

# Transcript of Proceedings

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THE HONOURABLE JUSTICE C HOLMES, Commissioner

MR JAMES O'SULLIVAN AC, Deputy Commissioner

MR P CALLAGHAN SC, Counsel Assisting  
MS E WILSON SC, Counsel Assisting

IN THE MATTER OF THE COMMISSIONS OF INQUIRY ACT 1950  
COMMISSIONS OF INQUIRY ORDER (No. 1) 2011  
QUEENSLAND FLOODS COMMISSION OF INQUIRY

BRISBANE

..DATE 05/02/2012

..DAY 62

THE COMMISSION RESUMED AT 10.00 A.M.

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HER HONOUR: I'm sitting this morning with only one Deputy Commissioner.

Yesterday I explained - I thought fairly clearly and painstakingly - that Mr Cummins, my other Deputy Commissioner, has not been in any position of conflict of interest because, among other reasons, he didn't know, when he agreed to do work after the end of the Commission, that the consulting company for which he agreed to do that work had been engaged by Seqwater.

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The consulting company is not, despite reports to the contrary, engaged to rewrite the Wivenhoe manual; just to be part of the committee reviewing technical work undertaken as part of the review of the manual.

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It remains the case there has been no conflict of interest, but a couple of days ago Mr Cummins became aware that Australian Dams and Water Consulting has been engaged in that role by Seqwater.

I've thought about what that means for the part of the inquiry we're currently engaged in, which largely concerns Seqwater's conduct. The answer is probably nothing, given that Mr Cummins has no interest - he holds no interest in the company engaged and given, as I explained yesterday, that it's I who make decisions and recommendations. But it's up to me, as I think I also made clear yesterday, to decide what help I want from each Deputy Commissioner.

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I've decided it's just simpler and puts everything beyond argument if I don't seek any assistance from Mr Cummins in relation to this last part of Commission's work which concerns Seqwater. That won't present me with any particular difficulty because the decisions I have to make are essentially about credibility, and they are not ones in which I can be helped by technical advice.

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Mr Cummins remains a Deputy Commissioner, but he won't participate in this part of the Commission's work.

Nothing I said yesterday has altered, particularly about the "The Courier-Mail's" reprehensible headlines. In fact, it has since been brought to my attention that the on-line edition of the paper bore the headline, "Flood Commissioner on Dam Payroll". That is a simple untruth. No one from the "The Courier-Mail" has explained how that headline, or any of the others I cited yesterday, could be regarded as justified by anything it reported or how they could be regarded as other than directed to diminishing public confidence in the Commission.

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As a matter of fairness I should say here that I have no issue with Mr Madigan's reporting of the actual proceedings in this

hearing, which have been consistently fair and accurate. But my view about those headlines remains the same as it was yesterday. I don't, however, intend to let it distract me from the issues here.

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Now, as a matter of housekeeping, I don't think that we will be able to reach submissions this week. My view is that the better course is to take the weekend for preparation of submissions and set aside Monday and Tuesday for the hearing of oral submissions. That won't, before anyone gets excited, make any difference to the eventual reporting date on 16 March. Thank you.

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Mr Callaghan.

MR CALLAGHAN: Before we proceed with the cross-examination of Mr Malone, Madam Commissioner, I just wish to tender some documents which give some context to the gate operations spreadsheets which were referred to - or which have been referred to a few times during these resumed hearings. They are attachment 34 to Exhibit 524. In order to contextualise those, could I tender first a letter from Allens Arthur Robinson to the Commission dated 29 April 2011.

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HER HONOUR: Exhibit 1058.

ADMITTED AND MARKED "EXHIBIT 1058"

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MR CALLAGHAN: A letter from Allens Arthur Robinson to the Commission dated 6 April 2011 which encloses Appendix A1.

HER HONOUR: 6 April, you said?

MR CALLAGHAN: Yes.

HER HONOUR: 1059.

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ADMITTED AND MARKED "EXHIBIT 1059"

MR CALLAGHAN: Then as a separate exhibit the Appendix A1 to that letter of 6 April.

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HER HONOUR: 1060.

ADMITTED AND MARKED "EXHIBIT 1060"

MR CALLAGHAN: I might, just to flag what I perceive to be the relevance of these documents, read part of page 1 of that appendix which says, "During the event, the spreadsheets were updated continuously with both updated model results and hourly manual water level readings from the dams with a single 'live' spreadsheet also available for flood operations decision-making. During the event spreadsheets were not necessarily saved at times corresponding to the flood event summary. Similar to the recreation of model runs where spreadsheets were not explicitly saved at the exact time corresponding the periods in the flood event summary, spreadsheets have been recreated from archived data."

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We can proceed with the questioning of Mr Malone.

HER HONOUR: Thank you.

TERRANCE ALWYN MALONE, CONTINUING EXAMINATION:

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MR CALLAGHAN: Mr Malone, in a statement received from Mr Robert Ayre, Exhibit 1049, we have read in paragraph 31 of a suggestion from you of a W2 style release. First of all, are you familiar with that part of Mr Ayre's materials?-- No, I'm not. I may have read it, but I can't recall at the moment. Could I have a copy, please?

Yes, I'm hoping it will be on the screen in a moment. It was a statement of 1 February, so it's in the recent materials which may have been received?-- Yes.

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Do you recall a conversation of that kind?-- No, I don't specifically recall the conversation.

What would you interpret by the phrase "W2 style release"?-- I would suggest we'd be looking at releases up around the 1900 cubic metres a second with the intention of trying to keep the bridges - as many bridges open as possible.

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Waiting for the natural peak to pass, is that the-----?-- That's correct.

-----part of the plan?-- That's correct, for the peaks from the Lockyer and Bremer to pass, and then we'd be releasing on the recession of those.

And what, if anything, would make such a strategy change?-- Further rainfall, obviously, and further increase in flows.

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Increase in flows?-- Yes.

Now, yesterday I asked you some questions about 9 January. Your shift started at what time on that date; do you recall?-- 7 a.m.

Seven a.m.?-- That's our typical handover time, 7 a.m. and 7 p.m.

But you stayed a little later that evening; is that correct?-- I stayed a lot later that evening.

Because you were there, you prepared the situation report of 9.04 p.m.; is that right?-- That's correct.

We might take a look at that. Which is in Exhibit 24, Appendix E, pages 21 and 22. I'll take you to the last paragraph on page 21, "The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam", and so on. You can read that there?-- Just a minute. I'm still finding it. Yes.

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What is meant in this paragraph by "areas downstream of the dam"?-- I think it's pretty obvious: anything downstream of the dam.

Absolutely anything downstream of the dam?-- Well, urban areas in particular. I mean, you've said "areas downstream of the dam". You asked me to clarify that phrase. You didn't ask me to clarify any of the areas. I said areas. It's anything downstream of the dam.

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That's right. Okay. "Urban flooding areas downstream of the dam"; what does that mean?-- That would be - I would take that to mean particularly the area downstream of Mogill. Mogill and downstream.

Mogill and downstream of Mogill, or Mogill and upstream-----?-- Yes, Mogill and downstream.

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Was this objective or this expression of objective in fact a recognition of a change of strategy?-- No, it was a recognition that we could get urban flooding in - at some time in the future.

And the sort of urban flooding you were contemplating at that stage was of what kind?-- Well, we were obviously trying to limit the combined flow to the threshold of - what we understood to be the threshold of urban damage, 4,000 cubic metres a second.

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And you were contemplating that sort of urban damage that occurs at and around that level?-- Correct.

Which would be water over the floors of some houses in low-lying areas?-- I don't know.

Is that right?-- I don't what happens at 4,000. All we've been told in the manual is that this is the threshold of urban damage.

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There's no particular sort of urban damage - urban inundation in mind when you are making these sorts of calculations; is that right?-- What calculations are you referring to? Are you referring to the impact of 4,000 cubic metres a second?

Yes?-- That's not details that we use. We rely on others to do the interpretation.

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And it must follow that the nature of urban inundation being contemplated at any time is - it's just not something to which you turn your mind; is that right?-- We are given that information, it's - 4,000 is the threshold of urban damage.

And that's as far as you need to consider it?-- I believe - at this particular point in time, yes.

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At this W3 - at a point when you should have been in W3; is that right?-- We were in W3.

All right. Because the point that I've raised with the others as well is that of course what happened in Brisbane on the 12th and 13th is obviously urban inundation?-- Of course.

Of course. What happens at 4,000 or a bit above is also urban inundation?-- Inundation of urban areas.

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Inundation of urban areas?-- Yes. I mean, that might mean bikeways, pathways, roads, all sorts of things. But in terms of when we understood when damages start, it was 4,000 cubic metres a second.

I follow. And at no stage were you required to turn your mind to what was actually involved in the urban inundation to which the manual referred, the sort of damage that might occur?-- No, that's someone else's role.

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I see. Look, I will take you back to your first statement, Exhibit 45, paragraph 62. There was always this curiosity about that statement where you said that strategy W3 was invoked at 0800 on Saturday, the 8th, but you say that it occurred during your shift. You've previously said that was a mistake; is that correct?-- That's right. I acknowledged that in the first set of hearings that I made an error in that statement.

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You did. But you were there at 9 p.m. on the Sunday; we'd agree with that?-- Correct.

You're aware of the documents I showed you yesterday, the strategy selection summaries with the bright yellow lines?-- Yes.

You've seen them since, you've said?-- I've seen them since, yes.

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You're aware that one of them indicates that the move to W3 actually occurred at 9 p.m. on the Sunday?-- That's what that document says.

That document says that. All right. But you say that didn't occur when you were there at 9 p.m. on Sunday, the move to W3?-- No, we were already in W3, obviously.

Thank you. That's all we need for that document. I asked you some questions yesterday about the summary of the manual which you completed on 15 January; do you recall that?-- Yes.

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And this is at transcript 5304. In essence, the questioning was along the lines - to the effect that you were inviting feedback on that document, but you didn't recall receiving any. Do you recall telling me that yesterday?-- Yes, I did.

Did you know whether the other three flood engineers had in fact received it or were at any stage in the process of reviewing it?-- No.

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I asked you at page 5306 who else you thought might have been destined to receive that document. By that I meant were you aware at any time that any person other than Mr Burrows might be looking at that document?-- I wasn't aware at that time when I compiled this document, no.

Can I take you back to the flood event log entry of 15 January at 1.10 p.m. Exhibit 23. It's 13.10 a.m., which we can assume is 1.10 p.m. in realtime?-- Sorry, what are we looking at?

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If you look at the times?-- Yes.

1310 a.m., whatever that is, but we assume it's 1.10 p.m.?-- Yes.

"Peter Allan phoned about the Wivenhoe flood manual summary. Terry Malone told Peter that the summary is with the other duty off engineers for checking before issuing." Did you tell Mr Allen that the summary was with the other duty engineers for checking?-- If that's what the entry says, yes, then I must have.

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Do you therefore acknowledge that you did know the others in fact had it?-- I didn't know they had it. I'm not privy to what they receive on their emails.

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Sorry, you told Mr Allen that it was with them for checking?-- I had sent it to them.

So you at least knew that - surely that they had it?-- I didn't know for surely that they had it or had read it. I had send it to them.

By email?-- Yes.

But you weren't sure that they had received the email?-- I can't be sure of anyone receiving emails. Sorry, I certainly - I would get a bounce if they hadn't received it, but I don't know whether they had opened it.

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All right. Mr Allen obviously knew that you were in the process of preparing it. Does that follow from that entry?-- That follows, yes.

Was he someone who was likely to receive a copy of it?-- As the dam regulator, he may have been - may have received a copy, but I certainly didn't issue one.

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Well, you obviously had a conversation with him about it; do you agree with that?-- Yes.

When I asked you who else might have been destined to receive it, might he have been someone who was going to see a copy of it?-- I can't speculate. I was just doing what I was asked.

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I'm not asking you to speculate. I'm asking you to comment on the relevance of a phone call where he called you to ask you about the document which you were preparing. You've got no further comment to make about that?-- I think it's self-explanatory.

So do I. I entry at 1.15 p.m. states at that Rob Drury rang with some questions about the summary; is that correct?-- If that's what the entry says, that's correct.

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Do you recall that conversation?-- I do not.

I'll take you to a series of documents relevant to the preparation of the report for the Minister. I'll firstly show you an email of Saturday, 15 January 2011 at 2.21 p.m. The subject is "Cabinet in-confidence discussion points", and it is sent to the duty engineer account?-- I can't see it at the moment.

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No, it's coming. And attached are some discussion points; do you see those?-- Yes.

One of those at the top of the page, A, B, C, D, the C is "preparation for public inquiry"?-- Yes.

Do you see that there? Firstly, do you recall seeing the document?-- I've seen it since, but I don't recall seeing it at that particular point in time.

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Very well?-- As I was the duty engineer, I had other things to concentrate on rather than preparing documents for others.

Put that one aside. I'll show you another of 15 January at 5.07 p.m.

Sorry, I tender the 2.21 p.m.

HER HONOUR: May I see it, please? That's Exhibit 1061.

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ADMITTED AND MARKED "EXHIBIT 1061"

MR CALLAGHAN: This one to similar effect, "Attachments, Ministerial brief, contents outlined", and so on. Again do



you recall seeing that document?-- I can recall seeing it since, but I don't recall seeing it at that particular point in time.

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I tender that.

HER HONOUR: Exhibit 1062.

ADMITTED AND MARKED "EXHIBIT 1062"

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MR CALLAGHAN: 5.48 p.m., still on Saturday, 15 January, there was an email sent by Mr Drury not just to the duty account, but to yourself, Mr Ayre, Mr Tibaldi, and Mr Ruffini, "Template for the briefing, including sections 1 to 6". Do you recall Mr Drury sending you such a document at about 5.48 p.m. on the 15th?-- I don't recall getting specific documents on a specific time.

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Do you recall seeing a document in that format at or around this time on the 15th?-- Well, it was obviously sent to me. Whether I opened it up at the time, I cannot say.

You have no recollection of seeing such a document at or around that time?-- I've seen it since, but I can't recall seeing it at that particular point in time.

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All right. I tender that.

On this topic of the report to the Minister, we had some answers from you yesterday where I asked you - this is at 5307 - "Was there some discussion as to by whom this report was going to be written? You say you don't have any recollection of that afternoon." I asked, "None whatsoever?" You said, "Well, no, not really. I was still a duty engineer, and at that stage my primary focus would have been on the operations", and you went on to say - to point out that a short time later that you were writing a directive for gate movements, and there were other experts there sufficient for you to take a back seat; is that right?-- Not there, but available. Off duty.

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Well, you said, "Afterwards I had to write a directive for gate movements, and there was sufficient experts in that particular meeting for me to take a back seat." So this was the meeting of the - at 2 p.m.?-- Yes.

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So was that the case as far as you were concerned, that you didn't have any active role in the preparation of this report for the Minister?-- That was my understanding at the time, yes.

Can I show you another email; Saturday, 15 January, 7.12 p.m. It's from a Rob at the duty engineer account. That is likely, I'd suggest, given the context, to be Rob Drury; is that

right?-- I'm just confused as to where it's from, for starters.

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HER HONOUR: Mr Callaghan, it's cc Rob Drury.

MR CALLAGHAN: I know. But the first line reads, "Peter, I'm at the flood centre with John, Terry, and Rob Ayre"-- That suggests it was from Rob Drury.

It does, doesn't it?-- Yes.

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Yes. Mr Drury may just have cc'ed it to himself?-- Yes.

So you can - have you had a chance to read that?-- Yes.

As you can see, it refers to the proposition that - if it is Mr Drury - that he was if he flood centre with John - presumably Ruffini - Terry, presumably you, and Rob Ayre, and it goes on to say, "We have put together a fair bit of the briefing note", and so on. Do you still say that you had - what do you have to say now about the role that you had in the preparation of the briefing note?-- I still say I had a minor role, if any.

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A minor role, if any?-- If any, yes.

If any. Okay. There's reference there to a proposed meeting at 8.30 a.m. on the following day?-- Yes.

Do you recall that meeting?-- On 16 January?

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"John, Terry, and I will meet you at level 3, Margaret Street"?-- I certainly recall going down to Margaret Street. I can't - during the flood after the peak. I can't - and I remember - things I remember about that day was that yes, we did meet in town, it was a Sunday morning, and - yeah. And my part of the briefing was to again - to do some model runs as to what the impacts of - might have been if Wivenhoe and Somerset weren't there.

40

Was there in fact a meeting with yourself, Mr Ruffini, and Mr Drury in level 3, Margaret Street, where the report to the Minister was discussed?-- It wouldn't have been Mr Ruffini. It would have been Mr Tibaldi.

All right. Was there such a meeting?-- Yes.

And the report to the Minister was the focal point of that meeting?-- Yes.

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At that stage surely you would have familiarised yourself with the content of the report to the Minister?-- No.

And why was that?-- Because my input was, again, of a technical nature, other people were asking me to provide inputs which took my time.

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And you had no interest in the balance of the report, apart from that part you had contributed yourself?-- I wanted to make sure my components were correct, yes.

But you had no interest in the other part-----?-- I had an interest but I didn't have a direct input into it.

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Does that stop you from reading it though, the fact that you didn't have a direct input into it?-- No, it didn't stop me from reading it.

