

## L Duties of Care

### Risk of Harm

.142A At all material times:

- a) there was a risk that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam would reduce the available flood storage capacity of Lake Somerset and Lake Wivenhoe during times of flood and necessitate the release of water from Wivenhoe Dam in such volumes as to cause the inundation of real and personal property located downstream of Wivenhoe Dam by water (or increase the extent of such inundation), resulting in damage to that real or personal property (or increased damage to such property) (Risk of Harm to Property):
- b) there was a risk that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam would reduce the available flood storage capacity of Lake Somerset and Lake Wivenhoe during times of flood and necessitate the release of water from Wivenhoe Dam in such volumes as to cause the inundation of real property located downstream of Wivenhoe Dam (or increase the extent of such inundation), and that the inundation so caused would interfere with the use or enjoyment of that real property by persons holding an interest in that property (Risk of Interference with Use and Enjoyment): and
- c) there was a risk that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam would reduce the available flood storage capacity of Lake Somerset and Lake Wivenhoe during times of flood and necessitate the release of water from Wivenhoe Dam in such volumes as to cause the inundation of areas located downstream of Wivenhoe Dam (or increase the extent of such inundation), and that such inundation would impede or disrupt the commercial activities of businesses or enterprises located downstream of Wivenhoe Dam resulting in economic loss to those businesses or enterprises (Risk of Harm to Businesses).

142B Each of the Risk of Harm to Property, the Risk of Interference with Use and Enjoyment and the Risk of Harm to Businesses was not remote or insignificant.

***Segwater's Duty of Care as Owner and Occupier***

143 In December 2010 and January 2011:

- a) each of the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses was reasonably foreseeable by Segwater:

**PARTICULARS**

- A. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy, September 2010.
- B. Flood Mitigation Manual, sections 1.1, 3.1, 4. 8.4.
- C. Further particulars may be provided after discovery.
- b) Segwater, as owner and occupier of Somerset Dam and Wivenhoe Dam, was engaged in an inherently dangerous activity, being the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam:
- c) the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam was an extremely hazardous activity which carried with it the risk of harm to at least 244.000 people located downstream of Wivenhoe Dam:

**PARTICULARS**

- A. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy, September 2010, p 5.
- d) Segwater had actual knowledge of the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses:

**PARTICULARS**

- A. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy, September 2010, p 5.

- B. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.
- C. Further particulars may be provided after discovery.
- e) the location and identity of persons and businesses likely to be directly impacted by a failure by Segwater properly to conduct Flood Operations at Wivenhoe Dam was reasonably ascertainable;

#### **PARTICULARS**

- A. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy, September 2010, p 5.
- B. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.
- C. Further particulars may be provided after discovery.
- f) Segwater had the legal right (by operation of ss 107 and 107A of the Water Act, the Segwater ROL and the August 2010 Interim Program), and practical ability, to exercise a high degree of control in relation to the operation of Somerset Dam and Wivenhoe Dam so as to avoid the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses;
- g) Segwater knew, or ought reasonably to have known, that it was the only entity licensed under s 107A of the Water Act (or any other statutory provision) to conduct Flood Operations at Somerset Dam and Wivenhoe Dam;
- h) Segwater had the means to make useful predictions as to the range of weather conditions that might affect Somerset Dam and Wivenhoe Dam (including predictions as to the effects of actual and forecast rainfall), and to use those predictions and the Real Time Flood Model to operate Somerset Dam and Wivenhoe Dam in a manner so as to avoid the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses;

#### **PARTICULARS**

- A. Segwater was able to make useful predictions as to the range of weather conditions that might affect Somerset Dam and Wivenhoe Dam by reason of:

1. the matters pleaded in paragraphs 106A-106B;
  2. the matters pleaded in paragraphs 133 to 142;
  3. the matters pleaded in paragraphs 158(d)-(f), 163A-163H, 174(e)-(g), 179A-179I, 192-194, 214-217, 231-234, 248-250, 270-273, 291-293, 310-315;
  4. the matters pleaded in paragraphs 200-202: and
  5. the matters pleaded in paragraphs 151, 158(c), 164-165, 174(d), 180-182, 196-198, 218-219, 235-236, 251-252, 274-275, 294-295, 316-318,
- i) the plaintiff and other Group Members could not direct, control or influence the manner in which Segwater conducted Flood Operations at Somerset Dam or Wivenhoe Dam;
  - j) the plaintiff and other Group Members had no ability, or alternatively, no practical ability, to protect themselves from the Risk of Harm to Property, the Risk of Interference with Use and Enjoyment or the Risk of Harm to Businesses;
  - k) the plaintiff and other Group Members were dependent upon Segwater taking reasonable care to avoid the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses: and
  - l) the plaintiff and other Group Members were accordingly highly vulnerable to harm from the manner in which Segwater exercised its rights and powers as owner, occupier and licensed operator of Somerset Dam and Wivenhoe Dam.
- a) it was reasonably foreseeable by Segwater:
- i) ~~that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam may cause:~~
    - (1) ~~flooding downstream of Wivenhoe Dam in circumstances where such flooding would not have otherwise occurred if Flood Operations were conducted properly; or~~

~~(2) — greater flooding downstream of Wivonhoo Dam than would occur if Flood Operations were conducted properly;~~

~~(both are referred to in this pleading for convenience as "Greater Flooding");~~

- ~~ii) that the making of releases of water from Wivonhoo Dam at volumes significantly in excess of those that would have been necessary if Flood Operations were conducted properly may cause Greater Flooding downstream of Wivonhoo Dam;~~
- ~~iii) that if Greater Flooding were caused by a failure properly to conduct Flood Operations at Somerset Dam and Wivonhoo Dam, that flooding may cause physical damage to properties located downstream of Wivonhoo Dam than would occur if Flood Operations were conducted properly;~~
- ~~iv) that the properties that would be damaged by such Greater Flooding may include those properties located downstream of Wivonhoo Dam;~~

### PARTICULARS

- ~~A. Sogwater, *Wivonhoo Dam Emergency Action Plan*, Uncontrolled Copy, September 2010.~~
- ~~B. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.~~
- ~~C. Further particulars may be provided after discovery.~~
- ~~v) that if Greater Flooding were caused by a failure properly to conduct Flood Operations at Somerset Dam and Wivonhoo Dam that flooding may disrupt the commercial activities of businesses operating from one or more locations located downstream of Wivonhoo Dam;~~
- ~~vi) that the businesses so disrupted would include those businesses operating at locations located downstream of Wivonhoo Dam;~~

## PARTICULARS

- A. ~~Segwater, Wivonhoo-Dam-Emergency-Action-Plan, Uncontrolled Copy, September 2010.~~
- B. ~~Flood-Mitigation-Manual, sections 1-1, 3-1, 4, 8.4.~~
- C. ~~Further-particulars-may-bo-provided-aftor-discovery.~~
- vii) ~~that Groator Flooding caused by a failuro properly to conduct Flood-Operations at Somersot Dam and Wivonhoo-Dam may cause loss or damage to:~~
- ~~(1) persons who hold an interest in land located downstream of Wivonhoo-Dam;~~
- ~~(2) persons who owned personal property that was located downstream of Wivonhoo-Dam; and~~
- ~~(3) persons who regularly conducted a business or enterprise, in whole or in part, at one or more locations located downstream of Wivonhoo-Dam;~~
- ~~including tho plaintiff and Group Members;~~
- viii) ~~that, if Segwater ongagod any other person to conduct Flood Operations at Somorsot Dam and Wivenhoe Dam, a failuro by Segwater to onsure that that person exercised reasonable care in the conduct of such Flood-Operations could cause tho loss or damage described in (i) to (vii) above:~~
- b) ~~tho risk of harm of tho typos doscribod in subparagraphs (a)(i) through (a)(viii) was not remote or insignificant;~~
- c) ~~tho plaintiff and other Group Mombors had no ability, or alternatively, no practical ability, to protect thomsolvos from tho harm described in subparagraphs (a)(i) through (a)(viii) in tho ovont that Segwater:~~
- i) ~~failod properly to conduct Flood-Operations at Somerset-Dam and Wivenhoe-Dam; or~~
- ii) ~~failed to onsure that any person engaged by Sogwater to conduct Flood-Operations at Somerset-Dam and Wivonhoo~~

