level likely to exceed 74. If the answer to that question is yes, you're going to invoke W4. If the answer to that question is no, you're going to ask yourself another question about, you know, the maximum flows that you're expecting in the river at Lowood and Moggill, and you can see that - the dilemma is that when the lake level first reached 68.5, if we'd asked ourselves that question about the maximum flows at Lowood and Moggill, from this sheet here, the bigger spreadsheet, we can see at that time that our expectations weren't that the flow was likely to exceed three and a half thousand at Lowood and 4,000 at Moggill. So in those circumstances this flowchart, because it is in error, it directs you to use strategy W2. And I guess that's the dilemma; that using strategy W2 at that time

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was just, as we've discussed over the last two days, it was just not a sensible approach. It couldn't be applied, and if it had been attempted to be applied, it certainly would have made the flood peak worse.

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Can I take you to your statement and to page 5. If he can have his statement, thank you. And in the schedule you set out a table. If we just look at 8 January at 8 o'clock in the morning to 2 o'clock in the afternoon, is that the first horizontal line under the headings?-- That's right.

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And in the first column what do they show?-- Well, the - so the first column is the time period. The second column shows the releases that actually occurred during the flood event at that time. So we were releasing from the dam 927 cubic metres per second and that was increased to 1239 cubic metres per second over that period. If you calculate the peak flow at Lowood in that period which is again in the flood event report it was 530 cubic squares per metre, that's excluding Wivenhoe Dam releases. If you calculate the peak flow at Moggill in that period it was 660 metres cube per second, including releases. Those numbers are essentially - when you add together the flows with an allowance for travel time in the river from Lockyer Creek and the Bremer River, that's how you derive those flows. So there's some flow from those - so there is some flow in the river from Lockyer and Bremer during that time. So you've got to account for that if you want to apply strategy W2 and have your - have the conditions satisfied with W2 where you're having less than 530 cubic metres per second at Lowood and less than 660 cubic metres per second at Moggill. To do that the flow you would have had to have had in that period varied between 80 cubic metres per second and 153 cubic metres per second. In other words, instead of having a flow of 927 to 1239 cubic metres per second as what actually occurred, if W2 had been applied they would have had to cut back to between 80 and 153. So we would have had to reduce, I'd say, about 90 per cent. That would have caused water to increase in the dam and ultimately we can say it would have made the flood peak much worse. I've then gone through period by period and done a similar calculation for each period. The spreadsheet where the base calculations - it goes over on the second page, but you can see it's a similar story all the way through. The base calculations associated with that are in the spreadsheet which you can - you know, is available to the Commission.

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What, in your view - what is the situation that W2 was aimed at?-- W2 would aim at the situation where there's a large peak - there's a large flow of water coming from the Bremer River and Lockyer Creek into the Brisbane River and that's going to flow down and then come out at the mouth of the river. Now, under certain circumstances and I've mentioned this a few times this morning, some of those circumstances occurred in floods that impacted the dam between October 2010 and December 2010 which is just, you know, the end of that period, it's just two weeks before the January event where this situation occurred where there was a significant flow in the Lockyer and Bremer. Essentially the dam releases were reduced to allow that flow to pass down the river because we didn't want to combine our releases with that flow. Once that flow had passed releases were stepped up so that that natural peak wasn't exceeded.

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Thank you. And could we now go back to the flood report at page 75, please. And if we go to 75 and then look at 76 and then 77, we've got the different rain charts?-- Yes.

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What are the relevant ones in relation to the creek and river that one has to look at for the natural peak for a W2?-- The Lockyer and Bremer too, yeah, that's Lockyer, the Bremer's underneath it.

So the one at page 76 at the bottom and the one at page 77 at the top and, again, just identifying the description you've given about what W2 is aimed at?-- Yes.

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Can you identify whether that type of situation is indicated in these rainfalls or if it's not indicated?-- To me it's not indicated because the rainfall that's occurred in the Stanley River and upper Brisbane catchments is certainly more than what's occurred in the Bremer and Lockyer catchments. If you just looked at - I mean, it depends on catchment conditions at the start of rainfall, it depends on a number of things, but if you are just looking at the charts you'd be thinking, well, there's certainly not - you think it's unlikely you'd be in a W2 situation, unlikely, because-----

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Well, if we focus on the Saturday morning and the Saturday afternoon, looking at the Lockyer Creek rainfall and the Bremer River rainfall?-- There's certainly nothing over that period. I was looking right back to the Thursday. Yeah, no, there's no question, you know, immediately before. I mean, again, it just depends at what point in time you're at, you know, given that from when the rain falls you've got periods up to 24 hours from when it flows into the river so, yeah, certainly on the Saturday it's - it was just really nothing anywhere and it sort of comes in on the Sunday morning. So, yeah.

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Can I take you now to page 33 of the report. And under the heading 3.4 and over the next three pages can you identify what that is?-- That's a record of which shifts the engineers attended. The shifts start times and finish times are the first two columns and the person on shift - because the names were redacted from this - or "redacted" is the wrong word probably, because the names weren't shown in this - in the report there's a code for, you know, engineer four is myself so engineer four is John Tibaldi, the other three had different codes.

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That's what I was going to ask. You're engineer four in the document?-- That's right.

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And if we just go through at page 33 you worked at least, not including obviously travel time, 12 hours on the 8th of January starting at 7 o'clock at night to 7 o'clock in the morning?-- Yes.

And then on page 34 you worked the Monday, 7 o'clock in the morning to 7 o'clock in the evening?-- Yes.

And then on the Tuesday you did another 12 hour shift starting again at 7 o'clock in the morning, 7 o'clock in the evening?-- Yes.

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And on Wednesday the same?-- That's right.

And Thursday?-- That's right.

And then, finally, Friday finishing the 15th of January at 7 o'clock in the morning?-- That's correct.

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And at least from the e-mails you've said what your position is about having no recollection in relation to 15, but the timing of those e-mails suggest you were being asked to do something towards the end of the day at least on the 15th of January?-- Yes, that's right. I just also just point - I mean, just pointing out that this is the time we're on official duty, we're in the flood centre for much longer periods than shown here plus we were on duty doing other things at various times in between. I'm just making that comment.

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Mr Tibaldi, I was going to come to that. That's the official time on duty. Were you become asked to do other things throughout that period?-- I chose to assist in the flood centre outside those times myself and I was also on occasion asked to assist with other matters relating to the flood for Seqwater.

Can I ask a difficult question: you stated in your statement that the two things you recall specifically were what you observed on television in relation to - such as the Grantham incident and also the decision in relation to the W4; do you recall that evidence?-- Yes.

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How did that affect you?-- Possibly, you know, it caused me to lose some sleep. Even though I get emotional about it now it's not something I dwell on now, but, yeah, it's still the thought of it's, you know, yeah. It's not something I would like to recall on a regular basis.

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Are you able to say whether you were getting regular sleep during that period we examined or whether it was intermittent?-- It was intermittent over that period.

Do you have a general view or do you have any recollection as to what your emotional and physical state was at or about the time of 15 January?-- I just can't remember the 15th of January.

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No further questions. Thank you, Commissioner.

COMMISSIONER: Thank you. Mr Callaghan?

MR CALLAGHAN: Mr Tibaldi, you tried to give some evidence yesterday in response to questions from Mr Rangiah and this is at page 5,086 of the transcript. You were at the end of a

fairly long answer to a question and you said, "If we had decided to ramp up earlier for this event, for the January event, I have no question it would have reduced flood damage. There's no question about that, but-----" and you were interrupted-----?-- Yes. 1

-----at that point. In a similar vein you, in answer to a question from Mr MacSporran said this, at page 5116, "Yeah, if we had known at the time what was coming three days later the right decision would have been to ramp up to 4,000 then exactly at that time. If you knew what was coming three or four days later or three days later, whenever it was, yeah, definitely that would have", and then you just drifted off, didn't finish that sentence?-- Yes, I agree with both those things. There's no question. 10

All right?-- Yeah.

You've been carefully taken through release rates and so on today and I think - would I be right in suggesting that your qualification on those propositions would be that if you'd done that urban inundation would have occurred if you ramped up earlier?-- Well, if you - if you ramp up to the 4,000 in the river there's some over urban inundation. 20

Right. Of course, what happened in Brisbane and Ipswich on the 12th and 13th was urban inundation also, wasn't it?-- Yes.

Either way you have to take something of a chance whichever course you take?-- Well, we don't have the benefit of full hindsight. We don't know what's going to happen in the future. 30

What you do is make a judgment call?-- That's right.

And you can understand that's why people are interested in your thought processes at the time?-- Yes.

As I understand the effect of your evidence yesterday and today the election to hold back or one thing at least which informed your decision was your reliance on the four day rainfall forecasts. You said today, I think, the forecasts were not particularly alarming?-- I didn't say the four day forecast today. I said the single day forecast. 40

All right?-- Even though I believe I was talking about the QPF, I believe, today. Even though the three and five day forecasts are - it's explained clearly in the flood event report as are the QPFs in the section. It's all there. All that information was available to us at the time. 50

You're right, I'm sorry, it was yesterday you mentioned the four day forecast, at least that's the way I made a note of it, but anyway you've answered the question?-- I'd like to see the transcript, but you could be right.

No, I can't actually-----?-- Well, the information was there.

I agree with that, yes.

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Okay. One thing we did work out earlier last year though was that the forecast rainfalls are not used as the basis for a change as between strategy; is that correct?-- It was talked about at length, yes, about weight on forecasts.

All right. And, of course, the strategies as depicted in the March report which you have worked out when they must have been engaged, that decision wasn't informed by forecast either, was it?-- Well, there was forecast model runs being done at that time.

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Which model runs did you use to decide when strategies were adopted?-- Well, you would look at your model runs.

Which ones?-- Every one - every one that's there because, like, if you are getting-----

Sorry, just identify them for us. Which ones? Which model runs did you use for the purposes of deciding which strategies were engaged when you wrote them after the report?

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MR SULLIVAN: Could I just object for a moment. Is this really in reply, Commissioner?

COMMISSIONER: Is this really what?

MR SULLIVAN: In reply. Was this just having-----

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COMMISSIONER: This is a commission of inquiry.

MR SULLIVAN: I understand that.

COMMISSIONER: So I'm not going to limit Mr Callaghan on this cross-examination at all. If you need to ask something after it, you can.

MR SULLIVAN: Thank you.

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WITNESS: I'm happy with the question. I'll explain it to you the best I can.

MR O'CALLAGHAN: I just want you to identify which models?-- Well, I'm doing that and just let me explain it, please, okay. Because you are all jumping into something where I'm trying to explain - you know, I suppose that's the problem here, there's a lot of technical, you know, questions and answers and what you have got a tendency to do is to jump in without fulling understanding everything and saying, well, what about this little bit. There's more to it than that.

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Well, there might be, but I'm not going to let you give examples or deviate from the question?-- Well, I will answer the question.

Identify the models?-- Look, I'll ask the question to your satisfaction, but I need to explain something first.

No, you don't actually. You just need to answer the question. Which models?-- Okay. Well, every time there was a forecast model run done the engineer that was there would have looked at that because he physically has done the model run.

The forecast model run of what?-- Well-----

Lake level?-- No, when you run the model, right, there's a model that you run which is about rainfall.

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Right?-- And what it gives you is stream flow. So it gives you estimates of inflow into Wivenhoe Dam, estimates into the Somerset Dam, Lockyer Creek and Bremer River flows. Okay. You can run that with the actual rainfall on the ground.

That's right?-- Or you can run it with forecasts rainfall.

Yes?-- So every time you run it with forecast rainfall you're getting those - those four that I mentioned. They then go into the spreadsheet model and you get an estimate of what that's going to do to your dam levels.

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Yes?-- Now, in a situation where you got - you know, as I said, where there was some - where there was some certainty with forecasts you would run that and you would see that your level is going to increase dramatically.

Just stop for a moment?-- Yeah.

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I'm asking about the writing of the March report?-- Yes.

And when you decided which strategies were engaged?-- When I decided which - sorry, I beg your pardon. I didn't quite appreciate that. No, I did not look at those. I agree with that.

All right. Thank you?-- Apologies.

Can I take you to Exhibit 1,047 which is the situation report of 5.53 p.m. on the 8th of January. You're familiar with the document by now. The situation reports were - or situation reports were included in the March report; that's correct, yes?-- There was-----

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Appendix E?-- Yes, there was an appendix with situation reports, but one as we, I think, discussed yesterday was missing or.

This one is missing, isn't it?-- I don't know which of the exact one was missing, but if you tell me it was this one, I'd believe it.

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Well, it's in appendix - we can all look at Appendix E for ourselves. Can we be quite clear as to why it's missing? It's the responsibility - whose responsibility was it to compile the reports for the purposes of inclusion in the March report?-- I take full responsibility for everything that's in

the report and if something is missing out of there I'm not going to blame someone else.

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Well-----?-- I gave evidence yesterday as to who compiled the appendices. It's on record there, but in terms of taking responsibility for it, well, at the end of the day, you know, it was my report, so if something was missed out.

What was the actual process by which the reports were compiled or collated for inclusion in the March report? Did you give instructions to this other person to do it? Did you do it yourself?-- I gave instructions to another person to gather everything available, every situation report available and put it in an appendix.

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COMMISSIONER: Who was the other person?-- It's Ms Chloe De Marchi I think that was on record yesterday. That was asked of me yesterday.

MR CALLAGHAN: In a similar vein, can I ask you to look at the flood event log and compare the versions Appendix M of Exhibit 24 at page 105?-- Didn't we exactly do this yesterday?

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COMMISSIONER: Well, don't jump ahead, Mr Tibaldi?-- I don't mind doing it-----

Just let Mr Callaghan ask the question?-- But the previous question was exactly of yesterday. Exactly of yesterday. How many times?

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MR CALLAGHAN: Just answer the questions. You see the entry at page 105 there?-- Which one, sorry?

Can we scroll down a bit, please, sorry, up. Just further down. 11.28 a.m. on the 17th is the one that I want. The entry there, "Seqwater CEO called saying he will e-mail revised copy of response document." Now, I suggest to you that in Exhibit 23 which we've called the unredacted version, that entry readings, "Peter Borrows called saying he will e-mail a revised copy of Michael O'Brien's document."?-- Yes.

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Can you explain the process by which that entry got changed?-- All names were redacted from - that was the instruction given to the person that wrote that. Obviously Michael O'Brien is a name. It's been redacted.

How does the - how did the term "response document" come into existence?-- I certainly had no awareness of that. Again, the person that has redacted the names you will have to, unfortunately, speak to that person.

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And was that the same person again?-- Yes.

All right. And, finally, for the moment, I take you to another answer you gave to the Commissioner yesterday at page 5119, line 25, you can see the whole block of text there at the top of that page on the screen to put it in context. Just

read down to, "Wasn't there."?-- Yes, I've read that.

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I'm interested in the part of your evidence where you said, "Certainly when the guys were read my draft changes were made, you know, associated with things that I couldn't know because I just wasn't there."?-- Right.

Tell us about that, please. Tell us what changes were made on the basis of things that-----?-- Well, for example-----

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-----the other guys told you about?-- Well, again, you can make this assessment by comparing my final draft with - which I've e-mailed you to with the actual report. I haven't done that myself but, you know, I think that would be the easier thing to do. The main one I recall was about - again we discussed this, Commissioner, in the early hearings was about - I recall there was some controversy about a phone call involving the dam safety regulator on the Sunday night. Again, I wasn't party to that call. I can recall the wording I used, you know, it was wrong or something and I just didn't-----

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I beg your pardon, the wording you used what?-- Beg your pardon?

