

Submissions by SEQ Water Grid Manager on 4 April 2011

1. This further submission is made by the SEQ Water Grid Manager (**Water Grid Manager**).
2. The submission is set out in the following sections:
 - a. Section A – Further information as to the roles and responsibilities of the Water Grid Manager;
 - b. Section B – The Water Grid Manager’s involvement in the planning and preparation for the 2010 – 2011 floods; and
 - c. Section C – The Water Grid Manager’s involvement in the response to the 2010 – 2011 floods.

A. Further information as to the roles and responsibilities of the Water Grid Manager

3. The submission addresses aspects of specific topics raised by the Commission’s terms of reference, in particular:
 - a. the extent of the Water Grid Manager’s role in preparation and planning by federal, State and local governments, emergency services and the community for the 2010/2011 floods in Queensland; and
 - b. the extent of its role in the response to the 2010/2011 flood events.
4. The Water Grid Manager does not advance any submissions as regards the other aspects of the Commission’s terms of reference at this stage. It confines itself to those matters on which it considers that it may offer substantive contribution (rather than making submissions for the sake of participation). It remains available to assist the Commission, howsoever.
5. The Water Grid Manager considers that it ought to provide further detail about its roles and responsibilities as a preface to the submissions dealing with those terms of reference if only as lending material context.

Overview of the Water Grid Manager's roles and responsibilities

6. In summary¹, the Water Grid Manager is responsible for managing the operation of the Water Grid to ensure:
 - a. Water supply (including short term water security and the reliability of water supply);
 - b. Water quality; and
 - c. Efficient and cost-effective operation of the Water Grid.
7. The Water Grid Manager operates the Water Grid with a view to compliance with the strategy, targets, objectives and rules set for it by the Queensland Water Commission (QWC) in, amongst other documents, the System Operating Plan (discussed below).
8. In particular, the Water Grid Manager has several specific roles and responsibilities (which arise as part of its responsibilities to provide a secure water supply of requisite quality) which are relevant to matters of interest to the Commission under its terms of reference. Those include:
 - a. The preparation of the Water Grid Emergency Management Plan;
 - b. The preparation of the Water Grid Risk Management Plan; and
 - c. Communications insofar as that is relevant to the Water Grid.
9. Each of these roles and responsibilities is to be viewed in light of the Water Grid Manager's overall responsibility mentioned above. The Water Grid Manager is responsible for ensuring that water of a certain quality is provided from the bulk suppliers of water, through the Water Grid, to its ultimate end users, in accordance with the strategy set by the QWC. It buys water services (storage, treatment, production of

¹ Acknowledging that summaries can be apt to mislead by obscuring the detail. The Water Grid Manager identifies the Acts and Instruments referred to below for that detail.

manufactured water and transportation) from bulk water suppliers and sells water to its customers.

10. The Water Grid Manager does not have a responsibility for disaster and emergency planning and management (as those matters are covered by the State Disaster and Emergency Management committees and other entities including local councils), land use planning (which would encompass risks to persons and property in potentially flood-affected areas), weather forecasting and other topics that will undoubtedly be of interest to the Commission. The Water Grid Manager's focus is on ensuring that water travels from bulk water suppliers to customers in a way which best utilises the region's water resources as a whole.
11. In its submission dated 11 March 2011, the Water Grid Manager outlined the relevant legislation and statutory instruments. Some elaboration, by reference to separate Acts and instruments, to explain the specific roles and responsibilities of the Water Grid Manager may be useful.

Relevant aspects of the South East Queensland Water (Restructuring) Act 2007

12. The Water Grid Manager, a statutory body, was established by section 6(1)(d) and section 10 of the *South East Queensland Water (Restructuring) Act 2007* (Qld).
13. Section 10 of that Act provides that the Water Grid Manager is to purchase water services, sell water and engage in other activities that would complement or facilitate those functions, to the extent they are consistent with its operating and strategic plans.
14. Section 45 of that Act provides that, before 31 March each year, the Water Grid Manager must prepare and submit to the responsible Ministers for their agreement a draft strategic plan and draft operational plan for the next financial year.
15. Sections 47, 48 and 49 of that Act provide that the Water Grid Manager must comply with its strategic and operational plans.

16. Section 51 of the Act provides for the requirements of the operational plan to be prepared by the Water Grid Manager.

Relevant aspects of the Water Act 2000

17. The *Water Act 2000* (Qld)² (WA) provides for the management and use of water in Queensland.
18. Chapter 2, WA deals with the ‘... *sustainable management and efficient use of water and other resources by establishing a system for the planning, allocation and use of water*’³.
19. Part 2 of Chapter 2A, WA provides for the establishment of the QWC.
20. Part 3 of Chapter 2, WA deals with water planning and the preparation of various plans in respect of water, particularly water resource plans.
21. Section 345, WA provides that the QWC’s main functions are:

(a) to do the following for the SEQ region and designated regions -

- (i) advise the Minister on matters relating to water supply and demand management for water;*
- (ii) advise the Minister on the delivery of desired levels of service objectives for water supplied to the SEQ region and designated regions;*
- (iii) facilitate and implement regional water security programs;*
- (iv) ensure compliance with the programs and with commission water restrictions; and*

(b) the functions given to the commission under chapter 3.’

² insofar as it was amended upon the enactment of the *South East Queensland Water (Restructuring) Act 2007* (Qld).

³ See section 10(1) of that Act.