And surely you were interested enough to see-----?-- Yeah, I just said I was interested.

Does it not follow that you would have read it?-- I could have read it, yes.

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And if you had read it and read what it recorded about the changes in strategies, you would surely have corrected them?-- If I had of picked them up, yes.

And you've read it since?-- I've read it since.

And you accept - or you would say that it does not record accurately the point in time at which strategies were changed?-- No, it doesn't.

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And-----?-- Actually, there's some times in there that are wrong anyway.

And why would you not have picked that up had you been reading it on the 16th?-- Because I would have been concentrating on the parts that I'd provided to see whether they were properly recorded.

No other reasons?-- Not at all.

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All right. I will take you to a document - I tender that one.

COMMISSIONER: Exhibit 1063. 64, I'm told.

ADMITTED AND MARKED "EXHIBIT 1064"

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MR CALLAGHAN: Excuse me, your Honour. I will just show you another document from the 16th, an e-mail, 11.58 a.m., sent from Mr Peter Allen, and relevantly, for your purposes at least, sent to the Duty Seq account. You're not specifically named as a recipient. Just take a look at that and tell me whether you recall seeing something like that from the Duty Seq account?-- If I was in Margaret Street that morning I

wouldn't have had access to the duty Sec account from Margaret Street.

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Not at the time it was sent, but on your next visit to the centre you would have had access to it; is that correct?-- Well, yes, yes, I would have had access to it.

But you don't recall seeing that document, or anything like it, on that account upon your return to the centre?-- Well, when was my return to the centre? The next day, I think, was it?

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7 p.m. on the 17th?-- Well, by that stage I would have assumed that that would have been well and truly dealt with.

All right. I tender that.

COMMISSIONER: Exhibit 1065.

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ADMITTED AND MARKED "EXHIBIT 1065"

MR CALLAGHAN: I will show you a further document from the 16th, 2.11 p.m., you are cc'd in on this one from Mr Borrows. Do you recall Mr Borrows - recall seeing an e-mail sent by Mr Borrows concerning the report to the Minister?-- This would have been the one that we were working on that morning in the Margaret Street office.

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Right. And this is just the regulatory context, would this have been something that - who would have put that together?-- Without seeing the document, I-----

Is that the sort of thing Mr Allen would have done?-- Could have. I don't know.

All right. I tender that one.

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COMMISSIONER: Exhibit 1066.

ADMITTED AND MARKED "EXHIBIT 1066"

MR CALLAGHAN: Still on the Sunday, 3.59 p.m., again to the Duty Seq account, similar contents, the point being that the number of these documents is starting to add up, any recollection of seeing that one?-- Obviously not at the time again because I didn't have access to the Seqwater account - sorry, that particular e-mail account.

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All right. I tender that one.

COMMISSIONER: Exhibit 1067.

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ADMITTED AND MARKED "EXHIBIT 1067"

MR CALLAGHAN: 4.03 p.m. on the 16th, this one is again one which is specifically sent to you, Mr Tibaldi, Mr Drury and Mr Bird, any recollection of that one?-- This starts to have some familiarity for me and it certainly contains information that I've provided.

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All right. And which information is that that you provided?-- In particular, the graphs on page 4.

Yes?-- I think some of the information in section 2.4 about the volumes that we had had to manage in the last few weeks in the last few events, some of the comments about specific impact on the lower Brisbane River, reduced dam levels requires the use of complex hydraulic modelling, that's the sort of information I would have been providing.

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All right?-- The table on page 7 would have been the sort of information that I would provide.

Yes?-- After that I can't see that there'd be much information that I would have provided.

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All right. Can I take you to page 12, compliance with the manual, it's indicated that that is to be provided by Peter Allen and you can see what's written under that. Do you have a view as to who would have written those words beginning, "I am unable to provide comment."?-- No, I don't. No, I wouldn't.

All right. I tender that one.

COMMISSIONER: Exhibit 1069.

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MR CALLAGHAN: Just two more. There's one at 4.28 p.m. on the 16th.

MR DUNNING: Excuse me, Commissioner, I am sorry to interrupt but I make that 1068. I'm legendary for-----

COMMISSIONER: I may have written it in twice, so I will check with my associate, Mr Dunning. Yeah, it is nine. Unfortunately, a lot these e-mails are a bit similar, so it's easy to lose track.

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ADMITTED AND MARKED "EXHIBIT 1068"

MR DUNNING: I will find out from your associate later on what 1068 is. 1

COMMISSIONER: All right. Thank you.

MR CALLAGHAN: We were up to 4.28 p.m. on the 16th. Again, it would seem that had you seen this it would have been on the Duty Seq account; is that right?-- That's correct.

Do you recall seeing it there?-- Perhaps on the next day. 10

Perhaps on the next day?-- Perhaps.

Well, do you or don't you?-- Well, no. I've seen lots of these versions of the document since-----

Yes?-- -----but, I mean, I can't recall specifically on that day whether I looked at it or not.

All right. Okay. I tender that one. 20

COMMISSIONER: 1070.

MR CALLAGHAN: And finally in this sequence, 6.43 p.m. on the 16th, again from Mr Drury, any recognition?-- It doesn't look familiar at all.

All right. I will tender it.

COMMISSIONER: Just stop a minute, we will get the exhibit numbers right. I just want to check with my associate. Mr Dunning might have been right. All right. So there's a specious 1069 that's a duplicate. The last exhibit, in fact, was 1069. 30

ADMITTED AND MARKED "EXHIBIT 1069"

COMMISSIONER: This one will be Exhibit 1070. So, Mr Dunning, you were right. 40

ADMITTED AND MARKED "EXHIBIT 1070"

MR DUNNING: Thank you. 50

MR CALLAGHAN: Now, Mr Malone, yesterday I asked you at 5307 whether at this time on the 15th you were aware that there was going to be an inquiry into the operation of the dam, do you recall that I asked you that yesterday and you said you couldn't say?-- At that particular point in time, no, but I do remember when it was confirmed, when the Premier announced

it.

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Right. You had no knowledge of the prospect of an inquiry before then?-- No. Oh, there was some rumours but I can't recall specifically, but I remember my reaction when it was announced.

All right. Can I take you now to the - well, sorry, tell us what your reaction was?-- I thought, "Great, the truth will come out."

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Good. And that truth began with the preparation of the March report; is that right?-- That's correct.

I asked you a few questions about your role in the preparation of the March report yesterday. Can I ask you what you recall Mr Ayre's role was in the preparation of the March report?-- Yeah, Rob was concentrating on the flood model validity section and that was section 7 of the report.

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Was he in the Flood Operations Centre at the time the report was being prepared?-- Not continuously.

On and off?-- Sorry?

On and off?-- On and off.

And was that the only section that he wrote?-- That would have been the only section that he had total responsibility for.

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But it was a collective exercise in as much as you were all contributing; is that correct?-- That's correct, it had to be.

Had to be?-- To get it out in the time frames that was required.

Do you recall any conversations or anything you heard or observed which indicated any interest that Mr Borrows had in the progress of the report?-- No. No, not Peter Borrows, but obviously there were pressing demands for the report to be finished as quickly as possible.

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Well, it was finished, as we know, and I take it you read it closely before it was finally issued?-- I didn't read every page, no, couldn't possibly.

You spent some time reading it though?-- I spent some time reading it.

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Specifically the Executive Summary you would have read?-- I would have read the Executive Summary and the main report.

Parts 2, 10 and 19, in particular?-- Yes, that's true, but I would have also concentrated on the particular parts that I contributed.

Of course. Sticking with the Executive Summary and Parts 2, 10 and 19, would you agree that all of those parts of the report are calculated to give the impression that it is a record or that it includes a record of strategies which were actually engaged during the time the dam was being operated?-- Sorry, can you explain the question again?

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Well, I can take you to specific parts of the report if that's easier. Exhibit 24, page 190, 191. Do you have that?-- I have. Sorry, what page?

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Page 190. Do you have that in front of you?-- Yep.

Okay. Let's look at some of the language on this page. In the headings across the top, "Strategies Used During the Period", "Explanation of Strategies Used During the Period". That is clearly meant to convey that the strategies described below were, in fact, used during the period referred to in the first column, is it not?-- That would convey that.

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Yep. In the first column of "Strategies Used During the Period", "Attempt to transition to strategy W2", that is clearly meant to convey that an attempt was made to strategy W2 during that period; you'd agree with that?-- At that time, not - there's no period associated with that.

Well, there is a period associated with it and it's the period that appears in the first column?-- Yeah, it's a time. That's not a period. It doesn't have a start and end.

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Well, if you go down, the period column to the next page, page 191, there's completed "09 January 08:00"?-- There's no period.

MR BURNS: Well, with respect, that's not the case. The next entry specifies a period. On page 190, the commencement, there's simply a time as the witness said.

MR CALLAGHAN: All right. Fair enough. In any case, the document records the proposition or conveys the proposition that there was an attempt to transition to strategy W2?-- A momentary attempt, yes.

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A momentary attempt? I don't see the word "momentary" there, but you say we should read that into it, do you?-- No, well, it says at 08:00-----

Yes?-- -----and then the next period commences at 08:00, so to me that's a momentary attempt.

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All right. If we look at the language in the explanation where it is recorded, "Strategy W3 was adopted for use at 08:00 on Saturday, 8 January 2011", it's clearly meant to convey that the strategy was engaged for use at that time at 08:00?-- Sorry, can you - I just haven't-----

It's in the column, "Explanation of Strategies Used During the Period"?-- This is on page 191?



190?-- 190.

Third bullet point in the middle column?-- Yes, that's stated in the past tense that's what occurred at that time.

Yeah, that's right, that it did, in fact, happen at that time?-- Yeah.

All right. Are you aware of the difficulties that Mr Tibaldi had with the writing of the report so far as W2 was concerned?-- Not specifically, no.

10

He didn't discuss with you the problems he was having in recording exactly what the story was with W2?-- No, I don't recall that sort of discussion.

You were-----?-- He might have discussed it with Rob Ayre, because at the time I would have been concentrating on my parts.

20

Yeah, but side by side with him in the Flood Operation Centre-----?-- Yeah.

-----while you're both writing for the purposes of this report?-- That's correct.

All right. The truth is though, Mr Malone, that this report does not record conscious engagement of strategies during this period, 8th and 9th of January 2011, does it?-- No, that's not the truth, and I think it's clearly evidenced by our actions at the time. The priority for W2 and W3 is minimising urban damages, and by our actions all through that period that objective was achieved because we kept the dam as low as possible with the expectation for major inflows the following days.

30

And you say the way we work that out is to look at your actions and infer what your state of mind must have been; is that right?-- Infer what your state of mind - no, that was a conscious decision to keep the dam as low as possible.

40

All right. There's no record of those - well, I'm talking about changes of strategies according to the manual?-- Strategy of W3 is to minimise urban flood damage.

Yes?-- You do that by holding the dam as low as possible with the expectation for major inflows.

Can I take you to yesterday's transcript, page 5300, first of all? And yesterday you told me that both W2 and W3 have the same primary consideration, that's at line 38, or thereabouts, is that still your evidence?-- That's still my evidence and that's what's stated in the manual.

50

All right. The primary consideration is exactly the same for both?-- Exactly right.

All right. You also told me at page 5306 that as at the time of Mr Ayre's situation report, that's 5.58 p.m. on the 8th, you didn't think that anyone had decided that you'd clearly skipped W2; is that correct?-- That was my impression at the time.

1

That was your impression at the - as at the 15th of January? This is when you were writing the report, I think, the manual summary which you wrote?-- We didn't specifically address that, but when I put my summary together I thought that we had transitioned, that was my interpretation.

10

Well, yeah, that was your interpretation, but you didn't think anyone had decided that you had clearly skipped W2, that was your evidence yesterday?-- Well, that was my understanding, yeah.

All right. And-----?-- The other guys had a different understanding because they were actually there at the time.

20

But wasn't it the case that it was your impression that no-one was really sure when W2 or W3 was in play?-- That was my impression, but that's not necessarily their understanding.

You had that impression and no-one corrected it?-- That's correct.

All right. A failure to work out at the time whether you were in W2 or W3 would of itself be a breach of the manual, would it not?-- No, I don't think so.

30

You don't have to at least decide whether you're in 2 or 3?-- I don't think the manual specifies that.

So you could be in either or both at the one time?-- You can't be in both.

Well, then, do you not have to be in 1 at all times - in a strategy at all times?-- In a strategy, yes, you would be.

40

Yeah. So you have to be in either 2 or 3, don't you?-- Yes.

So a failure to determine whether you are in 2 or 3 would be a breach of the manual?-- Yes.

All right. And, of course, the method adopted in writing the March report ensured that if such a breach had occurred it could never be discovered?-- No.

Well, it did, didn't it, because the way it's written, the way it's been reconstructed, there's no need to consider whether anyone actually did have a moment of doubt as to which strategy was applicable, you just write it down to make it appear that a strategy was engaged at all times?-- No, I disagree with that.

50

And to pick up - anyway. The report was reviewed by some independent experts; is that right?-- I understand so.

Well, you know so?-- I know so.

Messrs Apelt, McDonald, Roads and Shannon have reviewed the March report; is that correct?-- I believe so. I have never seen their reports.

Never seen them?-- Except yesterday I saw them - or the other day I saw Mr McDonald's.

10

I see. What about the process of those reports being prepared, were you aware of any aspects of how that process was occurring?-- John Tibaldi was dealing with that and he was keeping - oh, it appeared to me that I was not involved in the process.

And it would follow from what you've told us so far that you had no concerns about it, about what they might find?-- No.

None at all?-- No.

20

At any stage?-- No.

Did you have any contact with any of those men, Messrs Apelt, McDonald, Roads or Shannon after the flood event?-- I recall meeting with Colin at some stage, I can't say exactly when, and I recall the only contact I had with Mr McDonald was a phone call in the last couple of months.

In the last couple of months? You mean of 2012?-- Yes - 2011, yeah.

30

Yeah?-- It might have been - yeah, this year, early this year, but not at any time last year.

All right?-- I talked to Mr Shannon on the phone at one stage too when I answered the phone and he was chasing John.

All right. Is that the extent of your contact with those gentlemen?-- As I said, I saw Colin several times but not to discuss the review.

40

50

What was it to discuss?-- I had some questions about some technical information. In particular Collin was an acknowledged hydraulics expert.

Was this to do with the January flood event or something completely different?-- No, no it has to do with the behaviour of Brisbane River in January 2011.

All right. Are you aware of any involvement that Mr Tibaldi had with Professor Apelt during the period in which the report was being reviewed?-- John would occasionally talk to Collin in the flood operation centre, but I can't recall specific details of those conversations.

10

How were you aware of the fact that the conversations were taking place?-- Oh, "G'day Collin, it's John."

And you say there were calls of this nature during this period?-- Yes.

20

The period perhaps from the-----?-- During - the period that we get.

Prior to the report being written do you recall that you had an exchange with Mr Roads?-- Yes, yes. I was after some information about flood volumes. Greg Roads had been part of the Wivenhoe alliance and I was after some design information that they used during that study.

30

All right. I'll show you this document. It records an e-mail exchange of 17 January 2011. Do you now recall this exchange with Mr Roads?-- Yes.

He'd written some supportive or he made some supportive comments; is that correct?-- Yeah, I don't recall them specifically. I recall hearing him on the radio one Sunday morning with Warren Bolland, but other than that I can't recall what those comments were.

40

It would appear that you've read something in the Australian that you were appreciative of; is that right?-- Yes.

And so sent him unsolicited expression of gratitude; is that correct?-- That's correct.

Yes. All right. It tender that.

COMMISSIONER: Exhibit 1071.

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ADMITTED AND MARKED "EXHIBIT 1071"

MR CALLAGHAN: And you may have just alluded to the other contact or some other contact you had with him. I'll show you

another e-mail of Friday, 11 February, 1.20 p.m. This is the further contact that you had with Mr Roads; is that right?-- And that is what I was alluding to previously.

1

Yes. I tender that.

COMMISSIONER: 1072.

ADMITTED AND MARKED "EXHIBIT 1072"

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MR CALLAGHAN: Finally, can I show you a document containing an e-mail trail from the 20th of February 2011. We've already seen a copy of that for the first exchanges in time, I think, or at least to the lower ones on that page when Mr Tibaldi gave evidence. The short point being that Mr Tibaldi sent you an e-mail saying, "Good news. Manual compliance" in the subject column?-- Yes

20

And he forwarded to you an e-mail which Professor Apelt had sent to him; is that correct?-- Yes.

And your response to Mr Tibaldi was, "Thanks for the advice as I was just about to sign the house over to my wife's name." Is that correct?-- That's correct.

I appreciate you may not have meant that literally, I understand-----?-- Of course not.

30

-----that may be a figure of speech?-- And I put that in context again as to my e-mail to John about the red pen. I mean, that's just my sense of humour.

Sure. Does it not suggest, though, that there may have been some concern that the Peer Review was going to find something irregular?-- No.

40

Some concern that they might have detected that the report was not, in fact, a record of what actually happened?-- No.

You had no such concerns?-- I had no concerns.

I suggest to you that you should have?-- I believe we achieved the best possible outcome for the people of Brisbane.