You said, "The wording I used", something?-- Well, I wasn't party to that phone call, but I could see in the log a phone call had occurred so I had assume in my first draft used the wording out of the log. However, I can recall that when the people who were in the room at the time saw the wording I'd used they didn't agree with that wording because, you know, as we've discussed with the log it's made by a third party that can't hear both sides of the telephone conversation. So I can recall there was some adjustment to those words. I can recall there was a few things of that nature, you know, associated with just matters that ended up in the report that I wasn't in the room at the time. So my assumption or premise as to what had occurred, you know, was incorrect and they were corrected by people that were there at the time. If you want to make an assessment of all of those things I'd suggest that you look at the latest draft I sent you, you know, there was draft 21 and compare that with the final report and I think you would have an assessment of things that changed. I haven't-----

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Perhaps, but not of the reasons the changes were made or by whom the changes were suggested. That's what I'm asking you about now?-- Well, there was - my expectation - well, the changes - what I recall is that changes would have been suggested by the relevant person in the room or the relevant person associated with that event. You know - you know, from draft one to final report, a five volume report of 1400 pages obviously there's a lot of changes. There's no way I can remember them all.

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All right.

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COMMISSIONER: Can I just ask you this? You said a minute ago that you looked at draft 21 and the final report you'd get an understanding of what changes were made, but are you saying that the changes may have been made from drafts 1 to 21 also or-----?-- No, what I'm saying is drafts 1 to 21 was prior to me circulating a formal draft to the engineers.

Okay. So, it's got to be between draft 21 and the final report?-- Mmm.

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Thank you?-- Up to that point, it should all be my words.

MR CALLAGHAN: Finally, the person you identify as being responsible for the compilation of the Situation Reports, is that the name that she's always gone under?-- No, she recently changed her name.

Was it Chloe Cross?-- Yes.

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Formerly her name. Yes, could Mr Tibaldi be stood down, please?

COMMISSIONER: I was going to give Mr Sullivan - Mr Sullivan, do you want the opportunity to ask anything about the use of forecast-----

MR SULLIVAN: No. Thank you, Commissioner.

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COMMISSIONER: Thank you. Mr Tibaldi, I am going to stand you down rather than excuse you. That's nothing special for you, I will do the same for all the witnesses in this session in case we need to have anybody back to ask them anything else?-- That's fine.

So, you are stood down for the rest of the hearing. Thank you.

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WITNESS STOOD DOWN

MR CALLAGHAN: I call Robert Ayre.

MR SULLIVAN: Commissioner, can I just inquire, what's the practice, are we allowed now to speak to our client about the matter or would your Honour prefer us not to?

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COMMISSIONER: Look, I will just trust your ethics, Mr Sullivan.

MR SULLIVAN: Thank you.

COMMISSIONER: I don't have any view about it.

MR SULLIVAN: Thank you.

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ROBERT ARNOLD AYRE, RECALLED:

FURTHER EXAMINATION-IN-CHIEF:

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MR CALLAGHAN: Could you tell the Commission your full name, please?-- Robert Arnold Ayre.

Occupation?-- I am a civil engineer.

Mr Ayre, to get straight into it, during the January event the Flood Operations engineers worked 12 hour shifts; is that correct?-- Yes, that's true.

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When you changed shift the engineer who'd been on duty would give a briefing to the one coming on to the shift?-- Yes, at handover discussion occurred.

All right. We have seen the Flood Event Report which sets out who's involved in each handover. We don't need to go to that. But is it the case that flood officers, the technical officers, would also sit in on the handover procedure?-- Yes, they'd arrive at the same time and exchange.

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And the flood report says in some - the March report says in some places that the handover occurred in accordance with the Flood Procedure Manual. Would that be the internal flood procedure manual?-- That's the Seqwater document, yes.

Now Exhibit 1,035. On page 7 of that document - and we can take it to you - take you to it if you like, but there's a list of information that should be provided in the shift handover?-- Yes.

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One of those things is flood release procedures that are being applied and the reason for their selection?-- Yes.

That's on the screen there now, I think. Is it the case that that requirement is not interpreted to include a requirement to check which strategy under the manual was being implemented?-- Yes, as far as I'm aware, we don't reference the strategies in those meetings. The release procedure generally is a discussion about the gate sequences that have been proposed or enacted in that shift.

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Nothing in those procedures appears to actually require a review of the Situation Reports; is that correct?-- That's true, yes.

Were Situation Reports reviewed by you as a matter of course during shift handovers?-- Yes, generally speaking, so I'd

just make myself aware of various bits of information contained on them.

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To your observation, was that the practice of other Flood Operations engineers when you handed over to them?-- I believe so. We generally had the latest Situation Reports up either on the computer screen or the faxed copy available.

That was really the basis of the content for the handover, was it not?-- Yes, generally speaking, that and also reference to the realtime Flood Operations Model.

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What about the Flood Event Log, was that part of the handover process?-- Not generally speaking, to my recollection, no.

Now, you've no doubt been made aware of the focus of the Commission's examination in these hearings?-- Yes.

And so I am wondering if we can't condense a few propositions without taking you through many documents, although if you wish to see any or check anything of course you're free to do so?-- Mmm-hmm.

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But I will suggest to you that between 8 a.m. on the 8th of January and 9 p.m. on the 9th of January there are relevantly a number of Situation Reports, Technical Situation Reports, and Flood Event Log entries that were created?-- Yes, that's true.

And the proposition which you've advanced in the past is that you were operating in W3 during this period?-- Yes.

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You agree that those documents, which I just mentioned, are places in which there might be recorded the fact that the dam was being operated pursuant to W3?-- Yes.

But you'd also accept that there is no such record?-- I believe there would not necessarily be specific reference to W3, yes.

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But you also know that there - not just that there would not be, that there is not?-- I think there is reference to the primary considerations of Strategy W3 in those documents.

All right. I'll ask you to take a look at Exhibit 23, which has been referred to as the unredacted Flood Event Log. I will just ask you some questions about that. The Flood Event Log generally, we have had different - we have had evidence on this at different times, but I don't know that we have one single coherent statement which covers everything that might need to be known about the Flood Event Log. We understand, for example, that it's compiled contemporaneously, but also updated sometimes after the event?-- Well, not after the events. Generally speaking it's during the event, and in this situation what was put back in the - put in that wasn't necessarily done at the time was things like the Situation Reports.

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Okay. I might have given you a misleading impression. Sometimes an event might occur and it may not make it into the log for a short period of time?-- Yes. 1

What's the outer limit of that timeframe, between when something might happen and when the entry might be made?-- The end of the event, so when - demobilisation.

I am not making myself clear. It is for the most part a fairly contemporaneous record of what happened?-- It is, yes. 10

A record of the conversation might expect to be made more or less as the conversation's happening?-- Certainly within the next 15, 20 minutes, yes.

That's the figure I am looking for?-- Yeah.

For how long after an event like that might an entry be made? What's the outer limit for an entry for something to do with a conversation or-----?-- Well, I wouldn't expect it to be any more than half an hour. 20

All right. And then the Situation Reports that have been put into it, they are a contemporaneous record or they're a record-----?-- That's right.

We know the times when they're compiled. When were they placed into the Flood Event Log?-- I think a number of them early on were put in as they were sent and they were copied and pasted in. As things got busier, that - an action perhaps didn't necessarily occur at that point in time, so during - after the peak and during the drawdown phase when the event was settling down some additional information, like the Sit Reports that may have been missed, were added in that timeframe. 30

Would there be anything else that would have been added in a similar way?-- I think potentially the reference to some of the modelling runs. 40

Yes?-- And any directives that didn't necessarily get in there at the same time.

All right. So, I think I understand. Is there one master copy, if you like, of the log? I mean, we have heard it could be updated by three people at once or something like that?-- Yes. Generally speaking we reserved a particular computer with the master log on it. During - I think the Sunday night to Monday morning a second log was established because people couldn't all access that particular file at the one time and there was action at all three dams, so people were capturing different bits of information relating to the different dams. So, a second version of the event log, if you like, was created on a separate computer. 50

But does - the one master copy, if you like?-- Well, there's the main document, but there was a second actual document.

Right?-- So, they're both Excel template spreadsheets, so - a new document for the extra information, if you like, was established on the second machine.

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And then how did that get integrated into the first document, the master document?-- I wasn't involved in that process directly, but some of the flood officers did that merge of information.

I see. Okay. Which flood officers would they have been?-- From my recollection, they were John West and Mark Tan.

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All right. And once all of that was done and once the Situation Reports and so on had been integrated, was there then just the one copy-----?-- Yes.

-----maintained at the Flood Operations Centre?-- Yes. So, once things had settled down and it was at the drawdown phase, obviously a bit more time, we consolidated all that information into the one document and just maintained that master document from thereon.

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So, by what date would we be talking about then that there was just the one document? The drawdown phase, when do you say that started?-- Oh, well, the drawdown phase commenced on the Tuesday evening but I suppose we didn't establish the three and a half thousand CUMECS till probably the Thursday, so I would be - I would be - it's a guess, I suppose, but I think it was around about Thursday to Friday of that week.

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Can we get an outer limit then for the time at which there was one copy of that document which ought to have contained all the relevant information?-- Well, I think Saturday the 17th was probably that day, but-----

Okay?-- I don't know for sure. I can't-----

So, around about that time anyway?-- That's from my recollection.

40

From that time on there should be no cause for that document to have had anything added to it or taken from it?-- No. It would have been just the actual log, master log, as it was continuing.

And that would have been the point of reference for everyone, such as yourself, who wanted - who might have wanted to check something for the purposes of writing a report?-- Yes.

The purposes of writing any report?-- Yes.

50

Thank you. Now, there is one document in the period to which I have referred you, a document with which you're associated, which does, of course, mention a manual - a strategy under the manual and I am sure you are aware that's the Situation Report prepared by you timed 5.53 p.m. on the 8th of January?-- Yes.

Can we just put that in context before we address it

specifically? You were scheduled to start your shift at 7 a.m. on the 8th?-- I was, yes.

1

Mr Ruffini was the engineer on shift before you?-- Yes, John handed over to me.

Was the usual handover procedure that we have just discussed followed?-- Yes. We discussed the volume of storage - volume of flood waters stored at that point of time, the release rates that John was executing, and we discussed the proposed strategy for the course of Saturday.

10

When you say you discussed the proposed strategy, do you mean the strategy under the manual or-----?-- No, the - sorry, the gate sequence that John had proposed.

It was shortly thereafter that you say, do you, that the transition to Strategy W3 was made?-- Yes, I was aware at the handover that whilst we were still in W1 the lake level was approaching the threshold level of 68.5 and, therefore, we would be transitioning from W1 to W2 or 3.

20

There is no contemporaneous record of your thought process at that time?-- No, I don't believe so.

It was not indicated to any of the flood officers?-- I can't recall.

Not indicated to any of the dam operators?-- No, I don't believe so.

30

All right. Well, let's turn to the Situation Report, Exhibit 1,047. As we have pointed out to Mr Tibaldi, that's not contained in the March report. Do you have any idea how that happened?-- No, I don't. There were a number of Situation Reports, I think, overlooked when compiling the document. I just-----

There weren't a number of from this period missing, though, were there?-- Sorry?

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There weren't a number from this period missing?

MR AMBROSE: What period is my learned friend referring to?

MR CALLAGHAN: Between 7 a.m. on the Saturday and, say, 7 p.m. on the Sunday?-- No, I believe the two - the Situation Report that John Ruffini produced and the Situation Report - or the status report I produced at midday both were in the report.

50

All right. Well, you are familiar with the document. I am sure you have had the opportunity to consider this proposition. Can we deal first with the prospect raised by Mr Tibaldi that it's possible to go from W3 to W2? You don't suggest, do you, that the way this document is to be interpreted, if we can just scroll - it's the second last paragraph on the screen at the moment?-- Yes.

And you are familiar with the sentence which includes the words "will require the application of Wivenhoe Dam Flood Operations Strategy W2"-----?-- Yes.

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-----"(transition strategy)", et cetera. Well, do you advance the proposition advanced by - raised by Mr Tibaldi that that might mean that you were going to transition from W3 to W2?-- The forecast model on which that was based - so this particular discussion is under the heading of, "Forecast Scenario.", so we are looking here at the three day rain forecasts. I knew where we were in terms of the lake level and at that point in time we were at 68.65, so we were above the threshold level from W1 to W2 and 3, so what I was examining was the prospect of a forecast situation developing and where they may lead us in an operational sense.

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Can we just take it one step at a time? Do you say that what's being foreshadowed there is the possibility of a transfer directly from W3 to W2?-- No, it's not-----

20

No?-- -----a direct transfer.

That would be silly, wouldn't it, because - sorry, I will suggest two reasons. One is you are talking about an increase of releases?-- Yes.

And you wouldn't be doing that if you were transferring from - directly from 3 to 2?-- That's correct, yeah.

And the other is that 2 is a specific transition strategy from minimising impact on rural life to protecting urban areas?-- Yes. But-----

30

Anyway, I think you have agreed with me. We will move on to your explanation, which I understand you want to give?-- When you said that it would - it wouldn't necessarily mean an increase in flows, that would be dependent on the size or the magnitude of the downstream tributaries associated with that particular forecast run. So, transitioning to Strategy W2 may indeed mean that you would actually have a higher release rate because the downstream tributary flows would, in fact, be higher than what you're currently releasing.

40

Yes. I understand what you say there.

COMMISSIONER: I am not sure I do. You are talking about W2?-- Yes.

And that's the situation where you have got water coming down the Bremer and the Warrill and-----?-- And the Lockyer, yes.

50

And so you try to keep below the natural flow rate at Lowood and Moggill?-- Yes.

So, why are you going to be increasing flows from the dam?-- Well, this is forecast scenario so it's predicting rainfall in advance, and the magnitude of that rainfall is such that it's higher than what you have previously experienced. So,

effectively we are going to get a second peak coming out of those downstream tributary streams and that-----

1

What do you call a down-----?-- Sorry?

What do you call a downstream tributary stream? What are you talking about that?-- Lockyer Creek or the Bremer system.

All right. Those?-- Yes.

10

All right. So?-- So, we get - so the hydrograph will actually be - we have just had the Lockyer peak go through at 530 and a couple of days time we will experience another hydrograph but this hydrograph is going to be much larger than what we previously experienced, so that would be in the order of 1200 or a thousand CUMECS, something of that nature. So, we're currently releasing at 1250.

You are talking about in the interval?-- In the interval, yes, and basically what would be happening is we would be still continuing to release at 1250, that would drive the lake level down below the threshold level, and then when the rain comes and the flows hit you will be forced up again above the line.

20

Thank you.

MR CALLAGHAN: But, in any event, it doesn't make any sense, does it, to transition directly from 3, where you're already protecting urban areas as your primary consideration, to 2, which is a transition to the situation where you're protecting urban areas as your primary consideration?-- That's true, and - but I suppose what I was trying to explain in those words, and obviously fairly clumsily, was that this prospect that if indeed this forecast rainfall occurs, it's possible for us to experience a situation where we're now limiting the flows to below the tributary peak, so the naturally occurring flows, and, in essence, it will be a W2 type of release.

30

All right. Well, I think you have agreed with me that it doesn't make sense to go straight from 3 to 2?-- No, no.

40

What you seem to be advancing, correct me if I'm wrong, is the prospect that you might have been foreshadowing a drop from 3 to 1, then back to 2?-- Yes, that's true.

Right. And is that what you are advancing to this Commission as the way that Situation Report should be interpreted?-- Yes, based on the forecast model that was run at that time, indeed-----

50

Which forecast model are we talking about?-- This is the three day forecast. That model run was included in appendix K of the report.

Appendix K. Let's go to that. Which model run are we talking about?-- So, it's, I think, the second one in that series.

Can you give us a page number if you have got-----?-- I 1
haven't got the report in front of me.

Or date and time?-- So, it's Saturday, the 8th of January and
it's 1500 hours, I think, or something like that.

Thank you. That's the three day assessment and model result
of flow; is that right?-- Yes.