22. Section 360 ZCL, WA provides that:

'The market is the wholesale exchange for –

- (a) the supply of declared water services to the water grid manager; and*
- (b) the sale by the water grid manager of water supplied by the declared water services.'*

23. Section 360 ZCX, WA provides that the Minister may make rules about the operation of the water market. These are known as the 'Market Rules'.

24. Section 360 ZCX(2), WA provides that the Market Rules are a statutory instrument under the *Statutory Instruments Act 1992* (Qld), but are not subordinate legislation.

Relevant aspects of the Water Supply (Safety and Reliability) Act 2008

25. The *Water Supply (Safety and Reliability) Act 2008* (Qld) provides for the establishment of the Water Supply Regulator and its purposes and relationship with various service providers that deal with water.

26. Chapter 4 of that Act deals with referable dams and flood mitigation. That Chapter provides for the establishment of flood mitigation manuals by the owners of particular dams and their approval by the Regulator.

Relevant aspects of the Market Rules

27. The Market Rules⁴:

- a. set out the registered participants and registration processes insofar as Grid Participants are concerned;
- b. set out the relationships in the Market;
- c. deal with the operation of the Water Grid;

⁴ Insofar as those are effective as of 1 July 2010.

- d. specifically deal with the preparation and approval of the Water Grid Emergency Response Plan;
 - e. specifically deal with the Water Grid Risk Management Plan;
 - f. deal with water quality management; and
 - g. deal with other matters including asset management and pricing.
28. Under the Market Rules, the Water Grid Manager, relevantly, is responsible for the preparation of a Water Grid Emergency Response Plan⁵ and Water Grid Risk Management Plan⁶.
29. Market Rule 4.24 provides that:
- (a) The Water Grid Manager must prepare, implement and maintain a Water Grid Emergency Response Plan which specifies:*
- (i) incidents which must be reported to the Water Grid Manager;*
 - (ii) response levels for types of incidents reported to the Water Grid Manager;*
 - (iii) escalation and notifications paths for each response level;*
 - (iv) reporting and monitoring requirements for each response level;*
 - (v) responsibilities for preparing and issuing public statements (if required) for each response level;*
 - (vi) any changes to the process for the issue of Grid Instructions following a reported incident;*
 - (vii) the process for operation of the Water Grid following a Water Supply Emergency Declaration;*

⁵ Pursuant to Market Rule 4.24.

⁶ Pursuant to Market Rule 4.34.

- (viii) the process for preparing, issuing and amending Operating Instructions following a Water Supply Emergency Declaration;*
- (ix) arrangements (where applicable) for providing the Water Grid Manager with access to Grid Service Provider operated control rooms, real-time information, equipment and personnel following a Water Supply Emergency Declaration; and*
- (x) any other matter the Water Grid Manager considers appropriate.'*

30. Market Rule 4.34 provides that:

'(a) The Water Grid Manager must prepare, implement and maintain a Water Grid Risk Management Plan which provides an integrated framework for identification, analysis, evaluation and management of risks related to the operation of the Water Grid and the achievement of the Market Outcomes.'

The Water Grid Manager's strategic and operational plans

31. In accordance with the requirements under the *South East Queensland Water (Restructuring) Act 2007* (Qld), the Water Grid Manager has prepared a strategic plan and an operational plan. Copies of the current versions of those documents are annexed to the hard copy of these submissions that will be provided to the Commission⁷. No change has been made to either of those documents since September 2010⁸.

South East Queensland System Operating Plan and South East Queensland Water Strategy

32. In addition, the QWC has prepared a System Operating Plan for South East Queensland, the current version of which is release 3.2 dated 2 March 2011 and a South

⁷ All the attachments to this submission will not be annexed to the electronic copy of the submission because of the size of those documents but rather will be provided in hard copy.

⁸ Updated drafts of these plans were prepared by the Water Grid Manager and sent to the Minister at the end of March 2010. A further updated draft set of plans is in the process of being prepared as at the time these submissions are being prepared for the 2011-12 financial year.

East Queensland Water Strategy. The System Operating Plan release 3.1, dated 20 August 2010, was the current plan during the flood event in January 2011. The Water Grid Manager is required to comply with the System Operating Plan and is guided by the Strategy. Copies of those documents are annexed to these submissions.

B. The preparation and planning for the 2010 / 2011 flood events

33. The Water Grid Manager's involvement in preparation and planning for the floods was limited to the review and consideration of risks posed to the supply of water (which occurred generally, but not exclusively, prior to October 2010) and as the communications manager for the Water Grid (which, insofar as it is relevant, occurred in the period from October 2010 to January 2011).
34. It sets out below a summary of the work done to prepare for, and highlights of its involvement in the response to, the floods.

Preparation and planning prior to October 2010

35. As earlier noted, the Water Grid Manager is principally responsible for preparing two things which prepare and plan for emergency events including flood events. It does that (as it is required to do) insofar as those events may impact upon the supply of water / the operation of the Water Grid. Those documents are the:
- a. Water Grid Emergency Response Plan; and
 - b. Water Grid Risk Management plan.
36. The Water Grid Emergency Response Plan was prepared by the Water Grid Manager and approved by the QWC and the then Minister for Natural Resources, Mines and Energy and Minister for Trade⁹. The version which was in force as at the time of the 2010/2011 floods was version 2.1. It was approved by the Minister in September 2010.