Do you appreciate that that's a completely different point?-- I know that, but I want to make that point.

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I tender that.

COMMISSIONER: Exhibit 1073.

ADMITTED AND MARKED "EXHIBIT 1073"

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COMMISSIONER: Mr Rangiah? Or Mr Dunning, do you have any questions?

MR DUNNING: I do not thank you, Commissioner.

COMMISSIONER: Mr Rangiah?

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MR RANGIAH: Could the witness see the situation report for 9 p.m. on Sunday the 9th of January 2011, it's Exhibit 24 Appendix E, page 21. On the second page of that document - you see in the second - sorry. Sorry, could you go back up to the first page. You see that in the second last paragraph there's a sentence that says, "Given the rapid increase in inflow volumes it will be necessary to increase the release from Wivenhoe Monday morning." Have you found that Mr Malone?-- Sorry, I'm just trying to track that.

20

The second last paragraph on that page?-- Sorry.

The last sentence?-- I just want to make sure I'm reading the right document.

It's on the screen?-- I prefer to read it, thank you.

30

Certainly?-- Yes.

And then the next sentence is, "The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam." You see that?-- I see that.

And did you write this situation report?-- Yes.

And did you mean what you wrote in that last sentence I took you to?-- Well, the objective of dam operations is to always minimise the downstream impacts, but you've got to take in context the circumstances under which that applies. I can understand there's some confusion about tense but-----

40

What is the confusion about tense that you are referring to?-- Well, "will be" and "the objective of dam operations is always to minimise the impact of urban flooding", but what I'm talking about is the expected urban flooding in the next day or two.

50

And what do the words "will be" suggest?-- I can understand how it suggests that "we will" go to this sort of situation, but that's not the case. We were already in that sort of situation of considering the impact of down to urban flooding and there's plenty of references in the document in the situation reports where we were doing that. I suggest that's just a very poor choice of words which implies that we were not considering it.

All right. Well, could the witness now see situation report the Monday, the 10th of January for 12 p.m. It's at page 28. And then if you look just under the heading "Wivenhoe Dam". It's on the next page. And the second paragraph under that heading "Wivenhoe Dam", have you found that, Mr Malone?-- I have found that.

And could you read the first sentence?-- "The objective of dam operations is to minimise the impact of urban areas, urban flooding in areas downstream of the dam and the current aim is to keep river flows in the lower Brisbane River below 3,500 if possible."

10

There you said the objective for dam operations is to minimise the impact of urban flooding?-- Yes.

There was a change in tense, wasn't there?-- There is a change in tense.

20

And that was quite deliberate on your part?-- No, of course not. Let's put it in context. When I wrote that Sunday night document I probably shouldn't have been on duty. I started 7 a.m. that day and this was 2100. So it doesn't surprise me that some of my wording is not clear. But certainly by 12 o'clock on Monday morning I had of had a good night sleep and my wording is quite clear.

And just - can you confirm that you also wrote this situation report for 12 p.m. on the 10th of January?-- That's correct.

30

And there was quite a deliberate change in tense, wasn't there?-- Well, that's obvious there is a deliberate - sorry, not a deliberate change in tense. There is a change a tense, certainly not deliberate.

Another change had occurred, hadn't it, namely, that releases from Wivenhoe had exceeded 1,900 CUMECS for first time at 8 a.m. that morning, that is Monday, the 10th of January?-- Yes, that's correct. That's the first time they had been exceeded.

40

And 1,900 CUMECS is the upper limit of the discharge allowed under strategy W1; is that correct?-- That's correct.

Now, when releases from Wivenhoe exceeded 1,900 CUMECS it could equivocally be said that strategy W1 was no longer being engaged?-- No. That's wrong. You've misinterpreted the manual.

50

Well, the upper limit of discharge under W1 is 1,900 CUMECS?-- That's correct. So if there is no flow coming out of the Lockyer and the Bremer you are able to release up to 9,000 - 1,900 without impacting upon the Fernvale and Mt Crosby - sorry, the Fernvale Bridge. So, no, that's not correct. The way you read the manual is wrong.

Well, perhaps so. You may have us misunderstood my question.

I'll try asking it in a slightly different way. Once releases from Wivenhoe exceed 1,900 CUMECS it is quite clear, isn't it, that the strategy has moved beyond W1?-- It had already moved beyond W1 when the water left has exceeded and that's quite clear in the manual. I take you to the bottom of page-----

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Could you just answer my question, Mr Malone?-- I believe I have answered your question. That is only one criteria you're considering.

10

But it is a criteria which clearly indicates that W1 is no longer being engaged?-- That's incorrect. An incorrect interpretation. You haven't taken into consideration all the other parameters.

All right. But even taking into account the lake level, regardless of the lake level a discharge of more than 1,900 CUMECS is by itself an indication that the strategy has moved beyond W1; isn't that correct?-- I disagree with you. You can't take it in isolation.

20

Now, I suggest to you that the change in language between the two situation reports that I've taken you to reflects the change in strategy from W1 to W3 within that period?-- It doesn't suggest it to me.

Now, could the witness see Exhibit 45 and paragraph 62. It is the case, isn't it, that 8 a.m. on Saturday the 8th of January 2011 there was only one flood operations engineer on duty?-- That is correct.

30

And what paragraph 62 indicates then is that you were the person who invoked strategy W3?-- We've since identified that that was incorrect.

But that's what the paragraph says, doesn't it?-- That's what the paragraph says and I acknowledged that in the first hearing when you were questioning me that that statement was incorrect.

40

So you were saying in paragraph 62 that you were the one who decided to bypass strategy W2?-- That was the reasons in the Flood Report. I didn't say that. That was the reasons in the Flood Report. Page 190 which we've just discussed.

Well, this is your statement?-- That's correct.

You signed it?-- Yep.

You read it before you signed it?-- I did.

50

All right. And I suggest to you that what you were saying in this paragraph was that you had made the decision to invoke strategy W3 and, further, that you had made a decision to bypass strategy W2?-- I was incorrect in making that statement because I wasn't on duty at the time.

COMMISSIONER: But how could you think you've done those



things whether you were on duty or not?-- Well, to put it in context, I wasn't diligent enough in reading my statement. I mean, that could have been very, very easily cleared up if I had of stated this occurred during Mr Robert Ayre's shift instead of mine.

1

But who produced this? I mean, presumably somebody else didn't write your statement for you, you must have given the information in it?-- I was given the - I was provided - I provided the information.

10

All right.

MR RANGIAH: Well, I wonder, Mr Malone, whether paragraph 62 could be partly correct. You see, could strategy W3 have been invoked during your shift, but during your shift commencing at 7 a.m. on Monday, the 10th of January?-- Absolutely ludicrous to suggest that and I would point to all the activities and all the evidence that happened during my shift on the 9th of January to suggest that we knew exactly where we were.

20

And I suggest that because it was during your shift commencing at 7 a.m. on Monday, the 10th of January that the rate of release exceeded 1,900 CUMECS for the first time?-- We've already said that.

Now, could the witness be shown page 157 of Exhibit 24 which is the Seqwater March report. Now, do you see that the entry for 9 a.m. on the 10th of January and that indicates, doesn't it, that the Wivenhoe lake level was 71.56 metres?-- Yes.

30

And at 10 a.m. it was 71.78 metres?-- Yes.

Now, is it the case that in the period from 9 a.m. to 10 a.m. there was more than two metres of storage capacity within Wivenhoe before it reached 74 metres?-- Yeah, about 2.2 metres.

I'm sorry, I didn't catch your answer?-- About 2.2 metres before it got to 74.

40

Thank you. Now, it would require very heavy rainfall across the Brisbane River basin to fill up that two metres capacity, wouldn't it?-- Yes.

At that time?-- From that point in time.

You agree with that?-- Yeah.

And in what order of rainfall would be required to fill up that capacity?-- I can't answer that right here, here and now. That requires some detailed calculations.

50

Would it certainly be more than 50 millimetres of rainfall?-- I don't know. It's not as simple as that. I mean, you've made something very complex very simple. It depends upon exactly where the rain falls in terms of time and space. For example, if it falls in one hour you get quite a different

volume as if it falls in 24 hours. If it falls in the lower Brisbane near the dam it's quite different to if it falls to the top end of the Brisbane or in the Stanley rivers so it's a very simplistic idea you have.

1

What about if there's something in the order of 50 millimetres in rain across the Brisbane River basin including the Brisbane, Stanley, Lockyer and Bremer catchments. Would that produce more than 2 metres of-----?-- We talk about volumes. We don't talk about depths. We talk about volumes. What was the volume between there and 73 or 74?

10

Where can we find that out?-- In the manual there's the stage storage there.

Does the manual indicate what the volume of water is required-----?-- No, no but it tells you the difference in volume between the EL 71.87 and EL 74.

Could the witness see Exhibit 21. And do you know where in the manual that would appear?-- I can't see Exhibit 21.

20

COMMISSIONER: Is this something you can leave with Mr Malone to look at over the morning break because it is just about time-----

MR RANGIAH: Yes, thank you.

COMMISSIONER: -----if that suits. If you make it clear what you want.

30

MR RANGIAH: Okay. I'll just make it clear that what I'm looking for is what order of rainfall over across the Brisbane River basin including the Brisbane, Stanley, Lockyer and Bremer catchments would be required-----?-- The Lockyer and Bremer don't go into Wivenhoe. So it's got nothing to do with the volume in Wivenhoe.

All right. Well, you can leave those out then. What volume would be required to produce a lake level of 74 metres compared to about 72 metres?

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COMMISSIONER: All right. Well, we'll leave Mr Malone with that and we'll come back at 20 to by that clock.

THE COURT ADJOURNED AT 11.20 A.M.

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THE COMMISSION RESUMED AT 11.40 A.M.

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TERRENCE ALWYN MALONE, CONTINUING EXAMINATION:

MR RANGIAH: Mr Malone, were you able to get that information?-- I have an estimate, but I would like to - with a lot of qualifications.

10

Yes. Could you explain what your estimate is and what the qualifications are?-- Okay. So between the two levels we speak about, 71.78 and EL 74, there's an approximate volume of 315,000 megalitres. Over a catchment area of 7,000 square kilometres, that translates to about 45 millimetres of excess rainfall. When you take into account losses that occur during the period you're anticipating, then that could be as high as 60 to 100 millimetres. It's a very rough estimate. Now, my qualifiers are that that 60 - that volume of that rainfall, I've only - sorry, the estimate that I'm looking at, the volume, only takes into account the available flood storage in Wivenhoe. It doesn't take into account the available flood storage in Somerset Dam. It also doesn't allow for reduction in releases in the intervening 24-hour - the period after the - so there - so there's those two qualifications. It also depends on where the rainfall falls in time and space. As I've said, it's particularly important whether we get that rainfall in a very short space of time when that runoff coefficient would be much higher, or it's spread over 24 hours. That would be also significant. So that's my estimate of how much rainfall would be required to fill that - just that storage in Wivenhoe.

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And that estimate of rainfall, as I understood it, was 60 to 100 millilitres is that; right?-- Yeah, and I also think the question trivialises - being asked to provide that information just with a calculator in a very short space of time trivialises my science.

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But your answer, as I understood it, was that your estimate is that it would take 60 to 100 millimetres of rain to fill that gap between approximately 72 to 74 metres in Wivenhoe Dam?

HER HONOUR: I thought Mr Malone said it could be as high as that, but he also give a figure of 45?-- No, that's the excess rainfall. That excess rainfall is the rainfall which is converted into runoff. Not all the rain that falls is converted to runoff. There's only a certain percentage of it. So first of all you calculate the volume of rainfall in terms excess of its excess, and then you have to scale it up to account for losses.

50

Presumably you have got a saturation of the catchment?-- You don't get 100 per cent runoff even if the catchment is saturated.

MR RANGIAH: In that statement you say you haven't taken into account the storage capacity of Somerset Dam?-- That's correct.

1

So that would suggest then something higher than 60 millimetres would be required in order to raise the level of Somerset 2 metres?-- No, that's - the question you asked me was how much runoff was required, and I answered it.

Yes. No, I understand that. But you said that one of the qualifications that you had was that it doesn't take into account the storage capacity of Somerset Dam?-- So in terms of rainfall, the rainfall figure would be higher.

10

Yes. And also you indicated another qualification was that it didn't take into account releases from Wivenhoe?-- Yes, that's right, because you'd be reducing the volumes.

So again that suggests something higher than 60 millimetres of rainfall would be required to increase the Wivenhoe level by-----?-- 60 to - yeah, more than 100 millimetres perhaps. I said 60 to 100.

20

So it could well be well over 100 millimetres of rainfall?-- Yes.

In practical terms required to raise the level of Wivenhoe 2 metres in circumstances where the dam is being operated - the flood gates are being operated?-- Yes.

30

Could the witness see one of the documents attached to Mr Drury's statement at page 333. If you go down to the second email on that page, was this an email sent by you to various people at 6.37 a.m. on Monday, 10 January 2011?-- Yes.

And then the email at the top of the page says that it's from the duty engineer, Monday, 10 January at 9.55 a.m. Did you send that email as well?-- I can't specifically recall, but it would look like something I would send.

40

In the first dot point it says that the current operational strategy is to aim for a flow of no greater than 3,500 CUMECS in the lower Brisbane River; do you see that?-- Yes.

In the next sentence, "Accordingly, the current outflow from Wivenhoe Dam will be held at its current level of 2000 CUMECS for the next 12 to 24 hours"; do you see that?-- Yes.

That flow rate of 2000 CUMECS and the aim of achieving a flow of no greater than 3500 CUMECS in the lower Brisbane River are both indicative that the strategy at that stage could be either W2 or W3?-- I think we've clearly established that it has to be W3.

50

But just looking purely at the flow rates and the rates of releases, it could be W2 or W3?-- If you want to look just at flow rates.

Then in the next dot point it's stated, "It would require in the order of 50 millimetres of rain across the Brisbane River Basin - this includes the Brisbane, Stanley, Lockyer and Bremer catchments - to go beyond the current operational strategy"; do you see that?-- Yes.

1

Then there are some qualifiers after that depending on various things like the spatial distribution, intensity and duration of the rainfall. This is an email produced from the Flood Operations Centre?-- Yes.

10

And you or whoever else produced this - who produced this email-----?-- I'm quite prepared to say I produced that. It looks like something I would do.

You have all the information and tools that you required to make that statement in the second dot point, didn't you?-- At that particular time.

Now, if the strategy that was then engaged was already W3, the only strategy that you could go to if there was more rainfall is W4?-- Correct.

20

And 50 millimetres, I suggest, would not produce a 2-metre change in the lake level of Wivenhoe that would require then a change into strategy W4?-- Well, as I said, that would depend upon the spatial distribution and the temporal distribution. If it all occurred within three hours, it could well.

And-----?-- My range here was 60 to 100 also, so that's consistent.

30

Yes. So if there was more than 50 millimetres of rain, that might produce 2 metres of fall - a 2-metre increase in the lake level that would require-----?-- It might.

-----you to go into W4?-- It might.

But you've also indicated that given the storage capacity of Somerset and the fact that water levels - water has been released from Wivenhoe, that it could require more in the order of 100 millimetres of range to meet the 2-metre increase in dam level?-- Yes.

40

And that's not in the order of 50 millimetres?-- Well, it is in terms of these order of accuracies when you're trying to forecast rainfall, yes - forecast runoff.

Well, I suggest to you-----?-- It's not an exact science. Forecasting is not an exact science.

50

Well, when you were talking about rain beyond the current operational strategy, what strategy were you talking about there? What would be the next strategy-----?-- W4.

So you are suggesting here, do you say, that it would require in the order of 50 millimetres of rainfall for you to go from W3 to W4?-- That was a rough estimate at the time, yes. I

can't recall how I put that together.

1

Well, can I suggest to you that the more likely explanation is that you were talking there about something in the order of 50 millimetres of rain to go from W2 to W3?-- No. No, by that stage we were well and truly into flood mitigation range.

And I think you indicated earlier that when you talk about the Brisbane River Basin, that doesn't include the Lockyer and Bremer catchments?-- No, no. I said that water doesn't flow into Wivenhoe Dam.

10

So when you talk about 50 millimetres of rain in this sentence, you're not necessarily just talking about flows into Wivenhoe Dam. Now, correct me if I am wrong, but I understood some of your evidence earlier to be that - to the effect that on Saturday, 8 January, to Sunday, 9 January, the flood operations engineers held down the Wivenhoe level as low as possible with the expectation of major inflows?-- Yes.

20

Do I understand your evidence correctly?-- That's correct.

But you'd agreed that the release rates did not reach 1900 CUMECS until 8 a.m. on 10 January?-- That's obvious.

The rates could have been significantly higher in the period from the Saturday morning until the Monday morning under the W3 strategy, couldn't they?-- Yes, but we would have been making flooding worse - downstream flooding worse, so that's - at that stage, during that Saturday, flood mitigation obviously being the highest objective, was very much under control. So then you consider lower level objectives. At that stage we had the capacity to consider those lower level objectives, given that we'd completely satisfied the primary objective.

30

But your statement that the flood operations engineers were holding dam levels as low as possible is not correct, is it?-- Yes, it is, within the constraints that we had at the time. That's my opinion anyway. I wasn't there, but that's my opinion.