Inflow?-- Well, it's inflows and assessment of the downstream 10
flows in the Lockyer and the Bremer and Warrill.

Okay. And it's on the basis of this information that you say
you foreshadowed a change of strategy from 3 to 1, then back
to 2?-- Yes.

Using - well, the best forecast rainfall information
available?-- Well, that's using the SILO three day outlook.

Right?-- I also did a 24 hour QPF run at the same time. I 20
suppose these runs were done on the basis of recognising the
potential threat that was contained in the Bureau's three day
outlook - four day outlook.

Yes?-- That there was significant rainfall on the horizon,
specifically for Sunday - building Sunday, heavy Monday, and
then clearing Tuesday.

So, you're forecasting a chain - you're predicting a change in 30
strategy based on forecast rainfall?-- Well, really the
purpose of the - of what I was doing there was to see if the
release rate that I currently had would need to be adjusted so
it's a case of the forecast scenario informing the selection
of the release rate and hence the strategy.

But the thing which was going to affect the change in strategy
between 3 and 1 and then back to 2 was surely the lake
level?-- It is, yes.

I mean, that was one thing that we did establish last year, 40
was that that is the thing which determines the strategy?--
Yes, it is.

And another thing I thought we'd established very clearly last
year was that forecast rainfall was not used to inform the
lake level prediction.

MR AMBROSE: No, I beg your pardon, that wasn't the evidence, 50
it was it didn't influence release rates.

MR CALLAGHAN: I am talking about the evidence last year
about-----

MR AMBROSE: That's right.

MR CALLAGHAN: -----how strategies were chosen. Strategies
are chosen by reference to lake level.

COMMISSIONER: It's certainly my understanding of how it all panned out, Mr Ambrose, but if you have got something specific you want to refer to stress the contrary you're welcome.

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MR AMBROSE: My recollection of the evidence was that forecast rainfall wasn't used to influence and inform releases from the dam, not the lake levels.

MR CALLAGHAN: I am not talking about releases. Assume that for the purposes of this current line of questioning I am talking about manual selection pursuant to the strategy?-- The-----

10

The strategy selection pursuant to the manual. Okay? W1, 2, 3 or 4, that's all I'm interested in?-- Sure.

You agree with me, or you did last year, that it was the lake level which determines that selection?-- Yeah, the lake level will determine what strategy is currently applicable, yes.

20

That's right. And forecast rainfall was no part of lake level prediction?-- Not - well, the way we use forecast-----

No, no, we can stick with this because otherwise I've wasted a year of my life in terms of understanding these model results. We had a blue line and a red line?-- Yes.

And one thing we were absolutely clear about was that the with forecast model for predicting the lake level was disregarded. Am I right about that much?-- Yes.

30

For predicting the lake level?-- Yes.

The lake level was only ever predicted using the without forecast model?-- Yes.

Sorry, that was the only prediction which was ever used, you did both predictions, but ignored one?-- Well, it's been described as ignoring it, but I-----

40

Zero weight?-- Zero weight, yes.

Okay?-- Yep.

So, if that's so and the forecasts were not used for depicting - for determining the lake level, and the lake level was used for determining the strategy, how is it that you say that you used this forecast to predict what the strategies were going to be over the next few days?-- I was using this forecast to assess the potential threat of the rainfall that was expected. I was using this particular model run to provide me some comfort that the release rate that we currently had was going to be able to accommodate this future rainfall without an escalation within the bounds that we could achieve. So, it was a model run done to at least give me some heads-up on the likely changes to the release rates if the forecast rainfall arrived.

50

Sure. To the release rates but nothing to do with strategy selection pursuant to the manual?-- No, not - nothing to do with the strategy, no. That's true.

That's because at this stage the manual strategies were really something which were not on your mind?-- At that particular point in time, I cannot say that I consciously recall knowing whether I was in strategy W2 or 3, necessarily, but I was aware of the facts in terms of the lake level, in terms of the fact that the naturally occurring peak had been exceeded. I was aware of the fact that the objective that we were actually achieving was the optimisation of protection to urban areas.

10

Well, that is an objective that you might have been achieving, but you'd appreciate the difference between that and saying it was the primary consideration?-- I believe it was the primary consideration of the operation as at that point in time. We were using the flood compartment to limit the release rates such that we were achieving a flow of 1,600 CUMECS in the mid-Brisbane, which we knew was the maximum rate, if you like, that causes damage down in the tidal reaches of the Brisbane River.

20

Do you persist in saying that that entry in the situation report is meant to indicate a prognostication that you might have gone from 3, to 1, back to 2, or is it just an indication that you were heading towards W2 type releases because of the situation you were in at the time?-- It was put in there to demonstrate the heads-up if that rainfall - that rainfall fell, with the current release rates or maybe a slight adjustment upwards, we could actually accommodate the future rainfall-----

30

Yeah?-- -----and still meet the drainage requirements within seven days, but, indeed, we'd be at the extent of that seven days, so if we got any more rainfall than what was forecast, we'd have to consider raising the release rates.

All your answers are about release rates and I understand that. I understand that would have been very much what you were concerned with. Do you persist, though, in advancing the proposition that that entry in that situation report should be interpreted to mean that you were going to go from 3, to 1 and back to 2?-- That was what I put into the forecast model. I don't necessarily believe that that was necessary - we were going to execute it in that way. You have to - it all depends on when the rainfall falls as if to actually if you go below W1.

40

Right. Were you just speculating, in effect, that that might be something which might happen?-- I was. It was speculation just to give me a heads-up as to how we could accommodate that forecast rainfall.

50

And how far ahead are we looking here, by the time you get back to W2?-- This would be Sunday night, Monday.

Right. So, what, a good 36 or - sorry, 24, 36 hours in advance?-- In advance, yes.

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And so in this situation report you don't make a record of the fact that you are in W3, is that right?-- No, we don't.

In fact, you don't make records of being in strategies as described by the manual really at all?-- No, the common practice, primarily because we knew the people receiving these situation reports aren't necessarily familiar with what W3 or Res 2 may mean.

10

But on this occasion you were prepared to include in this document - which a lot of people who don't know what it means are going to receive - a speculative scenario which involved quite a number of variables which might or might not eventuate over the next 36 hours, is that right?-- That's true, and I think the reason I put it in there was for the benefit of John Tibaldi coming on, because I was just trying to give him a heads-up of how the situation may develop.

20

I see. All right. We'd better go back and look at what you've said about this previously. If we go to page 172 of the transcript. Is that in front of you?-- Yes, it is.

First of all, I suppose, at line 35 you say you inadvertently recorded strategy 2. How does recording it inadvertently square with the proposition that you were actually involved in this convoluted prognostication of something that was going to happen some time in the future?-- I - well, consciously I am not sure I was fully aware at the time I was in strategy W3. I cannot recall now whether I was thinking that. That line of questioning - I think I may have been confused by that line of questioning, and I think it was a confusion between what the current situation was or what we were talking about in that forecast scenario.

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Well, you were confused by this line of questioning. It was a pretty clear question which followed, though, wasn't it; "This situation report is a record of what you were actually thinking at the time that you wrote it?" "That's correct, yes." There is nothing confusing about that question, is there?

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MR AMBROSE: With the greatest respect, the situation report is quite a substantial document. We're talking about a small part of it, where this witness has made it very clear that that's dealing with a future event.

COMMISSIONER: Well, I think what he's being taken to is what he said last time, which is not quite the same, Mr Ambrose, and it is a legitimate line of questioning. And the question was was the question asked of Mr Ayre back then confusing.

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MR CALLAGHAN: Are you saying you were confused by the question that I asked you whether the situation report was a record of what you were actually thinking at the time you wrote it?-- No, no, I agree that the situation report was a

record, yes.

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Okay. And you can read for yourself - and take all the time you need - the question and answer - questions and answers which follow, the next two. Specifically the question, "Did you think you were applying strategy W2?" "At the time I would have, otherwise I wouldn't have put it in the situation report." Was that answer correct?-- Again, it was the context of were we talking about the future operation or the point - or what we were actually implementing at the time.

10

Well, I'm sorry, but the question is did you think that you were applying strategy W2?-- Well, I was applying strategy W2 in the forecast scenario, yes.

All right.

COMMISSIONER: How does that sit with the answer at line 22? "And according to this you thought you were still in W2?" "I was certainly contemplating at the time I wrote that that we were in transition between strategy W1 and W3."?-- Well, I'm saying that I don't have a conscious recollection now of whether I thought we were in W2 or W3. I - there was nothing that, I suppose, occurred on that day which would have prompted me to make a decision as to are we in 2 or 3. We're meeting the objectives or the primary objectives of both scenarios. I wasn't actually responsible for making the conscious decision to move to 3. That was done by John Ruffini at the 5 o'clock directive. We were operating in a range which didn't bring the limits into play. So I guess I wasn't really contemplating anything other than we weren't in W1.

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Which is the 5 o'clock directive? Which day?-- Oh, 5 o'clock in the morning on the Saturday morning. That's the directive that took the releases above the naturally occurring flows at Lockyer.

MR CALLAGHAN: And, Mr Ayre, is all this a bit frustrating for you because, to use the words you've used recently, "strategy labels are generally only attributed after the event as part of the reporting process."?-- Yes, we - as a matter of course or practice, we haven't necessarily recorded those strategy labels as the event progresses.

40

Recorded them or even really turned your minds to them?-- We turn our minds to them because we're looking at the objectives and also we're obviously cognisant of the lake levels.

Well, you are meant to be. You've - I don't know - I know you were sitting outside this morning. Were you able to hear-----?-- Not particularly, no. There were other people with me at the time.

50

Counsel for Mr - counsel took Mr Tibaldi to a number of situation reports during this period from the 8 a.m. on the Saturday through to the Sunday evening, which record the notification of councils about what was happening, record

reference to the effects of tides and so on. This evidence is pointed to as evidence that urban inundation was being considered by the flood operations engineers?-- Yes.

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You would agree that it is consistent with - those sorts of things are consistent with consideration of urban inundation?-- Yes. Certainly references to the impacts of flows of 1,600 CUMECS on the tides, yes, I would suggest demonstrates that.

10

But, of course, urban inundation does have to be considered even as part of W1, does it not?-- It does. All objectives need to be considered, yes.

Yes. And, indeed, not to do so would be a breach of the manual?-- Yes.

Moving on then to the end of the shift that you performed on Saturday the 8th, it concluded at 7 p.m.?-- It did, yes.

20

You did the usual handover?-- Yes. John came in. This was his first day back from holidays, effectively, so he was, I suppose, not as aware of the situation as the rest of us.

Do you say there was any discussion with him as regards strategy under the manual?-- In terms of strategy, it was the existing release rates of what we were trying to establish in the mid-Brisbane. From recollection, I told him about the forecast and especially the three-day outlook. I told him about the results out of that forecast scenario run, and indicated potentially he wouldn't necessarily be in a - have a busy night. It really would depend whether this rainfall turns up or not. So all he would probably have to do during the night is click a few gates during the night to make sure we keep the 1,600 going.

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Do you perhaps have a recollection of being that encouraging, if I can use that phrase, because he'd just come back from holidays?-- Well, I was just trying to fill him in in terms of what had happened previously to where we get to. Generally we don't necessarily concern ourselves about what had happened in the past, but-----

40

No, all right. To get back to my question, though, you haven't purported to say that there was any specific discussion about strategy under the manual?-- No, no naming of the strategy labels, no.

No, all right. Well, moving then to the teleconference at 3.30 p.m. on the 9th of January 2011 - I'm sure you've been referred to this in recent times. That was a meeting organised I think by you?-- Yes, I called the meeting based on the rainfall in the Upper Stanley that I saw develop during the Sunday morning and into Sunday afternoon.

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COMMISSIONER: Before you launch into this, I think it might be as well to take the lunch break.

MR CALLAGHAN: I had lost track of the time, I am sorry.

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COMMISSIONER: We will adjourn till 2.30.

THE COMMISSION ADJOURNED AT 12.58 P.M. TILL 2.30 P.M.

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THE COMMISSION RESUMED AT 2.28 P.M.

ROBERT ARNOLD AYRE, CONTINUING:

COMMISSIONER: Yes, Mr Callaghan?

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MR CALLAGHAN: Mr Ayre, we were up, I think, to 3.30 p.m. on Sunday the 9th and to the teleconference-----?-- Yes.

-----of which you are aware, which you convened. We'll go to the flood event log entry, Exhibit 23, Appendix M, which shows the record of this conversation so far as it appears in that log. Now, you were in the Flood Operations Centre at the time of this conference?-- Yes, the - well, Terry Malone, I believe, was the duty engineer for the day but John Ruffini and myself attended the Flood Operations Centre and John Tibaldi, he attended the conference via telephone.

20

Right. And I'm sure you're familiar with the entry which reads "at this stage operating at the top end of W1 and bottom end of W2"?-- I do recall it, yes.

You recall that being spoken about during that conference?-- I believe that was an expression that John Ruffini used, although I can't be exactly sure it was him. It sounds like a Ruffini-ism, and I suppose what I took that to mean was we were achieving the top objective of strategy W1, that is to keep the high-level bridges open, and I took the bottom end of W2 to be meaning exactly the same thing, in reality; it is minimising disruption to downstream rural life.

30

What do you mean "it sounds like a Ruffini-ism"?-- Well, John just comes up with some interesting terms of phrase every now and then.

40

What's particularly interesting about that one?-- Oh, I - well, as I say, I think all he was trying to describe was the phase that we'd been operating up to and that we were able to store water in the dam at that point and make releases in a manner that optimised the protection, but also had the benefit of keeping the high-level bridges open. And it is at this point, I think consciously I knew we were in W3 and there was a change of circumstance. Terry's model had indicated that we now had over a million megalitres of water in system upstream of Wivenhoe Dam as opposed to the previous 30-odd hours where we were managing around 400,000 megalitres.

50

So consciously you knew you were in W3. Did you make any comment - if it was John Ruffini - did you say something like, "Well, that might be so but we're actually in W3"?-- No, I don't recall making comments to that effect, necessarily. I think it was just recording that, well, that was what we were doing but we recognise there is going to be a change of focus

now, the releases we're going to have to make downstream are not necessarily optimal to protect the urban areas but we're going to be resulting in urban damage.

1

Did you even balk slightly at the use of the term W2?-- No, I can't recall at the time, no.

Because, of course, there would be no reason for W2 to be mentioned at all at this stage in terms of the way the dam was actually operating, would there?-- No, but I think there's a trap for beginners in the manual, in that W2 is described as the transitional strategy.

10

Mmm?-- I think most people think that - and including, I suppose, old dogs like Ruffini and I - occasionally think that transition is you'll go 1, 2, 3, but, of course, the manual doesn't necessarily mean that you've got to do that. So I think it was perhaps meant in that context.

Well, what's interesting, though, is it should be mentioned at all because it had been completely bypassed, hadn't it?-- Yes, that's correct.

20

It was of no relevance to any state of mind that you had at the time?-- No. Now that the circumstances had changed and I was, I suppose, aware that we were above the level, I knew we were in W3.

In W3 with no signs of going to W2 any time soon, were there?-- No, no. The - as I said, my expectation at that stage was that, given the volume of water that we're now dealing with, we will have to make releases that were going to be perhaps the largest that have been ever made out of Wivenhoe in its history.

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Was that the shared understanding of the meeting, so far as you could ascertain it?-- Well, that was the intention of my calling that particular meeting, was to make sure we had a common understanding of the position in the event and where it could develop to.

40

Which just makes it all the more remarkable, doesn't it, that W2 could even be mentioned?-- Well, yeah, I know. Just a turn of phrase that John adopted. I don't know whether there was anything to-----

I will put it this way: in terms of the strategy which was actually applying, and the direction in which the event was clearly heading, there was absolutely no cause for the phrase W2 to be used?-- No, no. Certainly not.

50

You agree with that?-- Yes.