~~Dam exercised reasonable care in the conduct of such Flood Operations;~~

- d) ~~Sogwater, as owner and occupier of Somersot Dam and Wivonhoe Dam, was engaged in an inherently dangerous activity, being the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam;~~
- e) ~~the conduct of Flood Operations at Somersot Dam and Wivonhoe Dam was an extremely hazardous activity which carried with it the risk of harm to at least 244,000 people located downstream of Wivenhoe Dam;~~

#### **PARTICULARS**

- D. ~~Sogwater, *Wivenhoe Dam Emergency Action Plan*, Uncontrolled Copy, September 2010, p 5.~~
- f) ~~Sogwater had actual knowledge of risk of harm posed to persons and businesses located downstream of Wivonhoe Dam (including persons in the position of the plaintiff and other Group Members) from the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam;~~

#### **PARTICULARS**

- A. ~~Sogwater, *Wivenhoe Dam Emergency Action Plan*, Uncontrolled Copy, September 2010.~~
- B. ~~Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.~~
- C. ~~Further particulars may be provided after discovery.~~
- g) ~~the location and identity of persons and businesses likely to be directly impacted by a failure by Sogwater properly to conduct Flood Operations at Wivonhoe Dam was reasonably ascertainable;~~

#### **PARTICULARS**

- A. ~~Sogwater, *Wivenhoe Dam Emergency Action Plan*, Uncontrolled Copy, September 2010.~~
- B. ~~Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.~~
- C. ~~Further particulars may be provided after discovery.~~

- h) Sogwater had the legal right (by operation of ss 107 and 107A of the Water Act, the Sogwater RQL and the December 2010 Interim Program), and practical ability, to exercise a high degree of control in relation to the operation of Somerset Dam and Wivenhoe Dam so as to avoid the risk that Flood Operations at Somerset Dam and Wivenhoe Dam would cause Greater Flooding downstream of Wivenhoe Dam;
- i) Sogwater knew, or ought reasonably to have known, that it was the only entity licensed under s. 107A of the Water Act (or any other statutory provision) to conduct Flood Operations at Somerset Dam and Wivenhoe Dam;
- j) Sogwater had the means to make useful predictions as to the range of weather conditions that might affect Somerset Dam and Wivenhoe Dam (including predictions as to the effects of actual and forecast rainfall), and to use those predictions and the Real Time Flood Model to operate Somerset Dam and Wivenhoe Dam in a manner so as to the risk of Greater Flooding downstream of Wivenhoe Dam;
- k) the plaintiff and other Group Members could not direct, control or influence the manner in which Sogwater conducted Flood Operations at Somerset Dam or Wivenhoe Dam;
- l) the plaintiff and other Group Members were dependent upon Sogwater taking reasonable care to avoid the risk that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam would cause Greater Flooding downstream of Wivenhoe Dam; and
- m) the plaintiff and other Group Members were accordingly highly vulnerable to harm from the manner in which Sogwater exercised its rights and powers as owner and licensed operator of Somerset Dam and Wivenhoe Dam.

144 In light of the facts and matters pleaded in paragraphs 142A-143, Segwater, in its capacity as owner and occupier of Somerset Dam and Wivenhoe Dam, owed a direct (or "personal" or "non-delegable") duty to Group Members:

- a) to take reasonable care in the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam; and
  - b) to ensure that reasonable care was taken by any third party engaged by or on behalf of Segwater to conduct Flood Operations at Somerset Dam and Wivenhoe Dam;
- to avoid each of the Risk of Harm to Property, the Risk of Interference with Use and Enjoyment and the Risk of Harm to Businesses (Seawater's Duty as Owner and Occupier), ~~the risk that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam would cause Greater Flooding downstream of Wivenhoe Dam (Seawater's Duty as Owner and Occupier).~~

***Segwater's Direct Duty of Care as Sole Licensee under the Water Act***

145 Further, and in the alternative, in light of the facts and matters pleaded in paragraphs 61-76 and 142A-143, Segwater, as the sole entity licensed to conduct Flood Operations at Somerset Dam and Wivenhoe Dam under s 107A of the Water Act, had a direct ("personal" or "non-delegable") duty to Group Members to take reasonable care in the operation of Somerset Dam and Wivenhoe Dam to avoid each of the Risk of Harm to Property, the Risk of Interference with Use and Enjoyment and the Risk of Harm to Businesses (Seawater's Duty as Licensee), ~~risk that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam would cause Greater Flooding downstream of Wivenhoe Dam (Seawater's Duty as Licensee).~~

146 Segwater's Duty as Licensee:

- a) required that Segwater act personally (including through its employees) in conducting Flood Operations at Somerset Dam and Wivenhoe Dam; and
- b) could not be discharged by the delegation by Segwater of its responsibility for conducting Flood Operations at Somerset Dam and Wivenhoe Dam to third parties (including SunWater).

## ***Sun Water's Direct Duty of Care***

147 In December 2010 and January 2011:

- a) each of the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses was reasonably foreseeable by SunWater:

### **PARTICULARS**

- A. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy. September 2010.
- B. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.
- C. Further particulars may be provided after discovery.
- b) SunWater, as the entity in practical control of Flood Operations at Somerset Dam and Wivenhoe Dam, was engaged in an inherently dangerous activity, being the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam:
- c) the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam by SunWater was an extremely hazardous activity which carried with it the risk of harm to at least 244,000 people located downstream of Wivenhoe Dam:

### **PARTICULARS**

- A. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy. September 2010, p 5.
- d) SunWater had actual knowledge of the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses:

### **PARTICULARS**

- A. Flood Management Services Agreement. Service Schedule, clause 1.
- B. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy. September 2010.

- C. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.
- D. Further particulars will be provided by way of correspondence after discovery.
- e) the location and identity of persons and businesses likely to be directly impacted by a failure by SunWater properly to conduct Flood Operations at Wivenhoe Dam was reasonably ascertainable:

**PARTICULARS**

- A. Flood Management Services Agreement. Service Schedule, clause 1.
- B. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy. September 2010.
- C. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.
- D. Further particulars will be provided by way of correspondence after discovery.
- f) SunWater had the practical ability to exercise a high degree of control in relation to the operation of Somerset Dam and Wivenhoe Dam so as to avoid the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses:
- g) SunWater had the means to make useful predictions as to the range of weather conditions that might affect Somerset Dam and Wivenhoe Dam (including predictions as to the effects of actual and forecast rainfall), and to use those predictions and the Real Time Flood Model to operate Somerset Dam and Wivenhoe Dam in a manner so as to avoid minimise the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses:

**PARTICULARS**

- A. SunWater was able to make useful predictions as to the range of weather conditions that might affect Somerset Dam and Wivenhoe Dam by reason of:
  - 1. the matters pleaded in paragraphs 106A-106B:

2. the matters pleaded in paragraphs 133 to 142;
  3. the matters pleaded in paragraphs 158(d)-(f), 163A-163H, 174(e)-(g), 179A-179I, 192-194, 214-217, 231-234, 248-250, 270-273, 291-293, 310-315;
  4. the matters pleaded in paragraphs 200-202; and
  5. the matters pleaded in paragraphs 151, 158(c), 164-165, 174(d), 180-182, 196-198, 218-219, 235-236, 251-252, 274-275, 294-295, 316-318.
- h) the plaintiff and other Group Members could not direct, control or influence the manner in which SunWater conducted Flood Operations at Somerset Dam or Wivenhoe Dam;
  - i) the plaintiff and other Group Members had no ability, or alternatively, no practical ability, to protect themselves from the Risk of Harm to Property, the Risk of Interference with Use and Enjoyment or the Risk of Harm to Businesses;
  - j) the plaintiff and other Group Members were dependent upon SunWater taking reasonable care to avoid the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses; and
  - k) the plaintiff and other Group Members were accordingly highly vulnerable to harm from the manner in which SunWater exercised its functions in performing Flood Operations at Somerset Dam and Wivenhoe Dam.
- a) ~~it was reasonably foreseeable by SunWater:~~
    - i) ~~that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam may cause greater flooding downstream of Wivenhoe Dam;~~
    - ii) ~~that the making of releases of water from Wivenhoe Dam at volumes significantly in excess of those that would have been necessary if Flood Operations were conducted properly may cause greater flooding downstream of Wivenhoe Dam;~~

- iii) that if Greater Flooding were caused by a failure properly to conduct Flood Operations at Somorsot Dam and Wivenhoe Dam, that flooding may cause physical damage to properties located downstream of Wivenhoe Dam than would occur if Flood Operations were conducted properly;
- iv) that the properties that would be damaged by such Greater Flooding may include those located in the areas located downstream of Wivenhoe Dam;