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That wasn't a qualification that you had on your answer earlier, was it?-- No, it wasn't a qualification. You're right.

Thank you. I have nothing further.

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MR MURDOCH: Mr Malone, Jim Murdoch is my name. I'm counsel for the Mid-Brisbane River Irrigators' Association.

Your Honour, could Mr Malone please be shown RD-5, 327, please.

Mr Malone, you'll see that that was sent at 9.46 a.m. on

Monday, 10 January 2011. The sender was Daniel Spiller, the director of operations of the Seqwater - he was the Seqwater grid - director of the Seqwater grid manager. You'll see that there was a list of recipients and another list of persons who were copied in. Heading the list of recipients was Stephen Robertson, Cabinet Minister, and various other senior persons in police, government, and copies were sent to persons at various agencies with interest in the event. Did you receive a copy of that at or about the time it was sent?-- No.

1

You've since seen it, I take it?-- I'm aware that such a document exists, but I can't - and I'm aware of the general context of it, but I can't recall specifically seeing it.

10

Would you agree with me that it appeared to be a very important communication in the context of the events that were occurring on 10 January 2011 and in the context of the interest that persons such as the relevant Cabinet Minister had in those events?-- I can't propose what importance other people assigned to this.

20

Do you see in the third dot point that it says, "As specified in the approved operational procedures, the primary objective is now to minimise the risk of urban inundation (release strategy W2). This involves larger releases now, minimising the risk of even larger releases later (were the flood compartment to reach high levels)." That would seem to suggest that Mr Spiller was of the belief at 9.46 a.m. on 10 January 2011 that the strategy in use was W2, wouldn't it?-- He's written it. I don't know what's in his mind.

30

No. But as I understand your evidence, strategy W2 was never in use during the event?-- That's correct.

And indeed, the strategy had moved to W3 as early as 8 a.m. on the preceding Saturday?-- Correct.

So that you'd agree with me that if that's correct that it had gone to W3 at 8 a.m. on the previous Saturday, that there was a significant disconnect between the Flood Operations Centre and the persons who had responsibility and accountability to the people of Queensland in relation to the flood?-- I believe that to be the case, and I stated so in my first statement.

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And I would ask that you be shown RD-5, 321. You'll see that that was the final email in the chain shown on that. It was from Dan Spiller - sorry, from Rob Drury to Dan Spiller at 8.23 a.m. on Monday, 10 January, only a matter of a little over an hour before Mr Spiller had sent out the email that I showed you a couple of minutes ago. The general email was at 9.46 a.m.; this one that you now have on the screen was sent at 8.23. This communication from Rob Drury answered a specific question in an email from Dan Spiller. The question was, "Are you now operating under release strategy W2 or W3?" The answer was "W2." Do you see that?-- I see that.

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Does that suggest that Rob Drury was also very wrong in his understanding of the strategy which was in use in relation to

Wivenhoe Dam on the morning of Monday, 10 January at 8.23?--  
It does suggest that.

1

As a person involved at the operational face of the flood  
control centre-----?-- Operations Centre, please. We don't  
control floods.

I apologise for the inappropriate use of description, but I  
think we understand the centre we're talking about, don't we:  
Flood Operations Centre. You're there at the cutting edge on  
your appropriate shift. Do you have any view as to how there  
could be such an apparent disconnect between what was  
happening in that centre and the person who occupied the  
position of dam operations manager, Mr Drury?-- I don't know  
where Rob was at that time. I can't remember where he was.  
There is a disconnect, and that's what I firmly believe, that  
the flood operations engineer should be issuing the  
information directly rather than through lots of chains.

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But you see, this wasn't a matter just of timing in relation  
to W2, was it? Because as you explain it, W2 was never in  
use?-- Well, I don't know where he got it from.

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Your Honour, might Mr Malone see that part of Exhibit 430  
which is styled "Flood Control Centre event log". That's  
RD-5, 1677.

Mr Malone, in the top left-hand corner there's a table which  
provides a series of full names of duty engineers. You're  
obviously the "TM"?-- Yes.

30

And you've, I take it, seen this document previously?-- Only  
in the last few weeks.

Never seen it before?-- I can't recall seeing it before.

Did you know of its existence before you saw it in recent  
weeks?-- Did I know of its existence?

Mmm?-- I can't say for sure whether I knew of its existence.  
There's lots of documents. It's an odd question. I can't  
understand it.

40

You see it's described as the "Flood Control Centre event  
log"-----?-- Operations Centre.

I'm just going on the name used in the document. You see  
that's how it described?-- Yes. That's how it used to be  
described about three or four years ago. I guess it's taken a  
long time for people to appreciate that change. Because I  
think it's a very important point to make that we don't  
control floods, and that's - when I first got involved that  
was one of the first things I made us do; change the name.

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Well, have we established that before we get beyond the first  
page that there's a significant error, in your view?-- Yes.

As we go into it, I would like to take you to page 1692. At



12.34 on Friday, the 7th, you see a reference to Wivenhoe directive 1 and then in the column headed "D" a reference to directive strategy W1C; do you see that?-- That refers to line 64. It's a difficult document to read on the screen, because there's different parts in different-----

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HER HONOUR: Do you have a hard copy of it, Mr Murdoch? It is hard because it won't show up all at once.

MR MURDOCH: Your Honour, I apologise. The only hard copy I've got the one I've-----?-- I put together this document in a form that I can read it.

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There is one here at-----

HER HONOUR: Mr Malone, I just want to make sure you're looking at the same thing, so would you just check that this document is what you've got there?-- Sorry, what time was that again?

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MR MURDOCH: 12.34 p.m. on the Friday. In column C-----?-- I haven't found it yet. Yes.

Wivenhoe directive 1; have you got that?-- Yes.

Then in column D a reference to directive strategy W1C?-- Yes.

Then in the far right-hand column we have the initials that show the particular operator. Is that the way the table is drawn?-- I'm a little bit confused as to how the table is put together, because there seems to be a bit of a mixture of flood officers and flood engineers in that initials column.

30

And your point being that "TM" is flood engineer; "LBB" is a flood officer; is that the point?-- Yes.

If we go on then to RD-5, page 1695, you'll see that there's Wivenhoe directive number 2, 9.53 p.m. There's a reference in column D to directive strategy W1D, and the initial is "MT". Then if we go to the next box we see a reference to Saturday, 8 January, 4.55 a.m., issued Wivenhoe directive 3, then we track over to directive strategy W1D. Are you in a position to say whether - so far as the strategies I've taken you to thus far related to the directives 1, 2 and 3, whether you accept that they were the strategies that were in use at the time specified?-- Well, certainly probably up to strategy 1C I could agree with that. But after that, at 9.53 that evening I wasn't on duty, so that was - I don't know where that strategy 1D came from. But I would certainly agree we're up around 1C by midday on that, Friday.

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50

And so far as that 4.55 a.m. directive 3 on the Sunday, is your answer the same: you don't know whether it was W1D or not?-- No.

And you will see on the - going over to page 1698, on Saturday, 8 January, 8 a.m., Wivenhoe directive 4, in column D we see "directive strategy W1D". Are you able to say whether

W1D was the strategy pursuant to Wivenhoe directive 4 at 8 a.m. on Saturday?-- No, I believe it should have been strategy 3 by that stage - W3.

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And if we go down to the - further down the page we see Sunday, the 9th, Wivenhoe Directive 5. If we go over to column D, there's a reference there to strategy W1-E. I take it that you would say that that also is incorrect?-- Yes.

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The 4.30 a.m. item on the Sunday, Wivenhoe Directive 6, if you track that over we see again a reference to strategy W1-E?-- Sorry, what date was that - time was that? Wivenhoe Directive?

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4.30, 4.30 a.m.?-- On the 9th, 4.30 a.m.?

Yes?-- Yep.

Directive 5?-- Yep.

Going over to page 1701?-- Sorry, I don't have the page numbers on here so it's making a bit difficult to-----

Oh, sorry. Okay. If you go down to the Sunday, which is on the following page, would you look for Wivenhoe Directive 7?-- Yes.

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10.30 a.m. That column D refers to strategy W1-E. I take it you disagree that that was-----?-- I disagree with that, yes.

You disagree with that. And you see if we go to 3.50 p.m. there's a reference to a conference held at the-----?-- That's 3.30 p.m.?

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I'm sorry, yes. You can see the reference to the conference?-- Yes.

And you see in column D, "Situation Report - Strategy W2"?-- Yes.

You see you're shown as being one of the attendees at the conference, you agree with that?-- Oh, yes, sorry.

And you will see that there's discussion in the commentary about the potential of closing the Fernvale Bridge and the Mt Crosby Bridge?-- There is a discussion about that.

40

Discussion about closure of the bridges or the potential to close them would appear to be consistent with moving out of strategy W1 into strategy W2?-- Not necessarily.

Not necessarily?-- No, not at all.

Is it not the case that your evidence is that there was a move out of W1 and W3 at 8 a.m. on the previous day, the Saturday?-- That's my evidence, my understanding of what occurred at that particular point in time.

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So that the following day, in the afternoon at 3.30 p.m., if this description of the meeting is correct, there was still discussion about the potential to close those two bridges?-- That's correct, and if you look at the manual it always says

if you've met the primary objective you can still consider lower level objectives.

Mmm?-- Now, quite clearly at that particular point in time we had met the lower level objectives of mitigating urban flooding in the lower Brisbane River. So we were able to consider the lower level objectives of keeping the bridges open.

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And, again, that's entirely consistent with a discussion related to a move from W1 to W2?-- No, that's not what the entry there says. It says, "We are operating at", it doesn't say what the strategy is.

I'm sorry, I don't understand the distinction?-- Well, it says - I mean, Mr Rangiah has made a very firm - he's of the view that because it's 1900 we are operating at W1, but that's not the case. Here we're saying that at this particular point in time these are the conditions, we are fulfilling the releases and levels, or particularly releases, at that particular point.

20

Look, when it says in the part that you've referred to, "At this stage operating at the top of W1 and the bottom end of W2," is that something you accept as correct?-- That was in terms of the releases, yes, but not in terms of strategies, no.

W1 and W2 are labels that identify particular strategies in the manual, aren't they?-- They are.

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And if we go to WD, it-----?-- Sorry, W-----

Sorry, column D, it refers to strategy W2, doesn't it?-- At that particular point in time that's what this document does.

Well, do you agree that as at 3.30 p.m. on Sunday, the 9th, that the strategy in use was W2?-- No.

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Now, if we go further, there's an entry for 5.51 p.m. on Sunday, the 9th, and in column D it refers to, "Situation Report - Strategy W2", was that the case at that time?-- No.

No? And-----?-- You are asking me to comment on a document which I didn't put together.

No, I'm asking you whether you agree or disagree with what the document says?-- I disagree with it.

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And so far as the "TM" is concerned, do you accept that that's an indication that you were on duty at that time?-- Yes.

And you were the senior person on duty at that time?-- I was still officially the - no, I'm never - I wasn't the Senior Flood Operations Engineer during this event, I was a Flood Operations Engineer.

We're at cross-purposes, sir, I meant on the shift?-- I was  
in charge of the shift at that particular point in time.

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So you would say that the spreadsheet item purporting to be  
5.51 p.m. on the Sunday misrepresents the strategy that you  
were using at the time?-- Definitely.

Then if we go down you will see there's a further box that  
doesn't have a specific time, but in column C the first line  
reads, "Somerset Dam, full supply level," et cetera,  
et cetera, do you see that?-- I see that.

10

And then there's a reference to "Situation Report - Strategy  
W2"?-- That's incorrect.

Incorrect. Do you see the comment at the bottom of that box  
under the heading, "Impacts downstream of Wivenhoe Dam"?

COMMISSIONER: Have you found the commentary, Mr Malone?--  
Yes, I've found it, yeah, yeah, yep.

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MR MURDOCH: All right. It suggests there was still concern  
being shown for the various downstream bridges?-- Yes, of  
course, that's consistent with the application of W3.

Okay. If we go then to 7.15 p.m. on the Sunday, see the note  
in column D is, "Strategy W2 - transition to W3" and, again, I  
take it you disagree?-- I disagree with that. By that stage  
there was absolutely no doubt.

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Okay. And then Sunday, the 9th, 9.04 p.m., if we go to column  
D, we have a "Situation Report - Strategy W3"?-- Yes.

And I take it that you would agree with that?-- I would agree  
with that.

Now, you've said you don't know anything about this particular  
document that's styled "Flood Control Centre Event Log"; you  
don't know who drew it up?-- I have my theories.

40

What's your theory?-- I've been asked to look at this  
document and make some comments on who I believe authored it.  
It's certainly not a style I recognise, but when I look at the  
log I noticed that Rob Drury was in the Flood Operations  
Centre at the time-----

Yes?-- -----and when I saw the e-mail to which this document  
is attached, I also noticed that he sent it directly to John  
Tibaldi and it's just signed "Rob".

50

Yes?-- Now, that's - and I could only then deduce from that  
that that was Rob Drury sending it to John Tibaldi.

So that your theory is that the author was Mr Drury and that  
it would follow that the series of errors which you say appear  
in this event log can be traced back to him?-- I'd say so.  
But, of course, it's not the event log we were using. It

looks to me that he's cut and paste bits out of the event log that we were using.

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So that there's no misunderstanding, can you tell me what you mean when you say "the event log we were using"?-- Well, to me this looks like a document that Rob has constructed-----

Yes?-- -----styled on the event log, but the actual event log we were using during the event was not this document.

10

All right. Now, again for clarity, the event log you were using was it a handwritten log?-- No, it was a spreadsheet.

A spreadsheet. And what was it described as, if it had a description?-- Event log.

Event log?-- Mmm. And at times there were two event logs going because there was so much communication coming in and going out. We had two flood officers who were working on the event log and had two versions open.

20

And was there a system whereby those event logs were consolidated?-- At the end of the event.

Sorry, at the?-- At the end of the event for the purposes of putting them into the report.

What, as of March 2011?-- For this report those two event logs were consolidated and put into the document.

30

I see. So are you suggesting that Mr Drury had attempted to consolidate those event logs?-- No, I-----

No?-- -----can only surmise that he was trying to put together a summary of the event in this format.

In putting together such a summary, where should he have gone to find a record of the strategies that were in use at particular times during the event and, in particular, the times and dates on which strategies changed?-- I can't recall them, with the exception of W4, ever being specifically written down.

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Why was that?-- It's not something which we consciously think of in terms of, "Oh, now we are moving from one strategy to another." It's a gradual phasing change. I mean, whilst there is some guidance in the manual, for example, the level is quite specific, you move from this to that, but in reality, I mean, if you are at, for example, 39.49, you're right at the top edge of W1, but if you move into 68.51, then you are obviously in W2, W3, but for all practical purposes you've met the obligations of W2, W3 in your - you've achieved flood mitigation, so the priorities then become the lower objectives, and it gets very messy if you want to start writing down, "We're in W3 but my primary objective has been met, therefore, I will look at bridges." We just don't do that, it's just too time consuming.

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When you say "too time consuming", you surely don't mean that, do you? How long does it take to key in-----?-- When you're trying to ascertain-----

-----W2 or W3?-- It's just not something we've done in the past. Certainly it's the practice we're going to do in the future.

10

Did it not occur to you when you were on duty during the event that there were many people in the State who had a real interest in knowing in a timely way what the particular phase of dam operation was at any particular time?-- No, I don't believe so. I don't believe too many people had read the manual up until that stage. I mean, we had three floods in October and December and we were still getting questions from organisations which had not read the manual. So the use of strategies W1, W2, W3, W4, I would suggest, meant very little outside of the Flood Operations Centre.

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You didn't think at the time that, for example, the Cabinet of this State-----?-- Sorry, Cabinet?

Cabinet Ministers had an interest in knowing what the prevailing strategy was?-- Cabinet?

Well, the Minister, responsible Minister, and his Cabinet colleagues?-- I doubt whether he would have understood what it was anyway.

30

Wouldn't have understood, I see. And the operators of the dam?-- Who?

They're familiar with the-----?-- Sorry, the operators of the dam, who do you mean?

Take Mr Drury, for example, Mr Spiller?-- He's not an operator of the dam.

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All right, he's not an operator of the dam. Have they got an interest in knowing what's happening at the dam?-- They should have, yes.

Should have, okay. Do you think they would understand the strategy labels in the manual?-- I don't know, you would have to ask them.

Sir, do you seriously suggest that those senior professionals wouldn't have an understanding of the strategies in the manual?-- I don't know.

50

You don't know, I see. Was there a deliberate policy to write nothing down in a timely way so that there was no basis upon which others could scrutinise your actions?-- Not - of course not.

Of course not. You can see where it's led though, can't you,

in that-----?-- It's led here.

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Well, it's also led to other professionals such as you say Mr Drury drawing up this Flood Control Centre Event Log,

creating a document that you say is riddled with errors?-- Yes, it is.

But apart from that, the debate over when there was a move out of W1 to W2 or W3 has practical consequences, doesn't it, because-----?-- No, it doesn't necessarily have practical consequences. If you've met the objective of achieving flood mitigation there are no practical consequences.

