

# Transcript of Proceedings

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THE HONOURABLE JUSTICE C HOLMES, Commissioner

MR JAMES O'SULLIVAN AC, Deputy Commissioner

MR PHILLIP CUMMINS, Deputy Commissioner

MR P CALLAGHAN SC, Counsel Assisting

MS E WILSON, 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 11/04/2011

..DAY 2

THE COMMISSION RESUMED AT 10.00 A.M.

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COMMISSIONER: In accordance with the provisions of the Recording of Evidence Act 1962, I direct that the evidence to be given in this inquiry and any ruling, direction, address, summing-up, or other matter in the inquiry be recorded in shorthand by duly-appointed shorthand reporters of the State Reporting Bureau.

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Now, appearances please.

MR CALLAGHAN: Madam Commissioner, my name is Callaghan, initials P J, of Senior Counsel, with my learned friend Ms Wilson. We appear as Counsel Assisting the Commission.

COMMISSIONER: Next along the Bar table, might be the simplest.

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MR SCHMIDT: Good morning, Commissioner. My name is Mr Ken Schmidt. I am appearing on behalf of the Mid-Brisbane River Irrigators Group.

COMMISSIONER: Thanks, Mr Schmidt. Yes?

MR O'DONNELL: Your Honour, appearing for Queensland Bulk Water Supply Authority, which commonly trades as Seqwater, O'Donnell QC, with my learned friend Mr Pomerence, instructed by Allens Arthur Robinson.

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COMMISSIONER: Thanks, Mr O'Donnell.

MS McLEOD: If the Commission pleases, my name is McLeod S C, and I appear with Ms O'Gorman for the Commonwealth.

COMMISSIONER: Thanks, Ms McLeod.

MR DUNNING: May it please the Commission, my name is Dunning. I appear with my learned friend Mr Porter instructed by Clayton Utz for the Brisbane City Council.

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MR MacSPORRAN: If it pleases the Commission, my name is MacSporran, Senior Counsel. I appear with Mr J Rolls and Ms J Brasch for the State of Queensland instructed by Crown Law.

COMMISSIONER: Thank you.

MR RANGIAH: Commissioner, my name is Rangiah. I am instructed by Morris Blackburn. The Commission has granted leave to a category of people to appear who are described as residents of Fernvale properties particularly vulnerable to inundation by Wivenhoe releases because they are immediately downstream. There are 78 people in that category and I appear for them.

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COMMISSIONER: Do you have an affidavit to that effect?

MR RANGIAH: Yes, I do.

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COMMISSIONER: Thank you.

MR RANGIAH: I seek leave to file an affidavit of Paul David Watson Bronson, sworn today.

COMMISSIONER: I will receive that affidavit. It will be made an exhibit in due course. Mr Rangiah, we will attend to that later. Thank you. Thanks, Mr Rangiah.

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MR TELFORD: Madam Commissioner, my name is Telford, initials P W. I appear on behalf of Tarong Energy Corporation.

COMMISSIONER: Thank you.

MR DEVLIN: Commissioner, if it please, Ralph Devlin of Senior Counsel. I appear with Mr Dollar of counsel instructed by Holding Redlich for SunWater, and the second witness this morning, Mr Rob Ayre.

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COMMISSIONER: Thanks, Mr Devlin.

MR FLANAGAN: Flanagan, initials P J, of Senior Counsel, with Ms Brien, initial J, of counsel for the Ipswich City Council instructed by Clayton Utz.

COMMISSIONER: Thank you. That's the lot? Thank you. Mr Callaghan?

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MR CALLAGHAN: Madam Commissioner, I tender the terms of reference included in the Commissions of Inquiry Order No 1 of 2011 issued by the Governor-in-Council.

COMMISSIONER: That will be Exhibit 1.

ADMITTED AND MARKED "EXHIBIT 1"

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MR CALLAGHAN: I tender also the documents appointing your two deputy Commissioners, Mr Jim O'Sullivan AC and Mr Phillip Cummins.

COMMISSIONER: Thank you. Exhibit 2.

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ADMITTED AND MARKED "EXHIBIT 2"

COMMISSIONER: I might at this point make Mr Rangiah's affidavit an exhibit. It will be Exhibit 3.

ADMITTED AND MARKED "EXHIBIT 3"

COMMISSIONER: Yes, Mr Callaghan?

MR CALLAGHAN: When we were last here on the 10th of February you made reference to the enormity of the task which confronts this Commission. Since that date the Commission has received some 340 gigabytes of information, which I am told might convert to over six million printed pages of material. That is, by any standard, an enormous amount of information to be processed and analysed.

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Much material will be made available for public inspection on the Commission's website. However, it would be impossible to present all of it to the inquiry in public hearings.

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These sittings have been wedged into a period framed by two imperatives. On the one hand, there has been the need to actually establish the Commission to obtain premises, recruit staff, and to create systems by which all this information can be received and stored. Next came the receipt of statements and submissions which will provide the foundation for the evidence to be adduced in these proceedings. As a result, these public hearings have not been able to commence until now.

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On the other hand, an interim report must be delivered by the 1st of August. Since its delivery must be preceded by a period of writing, editing and publishing, it is proposed that this round of hearings must be concluded by 27 May 2011.

In order to ensure that the limited time available is put to the most efficient use, we propose for this inquiry a structure which to some extent reflects the meteorological events which were the cause of all that will be examined. They were events of the kind forecast by the Bureau of Meteorology in October last year when State Cabinet was told by Mr Jim Davidson of that bureau about the La Nina effect and how the impending summer might be influenced by it.

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Moreover, Mr Davidson warned that this was not a run-of-the-mill La Nina. He indicated with some degree of confidence that it would be an active cyclone season and that there would be a continuation of the above average rains which had already saturated catchments.

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Just over a month after State Cabinet was briefed, the rain began in earnest. The first three weeks of December were marked by continuous, large-scale rainfall. 23 December 2010 was the first of a six-day sequence of rainfall which has been characterised by the bureau as an event in itself. This was a statewide downpour which resulted in the inundation of at least 17 towns. It is from this event that the inquiry derives its focus on Regional Queensland. In that regard it

should be noted that Deputy Commissioner O'Sullivan has been accompanied by inquiry staff on visits to Jericho, Alpha, Chinchilla, Condamine, Surat, Tara, Rolleston, Theodore, Mundubbera, Gayndah, and Gin Gin, and this inquiry itself will, in this block of hearings, sit in Toowoomba, Ipswich, Dalby, Goondiwindi, St George, Rockhampton, and Emerald. Other regional centres will be visited later in the year.

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The timetable for these and other hearings has been published on the Commission's website.

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The hearings in these regional centres will each involve some issues of concern which are specific to the centres themselves but we anticipate recurring themes. Issues such as the usefulness of the State Disaster Management Plan, the operation of evacuation centres, the effectiveness of early warning systems, the efficiency of emergency responses, and the need for public education about specific dangers associated with flooding. These and others will be explored and in more than one place.

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Indeed, much evidence relating to issues of this nature will be heard during hearings in Brisbane and some of these issues will also be of concern to the citizens of Toowoomba and the Lockyer Valley. These places were subject to the effects of a separate weather event on 10 January 2011. The storms and associated flash floods of that day killed, injured and damaged on a scale which had previously been unimaginable. As I foreshadowed on the 10th of February, special attention has been and will be paid to this region.

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Community consultations have been held at Grantham and Murphys Creek, and I note that that was the third time that you, Madam Commissioner, Mr O'Sullivan and Mr Cummins, had visited these places. The issues raised in those consultations, along with many others, will be explored next week and the week after when the Commission sits in Toowoomba and in Dalby. The evidence to be called in relation to that event will be outlined by Ms Wilson at the commencement of those hearings next week.

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That rain of 10 January, which had an immediate and devastating effect on Toowoomba and the Lockyer, was part of a rainfall event over a concentrated region of south eastern Queensland. As a result of that event, huge volumes of water entered the Lockyer Creek, the Bremer, Brisbane and North Pine Rivers, and the Wivenhoe, Somerset and North Pine Dams. The cities of Ipswich and Brisbane were flooded.

This gave rise to concerns about issues of disaster management which were shared across the State, and these will, as I have said, be examined at later hearings at regional centres and here in Brisbane, but there is a specific term of reference which directs our attention to the operation of Wivenhoe and Somerset Dams and it is to that issue that the inquiry will first direct its attention.

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By way of background, work commenced on the Somerset Dam in

1935 but was suspended for some years due to the Second World War. The dam was declared open in 1959. It is a mass concrete gravity dam and it has eight gates from which water can be released. At this stage I will tender a photo of Somerset Dam.

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COMMISSIONER: Exhibit 4.

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ADMITTED AND MARKED "EXHIBIT 4"

MR CALLAGHAN: In the early 70s it was clear that Brisbane and south east Queensland required greater security of water supply than that which was provided by Somerset. The need for a higher level of protection against flooding was also identified. Plans were put in place to build another dam downstream of Somerset on the Brisbane River. After the 1974 floods, it became a community expectation that the new dam would provide substantial flood mitigation capacity to protect Brisbane.

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Wivenhoe was then completed in 1984. It is an earth and rock-fill dam with a concrete gated spillway.

I tender a series of photos of Wivenhoe Dam.

COMMISSIONER: How many, Mr Callaghan?

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MR CALLAGHAN: Three, Madam Commissioner. The first that you have received was taken in 2005; the second depicts the level of the dam on the 12th of January 2011; and the third depicts the releases of 12 January 2011.

COMMISSIONER: They will be Exhibit 5A, B and C respectively.

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ADMITTED AND MARKED "EXHIBIT 5A-C"

MR CALLAGHAN: The earth and rock-fill embankment has a clay core which makes the embankment watertight. Now, dams like Wivenhoe are not designed to be overtopped. That is, the dam cannot be allowed to fill to the extent that water flows over the dam wall. If that was ever to happen, the structural integrity of the dam would be compromised. In other words, if it gets full to overflowing, it could collapse.

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Earth and rock-fill dams like Wivenhoe generally have spillways which allow water to pass through at high volumes. This protects the dam from collapse during flood events. Wivenhoe itself has a main concrete spillway which is depicted in these photos, which I tender.

COMMISSIONER: Again, how many? Mr Callaghan, how many? 1

MR CALLAGHAN: Two.

COMMISSIONER: Thank you. And they are?

MR CALLAGHAN: Each of Wivenhoe releasing water.

COMMISSIONER: Is there a distinction? 10

MR CALLAGHAN: Only that which is evident in the photos.

COMMISSIONER: It's hard to write that down.

MR CALLAGHAN: It doesn't matter which one is A or B.

COMMISSIONER: All right. Thank you. They will be 6A and B.

ADMITTED AND MARKED "EXHIBIT 6A-B" 20

MR CALLAGHAN: Wivenhoe, Somerset and North Pine Dams are owned, operated and managed by the Queensland Bulk Water Supply Authority which trades as Seqwater. As I say, also operates North Pine Dam, which is a concrete gravity dam similar to Somerset with earth-fill embankments on either side of the main spillway. It, too, has five gates to release water during flood events. 30

I tender a single photo of North Pine Dam.

COMMISSIONER: That will be Exhibit 7.

ADMITTED AND MARKED "EXHIBIT 7" 40

MR CALLAGHAN: And the relevant arrangements to which I just spoke are depicted in this diagram which I now tender.

COMMISSIONER: Exhibit 8.

ADMITTED AND MARKED "EXHIBIT 8" 50

MR CALLAGHAN: Both Wivenhoe and Somerset have two functions: the supply of drinking water and the mitigation of floods. Now, there is a potential for tension between these competing priorities, and however they might be accommodated, ensuring the overall safety of the dams is imperative.

To strike a balance between the two objectives, each dam has two parts. The lower part, that is the space between the bed of the lake and an imaginary line called the full supply level, is designated for drinking water. Seawater is not allowed to hold drinking water above that level. The upper part of the dam, that is the space between the imaginary line and the top of the dam wall, is available to hold floodwaters if and when they come.

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There are different ways of describing the situation when the drinking water part is full. The dam is said to be at 100 per cent, or at full supply level. It can also be expressed in terms of height in metres by reference to what's known as the Australian height datum, which is roughly the same as metres above sea level.

In January of 2011, the full supply level at Wivenhoe was deemed to be 67 metres AHD. That equates in Wivenhoe to a compartment volume for drinking water of 1,165,238 megalitres, or, for those who like these things expressed in terms of Olympic swimming pools, 580,000 of those.

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The upper part of the dam is dedicated to flood mitigation. For Wivenhoe, that is a volume of 1,420,000 megalitres, or 710,000 on the Olympic swimming pool scale. This volume is reflected by the distance between 67 metres AHD and 79.1 AHD.

North Pine is different. It is not really intended to mitigate floods but only to hold drinking water. The full supply level is only three centimetres below the crest of the spillway at 39.6 metres AHD. The embankments on either side of the spillway rise to a height of 43.28 metres AHD. It is clearly a much smaller dam than Wivenhoe and holds 214,302 megalitres of water when full.

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During 2010 a lengthy process of review of the full supply level at Wivenhoe was in train. This study was examining the prospect of raising the full supply level above 67 metres to increase the drinking water storage capacity of the dam. If the water level was ever to rise above the top of the dam wall at Wivenhoe, that is 79.1 metres, the dam would start to overtop and its structural integrity would be threatened. By the time the water reaches 80 metres, it is expected that the dam would collapse.

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To protect Wivenhoe in large flood events, a major upgrade was completed in 2005. A second spillway was built. It housed three fuse plugs. In simple terms, a fuse plug is a mechanism for the emergency release of water. The fuse plugs erode. They erode away when the water level gets to a certain height; that is a height where the dam is at risk. That erosion leaves a hole through which large volumes of water can escape. Fuse plugs let out water in the same manner as a gate but the dam operators cannot control them. When the water gets to a certain level they are designed to trigger without the need for any human intervention. By increasing the amount of water able to be discharged, the dam is able to release a greater

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volume and the chances of a collapse reduce, but, once gone, the fuse plugs will take a long time to replace.

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The first fuse plug at Wivenhoe triggers at 75.5 metres AHD. Whilst the space between that level and 79.1 AHD is still technically available for flood mitigation, whether it serves that purpose will, of course, depend upon the rate at which water flows into the dam.

These dams are operated in accordance with legislation, regulations, water plans and rules set by the Queensland Department of Environment and Resource Management. Those rules regulate how much water the dams can hold as well as when and why water should be released.

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The dam operation in times outside of flood is fairly simple. The dam should be kept at 100 per cent as far as possible and never over 100 per cent. For a long period prior to 2010, 100 per cent capacity was not an option.

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At this point I will tender a graph which depicts the water levels in Wivenhoe and Somerset Dam over a period between 1994 and the end of 2010.

COMMISSIONER: Exhibit 9.

ADMITTED AND MARKED "EXHIBIT 9"

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MR CALLAGHAN: It can be seen that for a sustained period, certainly between the year 2000 and 2010, the water level was well below the full supply level for each dam.

During periods such as that depicted along the lower line of the graph, water can only be released from the dams for two reasons: to provide water to water treatment plants for preparation for supply to the people of south east Queensland, and for environmental reasons, such as the maintenance of flow to protect local flora and fauna, such as lungfish.

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When rain falls in the catchments of the dams and the dam levels start to rise, the rules change. When the lake level rises above that 100 per cent, or full supply level, a flood event is declared. Seqwater is then required to open the gates to bring the level back down to 100 per cent or full supply, and in a rainy season like the one which occurred last summer this meant that Seqwater was frequently opening and closing the gates.

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This process started on the 9th of October 2010 when the water level at Wivenhoe Dam rose above that full supply level and the first flood event of the 2010/11 wet season was declared. To release those floodwaters, releases of up to 1,600 cubic metres per second were made. This submerged bridges in the mid-Brisbane Valley and the level of Wivenhoe was taken back

down to 100 per cent by 18 October 2010.

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After that flood event, and in response to Mr Davidson's warning, some consideration was then being given to a temporary relaxation of the requirements that the lake be kept at 100 per cent. It was suggested that the dam could be kept at 95 per cent of its drinking water capacity and this would provide operators with some leeway before a flood event was declared and the gates opened.

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Now, during flood events, that is when the lake levels rise above 100 per cent, the operation of the dams is handed over from Seqwater to the Flood Operations Centre. The Flood Operations Centre is manned by four engineers with many years' experience operating dams in flood events. The four flood operation engineers who managed the dams during January this year have backgrounds in civil engineering, dam construction, weather and flood forecasting, and hydrological modelling. They were assisted by technical officers who collected data, performed modelling using special software, and sent and received correspondence.

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The Flood Operations Centre is responsible for operating the dams in accordance with a manual. A manual known as Manual of Operational Procedures for Flood Mitigation provides rules and guidelines as to how the dams should be managed during a flood event. Wivenhoe and Somerset manual, or the Wivenhoe manual at least, contains four strategies for operating Wivenhoe Dam during the flood. They are known as W1, W2, W3, and W4. The flood operation engineers in charge of dam operation moved through those strategies from W1 to W4 as the lake level rises.

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Each strategy dictates the primary consideration to be taken into account at any given time and the amount of water which should be released accordingly. The primary consideration shifts. At W1, the primary consideration is minimising disruption to downstream rural life. In strategies W2 and W3, the primary consideration is the protection of urban areas from inundation. But at W4, the primary consideration is the structural safety of the dam itself.

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The North Pine manual is much simpler because of the lack of the flood mitigation capacity at that dam. Only one strategy is used and that is to release the whole volume of the flood through the dam while attempting to keep the volume of water let out lower than the volume flowing in.

It is the same for flood operations engineers who deal with the operation of each of North Pine, Wivenhoe and Somerset Dams. These men - and they are all men - must perform a complex job in unpredictable and constantly changing circumstances. The manual guides their decisions as to when and how far to open the gates, but leaves some discretion to adapt the strategies according to the unique conditions of each flood event, and each flood event is unique.

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Once decisions are made about opening or closing gates at the

dams, the Flood Operations Centre directs the dam operators at the dams by way of fax and email. The dam operators then use electronic equipment at the dam to raise and lower the gates in accordance with these directions.

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During a flood event, the Flood Operations Centre is staffed 24 hours a day with at least one experienced engineer leading the team until the flood is over.

So, Madam Commissioner, it is against that background that we have formed the view that there are a number of topics that warrant examination by this inquiry as a result of the flood events that occurred in the summer just passed. First, we see a need to examine issues relating to the full supply level at Wivenhoe, Somerset and North Pine Dams. In particular, the inquiry will be invited to consider the appropriateness of maintaining the dam at 100 per cent capacity and the means by which that level might be temporarily reduced or permanently altered. In fact, as I have mentioned, high level discussions were held between October and December last year about the possibility of lowering the level in the dams in the face of those forecasts of a very wet summer, and those discussions involved The Honourable Stephen Robertson, Minister for Natural Resources, Mines and Energy, and all the other major players in the world of water in Queensland, Seqwater, the Department of Environment and Resource Management, which will be referred to, no doubt, throughout these proceedings by the acronym DERM, the Queensland Water Commission, and the south east Queensland Water Grid Manager.

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In the end, the Water Grid Manager advised the Minister on Christmas eve that he had no in principle objections to the drawing down of the level of Wivenhoe to 95 per cent and North Pine to 97.5 per cent. No objections, that is, in terms of water supply security.