⁹ The Honourable Stephen Robertson MP (now Minister for Energy and Water Utilities), who is referred to hereafter as 'the Minister'.

No changes have been made to this plan since the Minister's approval. That plan (**ERP**) is annexed to the hard copy of these submissions.

37. The ERP is a detailed plan in the event of an emergency which affects the supply of water in South East Queensland. It applies to all Grid Participants and, in particular, to the Water Grid Manager, the Queensland Bulk Water Supply Authority (trading as Seqwater), the Queensland Manufactured Water Authority (trading as WaterSecure), the Queensland Bulk Water Transport Authority (trading as LinkWater), distribution service providers including Queensland Urban Utilities and various others.
38. As is stated in the definition of 'Emergency' on page 10 of the ERP:

'For the purposes of [the] Plan, an 'emergency' is an incident that impacts on water quality, water supply reliability and/or public reassurance, and has an overall severity rating of Level 3, 4 or 5 under the severity classification approach outlined in [the] Plan'.
39. The Market Rules require the Water Grid Manager to regularly review and test the ERP. In March 2010, an exercise was conducted in which external consultants were engaged to simulate various emergencies over a two day period to test the adequacy of the ERP¹⁰. A detailed debriefing followed. In result, recommendations were suggested, discussed between the various agencies and all of the recommendations implemented.
40. The Water Grid Manager is also required under the Market Rules to prepare a Risk Management Plan. A copy of the current draft of that plan is annexed to these submissions and a summary of the history of that draft is set out below.
 - a. In order to prepare the Plan, the Water Grid Manager sent a preliminary draft of it to Grid Participants in late 2008 and received feedback on the draft from them in November and December 2008.

¹⁰ Following a specific request from the Minister.

- b. That culminated in a presentation of the preliminary draft (with feedback from Grid Participants incorporated) to the QWC on 1 January 2009 (by email).
 - c. On 7 July 2009, the QWC advised the Water Grid Manager by email that the Risk Management Plan was a 'solid start' but that it required an additional chapter containing a Risk Register.
 - d. The Risk Register was developed in consultation with the Chief Executive Officers of the Grid Participants on 5 November 2009 (in an all day long workshop, which was preceded by briefing materials collated and prepared by the Water Grid Manager).
 - e. On 14 December 2009, the Water Grid Manager sent an email to the QWC advising that the CEOs of the Grid Participants had approved the Risk Register and it intended to submit the amended draft Water Grid Risk Management Plan in early 2010.
 - f. Further amendments were made to the Risk Register in February 2010 and a further meeting of Grid Participants on 16 February 2010 endorsed the revised version of that document (save that Seqwater separately endorsed the amended version by email on 12 March 2010).
 - g. The revised draft Water Grid Risk Management Plan was submitted to the QWC by email on 14 May 2010.
 - h. On 1 June 2010, the QWC acknowledged receipt of the draft Water Grid Risk Management Plan by email.
41. On 21 January 2011, the QWC wrote a letter to the Water Grid Manager declining the Water Grid Risk Management Plan and requesting that it be substantially amended with regard to requirements in the Market Rules. That work is ongoing.
42. In addition to the Water Grid ERP and the Water Grid Risk Management Plan, the Water Grid Manager has a communications unit responsible for communications

insofar as these are relevant to water supply and water quality around the Water Grid. This was established at the request of the Minister in a letter dated 22 April 2010. The Minister requested that communications for the Water Grid were to be delivered in an integrated model from 1 July 2010.

43. A copy of the SEQ Water Grid Coordinated Communications Implementation Plan is annexed to these submissions. That is the document which currently governs communications in relation to the Water Grid and the operations of the SEQ Water Grid Communications Unit (**Comms Plan**). As is reflected in the Comms Plan, the initial purpose of the Communications Unit was to ensure that communications with the public and the media were coordinated through one central unit in order to provide a cohesive government response to all matters connected with the supply and quality of water from the Water Grid.
44. In addition, annexed to these submissions is a copy of the current draft of the SEQ Water Grid Communication Strategy, which was last reviewed on 23 November 2010. It sets out the strategy for communications relevant to the Water Grid and how those communications will be conducted.

Events from October 2010 to January 2011 – specific planning for the 2010/2011 floods

45. The Water Grid Manager had some involvement in the events that occurred prior to and immediately following the floods in January 2011. It sets out below a summary of that involvement. It leaves to others detailed description of their respective involvement(s) in those events in order to provide a full picture to the Commission. It does not have that detail and does not wish inadvertently to err.
46. On or around 13 October 2010, significant rainfall occurred in the vicinity of the Wivenhoe and Somerset Dams catchments, leading to significant inflows of water which could flow down the Brisbane River. The Water Grid Manager was then involved in communications with the Minister's Office and the media in relation to that event, in consultation with (amongst others) the Bureau of Meteorology, Seqwater and the Brisbane City Council (**BCC**).

