

QUEENSLAND FLOODS COMMISSION OF INQUIRY

**Matters concerning the operation of
Wivenhoe and Somerset Dams**

Wednesday, 30 March 2011 at 2pm

At level 30, 400 George Street, Brisbane, Qld

Interview conducted by: Ms Lisa Hendy and
Ms Susan Hedge

Also present: Mr Brian O'Donnell
Mr Michael Ilott
Mr Adam Pomerenke

Private interview of Terrence Alwyn Malone

1 <TERRENCE ALWYN MALONE, interviewed: [2.03pm]
2

3 MS HENDY: It's Lisa Hendy. We're here at the offices of
4 the Queensland Floods Commission of Inquiry, and I'm
5 interviewing Mr Terrence Malone, Mr Terry Malone, pursuant
6 to a requirement to attend issued to him by the
7 Commissioner.

8 Just for the purposes of the recording being made
9 today, I'll ask everyone here, apart from the
10 stenographers, to identify themselves, please?
11

13 MS HEDGE: My name is Susan Hedge. I'm a lawyer with the
14 Queensland Floods Commission of Inquiry.
15

16 MR MALONE: My name is Terry Malone. I'm principal
17 hydrologist with Seqwater.
18

19 MR O'DONNELL: Brian O'Donnell, counsel for Seqwater.
20

21 MR ILOTT: Michael Ilott, solicitor for Seqwater.
22

23 MR POMERENKE: Adam Pomerenke, counsel for Seqwater.
24

25 MS HENDY: Thank you.
26

27 Q. Mr Malone, I just wanted to start by running through
28 your statement and there's a few matters I'd like to go
29 over with you. First of all, on page 1, you refer to your
30 current position as principal hydrologist at Seqwater.
31 A. That's correct.
32

33 Q. I just wanted to speak to you, first of all, about the
34 first item there under the letter (a), "Reviewing and
35 updating design flood hydrology for Seqwater's dams". When
36 you say "design flood hydrology", is that maximum flood
37 hydrology or is that floods across a range?
38 A. It's floods across a range from frequent events to
39 extreme events.
40

41 Q. And when you say "frequent events", do you mean what
42 sort of probability?
43 A. Oh, the 1-in-2 type probability.
44

45 Q. And you're also involved in setting up and operating
46 real-time flood models. Is that something you've taken
47 over in the last couple of years or is it something you've

1 been doing for some years?

2 A. It's something that I've been doing for some years in
3 my - throughout my career.

4 Q. And is it the case that, more recently, you've become
5 more involved in relation to the management of the Flood
6 Operations Centre, because I understand it's planned that
7 Seqwater will be taking over the operation --

8 A. Yes, from 30 June.

9

10 Q. And as part of, I guess, the rollover to that, have
11 you become more involved in the training and development
12 side in relation to the Flood Operations Centre?

13 A. I'm beginning to, yes. We're implementing new
14 software, as indicated in section (d).

15

16 Q. Yes, so there's the software issue. I understand
17 there's the investigation of the possible new location for
18 the Flood Operations Centre. What about, over the last
19 year or so, your involvement in relation to training people
20 in relation to flood operations?

21 A. In what respect?

22

23 Q. Well, in your capacity either in relation to your job
24 as principal hydrologist or as a flood engineer.

25 A. It's mostly been on-the-job training and at times
26 holding training sessions with the staff who act in the
27 Flood Operations Centre, while also providing training
28 sessions with the dam operators - or to the dam operators,
29 sorry.

30

31 Q. And I understand, from what Mr Ayre said to us earlier
32 today, that you and Mr Malone have become more involved in
33 that --

34 A. Sorry?

35

36 Q. Sorry, you and Mr Tibaldi have become more involved in
37 that, the training in relation to flood operations --

38 A. That's correct.

39

40 Q. -- over the last year or so?

41 A. That's correct.

42

43 Q. Now, just on the topic of the training and so on -
44 apart from the upgrade to the software, which is covered in
45 your statement and I won't be asking you about, and the
46 plans in relation to - or the investigations in relation to

1 possible new facilities for the Flood Operations Centre,
2 are there any other sort of large-scale projects on foot in
3 relation to the Flood Operations Centre?