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He did note that the modelling had shown that such small drawdowns would have some impact on small flood events but no appreciable benefit in large floods, and, in any case, in the end no change was made to the ordinary 100 per cent level of the Wivenhoe or North Pine Dams.

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We anticipate that the witnesses whose evidence will be relevant to this topic will include Mr Robertson; Mr John Bradley, who is the Director-General of the Department of Environment and Resource Management; Ms Mary Boydell, the Queensland Water Commissioner; Mr Barry Dennien, the South east Queensland Water Grid Manager; and Mr Peter Borrowes who is the Chief Executive Officer of Seqwater.

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I might note that Mr Dennien will not give evidence this week, he's currently overseas. We expect to hear his testimony in the week beginning 16 May.

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Second, we submit that the Commission must scrutinise the manner in which the dams were, in fact, operated between 6 and 19 January 2011 during which time the Wivenhoe, Somerset and North Pine Dams were officially in flood. The most important evidence in this regard will come from the four Flood Operations engineers who manned the Flood Operations Centre. They will each be called. It is to their evidence that the Commission must look in deciding whether there was compliance with the manuals. The Commission might be concerned to ensure that it has evidence which provides answers to questions such as: was appropriate regard had to weather forecasts; was the data used relevant and accurate; was the data analysed correctly; were all relevant factors, including rainfall, forecasts, flow rates and flows in the Bremer River and Lockyer Creek taken into account; did the Flood Operations engineers move between the strategies in the manual at appropriate times and on a reasoned basis; were the priorities of each strategy appropriately accommodated? Those are questions which fall under the second heading of matters to which the Commission's attention will be directed.

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Third, it will be reasonable to ask whether the operation of the dams was affected by distractions or irrelevant considerations which ought not to have troubled those who were being challenged by a major event. Just by way of example in this context, the Commission will hear evidence about communications with the Brisbane City Council or between the Brisbane City Council and the Flood Operations Centre regarding a difference of understanding of the flow rate of the river at Moggill which would cause damage to residences in Brisbane. Now, while this exchange might have been of little consequence in the grand scheme of decision making at the Flood Operations Centre, it is an example of the sorts of communications we will be looking at with and by the Flood Operations Centre during this event.

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Under this heading also the Commission will be asked to consider the conditions in the Flood Operations Centre. The Flood Operations engineers themselves seem to have adopted a stoic approach to their working environment. However, the conditions which prevailed seemed to us to have fallen short from this which should have in such a vital workplace. Again, currently and only by way of example, the centre was threatened by loss of power because of its position in the CBD, where many areas lost electricity, senior Flood Operations engineer and other staff were required to sleep on camp beds and on the floor in meeting rooms because they were cut off from their homes, some had difficulty in contacting their family and friends to check on safety, staff had to leave the centre to buy food in the middle of the crisis. These are just examples and we draw attention to them because given the importance of the task with which these people were charged, it might be thought that such conditions could be improved.

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Fourth, even if there has in this case been compliance with the manuals, the Inquiry should consider whether the manuals themselves are adequate. It is fair to say that the Wivenhoe/Somerset system was tested by these events as it never has been before. The exhibit I just tendered demonstrates just how extraordinary this event was. The manuals themselves are based on hydrological, that is to say quantity of water from rainfall, and hydraulic, that is the way in which water flows, studies of Wivenhoe, Somerset and North Pine Catchments, and on modelling done, using data of previous flood events. Documents prepared against that background must necessarily after an event so very different from any that had been regarded be thoroughly reviewed.

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One issue that has been the subject of considerable public discussion is the timing of the largest releases from Wivenhoe. It must be asked whether, as currently written, compliance with the Wivenhoe and Somerset manual allowed a situation to develop where certain areas were protected from flooding for such a period that much more widespread flooding became inevitable soon thereafter. The question must be asked whether, with dam safety as an approaching issue, there ought to be an amendment of the manual in order to prevent a reoccurrence of the January 2011 events. In particular, it will be necessary to examine the manner in which that manual strikes a balance between disruption to rural life in the upper Brisbane Valley, and potential urban inundation downstream, including in Brisbane, the manner which the manual provides a basis for moving between the strategies, the way in which it allows a discretion to the Flood Operations Centre as to release levels in each strategy, and how it manages the risk of the fuse plugs being triggered.

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The fifth issue which we identify for examination is the actual impact of dam releases from Wivenhoe on urban Brisbane and the rural Brisbane Valley and from North Pine in areas which form part of the Moreton Bay Regional Council. This issue will be addressed by evidence which will include expert hydrological evidence and, of course, evidence from residents and businesses located within those areas, particularly those who are significantly affected by the manner in which the dams were operated. It is in this context that we must consider the question of access to communities in the Brisbane Valley and around crossings such as Youngs Crossing, which are often submerged. Releases from Wivenhoe did submerge bridges and roads which are the only access points to several communities in the Brisbane Valley and this occurred numerous times in the period from October the 1st 2010 to the 31st of March 2011. The Commission will hear evidence from residents, Queensland Government departments, and other experts about the possibility of improved infrastructure to prevent access being cut so often.

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Madam Commissioner, given the breadth of those five issues and the numbers of witnesses involved, it may be that the evidence referable to those issues is not completed by the end of this first week of hearings. If that is the situation, we propose

to revisit these topics during the week of 16 May. If after examining these five issues it seems that there are matters in need of redress and if they are of a kind which can at least be set in train before next wet season, then the Commission will be in a position to say as much when it delivers its interim report.

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We have not overlooked the fact that the Terms of Reference direct our attention to dams across the State, not just Wivenhoe, Somerset and North Pine. The Inquiry will also consider the operation and performance of other dams in Queensland, including Cooby Dam in Toowoomba, and dams and weirs upstream of Emerald and Rockhampton. That separate consideration of those structure also be completed in hearings in Brisbane and around the State in the coming months.

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It must be remembered, and this applies to all that I have said, that these public hearings are just one method by which the Commission will inform itself for the purposes of delivering its reports.

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On the 10th of February I indicated that the Commission would receive submissions relating to these sorts of issues by a certain date, which has now passed. However, it is acknowledged that during the week ahead, some people will be hearing or reading for the first time information referable to the operation of these dams and may feel the need to make further comment or submission in relation to issues arising from this evidence. With that in mind, the Commission will receive further information or submissions on this topic if they arise out of the evidence heard this week from any interested party up to and including 26 April 2011.

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It might also be noted that I have not yet said anything about other Terms of Reference which dictate that the Inquiry should examine issues such as insurance and land use planning. It seems to us that these are not matters about which the interim report could make useful recommendations prior to the next wet season. It is, therefore, proposed that they be scrutinised at public hearings to be scheduled in the second half of this year. In the meantime, Madam Commissioner, we propose that the Inquiry should adjourn briefly and upon resumption hear evidence from the first witness.

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COMMISSIONER: All right. Just before we adjourn, though, a couple of housekeeping matters. Is it possible to reorganise the Bar table so that Mr Flanagan and Mr Devlin actually get to a Bar table? I am a bit concerned about that. If anybody could loose a junior or a solicitor, perhaps Inquiry staff could reorganise themselves, that would be good thing. You might think about that over the break.

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Mr Schmidt, can I ask you this: when we hear the evidence of the witness and cross-examination takes place, we haven't focussed very much on seniority here, but I am thinking it might suit you better to come at the end of the questioners, do you think.

MR SCHMIDT: Yes.

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COMMISSIONER: That will give you bit of breathing space.

MR SCHMIDT: Yes.

COMMISSIONER: And there are some advances, I can tell you, in coming last too because you see what everybody has done before.

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MR SCHMIDT: Yes.

COMMISSIONER: If that suits you then, that's the way we will do it. All right. We will Adjourn, thanks.

THE COMMISSION ADJOURNED AT 10.44 A.M.

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THE COMMISSION RESUMED 11.04 A.M.

COMMISSIONER: Yes, Mr Callaghan?

MR CALLAGHAN: I call Stephen Robertson.

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STEPHEN ROBERTSON, ON AFFIRMATION, EXAMINED:

COMMISSIONER: Yes, Mr Callaghan?

MR CALLAGHAN: Could you tell the Court your full name and occupation?-- Stephen Robertson, Minister For Energy and Water Utilities.

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Mr Robertson, on the 25th of March this year, you were served with a requirement to provide information to this Commission of Inquiry; is that correct?-- I was.

I tender a copy of the requirement.

COMMISSIONER: Exhibit 10.

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ADMITTED AND MARKED "EXHIBIT 10"

MR CALLAGHAN: And in response to that, on the 1st of April you swore a statement pursuant to the Oaths Act?-- I did.

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And that statement had attached to it a number of annexures?--  
That's correct.

That's contained in two volumes which I will tender.

COMMISSIONER: The two volumes will be Exhibit 11.

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ADMITTED AND MARKED "EXHIBIT 11"

MR CALLAGHAN: Am I right, Mr Robertson, that you have got  
your own copy of it?-- Not with me, but my assistant does.

Okay. Well, if you have been working from a copy-----?--  
That would be great. Just coming to me.

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Is the statement itself the first document in one of those  
folders?-- Yes, it is.

And in paragraph 2 you provide your job description; is that  
correct?-- Yes, that's correct.

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You'd previously been the Minister responsible for this portfolio, however described - as the name has changed, I think - but you have previously been the Minister for Natural Resources and Mines, or Natural Resources Mines and Energy going back to 2001, is that correct?-- Correct.

February 2001 to 2004?-- That's right.

Or perhaps through to August of 2004?-- That's right.

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And after a stint as Health Minister, resumed in this portfolio in March of 2009?-- Correct.

Going back to the period during which you first occupied this portfolio, that would have been the period during which discussions were initiated as to the upgrading of Wivenhoe Dam, perhaps around 2002, 2003, would that be right?-- That's right.

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Just by way of general background, Mr Robertson, can you give us some indication as to how that dialogue commenced or how those suggestions came before the government in the first place?-- To the best of my recollection, there - prior to me coming into that portfolio in 2001 and during the years that I was first in that portfolio of Natural Resources, from time to time reports would be produced by the department on studies for various infrastructure, pieces of infrastructure, water infrastructure around the State. It wasn't principally the role of the Department of Natural Resources to oversee the planning and construction of such infrastructure, but more looking at the water resource availability for new infrastructure.

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Whose responsibility was the-----?-- That would have been, at that time, Department of State Development. Department of State Development or the Minister of State Development was also the Minister responsible for the Coordinator-General and it was the Coordinator-General, and still is, who was responsible for the construction of major infrastructure in this State. So I would have probably received a report or a briefing note, which that recommendation or report would have been contained in it, but in terms of where the priorities of the government were heading, we were heading into, obviously, a very dry period that led to the millennium drought. So the priorities of government were focussed more on ensuring continuity of supply to major urban areas such as Brisbane than it would have been in constructing additional flood capacity on dams.

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Well, was that - where would we find the information relevant to that discussion? Where would the relevant information be recorded now? You say it was then the Department of State Development?-- Well, that would be - if government had decided to go down that path, they would have been the responsible department for planning for the construction or the raising of the dam wall, but I think it is probably useful, for the purposes of this Commission of Inquiry, to

look at the various reports that are available still in the Queensland Water Commission website on the various studies and initiatives that were taken over that period of time, or leading up to the Queensland Water Commission coming into being. I think that probably gives a pretty good indication of the thoughts of government at that point in time.

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And do you recall the options which were placed before government at that time?-- No. As I said, the work that we undertook was more about responding to the emerging drought rather than being concerned with flood mitigation as a priority.

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Yes, but do you recall Cabinet making a decision as to actually what was going to happen?-- I don't recall the matter ever being taken to Cabinet.

Right. So who would have actually made the relevant decisions?-- Well, if it was deemed to be a priority project, then a process would have been undertaken for more studies to be done to determine whether it was viable, whether it would achieve the outcomes that preliminary reports or studies may have indicated before any decision would have been taken by government to proceed with such an initiative. So what would have been happening back in - not that I have detailed recall - what would have been happening would have been some preliminary analysis being undertaken as to whether that - it had a degree of viability attached to it. But it was never taken to government as a recommendation to do or not to do, at least during my time.

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That might have answered my question. I mean, we know, don't we, that Wivenhoe was the subject of an upgrade and that the fuse plugs were installed as at 2005, I believe?-- Sorry, I think we're talking at cross-purposes.

Okay?-- The initiative taken to install the fuse plugs was an issue of dam safety. It wasn't an issue of flood mitigation.

All right?-- There were subsequently studies undertaken with respect to flood mitigation, that is to raise the wall of Wivenhoe, but the initiative you're talking about was brought about by a change to the ANCOLD national guidelines, the Australian National Commission on Large Dams, who had put in place new standards for large dam safety which required not just Wivenhoe but a range of dams throughout Queensland to be upgraded in terms of - in terms of their safety to meet these new standards.

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And specifically with Wivenhoe, as I say we know that it was the subject of work in which the fuse plugs were installed, and I suppose what I'm asking is what options were available at that time? What other options were presented, if any, to government?-- If I again recall correctly, when the ANCOLD guidelines came out, an assessment was done as to the implications of those new guidelines and how various dam operators may abide by those new guidelines. I recall at the time there was a lot of discussion about the financial

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implications of this. In fact, prior to proceeding with adoption of those standards, I thought it prudent to request an independent review of those - the applicability of those guidelines, and it was Mr Don Blackmore, who had recently retired as head of the Murray-Darling Basin Commission, a very well-respected, large dam engineer who provided that advice that said that we had to adopt those guidelines and it was really a question of how we rolled out the program of infrastructure upgrades to meet those guidelines that was really the only question that was before government.

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When you say it was the only question before government, were you presented with only one plan of action?-- Well, it was more a question can we ignore the new guidelines, or do we have to adopt them, and the answer was, yes, you have to adopt them, but how you adopt them is, you know, up to government based on an appropriate risk analysis.

All right. Can you just talk us through how they were adopted and specifically what options were involved?-- Well, I am not too sure there were options. In terms of how, for example, Wivenhoe would be - would be redesigned to accommodate the guidelines. As Minister, it was more important for me to know that a program was underway to upgrade it. Not being an engineer, it - I would be less interested in how they upgrade it rather than the fact they were upgrading it and were meeting the guidelines and therefore improving dam safety.

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All right. So you - as long as the process was in train in accordance with what you had been advised-----?-- Correct.

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-----you didn't see it as part of your function to ask any more questions about the way in which it was going to go?-- Well, not - well, part of that assessment would be a financial assessment-----

Yes?-- -----as to what was affordable - not the cheapest option but the best value for money option. That would have been part of the process because we'd have had to have taken a submission to the Cabinet Budget Review Committee to have the money appropriated to allow that particular upgrade to occur.

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Again, can you recall that part of the process?-- Not off the top of my head but I-----

In broad terms?-- Yes, in very broad terms.

Yeah. Can you relate it in broad terms?-- Without seeing relevant dates before me - I am not sure it actually even occurred - it may have actually occurred during my time or whether it occurred after I'd moved on to another portfolio but certainly the preparatory work was underway.

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I am sorry, I missed the last - you are not sure it occurred during the time of your portfolio but?-- The preparatory work was certainly undertaken. We did sign off on a dam safety upgrade program for the State, because it wasn't just about Wivenhoe, there were other dams that needed to be worked on,

but as to whether the actual appropriation of money and the announcement of the upgrade of Wivenhoe occurred, I just don't - during my time in that portfolio, I just can't recall without seeing a list of relevant dates. 1

All right. Can you recall in general terms what the financial implications of the suggestions were, or was there a - you mentioned a moment ago that you weren't after the cheapest option but the option that was value for money?-- Mmm. 10

Can you just elaborate on that?-- Not without seeing documents.

All right. Well, can I just move on to the nature of your department and can you just tell us about some of the resources that are available to you within that department? For example, the department incorporates the Office of Climate Change Excellence, is that correct?-- Sorry, in terms of my current ministerial responsibility as Minister for Energy and Water Utilities, they have changed somewhat from when I was the Minister for Natural Resources, so which ministry do you want me to discuss? 20

Well, I suppose, for the purposes of this line of questioning, we'd be interested in the situation from October of last year?-- Okay. There are two Ministers involved or responsible in the Department of Environment Resource Management, myself and my colleague Kate Jones, who had specific responsibility for climate change. So whilst that climate change bureau or office, as you mentioned, existed within DERM, it was not responsible to me, but rather to my colleague. 30

All right. But it sat - another Minister was responsible for administering the portfolio, if you like?-- For that office, yes.

Yeah, all right. Well, what other units within your - your part of the development had any sort of responsibility for flood management?-- Relevant provisions under the Water Act, under the Water Supply and Safety Act, under the Water Restructuring Act, the creation of the various bodies which you will be questioning during this hearing. So ultimately the office of - the water safety regulator would ultimately report through the Chief Executive Officer to me, for example. 40

All right. But within your department, though, was there anyone else to whom you would look for advice on the topic of flood management generally?-- In the first instance, the Chief Executive, the second instance the office of the water safety or water supply regulator. There would also be the Water Grid Manager, there would be Queensland Water Commission, the various bulk water entities. They would all, and in fact have done at various points in time, provided me with advice, or discussed with me the issue of flood mitigation. 50

Your department also houses the Manager of Dam Safety, does it

not?-- Yes.

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Can you just elaborate briefly upon the nature of that position?-- That position is to concentrate on - was created out of, in fact, the changes to those - if I recall correctly, the ANCOLD guidelines back in the early 2000s. The gentleman who actually holds that office is one of longstanding and significant experience in that area. So out of that initial dam safety report and schedule of works, and the various - and the restructuring that went on, particularly in south east Queensland, of responsibilities for bulk water storage and supply, that was an office that was created with the specific responsibilities, to have, for example, Seqwater, among other water authorities, report to it principally on the issue of dam safety, both in terms of the quality of the infrastructure but also how those dams were operated to obviously ensure at all times that safety was their number one priority.

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The gentleman to whom you refer is Mr Peter Allen, is that correct?-- Yes.

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That is the occupant of the office of Manager of Dam Safety?-- Yes.

Mr Robertson, earlier this morning I spoke briefly about what's known as the full supply level of Wivenhoe Dam. That's a concept with which you are familiar?-- Yes.

I suggested that there might be some tension between the concept of water security, which is one purpose of the dam, and flood mitigation, which is another purpose of the dam. You are familiar with the concept of balancing those competing priorities?-- Yes.

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Perhaps against the background of the drought to which you have already drawn attention, at some stage the suggestion was made that the full supply level of Wivenhoe be raised. You are familiar with that?-- Yes, I am.