**PARTICULARS**

- A. Segwator, ~~Wivenhoe Dam Emergency Action Plan~~, Uncontrolled Copy, Saptombor ~~2010~~.
- B. Flood Mitigation Manual, sections ~~1, 1, 3, 1, 4, 8.4~~.
- C. Further particulars may be provided after discovery:
  - v) that if Greater Flooding were caused by a failure properly to conduct Flood Operations at Somorsot Dam and Wivenhoe Dam that flooding may disrupt the commercial activities of businesses operating from one or more locations located downstream of Wivenhoe Dam;
  - vi) that the businesses so disrupted would include those businesses operating at locations located downstream of Wivenhoe Dam;

**PARTICULARS**

- A. Segwator, ~~Wivenhoe Dam Emorgoncy Action Plan~~, Uncontrolled Copy, Saptombor ~~2010~~.
- B. Flood Mitigation Manual, sections ~~1, 1, 3, 1, 4, 8.4~~.
- C. Further particulars may be provided after discovery:
  - vii) that Greater Flooding caused by a failure properly to conduct Flood Operations at Somorsot Dam and Wivenhoe Dam may cause loss or damage to:

~~(1) persons who hold an interest in land located downstream of Wivonhoo Dam;~~

~~(2) persons who owned personal property that was located downstream of Wivonhoo Dam; and~~

~~(3) persons who regularly conducted a business or enterprise, in whole or in part, at one or more locations located downstream of Wivonhoo Dam;~~

~~including the plaintiff and Group Members;~~

- b) ~~the risk of harm of the types described in subparagraphs (a)(i) through (a)(vii) was not remote or insignificant;~~
- c) ~~the plaintiff and other Group Members had no ability, or alternatively, no practical ability, to protect themselves from the harm described in subparagraphs (a)(i) through (a)(vii) in the event that SunWater failed properly to conduct Flood Operations at Somersot Dam and Wivonhoo Dam;~~
- d) ~~SunWater, as the entity practically in control of Flood Operations at Somersot Dam and Wivonhoo Dam, was engaged in an inherently dangerous activity, being the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam;~~
- e) ~~the conduct of Flood Operations at Somerset Dam and Wivonhoo Dam by SunWater was an extremely hazardous activity which carried with it the risk of harm to at least 244,000 people located downstream of Wivenhoe Dam;~~

#### **PARTICULARS**

- A. ~~Sogwater, *Wivenhoe Dam Emergency Action Plan*, Uncontrolled Copy, September 2010, p 5.~~
- f) ~~the location and identity of persons and businesses likely to be directly impacted by a failure by SunWater properly to conduct Flood Operations at Wivonhoo Dam was reasonably ascertainable;~~

**PARTICULARS**

- A. ~~Flood Management Services Agreement, Service Schedule, clause 1.~~
  - B. ~~Sogwater, Wivonhoo Dam Emergency Action Plan, Uncontrolled Copy, Soptombor 2010.~~
  - C. ~~Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.~~
  - D. ~~Further particulars will be provided by way of correspondence after discovery.~~
- g) SunWater had actual knowledge of the risk of harm posed to persons and businesses located downstream of Wivenhoe Dam, including persons in the position of the plaintiff and other Group Members, from the conduct of Flood Operations at Somersot Dam and Wivonhoo Dam;

**PARTICULARS**

- A. ~~Flood Management Services Agreement, Service Schedule, clause 1.~~
  - B. ~~Sogwater, Wivonhoo Dam Emergency Action Plan, Uncontrolled Copy, Soptombor 2010.~~
  - C. ~~— Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.~~
  - D. ~~— Further particulars will be provided by way of correspondence after discovery.~~
- h) SunWater had the practical ability to exercise a high degree of control in relation to the operation of Somersot Dam and Wivonhoo Dam so as to avoid, or minimise, the risk that Flood Operations at Somersot Dam and Wivonhoo Dam would cause greater flooding downstream of Wivenhoe Dam;
- i) SunWater had the means to make useful predictions as to the range of weather conditions that might affect Somerset Dam and Wivenhoe Dam (including predictions as to the effects of actual and forecast rainfall), and to use those predictions and the Real Time Flood Model

~~to operate Somorsot Dam and Wivonhoo Dam in a manner so as to minimise the risk of Groator Flooding downstream of Wivenhoe Dam;~~

- j) ~~the plaintiff and other Group Members could not direct, control or influence the manner in which SunWater conducted Flood Operations at Somerset Dam or Wivenhoe Dam;~~
- k) ~~the plaintiff and other Group Members were dependent upon SunWater taking reasonable care to avoid the risk that a failure to properly to conduct Flood Operations at Somorsot Dam and Wivenhoe Dam would cause Groator Flooding downstream of Wivenhoe Dam; and~~
- l) ~~the plaintiff and other Group Members were accordingly highly vulnerable to harm from the manner in which SunWater exercised its functions in performing Flood Operations at Somerset Dam and Wivonhoo Dam.~~

148 In light of the facts and matters pleaded in paragraphs 142A-142B and 147, SunWater, in its capacity as the entity having practical control over the operation of Somerset Dam and Wivenhoe Dam, owed a duty to Group Members:

- a) to take reasonable care in the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam; and
- b) to ensure that reasonable care was taken by persons engaged by or on behalf of SunWater to conduct Flood Operations at Somerset Dam and Wivenhoe Dam;

to avoid each of the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses (SunWater's Duty of Care), ~~risk that a failure properly to conduct Flood Operations at Somorsot Dam and Wivonhoo Dam would cause Groator Flooding downstream of Wivenhoe Dam (SunWater's Duty of Care).~~

## ***Flood Engineers' Duty of Care***

149 In December 2010 and January 2011:

- a) each of the Risk of Harm to Property. Risk of Interference with Use and Enioyment and Risk of Harm to Businesses was reasonably foreseeable by the Flood Engineers:

### **PARTICULARS**

- A. Segwater, Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy, September 2010.
- B. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.
- C. Further particulars may be provided after discovery.
- b) the Flood Engineers were engaged in an inherently dangerous activity, being the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam;
- c) the conduct of Flood Operations at Somerset Dam and Wivenhoe Dam by the Flood Engineers was an extremely hazardous activity which carried with it the risk of harm to at least 244,000 people located downstream of Wivenhoe Dam;

### **PARTICULARS**

- A. Segwater. Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy. September 2010, p 5.
- d) the location and identity of persons and businesses likely to be directly impacted by a failure by the Flood Engineers properly to conduct Flood Operations at Wivenhoe Dam was reasonably ascertainable:

### **PARTICULARS**

- A. Segwater. Wivenhoe Dam Emergency Action Plan, Uncontrolled Copy. September 2010.
- B. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.

- C. Further particulars will be provided by way of correspondence after discovery.
- e) the Flood Engineers had actual knowledge of the Risk of Harm to Property. Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses; particulars
  - A. Segwater. Wivenhoe Dam Emergency Action Plan. Uncontrolled Copy. September 2010.
  - B. Flood Mitigation Manual, sections 1.1, 3.1, 4, 8.4.
  - C. Further particulars will be provided by way of correspondence after discovery.
- f) the Flood Engineers were able to exercise a high degree of control in relation to conduct of Flood Operations at Somerset Dam and Wivenhoe Dam so as to avoid the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses;
- g) the Flood Engineers had the means to make useful predictions as to the range of weather conditions that might affect Somerset Dam and Wivenhoe Dam (including predictions as to the effects of actual and forecast rainfall), and to use those predictions and the Real Time Flood Model to operate Somerset Dam and Wivenhoe Dam in a manner so as to avoid the Risk of Harm to Property. Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses;

### **PARTICULARS**

- A. The Flood Engineers were able to make useful predictions as to the range of weather conditions that might affect Somerset Dam and Wivenhoe Dam by reason of:
  - 1. the matters pleaded in paragraphs 106A-106B;
  - 2. the matters pleaded in paragraphs 133 to 142;