4 A. Yes, we're implementing an organisational-wide
5 hydrometric archival database, called WISKI, that's being
6 funded by the Bureau of Meteorology, and that's being put
7 in place by - this year.

8

9 Q. What will its functions be?

10 A. Basically, we collect a lot of hydrometric data -
11 that's rainfall, water level, et cetera, that information.
12 That needs to be stored in a database for future use.

13

14 Q. And so this is an upgrade to the current database, is
15 it?

16 A. It's a combination, yes, of the databases. That's
17 outlined in - no, it's not there.

18

19 Q. That's all right.

20 A. Oh, yes, it is - (f), item (f).

21

22 Q. Just one final question in relation to Seqwater taking
23 over, I guess, the management of the Flood Operations
24 Centre during flood events. Is it planned that there will
25 be staffing changes when that occurs, or will the same
26 flood engineers stay?

27 A. That's still to be decided.

28

29 Q. I should actually ask you if you're involved in trying
30 to recruit new staff either as flood engineers or technical
31 officers in relation to the Flood Operations Centre?

32 A. I will be.

33

34 Q. You will be? Not currently, but is there a planned
35 recruitment drive?

36 A. We're employing some - interviewing tomorrow morning.

37

38 Q. I'll just take you to paragraph 27 on page 7 of your
39 statement, which is where you set out your opinion that
40 additional rain gauges should be installed at the bottom of
41 the upper Brisbane catchment. Are there any other,
42 I guess, areas across the catchment where you felt that the
43 data was not as, I guess, fulsome as it might be?

44 A. Well, in hindsight, obviously the upper reaches of the
45 Lockyer Valley. But, you know, we might put gauges there,
46 and next time the water will go somewhere else, so that
47 doesn't guarantee.

1
2 MR O'DONNELL: Q. Sorry, where did you say?
3 A. The Upper Lockyer, where the flash flood occurred.
4

5 MS HENDY: Q. Now, at paragraph 28, you mention that you
6 weren't involved in the development of the agency
7 communication protocol used during the flood event, and you
8 express - well, you state:
9

10 *In my view, it appeared that the technical
11 information provided by the Flood
12 Operations Centre was sometimes not
13 communicated in a sufficiently timely
14 manner to the public because of the
15 requirement for public statements to be
16 made only by designated persons or
17 organisations.*

18
19 Can you think of any particular examples that led you to
20 make that statement?

21 A. Not particularly. It's just based upon the experience
22 that I had with the Bureau of Meteorology and the fact
23 that, during floods, in the Bureau of Meteorology, the
24 persons doing the analysis were authorised to speak
25 directly to media.

26
27 Q. Did you feel that it would have been helpful if people
28 elsewhere could have spoken directly to the media?

29 A. I think, yes, that is the case.

30
31 Q. Do you think the flood operations engineers should
32 have been able to, or someone within the organisations
33 involved there?

34 A. I think that there should be some dedicated resources
35 more closely related to the Flood Operations Centre
36 providing that public information.

37
38 Q. And what sort of information do you think it would be
39 useful to put out?

40 A. Current releases, projected releases, where people can
41 find additional information. There's a whole range, raft
42 of things that didn't appear to me to be very well
43 communicated to the public. But having said that, I wasn't
44 looking at all the public's media sources at the time.

45
46 Q. No. All right. Do you feel that, I guess, the
47 absence of - or not the absence, but the extent of

1 information that was put out about the Flood Operations
2 Centre and its activities has contributed to some of the
3 public criticism?

4 A. I can't really answer that. I'm seeing some of the
5 agency communications, but I'm also aware of all the other
6 information that is readily available, so it's hard to say.