Can you just tell us not so much about the rights and wrongs of any such decision, but what is the actual mechanism by which the full supply level at Wivenhoe might be altered? What actually has to happen before that figure changes?-- Well, the creation of Queensland Water Commission I think in around about 2006, 2007, one of their responsibilities was to develop a long-term water supply strategy for south east Queensland. Of course, as the drought worsened, the work that they needed to undertake became more urgent. So what the Queensland Water Commission did as part of the development of that strategy was come up with a list of works and investigations that could be undertaken both in the short, medium and long term to ensure that south east Queensland, in effect, became, in inverted commas, drought proofed. Some of those short-term projects included the creation of the water grid, the building of the desalination plant, the recycled water plant. They were means to in the short term get us over the hump of the millennium drought to ensure that Brisbane and its surrounds didn't run out of water. Then there was the

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issue about, well, once you get over the hump how do you then  
over the longer term ensure that south east Queensland doesn't  
run out of water again? How do we ensure that we have enough  
water to meet the growing population needs, as well as growing  
industrial needs? And that's why that 50 year strategy was  
put in place. One of the investigations that was listed to be  
undertaken, if you like in the medium term, given that we're  
in the medium term now, was to determine whether it was  
feasible to raise the full supply level of Wivenhoe Dam and by  
how much and whether that would have an appreciable effect on  
its flood mitigation capacity. There had been a quite public  
debate leading up to that, particularly driven by the  
opposition, that that would be one of the easiest things that  
we could do to increase the amount of water stored in existing  
infrastructure in south east Queensland. As is contained in  
my deposition and the attachments to it, I responded publicly  
that whilst acknowledging that that was a part of the south  
east Queensland water supply strategy, that I didn't think it  
made particular sense to prioritise it given that our dams had  
recently returned to 100 per cent full supply level and that  
the outlook, particularly for the forthcoming wet season, was  
for higher than average rain. We'd also seen significant  
reductions in average water usage, and even with the lifting  
of restrictions in south east Queensland, people were still  
being very water efficient and it didn't appear to me that  
there was necessarily priority attached to that piece of work,  
given all that I have mentioned.

Okay. Can I ask you the question what is the actual mechanism  
by which the full supply level of Wivenhoe might be changed,  
either temporarily or permanently?-- If we decided to go down  
that path, the first thing that would have to have occurred  
was the Resource Operations Plan for the Moreton Basin would  
have to have been changed, because that's the overarching  
regulation that determines how much water can be stored. Once  
that would have been amended by regulation, it would have then  
been open to Seqwater to then seek to change the dam operation  
manual to reflect the new determined full supply level.

All right. So the Resource Operation Plan has to be changed.  
You say it is the overarching regulation?-- As I understand  
it, yes.

All right. How is that changed? How do you change that?--  
That is changed by the Director-General and goes to - then  
goes to myself, and then goes to Governor in Council, because  
it is a regulation under the Water Act.

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All right. So, ultimately, whilst it might be initiated by  
the Director-General and signed off by the Governor, that's  
your decision?-- I'm part of the approval - I'm part of the  
approval process, yes.

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Well, as responsible Minister, it is your decision, isn't  
it?-- It's in the first instance the Director-General's  
decision, yes.

He works for you?-- Sure, and it's put to me for approval, I  
then take it to Cabinet, and then to Governor in Council.

Yes. Okay. So, it's you and Cabinet agrees with it before it  
actually happens; is that right?-- Correct.

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All right. Well, can we move, then, to the 18th of October a  
date to which you refer in paragraph 5, I think, of your  
statement, when Cabinet received a briefing from Mr Davidson  
of the Bureau of Meteorology?-- Yes.

Was this an exceptional event; that is to say, on how many  
occasions in your experience has Cabinet received a briefing  
from the Bureau?-- That's probably the first time I've ever  
attended a Cabinet meeting where a representative of the  
Bureau has been asked to attend.

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All right. Can I ask you this, and you set out in your  
statement, in paragraph 6, a summary of that which was  
presented by Mr Davidson?-- Correct.

Can I ask you what steps you took to inquire of your own  
Department about what Mr Davidson's information actually  
meant?-- We were informed at that Cabinet meeting that the  
same briefing had already been provided to all  
Directors-General across government, but nevertheless the  
Premier requested that all Ministers make sure that the work  
that was initiated out of that original briefing was, in fact,  
being undertaken. So, shortly after that Cabinet meeting, I  
met with my Director-General, John Bradley, and we discussed  
what he had already put in place in terms of the preparation  
for the forthcoming summer or wet season. As a result of that  
discussion, I also asked him to prepare a letter to be sent to  
the relevant bodies that may have not received that same  
briefing that the Directors-General and Ministers had  
received, and that's the letter I referred to, I think, in  
paragraph - paragraph 9, I think it is - sorry, I beg your  
pardon, paragraph 11.

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Specifically, though, did you ask your Director-General or ask  
him to ask anyone as to the level of confidence that might be  
enjoyed when examining weather predictions in a La Nina  
year?-- I'm sorry, could you ask that again?

Well, Mr Davidson gave you a briefing about the fact that we're anticipating a La Nina event. You are aware of that?-- Yes.

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I suppose one way the question could be approached is this: were any inquiries made about what this might mean in terms of inflow into the Wivenhoe Dam?-- Well, two points. Firstly, it wasn't just the El Nina event, there was, as I say in my statement, a confluence of events and conditions that were coming together to show that we could expect a significantly higher than average amount of rainfall across Queensland, and I also note in my deposition that it was the weather bureau's contention that it is - despite those conditions applying, it was still difficult to plot where that rainfall may, in fact, fall, but, nevertheless, because we had already received a pretty wet spring and our dams had recently returned to full supply, I thought it prudent that we write to the Water Grid Manager to alert him to this information, for them to obviously receive the same briefing if they had not already done so from the Bureau, and make the necessary preparations based on their knowledge of hydrobiology and the various records that they kept as to the likelihood of flooding events in South East Queensland.

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All right. We will come to that in a minute, but I just wanted to know whether any inquiries were made of anyone in your own Department or associated with it, whether you were the responsible Minister or not, for example, someone in the Climate Change area, whether you made any inquiries as to what Mr Davidson's information actually meant for you, for your department?-- Well, that was the purpose of meeting with the Director-General shortly after that Cabinet meeting, was to undertake - make sure that all the necessary work that was being - was being, in fact, undertaken in preparing for summer, and out of that meeting came a number of briefs over the following, I think, weeks as to what they had been doing.

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All right?-- So, as I understand it, they also submit those reports centrally to Department of Premier and Cabinet to - as well.

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What sort of reports are you talking about in general terms?-- Well, the person probably best to ask that is the Director-General but, as I understand it, the Department has - before every summer season they conduct a review of applicable conditions as to - and how they may prepare for them. That goes to ensuring that necessary staff are available, that various activities are undertaken to prepare for, in this case, a significantly wetter than average wet season.

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One thing that was done to initiate inquiries as to the temporary lowering of the full supply level at Wivenhoe, Somerset and North Pine Dams?-- That's correct.

And we know that the option was being entertained to lower Wivenhoe at least to 95 per cent of its full supply level?-- Yes, that came about through that letter I referred to. It seemed to me that whilst we had achieved 100 per cent, if the



weather bureau - full supply level - that if the weather bureau was indicating that we were in for a wet summer, that perhaps we could afford to reduce the full supply level, albeit temporarily, if that went to improving the flood buffer in Wivenhoe Dam. They undertook that work, I received that response, I received a verbal briefing from - and then a written response, a letter with an attachment that suggested to me that they had considered my request in some detail and had come up with that conclusion.

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We will come to that in a moment. Can I ask you this though: was an understanding that - this was all happening on the back of a long drought, but was the possibility of lowering it to any other level ever entertained, anything lower than 95 per cent Wivenhoe, or the others for that matter?-- Not that I'm aware of. I didn't mention a number in my letter if - that-----

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No?-- That in my view was up to them to determine.

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Up to whom?-- That is the Water Grid Manager, Seqwater, et cetera, based on their experience with the hydrology records, et cetera.

I suppose that's what I am getting at, because those who were asked were those who were understandably concerned with what I will broadly term water security?-- Correct.

Did you take any advice from or seek any advice from anyone in your own Department as to what an appropriate level for the dams might be in an impending La Nina year?-- No. I would have expected that advice to come from these bodies through the Department. The Department would have briefed on their briefs and if they had have had a differing opinion, I would have expected them to express it through that process.

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Sorry, when you say the Department would have been - would have briefed them on their briefs, I am not sure I follow. For example, would the gentlemen we mentioned earlier, Mr Peter Allen, The Dam Safety Regulator, would he have had any input into the suggested reduction of the full supply levels?-- I can't answer that. I don't know. Sorry, in terms that - I meant that in terms of the response I received from the Water Grid Manager. As to whether there was discussion in the preparation of that letter with someone like Mr Allen or others, I don't know.

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You didn't seek any advice from anyone in your Department as to the appropriateness or otherwise of that figure?-- Not separately from this, no.

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No. All right. As, I think, you have noted at this time, second half of October last year, Wivenhoe was at 100 per cent?-- Correct.

And you'd agree, had been in the 90s, I think, since March of last year?-- Yes.

That which was predicted by Mr Davidson was not a "run of the mill La Nina", you were aware of that?-- Correct.

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In those circumstances, would it not have been advisable to seek some guidance from your own Department on this issue?-- Well, I considered seeking advice from the dam operators was the appropriate way to go.

As we agree, the people from whom you sought advice were those whose principal concern at that time was quite understandably water security; you agree with that?-- I wouldn't say it was their - their principal concern, I'm aware that they have a range of concerns, one of which is maintenance of the full - full supply level or the maximum full supply level for supply to South East Queensland, but I am also aware they have very significant responsibilities in terms of dam safety.

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All right. Can I ask you this: was North Pine Dam given the subject - was it the subject of any separate or special considerations in the context of this discussion?-- It was - it was to the extent that I had visited Pine Rivers Dam. Prior to Christmas, we had a community Cabinet meeting out there and Ministers do local activities, and one of the activities that I understood took was to visit the dam which had just hit full supply, and-----

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I suppose what I am getting at-----?-- They were make releases downstream, if I recall.

Yes. Having visited it, you would be aware that whereas when Wivenhoe's at 100 per cent or full supply level, there is still a long way to go to the top of the wall?-- Correct.

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That's not the case at North Pine?-- Correct.

So, whilst a reduction to, say, 95 per cent at Wivenhoe is one thing, did you query whether a greater reduction at North Pine mightn't make a bit of sense given that it was near the top of or at the top of its full supply level anyway?-- I did on the day and I was briefed in terms of how differently Pine Rivers is managed compared to a dam like Wivenhoe that does have that flood buffer and - and also the potential damage or otherwise downstream from very large releases in both dams, so that briefing went to the differences and why they make different decisions based on different conditions and the different nature of the storages.

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So, which briefing are you talking about on what day?-- That is the - when I was actually visited the dam.

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And just remind me, when was that?-- From memory, I think it was December.

Okay?-- Late November, early December.

All right. Well, let's follow through on these dates. At paragraph 37 of your statement, I think you identify the fact that this process was set in train on the 25th of October?--

Correct.

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At paragraph 40, you identify that a response was received on the 24th of December?-- Correct.

It invites the question, Mr Robertson, about whether any action was taken to chase this up in the meantime?-- I had been verbally briefed, as I mentioned earlier, in, I think, early to mid-December about their preliminary view and they indicated to me that they would be following it up with a more detailed report, and that - that view was as is contained in that letter, that they thought a minor reduction was possible, that it would not make an appreciable impact on flood levels.

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Sorry, from whom was that briefing?-- That was when I attended the new - I met the Board of the Water Grid Manager and attended the control room. I do mention it at - in this deposition. In paragraph 64 I met with the South East Queensland Water Grid Manager for general demonstration of their emergency management room facilities and it was during the course of that meeting - and I have neglected to mention that in this deposition - that they provided me with their preliminary advice.

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Who provided you with the advice?-- Would have been the Water Grid Manager.

All right. So, that was as at the 13th of December?-- That's right.

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You don't actually get the written response until the 24th of December?-- Correct.

Can you understand that the concern might be raised that that sort of - any sort of indication as to the rate of communication between the parties, then the wet season was going to be over before the matter was properly considered?-- Well, I think more to the point that during December they had already started to release water and on some occasions quite large amounts of water. So, from my point of view, they were already actively managing the - a significant increase in rainfall to maintain the dam at the 100 per cent full supply level, given the amount of water that was flowing into the dam. So, whilst on its own what you say may have some veracity, but in the context of the water grid management, Seqwater and others were already actively managing a very wet season-----

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Well-----?-- I don't think that would be fair.

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You don't think what, sorry?-- I don't think what you suggest would be fair.

Well, let's just look at what they were managing. As you say, they were managing a wet season. To your assessment, was the wet season that they were managing something that was out of the ordinary?-- Well, it was certainly the wettest season that I have experienced in the years that I have been Minister

for Natural Resources and certainly - and I think this needs to be understood - that prior to the creation of the South East Queensland Water Grid in 2006 and the water restructuring of responsibilities in 2007, Seqwater, in particular, was more a creature of the councils and the Minister of the day would have had little advice being provided to him or - and virtually no ability to influence policy on how water was stored and moved throughout South East Queensland. So, in terms of that experience that you talk about, this was certainly the wettest season I have experienced as Minister For Natural Resources with responsibility to - for oversight of bulk water storage and performance.

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You suggest that these issues might have been the responsibility of others. We are talking here about the reduction of the full supply level at these dams which I thought you'd agreed was, in effect, solely your responsibility; you agree with that?-- Sorry, I don't think I said that.

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Well, you, on advice from your Director-General who works for you and after consultation with Cabinet, can amend the Resource Operation Plan?-- That's right.

Yes. And that's the topic that we're on at the moment?-- Yes.

Is the reduction of the full supply level?-- Correct.

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You're the only one who can effect that?-- Yes.

You were the one who had initiated this on the 25th of October, initiated this dialogue?-- Yes.

You had no formal response until the 24th of December which is not a date on which a lot of work usually gets done. When was anything going to happen, if it was going to happen?-- Well, things were already happening. They were already actively managing increased inflows into the dam and releasing water according to the flood manual.

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Did you satisfy yourself that what was happening was something that was consistent with an event of the kind predicted by Mr Davidson?-- Well, there is no way to determine that what was happening was, in fact, an event that was being predicted by Mr Davidson.

I think that's the point?-- Sorry? No, that's not correct. What was, in fact, happening during December was higher than average rainfall that was being captured in our major storages and was being managed according to the manuals that had been developed over many years, so in terms of my responsibility, I was satisfied that they were operating according to the manuals that had been developed, bearing in mind their responsibilities for flood mitigation, minimising impacts downstream, as well as dam safety.

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That was always on the cards, though. I mean, when there were increased inflows, which took the level above 100 per cent, you are aware that the manual requires them to lower it to 100 per cent?-- Correct.

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That's the whole purpose of considering a reduction in that level, was to give them a buffer, to give them a bit of room to move, if the event was something other than a run of the mill wet season. Wasn't that the object of the exercise?-- Yes.

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That's why you kicked it off in the first place?-- Yes.

Are you telling us that, to your assessment, that which was happening in December was being managed in such a way as to suggest that it was just a run of the mill wet season and that it didn't need - therefore, the dam full supply level didn't need altering?-- Well, it's not the case of me making a determination whether it was a run of the mill wet season or not, that certainly would not be within my competency, but what was occurring were inflows into the dam that were being properly managed according to the manual that the dam operators were required to abide by.

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All right. I think that answers my question, is that you didn't accord Mr Davidson's warning any significance in the context of the decisions you were making at this time?-- I disagree with that.

Well, can you explain to us how you took steps to ensure that the dams were prepared for something other than a run of the mill La Nin, a La Nina being something other than an ordinary wet season?-- Well, if you can help me with the definition of what is a run of the mill wet season and how that differentiates from a La Nina-----

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Well, I can't but I am suggesting to you that there might have been people in your department who could?-- Well, I-----

First of all, do you agree with that? Could someone in your Department have helped you with that?-- Could someone have helped me with?

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With the question that you just asked me?-- Well, I think that answer is contained in the Bureau of Meteorology briefing where it suggests that whilst a higher than average wet season is beyond us, it is not possible for them to determine where that rainfall will actually fall. It could well have been that the rainfall that was experienced in December may have been the last rainfall that we saw over the Wivenhoe Dam. It may well have been that the number of cyclones predicted by the Bureau of Meteorology did not eventuate or, in fact, were double the number. These are all vagaries that go to the advice that the Bureau of Meteorology can provide, given their technology and their resources, but there was nothing that I saw in December that was suggesting to me that the dam operators were not doing anything other than operating those dams, based on the manual and based on their own historical

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records of what they should expect.

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Well, where does that leave the initiative that you started on the 25th of October? Had you, in effect, abandoned that?-- No, I hadn't abandoned it, but I was aware that they were already releasing and operating those dams, they were releasing water, according to the inflows.

And that didn't give you a clue as to the perhaps heightened need for that project, which you had initiated back on the 25th of October, to be accelerated, that they should be given that extra leeway that this initiative might have created for them?-- Well, I think the fact that the rainfall was fairly constant, there wasn't probably the ability for them to do that in between the various rainfall events. I think when you look at the report that is attached to their letter of the 24th of December, that is a fairly comprehensive assessment of what needed to be done to determine whether, one, they should release water to reduce the full supply level, and, secondly, to what level should they release - release it to. That was all being prepared at the same time that they were actively managing the dams, according to the rainfall that was being stored in the catchment.

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Well, can I just take you perhaps to annexure SR7 in your statement?-- Yes.

And attached or accompanying that there is a draft of a press release-----?-- Correct.

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-----which quotes you as saying certain things?-- That's right.

In the way these things work, was this press release prepared quoting you saying as - saying certain things about an issue before you'd actually said them?-- Sometimes that happens.

Yes?-- But, yes. It's up to me to determine whether those were the words that I would actually use.

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No, but whilst the press release had been prepared, you had not prepared any documents necessary to give effect to the content of the press release; is that correct? You hadn't prepared any documents or asked for any documents to be prepared in order to amend the Resource Operation Plan?-- No.

Can you understand that this might give rise to the suggestion that managing the news cycle was a higher priority than managing the issue and the press release was prepared on the 25th of October or thereabouts, but the correspondence isn't chased up until it arrives on the 24th of December?-- No, I don't, because at the time there was an active debate going on, both inside and outside Parliament, an agenda being pursued by the Opposition to reduce the flood supply level, and we were receiving queries from the media as to what our attitude was in that regard.

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Just to be fair to you, did you mean to use the word "reduce"

then?-- I'm sorry? Sorry, to reduce the flood buffer and increase the full supply level.

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Yes. Well, was it that debate which caused you to put this question on hold?-- No, I didn't put it on hold.

So, what was the relevance of the Opposition's-----?-- They were-----

What was the relevance of the remark about the Opposition's position?-- They were promoting a particular line or policy that we should, in fact, look at reducing the flood capacity of Wivenhoe to store more water. That had been generating media interest and the media were requesting responses from us, or me, as to what our views were. So, that media release was not generated in isolation.

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No, that might explain why the media release was prepared but why wasn't the issue pursued at that time?-- This was the 25th of October?

Well, why wasn't it pursued to any greater extent than that the response came on the 24th of December?-- Well, as I mentioned earlier, (1) therefore that media release is not relevant, but (2), as I mentioned earlier, I was briefed verbally mid-December, and in consideration of the work that needed to occur, which is attached to the letter I did finally receive on 24 December. I think it goes to, and no doubt you will have questions for other witnesses in that regard - it goes to the complexity of the work that was undertaken by those people to determine what their position was going to be.

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But you had an indication on the 13th?-- Correct.

As to what the conclusion was going to be?-- Correct.

20

Didn't that invite an inquiry at least as to whether you could have the advice in time to implement it before Christmas?-- Well, as I mentioned, there was already rainfall events underway.

Yeah?-- And the authorities were actively managing releases from the dams as a result.