47. As a result of some differences between the information issued by the BCC and on behalf of the Queensland State Government, the Premier of Queensland, by letter dated 15 October 2010, then requested that the BCC work with the State Government to develop a protocol for the provision of information in such circumstances. Letters in like terms were then sent also by the Premier to various other local authorities including the Ipswich and Somerset Councils.
48. On or around 19 October 2010, the Water Grid Manager received a verbal request from the Office of the Water Supply Regulator to assist with communications as between the Minister's Office and other Government Departments and entities, including Seqwater, concerning preparation and planning for possible floods in the 2010/2011 period. In consequence, in October 2010, there were meetings and communications between (amongst others) Seqwater, Emergency Management Queensland, the Water Grid Manager and others about the protocol for communications during a flood event.
49. As a consequence of those letters from the Premier and resultant consultations between various stakeholders, a protocol for the communication of flooding information during flood water releases from Wivenhoe and Somerset dams was developed from in or around the middle of October 2010. Further, a public communications protocol for natural hazards affecting the community was also developed, under the leadership of the Department of Environment and Resource Management (**DERM**) and Emergency Management Queensland. The Water Grid Manager was invited to, and did, provide feedback on the draft protocols. Ultimately, these documents were merged; as is discussed below, one protocol was developed.
50. On 25 October 2010, the Minister wrote to the Chair of the Water Grid Manager.¹¹ A copy of that letter is attached to the hard copy of these submissions. The letter was drafted in consultation with the Water Grid Manager. In that letter, the Minister sought advice as to whether there was an opportunity temporarily to reduce the volume of water stored in key dams in preparation for the upcoming summer season. In doing so, the Minister noted that recent releases from Wivenhoe at that stage (October 2010) had

¹¹ Mr Gary Humphrys.

resulted in significant inconvenience and isolation for residents in some downstream areas. The Minister sought a response by the end of November 2010 as to the available options and likely benefits.

51. This letter was directed to the Water Grid Manager as having responsibility for the Water Grid communications¹² and insofar as that may affect the short term supply of water to South East Queensland (given that the reduction was only proposed to be on a temporary basis) and the Water Grid Manager's ability to comply with the System Operating Plan.
52. On 25 October 2010, the Water Grid Manager wrote (by email) to Seqwater advising that it understood it would receive a letter requesting advice as to available options and likely benefits of releases from dams including Wivenhoe and stating that that letter would be forwarded as soon as possible¹³.
53. The Water Grid Manager also communicated the likelihood of the letter arriving from the Minister to the QWC by way of an email dated 26 October 2010 at 7:37am from Barry Dennien¹⁴ to Ms Karen Waldman of the QWC¹⁵. This email was sent as a courtesy and because the Minister's request had the capacity to impact upon the overarching strategy for the management of the State's Water Resources (a matter within the Commission's remit).
54. On or about 27 October 2010, at the oral request of DERM, the Water Grid Manager's risk management team prepared and forwarded to DERM a summary of summer risks - which was a document based upon and summarising input from:
 - a. Seqwater (the owner of Wivenhoe and Somerset Dams and the entity with responsibility for the management of the dams); and

¹² the Communications Unit, *ante*.

¹³ Including by way of an email from Dan Spiller to Jim Pruss from Seqwater at 5:53pm on 25 October 2010.

¹⁴ its CEO.

¹⁵ its CEO.

- b. other Grid Participants.
55. The Water Grid Manager prepared and collated this document because it was responsible for communications relevant to the Water Grid. It relied upon information received from others to prepare that document.
56. On 28 October 2010, Barry Dennien forwarded to Karen Waldman from the QWC a copy of the Minister's letter.
57. A meeting occurred on 28 October 2010 between the local Councils to whom the Premier had written in relation to the communication protocol, the Water Grid Manager, DERM, the Office of the Water Supply Regulator and others. At that meeting a draft protocol was discussed. Following that meeting, various drafts of the protocol on the release of water from dams were circulated and comments were provided by the Water Grid Manager. Again, this was under the leadership of DERM and Emergency Management Queensland.
58. On 2 November 2010, Barry Dennien wrote to Mr Peter Borrows, the Chief Executive Officer of Seqwater, confirming that the Minister had sought urgent advice about whether the volume of water stored in dams could be reduced as a means of reducing the severity, frequency and duration of flooding in downstream areas. Mr Dennien enclosed a copy of the Minister's request. Mr Dennien sought Seqwater's advice by 19 November 2010.
59. On or around 10 November 2010, Mr Jim Pruss from Seqwater provided Dan Spiller¹⁶ a draft advice by Seqwater's dam safety experts. That document examined a range of different scenarios for the reduction of the water level in Seqwater's gated dams to improve short term flood mitigation benefits. Amongst other things, the advice noted that, for major flood events impacting on urban areas, it was unlikely that peak water levels in Brisbane would be significantly impacted by minor reductions in the level of the Wivenhoe Dam and that reductions in dam volume in the order of at least 250,000

¹⁶ the Operations Manager of the Water Grid Manager.

megalitres would be needed to provide any significant reduction in water level peaks experienced in urban areas. That advice also noted that such reductions would not necessarily guarantee reductions in urban flood levels because the distribution of rainfall in the Brisbane River catchment governed the extent of possible urban flooding.

60. On or about 18 November 2010, the Water Grid Manager asked Jim Pruss¹⁷ and Rob Drury¹⁸ to attend a meeting on 23 November 2010, at the offices of the Water Grid Manager, in order to discuss the draft advice provided by Seqwater on 10 November 2010 and the response to the Minister's letter.
61. That meeting occurred on 23 November 2010. Attendees were Barry Dennien and Dan Spiller from the Water Grid Manager and Jim Pruss and Rob Drury from Seqwater. At the meeting:
 - a. Messrs Pruss and Drury summarised the views of Seqwater as to the issues raised by the Minister in his letter dated 25 October 2010;
 - b. Messrs Dennien and Spiller asked a number of questions as to the content of the report and the basis of the Seqwater advice about the events involving total flows less than and greater than 3500 cubic metres per second measured at the Moggill gauge. In particular, Messrs Dennien and Spiller asked whether any modelling had been done with regards large flood events involving total flows greater than 3500 cubic metres per second measured at Moggill gauge and whether that would be of any benefit.
 - c. Mr Drury advised that no modelling had been done on the higher flows and suggested that such modelling would take at least 6 months to perform.
 - d. Messrs Pruss and Drury stated to the effect that Seqwater's opinion was that:

¹⁷ The Executive General Manager, Water Delivery for Seqwater.