7
8 Q. At paragraph 29, you suggest that any changes of
9 substance to the Wivenhoe flood manual in relation to the
10 objectives or strategies require detailed engineering and
11 hydrological investigation, and you suggest that those
12 investigations could take in excess of one year. Could you
13 give me an outline, a general outline, of the nature of the
14 inquiries you think might be necessary following this
15 event?

16 A. Obviously, this event, as being one of the largest on
17 records, we would need to go back and revisit our flood
18 models in light of this new information. When we review
19 the flood models and if there is substantial change, we
20 would have to go back and re-look at our design flows.
21 Then with a new set of - perhaps with a new set of - if we
22 have a new set of design flows, we would then need to go
23 back and revisit the way we operate the dam.

24
25 The dam manual is predicated on a series of design
26 flows and recorded flows. Obviously, this one is now
27 another data set we can use to refine that process. Now,
28 to do that takes - the last substantial review of the
29 Brisbane River flooding was in 1991, when this system was
30 first installed or developed. It took three years, with
31 a lot of resources.

32
33 Q. And do you have a view about the most appropriate
34 agency or agencies that should be involved?

35 A. I think there does need to be a multi-agency approach.
36 The agencies involved: certainly, the operator, Seqwater
37 as the operator; DERM as the regulator and provider of
38 water resource information; the Bureau of Meteorology as
39 the warning agency; and councils who are responsible for
40 response; and probably emergency services, too.

41
42 Q. At paragraph 30(b), you suggest that:

43
44 *the Wivenhoe Flood Manual should provide*
45 *greater clarity in respect of the concepts*
46 *and terms such as "predicted" lake levels*
47 *or lake levels "likely" to exceed or*

1 "expected" to exceed certain levels.

2
3 Could you give me some examples or explain your position?
4 A. Well, we certainly know, for example, that there are
5 key levels within the manual. Say, if it's predicted to
6 get to this level, we do certain things. It doesn't give
7 you any indication in the manual about lead times,
8 projected lead times, for that prediction or uncertainties
9 associated with a prediction. For example, we know, we can
10 say for certain, Wivenhoe will reach 74 metres in the next
11 100 years, but that doesn't necessarily mean we should act
12 on it now.

13
14 Q. And I understand that with these models, there's
15 a 5 to 10 per cent margin of error usually in relation to
16 the prediction of the actual runoff that will eventuate?

17 A. Yes. It could be even more in some circumstances.

18
19 Q. So your view is that, really, there should be some
20 more attention given to defining those sort of issues, the
21 scope of - I guess the extent of the prediction?

22 A. I would like to see more clarity in terms of the lead
23 times and uncertainty. So, for example, if we were saying
24 if the lake level is predicted to get to a certain level
25 within X hours with some degree of certainty associated
26 with it, I think that gives you better substance to make
27 decisions.

28
29 Q. So when you say "better substance", do you think it
30 would give you a bit more leeway to make decisions?

31 A. It would probably cut down the lead times but
32 certainly give you more descriptive roles - rules.

33
34 Q. Now, at paragraph 31, you state:

35
36 *My opinion is that the procedures in the*
37 *Wivenhoe Flood Manual should be solely*
38 *directed towards flood mitigation and not*
39 *water supply security issues. By this*
40 *I mean I do not think Duty Engineers should*
41 *be asked during the Flood season to alter*
42 *the Full Supply Level of the dams.*

43
44 Is that something that occurred during the current season?

45 A. Not exactly, no.

46
47 Q. Are you talking about what happened in February --

1 A. Yes.

2

3 Q. -- with the proposed release?

4 A. Yes.

5

6 Q. Okay. And can you tell me what approaches were made
7 to you in relation to that reduction to 75 per cent?

8 A. None.

9

10 Q. None. So you found out about it after it was
11 announced?

12 A. Yes.

13

14 Q. And then there was an issue about whether the flood
15 engineers were going to be involved in managing that
16 release, was there?

17 A. Well, we wanted clarity in terms of how that impacted
18 upon the operation of the dam with regard to the existing
19 manual.