3. the matters pleaded in paragraphs 158(d)-(f), 163A-163H, 174(e)-(O), 179A-179I, 192-194, 214-217, 231-234, 248-250, 270-273, 291-293, 310-315;
  4. the matters pleaded in paragraphs 200-202; and
  5. the matters pleaded in paragraphs 151, 158(c), 164-165, 174(d), 180-182, 196-198, 218-219, 235-236, 251-252, 274-275, 294-295, 316-318.
- h) the plaintiff and other Group Members could not direct, control or influence the manner in which the Flood Engineers conducted Flood Operations at Somerset Dam or Wivenhoe Dam;
  - i) the plaintiff and other Group Members had no ability, or alternatively, no practical ability, to protect themselves from the Risk of Harm to Property, the Risk of Interference with Use and Enjoyment or the Risk of Harm to Businesses;
  - j) the plaintiff and other Group Members were dependent upon the Flood Engineers taking reasonable care in the conduct of Flood Operations to avoid the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses; and
  - k) the plaintiff and other Group Members were accordingly highly vulnerable to harm from the manner in which the Flood Engineers exercised their functions in performing Flood Operations at Somerset Dam and Wivenhoe Dam.
- a) ~~it was reasonably foreseeable by the Flood Engineers:~~
    - i) ~~that a failure properly to conduct Flood Operations at Somorsot Dam and Wivenhoe Dam may cause Greater Flooding downstream of Wivonhoo Dam;~~
    - ii) ~~that the making of releases of water from Wivonhoe Dam at volumes significantly in excess of those that would have been necessary if Flood Operations were conducted properly may cause Greater Flooding downstream of Wivonhoo Dam;~~

- iii) ~~that if Greater Flooding were caused by a failure properly to conduct Flood Operations at Somorsot Dam and Wivonhoo Dam, that flooding may cause physical damage to properties located downstream of Wivonhoo Dam than would occur if Flood Operations were conducted properly;~~
- iv) ~~that the properties that would be damaged by such Greater Flooding may include those located downstream of Wivonhoo Dam;~~

**PARTICULARS**

- A. ~~Segwator, *Wivonhoe Dam Emergency Action Plan*, Uncontrolled Copy, Soptombor 2010.~~
- B. ~~Flood Mitigation Manual, sections 1.1, 3.1, A, 8.4.~~
- C. ~~Further particulars may be provided after discovery.~~
- v) ~~that if Greater Flooding were caused by a failure properly to conduct Flood Operations at Somerset Dam and Wivonhoo Dam that flooding may disrupt the commercial activities of businesses operating from one or more locations located downstream of Wivonhoo Dam;~~
- vi) ~~that the businesses so disrupted would include those businesses operating at locations within the areas located downstream of Wivonhoo Dam;~~

**PARTICULARS**

- A. ~~Sogwator, *Wivonhoo Dam Emergency Action Plan*, Uncontrolled Copy, Soptombor 2010.~~
- B. ~~Flood Mitigation Manual, sections 1.1, 3.1, A, 8.4.~~
- C. ~~Further particulars may be provided after discovery.~~
- vii) ~~that Greater Flooding caused by a failure properly to conduct Flood Operations at Somorsot Dam and Wivonhoo Dam may cause loss or damage to:~~

~~(1) persons who hold an interest in land located downstream of Wivonhoo Dam;~~

~~(2) persons who owned personal property that was located downstream of Wivonhoo Dam; and~~

~~(3) persons who regularly conducted a business or enterprise, in whole or in part, at one or more locations located downstream of Wivonhoo Dam;~~

~~including the plaintiff and Group Members;~~

- b) ~~the risk of harm of the types described in subparagraphs (a)(i) through (a)(vii) was not remote or insignificant;~~
- c) ~~the plaintiff and Group Members had no ability, or alternatively, no practical ability, to protect themselves from the harm described in subparagraphs (a)(i) through (a)(vii) in the event that the Flood Engineers failed properly to conduct Flood Operations at Somorsot Dam and Wivenhoe Dam;~~
- d) ~~the Flood Engineers were engaged in an inherently dangerous activity, being the conduct of Flood Operations at Somorsot Dam and Wivenhoe Dam;~~
- e) ~~the conduct of Flood Operations at Somorsot Dam and Wivenhoe Dam by the Flood Engineers, was an extremely hazardous activity which carried with it the risk of harm to at least 244,000 people located downstream of Wivenhoe Dam;~~

#### **PARTICULARS**

- A. ~~Sogwater, *Wivonhoo Dam Emergency Action Plan*, Uncontrolled Copy, September 2010, p. 5.~~
- f) ~~the Flood Engineers had actual knowledge of the risk of harm posed to persons and businesses located downstream of Wivonhoo Dam, including persons in the position of the plaintiff and Group Members, from the conduct of Flood Operations at Somorsot Dam and Wivonhoo Dam;~~

## PARTICULARS

- A. ~~Sogwator, Wivonhoo-Dam-Emergency Action Plan, Uncontrolled Copy, Soptombor 2010.~~
  - B. ~~Flood-Mitigation-Manual, sootions 1-1, 3-1, 4, 8.4.~~
  - C. ~~Further particulars will be provided by way of correspondence after discovery.~~
- g) ~~the location and identity of persons and businesses likely to be directly impacted by a failure by the Flood Engineers properly to conduct Flood Operations at Wivonhoo Dam was reasonably ascertainable;~~

## PARTICULARS

- A. ~~Segwator, Wivonhoo-Dam-Emergency Action Plan, Uncontrolled Copy, Soptombor 2010.~~
  - B. ~~Flood-Mitigation-Manual, sootions 1-1, 3-1, 4, 8.4.~~
  - C. ~~Further particulars will be provided by way of correspondence after discovery.~~
- h) ~~the Flood Engineers were practically able to exercise a high degree of control in relation to conduct of Flood Operations at Somorsot Dam and Wivonhoo Dam so as to avoid the risk that Flood Operations at Somorsot Dam and Wivonhoe Dam would cause Greater Flooding downstream of Wivenhoe Dam;~~
- i) ~~the Flood Engineers had the means to make useful predictions as to the range of weather conditions that might affect Somorsot Dam and Wivonhoo Dam (including predictions as to the effects of actual and forecast rainfall), and to use those predictions and the Real Time Flood Model to operate Somorsot Dam and Wivonhoo Dam in a manner so as to minimise the risk that those weather conditions would cause Greater Flooding downstream of Wivenhoe Dam;~~
- j) ~~the plaintiff and other Group Members could not direct, control or influence the manner in which the Flood Engineers conducted Flood Operations at Somorsot Dam or Wivenhoe Dam;~~

- k) ~~the plaintiff and other Group Members were dependent upon the Flood Engineers taking reasonable care in the conduct of Flood Operations to avoid the risk that a failure by the Flood Engineers properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam would cause flooding downstream of Wivenhoe Dam;~~  
~~and~~
- l) ~~the plaintiff and other Group Members were accordingly highly vulnerable to harm from the manner in which the Flood Engineers exercised their functions in performing Flood Operations at Somerset Dam and Wivenhoe Dam.~~

150 In light of the facts and matters pleaded in paragraphs 142A-142B and 149, each of the Flood Engineers owed a duty to Group Members to take reasonable care in the operation of Somerset Dam and Wivenhoe Dam to avoid each of the Risk of Harm to Property, Risk of Interference with Use and Enjoyment and Risk of Harm to Businesses. ~~risk that a failure properly to conduct Flood Operations at Somerset Dam and Wivenhoe Dam would cause greater flooding downstream of Wivenhoe Dam.~~

**M Events of 1 December to 16 December 2010 ~~December 2010~~ Flood Operations**

**Rainfall and Inflows**

151 Between 1 December and 15 December 2010, the catchment areas for Lake Somerset and Lake Wivenhoe experienced rainfall of between approximately 52 mm and 270 mm.

**PARTICULARS**

- A. *Segwater, Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010, May 2011, pp 47-48.*

**Water Level**

152 In the period 1 December 2010 to 13 December 2010:

- a) the water level in Lake Wivenhoe rose from approximately EL 67.00 m AHD to approximately 67.33 m AHD; and

- b) the water level in Lake Somerset rose from approximately EL 99.06 m AHD to approximately EL 99.68 m AHD.

#### **PARTICULARS**

- A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, pp 18 & 49-50.
- B. Lake Wivenhoe water level at 6.30am on 1 December 2010 - EL 67.01 m AHD
- Lake Wivenhoe water level at 6.30am on 13 December 2010 - EL 67.30 m AHD
- Segwater, Spreadsheet containing Lake Wivenhoe water levels between 1 December 2010 and 31 January 2011, Doc identification number: MAU.500.020.0027.
- C. Lake Somerset water level at 6.30am on 1 December 2010 - EL 99.06 m AHD
- Email from damlevels@segwater.com.au to DG-Ops Dam Levels, DG-Ops duty engineers, DG-ops Dam Levels Central, sent Wednesday 1 December 2010 at 6.27am; Subject: FW: Somerset Dam.