¹⁸ The Dam Operations Manager for Seqwater.

- i. the dam only controlled 50% of the Brisbane River catchment and therefore only had part control of flood impacts;
 - ii. whilst it was possible pre-emptive major releases of water from Wivenhoe Dam lowering the water level below full supply level may have some benefit for flood mitigation, Seqwater's view was that major releases of water may not be of benefit for flood mitigation because it depended on the rainfall distribution during a flood event and that would not likely have any significant impact upon the height of floods downstream in the event that there was a major rainfall event;
 - iii. the unpredictability of weather forecasting made it difficult to judge releases from the dam to pre-emptively lower the storage if they were to be just hours or days before or during a flood event. Even releases well before a rainfall event are difficult to manage. The releases may impact upon water supply security or damage property (such as bridges) downstream and impose a significant inconvenience and danger to residents downstream with no benefits if rain does not fall in the catchment above the dam wall; and
 - iv. before any major releases were done to lower the dam below full supply level, significant studies should be performed to determine whether the benefits outweigh the detriment to persons and property downstream from the dams.
62. At the conclusion of the meeting, Mr Drury agreed to provide further written information in response to the questions asked by Mr Dennien and Mr Spiller during the meeting and report back to the Water Grid Manager as soon as was possible so that advice could be provided to the Minister, as he had requested.
63. In late October / early November 2010, the BCC advised DERM that a Lord Mayor's taskforce on suburban flooding would be set up. On or about 18 November 2010, DERM advised the BCC that Mr Dennien, the CEO of the Water Grid Manager, would

- participate in that. Mr Dennien subsequently attended one meeting of that taskforce on 1 December 2010, but was subsequently advised that the BCC would prefer to have a representative from the State who could discuss and advise on land use planning issues.
64. On 24 November 2010, the then current draft of the protocol for the communication of flooding information for Brisbane River Catchment – including flood water releases from Wivenhoe and Somerset Dams – was sent by the Premier to each of the Lord Mayor of Brisbane, the Mayor of Ipswich City Council and the Mayor of Somerset Regional Council. The Premier requested that the draft protocol be implemented on an interim basis to provide a communications framework pending formal finalisation of the protocol. A copy of that draft is annexed to the hard copy of these submissions.
 65. That draft protocol provided that in every case of floodwater release from Wivenhoe or Somerset Dams, Seqwater was to coordinate the completion of a Technical Situation Report (**TSR**) and provide that report to the Water Grid Manager and to the relevant councils.
 66. Under the draft protocol, the Water Grid Manager centrally tracks all communications to ensure those are shared insofar as flood water releases are concerned. It is responsible for liaising with Seqwater, the local councils' Media Directors and others. The Water Grid Manager is also responsible for coordinating responses to any questions relating to the release of flood water from the public or the media. As that draft protocol states, the Water Grid Manager is the State's lead communication agency in respect of flood water releases. Appendix B to the protocol provides for the specific responsibilities of the Water Grid Communication Unit - in the last bullet point of page 7.
 67. On 1 December 2010, Mr Dennien emailed Messrs Jim Pruss and Rob Drury from Seqwater following up on their discussions on 23 November 2010 with regard to dam levels and flood impacts and advising that they were due to respond to the Minister by the end of November.

68. On 2 December 2010, Mr Drury sent Mr Dennien (copied to Mr Pruss and Mr Borrows) a draft report.
69. On 3 December 2010, Mr Dennien responded to Mr Drury (copied to Mr Pruss, Mr Borrows and Mr Spiller) asking several further questions about the draft report and, in particular, asking for clarification about the impacts and benefits of medium and large releases from the dams for events and about the modelling that had been done as to those issues.
70. On 8 December 2010, Mr Dennien emailed Mr Pruss and Mr Drury (copied to Mr Spiller and Mr Borrows) seeking a response to the earlier queries he had asked.
71. On 9 December 2010, Mr Drury sent an email to Mr Dennien (copied to Mr Pruss, Mr Spiller and Mr Borrows), responding to the questions that had earlier been asked.
72. In accordance with the protocol referred to above concerning releases of water from Wivenhoe Dam, the Water Grid Manager was involved in distributing TSRs and media releases in relation to releases from the Wivenhoe Dam on 12 and 17 December 2010.
73. On 13 December 2010, at the invitation of the Water Grid Manager, the Minister attended a board meeting, between 1:12pm and 1:56pm. At the board meeting:
 - a. the Minister was provided with a demonstration of the OCA Incident Manager¹⁹ and the Emergency Management Room²⁰;
 - b. the Minister was also provided with an oral briefing as to:
 - i. the optimal operation of the Water Grid;
 - ii. the role of the Water Grid Manager in advising on Grid Capital Expenditure from a whole-of-grid perspective;

¹⁹ The software that is used, in compliance with the ERP, to manage communications as between all Grid Participants insofar that relates to a water supply emergency.

