

261. From approximately 10:00 on 9 January 2011 the catchments above and below Lake Wivenhoe and Lake Somerset were affected by the following extreme rainfall

(Extreme Rainfall Event):

- (a) in the 24 hour period ending 09:00 on 10 January 2011:
 - (i) the average catchment rainfall for Lake Somerset was approximately 225 mm;
 - (ii) the average catchment rainfall for the Lake Wivenhoe catchment (excluding the Lake Somerset catchment) was approximately 131 mm;
 - (iii) the rainfall was especially high in the Stanley River catchment, with the highest daily total being approximately 310 mm at Bellthorpe West and falls in other parts ranging from approximately 180 mm to approximately 250 mm;
 - (iv) in the upper and middle Brisbane River catchments, the rainfall ranged from approximately 73 mm at St Aubins to approximately 284 mm at Mt Glorious just east of Wivenhoe Dam;
- (b) the most intense rainfall occurred in the period between 10:00 on 9 January 2011 and midnight on 9 January 2011;
- (c) in the 24 hours from 09:00 on 10 January 2011 to 09:00 on 11 January 2011:
 - (i) there was further widespread and heavy rainfall;
 - (ii) the highest totals of rainfall were in the area around the lower Middle Brisbane River and lower reaches of the Lower Brisbane River catchment with totals of up to approximately 262 mm at Mt Glorious;
 - (iii) peak levels reached at stations in the Upper Brisbane River above Wivenhoe Dam and in the Lockyer Creek area were the highest on record;
- (d) in the period 06:00 to 14:00 on 11 January 2011, there was further intense rainfall, which included:
 - (i) over Wivenhoe Dam:
 - (1) at Wivenhoe HWB, approximately 322 mm;
 - (2) at Wivenhoe TW-B, approximately 337 mm;
 - (3) at Wivenhoe TW-P, approximately 344 mm;
 - (ii) below Wivenhoe Dam:

- (1) at Lowood, approximately 366 mm;
 - (2) at Savages Crossing, approximately 365 mm;
 - (3) at O'Reillys Weir, approximately 323 mm;
 - (4) at Lyons Bridge B, approximately 333 mm;
- (iii) at Mt Glorious, approximately 379 mm.

262. Rainfalls of the intensity and magnitude referred to in the preceding paragraph:

- (a) had not been forecast at all by BoM prior to approximately 11:00 on 9 January 2011;
- (b) caused inflows into Lake Wivenhoe (excluding inflows from Somerset Dam) which:
 - (i) in the period between 09:00 on 9 January and 08:00 on 10 January 2011, increased from the outflows having exceeded inflows to inflows which peaked at approximately 9,174 m³/s (**First Wivenhoe Peak**);
 - (ii) after reaching the First Wivenhoe Peak, fell to approximately 2,769 m³/s at 02:00 on 11 January 2011;
 - (iii) rose to a second peak of approximately 10,950 m³/s at about 13:00 on 11 January 2011 (**Second Wivenhoe Peak**);
- (c) caused inflows into Lake Somerset which:
 - (i) increased from approximately 600 m³/s at 08:00 on 9 January 2011 to a peak of approximately 5,352 m³/s at 15:00 on 9 January 2011 (**First Somerset Peak**);
 - (ii) after reaching the First Somerset Peak, fell to approximately 830 m³/s at 01:00 on 11 January 2011;
 - (iii) rose to a second peak of approximately 4,167 m³/s at 14:00 on 11 January 2011 (**Second Somerset Peak**);
- (d) caused extreme flash flooding in the Lockyer Valley resulting in a flood peak at Helidon of approximately 13.88 m (more than 6 m higher than the historical record of 7.55 m) at 15:10 on 10 January 2011;
- (e) caused a flood peak at Gatton of approximately 15.38 m on 11 January 2011;
- (f) caused inflows into the Brisbane River downstream of Wivenhoe Dam which peaked at approximately 09:00 on 12 January 2011 causing a peakflow at

Moggill of approximately 6,517 m³/s, without contribution from any water releases from Wivenhoe Dam;