#### **Flood Operations**

- 153 At around 7 am on 11 December 2010, Segwater and SunWater mobilised the Flood Operations Centre.

#### **PARTICULARS**

- A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 8.

- 154 The Flood Engineers worked the following shifts in the period 13 December to 16 December 2010:

Shift Start Time	Shift Finish Time	Operations

Monday 13/12/10 07:00	Monday 13/12/10 19:00	Mr Malone
Monday 13/12/10 19:00	Tuesday 14/12/10 7:00	Mr Tibaldi
Tuesday 14/12/10 07:00	Tuesday 14/12/10 19:00	Mr Malone
Tuesday 14/12/10 19:00	Wednesday 15/12/10 07:00	Mr Tibaldi
Wednesday 15/12/10 07:00	Wednesday 15/12/10 19:00	Mr Ruffini
Wednesday 15/12/10 19:00	Thursday 16/12/10 07:00	Mr Tibaldi
Thursday 16/12/10 07:00	Thursday 16/12/10 10:30	Mr Malone

155 At or around 3:00 pm on 13 December 2010, the Flood Engineers commenced releasing water from Somerset Dam and Wivenhoe Dam consistent with Strategy W1 at Wivenhoe Dam and Strategy S2 at Somerset Dam.

**PARTICULARS**

A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, pp 48-49.

156 The Flood Engineers discontinued the releases and Flood Operations at or around 10:00 am on 16 December 2010.

**PARTICULARS**

A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, pp 11 & 47.

157 The Flood Engineers demobilised the Flood Operations Centre at or around 10:30 am on 16 December 2010.

**PARTICULARS**

A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 11.

158 At or around the time at which the ~~flood~~ releases and Flood Operations were discontinued:

- a) Lake Wivenhoe remained above Full Supply Level at approximately EL 67.10 m AHD;
- b) Lake Somerset remained above Full Supply Level at approximately EL 99.07 m AHD;
- c) flood inflows into both Lake Wivenhoe and Lake Somerset were continuing;
- d) the Bureau of Meteorology 1-day rainfall forecast for 16 December 2010 predicted continuing rain in the Lake Somerset and Lake Wivenhoe catchment areas;
- e) the Bureau of Meteorology 4-day forecast for 16 December to 19 December 2010 predicted ~~50~~ 15 to ~~400~~ 50 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- f) the Bureau of Meteorology 8-day forecast for 16 December to 23 December 2010 predicted 50 to 100 mm of rainfall in the Lake Somerset and Lake Wivenhoe catchment areas; and
- g) a Flood Event (as defined in paragraph 102 above) was occurring.

#### **PARTICULARS**

- A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, pp 49-50.
- B. Lake Wivenhoe water level at 10.00am on 16 December 2010 - EL 67.10 m AHD  
  
Segwater, Spreadsheet containing Lake Wivenhoe water levels between 1 December 2010 and 31 January 2011, Doc identification number: MAU.500.020.0027.
- C. Lake Somerset water level on 16 December 2010 - EL 99.07 m AHD

Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 18.

- D. Bureau of Meteorology, Poor Man's Ensemble forecast issued ~~15 December 2010~~ for period 16 December 2010.
- E. Bureau of Meteorology, Poor Man's Ensemble forecast issued ~~15 Doombor 2010~~ for period 16 December to 19 December 2010.
- F. Bureau of Meteorology, Poor Man's Ensemble forecast issued ~~15 December 2010~~ for period 16 December to 23 December 2010.

### **16 December Breaches**

- 158A In the circumstances pleaded in paragraphs 151-152 and 158, the cessation of releases and Flood Operations on 16 December 2010 created a significant risk:
- a) that there would be insufficient flood storage capacity in Lake Somerset and Lake Wivenhoe to store flood inflows should further rainfall occur in accordance with, or in excess of, that forecast by the Bureau of Meteorology: and
  - b) that, without such capacity, subsequent releases would be necessary
    - in volumes that would cause urban flooding downstream of Wivenhoe Dam.
- 159 [Not used] At the time flood releases from Wivenhoe Dam were discontinued on 16 Doombor 2010, a reasonably prudent flood engineer responsible for Flood Operations at Somorsot Dam and Wivonhoo Dam:
- a) would have had regard to the flood mitigation objectives in the Flood Mitigation Manual and the priority between them;
  - b) would have considered the likely effect of continuing inflows in determining whether to cease flood releases and Flood Operations;
  - c) would have considered the likely effect of continuing rainfall in determining whether to cease flood releases and Flood Operations;

- d) ~~would have considered forecast rainfall in determining~~ whether to cease flood releases and Flood Operations;
- e) ~~would have considered the risk that future rainfall may exceed that predicted by the Bureau of Meteorology;~~
- f) ~~would have considered the risk that further rainfall might generate substantial runoff given previous rainfall;~~
- g) ~~would have considered the risk that a failure to continue Flood Operations and flood releases might result in there being insufficient available capacity in the flood storage compartments of Somerset Dam and Wivenhoe Dam to prevent large scale releases in case of further rain;~~
- h) ~~would have considered the current~~ water levels of Lake Somerset and Lake Wivenhoe;
- i) ~~would have considered the magnitude of forecast rainfall and the likely impact such rainfall would have on dam water levels should it eventuate;~~ and
- j) ~~would have considered whether water levels should be reduced below Full Supply Level given past rainfall, ongoing inflows and the likelihood of rainfall in the near future~~

160 Further, by reason of the matters pleaded at paragraphs 158-158A ~~paragraphs 158-159~~, a reasonably prudent flood engineer responsible for Flood Operations at Somerset Dam and Wivenhoe Dam on 16 December 2010:

- a) would have complied with the Flood Mitigation Manual;
- b) would have continued Flood Operations and releases throughout 16 December 2010;
- c) would have implemented Strategy W1 at Wivenhoe Dam;
- d) would have implemented Strategy S2 at Somerset Dam;

- e) would have caused Wivenhoe Dam and Somerset Dam to release water at rates approximating the rate of inflow;
- f) would have reduced the water level in Lake Somerset to no higher than approximately EL 99.04 m AHD by the end of 16 December 2010;
- g) would have reduced the water level in Lake Wivenhoe to no higher than approximately EL 67.09 m AHD by the end of 16 December 2010;
- h) would have continued Flood Operations until Lake Somerset and Lake Wivenhoe were no longer likely to exceed their respective Full Supply Levels.

#### **PARTICULARS**

- A. A reasonably prudent flood engineer would have complied with the Flood Mitigation Manual by taking the actions pleaded in paragraphs 160(b)-(h) below.
  - B. Flood Mitigation Manual, sections 1.1, 3.1, 8.4, 8.5, 9.3, 9.4.
  - C. Dr Ronald K Christensen, *Wivenhoe and Somerset Dam Operations During the Brisbane River Flood of December 2010 and January 2011*. 19 February 2015 (**Christensen Report**), Chapter VIII. [484]-[515].
- a) ~~would have reasonably construed the Flood Mitigation Manual;~~

#### **PARTICULARS**

- A. ~~A reasonably prudent flood engineer would have construed the Flood Mitigation Manual to require the Flood Engineers to use the weather forecast information supplied by the Bureau of Meteorology in determining release strategies for Somerset Dam and Wivenhoe Dam.~~
- B. ~~A reasonably prudent flood engineer would have construed the Flood Mitigation Manual to require the actions pleaded in paragraphs 160(b)-(d) and (g)-(j) below.~~

- b) would have complied with the requirements of the Flood Mitigation Manual;

#### PARTICULARS

- A. A reasonably prudent flood engineer would have complied with the Flood Mitigation Manual by taking the actions provided in paragraphs 160(c)-(j), paragraphs 160(o)-(d) and (g)-(j) below.
- c) would have implemented Strategy W1 at Wivenhoe Dam;
- d) would have made reasonable predictions, and formed reasonable expectations, with respect to those matters in relation to which the Flood Mitigation Manual required the Flood Engineers to make predictions and form expectations, and would have acted in accordance with those predictions and expectations in complying with the requirements of the Flood Mitigation Manual;
- e) would have adhered to the dictates of the Flood Mitigation Manual in determining whether to continue Flood Operations and releases;
- f) would have expected that the water levels in Lako Somerset and Lake Wivenhoe would continue to exceed their respective Full Supply Levels, such that a Flood Event was occurring;
- g) would have considered that, according to the terms of the Flood Mitigation Manual, a Flood Event had been ongoing since on or around 2 December 2010;
- h) would have continued Flood Operations and flood releases at Somersot Dam and Wivenhoe Dam on 16 Doombor;
- i) would have continued Flood Operations until Lako Somerset and Lako Wivenhoe were no longer likely to exceed their respective Full Supply Levels.