20

21 Q. So clarity in relation to, if there's another flood
22 event --

23 A. What do we do?

24

25 Q. -- do we leave it at 100 per cent at the end?

26 A. Mmm.

27

28 Q. That sort of issue?

29 A. Mmm.

30

31 Q. And has that issue been resolved?

32 A. As far as I'm aware, we are to operate to retain
33 75 per cent until otherwise directed.

34

35 Q. And in your understanding, who would the direction
36 come from?

37 A. Either the Queensland Water Commission or DERM.

38

39 Q. At paragraph 39, I just have a technical question.

40 A. Good.

41

42 Q. Can you explain to me what ongoing or continuing
43 losses are?

44 A. Okay. Remember when you were a kid and you'd stand
45 under a tree after it's rained?

46

47 Q. Yes.

1 A. And if you could give it a good shake, you'd get awful
2 wet.

3 Q. Yes.

4 A. So that rain that's fallen on that tree hasn't got
5 into the system, into the runoff. So that's one type of
6 loss. That's called interception loss. We have
7 infiltration, where rain infiltrates into the soil. We
8 have evaporation, where it's been absorbed back up into the
9 clouds. So there's all sorts of losses, which we have to
10 take into account, and they're lumped together and they're
11 just called "continuing loss".

12 Q. I have a general question about - and I understand
13 your view, from the statement, about flood engineers
14 operating on the basis of predicted lake levels as opposed
15 to forecast rain - predicted lake levels but on the basis
16 of forecast rain. Nevertheless, the modelling always
17 includes the with-forecast projections. What is the
18 utility of doing that modelling with the forecasts?

19 A. Yes, it gives us an idea about the possibilities of
20 where we might get to, and, in that way, we can also advise
21 our managers that there's the potential for something to
22 happen, and then the emergency services can ramp up
23 accordingly. It doesn't necessarily mean it's going to
24 happen, though.

25 Q. Just taking you to paragraph 64 on page 12, you speak
26 there about the model of the Lockyer Creek not being as
27 good. What are the particular issues in relation to that
28 model?

29 A. It's in regard to the geomorphology of the catchment
30 itself. At the bottom end of the catchment, the river
31 tends to be in a relatively shallow cross-section and it
32 breaks out at relatively small floods and the water starts
33 to go every which way, so that becomes difficult to try to
34 calibrate a hydrologic model to work out exactly how much
35 runoff is occurring in that catchment. The gauges in the
36 Lockyer tend to be at upstream stations, so it's difficult
37 to calibrate a model at those stations, then to know
38 exactly how much water is going to come out at the bottom
39 end. Additionally, the Brisbane River itself backs up into
40 the Lockyer, so we have that added complication.

41 Q. So is that a situation that you think can be remedied
42 or is that just something that has to be worked with?

43 A. That's nature.

1
2 Q. Now, I wanted to speak with you about your
3 conversations with Brisbane City Council - not necessarily
4 your conversations, but other people's conversations with
5 Brisbane City Council, starting from about paragraph 65 of
6 your statement. Now, when you refer, in paragraph 65, to
7 the conversation with Mr Ayre and Mr Ruffini, I assume that
8 was at the handover?
9 A. That would have been at the handover at that
10 particular time, yes.
11
12 Q. Can you remember anything else they said about what
13 Brisbane City Council had told them at that point?
14 A. Not really, only that it was suggested that the limit
15 of damaging flows was, in actuality, 3,500, not the
16 4,000 level stated in the manual.
17
18 Q. And did they express surprise at the receipt of that
19 information?
20 A. I think we all expressed surprise at the receipt of
21 that information.
22
23 Q. And did you have a discussion about what you were
24 going to do with that information?
25 A. There was a suggestion that we try to limit the
26 damaging flows to less than that, and, indeed, we did try
27 to do that, but then circumstances overtook that in a very
28 short space of time, so it became not an issue.
29
30 Q. Yes, so was it during that period that the damage rate
31 incurred was received from them?
32 A. Stage damage?
33
34 Q. Yes.
35 A. Yes, stage damage incurred. I can't recall exactly
36 when that was received.
37
38 Q. Now, just taking you to paragraph 67, when you say
39 that you participated in a telephone conference with
40 officers of Brisbane City Council at around 9.38 on
41 10 January 2011, do you recall who those officers were?
42 A. No, no.
43
44 Q. Were they officers - engineers from council?
45 A. They would have been officers in the flood information
46 centre within council, yes.
47

1 Q. And do you remember anything else about the content of
2 that conversation, apart from them raising that 3,500 limit
3 again?