- (g) caused rises in the level of Wivenhoe Dam from approximately EL 68.52 at 10:00 on the morning of 9 January 2011 to a peak of approximately EL 75.06 at 19:00 on 11 January 2011, with rapid rises occurring on 11 January 2011 as a result of intense rainfall close to and above Lake Wivenhoe where there were no gauges;
 - (h) caused the failure of a number of gauges which inhibited the ability of the Flood Engineers to identify the intensity and location of rain and the resulting inflows above and below Wivenhoe Dam.
263. At approximately 11:02 on 9 January 2011, Mr Malone forwarded an email to the other Flood Engineers informing them of information obtained from BoM which forecast *'heavy rainfall, particularly for the period 10pm Sunday to 10pm Monday with totals between 200-300mm'* and of the runoff which could be produced by that rainfall.
264. At 14:13 on 9 January 2011 BoM issued a flood warning for the Stanley River which stated:
- (a) rainfall of up to 85 mm had been recorded in the catchments of the Upper Brisbane and Stanley Rivers during the five hours since 09:00;
 - (b) the heavy rainfall was causing very fast rises in the upper Brisbane River at Linville with major flood levels expected during Sunday afternoon;
 - (c) fast rises to major flood levels were expected downstream to Gregor's Creek during the remainder of the day and into 10 January 2011;
 - (d) heavy rainfall was expected to continue during the day.
265. At 00:36 on 10 January 2011 BoM issued a Flood Warning for the Lower Brisbane below Wivenhoe Dam stating further heavy rainfall was forecast for the catchments of the Warrill and Lockyer Creeks and Bremer River during 10 January 2011.
266. The Extreme Rainfall Event caused devastating flooding in Lockyer Creek and surrounding catchments on 10 and 11 January 2011.

Particulars

The State relies on the SKM report entitled "Lockyer Creek Flood Risk Management Study" Vol 1 dated 19 December 2014 (Exhibit 3 in the Grantham Flood Commission of Inquiry)

267. As to paragraph 295 of the Statement of Claim, the State:

- (a) repeats and relies on the matters pleaded in paragraph 261 above;
- (b) admits that there were catchment inflows into Lake Wivenhoe and Lake Somerset in significant volumes after 11:00 on 9 January 2011;
- (c) says that the significant inflows into Lake Wivenhoe and Lake Somerset over the three day period after 11:00 on 9 January 2011 were not predicted and could not reasonably have been predicted by the Flood Engineers;
- (d) says that at 07:00 on 9 January 2011 the Flood Engineer then on duty had produced hydrographs modelling inflows using the FLOOD-Ops RTFM and produced Operations Spreadsheets (**SDWD-201101090700**) which predicted:
 - (i) the maximum inflow into Lake Wivenhoe over the following 24 hours would increase from 528 m³/s at 11:00 on 9 January 2011 to a peak at 914 m³/s at 22:00 on 9 January 2011 and then fall;
 - (ii) the maximum inflow into Lake Somerset would increase from 534 m³/s at 07:00 to a peak of 601 m³/s at 13:00 on 9 January 2011;
- (e) otherwise denies the allegations.

268. As to paragraphs 296, 297 and 298 of the Statement of Claim, the State:

- (a) repeats and relies on the matters pleaded in paragraph 261 above;
- (b) admits the allegations in sub-paragraph 296(a);
- (c) says that the water level of Lake Wivenhoe was at approximately EL 68.57 at 06:00 on 9 January 2011;
- (d) says that during the 24 hours to 08:00 on 9 January 2011, the level of Wivenhoe Dam:
 - (i) had risen extremely slowly to a peak of approximately EL 68.64 between 17:00 and 23:00 on 8 January 2011;
 - (ii) had fallen from approximately EL 68.64 at 23:00 on 8 January 2011 to approximately EL 68.57 at approximately 06:00 on 9 January 2011;
- (e) says that the level at Wivenhoe Dam continued falling until 10:00 on 9 January 2011;
- (f) says the level at Wivenhoe Dam commenced rising after 10:00 on 9 January 2011 and by day's end it was approximately EL 69.82;
- (g) says that the level of Somerset Dam:

- (i) fell to approximately EL 100.28 at 09:00 on 9 January 2011;
- (ii) then from approximately 10:00 commenced rising to reach approximately EL 102.38 by day's end;

(h) otherwise denies the allegations.