²⁰ A specific room at the premises of the Water Grid Manager that is devoted to the management of emergencies and was, as at the time of the inspection, newly in operation.

- iii. Wivenhoe Dam's operating level for flood mitigation; and
 - iv. the effectiveness of communications between the Water Grid and the Minister's office.
- c. Mr Dennien made the majority of the oral presentation to the Minister (with some observations being made by Mr Spiller). Mr Dennien relevantly told the Minister that, insofar as the Wivenhoe Dam's operating level for flood mitigation was concerned:
- i. Seqwater had advised that a major reduction in the capacity of the dam below Full Supply Level was not advisable at this stage;
 - ii. Seqwater had advised that a great deal of modelling should be undertaken before any change to the levels of Wivenhoe dam was contemplated and that this modelling would take in the order of 6 months;
 - iii. Without modelling Seqwater advised that major reductions below Full Supply Level may be required in order to lower impacts for large floods. However estimated reductions for Wivenhoe Dam varied greatly between 250,000 megalitres (21%) to 580,000 (50%) megalitres). Seqwater also stated these benefits diminished the bigger the flood due to the ratio of water coming into the dam and the size of the flood compartment.
 - iv. Seqwater had advised that large releases (in terms of both volume and rate) would have significant impacts downstream, including the disruption or damage to bridges and inconvenience and danger for downstream residents. These impacts had to be balanced against the possible benefits, which Seqwater saw as limited due to the unpredictability of rainfall distribution during flood events;
 - v. Seqwater had advised that pre-emptive releases in the days or hours before a major rainfall event was not recommended because of the difficulty in predicting exactly how much rain would fall and where it would fall and the

impact of releases from the dam downstream in the event that there was either a high tide or significant rainfall downstream; and

- vi. Seqwater indicated that a small reduction in Wivenhoe and Somerset Dams of 5% would reduce the inconvenience of bridge closures and improve access for the communities in the mid Brisbane area.
74. In the period between 13 December 2010 and 24 December 2010, the Water Grid Manager was involved in a lengthy set of email correspondence concerning the lowering of the water levels at the Hinze Dam so that work could be done on the dam walls.
 75. The Water Grid Manager was also involved in the distribution, by email, of a TSR and various media releases concerning ongoing dam releases on 22 and 23 December 2010.
 76. In accordance with its role under the draft protocol, the Water Grid Manager was involved in liaising, by email, with local councils, particularly the Somerset Regional Council, about the potential impact of the releases on residences in the area immediately downstream from Wivenhoe Dam in late December 2010.
 77. On 24 December 2010, the Water Grid Manager wrote to the Minister, responding to his letter dated 25 October 2010 regarding the possibility of releasing from key storages in anticipation of major inflows. That advice was based upon information provided by Seqwater. The letter advised the Minister that the Water Grid Manager and the QWC had confirmed that releases of 5% of Wivenhoe and Somerset water would have negligible effects on the ability of the Water Grid Manager and the QWC to provide water security for South East Queensland. In the advice attached to the letter, the Water Grid Manager advised that Seqwater had confirmed that any impact to allow additional flood mitigation potential would require Wivenhoe Dam releases of at least 250,000 megalitres. The Minister was advised that such a release may have potential water security impacts and that a more detailed investigation was recommended, to be led by Seqwater and involving the Bureau of Meteorology, the councils and the Water Grid Manager.

78. On 24 December 2010, the Water Grid Manager also wrote to the QWC requesting its approval for a letter to go to Seqwater advising that Wivenhoe and Somerset Dam's level could be reduced to 95% of their combined full supply level for flood mitigation purposes. That approval was provided at approximately midday on 24 December 2010. Seqwater was advised of the same at approximately 2:32pm on 24 December 2010.
79. At 4:31pm, Mr Borrows from Seqwater queried whether the letter was a direction to release the water to levels below Wivenhoe, Somerset, and North Pine Dams' full supply level. At 4:53pm of 24 December 2010, Mr Dennien, by e-mail, responded to that.
80. Officers from the Water Grid Manager were in regular contact, by email, with the CEO of BCC on 24 December 2010 about the then releases from Wivenhoe Dam and the upcoming weather conditions in the holiday season.
81. On or around 29 December 2010, high levels of turbidity in the water flowing through the Mount Crosby Treatment Plant resulted in a shutdown of that plant and the activation of the desalination plant, with water supplies also being brought in from various other locations around the Water Grid in South East Queensland. The Water Grid Manager was involved in providing briefings to DERM by email as to these events.
82. Copies of the writings and associated materials referred to in paragraphs [45] to [81] (inclusively, as a chronological bundle) are attached to the hard copy of these submissions.

C. The response to the 2010/2011 flood events

83. Once it became apparent that there could be further releases from Wivenhoe Dam in January 2011, the Water Grid Manager became involved in the distribution of TSRs and other information from Seqwater under the protocol that the Premier had directed be adopted in late 2010. Highlights of the relevant communications are set out below. All of the communications which are referred to below were made by the Water Grid

Manager based on information provided by Seqwater as to the likely dam releases and the impact of developing weather conditions.