You stayed at the Flood Operations Centre to complete your shift that evening?-- No, I left around about 4.30, I think, something like that. After the QPFs had come in, we got a feel of where the forecast rainfall was, and it was certainly on the up. It was agreed Terry, who was duty engineer, would

do some modelling to determine to what extent the releases may need to be increased. 1

I take it because you'd had this meeting at 3.30 p.m. there was no need for a handover, as such?-- I - I can't - I don't actually know what John Ruffini did. I don't know whether he left the flood room and then came back.

Can I ask you this - and this is a question pertaining to the whole flood event, really - did you have discussions specifically on the topic of Wivenhoe manual strategies, W1, 2, 3 or 4, at any stage with Mr Peter Allen?-- Not up until that point, I don't believe, no. 10

Or at later points?-- Yes, we did discuss aspects of the manual with Peter - John, I know, called Peter on the Sunday night, and I spoke with John as well on the Monday evening.

You spoke with-----?-- Sorry, John and I spoke with Peter Allen on the Monday evening. 20

On the Monday evening. And specifically what - and I'm specifically interested in manual strategies - what conversations did you and Mr Ruffini, or you by yourself, have with Mr Allen about those?-- Well, I can't speak for the phone call that John had-----

No?-- -----I wasn't in the flood room at that stage, but on the Monday evening the discussion was around about the possibility of using discretion in regard to strategy W4. 30

Is that the only conversation that you had with Mr Allen about manual strategies?-- Yes, I believe so.

What about with Mr Borrows; do you recall discussing manual strategies with him at any stage?-- No, I didn't speak - I don't know whether I spoke directly with Peter necessarily. I was predominantly doing the night shifts during - well, from that Sunday night onwards, and I believe Peter was talking with, principally, John Tibaldi and Terry Malone during the days. 40

Right. Well, moving forward then to the 15th of January after the shift to W4 and all that followed, on the 15th there arose the need for a report to be made for Mr Borrows' purposes. Do you recall that?-- Yes. I was contacted, I think initially by Terry Malone, indicating I was needed to come back to the flood room for a 2 o'clock meeting, I think it was, and then Rob Drury also phoned me to discuss the fact that the Minister wanted a briefing note prepared and we'll have this teleconference to discuss what sort of things are required. 50

That's so, there was certainly the need for a report to the Minister, but can we take a look at the flood event log, Exhibit 23, entry 11.30 a.m. Saturday 15 January? "Rob Drury rang to request a summary of the operations manual for Wivenhoe. Terry to provide after checking with all duty engineers." This is separate and apart from the requirement

for a report to the Minister. Are you with me now?-- Yes.

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You recall that request?-- Well, I wasn't in the flood room. I was - that Saturday was the first day off in ten for me.

Right?-- So I was supposed to be resting. So, no, I have no knowledge of that particular conversation.

All right. Were you aware of the fact at least that Mr Malone was preparing such a document?-- I think when I got to the flood room, Terry mentioned something along those lines.

10

Did you not see the document at some stage?-- I can't recall. I think that got overtaken by the request that came through that teleconference.

So can we just show you the document in question, which is Exhibit 1,050? It was sent by email at 1.02 p.m. from Mr Malone to each of you and CC'd to Mr Drury. The bright red "JT bring out the red pen". Does that jog your memory?-- I do recall receiving the email, but I don't - I can't recall the summary of manual document necessarily.

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Well, why don't you take a look at it. Can we open it up? Just scroll through it. Are you saying you have never seen that document?-- It doesn't - it doesn't stand out but I'm - I certainly may have during that meeting for the teleconference.

We're talking about the teleconference at 2 p.m. on the 15th?-- Yes.

30

Well, can we just scroll back up, perhaps? Sorry, further down. A little further. Further still. Yes, just there. See W1, the first entry there, "Exceeded W1 at 8 a.m. Saturday, 6 January 2011"?-- Yes.

Let's allow - as carefully as we're looking at these things, let's allow that Saturday 6 January must be a mistake. Saturday was the 8th?-- It was, yes.

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"W1 exceeded at 8 a.m. Saturday, 6 January 2011". Did you provide that information to Mr Malone?-- I can't recall. Perhaps. I don't know.

All right. And you have no other recollection of ever having seen this document which was emailed to you at 1.02 p.m. on the 15th?-- Oh, well, I would have been commuting from home to the Flood Operations Centre by that time, I imagine. So I only would have opened it up when I actually got to the flood room.

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And you would have seen at that stage, or at least been made aware of the fact that it was a report for Mr Borrows?-- Yes.

Is that - do you recall that there was a report-----?-- I knew that a report was being prepared. I can't recall, necessarily, who it was for at that point in time.

There was another one being prepared for the Minister. It stands to reason that this one was for Mr Borrows, doesn't it?-- Yes.

We will put that one aside. Now, at - after you arrived, there was the telephone hook-up at 2 p.m.?-- Yes.

The entry suggests that this conference involved yourself, Mr Malone, Mr Tibaldi, Mr Drury, Mr Allen, Mr Borrows, Mr Bradley, and Mr Bob Reilly, is that correct?-- Yes, but I also recall I think Barry Dennien was there as well.

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I was going to ask you whether you recalled anyone else being there?-- Yeah, well, I remember Barry making some comments during the meeting, yes.

All right. What about Mr Spiller, was he there?-- Possibly. I don't recall.

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Mr Pruss?-- Again, I can't recall.

Anyone from the Minister's staff or the Minister himself?-- I don't believe so.

No, all right. What about Mr Ruffini?-- No, John wasn't there. John was coming on to do the nightshift, so, again, John and I had done all the night shifts up until the Friday night, so we were just trying to give John a bit of time to recover so he could get kicked in again.

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Well, do you recall discussion of the manual strategies and their implementation at this meeting?-- I do recall there was a tasking of the reports with a range of content in it and one of those - part of that content was a summary of the actions taken to date.

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There was a what, sorry, with a summary of content?-- There was a table of contents basically with what they wanted in this report.

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Right?-- One of those sections was a list of the - I think the strategies that had been implemented to date.

The manual strategies, not gate operating strategies?-- No, the manual strategies.

So that was a specific requirement that this report address manual operating strategies?-- Yes, I believe so, but with a specific focus on the Tuesday the 11th releases.

20

I see. Have you seen that document, the document which specified the contents that were to be in that report? Have you seen that recently?-- I have seen it recently, yes.

Right. Do you know if you possess a copy of it?-- No, I don't believe I do.

You or your lawyers?-- My lawyers would, yes.

Okay. Was there discussion about who was going to write the report?-- There was. And I can recall there was going to be input from Peter Allen of DERM I think he was covering the regulatory side of things.

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What do you mean by that "regulatory side of things"?-- Just the - under what instruments the dam is operated, the Act and the gazetted manuals and that sort of thing. There was some background documents and there was a list of questions that they wanted addressed.

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Yes. I think I was asking you whether it was discussed who was actually going to write the report?-- It was discussed and the duty engineers were volunteered to write parts of it.

And which of you were volunteered?-- All of the duty engineers who were off duty.

So what happened then? How was it decided who was actually going to write what?-- Well, we had to wait for a copy of that to be provided to us.

50

The table of contents?-- The table of contents.

Yes?-- I think Rob Drury was also nominated to help pull this together. I had indicated at the meeting that I thought it was a fairly tall order considering we'd just gone through a fairly hectic week, the four of us were very fatigued. It was a very short timeframe so we got less than 24 hours to pull

this thing together. However, it was agreed that the Minister needed that report. 1

Right. So who was actually - how was it decided who was actually going to write what?-- Well, when Rob Drury arrived at the flood centre, I think it was about half five, we just had a look at - what we had to do. I know that John Tibaldi and I identified a number of documents where we could just cut and paste information into some of the background stuff. The other parts were delegated, but it was the attribution of the strategies to the actions that I think it was agreed we needed to focus on the Tuesday. So I'd have a first cut at that and then we were concerned that we also had to cover the entire event. Just in recognition of the amount of effort that would be required to do that. 10

Right. So when you say there was - sorry, who was a party to this conversation?-- Well, I believe it was Terry Malone, John Tibaldi, myself and Rob Drury. 20

Right. So was there a division of responsibilities agreed as between the four of you?-- Yes, but I can't recall whatever everybody was else - whatever he was doing. I know Terry was looking at the downstream effects. Like I said, John Tibaldi and I gathered some of the background - or at least identified the documents for the background data. We said we'd all have - well, the difficulty you face with the action or the identifying the strategies is that obviously none of us had a complete picture of the event because we were only doing specific shifts. So we recognised that all of us would have to have a look at that so that you can actually complete the picture, as it were. 30

Well, all of you might have had to have a look at it, but it was a pretty simple exercise to nominate which strategy was applicable at which time, wasn't it?-- Well, because we don't specifically record the labels of the strategies as a reply, no, you don't. You have to go back and attribute the strategies placed on the decisions made at the time and that's a practice, I suppose, that as far as I've been aware and associated with the flood operations we've been doing that since - we have the operations. So that's a practice that the dam safety regulator was aware of. 40

You've discussed this practice with Mr Allen in the past?-- Well, he was certainly party to doing that approach in some of the earlier events when he was actually duty engineer. And in submitting any of the recent reports there'd been no suggestion that it should be done otherwise. 50

Sorry, when you say, "earlier events" and back when he was, that goes back quite some time?-- That's '96 to early 2000, something like that.

All right. And the more recent events?-- The recent events 2009, February - March 2010 type of events.

Yes. The reports prepared for those events had been prepared

following a similar sort of a procedure?-- Yes.

1

In other words, not prepared by reference to contemporaneous notes made as to the strategy, but rather-----?-- Yeah, it was reference to the operating spreadsheets, the directives, the SIT reports and any comments captured in the flood event log at the time.

Working out what it must have been?-- Yes.

10

I see. It must have been so far as you could tell by that stage anyway?-- Yes. Well, that's why each of the duty engineers would have a look at the shifts they were on and work through the decisions that were made on that day.

And to get back to the report being prepared for the Minister, as I say, certainly in respect of W3 that ought to have been a simple exercise, would it not? It was simply a matter of asking you either when did you go to W3 or what strategy were you in at 8 a.m. on the 8th?-- Yes. Well, because the minister's brief said focus on the releases on the Tuesday.

20

Hmm?-- I started preparing a gate operations spreadsheet with annotations of the directives that were made on that Tuesday, considering the very short timeframe and the fact that we had very - well, limited resources. We concentrated on the - well, the main game we thought at that stage. So that's why I started doing that. John Tibaldi was going to collate all this stuff, so I - at some stage John left the flood room and went back to Seqwater. I think that was because he could access some of the documents we'd identified as the background material.

30

All right. What about Mr Drury, what was he doing?-- I can't specifically recall. It was something to do with answering some of the questions, but I don't really recall.

Well, can I show you the document which is the e-mail to annexure 10 of your sixth statement of 30 January 2011. Exhibit 105. Now, Mr Ayre, can we accept that you are familiar with this document because you've addressed it twice in statements. First in the statement that was required by the Commission, you identified this as a document which you sent?-- Yes.

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But you've retracted that in a subsequent statement?-- Yes. Well, when I was shown this on Monday and noted it was from the duty engineer e-mail address and it was signed Rob, my initial assumption was, well, it could only be one person and that was me.

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There probably a few people that shared that assumption?-- Yes.

It's, in fact, not you?-- Well, I'm unsure. My initial assumption it was me, but - 'cause usually I'm the only Rob in the Flood Operation Centre, but on that Monday night Rob Drury was also there at that time. So it may well have been Rob. I

just honestly can't recall.

1

Well, what can you tell us about the document?-- When I was shown on Monday I didn't first recognise it as something that I'd necessarily created. I didn't recognise it as being a version of the flood event log with information stripped from it.

Could you have created it?-- It's a possibility I created it, but when I first saw it I had no recollection.

10

And it was obviously in existence as at the 15th of January, 6.57 p.m.?-- I presume so, yes.

You've seen it's been forwarded to various people by e-mails. You've had the chance, obviously, to go through it?-- Yes.

There were two particular features of it which I'd suggest are quite striking. One is the inclusion of some bright yellow lines which appear to delineate the point at which various strategies have been adopted?-- Yes.

20

You agree with that?-- Yes.

And the other is the sheer amount of detail that has gone into the entries in the category column where not only are directive strategies referenced, but Wivenhoe manual strategies W1, 2, 3 and 4?-- Yes.

All annotated carefully in that column; do you agree with that?-- Yes.

30

You don't know how this came into existence?-- During the discussion about how we're going to prepare the list, we said well, we've got to focus on the Tuesday because that's what was directed, but to cover the rest of the events and knowing the amount of work it would take to do the entire event which would include looking at each and every gate operation spreadsheet for the entire duration of the event, 40 odd models, extracting all the relevant information and then working through the decision process on each and every one, we decided that we just needed a very high level cut of the interpretation of the application of the strategies and the starting point was just to go through the flood event log, identify any reference that may actually pertain to a strategy and see if somebody could actually determine what strategy that was.

40

Okay. So that was the methodology employed for the preparation of this document?-- I believe so, yes.

50

And you believe that on the basis of a conversation between whom?-- No, this was - it was forensic work, but I do recall when I was focusing on the gate operations log, we decided that somebody else needed to have a look at the other bits.

Right. So are you saying in so far as the Wivenhoe strategies, the manual strategies are concerned, someone else

has made all of those entries on this document?-- Yes, yeah. 1

COMMISSIONER: Why would Rob Drury be making entries on a document like this?-- Rob was a flood officer a while ago.

So would you leave it to him to work out what strategies were used?-- Well, we delegated the work because I was focusing on the Tuesday and just to lighten the load, I suppose. I don't know whether it was Rob. I don't recall who actually did it. 10

It's just that the other possibility for the Rob on the e-mail is Rob Drury?-- It is. Like I say, I don't have a recollection of who actually did it. It may have been one of the flood officers. I just don't recall.

All right.

MR CALLAGHAN: Is it your recollection, though, that this was part of the process of preparing the report for the Minister?-- Yes, I think this was the first high level filter, if you like, and it was - John Tibaldi was going to go through it the following day. The problem we had was Terry had just done the day shift so he was - so he finishes day shift, but he continued to do the work in terms of assessing the downstream impacts. John Ruffini was just coming on for the night shift so he had to actually focus on operating the dams. And, I suppose, that was a point in the meeting was we were still operational. It's not as if we didn't have things to do and those things had to be a priority. JT, myself did what we could, but we were both fairly fatigued at that stage. So I guess the decision was we'll do the first cut that night and then John Tibaldi and Rob Drury would look at it again tomorrow and finalise it. 20 30

You do say in your sixth statement at paragraph 53 that you saw a similar spreadsheet and remember discussing it in a meeting with all four flood engineers present; is that correct?-- Yes.

Is that the document we're talking about?-- I believe it to be so, yes. 40

All right. Well, tell us about that meeting? Tell us what was discussed?-- That was after the event, I think.

I beg your pardon?-- That was after the event when we were putting the flood event report together.

I see. That was after the report had already gone to the Minister?-- I believe so, yes. 50

I see. You'd agree that the document is somebody's best effort at working out when strategies were actually applied?-- I agree, yes. Based on the limited information in what's contained in that spreadsheet.

Well, it's not limited as far as the Wivenhoe strategies are concerned, is it? It's more comprehensive than anything

you've got?-- It's not comprehensive in that it doesn't necessarily have associated lake levels. It doesn't necessarily have any reference to downstream flows. It doesn't necessarily have all of the elements you need to be able to make an accurate assessment of what strategy it is.