269. As to paragraphs 299 and 299A of the Statement of Claim, the State:

- (a) repeats and relies on paragraph 261 above;
- (b) says that at approximately 12:00 on 9 January 2011, Mr Ayre scheduled a meeting of Flood Engineers;
- (c) at 15:30 on 9 January 2011 all four Flood Engineers met to discuss the developing situation and strategy that should be adopted;
- (d) admits the allegations in paragraph 299 and sub-paragraph 299A(b);
- (e) admits that Mr Ruffini was on duty in the Flood Operations Centre with Mr Ayre between 19:00 on 9 January 2011 and 07:00 on 10 January 2011;
- (f) says that, at the time Mr Ruffini commenced duty in the Flood Operations Centre at 19:00 on 9 January 2011, the strategy for the management of the event set by the Senior Flood Operations Engineer was to maintain releases at 1,400 m³/s in order to allow the peak from the inflow coming from Lockyer Creek and Bremer River to pass and protect or minimise the impact of urban flooding downstream;
- (g) says that Mr Ruffini during his period on duty directed operation of the dams in accordance with the general strategy determined by the Senior Flood Operations Engineer;
- (h) otherwise denies the allegations.

270. The State admits paragraph 299B of the Statement of Claim.

271. As to paragraphs 300 and 301 of the Statement of Claim, the State:

- (a) says that further releases were made from Wivenhoe Dam as follows:
 - (i) at approximately 01:30 on 9 January 2011, by opening Gate 3 from 4.0 to 4.5 m (conformably with Wivenhoe Directive 5 issued at 01:00 on 9 January 2011);
 - (ii) at approximately 05:00 on 9 January 2011, by opening Gate 1 from 1.5 to 2.0 m (conformably with Wivenhoe Directive 6 issued at 04:30 on 9 January 2011);

- (iii) at approximately 11:00 on 9 January 2011, by opening Gate 5 from 1.5 to 2.0 m (conformably with Wivenhoe Directive 7 issued at 10:30 on 9 January 2011);
 - (b) says that outflows from Wivenhoe Dam increased from approximately 1,253 m³/s at 00:00 to 1,395 m³/s at midday on 9 January 2011;
 - (c) says that until approximately 10:00 on 9 January 2011:
 - (i) the releases from Wivenhoe Dam were greater than the inflows;
 - (ii) the level of Lake Wivenhoe was falling;
 - (d) admits that at 08:15 the Flood Engineer then on duty, Mr Malone issued Somerset Directive 4 directing the opening of Sluice K to 100% thereby increasing releases from Somerset Dam by approximately 206m³/s;
 - (e) says that dam operations at both Wivenhoe and Somerset Dams were in conformity with the Operating Target Line pleaded above in answer to paragraphs 127 to 129 of the Statement of Claim above correlating water levels in Somerset Dam and Wivenhoe Dam;
 - (f) says that at the time referred to in paragraphs 300 and 301, the BoM had issued no forecast predicting the Extreme Rainfall Event referred to in paragraph 261 above;
 - (g) otherwise denies the allegations.
272. As to paragraph 301A of the Statement of Claim, the State:
- (a) admits that the three other Flood Engineers were notified of Mr Malone's directive;
 - (b) says that the dam operations at both Wivenhoe and Somerset Dams were in conformity with the Flood Mitigation Manual;
 - (c) repeats and relies on the matters pleaded in the preceding paragraph;
 - (d) otherwise denies the allegations.
273. As to paragraphs 302 and 303 of the Statement of Claim, the State:
- (a) says that at the time Mr Ruffini commenced duty in the Flood Operations Centre at 19:00 on 9 January 2011, dam operations were being conducted in accordance Strategy W3;
 - (b) otherwise denies the allegations.

274. As to paragraphs 304 and 305 of the Statement of Claim, the State:

- (a) repeats and relies on paragraphs 261 to 273 above;
- (b) otherwise denies the allegations;