4 A. Well, I've got it in the log here that we were
5 expecting, at certain discharge, 3,500 cubic metres
6 a second - we were expecting about 320 homes, or houses,
7 properties, to be submerged and about 7,000 somehow
8 submerged.

9
10 Q. That was information received from them?

11 A. At the time, yes, and that's contained in the log.

12
13 Q. And do you remember if there was any other
14 conversation with them at that point?

15 A. No, no, I don't remember explicitly, but I suggest we
16 would have been talking about the inflows and outflows from
17 the dam at the time and the rainfall and the projected
18 rainfalls.

19
20 MR O'DONNELL: Could I ask question? The log on the
21 right-hand side under the heading "Title", where it says
22 "flood officer 8", "flood officer" --

23 MS HENDY: Yes.

24
25 MR O'DONNELL: Q. What does that mean?

26 A. That was the person who may have been recording the
27 conversation at the time.

28
29 Q. Not the person who had a conversation?

30 A. Not necessarily. I've noticed that in the log, that
31 there is a mixture of persons who have actually had the
32 conversation and persons who recorded the conversation.

33
34 MS HENDY: Just so you know, this morning we were given a
35 document by Mr Ayre's solicitors, Holding Redlich, which
36 seems to have a largely unredacted version of the log and
37 it actually seems to include some of the names of the flood
38 officers when they were actually making the calls. Anyway,
39 we will be circulating that when we receive an electronic
40 copy of it. No doubt you already have access to it.

41
42 MR ILOTT: I haven't seen that.

43
44 MS HENDY: Anyway, we should be getting it later today and
45 I will send it around.

1 MR ILOTT: That will be very helpful.
2

3 MS HENDY: Apparently it has been taken from an Excel
4 document. They have added things into it which are
5 relevant to their client, just cross-referencing paragraphs
6 from his statement. We might use it at a later point to
7 add to.

8 Q. Just returning to this issue about attempting to
9 accommodate this request to keep the damage down to 3,500 -
10 sorry, the release down to 3,500, I take it that was on the
11 basis that even at that level, 322 houses were going to be
12 inundated and so many more were going to be damaged.

13 A. Mmm.
14

15 Q. In terms of what you actually communicated to Brisbane
16 City Council about what you were going to do with that
17 information, can you remember exactly what you told them?

18 A. No.
19

20 Q. No?
21 A. No.
22

23 Q. What about the gist of what you told them you would do
24 with that information?
25

26 A. I think there was an attempt to keep the flows below
27 the limit of damaging flows but, as it transpired, further
28 rainfall in the next few hours overtook that and I think by
29 3 o'clock, when the situation report was issued, that it
30 was too late.
31

32 Q. Did you tell them that you would attempt to keep it
33 below 3,500?
34 A. Not that I recall.
35

36 Q. I just want to take you to the flood event log entries
37 referred to at paragraph 77 of your statement on page 14.
38 The conversation at 4.27pm in the version of the log which
39 appears in your statement, says "BCC returned phone call".
40 This alternate version of the log that I have been provided
41 with today suggests that the original entry is "Ken Morris
42 returned phone call". Does that refresh your memory at
43 all?
44 A. I know Ken, yes.
45

46 Q. At 5.25pm, this version that I have been given this
47 morning indicates that it was Don Carroll from BCC who

1 returned a call to you. Does that accord with your
2 recollection in relation to the entry for 5.25pm?

3 A. I would have spoken to both of those gentlemen at
4 various times throughout the whole event, so not
5 specifically.