84. On 6 January 2011, the Water Grid Manager was involved in communicating by email with DERM, the Police and others about releases from Wivenhoe that were scheduled to recommence on 7 January 2011.
85. However, the releases were ultimately postponed because of heavy rainfall in the Lockyer Valley in the afternoon of 6 January 2011 and the impact of flows down the Lockyer Valley²¹. The Water Grid Manager was involved in communications by email with (variously) the offices of the Minister, DERM, the Police and others to advise that the releases would be deferred until after the flows had peaked.
86. On 7 January 2011, Seqwater advised by email that high rainfall totals were predicted and that significant volumes of inflows to the dams would be generated. At that stage, the Water Grid Manager was advised that the releases from Wivenhoe Dam were intended to be increased to approximately 1,200m³/s later in the day (7 January).
87. At approximately 8:27am, the Water Grid Manager, through Mr Spiller, distributed an updated TSR to the offices of the Minister, DERM and the Police by email.
88. The Water Grid Manager was involved in further email exchanges with DERM on Saturday, 8 January 2011 in order to provide an update of the information received from Seqwater in relation to proposed releases of water from the dam and the weather conditions as advised by the Bureau of Meteorology (on its website).
89. An updated TSR, in accordance with the protocol, was sent by email to the Minister, DERM and other public agencies on Sunday, 9 January 2011 at 8:14am.
90. On Sunday, 9 January 2011 at 8:29pm, based on advice from Mr Drury, Mr Spiller (the then acting CEO of the Water Grid Manager) advised Messrs Peter Martin and Kerry

²¹ See, for example, email from the duty engineer from the Flood Operations Centre dated 6 January 2011 at 2:54pm providing a situation report.

Dunn, of the Queensland Police Service, by email that very large inflows were being experienced and releases would be increased.

91. An updated TSR from Seqwater was provided by email by the Water Grid Manager to DERM (also sent to Seqwater) at 9:27pm on Sunday 9 January 2011. A teleconference was held at approximately 9:30pm on that evening at which Seqwater provided a verbal briefing on information contained in the TSR.
92. At 11:07pm on 9 January 2011, Mr Spiller provided updated advice by email to the Minister's Office, Messrs Martin and Dunn, Seqwater and others in relation to the then unfolding events.
93. At 11:23pm on 9 January 2011, Mr Spiller provided an email update to the CEO of BCC in relation to the Wivenhoe Dam operations. This provided the information Mr Spiller had then received from Seqwater as to the dam releases.
94. On 10 January 2011 at 5:31am, Mr Spiller provided further email advice to DERM, the Minister, Mr Martin and others advising that the Mount Crosby Weir and Fernvale Bridges were inundated. Councils were advised by email of the information that had been received from Seqwater in the TSRs, particularly that dam releases had been increased and that communications and technical information was then being prepared.
95. Mr Spiller distributed a further situation report by email at 9:46am on 10 January 2011 advising of the increased rainfall flowing into the Somerset and Wivenhoe Dams and the impacts of those inflows.
96. Mr Spiller distributed another TSR from Seqwater by email at 1:18pm on Tuesday, 11 January 2011.
97. Copies of the materials referred to in paragraphs [83] to [96] (inclusively, chronological as a bundle) are attached to the hard copy of these submissions.

98. Water Grid Manager personnel participated in numerous conferences, discussions and meetings during the week beginning 10 January 2011 in order to assist with the impacts of the flooding being experienced in Brisbane. In particular:
- a. Mr Dennien attended a meeting with the Premier and staff from the Premier's office at approximately 3:00pm on Monday 10 January 2011 in order to provide the Premier with an update as to the water releases from Wivenhoe Dam and the communications being managed by the Water Grid Manager as at that stage;
 - b. at the request of the Premier's office, Mr Dennien attended the meetings of the Emergency Management Queensland committee at 8:00am and 5:00pm on Monday 10 January 2011, Tuesday 11 January 2011 and Wednesday 12 January 2011. Mr Dennien attended in order to provide updates as to dam releases (based on the information supplied by Seqwater in its TSRs). Mr John Bradley from DERM attended the meetings from Thursday 13 January 2011 in place of Mr Dennien;
 - c. at or about 3:00pm on 11 January 2011, Mr Dennien received a telephone call from Mr Peter Borrows from Seqwater. During that telephone call, Mr Borrows advised, for the first time, that releases of up to 10,000 cumecs may be possible in light of developing weather conditions. Immediately after that phone call concluded, at approximately 3:12pm, Mr Dennien telephoned the Premier's office to relay this news and, at approximately 3:24pm, Mr Dennien was placed on a telephone call to the Premier at the Disaster Management Centre at Kedron when he passed on this information;
 - d. staff members from the Water Grid Manager attended many meetings and participated in many discussions about the management of water supply from the Water Grid in light of the floods. The floods had significant impacts upon the water treatment plants at Mt Crosby and Helidon and a great deal of work was required to manage the impact of the floods on the ability of the Water Grid to supply quality drinking water to greater Brisbane. It took from around 10 January

2011 until around mid-March 2011 to complete this work and restore the full capacity of the Water Grid. Details of much of this work have been entered into OCA Incident Manager (**OCA**), the software that is used to record information about water supply emergencies pursuant to the Water Grid ERP. There is a very large amount of that information, not all of which was entered by or for the Water Grid Manager. If it would assist the Commission, the Water Grid Manager could provide further details of this work, although it may take some time to collate the relevant information because of its sheer volume and the number of Water Grid Manager staff members who were involved and will have recollections about the events that occurred in the aftermath of the floods.