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Isn't the fundamental consequence of moving from W1 to W2 or W3 a shift in priorities from keeping those bridges open to the priority of protecting the downstream areas from flood inundation?-- That would be your first priority. Now, once you've met that requirement, then you consider the lower requirements. Now, it's obvious - it's obvious that during that Saturday we met that primary requirement. There was no chance of urban flooding from the rainfall we had had up until that stage, so we were able to consider the lower level objectives and that's what the manual allows us to do.

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The manual allows you to do it, but nonetheless the suite of priorities is quite different moving from W1 to W2 or 3, isn't it?-- Yes, and we met those requirement.

Look, you've made that point very firmly, sir, but the fundamental in the manual is that whilst you're under W1 there has to be sufficient control of the outlets from Wivenhoe Dam to ensure that the bridges remain open; correct?-- Yes.

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When you move from W1 to W2-----?-- Two or 3.

Two or 3. Sorry, from W1 to 2 or 3, there's not that same constraint on the releases from the dam?-- No, but you don't want to then release water unnecessarily if you've met your primary consideration and that's just a nonsensical way to operate a flood mitigation dam to make things worse downstream than you need to make them.

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I think everyone understands that, but the significance is that under W1 necessarily there have to be constraints on the amount of water being released from Wivenhoe Dam?-- Ye

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That constraint isn't there when you move to W2 or W3?--  
Let's just address that practical issue. Let's say we move to  
- we have moved to W3 at 8 o'clock on Saturday morning.

Yes?-- And we go to this proposition that we're going to open  
up the gates and release 3,500 all of a sudden. In a few  
short hours the levels will drop below 68.5 and we're back  
into W1. The levels go up above 68.5 we open up the gates,  
again release more waters, the levels drop below 68.5 and  
we're back into W1. I mean, practically that's just a  
nonsensical way to operate the dam.

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I'm not going to waste time having this debate any longer, but  
the point is once the bridges have been submerged the bridges  
have been submerged, haven't they?-- Not all of them, no. We  
hadn't inundated the Brisbane Valley Highway or Mt Crosby Weir  
at that stage.

And that's because there were constraints on the release of  
water from Wivenhoe?-- We were managing it to meet our  
multiple objectives after the primary objective had been  
achieved.

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Nothing further.

COMMISSIONER: Mr MacSporran?

MR MacSPORRAN: Thank you, Commissioner. Mr Malone, my name  
is MacSporran. I appear for the State and Mr Ruffini. Can I  
take you to the manual, Exhibit 21, briefly?-- To the sorry?

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The manual, Exhibit 21. And page 22, section 8.4. And this  
section deals with Flood Operations strategies, does it not?--  
It does.

And they're set out in there in dot point form and the manual  
dictates that the objectives listed in descending order of  
importance are then set out?-- Yes.

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The next sentence reads this way, does it not, "Within any  
strategy consideration is always given to these objectives in  
this order when making decisions on dam releases."?-- Yes.

So whichever strategy you were in, whether it be W1, 2, 3 or  
4, the objectives are always considered in that order?-- All  
the time.

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From dam safety down?-- All the time, yes.

So if you're in W3, for instance, you are required to consider  
all of these objectives but in that order?-- Yes.

So W3, the most important objective is to ensure dam safety?--  
Always.

And the least important is to maintain or minimise disruption to rural life, et cetera?-- No, the lowest objective is to in minimise the impacts of riparian fauna.

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Yes, but when you're in, I suppose, W3 that certainly is a release significant priority?-- But certainly W3, yes.

And when you're in W3 you still have as a priority, albeit not as a significant one as those above, to maintain some of those bridges being open?-- That's right.

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That's what happened in this event from your knowledge of how it was managed?-- On that Saturday, yes. So we met the primary objective being the - certainly we met the objective of ensuring structural safety of the dam. That wasn't an issue and it didn't need to be written down and then we were considering the other objectives.

And when it says "within any strategy you always give consideration to those objectives in that order", that's how you manage within a strategy your releases, you release rate, being mindful of those objectives in that order?-- Yes, either side, yes.

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So whichever strategy you are adopting you're not obliged, obviously, to gauge the maximum permissible rate of release for that strategy?-- Well, that would be nonsensical. You're make things worse often.

And as you've explained if you did that you would create flooding downstream, in this case in W3?-- Yes.

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Then the lake level would drop below the W3 threshold?-- Trigger level.

You then shut the releases off. You are back in W1 and then necessarily this event had to transition back to W3 and beyond?-- Exactly.

So you'd be sending a series of flood pulse ways down the Brisbane River?-- It could possibly do that, yeah.

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Now, can I take you to the report Exhibit 24, page 13?-- Sorry, what page was it?

Page 13, sorry?-- Thank you.

Which deals with the events of that Saturday morning. Page 13 you'll see deals with the period Friday afternoon at 3 o'clock through to Saturday 2 o'clock in the afternoon. Now, just pick up the sense of this, it gives information about the transition through W1 D to E and then from W1 E to strategy 3. That's by way of background to what actually happened. Now, whatever is contained in Exhibit 430, that's the log that Mr Murdoch was taking you through, which is you say contains what you say are a series of errors about the W numbers attributed to various stages, whatever is in that log Exhibit 430 can't change the objective facts, can it, about

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what the lake levels were at various times, what the flow rates were and so on?-- That's exactly right.

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It's easy to check the accuracy of what's in 430 by going to those objective facts, is it not?-- Correct.

And those objective facts are retained within the system?-- They're not lost.

In the operation centre computer system?-- Yes.

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So we see here at page 13, we see from data that was captured at the time and can be checked, we see that there was a transitioning from W1 D to W1 E and said to have occurred at 2200 on Friday night which is 10 o'clock because the lake level exceeded 68.25 metres?-- That's correct.

Now, that's an objective fact that can't be denied; is that so?-- I wouldn't have thought so, but.

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Because you can check from the data retained what the lake level was at 10 o'clock on Friday night?-- Indeed. And what hasn't been mentioned perhaps is that we get e-mails from the dam operators with these levels in them every hour.

And that information goes into your spreadsheet, your operational spreadsheet that you're working on in the operation centre?-- Yes.

And then is retained by the system and can be checked at any stage. And the manual dictates that once the lake level exceeds 68.25 metres, which it did at 10 o'clock on the Friday night, you were then in strategy 1 E - W1 E?-- Yeah.

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And then in terms of objectively what happened next we see that the lake level went beyond 68.5 at 8 o'clock on the Saturday morning, the 8th of January?-- No-----

Again, that is a fact?-- It's a fact.

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And the manual dictates that once that happens you are in strategy W2 or 3; is that so?-- That's right.

It's not a matter of Mr Ayre's described it I think in the words to say the strategy is imposed upon you rather than chosen, in that sense?-- In that sense, yes.

Because once the lake level goes over you've got no choice?-- But to consider a higher - the higher objective.

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And that is said to have occurred, and we can check the levels, the lake level goes to 68.52 at 8 o'clock on the Saturday morning?-- Correct.

Now, you are then in - you then have a choice or the situation as you are then in W2 or W3. And what governs which one of those two you are, in fact, operating under is the naturally occurring peak flows at Lowood and Moggill downstream of the

dam?-- Yes.

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And if you are in the operations centre and actually operating this dam by controlling the releases, you would have access to data on your operations spreadsheet which would immediately tell you what the naturally occurring flows were expected to be or were at Lowood and Moggill, would you not?-- They are estimates but, yes, they're our best estimates available.

And you can see from page 13 and I think it's confirmed later in the report that at that time or thereabouts the Moggill and Lowood peaks - the Lowood and Moggill peaks were 530 and 770 CUMECS?-- Yes.

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Now, at that time, that is around about 8 o'clock, thereabouts, when the lake level goes over 68.5 and you're into strategy two or three, the release rate from Wivenhoe is over 900 CUMECS; is it not?-- It's 940.

Now, what does that tell you, if you are looking at it as an operator of this dam, physical operator of this dam, what does that tell you about which strategy you need to be in of-----?-- We should be in W3.

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And is that because the combined flow rate at Lowood and Moggill, taking into account the Wivenhoe releases, are well in excess of the requirements of W2?-- Exactly. So add those 940 onto that 530.

Now, I understand you weren't on shift at 8 a.m.-----?-- I wasn't.

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-----on the 8th of January. But just for a moment assume you were at the dam centre, the operation centre at that time you would have had access to that data, would you not?-- I would of.

You'd be able to check the lake level, you'd see it would go over 68.5 and you'd have on your spreadsheet the data that reflected the flows at Lowood and Moggill?-- Correct.

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And looking at that data you would be directing your mind to the issue of what strategy you were, in fact, operating the dam in?-- Yes.

Now, you wouldn't at that time, I imagine, have a copy of the manual open beside your computer console?-- You may well do. I mean, I recall several times throughout the event referring to the manual often.

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But you have, with the experience you have, a familiarity with the terms in the manual?-- Yes.

You'd know the basic requirements of the lake levels and the flow rates-----?-- Yes, 68.5.

-----to determine which strategy you're in?-- Yes.

So you wouldn't need, I assume, to turn to the manual to see what were the requirements of W2 or W3?-- No.

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You would be aware of them by the data you had looked at and the decisions you made as a result to either increase the flow rate, throttle it back or leave it alone?-- Leave it alone.

You wouldn't have to formally articulate which W strategy number you were in, would you?-- No. And, as I said, the line is not black and white. It's a little bit fuzzy. Even though the level is quite clear, but.

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Now, once you have, in fact, been operating the dam in, say, strategy W3, your goal then is to regulate the release rates from the dam, bearing in mind all of the data including forecasts, upstream and downstream of the dam to at that stage minimise urban inundation?-- Correct.

And you do that for as long as you can, bearing in mind at the same time the need, if you can do it as a lower objective, to keep those two main bridges open?-- Exactly.

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And that's exactly what happened in this instance, is it not?-- Up until every rainfall started on the Sunday.

W3 was operated from about 8 a.m. on Saturday the 8th of January until it was realised on Sunday night that the lower level of objective of keeping those bridges open was no longer feasible?-- Correct.

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Arrangements were then made to close the bridges and that was done around midnight or the early hours of the Monday and the releases were ramped up to inevitably put the bridges out of action and concentrate on minimising flow downstream?-- That's correct.

COMMISSIONER: Mr MacSporran, I'm just worried that Mr Malone's answers aren't exactly giving you any pause and it's a bit tough on the reporter.

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MR MacSPORRAN: I'm sorry.

COMMISSIONER: Can you slow it down a little between the answer and the question.

MR MacSPORRAN: My apologies. So that was done. If we look at the data it indicates that a conscious appreciation was gained at about 7 o'clock on the Sunday night, that it was going to be necessary to inundate the bridges. I think you have to answer so it can be taking down. I can see you nodding, but the recorder might not?-- That's correct.

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Thereafter that was done and that lower level objective was no longer necessary to consider?-- It wasn't a consideration after that.

So, again, your priority still started from dam safety down and you've jettisoned the bridges although they're still on

the list for consideration of some sort?-- And that's a part of advising people of what's going on.

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And then ultimately, as we know, that objective, because of the rainfall that we now know occurred on that period it wasn't possible to remain in W3 either with the release rates?-- Eventually.

And you had to transition to W4 with the inevitable flooding of Brisbane; is that so?-- That's correct.

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That was entirely appropriate, I suggest to you, because you didn't have the knowledge of what rainfall was actually going to occur?-- You never do.

And because you never do with certainty you are required to be conservative with your release rates, aren't you?-- First do no harm.

And, indeed, this event we're now talking about was the first time we've heard today in evidence, I think, that the release rates from Wivenhoe actually exceeded 2000 CUMECS?-- I believe so.

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That gives some idea of the magnitude of this event?-- Yes.

Nothing further. Thank you.

COMMISSIONER: Thank you, Mr Sullivan?

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MR SULLIVAN: I don't have any questions, Commissioner.

COMMISSIONER: Mr O'Donnell?

MR O'DONNELL: I do have some questions. Can you have the manual opened at page 26, please. I just want to follow some of the questions you were just being asked about how the change of strategy occurred at 8 a.m. on the Saturday morning. If you look on page 26 the last sentence on the page, "If the level reaches 68.5, switch to strategy W2 or W3 is appropriate."?-- Yes, I can read that.

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You said in answer to Mr MacSporran the change in strategy that occurred at 8 a.m. on Saturday morning was imposed on you, not chosen?-- That's correct. According to the manual.

And do you understand - or was it your understanding as a flood engineer it was imposed by virtue of that command at the foot of page 26?-- That's what Rob would have had to have done at that time.

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In other words, as you read the manual as a flood engineer - and this is how you read it in early 2011 - once the water level crosses 68.5 there is an automatic transition to a higher strategy?-- To higher considerations also.

Not by virtue of an election of the flood engineer, it is an automatic because that event occurred?-- Yes.

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The role of the flood engineer is then to commence to use the higher strategy in managing the dam?-- As appropriate to the rainfall and expected inflows.

What's said in the Flood Report is that the W3 was commenced to be used from 8 a.m. on Saturday morning and used throughout that weekend?-- Certainly throughout the first 24 hours.

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It's implicit in the questioning that's been put against you that all four flood engineers overlooked the significance of the transition to a higher strategy during that weekend, that is, none of you appreciated that there had been a triggering of a transition to a higher strategy. You all continued to operate the dam over that weekend in a W1 - using W1?-- No.

Can you comment on that, please?-- Sorry?

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Can you comment on that?-- I don't think that's the case because we were always cognisant to what the dam level was. We were getting e-mails every hour, so how could you not realise that it was above 68.5.

In the manual there are three key lake levels, are there, from 67-----?-- Core supply level.

-----68.5 and 74. That's right, isn't it?-- Yes.

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They're fundamental in operating the dam?-- They are fundamental in the way we operate the dam and our understanding of it.

Can you comment on the likelihood - sorry, I'll start again. You work with Mr Ayre?-- Yes.

In managing flood events?-- In the past, yes.

He's a very experienced flood engineer?-- Yes.

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Can you comment on the likelihood that Mr Ayre on that Saturday morning might have overlooked that the lake level, having leached 68.5, had triggered a need to start to use a higher strategy?-- It would be very uncharacteristic for Rob. He's a very particular fellow.

You said when you're managing a flood event you have the manual at hand and refer to it from time to time?-- Indeed I do because one of the important things is when you are operating the gates is the sequencing. That's not something you can remember. You have to refer to the manual to see what the sequence of gate operations is.

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Have you seen Mr Ayre when he's been operating or managing a flood event referring to the manual?-- I haven't because I've never been actually on duty with Mr Ayre except for that short overlap on that Sunday night.

What about the other gentlemen, the other flood engineers?--  
Certainly - well, there's only been the one occasion where  
we've had two engineers on at the same time and certainly John  
Tibaldi was referring to the manual during that.

You were on shift on a number of - sorry, you shared a number  
of shifts with John Tibaldi during that flood event?-- With  
John, yes.

And you saw him referring to the manual?-- Yes.

Can you comment on what's the likelihood, in your experience  
of Mr Tibaldi, that he might have completely overlooked that  
the lake level reaching 68.5 had triggered a need to  
transition such as to use a higher strategy?-- I would have  
thought that would be extremely unlikely given that John was  
the primary author of the manual. He would have appreciated  
that 68.5 was a key trigger.

I see the time, Commissioner.

COMMISSIONER: Is that convenient? All right.

THE COURT ADJOURNED AT 12.57 P.M. TILL 2.30 P.M.



THE COMMISSION RESUMED AT 2.30 P.M.

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TERRENCE ALWYN MALONE, CONTINUING:

MR O'DONNELL: I want to now take you to Sunday, the 9th, the shift that you worked from about 7 a.m. to 7 p.m., and also the period during which you remained on duty I think until roughly 10 p.m. assisting John Ruffini with any issues. What I wanted you to go through is the information available to you during that shift as it unfolded, and I'll be asking you to comment from time to time on what was your primary consideration in managing Wivenhoe during that shift. So can we start with 7 a.m. You come on duty-----?-- Can I start a little bit earlier?

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If you want to?-- Because at 6 a.m. I'm getting up and I have access to my emails on my Blackberry so I know what the level of the dam is before I get to work. I'm also-----

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What do you know that from?-- The email that I get that says what the level is.

What email?-- Well, we get hundreds of emails during the event from all the dam operators which tells us what the water level is and what the gate openings are.

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What was the information you got at that time about lake levels?-- I can't recall specifically the exact number, but it would have been Wivenhoe Dam, the date, the time, the level, which was above 68.5 - it might have been 5.4, 5.5, I can't remember exactly - but also would have given the five gates and their exact settings at that particular time, and it could also have had the rate of release in it for the five gates, and also what was the being release through the hydro at that particular time. So that's one email I would have got.

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Can you recall did that information about the lake level triggered any response or any thought in you?-- Not particularly, no. But at that stage, as far as I was concerned, we were in W3 because it was above 68.5.

Can you actually recall thinking that at that time?-- No. No, I can't.

Well, then how do you know that was your thought at the time?-- I can't confirm that, no. All I know was the water level was above 68.5.

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How do you know you had the thought that therefore you had transitioned out of W1?-- Only from the information, the sitreps, we had been receiving since yesterday also. I mean, I can't recall exactly thinking: Oh, now we are at W3. No, I can't recall that.