1

All right. Well, let's go back to the report to the Minister himself. Was it - we'll get Exhibit 1053 up, please. Mr Tibaldi sent this by e-mail at 9.10 p.m. on the 15th accompanied by the note that suggests, "See you at 7 o'clock tomorrow for another dose of the same." It suggests that there was - that you were all going to see each other the next day; is that right?-- No. I was the nominated duty engineer for the day shift so I was going to be in the Flood Operation Centre. As I understand it it was going to be Terry, Rob Drury and perhaps John Ruffini, but John had just pulled the night shift so he needed to sleep at some stage.

10

All right. Do you recall reading this document at some stage?-- No, I don't. It was sent to the duty engineer e-mail address, but I wasn't in the flood room at that time and I don't recall looking at it the following day.

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Mr Tibaldi obviously prepared that part of the document which was forwarded by this e-mail; is that correct?-- I'd imagine so, yes.

You were all aware that this report was going to the Minister?-- Yes.

30

It's not a particularly lengthy report. You've read it since, I take it?-- Yes.

You were surely concerned to ensure that it was accurate as accurate as possible in the circumstances?-- Yes.

You're aware now of the contents of the report?-- Yes.

You're aware, for example - can we open it up? There we have the flood event milestones?-- Yes.

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And if we just go down a little further you'll see 3 p.m. on the 7th of January, you'd agree that the first line indicates that strategy W1 is in use at that stage?-- Yes, gates operations commenced to 3 o'clock in the afternoon and started when the lake level was in W1, yeah.

And there's really no entry of significance - there's no entry referable to the 8th at all; is that correct?-- That's correct, yes.

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Do you not find that odd if there had, in fact, been a transition to W3 at 8 a.m. on the 8th of January?-- I didn't actually receive that document at the time and it was actually superseded by another draft, I think, that John sent early on Sunday morning.

Well, did you see that one?-- It was sent to my - sent to

SunWater e-mail address and I think it was also copied to the duty engineer address, but I was the duty engineer that morning. I was doing a hand over with Ruffini around about the time that was sent. I do recall noting it had been sent, but the circumstances in the flood room that morning meant that I didn't attend to it immediately.

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Well, did you attend to it ever?-- I don't recall.

You don't recall?-- No.

10

This is a report that was going to the Minister being sent by your colleague-----?-- Yes.

-----to you, presumably for you to at least sight before it went further?-- Yes.

You must have read that, Mr Ayre, at some stage?-- At some stage.

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Around this time?-- I would have, yes, but early on that Sunday there were a number of issues associated with communication with Somerset Dam. We also had an issue with the backup modelling machine and the Flood Operation Centre at Mineral House. So I was a little bit preoccupied actually operating the dams.

Well, I'm sure you were, but I'm sure you also understood that this was an important document?-- I did and the focus of the report was the Tuesday releases.

30

And you would have only had to glance at it, wouldn't you, to realise that it was inaccurate?-- Agreed, but I think the focus was the Tuesday. So that's what I focused on.

You didn't read the rest of it?-- Unlikely, no.

Unlikely to have read the rest of it?-- 'Cause the bit I was working on the night before was the Tuesday.

40

You weren't concerned to ensure that your colleague had not made any mistake?-- I was concerned, but I was checking the bits of the report that I was most familiar with.

Well, you weren't so concerned to actually even proofread the rest of it for him to make sure it was right?-- Well, I had other duties on at that stage. I was actually the duty engineer.

I think you've agreed it's not a lengthy document?-- Yes.

50

All right. You're aware that on the 17th of January Mr Borrows sent through to the engineer's account a document prepared by Mr Michael O'Brien?-- Yes.

And do you recall in general terms at least what that was about?-- Well, I believe it to be a work of fiction describing the fact that the flood could have been avoided.

Did it raise in your mind any concern about the way in which your management of the dam was going to be examined?-- Well, we were fully expecting a full and proper review by the dam safety regulator as is always the case after an event.

Perhaps, though, expecting a few more people to be interested in this one than had been in the ones that you've told us about that he had reviewed?-- Naturally because of the fact of the significance of the impact, yes.

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Well, between the 17th of January and the 2nd of March, work was done on the official Flood Event Report; is that correct?-- Yes.

Mr Tibaldi was the principal author of that report; is that correct?-- Yes, John took the lead.

Beg your pardon?-- John took the lead, yes.

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And we've seen drafts that he prepared between the 24th of January and the 1st of February. Did you see drafts that he'd prepared during that period?-- Yes.

And do you recall now how many drafts you did see?-- No, I can't recall, no.

I'm sure you were all affected by what had happened earlier in January, but tell me, to your observation was Mr Tibaldi functional during this time?-- He was functional as the rest of us, yes.

30

Were you coherent?-- I believe we were.

Able to manage data?-- Yes.

What was the process by which you would give feedback to Mr Tibaldi on those parts of the report that he was writing?-- Well, it took a number of forms. John would hand out a hard copy draft. On occasions we'd markup some of those drafts and hand it back to him. On other occasions we'd have a meeting. It could be just John himself or it could involve all four duty engineers and we'd basically do a page turn through the draft report or the draft section.

40

Were you able to tell us now how many - on how many occasions this occurred?-- It was continuous through that period. The report was prepared within the Flood Operation Centre. Effectively Terry, myself and John Tibaldi were working there full time. John Ruffini was, I suppose, intermittent in that he had responsibilities with respect to DERM, the hydrographic area and some of the flood recovery stuff so John spent far less time than the rest of us in the flood room.

50

I just need to ask you about the involvement of a couple of other people. Mr Allen, are you aware of any involvement he had during the period of the preparation of the Flood Event Report?-- I know during the events, Peter Allen and Brian

Cooper came into the Flood Operation Centre and reviewed some of the operational gate strategies. I recall that Peter was probably contacted by John in respect of the different elements of the manual - not manual, the report.

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How were you aware of that?-- Just feedback from John saying I've spoken to Peter Allen.

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And on how many occasions do you think he did that?-- Oh, handful of occasions, I - yeah.

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Handful, what's that, four or five?-- Four or five or something, yeah.

Okay. What about Mr Borrowes, did you have any communications with him in the course of the preparation of the report?-- There were a number of, I suppose, review meetings held with the senior management of Seqwater where we'd update them on progress on different - on the progress of the reports as such.

10

Who is senior management for the purposes of those review meetings?-- It was Peter Borrowes and the general managers, Jim Pruss and the like.

Sorry, you say "and the like". Can I ask you for names? If you don't know you don't know?-- I can't recall them, no, not all of them.

20

Mr Borrowes and Mr Pruss at least?-- Yes, and several others.

And, again, are you able to tell us how many of these review meetings there were?-- I think there were possibly up to four during the course of the six weeks.

This would be between, say, the 24th of January and when do you think the report was effectively finished?-- It was probably the end of February. Yeah, it was the end of February, so.

30

Okay. In your more recent statement, or one of them, you identified the fact that at an early stage in the preparation of the report, still in the Flood Operations Centre, you had a conversation with Mr Tibaldi about W2?-- Yes.

Do you recall putting that in your statement?-- Yes.

Just tell us what the nature of that conversation was?-- Well, John and Terry were - sorry, Terry and myself were still working through the modelling and compiling that side of things. I believe John had started working on the section 10 flood management stuff and he - he was looking at something on his screen and he made a comment to the effect we didn't implement Strategy W2.

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And what did you say?-- I said I agreed, yes.

You said yes?-- Yes.

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You told him straight away, "No, we didn't."?-- Well, I think I looked at what he was looking at on the screen and said yes.

You worked it out from the flow rates?-- It would have been a - yeah, well, it was recognising that the release at that point in time was in excess of the naturally occurring flow at Lowood.

Yes. But you didn't need to look at that to know that surely?-- Again, I - this is a couple of weeks after the event, so I - I didn't necessarily recall with clarity that - I knew we transitioned at that time and John said, "Oh, we didn't use Strategy W2."

How many times have you been to W3 when you have been operating the dam?-- Not many.

10

Can you give us a number?-- I suspect the February '99 flood but I wasn't directly involved in it.

No. So, this would have been the first time that you at least-----?-- Me personally, yes.

-----had been involved in a transition to W3 and-----?-- Yes.

-----possibly the first time in over a decade?-- Yes.

20

A fairly significant moment, is it not?-- Yes, it is.

Why would you need to hesitate when Mr Tibaldi raised concerns about W2? Why would you not have-----?-- I don't think he was making - raising concerns, he was just making a statement, I think - he just realised at that stage, "Well, we didn't use W2."

You don't recall him being concerned about it?-- Oh, to the point he'd said, "Well, we just have to look at that, make sure that's the case."

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Make sure what's the case?-- That the transition was actually from W1 to W3.

You'd have to make sure that was the case?-- Just, again, it's - I think the trap for players in the manual is your natural expectation is you go W1, W2, W3.

No, the natural expectation is that the strategies would be chosen at the time of operating the dam and not at some time after that. I'd suggest to you that's the expectation that's relevant?-- This was a situation where we were revising - reviewing the decision-making process, so we are just working through it.

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And making it fit how it ought to have been?-- Well, not making-----

That's what you were doing?-- No, I disagree.

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But if you were the one who went to W3 and you knew that you'd bypassed W2, there's just nothing to talk about, you could just tell him, "That happened."?-- And that's why I said, "Yes."

All right. There was nothing for him to work out then, was there?-- Well, I think he was just - John - that was the

first time John realised it. He wasn't on shift at that time. 1

Once the report was finished, you, I think, have said that you and all the other flood engineers had agreed with everything in it; is that right?-- Yes.

You knew precisely the methodology that Mr Tibaldi was adopting in preparing the record of the manual strategies which were adopted?-- We - I certainly did my own forensics on the parts of the event that I was familiar with and they were consistent with John's findings. 10

You didn't answer my question. You were familiar with the methodology he was adopting to describe the time at which strategies were applicable; is that correct?-- Yes, that's correct.

And you've seen the log, and we might just get it up, Exhibit 24 - sorry, the report, I'm sorry, the March report. I put this proposition to you, Mr Ayre, that - I won't take you through the seven or eight entries which I suggest could be relevant, but the proposition is this, that everything in this report is expressed in such a way as to convey the impression that the report is a record of things which were actually happening at the time of the operation of the dam; do you agree with that?-- Yes. 20

And so at page 190 where it is recorded that Strategy W3 was adopted for use at 0800 on Saturday, the 8th of January, there can be no ambiguity that that is meant to record that that is, in fact, what happened at that time?-- Yes. 30

There's no suggestion, is there, that this is a reconstruction of events?-- No, I don't believe so, no.

It purports to be a record?-- Yes.

And is that actually what happened?-- The - well, we did transition from W1 at this time, yes. 40

Strategy W3 was adopted for use by you at 0800 on Saturday the 8th of January 2011; is that the case?-- Well, the conscious decision to move to Strategy 3 was taken at 5 p.m. when John issued the directive to increase the flows above the naturally occurring ones.

To be fair to you do you mean 5 a.m.?-- Sorry, 5 a.m., yes.

That's what I thought you said earlier and I wasn't quite sure that I could have heard that, but you are saying the conscious decision to move to 3 was actually made at 5 a.m.?-- Yes 50

So, was that when Strategy 3 was adopted?-- No, because the level condition wasn't met, so when the level conditions met, the level exceeds the EL 68.5, that's when Strategy 3 is implemented. What was the basis for Mr Ruffini's decision at 5 a.m.?-- He was following the sequence of operations that we'd had - that - basically had the genesis on Thursday, where

we'd determined or Terry had determined based on the volume of the event we will need to release a flow out of the dam that meets the objective of optimising downstream detection.

1

Sorry, Mr - that was the basis at 5 a.m. on which you say Mr Ruffini decided that there would be a move to W3?-- Yes.

A move which I thought, and I keep running into this, I thought that move was made on the basis of the lake level. Am I wrong about that?-- No. The selection of the release rate is what will determine whether you're in Strategy W2 or W3. If you pick a release rate which is less than the naturally occurring flow at Lowood, then you're adopting a W2 strategy. If you pick a release rate that is higher than that, then you are choosing W3.

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COMMISSIONER: Are you saying he choose a W3 strategy, adopted a W3 strategy, or what are you saying?-- Well, the W3 strategy doesn't come into play until the lake level actually exceeds the EL 68.5, it's still classified as a W1 strategy at that point in time.

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MR CALLAGHAN: That's right, so how can you choose to adopt a W3 if the lake level is not 68.5?-- So, we're in transition effectively from W1 to W3.

Maybe we should go back to the flowchart in the manual. Is that at least a clue as to how we select a strategy or can we just forget the manual?-- No.

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Okay. Page 23, "Start.", can we start there?-- Yes, yep.

Right. First question, "Is Wivenhoe likely to exceed EL 68.5?" That's the first question, before we start-----?-- Yes.

-----talking about release rates or gate strategies or anything else, that's the question, isn't it?-- Yes.

Okay. So, Mr Ruffini has made the decision that you are going to go to W3?-- He has got his predicted model.

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He's got his what?-- His lake level prediction from his model.

Well, take us to that. Which lake level prediction was that?-- So that's in the model results.

Yes. Just tell us which prediction Mr Ruffini was relying on at 5 a.m. to tell us that he was going to W3. That might sort things out very quickly. Is appendix A1?-- So, Friday, the 8th - sorry, Friday, the 7th-----

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Yes?-- -----model run 8 is showing a predicted lake level of EL 68.4.

Yep. On my maths, that's less than 68.5?-- It is, yes.

So, that's no basis to go to W3.

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MR O'DONNELL: Sorry, Commissioner, I think there's a - the witness and Mr Callaghan are at cross-purposes. Mr Callaghan seems to think the witness gave evidence that Mr Ruffini made the decision at 5 a.m. to move to W3.

COMMISSIONER: That's what we're trying to get to the bottom of rather, Mr O'Donnell, I think.

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MR O'DONNELL: I think my learned friend has misheard the witness.

MR CALLAGHAN: I have got the transcript here.
"I wasn't actually responsible for making the conscious decision to move to 3. That was done by John Ruffini at the 5 o'clock directive."

MR O'DONNELL: As I heard the witness, he was saying there was a combination of Ruffini decides on the release rates at 5 a.m., but at 8 a.m. the water level rises to 68.5.

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COMMISSIONER: Well, actually I think we have got a couple of versions and I thought what Mr Ayre was now saying was that Mr Ruffini had both the release rates and a predicted lake level, which is all you need, just that it's likely, on one view of the manual, just that it's likely, not actual, so is it possible.

MR O'DONNELL: Yes, but I don't think he said Ruffini made the decision.

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COMMISSIONER: Well, the little bit that was quoted from the transcript seems to indicate that, and it does accord with my note, I must say, of the earlier transcript, although now Mr Ayre seems to be saying it's a conscious decision to move to 3. I am not sure if it's the same thing. Anyway, I think the questioning is legitimate, we will pursue it and see if we can get to the bottom of just what did happen at 5 o'clock.

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MR CALLAGHAN: I am asking you what possible basis was there for Mr Ruffini to make a conscious decision to move to 3 at 5 a.m.-- He would have been looking ing at the Flood Operations gate sheet - gate operations-----

MR AMBROSE: I'm sorry, I'm sorry.

COMMISSIONER: Yes, Mr Ambrose?

MR AMBROSE: Again, I don't think that was the evidence. It wasn't the conscious decision of John Ruffini to move to W3 at 5 a.m., it was the conscious decision at 5 a.m. to move to W3 at some time in the future, and there is an important distinction.

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COMMISSIONER: Well, we will find out what the distinctions are. It seems to me we actually have a couple of versions of quite what happened at 5 o'clock. I am keen to find out the

answer, so I propose to allow the question.

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Thanks, Mr Callaghan.

MR CALLAGHAN: Mr Ayre, let me read to you what you said before lunch and what I understood you to repeat not long ago, "I wasn't actually responsible for making the conscious decision to move to 3. That was done by John Ruffini at the 5 o'clock directive." Let's take it step by step?-- Yes, and I - okay. What I meant was that John Ruffini made the conscious decision to make releases in excess of the naturally occurring flow at Lowood.