#### PARTICULARS

- B. Flood Mitigation Manual, sections 1.1, 3.1, 8.4, 8.5, 9.4.

- 161 In the circumstances pleaded at paragraphs ~~156-160~~, the Flood Engineers (or one or more of them) failed to do one or more of the things pleaded in paragraph 160.:-
- a) ~~failed to have regard to, or to accord sufficient weight to, one or more of the matters pleaded in paragraph 159; and~~
  - b) ~~failod to do ono or moro of tho things ploaddod in paragraph 160.~~
- 162 By reason of the matters pleaded in the preceding paragraph, the Flood Engineers, or one or more of them, breached their duty of care to the plaintiff and other Group Members on 16 December 2010 (the **16 December Breaches**).
- 163 Immediately upon the cessation of Flood Operations on 16 December 2010, the water levels in Lake Wivenhoe and Lake Somerset began to rise.

**N Events of ~~16~~ 17 December to 24 December 2010**

**Weather Forecasts**

**163A On 17 December 2010:**

- a) the Bureau of Meteorology 4-day forecast for 17 December to 20 December 2010 predicted 25-100 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 17 December to 24 December 2010 predicted 50-100 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 17 December to 20 December 2010.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 17 December to 24 December 2010.

163B On 18 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 18 December to 21 December 2010 predicted 50-100 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 18 December to 25 December 2010 predicted 100-150 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 18 December to 21 December 2010.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 18 December to 25 December 2010.

163C On 19 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 19 December to 22 December 2010 predicted 50-100 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 19 December to 26 December 2010 predicted 75-150 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 19 December to 22 December 2010.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 19 December to 26 December 2010.

.163D On 20 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 20 December to 23 December 2010 predicted 25-50 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 20 December to 27 December 2010 predicted 40-100 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 20 December to 23 December 2010.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 20 December to 27 December 2010.

.163E On 21 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 21 December to 24 December 2010 predicted 25-75 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 21 December to 28 December 2010 predicted 100-200 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 21 December to 24 December 2010.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 21 December to 28 December 2010.

.163F On 22 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 22 December to 25 December 2010 predicted 50-125 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 22 December to 29 December 2010 predicted 100-200 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology. Poor Man's Ensemble forecast for period 22 December to 25 December 2010.
- B. Bureau of Meteorology. Poor Man's Ensemble forecast for period 22 December to 29 December 2010.

.163G On 23 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 23 December to 26 December 2010 predicted 50-100 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 23 December to 30 December 2010 predicted 125-200 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology. Poor Man's Ensemble forecast for period 23 December to 26 December 2010.
- B. Bureau of Meteorology. Poor Man's Ensemble forecast for period 23 December to 30 December 2010.

163H On 24 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 24 December to 27 December 2010 predicted 100-150 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 24 December to 31 December 2010 predicted 150-200 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

#### **PARTICULARS**

- A. Bureau of Meteorology. Poor Man's Ensemble forecast for period 24 December to 27 December 2010.
- B. Bureau of Meteorology. Poor Man's Ensemble forecast for period 24 December to 31 December 2010.

#### **Rainfall and Inflows**

164 There were further rainfalls over the Lake Somerset and Lake Wivenhoe catchment areas in the period ~~46~~ 17 December to 24 December 2010.

#### **PARTICULARS**

- A. Segwater. Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010. May 2011, PP 55-64.

165 Total rainfall during this period averaged approximately 115 mm in the Stanley River upstream of Somerset Dam and 71 mm in the rest of the Brisbane River Basin upstream of Wivenhoe Dam.

#### **PARTICULARS**

- A. Segwater, Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010, May 2011, pp 63-64.

#### **Water Level**

166 In the period ~~17~~ 46 December to 21 December 2010:

- a) the water level in Lake Wivenhoe rose from approximately EL 67.10 m AHD to approximately EL 68.24 m AHD; and
- b) the water level in Lake Somerset rose from approximately EL 99.10 m AHD to approximately EL 100.42 m AHD.

**PARTICULARS**

- A. Lake Wivenhoe water level at 9.00am on 16 December 2010 - EL 67.10 m AHD  
  
Lake Wivenhoe water level at 4.00am on 21 December 2010 - EL 68.24 m AHD  
  
Segwater, Spreadsheet containing Lake Wivenhoe water levels between 1 December 2010 and 31 January 2011, Doc identification number: MAU.500.020.0027.
- B. Lake Somerset water level on 16 December 2010 - EL 99.07 m AHD  
  
Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 18.
- C. Lake Somerset water level on 20 December 2010 - EL 100.42 m AHD  
  
Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 74.

**Flood Operations**

- 167 Segwater and SunWater mobilised the Flood Operations Centre at or around 10:00 am on 17 December 2010.

**PARTICULARS**

- A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 8.

- 168 The Flood Engineers worked the following shifts in the period 17 December to 24 December 2010:

Friday 17/12/10 16:00	Saturday 18/12/10 07:00	Mr Ruffini
Saturday 18/12/10 07:00	Saturday 18/12/10 19:00	Mr Tibaldi
Saturday 18/12/10 19:00	Sunday 19/12/10 07:00	Mr Malone
Sunday 19/12/10 07:00	Sunday 19/12/10 19:00	Mr Ayre
Sunday 19/12/10 19:00	Monday 20/12/10 07:00	Mr Tibaldi
Monday 20/12/10 07:00	Monday 20/12/10 19:00	Mr Ruffini
Monday 20/12/10 19:00	Tuesday 21/12/10 07:00	Mr Ayre
Tuesday 21/12/10 07:00	Tuesday 21/12/10 19:00	Mr Malone
Tuesday 21/12/10 19:00	Wednesday 22/12/10 07:00	Mr Ruffini
Wednesday 22/12/10 07:00	Wednesday 22/12/10 19:00	Mr Malone
Wednesday 22/12/10 19:00	Thursday 23/12/10 07:00	Mr Tibaldi
Thursday 23/12/10 07:00	Thursday 23/12/10 19:00	Mr Ayre
Thursday 23/12/10 19:00	Friday 24/12/10 07:00	Mr Tibaldi
Friday 24/12/10 07:00	Friday 24/12/10 15:00	Mr Ruffini

169 At or around 6:00 pm on 17 December 2010, the Flood Engineers, or one or more of them, commenced releasing water from Somerset Dam and Wivenhoe Dam at flow rates consistent with Strategy W1 at Wivenhoe Dam and Strategy S2 at Somerset Dam.

#### PARTICULARS

A. *Segwater, Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010, May 2011, p 119 450.*

170 On or around 24 December 2010, the Chief Executive Officer of the SEQ Water Grid Manager informed Segwater that Segwater was authorised to draw down Lake Somerset and Lake Wivenhoe to 95% of their combined Full Supply Level **(Temporary Full Supply Level)**.

## PARTICULARS

- A. Letter from Barry Dennien, Chief Executive Officer, SEQ Water Grid Manager, to Peter Burrows, Chief Executive Officer, Segwater, dated 24 December 2010.

170A The Temporary Full Supply Level:

- a) for Somerset Dam was EL 98.54 m AHD: and  
b) for Wivenhoe Dam was EL 66.45 m AHD.

171 Notwithstanding the authorisation pleaded in paragraph 170, Segwater did not take steps to draw down Lake Somerset or Lake Wivenhoe to 95% of their combined Full Supply Level on 24 December 2010 or at any material time thereafter.

172 The Flood Engineers discontinued the releases and Flood Operations by 1:00 pm on 24 December 2010.

## PARTICULARS

- A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, pp 12 & 50.

173 The Flood Engineers demobilised the Flood Operations Centre at or around 3:00 pm on 24 December 2010.

## PARTICULARS

- A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 12.

174 At or around the time at which the ~~flood~~ releases were discontinued on 24 December 2010:

- a) Lake Wivenhoe remained above Temporary Full Supply Level and Full Supply Level at approximately EL 67.10 m AHD;  
b) Lake Somerset remained above Temporary Full Supply Level and Full Supply Level at approximately EL 99.10 m AHD;

- c) flood inflows into both Lake Wivenhoe and Lake Somerset were continuing;
- d) rain was continuing to fall in the Lake Somerset and Lake Wivenhoe catchment areas;
- e) the Bureau of Meteorology 1-day rainfall forecast for 24 December 2010 was for continuing rain in the Lake Somerset and Lake Wivenhoe catchment areas;
- f) the Bureau of Meteorology 4-day forecast for 24 December to 27 December 2010 predicted ~~50~~ 100 to 150 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- g) the Bureau of Meteorology 8-day forecast for 24 December to 31 December 2010 predicted 150 to 200 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- h) a Flood Event (as defined in paragraph 102 above) was occurring.