Do you recall thinking that - let's go to your shift. You start your shift?-- At 7 a.m.

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What's the information you see when you start your shift?-- There's discussions with the outgoing duty engineer about the overnight rainfall, how much rainfall we've had, what the current water levels are, what the projected water levels are, and what the forecast rainfall is. And then I've been in the practice of asking is there anything in particular I should be aware of, meaning in terms of are there gauges that have gone out or particular issues with gates; any problems that I should be aware of. That was my typical handover. Then I would review the overnight documents in terms of the situation reports, any other documents, faxes or emails that have come in. But I just don't recall anything specific about mentioning W3 at that handover.

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What was the situation as presented to you at that time?-- At that time I recall that we - the situation was there had been not a lot of rain overnight. The water level had gone up, and we'd been able to drain a little bit. So the net result over 24 hours was basically the same. We had managed to retain the dam at just over 68.5. So that meant to me that we were still in strategy W3.

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Can you recall thinking that at the time?-- No, I don't.

Can you say from your ordinary practice whether that is something you would expect you would have appreciated?-- I would have just appreciated the fact that we were in W3, yes.

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HER HONOUR: You can hardly talk about ordinary practice, surely, when this was the first time anything of this sort had happened?-- No, it's not the first time. We went through three events in October and two in December where we had been in W3.

MR O'DONNELL: And you had been involved in managing each of those events?-- Correct.

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And do you recall in those events thinking that once the water level had crossed 68.5, that it affected the strategy?-- Yes, it was just obvious that that was the case. We were in a different strategy and we needed to examine things more closely to see what we were in; W2 or W3.

This is now the fourth time it's occurred?-- In the space of three months. So to me it was nothing unusual; it was just what was happening.

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And do you recall how did that affect you in your management of the dam during that shift on the Sunday?-- Specifically not the fact that we were in W3 that was on the foremost in my mind at that particular point in time. Because even from the Friday we were aware that the potential for heavy rainfall was going to occur sometime in the beginning of next week, and I think from that point in time all the activities I undertook were in the expectation of what we should do to manage these

huge inflows we were expecting in the next couple of days. And obviously the way we managed it would be - have a significant impact on minimising floods in the lower Brisbane River.

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Can you recall that being a consideration during your management of the flood event on that Sunday?-- Definitely. Definitely.

Do you have an actual recollection of that?-- My major concern on Sunday was how we were going to manage these expected huge volumes of inflows over the next coming days to minimise impacts of urban damage. That was the purpose of our job.

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Was your assessment on that Sunday that this was not the small flood event some people call a W1, or a small flood event; this was a larger event?-- It had the potential for it. I mean, until you actually get the rainfall on the ground, you can't say how big it's going to be. But we were certainly making all precautions and all assessments on the basis that this rainfall was going to occur and we were going to have to manage some rather large volumes. By 7 a.m. I had - I'm not quite sure whether it was me, but I notice in the log - because if I was only signing on at 7. It was my usual practice to get there about half an hour earlier. So there is a model run that was done at 7. That could have been done by the outgoing engineer or by myself. I'm not sure. At 8.40 I ring the Bureau of Meteorology to discuss the rainfall forecasts because already - I mean, I was concerned about what the potential was going to be in the next 24 to 48 hours. So that was uppermost in my mind all throughout that day. By 9 a.m. I had run both the Somerset, Wivenhoe, and North Pine models because I was managing, at that particular point in time, two dams - three dams, I should say: Somerset Dam, Wivenhoe Dam, and North Pine Dam. Now, my main - my focus may well have been on North Pine Dam, because it's a much smaller dam - catchment, sorry. It responds to rainfall a lot quicker than Somerset and Wivenhoe, where you've got a little bit more time to assess things. Now, that said, I had run both sets of models, so I was across what was happening in both river basins. I think that the assessment I undertook between 9 a.m. and 11 a.m. does, to me, really indicate how serious I thought the situation was. I had undertaken an assessment of the potential runoff volumes that we expected in the next three days, and to me that was indicating some huge volumes with a high range of uncertainty in terms of what those volumes could be to us. Even at the lower end we were looking at something like an event where we had in - two events in December and the event in October. At the higher end we were looking at an event like February 1999, where no one recalls that event because the dam was partially empty and it swallowed up a lot of the event, a lot of the flood. So I had a very sharp appreciation during that particular day of what the potential for runoff was going to be, so that was my purpose of my email which I sent out at 11 a.m.

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Let's just pause and look at that. We'll see that in Mr Drury's volume 1, which I think may be behind you to your

right. That's at page RD-5, page 200?-- It's also in the flood event report in Appendix K.

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Thank you. Just walk us lay people through this and what's the significance of it in terms of management of the dam?-- Okay, let's go through it sentence by sentence, if you like.

No, pick the eyes out of it. What's the major significance in terms of the management of the dam during your shift?-- There was certainly the first bit that talks about how much rain we were expecting to get. There was conflicting information. For example, one particular website on the Bureau was saying 200 to 300, and it was giving us the indication that it was likely to contract around about Tuesday night. There was another indication that the heaviest falls were overnight Sunday night and overnight Monday and Tuesday night. The product that was produced by the meteorologists - the last available product - was only giving us 40 to 60 millimetres. So there's a lot of uncertainty about how much rain we would get. At that particular point in time I looked at how much rain we had had and the volumes that we had had - we had received up until that particular time, and then I was able to say okay, well, that meant, based upon the rainfall up to that particular point in time, about 45 per cent of the rain that had fallen on Wivenhoe catchment had resulted in runoff; about 60 per cent of the rainfall that had fallen in North Pine resulted in runoff; and about 75 per cent in Somerset Dam.

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That means runoff into the dam?-- Into the dams. The significance of those volumes - those fractions and why they are different is that Somerset and North Pine Dam are traditionally in wetter catchment areas and the upper Brisbane, Wivenhoe is traditionally more dry, so you end up with less runoff volume. So I came up with those estimates. Then I looked at the upper estimate of rainfalls from the previous forecast rainfall analysis, and unfortunately what I didn't do in this particular document is actually put those numbers down. I pointed to the websites where I got that information from. So I converted that rainfall into volumetric runoff, and you can see there that in each of the days, Monday, Tuesday, Wednesday, I had estimates - upper and lowers estimates of the sort of volumes we would be expecting into the dams over those coming days. And as I said, then that gave me for the Somerset-Wivenhoe system a lower limit of about 800,000 megalitres and an upper limit of about 1.5 million megalitres.

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That is inflowing into the dam?-- Into the dam.

Right?-- At that particular point in time we had basically 85 per cent of the 750 - or the 900,000 megalitres in Wivenhoe Dam was available for temporary flood storage, and at this particular point I can't recall exactly how much flood storage we had in Somerset Dam.

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So you think in terms of flood storage in megalitres within the dam?-- I'm thinking, yes, how much volume do we have to manage in the next few days, and what volumes have we have to

do it?

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So you are currently at what level?-- Just above 68.5.

You've got up to 74 is what you call temporary flood storage?-- Correct.

How did these figures influence your management of the dam during that shift in terms of what releases you were making?-- At that stage there was no rainfall on the ground, so it wasn't appropriate to start to release any water or ramp up significantly the releases at that particular point in time. To do so would have been possibly irresponsible, because sometimes these events just don't come off. So until we start getting rainfall on the ground, it's problematic as to whether you're going to cause flooding or mitigate flooding. So at that stage you err on the side of caution in terms of the forecast rainfall and you could not increase leases.

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Now let's look at what releases you were making at the time. You'll see that in the flood report at page 157?-- Yes.

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We see that during your shift you begin with releases of about 1330 CUMECS?-- Yes.

And during the day there is an increase in the releases?-- There is.

Up to about 1400?-- Yes.

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At around about 6 p.m.?-- Yes.

So you decided to make those increases?-- They were - yes, they were increases I made during the day.

What influenced your decision about those increases?-- Well, again it was about the expectation that in the following few days we would have to manage larger volumes. And so without causing too much downstream damage too early, you would have to start to increase releases to preserve that storage to manage the inflows.

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So in other words, you wanted to lower the lake level so you've got maximum storage available if the rain comes?-- For runoff that would occur.

And do you say that that was giving effect to the concern to protect against urban inundation?-- Definitely.

How is that? Explain that for me?-- The more storage you have in the dam, the better off you are. By temporarily - the idea of a flood mitigation dam is to temporarily store the water if you possibly can and to release it at a managed rate without - taking into account what's happening downstream. So the more volume you have preserved in the dam at any one particular time, the more capacity you have to manage those floods.

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So you are seeking to maximise the capacity within the dam if

the rain comes; at the same time not cause-----?-- Undue flooding.

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-----downstream urban inundation?-- Indeed.

And just relate these releases you are making from 1330 up to 1400 in terms of urban inundation; what's the relationship?-- Well, the releases in themselves don't cause urban inundation, but we've got to take into account at the same time there is flows coming out of the Lockyer and the Bremer, and I would have to look up numbers to see what the flows were, combined with those, their releases to see what the impact was.

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Can I short-circuit things and take you to your situation report at 5 p.m. on the Sunday. That's at page 224 of Mr Drury's statement. It's also in the flood report; page 19 of the situation report section?-- Yes.

If you go to the heading "Wivenhoe Dam (full supply level 67 metres)"?-- Yes.

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If you go down to the fourth line, "The current gate operation strategy will maintain flows of around 1600 CUMECS in the mid-Brisbane River for the next 24 hours." Did you regulate the releases from the dam so as to maintain flows in the mid-Brisbane River of that water?-- That was our intention at that particular point in time, yes, based upon-----

What are you referring to as the mid-Brisbane River?-- That was the reach between Wivenhoe Dam and Mogill. It doesn't take into account the runoff from the Bremer.

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And is there any significance or particular significance in that figure of 1600 CUMECS?-- From our previous three events, we had had come to appreciate that flows of around 1600 would probably keep Mt Crosby open. I think we've also got to be mindful that we didn't want to - this was at the end of the day, and we didn't want to necessarily inundate a bridge in the middle of the night without people having proper - properly closed it.

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Was there any significance in that figure of 1600 CUMECS in terms of urban inundation?-- It's very much below the threshold of urban damage.

I skipped over the meeting on Sunday afternoon at 3.30 that was called. Do you have a recollection of that meeting?-- Only to the extent that we were faced with circumstances which were far in excess of what we had experienced in October and two in December.

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Was that discussed in the meeting?-- I think it was a given. We all appreciated the fact that we were doing - what we were going to be managing was something far in excess of that, and that's why the - we wanted to get our collective brains together to work out the best strategies.

Was there a discussion in that meeting on avoiding urban

inundation?-- Of course. That was our primary consideration. That's why we called the meeting. We knew how serious the situation was. 1

Tell us as best you can recall the substance of what was said on that topic in the meeting?-- Well, it was about the expectation of the further rainfall and the volumes that we were expecting in the dam. Now, we might talk about-----

Keep your focus on the substance of what's being said in the meeting of the four engineers?-- We talk about the volumes that were going to be managed, and that relates directly to the potential for urban damage. I can't recall exactly that we talked about the minimisation of urban damage. I don't recall that at all. I can't say I have a clear recollection. But obviously from the numbers we were talking about, we were fully aware of what that potentially was. It's just inferred from those volumes, I suppose, that: Look, this is bigger than what we've seen before. We knew that the threshold for urban damage was 3500, or 4000 under the manual, and we had to manage that to minimise that. That's quite clear. I don't have any - any doubts about that. 10 20

Was there discussion about the current release rates or the current strategy for managing Wivenhoe?-- Not really. We were focusing on what we had to do in the next 24 to 48 hours.

Was there a discussion whether the release rate should be increased in view of the predicted rainfall?-- I don't recall any discussion about the - increasing at that particular point in time, no. 30

Thank you. All right. We see from the situation report at around 5 p.m. the current release rate is 1400 CUMECS. We see from the situation report that the current release rate from Wivenhoe Dam is around 1400 CUMECS?-- At what time, sorry?

Around 5 p.m.?-- Yes.

And at this stage there are two bridges still open, but it refers to a strong possibility that higher release rates may be necessary in the next 12 to 24 hours-----?-- Yes. 40

-----which may impact upon the bridges. Now, the situation changes somewhat by the time of your situation report at 9 p.m., which is in Drury page 232, or the flood report, page 21 of the situation report. Could you tell us, please, what the changes were and what influenced your change of strategy?-- Well, it was the onset of the really heavy rainfall. During the day, the expectation was that the heaviest rainfall was going to be centred around the North Pine catchment and it was going to be a little bit later than what actually occurred. So in the intervening period you take some time to do your assessment, so at 5 or 6 p.m. when we sent this out the assessment was that: Yes, look, the rain is coming on, you know, but we've got time. Then by 9 p.m. the rainfall had really intensified beyond expectations, and then that required a change in strategy. So in the space of three 50

hours things can change very, very quickly.

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In that report under the heading, "Wivenhoe Dam (full supply level 67)", you were taken to the paragraph that commences, "The objective for dam operations will be to minimise the impact of urban flooding." Do you see that?-- Yes, I see that.

You were asked about the tense - the future tense "will be"?-- Yes.

10

Is it your evidence that that was your then objective at the time of writing the report?-- To minimise the impact of urban flooding, yes.

In other words, now and for the future?-- Oh, indeed.

And in the next line you use the expression "at this stage"?-- That's exactly right, because the situation was changing very quickly.

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You said, "At this stage releases will be kept below 3500 CUMECS, and the combined flows in the lower Brisbane will be limited to 4,000 CUMECS." What was the consideration behind those figures?-- It was based upon our expectations of what volumes would be coming into the dam and whether or not we could contain it - contain those volumes in the dam, and also by limiting the flow to 4000, so it was this balance of what's coming in in the next few days, versus what's going out and how we could contain those runoff volumes in the dam.

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Was the primary consideration behind that minimising or avoiding urban inundation?-- If we could possibly avoid urban damage, that was foremost in our minds.

Mr Rangiah asked some questions along the lines was this a change in strategy around 9 p.m.? In other words, you had a different strategy before; had you changed to avoid urban inundation around 9 p.m.?-- No. No, I don't believe so. It was always our strategy to minimise urban damage. That's the purpose - the primary - one of the primary objectives of the dam.

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You said "our" strategy. I'm focusing on you?-- My strategy-----

You're managing the dam during this shift from 7 a.m. to 7 p.m. what was your primary consideration during that period?-- My primary consideration was the urban damage, yes.

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You said in some answers earlier that during this shift - you can close up the situation report now. You said that during the shift you were conscious that the situation had transitioned out of W1, but you couldn't - didn't have an actual recollection of whether you were using W2 or W3 during that shift, words to that effect. During your shift did you seek to limit releases from Wivenhoe so as not to exceed the naturally occurring peaks at Lowood and Mogill?-- No, we had



already done that.

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If you had been following - using the W2 strategy, you would have had to have done that, wouldn't you?-- That's correct.

Does it then follow that you were using the W3 strategy?-- Yes.

Could I take you to Exhibit 1050, please. Could we go to the annexure, please. We've all seen this before. I just wanted to draw your attention that on these times at which stages were exceeded, would have W3 been used throughout your shift on the Sunday from 7 a.m. to 7 p.m.?-- Yes.

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Was that your recollection, that is, that W3 had been used during that day?-- Yes.

When you wrote this?-- Yes.

Roughly a week later?-- That was my understanding, yes.

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Thank you. You can close that up. What's said against you, as I understand it, essentially is this: that the four flood engineers didn't use the W3 strategy over that weekend, Saturday and Sunday; they really just used the W1 strategy, all four of them; but when they came to write up the flood report, all four of you have combined in a report which says you did use the W3 strategy over that weekend. Would you respond to that, please?-- If we had have used W4 - W1 all weekend, we would have kept more bridges open. So that's not strictly correct to say that anyway. But I think you'll find that in every situation report - just about every situation report, there is some mention of what the impact on this - these releases were in the Brisbane River downstream. So from that point of view, there is a reference to what we were considering. Our primary objective - and we're saying there I think in several sitreps - these releases will only have a minor impact on flood levels - or water levels in the lower Brisbane River, so to me that indicates that we were clearly thinking of the objective of minimisation of urban damage.

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And when you came to have your part in the flood report, did you believe that, at least during your shift on the Sunday, it was true to say that you had used the W3 strategy?-- Indeed.

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And you still say that now?-- I still say that there - now.

And to the best of your belief was the flood report correct in saying that over that weekend, from Saturday 8 a.m. onwards, the W3 strategy had been used?-- I believe that, yes.

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So you believe it is still true?-- It's still true.

Would you have been party to a flood report which asserted that W3 had been in use over that weekend if you knew it had not been?-- No. No, that - I think most people would know I'm a very honest person and to suggest such a thing impugns my honesty and I take great exception to that.

The other suggestion that I think is put against you is that the flood engineer's practice is deliberately not to write down what strategy they're using in any particular point in time so that after the flood event they've got a clean page in which they can write that they used any flood strategy which retrospectively they think they should have used?-- No, that's - I can't see that we ever consciously considered that's the way we operate, that's not even true.

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Would you be a party to a practice like that?-- No. No, it's not a professional practice.