6 Q. In relation to the entry at 7.10pm, the version of the
7 log that I have been provided with indicates that the
8 person at Somerset Regional Council who was the contact was
9 a fellow named Tony Jacobs?

10 A. Correct. He was the primary contact at Somerset
11 Regional Council.

12 Q. Do you think it was you who had the conversation with
13 him at 7.10pm?

14 A. I can't be sure about that, and the reason I say that
15 is that that is one of a series of calls, yet the one at
16 7.20pm specifically says "Engineer 2", so I'm just confused
17 as to why it would have been "FOC" rather than "Engineer
18 2", so I can't be sure that I made those phone calls.

19 Q. Independent of the entry in the log, are you sure that
20 you made the call at 7.20pm?

21 A. If that's what the log says, yes.

22 Q. But you don't now have an independent recollection of
23 those calls?

24 A. Not of those ones, but I would be - I suspect that I
25 did make that 7.15 call because I seem to recall speaking
26 to the CEO, advising that we could get potentially damaging
27 floods, but when that was - whether that was that phone
28 call or another phone call at another time throughout the
29 event - I'm not sure.

30 Q. So are you saying that it is possible that you made
31 some of those other telephone calls?

32 A. Correct.

33 Q. Or received some of them, but you just now don't have
34 an independent recollection of that.

35 A. Mmm.

36 Q. I am just referring to paragraph 79 of your statement
37 and those entries. Do you have any idea where that figure
38 of 3,000m³/s might have come from?

39 A. No, not really. I would have more confidence in what
40 the situation reports say rather than the telephone calls.

1 The situation reports are compiled from model runs and
2 information in front of you. With telephone calls, you
3 might be standing up in another part of the room, taking
4 advice and giving advice.

5
6 Q. I assume that you weren't making the entries yourself?
7 A. No. I would write in the situation reports myself.

8
9 Q. But not doing the log entry? No. Is it possible to
10 identify, from keying or whoever's logged in, who was doing
11 the log entries?

12 A. I'm aware of who was doing the log entries on that
13 evening, yes.

14
15 Q. Okay. So is the initials --

16 A. Yes.

17
18 Q. So if they're nominated there as the person doing the
19 entry, they're definitely the person who has done it?

20 A. Well, as we have discovered, though, that's not
21 necessarily the case.

22
23 Q. No. I'm just curious about how this column is
24 generated.

25 A. So am I.

26
27 Q. Okay. I was just wondering if someone had to be
28 logged in to be making entries?

29 A. No.

30
31 Q. It's not that --

32 A. No, it's not that --

33
34 Q. Not that strict?

35 A. No.

36
37 Q. Yeah, okay.

38 A. There's a generic log in.

39
40 MR O'DONNELL: Q. What's the normal practice for filling
41 out that right-hand column?

42 A. That's a relatively new practice and I don't think we
43 have a prescriptive instruction as to how you should do it,
44 so it probably depends upon the person who's filling in the
45 log, how they interpret it.

46
47 MS HENDY: Q. For example, there's an entry on page 84 -

1 I know it doesn't relate to you - at 8.50pm:

2
3 *Engineer 1 called BCC to request copy of*
4 *flood damages curve from 2007 study. BCC*
5 *will send copy tomorrow.*

6
7 *Category: Correspondence.*

8
9 *Title: Engineer 1.*

10
11 It's not necessarily the case that engineer 1 typed that
12 entry in?

13 A. Certainly not.

14
15 Q. No.

16 A. No. It would be unlikely.

17
18 Q. Just back to this issue about the 3,000m³/s on that
19 Sunday night, is there some other context in which you were
20 discussing 3,000m³/s?

21 A. There may well have been. I mean, I think we - by
22 that stage, we were certainly considering the possibilities
23 that releases could be ramped up to 3,000 over the next few
24 days and it may be that that number was inadvertently said,
25 you know, by midnight when the caller meant, you know, by
26 Monday, Tuesday. But that's - and the situation reports
27 clearly reflect that was never going to be the case, never
28 a possibility.