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Right. What's that got to do with the move to 3?-- Well, as part of the overall strategy that I sought to-----

Can we come back to the manual, which is how you select the strategies-----

MR O'DONNELL: Well, he hasn't answered the question, the question was, "What's that got to do with selecting W3?"

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COMMISSIONER: That's fair enough. What has it got to do with the move to 3? Finish answering that and then we will go to the manual?-- Well, the - at the start of the event, we - Terry made an assessment of the magnitude of the flood and determined that in all likelihood we will need releases of up to about 1200 CUMecs based on the volume of event of inflow in - upstream of the dam. So, John was simply progressing the - along the lines of that broad strategy and implementing the releases - increases in releases accordingly.

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MR CALLAGHAN: Okay?-- And the - so, the primary objective of doing that was to optimise damage to downstream areas.

I understand that John made some decisions about the release strategy. What decisions did he make about going to W3 pursuant to the manual and how did anything that he did-----?-- Well, as soon as he made a decision to increase the release rates above the naturally occurring flow at Lowood-----

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Yep?-- -----there is no way we could actually go to a W2 strategy.

Okay. Can we talk about moving out of 1 rather than into 2 or 3?-- Mmm.

Why was he out of 1?-- Well, the volume of the flood upstream of the dam forces you out of 1.

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Where do I find that in the flowchart, because as I read the flowchart, the only thing that forces you out of 1 is the level of the lake. Am I wrong about that?-- No. The level of the lake is - depends on the releases and the volume of water you're managing.

And the projection as to the lake level as at 5 a.m. was?--

Would have been still in keeping with 68.4.

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Which is W1?-- Yes.

Okay?-- But there was more rain that occurred during the evening - during the morning so when he did his model run at 7 he was quite confident that the volume had increased.

At 7, but you have told us that he made the conscious decision at 5?-- He made the conscious decision at 5, yeah.

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All right. Do you accept, Mr Ayre, the manual requires the application of a strategy, the conscious choice of a strategy as at the time the dam is being operated?-- Yes.

To comply with the manual, choices have to be made during the flood event, don't they?-- They do, yes.

Compliance cannot be achieved by retrospectively constructing a version of events as to the way the manual was - the way the dam was managed, can it?-- No.

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You have given two statements this week, one was - the first was in response to the requirement from the Commission but the second was produced by you voluntarily in consultation with your own lawyers; is that correct?-- Yes, that's correct.

And that's Exhibit 1,049 and I will take you to paragraph 28 of that statement, and if context matters, please let me know, but I suggest what's written there is a freestanding proposition which is consistent with all the evidence that we have seen?-- Yes, that's correct.

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I suggest to you that the March report was, in effect, a labelling exercise, it was not a reflection of anyone's state of mind at the time?-- Oh, I would have to disagree with that.

But your own memory, I'd suggest to you, for example, as to whether you were in W2 or 3 as at or when you were on shift on the 8th of January is confused?-- It's - well, I know the facts demonstrate we were in W3.

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That's right, but your own memory of it is confused?-- I can't record with clarity - there was nothing at that point in time that I needed to distinguish between Strategy W2 or W3.

You made no notes as to the strategy that was being adopted?-- No - in terms of the label, no.

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The only note made during the relevant period would, I suggest to you, indicate that you were in W1, being the 5.53 Situation Report?-- 5.53 Situation Report? No, I disagree. I knew I was in W1 at the start of the shift, but as soon as the lake level exceeded 68.5 I knew we were transitioned out of that.

And you knew apparently that was going to happen because of

something that Mr Ruffini had decided at 5; is that right?--
Well, I knew it - I now know - now recognise that John had
actually increased the releases above the naturally occurring
flow, so W2 couldn't have been applied at that stage, it has
to be W3.

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Can I take you to paragraph 29 which is on the screen there?
You are talking there about the Wivenhoe manual strategy?-- I
am talking about how practically it is done using the gate
operations spreadsheet.

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Are you talking there about the selection of the Wivenhoe
manual strategy?-- I am talking about how the duty engineers
use the release rates to inform the choice of strategy, yes.

When you use the word "Strategy" in the sentence beginning,
"The flood engineer selects the strategy", are you talking
about the Wivenhoe strategies 1, 2, 3 or 4?-- No, I'm talking
about the gate sequencing strategy.

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Thank you.

COMMISSIONER: Is that the same in the second sentence where
the word "strategy" is used?-- No. I think in that sentence
- in that context I'm talking about the manual strategies.

MR CALLAGHAN: All right. Mr Tibaldi has suggested or allowed
that as a general proposition had releases been increased at
an earlier stage during the January event flood damage overall
might have been reduced but, of course, by doing that, by
ramping up releases earlier, urban inundation would certainly
have occurred?-- Yes.

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Do you agree with that?-- Yes.

You agree that what happened in Brisbane on the 12th and 13th
is, of course, also urban inundation?-- Yes.

Either way, either decision that you take or whether you
release more earlier or try to hold it up involves a judgment
call?-- It does.

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The manual is there to govern the exercise of the discretion
involved in that judgment call; you agree with that?-- Yes.

And that's why people are interested in what was going on with
the manual at the time of the flood event; do you accept
that?-- Yes.

You accept that people have a right to know exactly what was
happening at that time?-- Yes.

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You accept the people have a right to know what was in the
minds of those who were operating the dam at that time?--
Yes.

You know that as the manual reads it requires the adoption of
a strategy at the time of the event?-- At the time of the

event, yes.

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So there can be no mistake if that is done as to what the primary consideration was, can there-----?-- That's correct, yes.

-----at any given time. I'd suggest to you that you and the other three have worked out now that the manual requires that but you have worked that out because you you knew how closely this event was going to be command?-- No, I disagree. That's the process we have used since I have been at least involved in the operations.

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The process you have been used in writing reports about it has been to do it as a retrospective exercise, though, hasn't it?-- It has, yes.

And I'd suggest to you that that was not the way - that the manual was not used contemporaneously with the flood event as it ought to have been?-- I disagree.

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If it was, there wouldn't be indications in the Situation Reports and the Flood Event Log and e-mails to the contrary?-- I don't - I don't necessarily agree that there's contrary information per se, there's certainly different aspects to it, but-----

Do you agree that there's contrary information in the report prepared by Mr Malone in the strategy summary document and the report to the Minister?-- Yes.

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All documents prepared around 15th, 16th, 17th of January?-- I'd point out, though, the reports produced on the 15th and 16th were produced in a very short period of time without, I would suggest, the rigour that's required to fully assess it.

I'd suggest to you that you knew that if the lack of information about how the dam was actually operated became widespread knowledge that it would be regarded as absolutely unacceptable?-- We attempted to report the event as it happened.

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You knew that report was a careful reconstruction contrived to give the impression that everything was done by the book?-- I reject that.

And up until this week I'd suggest to you every statement you have made, every piece of evidence you have given has been calculated to give that impression?-- No, I disagree.

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And I say "calculated" because what is being suggested is nothing less than a deliberate manipulation of the truth?-- No, I reject that.

It's a manipulation, I'd suggest to you, which could not have been achieved without close cooperation between all four of you?-- We work together, but - yes.

I suggest you worked together to conceal the truth?-- I reject that.

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COMMISSIONER: You have still got your second statement in front of you. Just in relation to the answer you gave me about the second sentence in paragraph 29, it doesn't really seem to make sense because the gate release rate can't inform your choice of strategy surely, it's the other way around?-- Well, the gate release rate determines the lake level.

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All right. It seems a pretty tenuous connection, I must say, but, anyway, that's the way you say it should be read. Thank you.

Mr Rangiah?

MR RANGIAH: Mr Ayre, can I start with paragraph 29 of your statement, that is your seventh statement, and the sentence that the Commissioner just took you to, where you say that the action that informs the choice of strategy is, in fact, the gate release and how that manages lake levels and downstream flows. Now, you have indicated that when you refer to "strategy" in that sentence you are referring to strategies W1, 2, 3 or 4 under the manual?-- Yes.

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So, is the effect of what you say there that the gate release rate informs the choice of strategy rather than the strategy informing the choice of gate release rates?-- Well, the release rate - you will determine what the resultant lake level is and the release rate in relation to - the relativity of the release rate to the downstream tributaries will also determine the selection of which strategy you are going to adopt.

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Well, if you could have a look at Exhibit 21, the manual, page 23? This is the flowchart entitled, "Wivenhoe Flood Strategy Flowchart", and the starting point is that Wivenhoe reaches a level of 67.25 metres, isn't it?-- That's the gate trigger level, yes.

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That's the point at which strategy W1A can apply?-- Yes, that's the point where gates can be operated.

And the question that you then asked is is Wivenhoe level likely to exceed EL 68.5 metres?-- Yes.

So the choice as to whether you use strategy W1 or not is informed solely by the actual or predicted lake level?-- Yes, which is in turn determined by the release rate that's adopted.

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But you don't even get to the point where you're applying any release rate until you've reached 67.25 metres?-- Yes, but - so you don't actually start operations until the lake level exceeds EL 67.25. This question is asking you is it likely to exceed 68.5. Was that - was that the right interpretation of your question?

You - there is no question of deciding any release rate until the lake level reaches 67.25 metres, is there?-- No.

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And once it reaches 67.25 metres, the question you were asked to answer is is Wivenhoe level likely to exceed 68.5 metres?-- Yes.

And if it is not, then you have to apply strategy W1?-- If it is not, yes, that's correct.

So the question of whether you use strategy W1 is determined solely, according to the flowchart, by whether Wivenhoe level is likely to exceed 68.5 metres?-- Yes.

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And, in fact, as I understood your evidence last year, that's not quite how it is operated in practice because of the notation that appears at the end of page 26. So that says if the level reaches 68.5 metres - I am sorry, I should preface that by saying that the question "is Wivenhoe level likely to exceed EL 68.5 metres", in practice is applied only when Wivenhoe actually reaches 68.5 metres?-- I am not sure I can follow that question. The - whether you'll reach 68.5 depends on two things: the volume of the flood that you're managing and the release rate that you adopt.

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Okay. Let's assume then that you've chosen strategy W1?-- I don't choose strategy; it is imposed upon you.

All right?-- There are conditions in the system that don't - that you have no control over. So the volume of the flood and the magnitude of the downstream tributaries you have got no control over. You have to react to take them into account.

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But doesn't - aren't you required, though, to ask the question is Wivenhoe level likely to exceed 68.5 metres, and if it doesn't then the choice you have to make is to use strategy W1?-- It is, but that is - that in itself is implicitly dependent on the release rate you adopt.

Well, perhaps I can put it as the decision you make, rather than choice?-- I am not sure how I can explain this clearly enough, but the volume of the flood upstream, the release rate that you adopt once you've hit gate trigger will determine the resultant lake level. So there is a dependence between the magnitude of the event you're managing and the release rate you adopt-----

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All right?-- -----and that will itself determine whether you stay the W1 range or transition to another strategy.

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Perhaps I can just move on and try a different tack. Let's assume that you are now operating within the W1 strategy?-- Yes.

Then when the lake level reaches 68.5 metres, you are compelled to change out of the W1 strategy?-- Yes, that's correct, yes.

And the decision to move out of the W1 strategy is determined solely by the lake level?-- Yes. At that point in time, yes.

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So the gate release strategy - I am sorry, the gate release rates then don't influence the choice of strategy?-- Well, I don't see how you can separate the two. The lake level is actually dependent on the release rate you're adopting.

All right. Now, when you reach - when you're in W1, is it the case that the decision to move out of W1 in practice is dictated by the lake level actually reaching 68.5 metres?-- No, the concept behind W1 is that there is a volume upstream of the dam. So we've got 910,000 megalitres of storage to play with. The EL 68.5 is this lower 20 per cent of that - that compartment. The volume of the flood if it exceeds the 20 per cent, so that is the flood is no longer a small flood, it becomes a larger flood, my interpretation of the manual says, "This is a flag, you should start now looking at your primary objective as being protection of urban areas." And obviously that threshold between W1 and W2 and 3 is a flag to indicate that there is a change of focus. This event is now getting bigger, and so you will need to start making releases with other objectives in mind.

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Well, could you have a look at the bottom of page 26 of the manual?-- Yes.

And that says, "If the level reaches EL 68.5 metres AHD in Wivenhoe Dam, switch to strategy W2 or W3 as appropriate "?-- Yes.

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That's unambiguous, isn't it?-- It is, yes.

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Is that the way it is operated in practice?-- Effectively, once that condition is satisfied, then, yes, you move out of strategy W1 and into either W2 or W3.

Yes. And that decision is dependent purely upon whether the level has reached 68.5 metres?-- Well, that decision - making

that decision, yes.

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Thank you. Now, in paragraph 53 of your statement, you say that you "noted that the lake level had exceeded 68.5 metres AHD at 8 a.m. on January 8, 2011 so therefore the strategy had transitioned out of W1 and progressed into W3."?-- Yes.

And you've confirmed, I think, that you didn't make any conscious decision to change from W1 to W3?-- No, that's when the condition was met, that indeed you completed transition.

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Now, could you look at Wivenhoe directive number 4, which is in Exhibit 24, Appendix 3, page 5? That was a directive that you issued at 8.15 on the 8th of January 2011?-- Yes.

And that directed an increase in the gate openings?-- Yes.

And there is no reference in that document to which strategy was engaged at that time?-- No.

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And the purpose of these gate openings was to produce releases that went up to 1,250 CUMECS?-- Yes, effectively, yeah.

And 1,250 CUMECS is within the W1 range, isn't it?-- It is within the range of all strategies.

The previous directive was number 3?-- Yes.

Which was issued at 4.55 a.m., and number 4 required greater releases than number 3, didn't it?-- Yes.

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So that number 3 still directed releases within the W1 range?-- Yes.

And there is nothing in directive number 3 to indicate that W1 is no longer being engaged?-- No.

So would you agree that the only documents that were produced during the flood event that set out what strategies were in place at particular times during the flood event are, firstly, the report to the Minister that you've been taken to by Mr Callaghan?-- Yes.

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And, secondly, the spreadsheet that was the subject of emails that you've also been taken to by Mr Callaghan?-- Yes.

And the first document that indicates that there was a change from W1 to W3 on the morning of Saturday the 1st of January is the report on the operation of Somerset Dam and Wivenhoe Dam?-- Yes.

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And that was published on the 2nd of March 2011?-- Yes.

Now, the way that report was produced was that Mr Tibaldi produced a draft indicating that W3 was engaged at 8 a.m. on the 8th of January?-- Well, it was prepared in sections, but, yes, there was numerous drafts. I can't recall all the versions. I don't know.

Well-----?-- In the end that's what's gone into the report but there were a number of drafts. I can't recall if all those drafts said everything the same. I don't know. I can't recall.

Well, did he give you a draft that said that W3 was engaged at 8 a.m. on the 8th of January?-- Yes, I would have seen a draft, yes.

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And you didn't dissent from that proposition, that W3 was engaged at that time?-- No, because I knew the transition out of W1 had occurred at that time. I - in terms of the process, I would have been reviewing the sections which I knew, had most knowledge of and, according to my own forensic examination, that's what we came up with, yeah.

But you certainly made no conscious decision to move from the W1 strategy to the W3 strategy on the 8th of January?-- I didn't, no. That was effectively implemented through when the lake level had crossed 68.5.

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You said in paragraph 28 that strategy labels are generally only attributed after the event as part of the reporting process?-- Yes.

And is it the case that during the times when you were on duty during the 2011 flood event, you focussed on what you thought were the appropriate release rates rather than which strategy you were in?-- We were cognisant of the objectives we were trying to achieve, the relative magnitude of the flood and determining it via the release rate, yeah.

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Well, you were focussing, weren't you, on release rates rather than the label of the strategy?-- We were using the release rates to make that choice of strategy, yes.