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Thank you, Commissioner.

COMMISSIONER: Mr Malone, I'm just interested in what you said to me before about use of W3 in the 2010 flood; how long were you in W3 for?-- Sorry, I don't know, but it was whenever the levels were above 68.5, it certainly could have been.

I see, and do you know on whose shift that happened?-- There were three 2010 floods.

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You said October 2010-----?-- Yeah.

-----were there three in October?-- No, there was one in October and there were two in December on separate events.

All right. Well, I'm interested in the October 2010 one that you mentioned before. Was Mr Ayre involved in managing that?-- Yes.

Were there any other floods in which W3 was engaged?-- In the two December floods.

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All right. Apart from that anything?-- I can't remember. The March flood of last year maybe. I don't know.

No other springs to mind?-- In history of the dam?

Well, in the last decade, say?-- The event of - there was two

events in April '89, there was another event in February 1999, a smaller one in either 2000 or 2001, I don't think W3 would have been invoked then. But I'm also not quite sure - I'm not familiar with the manuals that were in place then, so I can't answer for sure.

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All right. I'm more interested in your experience?-- My experience only extends from, in terms of Wivenhoe Dam, back to I think I was appointed in 2009 as a flood operational engineer.

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Okay. So on your recollection it's October 2010 and the two December floods?-- Yes.

Thank you. Mr Ambrose?

MR AMBROSE: You were the author - I beg your pardon, I appear for SunWater and Mr Ayre. You were the author of Situation Reports 6 and 7, I suggest to you, you can have a look at them, if you would?-- Yes.

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Number 6 first. Under the heading, "Impacts downstream of Wivenhoe", and the second paragraph you can read that about discussions being held with Brisbane City Council and BOM; do you see that?-- Yes, I do.

Now, that was on Friday, the 7th of January, at 17:57 hours?-- Yes.

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Now, I just want to make mention or ask you to have a look at the top of page 11 in that Appendix E, Situation Report, where it is noted that "it is intended to ramp up the release from Wivenhoe to about 1,200 CUMECS during the next 18 hours."-- Mmm-hmm.

Now, just bear those two passages in mind for the moment, and if you go back to the previous Situation Reports that you were the author of, which is 5, 4, 2 and 1, just have a glance through those, and what I am suggesting to you is that in none of those earlier Situation Reports did you make any mention of any discussions being held with the Brisbane City Council and with BOM concerning what the combined flow in the lower Brisbane River would result in, and - so what I want to ask you is what was exercising your consciousness on Friday, the 7th of January 2011 for you to have discussions with the Brisbane City Council and with BOM on this issue?-- During the October and December events, Council had expressed their concern about the sort of releases we made during those events and what impact they had on the Brisbane River, the lower Brisbane River, and I think we were trying to reassure them at that stage that we were taking that into consideration and this is our assessment of the sort of impacts that they would have - our releases would have at that particular point in time. So to me that's a clear assessment of us considering impacts upon urban areas.

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Now, it would be suggested that you were clearly still in W1 at that point because the dam was still below 68.5?-- Yes.

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So what I'm asking you is was there anything that was in your mind about what might be happening, what might happen in the future?-- Well, I would have to say yes if I was considering what are the impacts on the Brisbane River in the lower-----

You were asked some questions at the beginning of your evidence today about a W2 style release, and as I understood your evidence - it was a little bit difficult because you were cut off - but as I understood your evidence, you were saying that you had been waiting for the peaks of the Lockyer and Bremer to pass and then we would be releasing on the recession of those. Just so that I understand it, do you understand the W2 type release to be where the natural peak flow at Lowood and Moggill reach a point you would time your releases from Wivenhoe to piggyback on the back of those peaks so as not to cause any additional damage but to prolong the effect?-- That's a pretty concise summary.

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All right. Now, so at this point I wonder if you could be shown Exhibit 1047, the Situation Report at 5.53 on the Saturday. Thank you very much. And, first of all, I want you to look at the heading, "Wivenhoe (Full Supply Level)". Now, I suggest to you that's talking about what was the current situation?-- Yes.

What you were presently observing and what was presently happening; is that right?-- Yes, yes.

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Now, I want you to go down to the section under the heading, "Forecast Scenario - Based Upon Midrange Rainfall Forecasts", and I want you to read the first sentence, "Assessments have been undertaken to determine possible increases to releases given the high likelihood of significant inflows in the next few days." Now, reading that does that suggest to you that it's not talking about what the current situation is?-- That's true, yes.

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So then we will go on, "The interaction with runoff," et cetera, "is an important consideration as the event magnitude will require the application of Wivenhoe Dam Flood Operation Strategy W2." Do you understand that?-- Yes.

Now, I'm going to come back to that and remind you of what you said about a W2 type strategy in a minute, but in order to understand it I want you to look at the next paragraph commencing, "Projections". So projections based upon forecast rainfalls suggest flows of up to 1,200 CUMECS will animate some time in the future I put it to you. Do you acknowledge that?-- Yes, that's quite true.

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And then the next sentence, "If" - not can't - "If those magnitudes occur," et cetera, "then" - I suggest to you, not now - "then increased releases may be required from both Somerset and Wivenhoe." Doesn't that suggest to you that this is talking about what might happen in the future if the

projections in fact come to pass?-- That's quite correct.

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So it's not an observation of what strategy - call it W whatever - you were in at that time on that day?-- It's based upon projections.

All right. Coming back to what you said about what was a W2 type strategy, is this - now that you look at it in the way I've directed you - is it not suggesting that if some time in the future there are increases in the inflow, you might in the future have to increase releases to piggyback on the back of those releases?-- That's quite correct, yes.

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And it's not happening now but it might happen, as the first sentence says, in the next few days?-- It could happen in the next few days.

You gave evidence - you can close that up, thank you. You gave evidence that the way you managed the dam was by way of a conscious decision to keep the dam as low as possible, and do I understand by that you're saying that you were intending to use the flood storage compartment of the dam as a mitigation technique?-- Of course.

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And is that not consistent with the Seqwater Manual of Operational Procedures at page 10 under section 3.3, first sentence, if you would just read that? I haven't got to read it out to you?-- Sorry, page - which one?

Page 10, paragraph headed, "Inundation of Urban Areas", 3.3?-- Yes.

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"The prime purpose of incorporating flood mitigation measures into the Wivenhoe and Somerset Dam is to reduce flooding in the urban areas of the flood plains below Wivenhoe Dam."?-- I agree, yep.

Now, you were asked some questions by Mr Murdoch about the spreadsheet, and he showed you the spreadsheet, and if you remember he took you through those various columns, and I'm not sure that I understood your evidence about how that document or log was actually titled. Can you tell me whether as at January 2011 was the official event log actually called, "The Flood Control Centre Event Log"?-- I don't - I can't see - no, I don't think so. I can't see that that log would have had that title.

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That's an old fashioned title?-- Indeed. I think if you look at the numbers on the bottom of that page, it does refer to an old fashioned reference.

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Now, during the preparation of the Flood Event Report, certain of the flood engineers had various responsibilities and at some times after the principal author had completed his draft there may be a meeting between one or all of the flood engineers to discuss that part or people's contributions; is that right?-- Yes, yes, even though I can't recall the four of us getting together on too many occasions.

That's fine. What I want to suggest to you is that during the preparation of that Flood Event Report, at some point a spreadsheet, it hasn't necessarily got to be the one that you were shown but one like it with those attributions of the Ws at particular times came to the flood engineers' attention, can you recall that?-- In the preparation of the report?

Yes, I suggest to you that it did come to the flood engineers' attention and it was read, perhaps only on your monitors, and it was recognised that those attributions were, in fact, incorrect?-- I can't recall specifically, no.

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That's all right. You, in the course of you giving evidence on that point, made some comment about the very far right column where flood engineers' initials and flood officers engineers - flood officers' initials were included, and I didn't understand what the comment was that you were making about that?-- Well, I found it a very odd way to note that document. I didn't understand what the purpose would be to have some documents noted as flood engineers and others as flood officers. For example, I saw one that was attributed - a directive which was attributed to a flood officer. Now, flood officers never wrote directives, they're not authorised to do that.

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In the official flood log is there a column where attributions are made as to who might be the author of that log or that section of the log?-- Well, it would only be - I don't know whether it was put in during the event or it was just taken over by the flood officer who was on duty.

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Now, you were asked some questions by Mr MacSporran about decisions that flood engineers make, and I want you to have a look at the Manual of Operational Procedures at page 25. Yes, thank you. Now, just looking at Strategy W1A, "Lake level greater than 67.25 metres and the maximum release 110 CUMECS." Just with respect to that, does a flood engineer make a conscious decision to apply W1A or is W1A automatically engaged when the lake level is greater than 67.25 but less than 67.5, which is W1B?-- Yes, we normally take 67.25 to be the gate trigger level.

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That's right. And so there's no conscious decision made, once it's reached that level that's the strategy that's applied?-- Yes.

And it's the same, I suggest to you, for each of the W1 strategies because the strategies are dictated by the lake levels and the maximum releases?-- Yes, and the maximum releases are up to.

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That's right, they're maximum?-- Not necessarily - you don't go to them.

No, no, no, I understand that. I'm just talking about what decision flood engineers make or are in effect made for them?-- Yes.

So far as Strategy W2 is concerned, what I suggest to you is that a conscious decision isn't made by a flood engineer to go to W2 at all?-- No.

That's dictated by the confluence of the lake level and the fact that a release rate from Wivenhoe is greater than the natural peak flow rates at Lowood and Moggill?-- Yes.

So there's no occasion for a flood engineer to make a conscious decision to move to W2?-- No.

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Similarly for number 3, W3, if the lake level is greater than 68.5 and if the releases from Wivenhoe are in excess of the natural peak flow rates at Lowood and Moggill, there's no conscious decision-----?-- There's no choice.

-----that is made, you have to be in W3?-- You are in W3.

So the only time that the Manual of Operation requires a conscious choice to be made by a flood engineer is if the lake level is 68.5 or above-----?-- Yes.

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-----the releases from Wivenhoe are less than the natural peak flows at Lowood and Moggill, then the flood engineer can choose, "Do I go to W2 or do I go to W3?"?-- Yes.

And that decision is made on the basis of what is appropriate in all of the circumstances?-- Yes.

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And that is what is set out in the last sentence on page 26 of the manual?-- Yes.

Thank you.

COMMISSIONER: Thanks, Mr Burns?

MR BURNS: Thank you, your Honour. I tender the requirement from the Commission to Mr Malone to provide a statement dated the 25th of January 2012.

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COMMISSIONER: That will be Exhibit 1074.

ADMITTED AND MARKED "EXHIBIT 1074"

MR BURNS: Mr Malone, I will attempt to do this as quickly as possible, but if you go to your first statement, do you have a copy there, it's Exhibit 45?-- I do.

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I just want to ask you some questions about the introductory paragraphs. If you go to paragraph 8 on page 2, you set out part of your employment history, in particular some 20 years employed by the Bureau as a Senior Engineer in Queensland, New South Wales and Tasmania. If you go to the paragraph

before that, paragraph 7, I see you are employed by SunWater from September 2006 until February of 2009 as a Senior Engineer; do you see that?-- Yes.

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But part of your duties or responsibilities including assisting with the management of flood operations for the Ross River, Scrivener River, Somerset, Wivenhoe and North Pine Dams?-- Yes.

I just wandered - and then, of course, you mentioned, as you did in evidence, that in February 2009 you moved over to Seqwater, have I got that right?-- Yes.

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All right. You were asked some questions by Madam Commissioner regarding your experience in the use of the W3 strategy. Did you have any experience with Wivenhoe Dam prior to February 2009 in the use of that strategy?-- Not explicitly, that's solely the responsibility of the dam owner.

I see. So in terms of becoming a Duty Engineer, that's something that's certified by the Dam Regulator; is that right?-- That's correct.

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But that didn't occur until early 2009?-- That's correct.

Right. I see. In terms of the management of the other dams mentioned in subparagraph (c) of paragraph 7, did any of those have urban inundation as a consideration or are they essentially rural?-- No, Ross River Dam is just above Townsville and-----

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Indeed?-- -----it's a major dam which has huge impacts upon urban areas, urban flooding in Townsville.

So did you have any experience in strategising in respect to that dam in a way that was designed to provide the greatest possible protection against urban inundation?-- That dam is not a flood mitigation dam-----

Right?-- -----so it's not strictly operated in that way.

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So that's not a consideration?-- Well, it's certainly a consideration but it's not its primary function, it's mostly a water supply dam.

All right. Now, could I take you to paragraph 22? You were asked a number of questions by Mr Callaghan and others regarding events on Saturday, the 15th of January, in particular in the afternoon and the evening; do you recall those questions?-- Yes.

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I just want to step you through your week before you, in fact, attended for your shift on Saturday. We know well from the evidence that you were not on duty on the 8th of January, which is the Saturday? Yes? You just have to-----?-- Yes, I agree with that.

And then you started at 7 a.m. on the Sunday, and you've



responded to questions from my learned friend, Mr O'Donnell, indicating that, in fact, you may have started a little earlier than 7 a.m.?-- May well have.

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And you worked through until 10 o'clock that night?-- Correct.

All right. The next day back on duty on the 10th, the Monday, seven to seven?-- Yes.

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And then from approximately 7 a.m. on the Tuesday, the 11th, until you finished your shift at 7 p.m. on the Thursday, the 13th, you were in the Flood Operations Centre the whole time?-- No, it was actually Friday, the 14th of January.

Oh, I beg your pardon. So you slept at the Flood Operations Centre?-- I did.

So then on the Friday night did you go home?-- I went home.

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All right. Then you return to work on the - at 7 a.m. on the Saturday?-- Yes.

And you work through, or at least your shift did, until 7 p.m. that day?-- Yes.

What time did you go home, do you recall?-- I have no idea.

All right. I see that - before we leave it - that you then return to duties the following morning at 7 p.m.?-- Correct.

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All right. Now, could I ask you something about the e-mail accounts, at least e-mail accounts in the name of the Duty Engineer at Seqwater? A number of e-mails have been tendered. If an e-mail was sent to Duty Seq at Seqwater, is that an e-mail that would be received by the Duty Engineer?-- It would be received by the Duty Engineers, yes.

All right. On the 15th of January, you were still, I think you've said a number of times, in operational mode when you were on duty?-- Correct.

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I'm trying to get a feel for how many e-mails you might be receiving on a day such as that. I know it's a difficult question to address, but could you help us with that?-- I would suggest a countless number. But the other thing that I think we should - you should be aware of is that there are actually my - I get my Seqwater e-mails on my blackberry, the Duty Engineer ones go to Flood Operations Centre and I don't have remote access to that.

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All right. But when you're on duty, in terms of e-mails what accounts come to you on to your monitor?-- Oh, mostly the - I would have two monitors and get - possibly get e-mails from both, but I wouldn't necessarily be looking at the - when I'm on duty, I would be concentrating on the flood operations engineer-----

Flood operations-----?-- Centre e-mails.

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And are they alerts, levels, what are we talking about?--  
They're talking about - well, certainly hourly observations  
from the dam operators in terms of water levels and gate  
settings.

Yes?-- There'd be e-mails from the Bureau of Meteorology  
about severe weather warnings, thunder storm warnings, QPF  
several times - a couple of times a day, there'd be requests  
for information from people, there'd be photographs that would  
come in. Yeah, heaps of them.

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All right. And that's incoming data?-- That's incoming.

And you have to mentally process that data?-- I do.

And model it as you go or some of it?-- Some of it, yeah.

So it would be correct in saying that your focus is on that incoming data in terms of e-mail?-- In terms of that particular Saturday, yes.

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That's the 15th of January?-- Correct.

All right. Can I ask you some questions about the management of water during a flood event at Wivenhoe?-- Certainly.

You've said a number of times in evidence that sometimes at least you think in terms of volume rather than levels?-- Yes.

I just want to get an understanding of what that means. Could I just ask you these questions first. Mr O'Donnell mentioned, and you agreed with the propositions, that there were three key trigger levels 67.25?-- That's the gate trigger level.

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68.5?-- Is the top of W1.

And 74?-- It's the top of W3, W2.

Full supply levels 67; is that right or?-- At the time.

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At the time. All right. And below that level is water supply, is it not?-- It's water supply.

And, in fact, one of the objectives under the manual is to maintain or to return to full supply level within seven days of the flood event?-- Correct.

All right. So that's water up to a level of 67 metres and in between 67 and 68.5 how much water is there?-- Volume is approximately 170,000 megalitres.

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170,000. And in between 68.5 and 74 what approximate volume are we talking about?-- 742,000 megalitres.

So a total of around 910,000 megalitres?-- Correct.

All right. And when you work sometimes do you think of these available volumes of temporary plug storage as compartments?-- I do, yes.

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All right. So the compartment up to 68.5 would almost by definition be reserved for W1 strategies?-- Yes.

When you move above a lake level of 68.5 are you then in an area where you need to manage volumes of water within either W2 or W3?-- Yes.

All right. So when you're working your way through a flood

event and model it, do you think in terms of the water you have to manage coming into the dam and being released from the dam above that 68.5 level?-- Yes. 1

As a separate compartment?-- That's what I had available to manage those inflows.