99. The Water Grid Manager continued to receive TSRs from Seqwater as to dam releases and distributed those by email in January and February 2011.
100. The Water Grid Manager's communications unit received numerous queries from the public and the media as to the impact of the floods on the Water Grid and has responded to those queries where appropriate.

The Cooper report

101. Mr Dennien attended a meeting of the Emergency Management Group, with the Premier and various others, at or around 8:00am on 11 January 2011. After that meeting, Mr Dennien attended a meeting with the Premier and Mr Ken Smith, the then Director-General for the Department of the Premier and Cabinet. At that meeting, there was a discussion regarding the prospect of an independent review being undertaken with respect to the operation of the Wivenhoe Dam. Following that discussion, Mr Dennien agreed that he would arrange an independent review.
102. Mr Dennien subsequently made enquiries of DERM, Seqwater and others who provided several names of potential persons who could review the dam operations. The Water Grid Manager then contacted those persons by email and telephone and obtained details of their qualifications and experience.

103. In particular, the Water Grid Manager contacted Mr Brian Cooper by email and he provided his Curriculum Vitae in the morning of 11 January 2011.
104. After email consultations and discussions with Seqwater, DERM and the Office of the Water Supply Regulator, the Water Grid Manager decided that Mr Cooper was the most suitably qualified person to provide the independent review sought.
105. Mr Cooper was subsequently engaged by the Water Grid Manager to:
 - a. provide a review of the operation of Wivenhoe Dam for compliance against the flood mitigation manual for the period commencing 13 December 2010 to 11 January 2011; and
 - b. advise on whether the decisions and actions taken during the flood event regarding the operation of Wivenhoe Dam were prudent and appropriate.
106. Mr Cooper was engaged by email in the late afternoon on 11 January 2011. Mr Cooper was asked to provide a written preliminary advice by 9am on 12 January 2011 and a formal written report by 4pm on the same day.
107. Mr Cooper provided his initial report to Mr Dennien by email at 9:12am on Wednesday, 12 January 2011.
108. Mr Cooper provided his final report later in the day on 12 January 2011 as requested.
109. Mr Cooper's conclusions were that (in summary):
 - a. the TSRs complied with the requirements of the new communication protocol introduced in late 2010, but that some more consistency in the information presented could be achieved;
 - b. the strategies as set out in the flood mitigation manual had been followed, allowing for the discretion given to making variations in order to maximise flood mitigation effects; and

- c. the actions taken and decisions made during the flood event appear to have been prudent and appropriate in the context of the knowledge available to those responsible for flood operations and the way events unfolded.

110. Mr Cooper's final report was provided on 13 January 2011 to the Minister, copied to the Department of Premier and Cabinet, DERM and the Minister's Office.

The response to the floods – February releases

111. Turning to the responses after the week of 10 January 2011 (those events are best described by others), the Water Grid Manager personnel assisted Seqwater in the preparation of an initial report for the Minister immediately after the flood event in or about the week commencing Sunday 16 January 2011. That Ministerial briefing was marked 'Cabinet-in-confidence'.

112. On 20 January 2011, the Minister wrote to the Chair of the Water Grid Manager enclosing a copy of a letter to Mr Phil Hennessey, the Chair of Seqwater. The Minister asked the Water Grid Manager to assist to ensure that the requests in the correspondence to Seqwater were dealt with as a matter of priority.

113. The Minister's letter to Seqwater asked it to attend to a number of tasks, including a review of the Full Supply Levels (FSL) of the Wivenhoe and Somerset Dams.

114. To try to assist, the Water Grid Manager decided to ask for information as to the likely impact on water security from its consultant hydrologists in order to be in a position to advise Seqwater whether any proposed releases would impact upon the ability of the Water Grid Manager to comply with its service levels as specified in the System Operating Plan. Those hydrologists were asked to use the hydrology model that is provided under licence to the Water Grid Manager by the QWC to determine whether a temporary reduction in storage²² would impact on the ability of the Water Grid Manager to comply with the objectives and rules contained in the System Operating

²² It is important to note that these models do not deal with the likely impacts of flood waters or the impacts of the releases from the Dams, only the ability to supply water to SEQ from the Water Grid.

Plan and its ability to manage the operation of the Water Grid so as to ensure that there was adequate water supply.

115. The modelling of a temporary reduction of the water stored in Wivenhoe Dam until the end of the current wet season showed negligible impact in the probability of triggering a re-introduction of water restrictions over either a five or ten year timeframe (known as Medium Level ‘restrictions). That modelling showed that the probability of regional storages falling to 40% of combined capacity within five years would increase by less than 0.5%, if Wivenhoe Dam’s water level was reduced to 75% of the volume of water which would be in the dam at FSL until the end of June 2011.
116. A meeting was held on 4 February 2011 which was attended by the Minister, representatives from Seqwater and Mr Dennien. At that meeting, Seqwater tabled a letter dated 4 February 2011 and spoke to the contents of that letter.
117. The Water Grid Manager subsequently wrote to Seqwater on 9 February 2011 formally confirming and advising that if a permanent reduction in the FSL of Wivenhoe Dam was being considered, that may have an impact upon the System Operating Plan’s desired levels of service and that should be raised with the QWC directly.
118. Once the decision was made to release further water from Wivenhoe Dam in February 2011 (which the Water Grid Manager understands was made by the Minister), the Water Grid Manager’s communications unit was involved in advising the public and the media of the proposed releases.