Now, you've agreed that the 8.15 directive on the 8th of January was designed to produce release rates of 1,250 CUMECS?-- Yes, that's correct.

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And for your purposes it didn't matter whether that - those releases were within W1 or W3?-- Not particularly, no, except that they were being made with the intention of providing optimum protection to downstream urban areas.

You indicated earlier that you didn't - can't remember now whether you were consciously operating within W1 or W3?-- No, I was conscious that we weren't in W1. I knew we had transitioned. I wasn't necessarily - I can't recall right now whether at 8 o'clock on Saturday the 8th of January I was consciously aware that we were in W3. I know we'd transitioned out, but there was nothing happening at that time that meant that I needed to differentiate between strategy W2 or W3. The situation was we were achieving the objective that we were trying to establish. That strategy was put in place, the gate release strategy as such, to ensure we could get as much water out of the dam at a rate that was not going to

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cause damage down in Brisbane.

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But the importance of being conscious of whether you were operating within W1 or W3 is that under W3 the primary consideration of W3 had to be at the forefront of your mind?-- It is, and that's what it was.

Even though you are not sure under which - whether you were consciously thinking of which strategy you were operating under?-- I didn't put a label on it, no.

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Now, can I take you to the situation report for 12 o'clock on the 8th of January? That's in Mr Drury's documents, page 152. Sorry, it is a status report rather than a situation report.

COMMISSIONER: Is it what's on the screen?

MR RANGIAH: No, it is to be found in Mr Drury's documents at page 152. This is a status report that you produced, is that right?-- Sorry - so this is 12 o'clock on the 8th of January? Yes.

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And under the heading "Wivenhoe full supply level", at that point Wivenhoe Dam was 68.6 metres?-- Yes.

And under the heading "impacts downstream of Wivenhoe", in the first paragraph there is a reference to the possible inundation of bridges and crossings?-- Yes.

And then in the second paragraph there is a reference to flows in the lower Brisbane River?-- Yes.

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And can I then take you to a situation report number 6, which is in Exhibit 24. This is a situation report prepared on Friday the 7th of January?-- Yes.

Do you see that? And it was definitely the case that strategy W1 was engaged at that time, wasn't it?-- Well, I know it was but you can't see it from what's on the screen, but, yes, the lake level would have been below 68.5.

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Over the page under the heading "impacts downstream of Wivenhoe", there is a reference again to the effects on downstream bridges and crossings?-- Yes.

And in the paragraph under that, there is also a reference to flows in the lower Brisbane River?-- Yes, the impacts on levels of the tides, yes.

So this is a situation report prepared while the strategy was W1?-- It was. It was Terry Malone's, yes.

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And the status report that was prepared for 12 o'clock on the 8th of January by you contains similar wording in relation to flows in the lower Brisbane River?-- It was, yes.

So the fact that you've referred to flows in the lower Brisbane River at about 12 o'clock on Saturday the 8th

of January, doesn't itself signal any change in strategy, does it?-- That discussion about the impacts on tides was made in terms of the 12,000 CUMECS, or thereabouts, that Terry was indicating was going to be released. So effectively the release sequences we were going to use, we were going to build up over a period of a day and a half to establish that 1,600 CUMECS in the mid-Brisbane River by Saturday afternoon.

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But my question was that-----?-- It doesn't relate - it doesn't specifically give any reference to strategy W1 or W2 or W3, no.

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Thank you. Now, could the witness see Exhibit 1,047? So to put it in context, this is a document you've already been taken to and it is a situation report for 6 p.m. on Saturday, 8th of January 2011?-- Yes.

And it was written by you, is that right?-- Yes, I believe so.

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And on the second page under the heading "forecast scenario based on mid-range rainfall forecasts", the second sentence of the first paragraph says, "The interaction with run-off from the Bremer River and Warra Creek catchment is an important consideration as the event magnitude will require the application of Wivenhoe Dam flood operations strategy W2."?-- Yes.

You have been taken to that already but to put that statement in context, can I ask you to look at the material under the heading "Wivenhoe full supply 67 metres AHD"? And that indicates that at 6 o'clock on Saturday, Wivenhoe Dam was 68.5 metres AHD?-- Yes, that was above 68.5, yeah.

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And it was rising slowly?-- It was rising, yes.

And releasing about 1,250 CUMECS?-- Yes.

Then it goes on to indicate that river levels upstream of Wivenhoe Dam have peaked and are now receding?-- Yes.

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But then it goes on to say, "However, further inflows may result from any additional rainfall", and it says, "The current gate operation strategy will maintain flows of up to 1,600 CUMECS in the mid-Brisbane River throughout the evening."?-- Yes.

Now, those flows of 1,600 CUMECS were only 300 CUMECS below the upper limit of W1, weren't they?-- They are, yes, but the - that flow rate is nothing to do with the upper limit, necessarily.

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Yes, but you agreed with me, didn't you, that it is only 300 CUMECS below the upper limit of W1?-- 600 - yeah, 1,600 less - yeah, 300, yes.

And the dam level was above 68.65 metres?-- Yes.

And in order to move into W strategy - into strategy W1, the dam level would have to recede below 68.5 metres, wouldn't it?-- Yes.

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Now, on the first page of that document, you set out the outlook for the following days?-- Uh-huh.

And for the Sunday it was widespread rain with totals between 50 to 100 millimetres?-- Yes.

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For the Monday it was widespread rain again with totals between 50 to 150 millimetres?-- Yes, heavy.

Then again Tuesday rain easing but still with totals between 25 to 50 millimetres?-- Yes.

And your conclusion at the end of that was that "given the saturated conditions of catchments, significant inflows to Seqwater dams will be generated especially following forecast rainfall on Sunday/Monday"?-- Yes.

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Now, you - if we go back then to the sentence that I have previously taken you to under heading "forecast scenario based on mid-range rainfall forecasts", correct me if I'm wrong but I understood your evidence about what that sentence meant to be that you were indicating that there could be a change from strategy W3 to strategy W1 and back again to strategy W2 on Tuesday the 11th of January?-- It is possible that based on the forecast rainfall and the temporal distribution of that forecast rainfall, current release rates will drive the lake level down below the threshold limit, back into W1, and then with the rainfall that was coming through on the Sunday and the Monday, you would be back up into the range again. However, this time the forecasted peaks in the Lockyer and the Bremer will be much higher than what they were previously.

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And that sentence was intended to indicate all that?-- It was, yes. And, like I said, that was predominantly a heads-up, I suppose, more internally for John Tibaldi, but it was basically to give people an idea that there was certainly more rain coming, but the current strategy could - adopted - sorry, adapt to it relatively straightforward. The W2 reference is pretty meaningless, I suppose, for most people in that context.

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All right. But you're saying that there was a possibility that you might get into W2 the following Tuesday?-- Possibility.

That's what it was intended to indicate?-- Predicated on the fact those forecast rainfalls fell as assumed, and given the condition that the lake level was below 68.5.

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But you didn't refer to moving into strategy W2 as merely a possibility, did you? You said that "the event magnitude will require the application of Wivenhoe Dam flood operation strategy W2"?-- Yeah, poor choice of words, yeah.

Well, could it have been that you actually meant those words?-- This was predicated on the forecast scenario. It was not something we were necessarily implementing. The current strategy was stated further up in the report saying that the 1,600 CUMECS would continue to be released down into the mid-Brisbane.

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Is there any reference there to the following Tuesday, the fact this possibility might occur?-- No.

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And in the previous sentence you said that "assessments have been taken to determine possible increases to releases"-----?-- Yes.

-----hadn't you?-- Possible.

Yes. And - but that was based upon the high likelihood of significant inflows?-- Well, the outlook was for some heavy rain in the next couple of days, so it is likely we were going to have to make increases - possible we were going to have to make increases.

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But there was a high likelihood of significant inflows, wasn't there?-- Yes, given the prevailing conditions.

So if there was a high likelihood of significant inflows, you've got a situation where the lake level is increasing, not decreasing at that point?-- The model scenario has rain building through Sunday. This is Saturday afternoon. So there is still a period of time before the rainfall actually hits the ground. During that period of time, and as in fact evidenced by the lake levels in Somerset and Wivenhoe which did fall from Saturday night into Sunday morning, there was a possibility it would get down below W1.

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I see. But here you're not talking about any possibility of getting below W1; what you're talking about is the high likelihood of significant inflows, possible increases to releases as a result, and further down you're talking about "projections based upon forecast rainfall suggest flows of up to 1,200 cubic metres will emanate from the Bremer River"?-- Yes.

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If the Bremer River was at 1,200 cubic metres, you couldn't go into strategy W2, could you?-- Well, you do. You can reduce the flow rates while the natural peak occurs and then you piggyback on the flow that occurs out of the natural - out of the naturally occurring catchments.

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Right. So that requires the reduction of releases from Wivenhoe?-- It will temporarily reduce the flows and then ramp up on the back of the natural flood.

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But just above that you're talking about determining possible increases to releases?-- Yes. I'm not - I'm not suggesting that the 1250 is necessarily going to be contained all the way through. Depending on the magnitude of the downstream tributaries, if that magnitude is 1200 or even higher, then you can follow it up. So it may, in fact, be higher than what you are currently on.

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But I'm suggesting to you the natural meaning of the second sentence you've written under the heading "Forecast scenario based upon the midrange rainfall forecasts", is that the event magnitude would require the application of - sorry, the transition from strategy W1 into strategy W2?-- From where we were being above 68.5, I'm only describing the model run that's contained in the model - in Appendix K there, there is a period where there is no rainfall over Saturday night. On that basis the lake levels at the current rate were going to drop as is evidenced by what actually happened and as a consequence, yeah, you could go back from W1 up to W2 or W3. It really depends on the magnitudes of the rainfalls that fell and the distribution of those rainfalls. I wasn't setting this in stone. This was just a heads up. It was really in an effort to provide - well, in reaction to assessing the potential threat that was shown on the outlook provided by the Bureau of Meteorology. I'm just trying to give the boys - as in the other duty engineers - a bit of an idea of what we can expect over the next couple of days. It was never a definitive operational strategy that was going to be used.

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Well, if you wanted to give them a heads up why didn't you just write it's possible that we will move on Tuesday from strategy W3 back to strategy W1 and then into W2?-- I could have, but they also have access to the gate operations models. So they can just go and have a look and they - a pictorial is a lot easier to see.

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It's a bit cryptic, isn't it?-- Yeah, it's a bit cryptic, yeah.

Very cryptic?-- It was an attempt to provide an indication of how this event might develop and the take home message for me out of that were the releases could ensure that the dam is drained within seven days, but were at that extent of the drainage period. If we got any more rainfall than that then we're going to have to actually increase the releases.

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Well, I suggest to you that the natural inference from reading that paragraph is that you were not conscious of a transition from W1 to W3 and what you were talking about was the transition that would be required from W1 to W2?-- No, I know the gate operations spreadsheet I was looking at. I was - I knew the concept of it was going down and up. So that's what I was writing about. Maybe I was too focused on the model to necessarily describe appropriately what's - I really wanted or

the intended message I wanted to give at that stage. I don't know. It's the end of the shift. I'm getting tired. I've been looking at this model. I just wanted to get some concept to the boys. I wanted to basically give them an idea that downstream tributaries could actually increase in size. The moment based on those outlooks, the volume was something that we could actually manage within the seven day drain, but if we get more we're going to have to increase the rate from 1250 upwards.

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And I suggest it's quite fanciful to suggest that what those paragraphs indicate is that you may have to move from W3 to W1 and back to W2 the following Tuesday?-- I was just trying to capture what the model run I'd just done was telling me. In hindsight, if you have a look at that and go, well, what was the real message I wanted to say then I wouldn't mentioned half the stuff in there.

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Now, could the witness see Exhibit 23? Could it be turned to Sunday, the 9th of January at 9.10 p.m. Now, do you see the entry there, "Rob Drury called and spoke with R A"?-- Yes.

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And obviously "R A" are your initials?-- That's me, yes.

And then it says, "Rob confirmed" - when it talks it says, "Rob confirmed" that's a reference to you?-- That's me, yes.

So you've confirmed that the releases will need to be ramped up from the current 1,400 CUMECS to 2500 CUMECS which will cause flooding in the low lying areas of Brisbane?-- Yes.

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Now, the reference there is to releases will need to be ramped up?-- Yes.

And it recognised that it was necessary now to start increasing the rates of release from the existing rates?-- We recognised that at the 3.30 conference. Terry was going to do some additional modelling to determine what those appropriate rates would be. It came up with the number of two and a-half thousand. It was at that time in the Sunday afternoon where the forecasts were grossly underestimated so the actual event was getting larger than we had anticipated at that point and was moving faster than we'd necessarily recognised it on the Sunday afternoon, but, yes, at that point in time we were suggesting we'd have to go and go pretty quickly to start getting those releases made.

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But it is the case, isn't it, that you didn't reach the upper limit of the W1 strategy, that is, 1,900 CUMECS until 8 o'clock on Monday, the 10th of January?-- Well, at that point in time that limit is not relevant. We were working in strategy W3.

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Did you tell Rob Drury that you were applying W3?-- No. Because we don't speak in terms of those strategy labels.

Well, wasn't it important for him to know that the primary consideration that you were operating under was preventing the

urban inundation of Brisbane?-- I would have taken that will cause flooding in low lying areas of Brisbane as being one and the same. 1

But wasn't it important for him to know that what was explicitly the primary consideration now?-- Well, I could have said we're now trying to minimise damages in Brisbane, not managed - sorry, trying to minimise the inundation of Brisbane, but I think well - my reading of that sentence I would have thought he would have got the general message. 10

I see. Then at 10.20 here you see there's an entry that says, "Rob Drury called and spoke with R A"?-- Yes.

And then it says a teleconference with Water Grid Manager and DERM was completed and then explained 9 p.m. situation report. Do you agree that's an accurate reflection of what happened?-- Yes. Rob told me there was a teleconference between the Water Grid Manager and DERM and SEQ. I can't recall exactly what he mentioned, but in terms of the overall content, but the main piece of information that I took from it was that Water Grid Manager will be making a media release. 20

Did you tell Mr Drury or the Water Grid Manager that you were in W3?-- I wasn't speaking to the Water Grid Manager.

I see?-- It was Rob Drury who participated in the teleconference. I was speaking directly to Rob. I had no direct contact with Water Grid Manager. 30

I see. So that entry refers solely to a telephone conversation between Rob Drury and you?-- Yeah, it was - Rob said, "I've just come off a teleconference with Water Grid Manager and he's going to make a media release."

Did you tell Mr Drury at that stage that you were in W3?-- No, I did not.

But you explained the 9 p.m. situation report?-- Yes. It would have been along the lines of we're now estimating a very significant volume of water being managed with the dams and I think it was - I can't recall the number, but it was in excess of a million mega litres. But effectively we were going to have to make theses releases and they were going to be quite high. 40

Could the witness see the 9 p.m. situation report which is in Exhibit 24, page 21, of Appendix E. Now, this is a document that has the name Terry Malone at the end of it?-- Yes. Whilst Terry had finished the day shift, he was obviously aware of the developing situation. This was where we started to actually double team. So I came back to the Flood Operation Centre at about 7.30 and I was working with John Ruffini, but Terry was still going. He - basically he just wanted to see this through and he was going to go home. 50

So you were on duty at that time?-- I was on duty with John Ruffini, yes.

But you helped to prepare the situation report?-- I did the model that was the background to this report, yes.

Did you read it before it was issued?-- I believe I did, yes.

And if you look at the - under the heading "Wivenhoe Dam". You'll see that in the second paragraph at the end it says, "Given the rapid increase in inflow volumes it will be necessary to increase the release from Wivenhoe Monday morning."?-- Yes.

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And in the next sentence it says, "The objective for dam operations will be to minimise the impact of urban flooding in the areas downstream of the dam."?-- Yes. So this was a definite recognition that the release rates we were now contemplating were going to be damaging release rates as opposed to providing optimum protection to the downstream areas.