275. As to paragraph 307 of the Statement of Claim, the State:

- (a) repeats and relies upon the matters pleaded in response to paragraphs 54 and 291 to 305 of the Statement of Claim above;
- (b) admits that a reasonably prudent flood engineer responsible for Flood Operations at Somerset Dam and Wivenhoe Dam on 9 January 2011 would have complied with the Flood Mitigation Manual;
- (c) says that the Flood Engineers complied with the Flood Mitigation Manual;
- (d) as to sub-paragraph 307(b), admits that a reasonably prudent flood engineer would have maintained Strategy W3 at Wivenhoe Dam;
- (e) says that the acts as alleged in sub-paragraphs 307(c), (d), and (e) would have been inconsistent with the Flood Mitigation Manual;
- (f) as to sub-paragraph 307(h):
 - (i) repeats and relies upon the matters pleaded in response to paragraph 136B of the Statement of Claim above;
 - (ii) denies that the Flood Engineers ought to have selected the rates stated therein;
 - (iii) says that Mr Ruffini did not select or input loss rates into the RTFM between 07:00 on 7 January 2011 and 19:00 on 9 January 2011;
 - (iv) says that the initial and continuing loss rates for model runs used by Mr Ruffini whilst on shift after 19:00 on 9 January 2011 were selected by Mr Ruffini based upon the exercise of professional engineering judgement taking into account the matters pleaded in response to paragraph 136B of the Statement of Claim.
- (g) otherwise denies the allegations.

276. As to paragraph 307A and 307B of the Statement of Claim, the State:

- (a) repeats and relies upon its responses to paragraphs 54, 136A, 136B, 149, 150 and 291 to 307 of the Statement of Claim above;

- (b) says that prior to 11:00 on 9 January 2011 the Extreme Rainfall Event described in paragraph 261 above which occurred between 9 January 2011 and 11 January 2011:
 - (i) was not predicted by forecasts available to the Flood Engineers;
 - (ii) was not reasonably foreseeable;
- (c) further, as at 11:00 on 9 January 2011 the full magnitude of the rainfall that subsequently occurred on 10 and 11 January 2011 was not reasonably foreseeable;
- (d) for the Flood Engineers to have acted in the manner alleged would have been contrary to widely accepted peer professional opinion as competent professional practice in the field of flood mitigation and dam operation;

Particulars

The State relies on the particulars to paragraph 308 below.

- (e) says that the Flood Engineers had no authority to reduce the levels of the Dams below FSL;
- (f) says that the dam operations between 16 December 2010 and 8 January 2011 had no causative relevance to the flooding which occurred subsequent to 9 January 2011;
- (g) says that between the time when Mr Ruffini commenced shift at 19:00 on 9 January 2011 until midnight on that day:
 - (i) Mr Ruffini could not have reduced the water levels in Somerset Dam and Wivenhoe Dam to the levels alleged in sub-paragraphs 307B(a), (b), (c), (d), (e), (f), (g) (h) or (i) of the Statement of Claim;
 - (ii) attempting to reduce the water levels in Somerset Dam and Wivenhoe Dam to any of the levels alleged in paragraph 307B of the Statement of Claim:
 - (1) may have caused downstream flooding at night without any or adequate warning, with the risk of injury, loss of life or damage to property;
 - (2) would have been contrary to the general strategy that had been set by the Senior Flood Operations Engineer;

(3) would have been contrary to the terms of the Flood Mitigation Manual;

(f) otherwise denies the allegations.

277. The State further says that:

- (a) from at or about 11:00 on 9 January 2011 the Flood Engineers were constrained in making substantially greater releases of water from Wivenhoe Dam than the rates of the releases that were in fact made because:
 - (i) having regard to the matters pleaded in paragraph 261 above, it was likely that there would be substantial inflows downstream of Wivenhoe Dam, as in fact occurred;
 - (ii) of the necessity to give reasonable warning of substantial increases in release of water;
- (b) a reasonably prudent flood engineer would not have released water at rates substantially exceeding the rates of release adopted by the Flood Engineers;
- (c) by the time Mr Ruffini commenced duty at 19:00 on 9 January 2011, the implementation of a different strategy to that being implemented by the Flood Engineers would not have prevented or materially reduced the urban inundation which occurred;
- (d) in adhering to the flood mitigation strategy which was in place while Mr Ruffini was on duty in the Flood Operations Centre on 9 January 2011, the conduct of Mr Ruffini was consistent with widely accepted peer professional opinion as competent professional practice in the field of flood mitigation and dam operation;

Particulars

The State relies on the particulars to paragraph 308 below.