That didn't eliminate the relevance of what you proposed, though, did it?-- No, not the relevance.

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But you say the fact that the rain had already started eliminated the urgency?-- Well, I think it goes to what priority they should have been attending to, and attending to the inflows that were occurring at that point in time was, in my view, the priority.

Well, the flood operation engineers attend to the inflows?-- And outflows, yes.

40

And outflows, yes. Those who were giving you this advice weren't occupied with those, were they?-- I - I would imagine they in fact would have been. From the highest level to the actual operators of the dams would have all been involved in actively managing those inflows and releases according to the flood manual, which outlines the responsibilities quite clearly of every individual in the chain.

Is that your understanding, that the people from whom you were expecting the advice would have been involved in the decisions in the operation of the dams in this period?-- Yes.

50

I see?-- Because those duties go beyond just simply opening and closing gates; they go to a range of responsibilities involving liaison across government at different levels of government, particularly with local government, so it is simply not a case of opening and shutting gates. Everyone has responsibilities.



Isn't it the case that it is solely the responsibility of the Flood Operations Centre to manage the reduction of floodwaters to the point where they are back at full supply level?-- That would be my understanding.

Well, if that's the case, you weren't waiting on advice from the flood operations engineers operating the Flood Operations Centre, were you?-- Well, as to how the advice is generated that finally gets to me, I suspect you will have to ask them as to who is involved in that work.

10

Well, all right. Is this a fair statement: that you weren't chasing it up, you weren't chasing up a response to your letter of 25 October because, perhaps amongst other things, such as the fact it was already raining, you thought those who might respond to that advice would be involved in the management of the Flood Operations Centre?-- What I would say is that I was verbally briefed on 13th of December as to what the preliminary advice would be. I was also advised of the complexity of the work needed to finalise that position, and I was aware that already we were receiving significant rainfall and they were actively managing that rainfall in terms of releasing water from the dam to ensure (1) dam safety and (2) minimal disruption to communities downstream.

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But I suppose it comes to this: when was it ever going to be implemented, in your mind as at the middle of December when you got that oral advice?-- Well, the Act is very clear in terms of my power-----

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Yeah, but - no, sorry, I will ask you to just answer the question. In your mind-----?-- Sorry, I was.

-----as at mid-December when were you going to act on this idea, that the full supply level could be reduced?-- As I mentioned, it is clear under the relevant Act that as Minister I can act in the public interest when there is demonstrable reason for me to do so. I did not consider that that demonstrable condition had been reached. I was - I was satisfied that my request was being attended to, attended to promptly by virtue of the 13th of December briefing, and the explanation of the complexity of the request, and I was also confident that in terms of their priority, and that priority was managing the current inflows into the dam.

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All right. Well, to your mind an informal, if I can put it that way, response on the 13th of December was a prompt reply to your request of 25 October, is that right?-- Given the complexity of the work that they needed to undertake.

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All right. And just to come back to my question, to your mind as at the 13th of December when was this ever going to be implemented?-- That's an impossible question to answer. You are asking me to-----

Well, can I get a not before date? You got the response on the 24th of December. Was anything going to happen over the

Christmas period?-- Well, as I think I have already explained, I was satisfied with the actions being taken by the authorities and the priority that they had set for managing the existing inflows.

1

All right?-- That was also based on the preliminary advice that had been provided to me on the 13th of December. So what you are asking is for me to speculate and I am certainly not going to do that.

10

Is there any record of that advice of the 13th of December? I know you say you refer to it in your statement - paragraph 64, or whatever it was - but is there any actual record of it?-- We would have to - we would have to look as to whether they generated a brief for the purposes of that meeting. I would have to check with my then advisor as to whether he took notes at that meeting.

Can I ask you this: were you at the Cabinet meeting on the 5th of January?-- Yes, I was.

20

And did Mr Davidson attend and give another brief to Cabinet at that time?-- Yes, he did.

All right. I am just concerned by a couple of the answers that you have just given in this way: that in the requirement with which you were served at item 10 you were asked to provide details including "verbatim accounts where possible of all discussions, meetings or briefings" - "all discussions, correspondence, meetings or briefings regarding decreasing the dam's levels in January and February of 2011." You would say that that meeting of - I am sorry, it might be item 11, or 6 would equally apply.

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COMMISSIONER: Perhaps it should be shown to Mr Robertson.

MR CALLAGHAN: Yes. It was exhibit-----?-- I have it in front of me on the screen, your Honour, thank you.

COMMISSIONER: Oh, you do?

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MR CALLAGHAN: You were asked to provide all notes made - this is item 6 - "of all discussions regarding changes to the level of the dams between September 2010 and March 2011." So if there was a note taken of that meeting on the 13th of December, are you confident that that would have been searched for and supplied if it existed?-- Yes, but we - I would be more than happy to go back and check again. If it does exist, I would tender my apology and have it admitted immediately.

50

All right. And in the same vein, item 1 asked you about your knowledge in relation to seasonal forecasts received from the Bureau of Meteorology from 1 September 2010 to 31 March 2011. Well, the briefing from Mr Davidson on the 5th of January would fall into the ambit of that requirement, would it not?-- Yes.

There is no mention of that in your statement either, is there?-- Indeed. And what I can't say is whether a briefing by Mr Davidson was actually circulated at that meeting.

1

I understood that Mr Davidson had actually briefed Cabinet again on the 5th of January. Is that not right?-- I think - I think so, yes.

Sorry, how do you say that?-- All I am saying is I don't recall whether he circulated a briefing at that meeting or whether it was just a PowerPoint presentation that he took away.

10

You were asked about your knowledge in relation to seasonal forecasts received?-- Mmm.

I assume he was there for the purposes of a forecast?-- Yes.

Yeah. Can I ask you then at that point, 5 January, did you even inquire of anyone as to whether the drawing down of the dam was possible at that time in accordance with the plan to reduce the full supply level temporarily to 95 per cent?-- Can you do that again?

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Well, we might take it back to the 24th of December?-- Yeah.

You got that response which indicated that there was no in principle objection to drawing the level of the dam down to 95 per cent?-- Yes.

30

Wivenhoe Dam. All right. Did you do anything in response to that at any stage, be it on the 24th of December, 2nd of January, 5th of January? At any time?-- Well, having received that letter, I obviously discussed the contents with the Director-General.

All right?-- My view-----

Sorry, can I just stop you? When was that discussed?-- We have frequent discussions over the telephone. What I have provided, to the best of my knowledge, are formal meetings, but meetings and discussions with the Director-General occur sometimes numerous times a day and not always do they generate - generate notes. But I would have discussed that letter with the Director-General. My view was that a five per cent reduction was meaningless in the context of what was occurring and there would be no point in continuing to pursue that, particularly into the new year when we saw a significant increase in rainfall and enhanced management on a daily basis of inflows by the water authorities.

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We know that-----?-- In my mind the priority had changed.

So there was a conversation with your Director-General on the 24th of December, is that right, on the date that reply was received?-- Probably not on the 24th of December. I think he - sorry, the Director-General or Acting Director-General - because at some stage he was on leave and I just can't recall

when that leave was - but the discussions would have already continued - sorry, would have already been virtually completed by virtue of the verbal briefing on the 13th of December.

1

All right. So-----?-- There was nothing in terms of the final correspondence that changed what my view was coming out of the meeting on the 13th.

Your view being that there was no point in pursuing this anymore?-- Well, not in terms of the advice that they had received; that is the advice that was provided to me was that they would contemplate a five per cent reduction.

10

Yes?-- That seemed to me pointless in terms of any increase in flood mitigation capacity, particularly given what was already occurring during the course of December. It seemed to me that the priority for them was to get on and do what they needed to do in terms of meeting the requirements of the existing flood manual.

20

So was the project abandoned as at that time?-- Well-----

To your mind?-- I think it is fair to say it was put aside.

Well, if you decided that there was no point in reducing it to 95 per cent while it was raining, what was going to be the point of reducing it to 95 per cent when it wasn't raining at some time in the future - I am asking you was it effectively, from your point of view, having decided it was meaningless and that there was no point, was this whole project abandoned?-- I don't think it was abandoned; I think it was parked.

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All right. With no indication as to when it might be started up again?-- Well, I think events overtook - overtook that.

Sure-----?-- Particularly-----

-----but at the time it was parked, there was no indication given to your Director-General as to when it might be started up again?-- No, for the reason that I mentioned earlier.

40

I understand the reasons?-- No, I would like to just say it again, if you don't mind, because the authorities were actively managing-----

Yeah?-- -----enhanced inflows-----

I don't think we need to say that again?-- -----in releases from the dam.

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I am returning, though, to the decision that was made by you, and you tell us expressed to your Director-General at some stage in December, is that correct? Did you express to your Director-General at some stage in December that a five per cent reduction was meaningless and that there was no point in pursuing it?-- I would have had that discussion, yes.

All right. And, again, I am just encountering difficulties

because you were asked for an account of all discussions in which you participated regarding possible alteration of the full supply level of the dams?-- But I can't provide you with the date in which that discussion would have been.

1

You were asked for the dates - for any discussions between 1st of September 2010 to the 30th of March 2011. It would have fallen within that period, would it not?-- Sure.

Yeah. All right. And when you say you decided that there was no point and that the whole thing was meaningless, you were bearing in mind the advice that had been received that it could in fact - such a reduction could in fact have provided some benefits during minor inflow events?-- Yes.

10

But you decided to put that advice to one side and decided that there was no point in even doing that?-- Because they were already managing events that-----

Yeah, I understand?-- -----were putting full supply level over 100 per cent.

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Yeah. Excuse me for one moment. We know that this whole concept was revisited earlier this year and that the drawing down of the dam did in fact happen when it was drawn down to the level of 75 per cent?-- Correct.

On what advice was that level determined - that level of 75 per cent?-- If I recall correctly, they - based on my request for them to revisit the drawdown, they conducted an assessment of-----

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Sorry, who is they?-- Seqwater and the Water Grid Manager - they conducted an assessment of a number of levels. The concern I had was that following the tragic floods that occurred, that the last thing that we would want to see would be those people, who had basically just finished cleaning out their homes, have another inundation event. That was based on - that concern was based on a subsequent briefing I requested of the bureau, Mr Davidson, who indicated that the conditions that had delivered the mid-January event, whilst had weakened to an extent, were still pointing towards higher than average rainfall. So it was - in terms of the work that they did, they came up with the level or assessment that 75 per cent would be an appropriate number.

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All right. Did you receive that in a briefing note or in any formal sense?-- They - there was an exchange of correspondence and that letter from Seqwater was written to the Director-General, who passed that letter on to me, as I outlined in clause - section 55 of my deposition. Sorry, paragraph 52 is the relevant paragraph, I beg your pardon.

50

And that is the document in which you were advised that a reduction in Wivenhoe's storage level to 75 per cent would provide appreciable flood mitigation benefits?-- Correct.

Were you aware as to the level of disruption, if any, below

the dam that this reduction caused?-- Disruption in terms of cutting off various crossings and roads?

1

Yeah, yeah?-- Yes.

And what was that?-- In terms of details?

I am not going to pin you down to which dam for how long, but in general terms?-- Yeah, they're outlined, of course, in the dam manual, that releases of certain amounts over certain periods of time cut off roads and crossings. So, yes, in general, awareness about the impact.

10

But it was worth it because of the appreciable flood mitigation benefits?-- That was my view, yes.

All right. That decision, of course, was not made or was not contemplated prior to the January floods, for the reasons you have already-----?-- Correct.

20

-----advanced. Are you aware that certain permits have been granted to extract gravel in the Harlin reach of the Brisbane River?-- Yes.

And is your department monitoring whether there is any detrimental effect to the bed and banks of this part of the river due to that gravel extraction?-- I would expect so.

You are not aware of it personally?-- No.

30

Something we can address to your Director-General perhaps?-- Yes.

And specifically whether any monitoring has been done since the flood, again-----?-- Correct.

-----a question for your Director-General?-- Yes.

All right?-- That would - the reason for that is that monitoring of that kind of impact of such an activity would come under the olden Environmental Protection Agency responsibilities, which is - which is - reports up to my colleague, Minister Jones, not to me.

40

All right. Now, you are aware that certain requests have been made for documents from you and that request has been resisted on the grounds of parliamentary privilege?-- Yes, I am.

The basis for that claim is spelt out in a letter from your lawyer which we received on Friday afternoon?-- Yes.

50

That's prepared on your instructions, no doubt?-- I wouldn't necessarily say my instructions but the issue of parliamentary privilege applying to documents is one that is wider than just my personal interests as a Minister of the Crown and that letter, as I understand, has been prepared on that basis.

All right. I might tender a letter from the Queensland Floods

Commission of Inquiry, dated 6 April 2011, and a response from Crown Law dated 8 April 2011.

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COMMISSIONER: The letter from the Queensland Floods Commission of Inquiry will be Exhibit 12.

ADMITTED AND MARKED "EXHIBIT 12"

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COMMISSIONER: Response from Crown Law, exhibit 13.

ADMITTED AND MARKED "EXHIBIT 13"

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MR CALLAGHAN: For your benefit, Mr Robertson, we're concerned with the material referred to in paragraph 34 of your statement, being parliamentary briefing notes provided to you regarding the Wivenhoe Dam full supply level review for the following parliamentary sittings?-- Yes.

All right. Now, you have confirmed that you assert privilege in respect of those documents. Can I ask have you discussed that claim with the Premier?-- No, not directly.

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All right. Privilege is, of course, there to be waived if desired. The Premier has been explicit in stating that no stone will go unturned in this inquiry. Would you take an opportunity to ask her whether parliamentary privilege should be asserted over this material?-- Yes, happy to.

All right. On that basis I have no further questions for the time being.

COMMISSIONER: Thank you. Mr O'Donnell? Any questions?

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MR O'DONNELL: It may be better if I am further down the batting list, your Honour. I'm for the operator of the Wivenhoe Dam.

COMMISSIONER: All right. Well, have counsel consulted about an order of questioning, as to who thinks they should go where? In the absence of that, Mr O'Donnell, I can't really see why you shouldn't ask questions now. Is there some particular reason for thinking it would be advantageous to have somebody ahead of you?

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MR O'DONNELL: Only that I am akin to a defendant this week.

COMMISSIONER: Only that?

MR O'DONNELL: I am akin to a defendant this week. I am in your Honour's hands.

COMMISSIONER: Everybody has got their problems.

MR O'DONNELL: Mr Robertson, could I ask you about some of the documents annexed to your witness statement, please? Would you go to SR3, please? This was a document which you say in paragraph 20 comes from the Queensland Water Commission?-- Correct.

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In mid-2010?-- Correct.

There was some discussion on the third page under the heading "Moreton area", if you count down to the third paragraph, a discussion of whether the level - the full supply level of Wivenhoe Dam has been raised?-- Yes.

And that was the discussion which was at least ongoing as from mid-2010, wasn't it?-- Yes, I understand there had been discussion earlier than that but this is the final water supply strategy that outlines the program works going forward.

20

Could you tell us, please, what was the thinking behind the concept of raising, or considering raising the full supply level at Wivenhoe?-- As I understand it, it was about whether - given that the relative infrequency of floods that had occurred since 1974, whether part of the flood buffer capacity could be usefully used for additional - additional storage. That was the question that had been raised in public consultations and it was put in there as a task that the Queensland Water Commission would investigate to determine whether it would deliver benefits. But also, I think, it does make the point that it does have implications for its flood mitigating capacity.

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Quite. Was the discussion generated by the longstanding drought, which had put Queensland - South East Queensland water supply at some risk?-- Yes.

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And Wivenhoe supplies roughly what amount of South East Queensland's water supply?-- Oh, I couldn't tell you off the top of my head, but it is the major storage.

It's-----?-- It is a large dam.

10

It is also the least expensive source?-- Yes.

And if you turn to Exhibit 5, please?-- Apart from collecting your own rainwater.

Well, from all the public-----?-- Yes.

-----sources of water in the South East Queensland, it is the least expensive source?-- Yes.

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Turn to Exhibit 5, please?

COMMISSIONER: Do you mean attachment 5 or Exhibit 5?

MR O'DONNELL: Sorry, attachment 5, SR5. This is a briefing note to you in early October?-- Yes.

And one of the matters it addresses is this question of optimising the water supply for South East Queensland by raising the full supply level of Wivenhoe and Somerset Dams?-- Yes.

30

Do we see that under heading, "Background.", in the first dot point and the third dot point?-- Correct.

Then at the foot of the page under the heading, "Key Stages in the Assessment.", do we see it contemplates as prefeasibility study which would take about six months, and the top of the next page, following that, a feasibility study to take another 12 months?-- Yes.

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So, was it anticipated this could be an exercise of the order of 18 months?-- Correct.

And on the third page, under the heading, "Other Information.", you look at the third dot point, "Key Communication." Do we see that the Queensland Water Commission in conjunction with Seqwater would be carrying out the investigation?-- Yes.

50

And did you note the comment that, "It was vital the government takes all the time needed to get this right and not to be rushed into making hasty decisions."?-- Yes.

And then was this topic also raised in a further briefing note, SR10, in early November 2010?-- Yes.

And to your knowledge, has the consideration of this question

of raising the full supply level been ongoing from that time?-- Sorry?

1

Has the consideration of raising the full supply level been the subject of a continuing investigation since that time?-- I am just trying to recall that meeting, whether it was decided to put that on hold or at least give it a lower level of priority, given that - given the rainfall that we had received, the condition of our storages across South East Queensland. I can't recall off the top of my head just what was determined, but we certainly discussed whether it should attract a lower level of priority in the works that the Water Commission should be undertaking.

10

All right. So, you're not sure whether that investigation has been continued?-- No.

Now, if we go back, please, to the start of your statement, Mr Robertson, and look at paragraph 6, this is dealing with the briefing from Mr Davidson of the Bureau. At the top of the second page of your statement, see the first dot point, "Rainfall Outlook For November 2010 to January 2011: Chance of Exceeding the Median Rainfall."?-- Yes.

20

Was that the prediction, that the outlook for those three months presented a chance of exceeding the median rainfall?-- These are the dot points that were contained in the Bureau of Meteorology's slides, so, yes.

Nothing more specific than that, nothing as to the intensity of the rainfall or location?-- There were - in terms of presentation given to us, and I think it is an exhibit, there are graphs and diagrams there that try to plot that, the chance of exceedance and by how much.

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All right. Well, can I be more specific?-- Mmm.

There was nothing specific as to the catchment, the Wivenhoe and Somerset Dams?-- No.

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Either as to location of rainfall in those locations, or likely intensity of rainfall over these three dams?-- No.

In the middle of your second page of your statement, you have a slide from the Bureau-----?-- Yes.

-----"Seasonal Outlook For Queensland." Would you mind going to the second last dot point?-- Yes.

"Unable to predict very far in advance where cyclones will cross the coast or which rivers would flood." I am interested in the "which rivers will flood part"?-- Mmm.

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Is that the thrust of the advice from Mr Davidson?-- Yes.

That the Bureau could not predict that far in advance which rivers would flood?-- That's right.

In particular, the upper Brisbane River?-- Correct.

1

So, there was no indication in the briefing that one could confidently expect very intense rainfall in the upper Brisbane River?-- No.

And would it be fair to say the thrust of Mr Davidson's advice was that it's difficult for the Bureau to predict where rainfall will actually occur?-- That's right, he made that point on a number of occasions.