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But it talks about the objective will be to minimise the impact of urban flooding. It doesn't say "has been the objective" or "is the objective"?-- I took that to be related to the fact that the increase in release rates haven't actually started yet.

See, does that suggest, though, that until at least that point the objective has not been to minimise the impact of urban flooding?-- No, I think they were just emphasising the fact that the intent of the releases are definitely that.

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And in any of the situation reports before this you had not said the objective for dam operations is to minimise the impact of urban flooding?-- Well, that's because up until - as I said, up until the engineer conference we were operating in such a way to optimise the protection to downstream areas. There's been a shift because of the volume of water that is now upstream in the dam and the focus is now squarely on minimising damages. We recognised we couldn't store any more. We were going to have to shift the water through the dam.

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Could the witness now be shown the situation report for Monday, the 10th of January at 1 a.m., it's on page 23. And over on the next page. Again, you see in the first whole paragraph it says, "The objective for dam operations will be to minimise the impact of urban flooding in these areas." You see that?-- Yes.

And, again, we're talking about what the objective is going to be in the future?-- Well, this is just a - the way we prepared the situation reports is you take the previous one, rather than type it all out again which would take a while we just use the previous one as a template and adjust what's necessary. So that's just a straight copy from the previous version.

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Can you go to - could the witness see the situation report for Monday, 6.30 a.m., 10th of January, page 25. And over on the

next page, again, that sentence appears and, "The objective for dam operations will be to minimise the impact of urban flooding."?-- Yes, it's just, like I say, the way we produce the reports. Rather than type all that stuff out we just copy it. 1

Could the witness then see the situation report for Monday the 10th of January, 12.16 p.m., page 28. And over on the second page - sorry, just excuse me for one moment. Just under the heading "Wivenhoe Dam", there's the second paragraph that now reads, "The objective for dam operations is to minimise the impact of urban flooding in areas downstream of the dam." Can you see that?-- Yes. 10

And there's a change in tense there?-- Yes.

Isn't there? It's quite deliberate, isn't it?-- I can't recall. I don't know. Maybe.

What that suggests is it's now firmly the case that the objective is to minimise the impact of urban flooding?-- Well, that objective was - was as such since the previous evening, yeah. We don't sit there with these situation reports and agonise over every word. The idea is to try and getting something out which conveys the message as clearly as possible. John's obviously picked - picked up that and gone, well, it is now. So the releases are in - actually being made so that's why he's changed it. I can't recall. I don't even - I didn't even realise he did that. 20

Well, I want to suggest quite squarely that you were required to make a decision to change from the W1 strategy into a high strategy at 8 a.m. on the 8th of January, but you did not make any conscious decision to do so?-- No, I disagree. The release rates that we set in place on the Saturday at 1600 CUMECS in the mid Brisbane was firmly establishing a primary objective of optimising protection of downstream release. That's what that release rate was geared at. 30

But that release rate was also consistent with simply being in W1?-- It's consistent to being all three - all four strategies for that matter. Yes. 40

And-----?-- Except for the fact that the lake level doesn't allow you to be in W1 at that point.

I suggest that you did not have firmly in mind the primary objective of the W3 strategy?-- At what point?

At the time - at 8 o'clock or shortly afterwards?-- On Saturday. 50

On the 8th of January?-- The objective that we were working to at that point in time was trying to optimise protection to downstream areas.

I suggest that you did not give priority or give - or apply as the primary consideration, avoiding urban inundation until

some time on the night of Sunday, the 9th of January or the morning of Monday, the 10th of January?-- We recognised that the event was developing and that's why I called the meeting with the duty engineers. That Friday - sorry, at that Sunday conference, the volume estimates there in my mind in terms of my interpretation was such that there was a definite shift at that point in time from being able to provide optimum protection to now having to make releases that were going to cause damage.

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Could the witness see Exhibit 23 and I wonder if you could go to Monday, the 17th of January 2011, 11.20 a.m.

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Now, do you see that that's an entry that says, "Peter Borrows called saying he will e-mail a revised copy of Michael O'Brien's document."?-- Yes. 1

And-----?-- By the way, I wasn't on duty that day, so I wouldn't have necessarily seen or heard that conversation.

All right. But did you get a copy of Michael O'Brien's revised document?-- It would have been sent to the duty engineer e-mail, so - yeah, when I came - next came back on shift I possibly had access to it, yeah. 10

Well, you have actually provided a statement dealing with some of the allegations that Mr O'Brien has made, haven't you?-- Yes, whether it was through that avenue in terms of obtaining the document or other means, I can't recall now.

And that entry suggests that there was an earlier version of that - of Mr O'Brien's document?-- Are we talking about - well, I guess - yes, there's a revised copy, so, yes. 20

Do you recall the document that was entitled, "What Went on in Brisbane"?-- Not specifically, no.

All right. And do you recall seeing a document prepared by Mr O'Brien in which he asserted that Flood Operations engineers were too slow to respond to early increases in levels - in dam levels of Wivenhoe?-- Yes.

Could the witness now see Exhibit 25? This is an e-mail that you sent to the duty engineers, didn't you?-- Yes, I did. 30

And you sent that e-mail on the 14th of January 2011?-- Yes, I'd just come off the period I'd been staying in the building, so I grabbed a couple of hours sleep, I watched some television reports of the event and then I saw a media article in respect of that.

And had you seen by that time Mr O'Brien's document criticising the actions of the Flood Operations engineers?-- I can't recall specific - no, I don't - no, I wouldn't have because - well, I'd been operating all that week and I'd just come - got my - come out from a sleep, so, no, I hadn't seen the document. 40

In any event, you clearly indicated to the other engineers that you needed to have a consolidated view on things before information was distributed?-- Well, that's in recognition that none of us were there for the total period of time, so we all knew snippets of the event but we didn't necessarily know the whole event, so it was no use talking to people about stuff that we weren't actually on shift for, so a consolidated view is just making sure that we knew what had happened during the event. 50

You were certainly aware that the media had already made assertions about the appropriateness of your adopted operational strategy?-- I was then, yes.

And you were indicating that you and the other Flood Operations engineers needed to get together to manage your position?-- Only in the sense that if we were making comments then we'd make sure that we were informed about those comments in case somebody else asked us the same question and somebody else responded who didn't necessarily have the direct knowledge.

Well, did you get together with the other engineers to work out how to manage your position?-- No, because at that point in time we'd gone to single shifts. The closest we would have come to getting together again was the following night when all the off-duty engineers were called back in for the teleconference.

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So, it was after this time, wasn't it, and after that meeting that you have referred to that the process of reconstruction started happening as to what strategies were invoked at what times?-- Well, that process happened as part of the reporting exercise, so that wasn't started until after the event had shut down, so I was still operating North Pine Dam on the Thursday following that, so - I think I did take the Friday off after that, and I - probably on the Saturday following we went back in and started the reporting writing process, and that's - but that was - you know, that was the weeks after that.

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Well, was this process of reconstructing, what strategy was invoked when during the flood event a part of you and the other Flood Operations engineers managing your position?-- We weren't managing the position, we had a regulatory requirement to produce a report for the Dam Safety Regulator, and as part of writing that report, there's a section on what strategies were adopted, and that - so that's when that happened.

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Yes, thank you. I have nothing further.

COMMISSIONER: Mr Murdoch?

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MR MURDOCH: Mr Ayre, I'm Jim Murdoch, I'm counsel for the Mid-Brisbane River Irrigators Association. Your most recent statement, 1st of February 2012, Exhibit 1,049, you have that there of course?-- Yes, I have a copy.

I'm interested in certain of the paragraphs on page 5. If you'd go to that, please? Now, you say in paragraph 24 that the terms, "W1A to E, W2, W3 and W4 are not necessarily referenced at any particular time during a flood event." You go on and say, "What is referenced are the gate release rates, lake levels and downstream peak flow rates."?-- Yes.

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And then that seems to match up with what you say in paragraph 28, which is, "Strategy labels are generally only attributed after the event as part of the reporting process."?-- Yes.

Am I understanding the association between those two paragraphs?-- So, when we're speaking internally we're - we are specifically concentrating on release rates, the volume of the flood upstream and what that means in terms of where we are with the manual and meeting objectives.

If you look at paragraph 27, it says, "Strategy labels are sometimes referenced in directives issues to dam operators as they are aware of the significance of the labels due to their familiarity with the manual."?-- Yes.

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The Wivenhoe and Somerset?-- Yes.

Isn't there conflict between what you say in paragraph 27 and what you say in paragraphs 24 and 28 which I took you to a moment ago?-- Well, it's not as if we aren't aware of what strategy we're in necessarily, it's just that we don't write it down, I suppose, except we're the operators and specifically in this event I had conversation with - I think it was Ed Dagon at Somerset Dam where he was asking, "Well, what's happening? What are we doing?", and I did include a reference to strategy S2 that had been Somerset, so he had an idea in terms of what was going on at Somerset where we are in the event.

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So, that you've explained that the professionals with the knowledge of the strategies aren't confined to personnel in the Flood Operations Centre, obviously the persons involved in the operation of the Wivenhoe and Somerset Dams are also intimately familiar with those-----?-- Yes.

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-----strategies?-- They have copies of the manuals and are - they do training in terms of the use of the manuals, yes.

Would that not necessitate that there be a contemporaneous assignment of strategies as they are developed at the Flood Control Centre?-- There's no doubt with hindsight it would be advantageous to do so, but the general practice to this date has been not necessarily doing that. The operators, they're primarily interested in actually executing the directives, they don't necessarily know - need to know the intent of them. The operators do get a copy of the Situation Report, so they can get the overview, if you like, from the Situation Report.

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But you are surely not suggesting that the Flood Control Centre issues critical directives to the personnel operating the dams and leaves them to guess as to-----?-- No.

-----what the strategy is that's currently being implemented?-- It's to some extent irrelevant for their purpose, they are actually executing the gate sequence that's been defined. So, they - all they need to know is which gate and at what time and to what increment those gates are operated. That's the content of the directives.

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Well, are you saying it's unnecessary then for them to be familiar with the manual and the strategy labels in the

manual?-- No, I'm not, I'm saying that the directives are just an instruction, "Carry out this."

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In other words, don't take them into your confidence as to what strategy you're implementing?-- They are provided with a copy of the Situation Report which is effectively - what we're trying to do there is to describe to everybody what's - what we're intending to do in terms of the operations. So, they're as advised or they're as aware of what we're doing as anybody else.

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Could Mr Ayre see that part of Exhibit 430 which is the Flood Control Centre Event Log? Do you have that?-- No, it's not come up on the screen just yet.

Could you go, please, to the entries for Friday, the 7th of January 2011? They go over on to page - and you will see that that's an entry for 12.15 p.m.

COMMISSIONER: You will have to wait for my Associate to find it, Mr Murdoch.

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MR MURDOCH: Oh, I am sorry.

COMMISSIONER: Is what's on the screen now what you were referring to?

MR MURDOCH: Yes, thank you, your Honour. 12.15 p.m. and then followed by 12.34 p.m., it is recorded in the log that it is 12.34 on the 7th, "issued Wivenhoe directive number 1"-- Yes.

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And then if we go to the far right-hand side in the penultimate column which is headed D, we have directive strategy W1C?-- Yes.

Doesn't that suggest that there was indeed an identification contemporaneously of the strategy that was behind the directive to the dam operators at Wivenhoe?-- This was the document that was produced, as I understand, for the Ministerial briefing. So it is not the contemporaneous record - isn't it? Or-----

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So even though it is referred to as the Flood Control Centre event log, it is not the event log?-- I - I am sorry, this is - so this is which document? Can you just scroll down to the other side? Is this the full log? No, that is not the flood event log. That is in fact the shutdown document that we discussed this morning. That's the document that was prepared as part of the Ministerial briefing.

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Well, why is it described as the Flood Control Centre event log if it is not the Flood Control Centre event log?-- Well, this document, as far as I knew, was called something different in terms of its title. What's in this - it is based - okay, so my understanding of how this thing was developed was it was a - somebody has copied the actual flood event log, saved it as a different document, renamed it, and then gone through, stripped out all of the information that isn't relevant to a strategy and then done some sort of analysis on the information provided to determine a strategy. But this was not the event log that was developed as a contemporaneous reference.

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Was it taken from contemporaneous records?-- Well, like I said, I believe this document was a copy of our actual master flood event log.

Okay. Well, let us go through them, and on the following page we have again against the 7th of January an entry for 9.53 p.m., and we have Wivenhoe directive 2. As against that we have directive strategy W1D in a column?-- Yes.

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Same explanation; it is a transposition from the contemporaneous record?-- Well, this - like I say, was, I believe, a document that was used to do a high level filter to come up with some sort of assessment of when strategies were put in place. In my seventh statement at paragraph 90, I provide a table which I believe explains how somebody has come

up with the assessment of the strategy by using the information contained in the flood event log.

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Yes, I have read that but I wanted to take you through it -----?-- Yes.

-----to get your explanation. Okay, then we've got for Saturday at 4.55 a.m., that's Saturday the 8th of January 2011, we have Wivenhoe directive 3, and then column D we have directive strategy W1D?-- Yes.

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And, by the way, I take it you agree with the matching up of the strategies with the directives that I've taken you to thus far?-- I have done an analysis this week to determine if I could come up with an equivalence, and, yeah, based on the information in the flood event log - that flood event log, you can come up with those numbers, but it is - well, some of it doesn't actually utilise information that you necessarily need, and strategy W1, the lake level's an essential element of being able to assign that strategy.

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Well, I've taken you to directives 1, 2, and 3 and I've shown you in column D the strategies that are set out, and I just want to know whether you agree that the respective strategies beside the three directives are strategies that meet with your concurrence?-- In that particular document?

Sorry?-- In that particular document?

Yes?-- Based on my analysis, I agree that that's how you could come up with strategy W1D for those times. However, I know that to be incorrect.

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You know what to be incorrect?-- Well, strategy W1D wasn't being applied at 8 a.m. on Saturday the 8th of January.

All right. So even the document constructed from contemporaneous records is a document that you say is inaccurate?-- Yes. It may be based on some available records but it is not based on sufficient information to make a rigorous assessment of what strategy was in place. To do that you need effectively all the information contained in the model results, appendix A, to be able to make that assessment and apply the decision-making process, as well as the lake level, of course.

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Then if we go over to the entry for 8 a.m. on the 8th, we have Wivenhoe directive number 4. As against that in column D we have directive strategy W1D, and, as I understand it from your statement, you disagree that that was the strategy in play at that time?-- Well, in accordance with the lake level, and - at 8 a.m. on Saturday the 8th, the lake level was now at 68.52, therefore strategy 1 could not be used.

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So it is not just a matter of whether it was 1D or 1E, you say it wasn't at the W1 in any respect?-- Well, it doesn't meet the level criteria. However, you couldn't determine that from just looking at a directive.

Well, then, we have, in relation to Sunday the 9th, Wivenhoe directive number 5, and that's in column D described as strategy W1E. What do you say about that?-- Well, this had to be the next change in strategy. So the entries for 5 and 6, the only way I could deduce that you could assign W1E to it is the fact that they're the entries that exist between strategy W1D and strategy W2. So somebody said, well, it must be 1E - I don't know. If you're on Sunday morning, the lake level is above EL 68.5, strategy W1 can't be applied.

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Okay. And if we go then to the entry for 4.30 a.m., Wivenhoe directive 6, then there is a reference to W1E. I take it your answer would be the same?-- It is the same, yeah. At that point in time the actual lake level is in excess of the EL 68.5. You can't - well, W1 doesn't apply.

COMMISSIONER: Mr Murdoch, we might adjourn there until the morning. 10 o'clock.

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THE COURT ADJOURNED AT 5.01 P.M. TILL 10.00 A.M. THE FOLLOWING DAY

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