- (e) inflows of the magnitude that caused the First and Second Wivenhoe Peaks and the First and Second Somerset Peaks and the downstream inflows referred to in paragraph 261 above were not reasonably foreseeable on 9 January 2011;
- (f) as at 11:00 on 9 January 2011 the full magnitude of the rainfall that subsequently occurred on 10 January and 11 January 2011 was not reasonably foreseeable;
- (g) the urban inundation that occurred was a result of the Extreme Rainfall Event and was not reasonably foreseeable prior to approximately 11:00 on 9 January 2011.

278. As to paragraphs 308 and 309 of the Statement of Claim, the State:

- (a) repeats and relies upon its response to paragraphs 299 to 307B inclusive of the Statement of Claim;
- (b) otherwise denies the allegations.

Events of 10 to 11 January 2011

279. As to paragraph 310 of the Statement of Claim, the State:

- (a) repeats and relies upon its response to paragraphs 137 to 142 of the Statement of Claim above;
- (b) says that the BoM 4 day PME forecast published on 10 January for 11 January to 14 January 2011:
 - (i) forecast between 15 mm and 100 mm of rainfall in the Lake Wivenhoe and Lake Somerset catchments;
 - (ii) forecast the most intense rainfall between 100 mm and 150 mm in catchments below Wivenhoe Dam;
- (c) says that the BoM 8 day PME forecast published on 10 January 2011 for 11 January to 18 January 2011:
 - (i) forecast between 25 mm to 100 mm of rainfall in the Lake Wivenhoe and Lake Somerset catchments;
 - (ii) forecast the most intense rain between 100 mm and 150 mm to fall in catchments below Wivenhoe Dam;
- (d) says that, on the proper interpretation of the 4 and 8 day PME forecasts, the forecast was for most of the rain forecast to fall in the first four days;
- (e) says that the BoM 1 day PME forecast published on 10 January for 11 January 2011:
 - (i) was for 10 mm to 100 mm;
 - (ii) forecast the most intense rain to be in catchments below Wivenhoe Dam;
- (f) otherwise denies the allegations.

280. As to paragraph 311 of the Statement of Claim, the State:

- (a) repeats and relies upon its response to paragraphs 138 to 142 of the Statement of Claim above;

- (b) says that the BoM 4 day PME forecast published on 11 January 2011 for 12 January to 15 January 2011:
 - (i) forecast between 5 mm and 50 mm of rainfall in the Lake Wivenhoe and Lake Somerset catchments;
 - (ii) forecast the most intense rainfall in catchments below Wivenhoe Dam;
 - (c) says that the BoM 8 day PME forecast published on 11 January 2011 for 12 January to 19 January 2011 forecast 25 mm to 50 mm of rainfall in the Lake Wivenhoe and Lake Somerset catchments;
 - (d) says that the BoM 1 day PME forecast published on 11 January 2011 for 12 January 2011:
 - (i) forecast 5mm to 25 mm;
 - (ii) forecast the most intense rain between 25 mm and 50 mm to be in catchments below Wivenhoe Dam;
 - (e) otherwise denies the allegations.
281. The State admits paragraph 312 of the Statement of Claim.
282. The State admits paragraph 313 of the Statement of Claim.
283. The State admits paragraph 314 of the Statement of Claim.
284. As to paragraph 315 of the Statement of Claim, the State:
- (a) says that, at or around 16:13 on 11 January 2011, the BoM issued a QPF predicting rainfall of 50 mm to 100 mm that evening and overnight easing to less than 30 mm during 12 January 2011 in the Lake Somerset and Lake Wivenhoe catchments;
 - (b) otherwise denies the allegations.
285. As to paragraph 316 of the Statement of Claim, the State:
- (a) repeats and relies on paragraphs 261, 263, 264 and 265 above;
 - (b) otherwise admits the allegations.
286. The State admits paragraph 317 of the Statement of Claim.
287. As to paragraph 318 of the Statement of Claim, the State:
- (a) repeats and relies on paragraphs 261, 263, 264 and 265 above;
 - (b) says that the rainfalls exceeded 131 mm;

(c) otherwise admits the allegations.