10

So, your then initiating inquiry about temporarily reducing the FCL at Wivenhoe and Somerset was not generated by any particular advice that we can confidently expect intense rainfall within their catchment zones over the summer period?-- No, it was based on my observations of what we had been experiencing in the months leading up to that briefing, the fact that our storages were now at 100 per cent, and that based on the advice from the Bureau, we were in line for a very wet season, and I felt it prudent to take a precautionary approach, which was behind the initiation of that letter of the 25th of October.

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All right. Would you mind turning to SR7 of your statement? Is this the briefing to you which led to your issuing the letter of 25 October?-- Sorry, I was just reading it. What was the question again?

Sure. Take your time?-- No, I'm good.

30

Is this the briefing to you which led to your issuing the letter of 25 October?-- Yes.

Right. Just looking at that briefing note, under the heading, "Background.", with the letter to the Seqwater Grid Manager, it notes the dams are at full capacity, says, "A large number of minor rainfall events are anticipated between now and the end of 2011 wet season. As these water releases will usually coincide with local flooding, due to the rain event generating the release downstream of the dam, these low level flood events inconvenience a range of people, particularly those who need access to their properties.", and so on. Accordingly, it's suggested you request the SEQ Grid Manager to investigate the option of making small releases from these water supply dams to reduce the number of incidents resulting in low level flooding impacts?-- Yes.

40

So, the thrust of the briefing to you was more to do with making small releases so as to reduce the number of incidents affecting people immediately downstream of the dam, people in the rural community?-- And, in fact, in the months preceding this, we had a number of releases that had impacted on communities downstream and was generating understandably some headlines and some criticism, and - so that was one of the issues that was bumping around at that time, as to how we might-----

50

Yes?-- -----manage the forthcoming wet season, and who would

be affected, what to expect, et cetera.

1

Yes. But the briefing to you was not that there is an anticipation of a large flood event occurring to do with the Wivenhoe Dam and we need to make the prerelease to cope with any large flooding?-- Correct.

Thank you. Then you sent out your letter of 25 October, which is SR2. If I take you to that, please? So, you're writing here to the Water Grid Manager. You note at the commencement of the letter that the grid storages are currently at 100 per cent. Can I take you to the fourth paragraph? "I seek your urgent advice whether this water security provides an opportunity to reduce the volumes stored in dams as a means of reducing severity, frequency and duration of flooding in downstream areas." Then you say, "I note recent releases from Wivenhoe Dam have resulted in significant inconvenience and isolation for residents in some downstream areas. With the catchment saturated, I understand that even quite minor rainfall events will result in further water releases and further inconvenience for these residents." So, was that capturing the notion in the briefing note to you that given the dam being at full supply level already, even minor inflows into the dam could result in releases which can inconvenience people in rural areas closer to the dam?-- Yes.

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Thank you. Then you mention three dams by name, and the last paragraph on that page seeks a confirmation that, "These options will not significantly impact upon our current water security, measured as the probability needed to reintroduce medium level restrictions over the next five to 10 years."?-- Yes.

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That reflects the tension, doesn't it, between retaining water in the dam so as to meet South East Queensland's water needs and releasing water from the dam so as to enhance flood mitigation or inconvenience - minimising inconvenience to downstream residents?-- Yes.

There is a necessary tension in that exercise, is there?-- Yes, it is.

40

The Water Grid Manager to whom you were writing is primarily concerned with water security for South East Queensland's needs?-- Yes.

That's true, isn't it? That's its area of speciality?-- Yes.

So, it could look at can our water needs cope with a reduction - temporary reduction in the dam?-- Yes.

50

But others would have to advise on what's the benefit gained from a flood mitigation point of view?-- Yes.

So, you would anticipate that the Water Grid Manager would need to consult with others-----?-- Correct.

-----who play a role in this area. So, it wouldn't be a

simple question of the Water Grid Manager simply writing back to you?-- No.

1

You would anticipate there would be consultation with Seqwater?-- Yes.

Perhaps the Queensland Water Commission?-- Yes.

And perhaps others?-- Yes.

10

And there would need to be some modelling-----?-- Yes.

-----exercises of that kind conducted?-- Correct.

Probably meetings between the various agencies?-- I'd expect so.

So, it was not a short or quick thing on which the Grid Manager could respond?-- No.

20

Did you see the correspondance between the Water Grid Manager and, for example, Seqwater on this topic?-- I don't believe so.

Could I trouble you to look at a letter and just see whether you did see this? It's something in Mr Borrow's witness statement as an annexure. I understand the Commission has Mr Borrow's statement. Thank you. I don't know if the Commission has Mr Borrow's affidavit to hand.

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COMMISSIONER: It's an annexure you say?

MR O'DONNELL: Yes, it is.

COMMISSIONER: I won't have the annexures in front of me. The others might.

MR O'DONNELL: If you wouldn't mind going to the annexures to his witness statement? There are page numbers on the bottom right-hand corner. If you turn to page 36, please?-- Yes.

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Is the document called "Summary of Comments."?-- Yes.

Would you mind just quickly looking at that and see if you can recall seeing that?

COMMISSIONER: What was the annexure number, Mr O'Donnell? I have got some. Mr O'Donnell?

MR O'DONNELL: PB7.

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COMMISSIONER: Thank you.

MR O'DONNELL: I was starting inside the annexure at page 36. The discussion of prerelease and Wivenhoe water commences at halfway down the page, the paragraph commencing, "Another option considered"?-- Yes.

Can you recall seeing that or being told of it?-- No, I don't recall.

1

All right. Would you mind turning to page 38? This is another SEQ document provided to the Water Grid Manager to do with the subject of your letter, 25 October. If I can particularly ask you to look at page 40, the last paragraph on the page, the second sentence? Now, this sentence is considering larger flood events, flood events which can generate flows of over 3,500 CUMECS. It says, "Certainly reductions in dam volume in the order of at least 250,000 megalitres would be needed to provide any significant reduction in water level peaks experienced in the urban areas." Can you recall seeing or being told whether that was included in SEQ Water's advice to the Water Grid Manager?-- I think it may have been.

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So, you may have seen that or been told of it?-- Mmm, yes.

Thank you. You can close that up?-- Yes, sorry, yes, I have.

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You have?-- Yes.

So, you appreciate that's addressing the larger flood events?-- Yes.

And saying that you would need to reduce the full supply level by something of at least 250,000 to have a significant impact upon larger flood events?-- Yes.

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If you could go back to your witness statement, please, and look at the advice you then received from the Water Grid Manager, which is SR11? If we count down to the fourth paragraph, there is a summary there of Seqwater's advice, "Releasing water to below full supply level may provide some benefits in terms of reduced community and operational impacts during minor inflow events such as occurred over the past last month. Medium and major flood events", it considers that, "Preemptive releases will provide negligible benefits.", and then the letter in the next paragraph goes on to say, "Grid Water Manager has no objection to minor releases from Wivenhoe, in particular, no in principle objection to a five per cent reduction." Can I ask you to turn over, please, to page 4? This is the annexure to the letter, isn't it?-- Sorry?

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This is part of the attachment to the letter?-- Correct, yes.

And you read this?-- Yes.

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Page 4 has a heading, "Large Events.", which I'm interested in. It mentions, "Releases greater than 3,500 CUMECS and events of this nature have not been experienced since Wivenhoe Dam was completed in 1984.", and that was correct as far as you knew?-- Yes.

Then Seqwater has advised that - I am interested in the second dot point - "Any impacts would require releases of at least

250,000 megalitres. This is equivalent to a release of about 16 per cent of the combined storage capacity of Wivenhoe and Somerset Dams." So, in other words Seqwater is saying to have - for a prerelease to have any significant impact upon a larger flood event, the prerelease would need to be at least of the order of 250,000 megalitres?-- Yes.

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That accorded with information you had already received?-- Yes.

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Then the letter goes on, "A preemptive release of this scale is not recommended based on information currently available. The potential water security impacts are considered to be more significant than the negligible benefits. The potential water security impacts include costs associated with the earlier or avoidable operation of the desalination facility at capacity, as well as the increased probability of triggering implementation by the Drought Response Plan." Now, did you understand that to be the Water Grid Manager's comment or reaction to the concept of releasing as much water from the dam as 250,000 megalitres?-- Yes, that was their view.

20

In other words, their view from the water security point of view was it was unacceptable?-- Yes, or at least not recommended.

Did that influence your thinking on this topic?-- No, it didn't.

Why is that?-- Well, because what we were discussing - well, what I was discussing was increasing the flood mitigation capacity of Wivenhoe to potentially prevent properties being inundated under certain flood conditions. As to whether that would have a cost attached to it in terms of having to operate the desalination plant longer or triggering the implementation of a Drought Response Plan really wasn't a matter that I was in first - or I wasn't that concerned about, because we had so much water stored that it would - meant that our water - our - the security of our water supply in South East Queensland was assured for quite a few years. So, the likelihood of that coming to fruition and causing either a problem financially or to - in terms of a heightened level of insecurity in our water storage supply really I did not think - or didn't cause me not to - sorry, didn't cause me to accept that - that recommendation, it was for other reasons.

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All right. Nevertheless, the thrust of the Water Grid Manager's advice to you was it would not recommend any greater reduction at Wivenhoe than five per cent?-- Yes.

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That seemed to have led you to form the view that that was insufficient to warrant action?-- Given what was occurring at that time.

Yes?-- We already had disruption downstream of those communities, and we already had Seqwater managing releases from their full storage level.

All right?-- So, reducing below that five per cent was not based on cost or water security measures, it was based on what was actually happening in December at that time.

1

Thank you. Could I also draw to your attention, there were two places in this correspondance where the Grid Manager recommends ongoing investigations. Both were the subject of raising the full supply level, but also the option of releasing water in advance of a major inflow. Can I show you page 2 of the letter, the second last paragraph, commencing, "For Future Wet Seasons"? Would you mind reading to yourself the last sentence?-- Yes.

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See those words, "Be expanded to include options involving the release of additional water once major inflows are forecast."?-- Yes.

There is also a similar statement at the foot of page 4, the last two sentences on page 4. Are you aware of whether that ongoing consideration - sorry, whether that was the subject of ongoing consideration?-- In terms of the benefits of prelowering storage levels?

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Yes?-- No. I imagine that work has been undertaken by this Commission.

Following on from the Grid Manager's letter from 24 December, there was no change to the Resource Operations Plan for Moreton to change the full supply level, was there?-- That's right.

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There was no direction to Seqwater to lower the level of water in the dam?-- No.

Until February 2010, which we will come to shortly?-- I wouldn't call it direction, but there was no action taken to reduce it until that time.

All right. Can we come, then, to the events of February 2011?

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COMMISSIONER: Before you do, Mr O'Donnell, will you be much longer? It is just coming up to lunchtime.

MR O'DONNELL: Ten minutes or so, your Honour. I can do it after lunch.

COMMISSIONER: All right. Before we adjourn, there is just something I want to deal with. The Inquiry has arranged an internet feed for the benefit of the public so that the proceedings are available on the internet as a live stream. It is not designed to be rebroadcast in segmented form by news outlets, and to avoid any confusion about that at all, I order that the evidence and exhibits in the Inquiry not be published by way of rebroadcast of the internet feed.

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We will adjourn till 2.30.

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THE COURT ADJOURNED AT 12.59 P.M. TILL 2.30 P.M.

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THE COMMISSION RESUMED AT 2.30 P.M.

STEPHEN ROBERTSON, CONTINUING:

COMMISSIONER: Yes, Mr O'Donnell?

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MR O'DONNELL: Mr Robertson, could I trouble you to go back to an area I asked you about before lunch but I don't think I covered it adequately? Would you mind turning up in your witness statement SR11, please? In particular, if you could go to page 4 of that letter. I took you to this passage where Seqwater had said, "For a release to have an impact on large flow, it would need to be in the order of 250,000 megalitres", and the Water Grid Manager said he did not recommend such a release because of potential water security impacts. I asked you about that before lunch. One of my questions was did that influence you and you answered by reference to the cost implications addressed in the letter. But you didn't answer as to the other aspects of the Water Grid Manager's input to you. So I want to revisit and put my questions slightly broader, please. Are you aware that a reduction or a prerelease of the order of 250,000 megalitres would be equivalent to roughly a 25 per cent reduction in the full supply level?-- Excuse me, I am sorry?

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Are you aware that a prerelease of the order of 250,000 megalitres would be approximately lowering the lake level to about 75 per cent of full supply level?-- I think the advice is, and it is in the dot point above, that it was 16 per cent of the combined levels.

Combined levels?-- Mmm.

Or 25 on Wivenhoe alone?-- Yes.

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And the thrust of the Water Grid Manager's advice, we see from back at page 1 of the letter, is he would not support a release from Wivenhoe more than approximately 25 per cent?-- Correct.

Right. And he was giving that advice on the basis of the impact of water security for the water needs of south east Queensland?-- Correct.

Which is a matter you had asked the grid manager to address in your letter of 25 October?-- Yes.

50

Now, did the fact that the Water Grid Manager said it would not support a release greater than roughly five per cent from Wivenhoe impact upon your assessment at this time?-- Yes, it did.

Can you explain that, please?-- Well, my view as Minister is

that my responsibility is to seek advice, seek advice from experts on obviously quite technical and complex issues. Having asked that question and having seen that they had performed a somewhat detailed analysis of the questions raised and the conclusions reached, I was satisfied that they had done that analysis with sufficient rigour. I think I said before lunch that that didn't necessarily mean I agreed with their rationale, including the line that you mentioned about the cost implications of greater use of the desalination plant. That was not, in my mind, the issue of importance that determined whether a reduction should occur or not. But having asked the questions of the experts, people with expertise far greater than mine, I felt obliged to accept their recommendations.

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All right. Thank you. Now, if we go to the events that occurred in February 2011, please, regarding changes to the Resource Operating Plan? Would you go, please, first to your letter at SR13? This letter was written to Seqwater?-- Correct.

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And around the time the letter was written, there were also discussions with Seqwater and others regarding the prospect of lowering the level of Wivenhoe as a temporary measure for flood mitigation purposes?-- Yes, for the remainder of this wet season.

And do we see from that letter that copies were also sent to other statutory agencies; the Queensland Water Commission and the Water Grid Manager?-- Yes.

30

Because you would expect they would need to play a role in the decision whether it was prudent to lower the level at Wivenhoe as a temporary flood mitigation level?-- I would expect them to collaborate in coming to a common decision.

Again, there is the tension between if you lower the level and the rain doesn't come, are you putting south east Queensland's water needs at risk, as against the need to lower the level as a flood mitigation exercise?-- Except that by now that tension should have lessened somewhat, given the significant rainfall that had filled new storages, such as Wyaralong Dam.

40

Yes, all right. And SR14, you write to the Queensland Water Commission encouraging them to assist?-- Correct.

Now, what would be their role in this exercise?-- I am sorry?

What would be their role in this exercise?-- They - they have an expertise on board in terms of determining the overall water security objectives of south east Queensland, in terms of existing and future works. They are part of the policy setting infrastructure that exists in how we - how we use and store and transport water throughout the region.

50

All right. So their expertise lies more in the water security aspect rather than the dam mitigation aspect?-- Yes.

Thank you. Now, there was a response from Seqwater I would like to take you to. It is not in your witness statement but it is in Mr Borrow's witness statement. Could I take you to that, please? It is at page 142.

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COMMISSIONER: Does it have an attachment number, Mr O'Donnell?

MR O'DONNELL: PB18, your Honour.

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COMMISSIONER: Thank you.

MR O'DONNELL: Does your Honour's copy not have a page number?

COMMISSIONER: I seem to have random attachments, sometimes they have them and sometimes they don't, but I am happy to take my chances.

MR O'DONNELL: We have page numbers on ours.

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COMMISSIONER: I see. All right, I will see if I can find PB18.

MR O'DONNELL: It is a letter from Seqwater of 4 February 2011.

COMMISSIONER: It doesn't matter anyway. You go on.

MR O'DONNELL: Yes. That's a letter to you of 14 February?-- Correct.

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Right. And we see from the third paragraph, don't we, that there are meetings and discussions taking place between a number of statutory agencies: DERM, the Water Grid Manager, Queensland Water Commission, the Dam Safety Regulator and Seqwater?-- Correct.

Which is as you would expect?-- Correct.

It is a complicated question involving a number of agencies having input into the problem?-- Yes.

40

And do we see further down the letter in the second last paragraph commencing, "To assist DERM in formulating our policy position, Seqwater is continuing modelling to analyse the benefits or otherwise of undertaking a prerulease."?-- Yes.

And the last paragraph identifies three aspects of modelling: One is modelling the water outflows from the dam for design flood events; the second is calculating river levels from those water outflow events; the third is determining the extent of inundation based on those river levels. And the letter goes on to describe, doesn't it, that to complete all three tasks - sorry, "Seqwater can complete task one itself but requires involvement of the City Council or the Bureau of Meteorology to complete the second and third tasks, and all of those combined will take until the end of March"?-- Yes.

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Right. Then if we look, please, back at your witness statement at SR17, that's a letter from Seqwater of 7 February enclosing the modelling it had carried out?-- Yes.

And did you see that at the time?-- I am sorry?

Did you see that at the time?-- Yes, I did.

This was essentially task A in the letter we have just looked at?-- Correct. 10

If we look at the modelling, if you turn over, please, to the annexure, page 3 of 6, do we see that there are options 0 to 5 being considered?-- Yes.

And various modelling of the effect of prereleases as per those options?-- Yes.

In the enclosed pages. The option eventually chosen was option 3, wasn't it?-- That's correct. 20

And we see the effect of the modelling on the last page - sorry, page 5 of 6?-- Yes.

And just for interest, if you look at the - look down the left-hand column to the entry "January 2011 historic"?-- Yes.

And then we cross to the right-hand side of the page and look at option 3, which is reducing the storage level to 75 per cent of full supply level?-- Yes. 30

We see that it would reduce the maximum outflow from the dam to 5,748 CUMECS, and would reduce the flow by a figure of 24 per cent?-- Correct.

With the qualification that this is expressed in the covering letter to be really no more than an indicative assessment; that is a preliminary, would have wanted more time to do something more accurate with those sorts of course mentioned?-- Correct. It was my view we didn't have additional time, that a 31st of March date would have taken us to the end of the wet season and that was unacceptable in terms of taking any proactive approach based on the lessons learned of the flood event, which is why we insisted on this preliminary view. 40

Yes. You were encouraging the agencies to be quick in assessing its problem at this time?-- Encouraging is one way to put it. 50

Now, three days later you receive another letter from Seqwater - sorry, there is another letter from Seqwater to Mr Bradley, the Director-General, at SR18. And did you see this at the time?-- Yes.

Thank you. This is Seqwater's recommendation, isn't it?-- Yes.

In the opening paragraph, the CEO of Seqwater, after referring to the letter from you, advised the Water Grid Manager's position, that the Water Grid Manager had advised Seqwater that it had no objection from a water security perspective to Wivenhoe being drawn down to 75 per cent of full supply level and that such a drawdown, if temporary, would be unlikely to impact its obligations?-- Yes.

Now, that was an important piece of advice, wasn't it?-- In the consideration of all the issues, yes, but personally not in my view.

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Nevertheless, it was the expert advice that from a water security point of view-----?-- Sure.

-----there was no objection to this drawing down of the dam to 75 per cent?-- Sure.