29
30 Q. I just want to run through a couple of entries in the
31 flood event log, attributed - well, not necessarily
32 attributed to you, but apparently involving you. The first
33 is on page 82 of appendix M at 4.27pm.

34 A. Now, that's a good example where I've obviously made
35 the phone call or talked on the phone, but it's been
36 recorded by flood officer 1.

37
38 Q. This log that I have been given today indicates that
39 the council officer was Ken Morris.

40 A. Probably.

41
42 Q. According to this log, at that stage you're, I guess,
43 forecasting to him that flows in the lower Brisbane
44 potentially might reach 3,000m³/s by next Wednesday or
45 Thursday. Do you remember anything else about that
46 conversation?

47 A. That seems like a reasonable summary.

1
2 Q. At 5.58pm on the same date there's a telephone call.
3 The version in the published report is "Engineer 2 called
4 BoM". The version that I have been given today says "TM
5 called Jeff Perkins (BoM)".

6 A. Yep.

7
8 Q. Do you recall that conversation?

9 A. Not explicitly, again, but there were many
10 conversations to Bureau of Meteorology to discuss the
11 inflows and potential rainfall.

12
13 Q. So what was the purpose of that conversation, from
14 your end?

15 A. Two-fold: one is to compare our model results and,
16 also, to discuss the forecast for the next few days in
17 terms of rainfall expectations.

18
19 Q. Would it have been a long conversation? A few
20 minutes?

21 A. Probably a few minutes. I worked with Jeff for about
22 15 years.

23
24 MR O'DONNELL: Q. What were the models the BoM was doing?

25 A. They would have access to numerical weather prediction
26 models, which would have given us forecast rainfall. They
27 would have also had access to the meteorologists who did
28 the interpretation of those models. They're also looking
29 at radar, so they are getting more interpretive information
30 about the potential for forecast rainfall in the next few
31 days from their sources.

32
33 Q. So what comparison can be done between your models and
34 the BoM models?

35 A. In terms of the hydrologic models, they're essentially
36 the same but the Bureau then has access to this additional
37 information about the forecast rainfall by speaking to the
38 meteorologists on duty.

39
40 MS HENDY: Q. Because you did work at the Bureau for a
41 long time, were you, sort of, the lead contact person with
42 the Bureau in terms of the other flood engineers?

43 A. I probably made more contact with them but then I
44 wasn't on shift at the other times, so I don't know what
45 contact they made with them.

46
47 Q. On 10 January at 9.55am, the dam operations manager,

1 who was that; do you remember?

2 A. Rob Drury within Seq.

4 Q. What was the purpose of contacting him directly?

5 A. Oh, we would often talk to Rob, as the dam operations
6 manager, to provide him with our assessment of what was
7 going on, to perhaps explain a few things in the situation
8 report. He was the one who compiled the technical review
9 component for the protocol.

10 Q. That's the technical reports for the protocol?

11 A. Yes.

12 Q. On page 92, there's an entry at 3.49pm for 11 January.
13 Can you tell me anything more about that conference or what
14 the purpose of that was?

15 A. The purpose was to compare model results and
16 expectations of what would happen in the lower Brisbane
17 River. Both the bureau and Seqwater have models, and it's
18 to provide some inter-agency checking and expectations of
19 what the potential was, or the worst case.

20 Q. So that was if you had to go up to the 10,000?

21 A. Mmm.

22 Q. At 6.07pm - this is on page 93 - on 11 January,
23 there's an entry there:

24 *Recap of current release strategy amongst*
25 *Duty Engineers. Current Wivenhoe scenario:*
26 *74.9 m - all gates at 12m. Won't go to 13m*
27 *settings until level reaches 75.0 m AHD.*

28 What was the rationale behind that?

29 A. Well, at that stage, we had only just reached the
30 peak. We had opened the gates up to that level, and we
31 wanted to see if the water level was starting to stabilise,
32 and, if it was starting to stabilise, then it wouldn't have
33 been necessary to increase the gate openings.