And, of course, in the management of that water, that is, if you are within W3 above 68.5, for example, that requires a number of actions, I think that you described in your earlier evidence yesterday. Actions within that strategy?-- Indeed. 10

Releasing water, making determinations of what will actually enter the dam, what you should release, looking at the downstream impact of any decisions you make, et cetera?-- Indeed.

All right. Now, if you look at Exhibit E or Appendix E to the Flood Report, please. I want to take you to page 17 which is the situation report at 6 a.m. on Sunday the 9th of January. Now, I think you mentioned that you may have looked at that on your BlackBerry?-- Yes. 20

All right. Could I ask in relation to your BlackBerry if an e-mail is received with an attachment can you open the attachment or do you as a matter of practice open the attachment?-- Not as a matter of practice. It depends on what I would be doing in the next few hours.

All right. In situation report 10, was it 6 a.m. on the 9th, if you go over the page the heading "Wivenhoe Dam", we actually see at that point in time the dam level is currently slowly - or falling slowly, 68.58 metres?-- Yes. 30

All right. If you go down a few lines after it mentioned the current release rate there's a narrative that appears in quite a number of these situation reports which attempts to measure the volume of water being managed in the event?-- Yes.

Is that right?-- Yes. 40

So to take that particular example, how much water are we, in net terms, dealing with at that time?-- What we have in the dam we - the event total is at least 450,000 megalitres and we've already released 150,000 so we are having a net volume there to manage of about 300,000 megalitres.

So does that tell you just that part of the narrative whether you're in the W1 compartment or the W2 or 3 compartment?-- That tells me that we're certainly in W3. 50

And how do we know that, just by the volumes of water?-- Yes, by the volume of water because it far exceeds the volume available to manage the bridges.

All right. Well, the volume of water available to manage the bridges is 170,000 megalitres?-- Yes.

So as soon as you start getting water in excess of those volumes?-- Net, net volume.

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That is outflows exceeding inflow by that extent, you're in W3 territory or W2?-- Yes.

And, of course, if the naturally occurring peak flows at Lowood and Moggill are in excess of the levels in the manual then you're in W3 no matter what?-- Yes.

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And then if we go to - you're on duty, of course, later that day and then if we go to situation report 11 which is the sitreport at 5 o'clock on Sunday the 9th. If we go to page 20 of Exhibit E, we'll see the heading, "Wivenhoe Dam", second paragraph, "Since the commencement of the event 210,000 megalitres has been released with an event total of 1 million megalitres."?-- Yes.

Including Somerset outflow based on recorded rainfall today. So, again, does that tell us where we are, which compartment?-- That says-----

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This is your sitreport?-- Yes. That says clearly - clearly to me that we are in W3.

Simply by virtue of the net volume of water that's-----?-- We have to manage.

That you have to manage. All right. And just, lastly, on to the next sitreport at 9 o'clock on the Sunday night. Page 22. Again, we see a similar narrative, second paragraph on the page. "Event total approaching a million megalitres"?-- Yes.

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"Without rain and as much as 1.5 megalitres with forecast rain."?-- Yes.

And, again, could there be any doubt about which compartment you're in?-- No. None at all.

Right. Now, could I ask you this: do you accept this as a proposition, when you move from, say, W1 to W2 or W1 to W3, it's not the case that you jump from the maximum release rate at the lower strategy to the maximum allowable release rate and the higher strategy?-- No.

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I mean, higher numerically?-- Yes, indeed, yes.

All right. So if you move from one to two you might be at the outer limit depending on all the variables, you may be at the outer limit of the release rates for W1?-- Yes.

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But that doesn't mean you automatically jump to 4,000 CUMECS?-- No.

In W3?-- No.

In fact, this is where the management of the dam relies upon hydrologists such as yourself to handle the water, move these

volumes around the compartment or in and out of the compartment in a way that, to use your language, causes little damage as possible?-- To minimise the impacts.

1

First do no harm?-- Exactly.

All right. And realistically you wouldn't be - well, you tell me whether I'm wrong or not, but you wouldn't be releasing 4,000 CUMECS unless you were within a hairs breadth of W4 transition?-- Exactly right.

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It's a graduated process?-- It takes time.

All right. You can close that up, thanks. Could you look at Exhibit 1050, please, that's the e-mail at 1.02 p.m. on Saturday, the 15th of January 2011 from you to Mr Ruffini and Mr Tibaldi, et cetera. Have you got that in front of you?-- I have.

All right. I just want to take you to the summary document. You've given evidence about what you prepared. I just want to make it clear what parts are original drafting, in effect. You said you copied and pasted slabs of this from the manual?-- Yes.

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And on the first page, the second last paragraph there's a sentence in italics and you gave evidence that you inserted that?-- That's correct.

And then over the page W1 down through to W4, again, there are bullet points in italics?-- Yes.

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Sorry, there are bullet points and then under each is a sentence in italics that you inserted?-- Yes.

After W1, after W2 and after W3 which was your understanding of transition times?-- Correct.

At that time. All right. And you were present for the last of those, present as duty engineer for the last of those?-- Yes.

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So that's a transition to W4?-- Correct.

And you were present, in fact, when the Flood Operation Centre was mobilised?-- Yes.

And that's the entry on the page before?-- Yes, but I've got the day wrong.

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But you're not present as duty engineer in relation to what your understanding at that time was the transition from one to two and two to three?-- That's correct.

You understood at that time that's what had occurred?-- That was my understanding at that time.

Now, in compiling that document you gave some evidence about

it yesterday at 5305, at line 40 you were asked what was the basis for that understanding, the particular understanding is, of course, the particular points in time that W1 was exceeded, W2 exceeded and W3 exceeded. Mr Callaghan asked you this question, "What was the basis for that understanding?" Answer, "Well, firstly, I looked at the levels and that was quite clear when we'd exceeded W1." And then you continued, "And then I had a look - perhaps I looked at Rob's Sit Rep. I can't recall looking at the flows particularly, but it was - it was approximate to it as it said there. So, again, that was an indication to me that I was inviting comment, 'Is this correct?', et cetera?-- Yes.

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I'm just interested in your remark that you can't recall looking at the flows, is that a reference to the naturally occurring peaks at Moggill and Lowood?-- Yes.

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Right. And your memory is that you can't recall looking?-- No.

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Okay. Now, I promised I won't don't this to you again, but I can just take you back to Appendix C. The final question I have. Page 28. The very last paragraph. Do you have that there?-- I do.

You were asked a number of questions by Mr Rangiah, I think, as to the change in tense?-- Yes.

All right. This report is a sitreport, sitreport 15, noon on Monday the 10th of January and you're the author?-- I am.

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All right. And your attention was drawn to the change in tense from the objective for dam operations "will be" to minimise the impact to the objective for dam operations "is to" minimise the impact?-- Yes.

There being a change between language you used at 9 o'clock the night before?-- Yes.

Do you recall correcting the tense, in other words, changing those words?-- Not specifically, no.

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No. You don't doubt you did?-- Yes, probably did, yeah, but probably, but I don't recall it.

You were asked whether it was a deliberate change of tense and I think your answer was, "No, it wasn't deliberate." Do you recall giving that evidence earlier today?-- Yes, yes.

What did you mean by that?-- Well, the inference was that we were changing the objective and that was - certainly wasn't the case that we were changing objectives at the time. I think it has to - more has to do with when we were expecting these things to occur.

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Okay. You can close that up now. When Mr Murdoch was asking you some questions about the conference that occurred on the Sunday afternoon of the 9th at 3.30, I think in one of your

answers you said that, "It was plain at that time that the lower level objectives had been met so we were able to consider lower level objectives." It's an obvious error?-- Yes, yes.

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Did you mean to say "higher level objectives"?-- Higher level objectives, yes.

And, in fact, is this the effect of your evidence that when you were in W2 or W3 the primary consideration is always urban inundation?-- Indeed.

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Look after that first?-- Indeed.

But if it's looked after you don't sit back and play cards?-- No.

You look at the lower objectives, bridges and so forth?-- Yes.

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To see whether you can control through rates of release or whatever, or whatever action within the strategy is appropriate but see whether you can meet some of those objectives as well?-- Yes.

Is that it in a nutshell?-- That's it in a nutshell.

All right. Thank you.

COMMISSIONER: Mr Callaghan?

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MR CALLAGHAN: Mr Malone, you have provided a fifth statement in response to requirement from the Commission. That statement has been available to all the parties, Madam Commissioner, for the duration of Mr Malone's cross-examination, but I omitted to tender it so I do that now.

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COMMISSIONER: Exhibit 1075.

ADMITTED AND MARKED "EXHIBIT 1075"

MR CALLAGHAN: And just one question by way of re-examination Mr Malone. This morning when being questioned by Mr Murdoch there was this exchange. His question was, "In putting together such a summary where should he have gone to find a record of the strategies that were in use at particular times during the event and, in particular, the times and dates on which strategies changed?" Your answer was, "I can't recall them with the exception of W4 ever being specifically written down." My question for you is by that can we take it that W4 was specifically written down?-- Perhaps not written down,

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but certainly on that particular morning discussed.

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Well, can we take those in turn. Do you say W4 was written down at any time or not?-- I can't be sure. I can't be sure.

Okay?-- We were - at that particular point it was just so hectic I'd doubt we would have written down W4 anywhere on any bit of paper.

So what you were conveying there then, and I'm combining that answer with the one you just gave, is the impression that W4 at least was discussed during the course of the flood event whereas the others may not have been specifically mentioned by reference to the term W1, 2, 3 or 4; is that right?-- That's correct.

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Thank you. That's all I have. May Mr Malone be stood down.

COMMISSIONER: Yes, you're stood down. Thanks, Mr Malone.

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WITNESS EXCUSED

COMMISSIONER: Do you want to start the next witness?

MR CALLAGHAN: I'm in your hands. We won't get very far.

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COMMISSIONER: Well, look, 10 minutes is 10 minutes.

MR CALLAGHAN: I call John Ruffini.

COMMISSIONER: Mr Ruffini, I'm not sure even if you need to refer to anything this afternoon. So can you just take the oath and we'll get that out of the way.

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JOHN LAWRENCE RUFFINI, RECALLED, SWORN AND FURTHER EXAMINED:

MR CALLAGHAN: Can you tell the Commission your full name and occupation, please?-- John Lawrence Ruffini and I'm a - my occupation is a director of Water Planning Sciences within DERM, Department of Environment Resource and Management.

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Mr Ruffini, can you take it, please, that the course of any question that I ask you when I use the term "strategy", I'm using the term strategy to convey one of the strategies in the Wivenhoe manual, that is, W1, 2, 3 or 4, do you understand?-- I understand, yes.

You were on shift in the Flood Operation Centre between 7 p.m. on the 7th of January to 7 a.m. on the 8th of January?-- That's correct, yes.

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Was there any change in strategy while you were on shift?-- While I was on shift?

On that shift?-- On that shift. While I was on shift the - when I came on shift I got handed over from Terry Malone, I believe, and during that shift the - during that shift we were - there was a spreadsheet that I took in when I was starting that had the strategy that was defined, that had the details of the releases and the things that Terry had established before I handed over to him. When I came on to shift I took those and, you know, we had a discussion at handover about what he - what we were doing and what we were trying to manage and then I took those and started to examine them to see that I agreed with what was on - what was on those spreadsheets.

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I'll ask my question again. Was there any change in strategy while you were on that shift?-- In terms of the - in terms of the - in terms of what was on the spreadsheet.

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No. Well, unless you can tell me that the Wivenhoe strategy is W1, 2, 3 or 4 are on the spreadsheet I thought I made it clear that when I use the term "strategy" I'm referring to anything that is defined as a strategy in those terms in the manual. Now, was there a change of strategy while you were on shift?-- During that - during the shift?

That shift?-- That shift, yes. Well, during that shift when I first came on we were in one of the strategy - the W1 strategies and during - during that shift and we were 0 started to transition into the W3 strategies.

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You started to transition to the W3 strategies?-- Yes.

All right. So tell me this: by W3 strategies I take it you mean the next phase after W1 which could be W2 or W3; is that right?-- That's correct, yes.

So is the line between W1 and the next phase, be it W2 or 3, is that black and white or is it a little bit fuzzy?-- Between W1 and W3?

Between W1 and the next phase, whether that be W2 or 3, is the line between those two faces black and white or is it a little bit fuzzy?-- In transitioning - in transitioning you can have a release - you can have releases that are on your spreadsheet.

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I'm not asking about releases. I'm asking about choice of strategy under the manual?-- Yes, can I explain what I'm trying to say or?

COMMISSIONER: Yes, you can, Mr Ruffini.

MR CALLAGHAN: Yes?-- You have releases, you have releases. So we would be releasing at a certain rate. Okay. The transition point between the two strategies is about hitting the level, the 68.5. At some point you need to start preparing to move from one to the other. So when I came on shift the forecast, the predicted - predicted spreadsheet with the rainfall had us - had us hitting - hitting that 68.5. Okay. And that was sort of at the start.

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I'm sorry, which particular document had that?-- If you've got the - there's-----

We don't need to see it, just tell us what it was?-- A series of operational spreadsheets, okay, which were in the thing which are dated which have those details in there, in there about - about what the - what the operating releases were at that time. Now, when I - that spreadsheet was what I was handed when we - when I took over from Terry. I continued to - I've got the number - I'll give you the number of that spreadsheet, if you want. Now, when I took over and had that spreadsheet, as I said, it was - the lake level was predicting to get up to 68.5 on that particular model run that Terry had done at that particular time. Now, and in that - in the situation report that he'd sort of written that I read when I handed over to him at that time, in that it talked about - talked about moving towards 1200 CUMECS, I believe, and talked about - talked about, you know, the downstream impacts in terms of some comments on, you know, impacts in Brisbane at, you know, that would occur if we sort of, you know, that sort of strategy had progressed.

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During my shift I continued to review that work, so in terms of looking at the modelling and see whether there was any rainfall had fallen or whether there was any - in terms of the - those spreadsheets that I had been given and were looking at and examining with the strategies about whether that was changing or not. So that stuff hadn't really changed, so during that we started to - we started to operate towards that, which is sort of like starting to ramp up from the - I would have to have the exact thing in front of me of the timing, but during my shift I remember we started to ramp up towards those gate openings, and on that particular day I think at handover, off the top of my head, I got up to about 890 CUMECS, I believe, and that was - we were at that stage.

Was it on that basis that you decided that the transition was being made to W3?-- Yeah. At that time, that's - do I specifically remember saying - today sitting here do I specifically remember having a conversation about this is 1, this is 3? I can't exactly in my head draw those thoughts and recollect, but I've gone and back I've looked at the situation reports that I wrote at the time at the end of that shift, I've gone back and I've looked at the - I looked at the actual spreadsheet that I used at that time during the thing, and it's sort of - to write that report that I was working on, and going back and looking at that, yes, that's what I believe happened.

So you've reconstructed what you think must have happened?-- I have gone back to the information that I had at the time, because I just don't - if you're sort of asking me to have an exact memory of what happened at that particular point, I honestly can't say that I have. So I've gone back to - I've gone back to the spreadsheet which I know hasn't been touched. It's exactly as it was at that time.

You've told us about that, thank you?-- And I've gone back to the situation report that I wrote at that particular time.

And it's on that basis you say we can infer that you made a decision at that time to transfer to W3-----

MR O'DONNELL: He hasn't said that.

MR CALLAGHAN: That there was going to be a transfer to W3?-- Yes.

And do you say that the term "W3" was used in any document or any conversation that you had at that time?-- I can't recollect that.

Do you say it would have been?-- At handover we would have talked about generally - when we would talk about the objectives and where we're at and what we're trying to move to and what we're trying to operate to, when you look at that period there wasn't a lot else happening. Like, it wasn't a thing. So we were - from that point of view what else I would think that I would have talked about, had those discussions about the trigger level and that was approaching, we'd

certainly - when I look back at the record, we'd been having conversations with Brisbane City Council to talk about those sorts of things, you know, that urban objective that is in play from W3. So from that point of view I guess that's what I'm looking at.

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What time are we talking about when these things were occurring? Were they the time of the gate directive at about 5 a.m.?-- Which things were these in particular?

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The decision or the thought that there would be a transition towards strategy W3; when do you say those thoughts began to occur to you?-- I think at the beginning of the shift when I had the handover of the spreadsheet in terms of the ball was a little bit in train then in terms of here's some flows-----

At 7 p.m. on the 7th?-- Yeah. I mean, that's the - at handover. At handover-----

Yes?-- At handover I'm looking at the information data that's been handed to me, and looking at the strategy that's in place, and looking at the movement of where the lake level was going.

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So you say movement to strategy W3 was, to your way of thinking, on the cards when you came on to the shift at 7 p.m. on the 7th?-- I had to go and - there was information in that spreadsheet that sort of was telling me that sort of story, but I had to go and - but I had to go and actually do my own homework on it and look at the models and rerun it and check it.

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HER HONOUR: Mr Callaghan, I don't want to interrupt a train of thought if you've got another question.

MR CALLAGHAN: No, as much now as at any time.

HER HONOUR: All right. 9 o'clock tomorrow.

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THE COMMISSION ADJOURNED AT 4.03 P.M. UNTIL 9.00 A.M. THE FOLLOWING DAY

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