Which is a somewhat different position than had obtained pre-Christmas?-- Correct.

20

Now, the letter from the Water Grid Manager said to be attached to this letter is not in fact part of your statement, is it? It doesn't appear to be? Doesn't appear to follow that letter? Are you with me?-- Sorry, you are saying it is not part of my-----

No?-- Well, I apologise.

30

It hasn't been included, but could I take you to it?-- Well, probably because it is not a letter addressed to me.

Perhaps that's so. Could you look in Mr Borrow's witness statement, please?-- Can I just clarify what you are asking then?

I just want to take you to the letter which is said to be enclosed with this letter from Seqwater?-- Okay.

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Mr Borrow's witness statement, document 22. That's at page 202?-- Yes.

Did you see this at the time?-- I can't recall.

All right. See it or be told of it? Do you see in the third paragraph it is a confirmation that from the water security perspective, the Water Grid Manager has no objection to Wivenhoe Dam being drawn down to 75 per cent of its full supply level?-- Sure.

50

Now, following the advice from the Water Grid Manager and from Seqwater in that letter of 10 February we looked at a moment ago, was there then a decision made to change the Moreton Resource Operating Plant so that the reduction in full supply level could be undertaken?-- Yes.

If we go back to your witness statement, Minister, do we see

that at SR19; that is a recording of the decision to make that change? Could I draw your attention to the fifth paragraph, commencing, "We have agreed to implement"?-- Yes.

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And then that was implemented by an amendment to Resource Operating Plan and by document called an Interim Program pursuant to that plan?-- Yes.

Could I take you to those, please? That's in Mr Borrow's witness statement, PB25 at page 206. So 206 is the Queensland Government Gazette effecting the amendment of the Resource Operating Plan?-- Yes.

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And 207 is the Interim Program pursuant to clause 13 of that plan?-- Yes.

And do we see the particular amendment which allows the reduction in the lake level in the annexure to the Interim Program?-- What page is that?

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Page 209?-- Yes.

In the third box on the page, the passage beginning, "Seqwater will, between 20 February and 31 March, subject to operational constraints, make the following releases from the infrastructure"?-- Yes.

What this effectively does is it doesn't change the full supply level but it allows Seqwater to reduce the dam level to 75 per cent of the full supply level?-- Correct. Just to explain, that was - the relevance of that was the Commission of Inquiry having been established, it was felt that it would not be appropriate to make a decision to change the full supply level; rather, facilitate a temporary reduction and allow that issue to be obviously ventilated here and any recommendations coming out of this inquiry would inform us as to whether that full supply level should be changed on a permanent basis or not.

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Yes, thank you. Thank you, Commissioner.

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COMMISSIONER: Thanks, Mr O'Donnell. Ms McLeod?

MS McLEOD: I have no questions, thank you, Commissioner.

COMMISSIONER: Mr Dunning?

MR DUNNING: Yes, thank you, Commissioner. Mr Robertson, I have only a few questions for you?-- I am sorry, I am having difficulty hearing you.

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Sorry, I have only a couple of very quick questions for you. The concern that you express of yourself and your Cabinet colleagues at paragraph 6 of your statement - can I ask you to turn to that, please? Sorry, I will start again. That was a concern - or concerns that you record there are concerns that were held not only by you but by other members of the government at that time?-- Yes.

All right, thank you. And in the second half of 2010, you took steps to investigate the reduction of the FSL as you apprehended, on the advice you received, an unseasonably wet summer ahead?-- Yes.

And Mr O'Donnell has taken you carefully through the individual steps in that process and I won't revisit that. You will accept, won't you, that what you realised was that nothing short of a radical reduction in the FSL at Wivenhoe could affect any releases from Wivenhoe in the event of an unseasonably wet summer?-- I'd use the word significant rather than radical.

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Right. Nothing short of a significant reduction in the FSL would avoid discharges from Wivenhoe on the summer that lay ahead of us, correct?-- That's right.

Right. And that was something you appreciated not only by yourself but by the government generally?-- I am not sure that they turned their minds to the issue of dam releases but-----

20

Well, the matter must have been significant enough to have a Bureau of Met, for example, address the Cabinet?-- Well, I think that - sorry to be pedantic about it, but the briefing from the bureau was a statewide briefing.

Yes?-- So it went to issues about cyclones. So it wasn't just about the bureau's prediction. In fact, it wasn't about the bureau's prediction of rainfall in south east Queensland, but it was a prediction about the kind of weather Queensland as a State would face and what that may mean in terms of number and frequency of cyclones, and above average rainfall and where that may occur using the technology that they have at their disposal. So each Minister, according to their particular interest and responsibilities, would have taken probably something different away from that briefing. The Main Roads Minister would have probably not turned his mind to dam levels, just as I probably didn't turn my mind to the impact on highways.

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Yes. Nonetheless, the consequences for the south-east corner of that expected high rainfall was something that was addressed in that briefing, undoubtedly?-- Yes.

Thank you. It follows, to use the expression significant that you chose, that nothing less than a significant reduction in the FSL of Wivenhoe in the lead-up to the wet season might have avoided the discharges from it in January of 2011?-- As it turned out, no is the answer. The amount of water that had to be released from Wivenhoe was far in excess of any significant reduction that may have been contemplated. Numbers such as 25 per cent, as has occurred in January, were bandied about, but even that reduction, as it turned out, would not have had a material impact. It would have had some impact but not a material impact on the extent of flooding we experienced.

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Well, perhaps we might return to my distinction. Something more - you use the expression "significant", whereas I had used "radical". In reality that was it, wasn't it: nothing short of-----?-- As it turned out, yes.

-----a radical reduction would have avoided it?-- Correct.

Correct?-- Correct.

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Thank you. Now, the reality was that was not an option for water security reasons, correct?-- I think that's - yes.

Yes. And that was not an option for water security reasons in the absence of another source of supply for water or significant source of supply for water for the Brisbane region, agreed?-- Can you just say that again, please?

Certainly. The inability to effect a radical reduction of the FSL was not an option because of the absence of another significant source or alternate significant source of water for Brisbane and those other areas that were supplied by Wivenhoe?-- Not quite as simple as that because we did have a new storage coming on line in Wyaralong Dam, which, as I mentioned earlier, did fill as a result of the January floods, but I-----

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Yes?-- But if the premise of your question is at some stage you get to an assessment of putting reliable drinking water supply at risk as a result of emptying the dam to a particular level, then, yes, at some stage you do reach that point where you need to protect a level of drinking water supply for the future.

30

And the dam that was coming on line that you refer to is what you refer to at paragraph 50 of your statement?-- I am having trouble hearing-----

Sorry, the dam that you refer to as- the dam you have just referred to is one referred to at paragraph 50 of your statement?-- Correct.

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Yes. And it would be a fair summary to say that you talk of that alleviating the problem?-- In my mind, yes. There was discussion about that.

Perhaps, Minister, just focus on my question?-- Sure.

It alleviates the problem rather than removes the problem of an alternative source-----?-- Yes, significantly alleviates it, yes.

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And our learned friend Mr O'Donnell discussed with you the tension between flood mitigation capacity and water supply capacity?-- Yes.

And that tension, of course, can be alleviated by other

sources of water. Agreed?-- Correct.

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But there was - that there was no option in the second half of 2010 was itself of no great surprise, you are aware of that. That is, the reliance upon Wivenhoe for drinking water?-- Well, yes, there are alternative supplies; the desalination plant, the recycled water plant, and the fact that it was at 100 per cent did extend out existing predictions that were made earlier that year as to when the next supply of water may need to be constructed or brought on line in south east Queensland. We're still dealing earlier in the year with a less than 100 per cent full supply level. The big game change was in fact all the - well, yes, all the storages reaching 100 per cent full supply level and the soon-to-be-completed raising of Hinze Dam would have added further to that water security.

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But the limitation of the options, as you appreciated them in the second half of 2010, were things you had appreciated for some long time by that stage?-- Yes.

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Yes. Thank you for the attention to my questions. No further questions.

MR FLANAGAN: No questions.

COMMISSIONER: Thank you. Yes, Mr Rangiah?

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MR RANGIAH: Thank you, Commissioner. May I take you to your statement and to attachment SR11? This is a letter from the Seqwater Grid Manager to you dated the 24th of December 2010 in response to your letter of 25 February 2010?-- Yes.

And in the fourth paragraph, the letter says, "Based on information currently available, Seqwater has advised that releasing water to below full supply level may provide some benefits in terms of reduced community and operational impacts during minor inflow events such as has occurred over the past month." Now, did you understand the reference to "reduced community impacts" to refer to disruption to rural communities downstream of Wivenhoe?-- Yes.

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And there had been releases of water from Wivenhoe during December 2010?-- And prior to that, yes.

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And some of the problems with releases for downstream communities would include closure of crossings and bridges?-- Correct.

And also minor flooding?-- Yes.

And scarring of riverbanks?-- Yes.

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And a reduction of FSL to 95 per cent would provide some benefits in the reduction of these type of impacts?-- Yes.

Now, earlier in your evidence, I understood you to say that Seqwater was already managing releases from Wivenhoe in December and that's why you parked the idea of reduction to 95 per cent?-- Yes, so those communities were already being impacted through the release of water by Seqwater from Wivenhoe Dam.

20

And is your reasoning that reduction of a further five per cent from FSL would require further releases?-- Yes.

And that would cause further disruption of those downstream communities?-- Correct, and we already had councils complaining to us about the releases that were being undertaken.

Now, whenever releases take place from the Wivenhoe, the downstream rural communities are vulnerable to disruption and harm?-- Correct.

30

So, we know that, for example, if there's a release of 1,900 metres - cubic metres per second, then it requires closure of the Mt Crosby Weir Bridge?-- Yes.

You may not be able to comment. So, improved infrastructure downstream, including improvement of road weirs and bridges, would allow bigger releases from Wivenhoe without or with less fear of isolation and disruption of downstream communities?-- In terms of isolation of communities, that would be my understanding, yes. But as to whether, as you mentioned, scarification of riverbanks, as to whether that would increase that likelihood, I think that's a separate question.

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But isolation of communities is one of the disruptions to them-----?-- Yes.

-----caused by releases?-- Yes.

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Would you agree with the proposition that improving downstream infrastructure should be part of flood - of the flood mitigation strategy or that reason?-- Intuitively you would say yes.

Thank you. I have nothing further.

COMMISSIONER: Mr Devlin?

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MR DEVLIN: No questions, thank you.

COMMISSIONER: Did Mr Telford - Mr MacSporran, did you get passed over first of all?

MR MacSPORRAN: No, no. It's my witness, your Honour, so I was going to go towards the end, perhaps finally before Mr Schmidt, if that's what your Honour had in mind?

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COMMISSIONER: Sorry, finally before Mr Schmidt?

MR MacSPORRAN: Mr Schmidt was going to go last, I think.

MR TELFORD: No questions.

COMMISSIONER: Mr Telford? Thanks. Well, that's you now.

MR MacSPORRAN: Yes. Mr Robertson, when you first started giving evidence earlier today, you were asked by Mr Callaghan about the 2005 Wivenhoe upgrade?-- Yes.

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And to be fair to you, is it the case that you only received very late notice that that may be a topic upon which you would be questioned today?-- Yes.

And you weren't sure, I think, whether you were, in fact, the Minister at the time the upgrade was carried out, although you said you were during the early stages of the proposal being - project being developed?-- Yes.

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In any event, whatever documents that the Department hold in respect of that issue would be available to the Commission if they seek to pursue that line?-- Absolutely.

They can be made available reasonably quickly?-- Yes.

All right. Now, when you wrote to the Water Grid Manager in October last year, did you expect the manager would have available to him the level of expertise necessary to carry out the detailed review that you required?-- They should have the - they should have or be able to access the level of expertise, yes.

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And when the reply came back to you, and if we can go to SR11, please, attachment 11 to your statement, you mentioned earlier today that you had had the briefing from the Bureau about the proposed greater than median rainfall for the wet season approaching?-- Yes.

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You made some comment that there was still significant uncertainties about where the rain would fall and with what intensity?-- Correct.

Can I take you to page 4 of this letter? That's the attachment to the correspondence. We go to the last paragraph on that page, page 4?-- Yes.

It's a paragraph starting, "Seqwater will undertake extensive investigations with the Queensland Water Commission", and so on, and then the last sentence says, "It is noted that predicting rainfall intensity and location, even as events are about to occur, has not been accurate. However, the Bureau of Meteorology is improving its methods." Is that the sort of information or sort of opinion you had in mind when you talk about the uncertainty of forecasts?-- Yes.

10

That's not in any way, is it, a criticism of the Bureau, it is just the state of science?-- No, it's not, it's something they acknowledge themselves.

And does that come into play - if you are talking about making preemptive or earlier releases from Wivenhoe, for instance, do you need to take account of the forecast rainfall downstream of the Wivenhoe Dam?-- Yes, that's right.

Because whatever you release from Wivenhoe combines with whatever falls in the area below the catchment, to move on to potentially flood Brisbane?-- That's what happened in 1974 and it's what happened in 2011.

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And we know from these events, don't we, in hindsight that large volumes of water fell below the Wivenhoe catchment-----?-- Correct.

-----in the Lockyer and so on Valley?-- Correct.

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And all of that relies upon the science of predicting, forecasting the location and intensity of the rainfall?-- Indeed.

All right. I will take you back to attachment 2 to your statement briefly. That's your letter of request. Now, the questioning of you earlier today seemed to proceed if not directly certainly impliedly on the basis that your request was for an assessment of lowering the full supply level to 95 per cent. Is it the case that that figure of 95 per cent only really appears in the penultimate paragraph on page 1?-- Yes.

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And is referable only, it seems, to the Leslie Harrison Dam?-- Correct.

So, are you simply making a general request for a review as to whether the supply level could be lowered without specifying the amount, but quoting by way of example with Leslie Harrison Dam it would be at a minimum 95 per cent?-- I'd - I'd - that is right. The purpose of that sentence being there was to indicate to them that there had been precedent for operating storages of less than 100 per cent.

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With respect to that dam in particular?-- And that dam in particular is 95 per cent, but it was not for me to start recommending the amount dams should be reduced by, that would be a question for the experts to answer.

Yes. That's why you left your request generally open as to if it could be lowered, impliedly by how much?-- Correct.

That's all I have, thank you, your Honour.

COMMISSIONER: Thank you. Mr Schmidt?

MR SCHMIDT: Thank you, Madam Commissioner. I seek to tender two letters attached to my second statement of the 9th of April. I've got them here.

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COMMISSIONER: Well, it might - do you need them to cross-examine this witness?

MR SCHMIDT: Yes, please.

COMMISSIONER: The best way might be if you actually show them to him.

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MR SCHMIDT: Okay. I think they can be put up on the screen as well.

COMMISSIONER: Are they letters from Mr Robertson?

MR SCHMIDT: One is and one's from us to Mr Robertson.

COMMISSIONER: Is one an answer to the other?

MR SCHMIDT: Yes.

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COMMISSIONER: Okay. If you just show them to Mr Robertson and if he recognises them, we will make them an exhibit.

WITNESS: Yes, I do.

COMMISSIONER: All right. Now, your letter was to Mr Robertson and then it's his answer, is it?

MR SCHMIDT: Yes, it was a letter attached to an e-mail on the 23rd of December to Mr Robertson.

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COMMISSIONER: Right.

MR SCHMIDT: And the reply was a letter from Mr Robertson on the - dated the 9th of March 2011.

COMMISSIONER: Thank you for that. The letter of the 23rd will be Exhibit 14, and the letter of the 9th March will be Exhibit 15.

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ADMITTED AND MARKED "EXHIBIT 14 AND 15"

MR SCHMIDT: Thank you.

COMMISSIONER: We will just have them marked and then if you need them you can give them back to Mr Robertson to look at.

MR SCHMIDT: I will just explain to the Court that they were letters regarding the reduction of the FSL in Wivenhoe, one saying that we would like a reduction of - down to 80 per cent, or at least research down along those lines, because at that stage we were unaware that there was already research being done to drop it down to 95 per cent.

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COMMISSIONER: When you say "we", you mean the Brisbane River Irrigators?

MR SCHMIDT: The Brisbane River Irrigators, yes. It came from a meeting we had with Seqwater. Minister, you obviously recall seeing these letters?-- Yes.

Have you viewed the riverbanks below Wivenhoe Dam since the flood?-- Yes, I have.

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So, you agree that there's been significant damage to these riverbanks?-- Absolutely.

Madam Commissioner, I have got some photographs that can be put up on the screen of that damage-----

COMMISSIONER: All right.

MR SCHMIDT: -----if you would allow it?

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COMMISSIONER: I'm sorry, what was the last thing you said?

MR SCHMIDT: "If you would allow that."

COMMISSIONER: Oh, certainly.

MR SCHMIDT: Has your Department or any Department actually completed a riverbank assessment - environmental assessment of the riverbank damage at this stage?-- Just to clarify, at the time of the event I did have Ministerial - did have some Ministerial responsibility in terms of riverbank restoration. I no longer in terms of my current portfolio, but, yes, following the floods we were - all Departments were required to submit through their respective Ministers a Cabinet submission - Cabinet submissions on the tasks - on the damage that had occurred and the tasks that were required as part of the recovery taskforce and what Departments do on a daily basis. Part of that was an assessment of the extent of damage to riverbanks and land holdings along the Brisbane River and tributaries. So, some - at the time that I still had some responsibility, some of that work had been done at a macro level. I was also keen to see volunteer groups, such as Greening Australia and South East Queensland Catchment also be brought on board. Meetings did occur with my Ministerial colleague Kate Jones to map out effort and costings on the effort that would be required to be invested to restore, where possible, as I am sure you will agree, some of the damage is

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such that, you know, it perhaps will never be repaired, but to the extent possible, what both professional and volunteer effort can do to restore those riverbank environments.

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Okay. Well, that assessment be made publically?-- You will have - I understand at some stage my Director-General will be a witness here. Perhaps that's a question best put to him.

So, it's his responsibility to address that damage?-- Well, more to the point, it's not mine any longer, so I can't answer that question.

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Okay. Thank you.

COMMISSIONER: Mr Schmidt, just before you go on, do you want these photos to become an exhibit?

MR SCHMIDT: Yes, please.

COMMISSIONER: Do you have a hard copy of them?

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MR SCHMIDT: Yes. They're in our submission.

COMMISSIONER: All right. We will have to get somebody to extract that and when they're extracted they will become Exhibit 16.

ADMITTED AND MARKED "EXHIBIT 16"

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COMMISSIONER: How many are there?

MR SCHMIDT: About a dozen.

COMMISSIONER: All right.

MR SCHMIDT: We do have copies of-----

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COMMISSIONER: Well, it would help if you can hand them up and I can get them marked. If you have got someone assisting you, perhaps-----

MR SCHMIDT: Minister, you referred earlier to communities below the dam being affected if the water was released from Wivenhoe Dam - if small releases were released from Wivenhoe Dam?-- Yes.

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Were you made aware of the meeting between MBRI and Seqwater on the 10th of December seeking releases of water on a continual but a low level that would reduce the water level without causing riverbank slumping and without cutting low-lying bridges?-- I may not be aware of the meeting but I am certainly aware about the debate.

Okay. And so you wouldn't be aware of the fact that

Seqwater's immediate response was to refuse that request?-- I can't recall that, no, I'm sorry. 1

Okay. Thank you. No further questions.