34 Q. There's an entry at 8pm, which, on this version, says:

35 *BoM rang. Unofficially, engineer 2 advised*
36 *that things have stabilised. Also advised*
37 *predicted peaks at various sites.*

38 Q. Do you recall that conversation?

1 A. Again, not explicitly, but I would be happy with the
2 way it's described there.

3 Q. And when it says, "Unofficially", does that mean -
4 what was that --

5 A. The context is that - well, there's two issues.
6 I think the "Unofficially" probably refers to the second
7 part rather than the first part.

8 Q. Okay, yes.

9 A. You never know that you've peaked until after it has
10 started to fall. So you can't really say that you've
11 actually reached a peak till you start to see the river
12 fall, so that's a bit of a - you know, that's our best
13 estimate. We were thinking at the time it looks like we've
14 reached a peak.

15 Now, I was also running our back-up prototype model at
16 the same time, which gives us forecasts and predictions of
17 levels down through the river, which the Flood Operations
18 Centre is unable to do currently with the current system,
19 and so I was advising them what I was expecting in terms of
20 peaks at various locations and comparing it with their
21 models.

22 Q. Was there any huge discrepancy that you recall between
23 the products of those models?

24 A. Not in terms of discrepancies, but certainly a lot
25 of - both expressing a lot of uncertainty.

26 Q. There's an entry at 8.55pm on the same date. Can you
27 explain - well, first of all, do you think that is an
28 accurate record of what was said?

29 A. Yes, I'd be happy with that.

30 Q. In relation to the sentence:

31 *Engineer 2 advised that we are seriously
32 considering it --*

33 that is, possibly reducing releases --

34 *but this would have little effect on the
35 levels in Brisbane River.*

36 What did that mean?

37 A. Well, in hindsight, that second part turned out to be

1 incorrect. By closing the gates as quickly as we did,
2 I think we were able to have a mitigating impact on flood
3 levels in the lower Brisbane.
4

5 Q. On Friday, 14 January at 5.37am - this is page 100 -
6 what were Brisbane City Council asking for there?

7 A. No, I don't recall that conversation.
8

9 Q. There's a telephone call at 10.25am. This copy of the
10 log that I was given earlier today indicates that the
11 person from BCC who rang you was Ken Morris.
12 A. I recall this conversation.
13

14 Q. Okay. Can you tell me anything more about this
15 conversation?

16 A. Only that he was inquiring what the possibilities were
17 of reducing the releases from Wivenhoe to below that
18 figure, and the response as recorded was quite curt. It
19 wasn't like that at all, but I explained that our position
20 was that we had to get the dam back to full supply level
21 within that seven days and that release had to continue at
22 that rate.
23

24 Q. Just an issue about who you were rostered on with when
25 it became necessary to have two flood engineers on because
26 of the situation - is there some reason why you were
27 rostered on with Mr Tibaldi, when Mr Ruffini and Mr Ayre
28 were designated senior flood engineers?

29 A. That's just the way it worked out. I mean, depending
30 on when you were doing your shifts, you had to have
31 sufficient breaks, et cetera, so it just happened to work
32 out that way.

34 Q. Do you think more than four flood operation engineers
35 are needed?

36 A. I think we could have lots, and it still wouldn't be
37 enough under some circumstances. I think we managed in
38 these circumstances, but there could be situations where
39 we'd need double the number and other situations where we'd
40 need only one on duty.
41

42 Q. I guess it could be the case that there would be more
43 than four, but not all would be rostered on at the same
44 time?

45 A. Certainly not the case, but they'd also need to be
46 exercising those skills regularly.
47

1 Q. The issues associated with North Pine and having to
2 focus on North Pine - do you think that created
3 difficulties in terms of your capacity to deal with the
4 issues at Wivenhoe and Somerset?

5 A. No. North Pine was dealt with very explicitly and
6 quickly. It's a much simpler dam to operate.

7
8 MS HENDY: I don't have any further questions, so we'll
9 conclude the interview now.

10 **AT 3.07PM THE INTERVIEW CONCLUDED**

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