#### **PARTICULARS**

- A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, pp 74-75.
- B. Lake Wivenhoe water level at 10.00am on 24 December 2010 - EL 67.10 m AHD  
  
Segwater, Spreadsheet containing Lake Wivenhoe water levels between 1 December 2010 and 31 January 2011, Doc identification number: MAU.500.020.0027.
- C. Lake Somerset water level on 24 December 2010 - EL 99.10 m AHD  
  
*Segwater, Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 18.
- D. Bureau of Meteorology, Poor Man's Ensemble forecast issued ~~23~~ ~~2010~~ ~~2010~~ for period 24 December 2010.

- E. Bureau of Meteorology, Poor Man's Ensemble forecast issued-23 Doombor-2010 for period 24 December to 27 December 2010.
- F. Bureau of Meteorology, Poor Man's Ensemble forecast issued-23 Doombor-2010 for period 24 December to 31 December 2010..

**17-24 December Breaches**

174A In the circumstances pleaded in paragraphs 163A-166 and 174. the cessation of Flood Operations and releases on 24 December 2010 created a significant risk:

- a) that there would be insufficient flood storage capacity in Lake Somerset and Lake Wivenhoe to store flood inflows should further rainfall occur in accordance with, or in excess of, that forecast by the Bureau of Meteorology; and
- b) that, without such capacity, subsequent releases would be necessary in volumes that would cause urban flooding downstream of Wivenhoe Dam.

175 [Not used] At the time flood releases from Wivenhoe Dam were discontinued on 24 December 2010, a reasonably prudent flood engineer responsible for Flood Operations at Somerset Dam and Wivenhoe Dam:

- a) would have had regard to the flood mitigation objectives in the Flood Mitigation Manual and the priority between them;
- b) would have considered the likely effect of continuing inflows in determining whether to cease flood releases and Flood Operations;
- c) would have considered the likely effect of continuing rainfall in determining whether to cease flood releases and Flood Operations;
- d) would have considered forecast rainfall in determining whether to cease flood releases and Flood Operations;
- e) would have considered the risk that further rainfall might generate substantial runoff given previous rainfall;

- f) ~~would have considered the risk that a failure to continue Flood Operations and flood releases might result in there being insufficient available capacity in the flood storage compartments of Somerset Dam and Wivenhoe Dam to prevent large scale releases in case of further rain;~~
- g) ~~would have considered the risk that future rainfall may exceed that predicted by the Bureau of Meteorology;~~
- h) ~~would have considered the current water levels of Lake Somerset and Lake Wivenhoe;~~
- i) ~~would have considered the magnitude of forecast rainfall and the likely impact such rainfall would have on dam water levels should it eventuate; and~~
- j) ~~would have considered whether water levels should be reduced below Full Supply Level given past rainfall, ongoing inflows and the likelihood of rainfall in the near future.~~

176 Further, by reason of the matters pleaded at paragraphs 174-174A paragraphs 174-175, a reasonably prudent flood engineer responsible for Flood Operations at Somerset Dam and Wivenhoe Dam ~~on~~ in the period 17 to 24 December 2010:

- a) would have complied with the Flood Mitigation Manual;
- b) would have continued Flood Operations and releases at Somerset Dam and Wivenhoe Dam on 24 December;
- c) would have implemented and maintained Strategy W3 at Wivenhoe Dam for substantially all of the period 18 to 24 December 2010;
- d) would have implemented and maintained Strategy S2 at Somerset Dam throughout the period 17 to 24 December 2010;
- e) would have caused Somerset Dam and Wivenhoe Dam to release water at rates substantially exceeding the rate of inflow;

- f) would have reduced the water level in Lake Somerset to no higher than:
  - i) approximately EL 95.75 m AHD by the end of 24 December 2010; or, alternatively,
  - ii) Temporary Full Supply Level by the end of 24 December 2010; or, alternatively,
  - iii) Full Supply Level by the end of 24 December 2010;
- g) would have reduced the water level in Lake Wivenhoe to no higher than:
  - i) approximately EL 63.93 m AHD by the end of 24 December 2010; or, alternatively,
  - ii) Temporary Full Supply Level by the end of 24 December 2010; or, alternatively,
  - iii) Full Supply Level by the end of 24 December 2010; and
- h) would have continued Flood Operations until Lake Somerset and Lake Wivenhoe were no longer likely to exceed their respective Temporary Full Supply Levels, or alternatively, their Full Supply Levels.

**PARTICULARS**

- A. A reasonably prudent flood engineer would have complied with the Flood Mitigation Manual by taking the actions pleaded in paragraphs 176(b)-(h).
- B. Flood Mitigation Manual, sections 1.1, 3.1, 8.4, 8.5, 9.3, 9.4.
- C. Christensen Report, Chapter VIII. [516]-[644].
- a) ~~would have reasonably construed the Flood Mitigation Manual;~~

**PARTICULARS**

- A. ~~A reasonably prudent flood engineer would have construed the Flood Mitigation Manual to require the Flood Engineers to use the weather forecast information supplied by the Bureau of~~

~~Meteorology in determining release strategies for Somorsot Dam and Wivenhoe Dam.~~

- B. ~~A reasonably prudent flood engineer would have construed the Flood Mitigation Manual to require the actions pleaded in paragraphs 176(b)-(d) and (g)-(j) below:~~
- b) ~~would have complied with the requirements of the Flood Mitigation Manual;~~

#### PARTICULARS

- A. ~~A reasonably prudent flood engineer would have complied with the Flood Mitigation Manual by taking the actions pleaded in paragraphs 176(c)-(d) and 176(g)-(j) below.~~
- c) ~~would have made reasonable predictions, and formed reasonable expectations, with respect to those matters in relation to which the Flood Mitigation Manual required the Flood Engineers to make predictions and form expectations, and would have acted in accordance with those predictions and expectations in complying with the requirements of the Flood Mitigation Manual;~~
- d) ~~would have adhered to the dictates of the Flood Mitigation Manual in determining whether to continue Flood Operations and releases;~~
- e) ~~would have expected that the water levels in Lako Somorsot and Lako Wivonhoo would continue to exceed their respective Full Supply Levels, such that a Flood Event was occurring;~~
- f) ~~would have considered that, according to the terms of the Flood Mitigation Manual, a Flood Event had been ongoing since on or around 2 December 2010;~~
- g) ~~would have continued Flood Operations and flood releases at Somorsot Dam and Wivonhoo Dam on 16 December;~~
- h) ~~would have caused Somorsot Dam and Wivonhoo Dam to release water at rates substantially exceeding the rate of inflow;~~

- i) would have made sufficient precautionary releases from Somerset Dam and Wivonhoo Dam to ensure that there was sufficient available capacity in the flood storage compartments of Somerset Dam and Wivonhoe Dam to avoid or minimise the risk that large-scale releases would be required should further rainfall occur in accordance with, or in excess of, that forecast by the Bureau of Meteorology;
- j) would have continued Flood Operations until Lake Somerset and Lake Wivonhoo were no longer likely to exceed their respective Full Supply Levels; would have continued to draw down Lake Somerset and Lake Wivonhoo to 95% of their combined Full Supply Levels after the Flood Event had concluded, as permitted by the authorisation provided in paragraph 170.

### PARTICULARS

A. Flood Mitigation Manual, sections 1.1, 3.1, 8.4, 8.5, 9.4.

177 In the circumstances pleaded at paragraphs 167-176, the Flood Engineers (or one or more of them) failed to do one or more of the things pleaded in paragraph 176.:

- a) failed to have regard to, or to accord sufficient weight to, one or more of the matters provided in paragraph 175; and
- b) failed to do one or more of the things provided in paragraph 176.

178 By reason of the matters pleaded in the preceding paragraph, the Flood Engineers, or one or more of them, breached their duty of care to the plaintiff and other Group Members in the period 17-24 December 2010 (the **17-24 December Breaches**).

179 Immediately upon the Flood Engineers, or one or more of them, ceasing Flood Operations on 24 December 2010, the water levels in Lake Wivenhoe and Lake Somerset began to rise.