COMMISSIONER: Thanks, Mr Schmidt. Mr Callaghan? I'm sorry, before you do, I might just ask the Deputy Commissioners if they have any questions. Mr O'Sullivan?

MR O'SULLIVAN: No, Commissioner. 10

MR CUMMINS: No.

COMMISSIONER: Yes, thanks, Mr Callaghan.

MR CALLAGHAN: Mr Robertson, the last questions I asked you were directed towards those documents in respect of which Parliamentary privilege-----?-- Correct.

-----was being claimed. You may not have had the opportunity during the adjournment to take that any further. I don't know, did you?-- Well, I think it perhaps needs to be clarified that the inability to tender those documents is not via a reluctance on my part, the advice that has been provided to me, and I believe to you as well, is that Parliamentary privilege is something that I can't waive. In fact, neither can the Premier. As I understand it, the only - it can only be waived by a specific motion of Parliament. So, I would not like you to think in any way I have been deliberately obstructive in this regard. 20 30

No?-- But it is an issue that I can't help you with, but noting the Premier's words, it does need to be resolved in another place.

All right. Do you have - and this is unlikely given that you have only been perhaps questioned on it recently - but do you have any indication as to how long it might take for that to be resolve?-- Well, as I understand it, that would need to be a motion of the Parliament, which would require Parliament to sit, but I am sure the----- 40

Is Parliament sitting now?-- No, it's not.

When does it next sit?-- Some weeks away, so it might be a matter that the Commission needs to take up with the Premier or Director-General or, indeed, the speaker.

Well, do we have to do that or can we take - can you take it up on our behalf?-- I think as a Commission of Inquiry, with all of your powers, it would be best if you did that. 50

Well, our power has been to require you to produce it. You have declined to produce it on the grounds of Parliamentary privilege, which you tell us can't be waived except by motion of the Parliament?-- I will just correct you there one more time, just to help you. I have not declined, I am unable to.

All right?-- Because frankly if it was up to me, I would.  
You'd have them in front of you.

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I understand that. That's what you are telling us, and I am just wondering how we have to move forward from this point?-- Well, I would suggest-----

We can't-----?-- -----with the greatest of respect that the Commission should take this matter up with the Premier and/or the Speaker and/or the Director-General of the Department of Premier and Cabinet. That would be the appropriate avenue to take.

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All right. You don't propose to do anything more about it yourself; is that-----?-- Don't understand what your difficulty is, sir. I am happy to go and ring the Premier and ring the Speaker and ring anyone else you like, but I think procedurally-----

Well-----?-- Please let me finish. Procedurally, this Commission is held in a very high regard and has all the powers of a Royal Commission. I would expect, whilst not being as learned as you, sir, that the appropriate way to go would be for the Commission to approach either the Premier, the Speaker, and/or the - and/or the Director-General of the Cabinet to resolve this issue, but for the purposes of my evidence here today, my inability to table these documents is not based on my reluctance, but simply by advice that I do not have as an individual or as a Minister the ability to waive Parliamentary privilege.

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I understand that, and these are, though, documents which are in the possession of your Department; is that right?-- Yes.

And they are documents which pertain to issues which - or with which the Commission is concerned; is that right?-- Correct.

All right. And your advice to us is that we must take that up with the Premier or with someone else if we wish to see them?-- I can understand your frustration, but I can only restate, based on the advice that I have been provided with, it is not within my ability to waive Parliamentary privilege. I have indicated to you that if it was up to me, you would have the documents sitting in front of you at the moment.

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But-----?-- But can I just reiterate once more, and I must admit I'm somewhat bemused by this line of questioning, that it would be open to the Commission of Inquiry, and I think quite properly so, for you to resolve this with the officers that I have mentioned who have the power to deal with this matter.

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It is just before lunch you said you-----?-- But, look, I have got to say, if you have problem contacting the Premier, I am happy to do that for you.

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All right. Thank you. I have no further questions.

COMMISSIONER: Thank you, Mr Robertson. You are excused?-- Thank you.

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WITNESS EXCUSED

COMMISSIONER: Mr Callaghan?

MR CALLAGHAN: I call Robert Ayre.

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ROBERT ARNOLD AYRE, SWORN AND EXAMINED:

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COMMISSIONER: Yes, Mr Callaghan?

MR CALLAGHAN: Could you tell the Commission your full name and occupation, please?-- My name is Robert Arnold Ayre. I'm a headworks design manager at Sunwater.

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Mr Ayre, you have now provided a total of four statements to the Commission; is that correct?-- Yes, that's correct.

There are statements from the 23rd of March 2011, 29th of March 2011, the 8th of April 2011, and the date on the last one is the 11th of April, that's today?-- Yes.

Correct? All right. I tender each of those.

COMMISSIONER: So, you said four, I think, Mr Callaghan; is that right?

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MR CALLAGHAN: Yes, Madam Commissioner.

COMMISSIONER: 17, 18, 19 and 20, in order of date.

ADMITTED AND MARKED "EXHIBIT 17 TO 20"

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MR CALLAGHAN: Do you have copies of those yourself?-- I do, yes.

In your statement of the 23rd of March at paragraph 39, you give a description of what you do, as I understand it. What is your understanding of the manner in which your role might change in the near future?-- As I understand it, well, the secondary role that I have is associated with being the Senior Flood Operations engineer for Somerset, Wivenhoe and North Pine Dams. I understand as a consequence of ongoing negotiations between Sunwater and Seqwater, that my future involvement in the role of Senior Flow Operations Engineer is still under discussion.

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All right. Well, as you say, in addition to your day-to-day responsibilities, you assume some extra duties in times of flood; that's correct?-- Yes, that's correct.

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Can you just give us a broad explanation of those?-- In my role of Senior Flood Operations Engineer, I'm responsible for the overall operation of the Flood Operations Centre. In that context, I assist Seqwater in preparing the flood operation centre for preparedness and undertake the training of people in - who have roles in the Flood Operations Centre and I

assist in producing routine and event-based reports during flood events.

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Sorry, I just missed that last bit?-- I assist in producing reports to the Dam Safety Regulator on flood events.

All right. Now, if I could take you to paragraph 72 of that first statement that you provided and the paragraphs thereafter, you give us there an overview of Wivenhoe and Somerset Dams?-- Yes.

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Two dams which must be operated, at least certainly in times of flood, in conjunction with each other?-- They are used conjunctively to provide the best overall flood mitigation for floods emanating in upper Brisbane.

And you also speak there to North Pine Dam, but we might come to that as a separate topic later on?-- Okay.

You speak in your statement about the difference - paragraph 107 now - between flood attenuation and flood mitigation. I wonder if you could just give us a brief explanation of what you understand the difference between those concepts to be?-- Flood attenuation occurs in all dams, whether they have gated spillways or not. Flood attenuation effectively is the reduction in flow through a structure. Flood mitigation is where there's a deliberate act of operating a dam to ensure that the release rates are generally lower than the inflow rates. So, there's an element of control associated with mitigation that is not necessarily otherwise available in flood attenuation.

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All right. You have already mentioned, I think, the Flood Operations Centre which you speak about in paragraph 113 and we can read that, of course, for ourselves, but could you, just in broad terms, give us a brief summary of what is it, when does it operate and, who works there?-- Certainly. The Flood Operations Centre is a secured area in the - currently located in the premises of Sunwater's office. It is a dedicated facility for conducting the operations of a number of gated dams, so it is a combined Sunwater/Seqwater facility at present. The centre is routinely staffed by a team of duty engineers and technical assistants on a routine basis. However, during or when a flood event is declared, the centre is staffed 24 hours a day until the flood event is over.

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Well, when it is mobilised, it manages any given situation in accordance with a document known as the manual, more correctly, the Manual of Operational Procedures For Flood Mitigation at Wivenhoe Dam and Somerset Dam, in the case of those dams?-- That is correct.

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All right. I tender that copy of the manual.

COMMISSIONER: Exhibit 21.

ADMITTED AND MARKED "EXHIBIT 21"

MR CALLAGHAN: Do you have a copy of that with you?-- I do, yes.

All right. Now, the Flood Operations Centre receives data from various sources?-- It receives radio telemetry information from field stations, such as rainfall and river height stations, via means of a base station which is located on the roof of the building.

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Yes?-- And we also receive manual observations from the operators stationed at each of the dams.

What other sorts of data are received?-- We have access to a range of products provided through the Bureau of Meteorology, principally forecast model information and registered user information, in - where we can actually share model results with the Bureau of Meteorology.

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Just because some terms seem to recur in these sorts of discussions, we frequently encounter the concept of QPF?-- Yes.

Can you explain that to us?-- The QPF is a Qualitative Precipitation Forecast. That is a product that is obtained from the Bureau of Meteorology. It's a 24 hour qualitative rainfall forecast which is specific to the catchments of Somerset and Wivenhoe Dam and also North Pine Dam. This product is provided twice daily, normally it's 10 a.m. and also at 4 o'clock in the afternoon, and it's our principal means of warning, if you like, of impending rainfall.

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The data received by the Flood Operations Centre is processed using what's known as the Real Time Flood Model, is that correct?-- Yes, that's correct.

What is that?-- The Real Time Flood Operations Model is a suite of computer programs. I was part of the development team that was responsible for putting the models together during the mid-1990s. It is a custom built suite of programs specific for the Somerset, Wivenhoe and North Pine systems.

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Right. You have the Somerset Wivenhoe manual there?-- Yes.

Can I take you to page 13, paragraph 5.2? Do you have that?-- Yes, I have that.

You see there are five bullet points there, each designating a responsibility that Seqwater has for improving the operation of the Real Time Flood Model over time. Can we just go through those one by one and can you speak, if you can, to the manner in which those things have been done, implementing improvements based on flood event audits and reviews?-- Yes, after every major flood event we do conduct a review of a number of processes and systems within the Flood Operations Centre. Part of that review includes looking at the performance of the real time model and its interaction with the data network that provides the information that the models are based on.

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And-----?-- In recent years we've had a number of events whereby additional rainfall stations and river height stations have been recommended for inclusion in the model. A number of those recommendations have been implemented, although there are still a number outstanding. In terms of improving the Real Time Flood Operation Model calibration, after each event we examine the performance of the system and adapt the model calibration parameters accordingly.

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All right. Updating of software?-- With regard to the updating of software, it is acknowledged that the system we currently use in the Flood Operations Centre is some 15 years old and so is reaching the end of its nominal design life. So Seqwater at the moment have a project underway to replace the current software suite with proprietary products which make use of more recent IT implementations.

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15 years sounds like a very long time for any sort of software to be in operation. Has thought been given to updating it - or I suppose I should ask when was thought first given to updating it?-- Well, we have examined looking at improving the software and, indeed, with the advent of the auxiliary spillway in 2005, the software was modified to incorporate the auxiliary spillway. The hardware platform that the system resides on was also updated and - I think 2006. So a number of progressive improvements have been made but, if you like, they have been nominally bandaids to that particular piece of software, and it is recognised that with the advancements in software with relation to available products,

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and IT support, that the use of a system such as the Delta fuse system that Seqwater are now pursuing is a fundamentally sound way to go. 1

Improving the coverage and reliability of the data collection network to optimise data availability during flood events?-- I think I have mentioned previously that we have identified areas of the catchments where there are some rainfall and river height information where the coverage has been sparse, so there has been recommendations about including additional rainfall stations, especially in the network. 10

Recommendations by senior flood operations engineers - that's you, I suppose?-- Yes, that's correct. Although there are two senior flood operations engineers currently nominated.

Yes?-- So John Ruffini and myself, we have acknowledged that there are certain things, such as the gate sequencing, which has been largely based on physical models, and I suppose operationally the prototype we haven't actually seen how those gate settings are performed. So we do review the actual gate settings based on observations available from the operators. A similar sort of thing happened in the February '99 flood. 20

Okay. Moving forward in your statement to paragraph 218 - I suppose before we address that you might just explain to us in broad terms the nature and purpose of the various strategies for the release of water from Wivenhoe during a flood event from strategies W1 through to W4?-- In the manual of flood operations there is a hierarchy of objectives listed and the list of strategies basically dovetail into the strategies - sorry, the objectives that are listed in the manual. Initially the entry level for a particular flood is strategy W1 and the focus of that particular strategy is really the minimising the disruption to the downstream valley, and effectively that means trying to prevent the inundation prematurely of a number of the low level bridges situated downstream of Wivenhoe Dam. Strategy W2 really is a transition strategy between strategies W1 and W3, where it may be possible to prevent the inundation of all except the two larger bridges, which is Mt Crosby Weir Bridge and Fernvale Bridge. So it has a limiting capacity in there. But it is designed to limit the flows to the naturally occurring flows that emanate out of the Lockyer and Bremer River if possible. Strategy 3 really reflects the objective of trying to maximise protection to the downstream urban areas, and then strategy 4 is focussed predominantly on maintaining the structural integrity of the dam itself. 30 40

All right. Within each - or within those four broad strategies there are a number of sub-strategies?-- Yes, there are a number of different target flows nominated associated with differing lake levels in Wivenhoe Dam. 50

But one thing the strategies have in common is a prescribed level of the dam which is referable to the given strategy, is that correct?-- Yes, that's correct.

And when we look at the manual, sometimes it might be described in different ways. I just want to make sure that we're always talking about the same thing. For example, on page 21 of the manual at paragraph 8.3, it prescribes that "once a flood event is declared, an assessment is to be made of the magnitude of the flood event, including a prediction of the maximum storage level in Wivenhoe and Somerset Dams." That means a prediction of the lake level?-- The lake level, yes.

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The maximum that it is going to get to during that flood event?-- That's right, yes.

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Obviously you don't need to predict the actual maximum level of the dam itself. The same term - sorry, a similar term, if we look at, say, the diagram on page 23, where it just speaks about Wivenhoe level. Again, that's the level - it is the same concept as was being discussed at paragraph 8.3?-- It is a similar concept, yes.

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Well, for the purposes of choosing a strategy, it is the same thing?-- It is predicted.

Or if it isn't, please tell me?-- It is the predicted level in Wivenhoe Dam.

If I turn the page over, page 24, in the second box there it is described as Wivenhoe storage level. Same thing?-- That's the same thing. It is identified as the Wivenhoe Dam lake level, yes.

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And you used the phrase lake level. If you turn the page under strategy W1A, again it just says "lake level greater than the specified age"?-- Yes.

We're talking about the same thing all the way through?-- That's correct.

That is the level the dam is going to reach during the flood event?-- It is the predicted level, yes.

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All right. Now, as I think you have made clear in your brief description of the strategies, you are not required to accord primary consideration to the structural safety of the dam until you are at W4?-- That's correct.

Before that you have to direct your primary consideration to other things such as - if we just take W1, the inundation of - I will use the exact words - sorry, W1 is the primary consideration for minimising disruption to downstream rural life?-- Yes.

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What does that actually mean? What do you-----?-- We take that to be interpreted as we're endeavouring to keep the low level bridges from being submerged prematurely. So we have seven low level bridges located downstream of Wivenhoe Dam.

All right?-- That have a range of capacity, as is shown in

the diagram on that page.

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Yes?-- Those bridges range from Twin Bridges, which only has a capacity of 50 cubic metres a second, up to the Brisbane Valley Highway Bridge at Fernvale which has a capacity of 2,000 cubic metres a second before it becomes inundated.

Is that what W1 is all about, is just those bridges or are there other considerations?-- There are other considerations, in terms of we know the Burtons Bridge community becomes isolated if indeed Burtons Bridge is inundated, so we try to take that into account and through the gate sequencing and the limits placed on the gate opening intervals, we consider such things as bank slumping and issues that may impact the rural communities in that regard.

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All right. In strategies W2 and W3 - W2 is a transition strategy from that being the primary consideration to protecting urban areas from inundation, which is the primary consideration under strategy 3. Again, what does that actually mean? When that's your primary consideration, what do you have in mind when you are protecting urban areas from inundation?-- The primary consideration is the required storage - sorry, the required discharge rates from Wivenhoe Dam. So in strategy W2, the maximum release rate is limited to less than three and a half thousand cubic metres a second. So that's our primary consideration, the criteria which is applied in W2.

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Sure, but does it actually have a meaning to you in the flood operations centre as to what effect that has, what urban areas would be inundated?-- We do have some understanding in terms of the consequences of different flow rates.

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Yeah?-- Relating to Moggill, as to the number of properties and the actual damage that is likely to be incurred for those particular flow rates.

And when you say you have got some understanding of that, what's that based on?-- That's based on access to the Brisbane City Council, Ipswich City Council and Somerset Regional Council Brisbane Valley Damage Minimisation Study in 2007.

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That's something to which you can refer when you are in the Flood Operations Centre?-- Yes, it is.

Does it provide you with an indication of where there will be inundation at 3,500 and where there will be inundation at 4,000?-- It does identify - in the associated damage spreadsheet that Brisbane City Council provide - have provided to us, it does identify those suburbs which will be impacted at those various flow rates.

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Now, we can work out for ourselves that the manual requires the Flood Operations' engineers to stay operating at W3 until the predicted lake level is 73.9 metres - well-----?-- Yes.

-----just short of 74. I am rounding it off?-- Yes.

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And that's fine if the - depending on your starting point but it is true to say, isn't it, that during the January event there was one period - and you might have to take my word for the figures if you don't have them in front of you - but between - for example, 0100 on the 10th of January and 0100 on the 11th, a period of 24 hours, there was a rise of just over three metres in the Wivenhoe lake level from around 70 to around 73 - I am just speaking in general terms?-- Yes.

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We don't have to pin the exact figures down at the moment, but you recall the event?-- I do indeed.

With some clarity, no doubt?-- I do, yes.

So, as I say, when the lake can rise by over three metres in less than 24 hours, that's okay, just, when the starting point is around 70 metres. But if, hypothetically, there was another event of that magnitude in a similar sort of a period, then you'd very rapidly have serious dam safety considerations, wouldn't you?-- You would certainly be invoking strategy W4 and be contemplating the security of the dam, yes.

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Well, you would have no choice about invoking the strategy, but if you got three metres on top of the 73 in a 24 hour period - and I am not asking you to do the modelling and work out exactly which fuse plug might have gone or anything like that, but that's a serious dam safety threat?-- It certainly would be, yes.

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But you, as you have acknowledged, wouldn't be permitted to give primary consideration to the safety of the dam until you tripped over that 74 metre mark?-- 74 is really the tipping point-----

Yeah?-- -----to take us into consideration of the security of the dam.

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All right. Well, I might as well ask you now: given that we know you can have a rainfall event of that magnitude, does that suggest that attention should be directed to dam safety as a primary consideration a bit before the levels are predicted to reach 73.9?-- I think now that with the incorporation of the auxiliary spillway into Wivenhoe Dam, there is a greater opportunity for us to deal with those type of events. Had that scenario occurred before the auxiliary spillway is in place, then I think you would have greater concern for the risk to the security of the dam.

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Well, by that you are saying that the fuse plugs would deal with the situation?-- The fuse plugs would assist you in alleviating the rate of rise, yes.

The blowing of the fuse plugs would be a highly undesirable outcome, though, wouldn't it?-- It is - it is certainly not something you would take lightly-----

No?-- -----but in terms of ensuring the overall security of the dam-----

Sure?-- -----if need be, then yes.

No. We all agree it is better than the whole dam going, but it is still not something that you would really like to happen?-- No, that's correct.

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Can I ask you this: what training or what attention has been given to - I will start that again. Has amongst the flood operations engineers there been any formal training, or seminars, or formal consideration given to what's involved in a W4 situation prior to this event?-- We - all four duty engineers were part of the manual review panel.

Yes?-- So there were discussions in relation to how W4 could be incorporated into the revised manual.

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Yes?-- The Seqwater interaction study provided a suite of modelling that showed the likelihood of the W4 being invoked during a range of design floods.

Seqwater Interactions Strategy?-- Study, yes.

Okay. Did that actually consider what was involved in the decision-making process once a W4 situation had been reached, or just-----?-- I think it was used to inform the application of the strategy in the manual, but the modelling that we do is consistent for all of the strategies and is based on a consistent approach in terms of adopting the no further rainfall model as the basis of operational decisions, but using the forecast rainfall models as a means of determining where the event is likely to develop to.

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All right. Well, I want to pick up on that now, because the analysis that we've conducted thus far does reveal the absolute importance of the predicted lake levels. That's what brings the strategies into play?-- Yes.

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And it comes through - and you have just acknowledged, I think, in your evidence, and it certainly comes through in the statements made by yourself and the other engineers - that the means by which you ascertain the predicted lake level is the no further rainfall model, is that correct?-- That's correct, yes.

For the purposes of choosing which of the strategies is to be deployed?-- Yes.

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And I just want to take you through - first of all show you - can I show you this collection of documents which are headed model - appendix A, model results. You are familiar with these documents?-- Yes, I am.

Yes, I will tender those, Madam Commissioner.

COMMISSIONER: Exhibit 22.

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ADMITTED AND MARKED "EXHIBIT 22"

MR CALLAGHAN: Mr Ayre, there is five pages of figures but I think if you flick past those, there is the first of a series of graphs?-- Yes.

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I might get those up on the screen as well so that your Honour can take a look at them. The document is Modelled Wivenhoe Dam Lake Levels, is that correct?-- That's right, yes.

And down the bottom - we'll forget the page number but it has got "run 20: Sunday 9 January 2011, 17:00"?-- Yes.

That's right? Perhaps you can tell us what we're looking at?-- The plot shows the-----

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Sorry, just - what the document is?-- The document is the summary of model results that were undertaken by the Flood Operations Centre during the January 2011 flood event.

Okay?-- And these results show the two model results based on no forecast rain and with forecast rain for the time indicated on run 20, which was 17:00 hours on Sunday the 9th.

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All right. Is this summary printed off from the same - or where does it come from?-- This information comes out of our Gate Operations Model spreadsheet.

So it all comes from the same source-----?-- Yes.

-----as the source from which actual decisions were made?-- Yes, that's correct.

All right. Well, it is to some extent self-explanatory but we have a blue line going from the left-hand side of the page to the point of a dotted line which is the point in time at which the model run was done, is that correct?-- That's correct, yes.

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Then we have diverging blue and red lines. The red line is the box in the top right-hand corner, indicates is without forecast rain, and the blue line with forecast rain? Is that correct?-- That's right, yes.

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For our purposes today we proceed, do we not, on the basis that the decisions made in the Flood Operations Centre were made on the basis of the red line?-- Yes, that's correct.

Okay. Keep that document there because I want to look at it - I want to go through a few of these in conjunction with looking at another document known as the Flood Event Log. You are familiar with that document?-- I am, yes.

Can you just describe to us what the Flood Event Log is?--  
The Flood Event Log was a register of all the pertinent information, particularly incoming and outgoing communications from the Flood Operations Centre. It is a document that was maintained by the technical assistance, so it is not necessarily a verbatim record of the communications that occurred.

I will show you a copy of it for the purpose of tendering it. That's the document in question, is it?-- Yes, that's correct.

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All right. I tender that, Madam Commissioner.

COMMISSIONER: Exhibit 23.

ADMITTED AND MARKED "EXHIBIT 23"

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MR CALLAGHAN: Going back then to the modelled lake levels, the first in that sequence which I have handed to you is run 20 which is at 5 p.m. on Sunday the 9th of January, is that right?-- That's correct.

We see in that one both with and without forecast rain had the dam lake level at below 74, in fact below 73 even on the with forecast model?-- Yes, that's correct.

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Similarly, if you turn the page to run 21, same story. Even though the with forecast model is creeping up, it is still below 74, as is the without forecast model?-- Yes.

Run 22, which was done at 8 p.m. on Sunday the 9th of January, is a model in which the forecast rain would have taken over - would have taken the dam level over 74; that's correct?-- That's correct.

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But, as you have told us, that's not regarded for the purposes of ascertaining the strategy to be chosen?-- No, it is not because of the volatility in the forecasts.

All right. And I take it all of the relevant forecast information that you receive is somehow or other factored into this model?-- The model runs are all done on the 24 hour QPF forecasts.

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Okay, which is-----?-- Which is the forecasts we deem as being the most reliable, as such.

It is the best possible available?-- Yes.

Now, can I take you then to run 23 which is at 1 a.m. on the 10th of January? Again, the with forecast rain has the dam level in excess of 74, not so the without forecast. But there

was an entry in the flood event log I wanted to ask you about,  
at around about this time that this model run was done. Just  
excuse me for a moment.

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On Monday, the 10th of January at about - oh, at 1 a.m., which is when this model run was down, you see there's an entry "RA called", someone at Somerset Dam, "regarding purported dam stability issues"?-- Yes

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Do you know what that was about?-- The - we had received an e-mail from Tony Trace - I think it was Tony Trace earlier that day - which indicated that there had been some reports that there was issues with respect to Somerset Dam. In fact, there'd been reports that with there were cracks in the monolith.

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All right. And what happened?-- I - as we were required in terms of the section plans, I phoned the operators to confirm what the situation was at Somerset Dam at that time.

All right. Did any of that come to anything?-- No, the operators indicated that they'd just completed a surveillance of the galleries and that everything at the dam was intact.

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Right. Well, turning, then, to - perhaps staying with that, you can see at that 1 a.m. entry there is an entry to say that the model run was done at that time as well?-- That's an approximation, yes, of - as to when that run was completed.

Only an approximation?-- Yes.

With what sort of margin for error?-- In the actual model itself we set particular timeframes, so 1 a.m. would have been the cut-off time that data that's been corrected - collected in real time was used, and then from 1 a.m. onwards the forecast information would have been used. So, the model run would have, indeed, been done some minutes after 1 a.m.

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Okay. So, some minutes?-- Yes.

Not 10 minutes or-----?-- Oh, it possibly was after the phone call, yes.

Yes. All right. Well, can I take you, then, to run 24, which, according to the entry at the bottom of that page, purports to have been done - you would say at approximately 0300?-- Yes.

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Is there a corresponding entry in the Flood Event Log which reflects the fact that that run was done at or around that time?-- Not necessarily. The model runs were added into the event log later in the event, it was - they weren't necessarily captured in the event log from the start of the event. So, if the technical assistants hadn't recognised that we had a preserved model run at that time, they may not have recorded it.

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I see. All right. So, that's just down to whether the technical assistant managed to record it?-- If - indeed if the duty engineer had indicated to the technical assistant that we'd just completed a model run.

I see. Well, this might explain the next question: in relation to run 25, the result chart, that purports to have been done at approximately 0400 on the 10th; is that right?-- Yes, that's right. 1

But if we look at the Flood Event Log, there's what might be the corresponding entry - I don't know, you tell me - would appear to have been entered at 5 a.m.; would that be right?-- Yes, that's correct. 10

So, how is that - how does that discrepancy arise if - why would it be entered at 0500, rather than at 0400?-- Well, the model timeframes are set independent of necessarily when the model is run.

Yes?-- We would set the - what's called time now in the Case Edit Page to be a particular time. So, this model was set at 4 a.m.. We would do the analysis and then do the reporting, and this particular model would have been used as the basis of the situation report that was produced at 6 a.m. and during the reporting process, which could have been as late as 5 a.m., we would have indicated to the technical assistant that the model run has been completed. 20

But that might not have been at exactly 0500?-- No, no, it would have been at some time - not necessarily so.

So, where there is a discrepancy, and there are a few of them, between the figure on the chart and the figure in the Flood Event Log, we should assume that the chart reflects the time closest to which the model run was done?-- Yes, that's correct. 30

Okay. All right. Well, going through these model results, there's a clear pattern for 25, 26, 27, 28 and we will pause at 29. You'd agree in respect of each of those the with forecast blue line is always well above '74 and the without forecast is below '74?-- Yes, that's correct.

Can I just ask you about that one, 29. It has to the left-hand side of the dotted line, which represents at the time the model was run, there are two lines. I think it only appears on one other of these result charts. To the outsider, it would appear that that should always be one line because it's working on what's actually happened until that point?-- Yes, up until the dotted line it should one line. 40

Is that just a slip in the machinery or any scientific basis for that?-- No scientific basis for it. I would suggest it's simply----- 50

Just a printing problem?-- I'm not too sure. I would expect there may be slight differences between the two runs in terms of gate settings adopted.

In terms of what, I'm sorry?-- In the gate settings that were adopted, which may lead to those slight differences.

All right. Anyway, it shouldn't really be different, should be the one-----?-- I don't believe it's any material difference. Yeah, they should, in fact, be tracing together.

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All right. That was done at - run 29 - I think it was 1400 on Monday the 10th, and can I just take you back to the Flood Event Log to certain things which were happening that afternoon?

MR DEVLIN: Chair, I think it's 1600.

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COMMISSIONER: Yes. You said 1400. You meant 1600.

MR CALLAGHAN: 1600, thank you. That afternoon, I suggest there were some issues which reflect some of the difficulties which you were dealing with that day. Perhaps if we picked up at 12.33 p.m., "Called BCC twice. No answer. Left messages." Is that the entry?-- That's the entry. However, I wasn't actually in the Flood Operations Centre on this day, so I can't-----

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I understand, and if you can't comment you can't comment clearly, but as the senior man, if you like, you have obviously reviewed all of this material?-- I have reviewed it, yes.

And I suppose I was going to take you then to the entry at 2.30 which reflected further difficulties calling the BCC?-- Yes.

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3 o'clock, "Called disaster coordinator. No answer."?-- Yes.

I suppose I want to ask you at this point a general question about difficulties in communication in the Flood Operations Centre. I mean, this tends to suggest that people to whom you would have liked to have access weren't necessarily always there when calls were made?-- There is certainly some communication issues with the different agencies at different times during the event, yes.

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And are these examples of those?-- They are examples of those.

I mean, you were also, for example, being troubled at 6.45 p.m. - when you say "you" I meant the centre - by concerns about school groups using North Pine Dam?-- Yes. I recall that Brett Schultz advising one of the other duty engineers - of that regard. I think that was John Tibaldi who dealt with that matter.

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Is that the sort of issue that you think you should have had to - the Flood Operations Centre should have troubled with during a time like this?-- It's an issue that relates to public safety.

Yes?-- But I think it was addressed by the right channels, the rangers responsible within Seqwater dealt with that

matter, as I understand it.

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Yes. I am just wondering why it didn't go to them in the first place?-- I can't answer that.

All right. On the same page, I think we have got a concern at 5.09 p.m. that water from Wivenhoe was getting into the mini hydro?-- Yes.

Can you explain what that was about?-- The - well, this is the mini hydro up at Somerset Dam, which has been decommissioned at this point in time. Some of the seals on some of the - on some of the valves weren't secured sufficiently and so water was indeed entering the chamber of the mini hydro.

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Was that a maintenance issue or-----?-- It was a maintenance issue that the operator advised he had investigated and was able to alleviate during the course of the event.

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All right. And you told us the Somerset hydro's been decommissioned?-- Yes, that's correct.

Can we go through, then, to - past run 30 and 31, and 32, which all, I'd suggest, follow the same pattern, where the with forecast dam level is over '74 but the without forecast is below?-- Yes.

I take you, then, to run 33 and 34 and ask you to look at both of those in conjunction with each other. Looking at the chart for run 34, the without forecast level of the dam looks to touch '74. Is that the way you interpret it?-- Yes, it's getting very close, yep.

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Looks to be actually on the line and the data at the - on the first couple of pages of the document that I have handed to you would tend to suggest that it was actually at '74?-- '74.

Would you agree with that?-- Yes.

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Okay. Still looking at it in conjunction with run 33, are you able to - sorry, just excuse me. Are each of those runs recorded on the Flood Event Log?-- I don't believe so.

Why would that not be so?-- At the time we were focussed on actually doing the modelling and weren't necessarily getting the technical assistants to take note of the model runs as they progressed.

All right. Well, do we know from anything that's been recorded at what time any of the flood operation engineers might have seen the results of run 34?-- The information was contained within the technical situation report that was issued at approximately 6.15 on the Tuesday morning.

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Yes. There's one that's issued, I think, at 6.12?-- 6.12.

A situation report that issued that day. Do you say it should

record the details of when run 34 was noted?-- It won't record the time at which the run was done, but it would record the predicted levels.

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All right. Well, that's what I'm getting at and if the answer is we can't find out, we can't find out, but the question or what I'm directing these questions at is whether it's possible for us to ascertain when run 34 was first seen by anyone?-- Certainly I know I was responsible for actually conducting that modelling, so I was - aware of where were at shortly after I'd run that, run that model.

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All right. Thank you. Turning back to the Flood Event Log at around about that time too, it's at about 3.15 a.m., I think, there's an entry on the Flood Event Log relating to the Brisbane City Council; is that right?-- Yes.

The log records that the council was providing you with - with an inundation forecast to assist with devising strategy to manage releases. I suppose that would be relevant at W3; is that right?-- Yes, that's correct.

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Okay. If you'd been at W4, that sort of information wouldn't have been as relevant?-- It's not as relevant, no, no.

Well, then, run 35, 0400, again, both levels over '74?-- Yes.

Run 36, likewise?-- Yes.

And run 37 likewise?-- Yes.

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Am I right that it was on the strength of run 37 that W4 was declared, or was it earlier than that?-- No, at 8 p.m. strategy W4 was invoked.

Again, can I ask is there anywhere we can look to actually record in real time, if you like, when that decision was documented?-- I wasn't present in the Flood Operations Centre at that time. I expect the communications between John Tibaldi and Terry Malone reflect the decisions to invoke W4. I would just have to check the log. I believe the entry at 7.59 a.m. is an acknowledgement that W4 had been implemented.

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That tells us that releases will reach 3700 metres, so impliedly you say that means W4's been reached?-- Because that release rate is in excess of three and a half thousand cubic metres a second and is above the target release rate for Strategy W3.

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The target release rate for what, sorry?-- Strategy W3.

That's right. So, doesn't that imply that you are still at W3 or-----?-- No, it's my understanding that at that time the Strategy W4 was actually implemented.

And, look, as I say, if you can't - if it's not recorded, it's not recorded, but is there anywhere that actually makes that

explicit to us? Can we look at anything to say when W4 was declared?-- Not in the event log, no.

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Or anywhere else?-- No, I don't believe so.

No. Okay. That entry that you refer to at 7.59 would have been before or would be a reflection of a conversation which happened before run 37; is that right?-- Yes, yep.

Okay. And it was run 37 which was the tipping point, if you like?-- I am unsure because I wasn't actually in the Flood Operations Centre at that time, but I believe so.

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All right. Thank you. Well, can I just draw some attention to some other events that were going on around this time or in a short time thereafter by reference to the Flood Event Log? At 8.50 a.m., Wivenhoe lost power; is that right?-- It lost mains power feed, yes.

That situation continued at 9.09 p.m.. There's an entry relating to that?-- Yes.

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At 11.06 there was a problem because the fax machine wasn't working; is that right?-- And that would have been - related to the mains power situation, yes.

Okay. 12.10, landline connection issues?-- Yes.

None of these things could have made life easier?-- No, but there were a number of redundant systems in place for the communications. We had access to the two-way radio, we had still mobile phone coverage as well that we could provide to or contact the operators at Wivenhoe.

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All right. Well, we have been through those model runs now and, of course, a number of those were included in the flood report which was prepared by Seqwater as required after an event of this nature. You had a role in the preparation of that report?-- Yes, I did.

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If I was to suggest to you that the results of runs 32, 33 and 34 were not included in that report, would you have any comment to make?-- No, the situation that occurred on the Tuesday morning, during that timeframe we were actually trying to understand what was happening in Lockyer Creek and the flows emanating out of Lockyer Creek. The differences in predicted peak level in Wivenhoe for the no further rainfall forecast are well within our modelling bounds, which is normally around about 250 millimetres, so those particular model runs are effectively saying the same sort of thing.

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All right. Can I take you to this, Mr Ayre: it's clear enough, isn't it, on the strength of all those model runs that, hypothetically, if you operated on the with forecast rainfall model, you could have justified a decision to go to W4 on the basis of run 22?-- The-----

This is a hypothetical, I accept?-- As a hypothetical. The

uncertainty associated with those with forecasts runs are quite large.

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I understand that, but nevertheless you had a scientific model where the predicted rainfall - predicted lake level was taken over '74?-- Yes.

And you could have justified a decision if you were operating on that basis, you could have defended it by saying, "Well, there's a prediction here."?-- Well, there is a balance, I think, in terms of reliance on a forecast base model as opposed to the no further rainfall model.

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And I understand you have made clear that you regard the best method as the no rainfall model?-- Yes, that's correct.

And is it fair to say that as far as you know in discussions with your colleagues, Mr Malone, Mr Tibaldi and Mr Ruffini, they all agreed with that?-- I believe so, yes.

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Yes. And, indeed, if we go to your first statement at paragraph 408, you make the point that the manual does not expressly state the predicted lake levels should be determined on a no further rainfall basis; is that correct?-- That's correct, yes.

But I'd suggest to you, Mr Ayre, not only does it say that - does it not say that, it actually says something very different, and can I take you to the manual and to paragraph 8.4 on page 22? About halfway down the page, it says that, "The strategy chosen at any point in time will depend on the actual levels in the dams and the following predictions which are to be made using the best forecast rainfall and stream flow information available at the time, one of those predictions being the maximum storage levels in Wivenhoe and Somerset Dams." You'd accept that's in the manual?-- Yes.

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And would you not accept - would you not agree that as it reads, it's tolerably clear that the strategy is to be chosen at least in part on the prediction of the level of Wivenhoe based on the best forecast rainfall information?-- Yes, that's correct.

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But that's not what you did, was it?-- I believe we did. I think the no forecast rainfall is, indeed, just one of the available forecast rainfall scenarios to be considered.

Well, you're saying that no forecast rainfall is the best forecast rainfall?-- It's been proven to be the most available in the past, yes.

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Would you accept that on a natural reading of that provision of the manual, it might be thought to direct the attention of the flood operation engineers to what the actual forecast rainfall was?-- It certainly does indicate that we should take into consideration what our most reliable forecasts are, yes.

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Well, that's right, best forecast rainfall information available at the time?-- Mmm-hmm.

It certainly does not suggest to the average reader that means no forecast rainfall, does it?-- That's an interpretation, yes.

All right. Is that a convenient time, Madam Commissioner?

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COMMISSIONER: Yes, it is. We will resume tomorrow at 10 a.m.. We will need you back, Mr Ayre. If you have any physical exhibits, can you make sure my Associate gets them?

Adjourn the Court.

THE COMMISSION ADJOURNED AT 4.29 P.M. TILL 10.00 A.M. THE FOLLOWING DAY

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