**O Events of 24 25 December 2010 to 1 January 2011**

**Weather Forecasts**

179A On 24 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 24 December to 27 December 2010 predicted 100-150 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 24 December to 31 December 2010 predicted 150-200 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology. Poor Man's Ensemble forecast for period 24 December to 27 December 2010.
- B. Bureau of Meteorology. Poor Man's Ensemble forecast for period 24 December to 31 December 2010.

179B On 25 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 25 December to 28 December 2010 predicted 150-250 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 25 December 2010 to 1 January 2011 predicted 200-300 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology. Poor Man's Ensemble forecast for period 25 December to 28 December 2010.

- B. Bureau of Meteorology. Poor Man's Ensemble forecast for period 25 December 2010 to 1 January 2011.

179C On 26 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 26 December to 29 December 2010 predicted 100-200 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 26 December 2010 to 2 January 2011 predicted 200-300 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology. Poor Man's Ensemble forecast for period 26 December to 29 December 2010.
- B. Bureau of Meteorology. Poor Man's Ensemble forecast for period 26 December 2010 to 2 January 2011.

179D On 27 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 27 December to 30 December 2010 predicted 100-150 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 27 December 2010 to 3 January 2011 predicted 100-200 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology. Poor Man's Ensemble forecast for period 27 December to 30 December 2010.
- B. Bureau of Meteorology. Poor Man's Ensemble forecast for period 27 December 2010 to 3 January 2011.

179E On 28 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 28 December to 31 December 2010 predicted 25-50 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 28 December 2010 to 4 January 2011 predicted 25-50 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 28 December 2010 to 31 December 2010.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 28 December 2010 to 4 January 2011.

179F On 29 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 29 December 2010 to 1 January 2011 predicted 5-25 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 29 December 2010 to 5 January 2011 predicted 25-50 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 29 December 2010 to 1 January 2011.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 29 December 2010 to 5 January 2011.

179G On 30 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 30 December 2010 to 2 January 2011 predicted 1-10 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 30 December 2010 to 6 January 2011 predicted 10-15 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 30 December 2010 to 2 January 2011.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 30 December 2010 to 6 January 2011.

179H On 31 December 2010:

- a) the Bureau of Meteorology 4-day forecast for 31 December 2010 to 2 January 2011 predicted 10-15 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas; and
- b) the Bureau of Meteorology 8-day forecast for 31 December 2010 to 7 January 2011 predicted 10-15 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

**PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 31 December 2010 to 2 January 2011.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 31 December 2010 to 7 January 2011.

179I On 1 January 2011:

- a) the Bureau of Meteorology 4-day forecast for 1 January to 4 January 2011 predicted 10-25 mm of rainfall in the Brisbane River Basin.

including in the Lake Somerset and Lake Wivenhoe catchment areas;  
and

- b) the Bureau of Meteorology 8-day forecast for 1 January to 8 January 2011 predicted 15-25 mm of rainfall in the Brisbane River Basin, including in the Lake Somerset and Lake Wivenhoe catchment areas.

#### **PARTICULARS**

- A. Bureau of Meteorology, Poor Man's Ensemble forecast for period 1 January to 4 January 2011.
- B. Bureau of Meteorology, Poor Man's Ensemble forecast for period 1 January to 8 January 2011.

#### ***Rainfall and Inflows***

- 180 There were further rainfalls over the Lake Somerset and Lake Wivenhoe catchment areas in the period 24 25 December to 31 December 2010.

#### **PARTICULARS**

- A. *Segwater, Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010, May 2011, p 92.*

- 181 In the five-day period from 25 December to 29 December 2010, there was average rainfall of approximately 107 mm over the Lake Somerset catchment and 80 mm average rainfall over the Lake Wivenhoe catchment.

#### **PARTICULARS**

- A. *Segwater, Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010, May 2011, p 92.*

- 182 From 24 25 December 2010 to 2 January 2011, total rainfall averaged 126 mm over the Lake Somerset catchment and 80 mm over the Lake Wivenhoe catchment.

#### **PARTICULARS**

- A. *Segwater, Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010, May 2011, p 92.*

**Water Level**

183 In the period 24 25 December 2010 to 29 December 2010, the water level in Lake Somerset rose from approximately EL 99.10 m AHD to approximately EL 99.98 m AHD.

**PARTICULARS**

A. Lake Somerset water level on 24 December 2010 - EL 99.10 m AHD

Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 18.

B. Lake Somerset water level at 9.20am on 28 December 2010 - EL 100.00 m AHD

Email from damlevels@seqwater.com.au to DG-Ops Dam Levels, DG-Ops duty engineers, DG-ops Dam Levels Central, sent Tuesday, 28 December 2010 at 9.18am; Subject: FW: Somerset Dam.

184 In the period 24 25 December 2010 to 31 December 2010, the water level in Lake Wivenhoe rose from approximately EL 67.28 ~~67.10~~ m AHD to at least approximately EL ~~69.33~~ 68.48 m AHD.

**PARTICULARS**

A. Lake Wivenhoe water level at ~~6.30am~~ ~~10.00am~~ on 24 25 December 2010 - EL 67.28 ~~67.10~~ m AHD

Lake Wivenhoe water level at 12 pm on 29 December 2010 - EL 69.33 m AHD

Lake Wivenhoe water level at 3.00am on 31 December 2010 - EL 68.48 m AHD

Segwater, Spreadsheet containing Lake Wivenhoe water levels between 1 December 2010 and 31 January 2011, Doc identification number: MAU.500.020.0027.

B. Lake Wivenhoe water level at 3.00am on 31 December 2010 - EL ~~69.93~~ 69.33 m AHD

Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 100.

**Flood Operations**

184A At all times between 1:00 pm on 24 December 2010 and 7:00 am on 26 December 2010, a Flood Event (as defined in paragraph 102 above) was occurring.

184B Between 1:00 pm on 24 December 2010 and 7:00 am on 26 December 2010, the person or persons rostered on call as Duty Flood Operations Engineer (as defined in paragraph 99 above) did not mobilise the Flood Operations Centre or commence Flood Operations.

**PARTICULARS**

A. The plaintiff is presently unaware of which of the Flood Engineers acted as the Duty Flood Engineer during this period. Further particulars may be provided after discovery.

185 Segwater and SunWater mobilised the Flood Operations Centre at or around 7:00 am on 26 December 2010.

**PARTICULARS**

A. Segwater, *Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010*, May 2011, p 13.

186 The Flood Engineers worked the following shifts in the period 26 December 2010 to 2 January 2011:

Sunday 26/12/10 07:00	Sunday 26/12/10 19:00	Mr Ayre
Sunday 26/12/10 19:00	Monday 27/12/10 07:00	Mr Tibaldi
Monday 27/12/10 07:00	Monday 27/12/10 19:00	Mr Malone

Shift Start Time		
Monday 27/12/10 19:00	Tuesday 28/12/10 07:00	Mr Tibaldi
Tuesday 28/12/10 07:00	Tuesday 28/12/10 19:00	Mr Malone
Tuesday 28/12/10 19:00	Wednesday 29/12/10 07:00	Mr Ruffini
Wednesday 29/12/10 07:00	Wednesday 29/12/10 19:00	Mr Malone
Wednesday 29/12/10 19:00	Thursday 30/12/10 07:00	Mr Ayre
Thursday 30/12/10 07:00	Thursday 30/12/10 19:00	Mr Malone
Thursday 30/12/10 19:00	Friday 31/12/10 07:00	Mr Ruffini
Friday 31/12/10 07:00	Friday 31/12/10 19:00	Mr Malone
Friday 31/12/10 19:00	Saturday 01/01/11 07:00	Mr Ruffini
Saturday 01/01/11 07:00	Saturday 01/01/11 19:00	Mr Malone
Saturday 01/01/11 19:00	Sunday 02/01/11 07:00	Mr Ayre
Sunday 02/01/11 07:00	Sunday 02/01/11 9:45	Mr Malone

187 At or around 9:00 am on 26 December 2010:

- a) the water level in Lake Wivenhoe was approximately EL 67.30 m AHD;
- b) the water level in Lake Somerset was approximately EL 99.50 m AHD; and
- c) the Flood Engineers, or one or more of them, commenced releasing water from Somerset Dam and Wivenhoe Dam at flow rates consistent with Strategy W1 at Wivenhoe Dam and Strategy S2 at Somerset Dam.

#### **PARTICULARS**

- A. *Segwater, Report on the Operation of Somerset and Wivenhoe Dam - October to December 2010, May 2011, pp 100-101, 119, 121.*