288. The State admits paragraph 319 of the Statement of Claim.

289. As to paragraph 320 and 321 of the Statement of Claim, the State:

- (a) admits inflows occurred from Splityard Creek Dam into Wivenhoe Dam on 10 January and 11 January 2011;
- (b) admits that the release of water from Splityard Creek Dam increased the volume of water in Wivenhoe Dam;
- (c) denies that the inflows were "significant";
- (d) says that the volume of such releases was about 5,887 ML in total;
- (e) says that the first notification of releases made from Splityard Creek Dam into Wivenhoe Dam on 10 January 2011 was at 12:42 that day;
- (f) says that the releases made from Splityard Creek Dam into Wivenhoe Dam on 10 January 2011 occurred:
 - (i) after Mr Ruffini ceased his shift at 07:00 on 10 January 2011; and
 - (ii) prior to Mr Ruffini returning on duty when he commenced his shift at 19:00 on 10 January 2011;
- (g) says that the releases made from Splityard Creek Dam into Wivenhoe Dam on 11 January 2011 were not notified by Tarong Energy on 11 January 2011;
- (h) says that the volumes released from Splityard Creek Dam did not contribute materially to the inundation of areas downstream of Wivenhoe Dam;
- (i) otherwise denies the allegations.

290. As to paragraph 322 of the Statement of Claim, the State:

- (a) says that at 01:00 on 10 January 2011 the Lake levels were:
 - (i) Lake Wivenhoe, approximately EL 69.99;
 - (ii) Lake Somerset, approximately EL 102.54;
- (b) otherwise admits the allegations.

291. As to paragraph 323 of the Statement of Claim, the State:

- (a) says that at about 06:00 on 10 January 2011:
 - (i) the level in Lake Somerset was approximately EL 102.93;
 - (ii) the level in Lake Wivenhoe was approximately EL 70.99

- (iii) the levels were rising;
 - (b) otherwise denies the allegations.
292. As to paragraph 324 of the Statement of Claim, the State:
- (a) says that at 12:00 on 10 January 2011:
 - (i) the level of Lake Somerset was approximately EL 103.28;
 - (ii) the level of Lake Wivenhoe was approximately EL 72.12;
 - (iii) the levels were rising;
 - (b) otherwise denies the allegations.
293. As to paragraph 325 of the Statement of Claim, the State:
- (a) says that at 18:00 on 10 January 2011:
 - (i) the level of Lake Somerset was approximately EL 103.45;
 - (ii) the level in Lake Wivenhoe was approximately EL 73.00 and rising;
 - (b) otherwise denies the allegation.
294. As to paragraph 326 of the Statement of Claim, the State:
- (a) says that at 00:00 on 11 January 2011:
 - (i) the level of Lake Somerset was approximately EL 103.37 and falling;
 - (ii) the level of Lake Wivenhoe was approximately EL 73.34 and rising;
 - (b) otherwise denies the allegations.
295. As to paragraph 327 of the Statement of Claim, the State:
- (a) says that at 06:00 on 11 January 2011:
 - (i) the level of Somerset was approximately EL 103.34 and falling;
 - (ii) the level of Lake Wivenhoe was approximately EL 73.59 and rising;
 - (b) otherwise denies the allegation.
296. As to paragraph 328 of the Statement of Claim, the State:
- (a) says that:
 - (i) releases of water from Somerset Dam into Lake Wivenhoe were:
 - (1) in accordance with Strategy S2 of the Flood Mitigation Manual;

- (2) were in conformity with the Operating Target Line pleaded above in answer to paragraphs 127 to 129 of the Statement of Claim correlating water levels in Somerset Dam and Wivenhoe Dam;
 - (3) involved reasonable mitigation of flood peaks in both dams having regard to their respective risks of failure;
- (ii) throughout 9 January to 11 January 2011:
- (1) the crest gates at Somerset Dam were raised in accordance with the Flood Mitigation Manual;
 - (2) from about 14:00 on 9 January 2011 the level in Lake Somerset was above:
 - (a) approximately EL 100.45;
 - (b) the Spillway Fixed Crest level of Somerset Dam;
 - (iii) inflows into Lake Wivenhoe were characterised by two peaks approximately 30 hours apart as pleaded in paragraph 261 above;
 - (iv) each peak was caused by the Extreme Rainfall Event pleaded in paragraph 261 above;
- (b) otherwise denies the allegations.

297. The State admits paragraph 329 of the Statement of Claim.

298. As to paragraph 329A of the Statement of Claim, the State:

- (a) says that the Senior Operations Flood Engineer determined the overall strategy for the operation of the Dams;
- (b) admits that the four Flood Engineers met to discuss the appropriate flood mitigation strategy;
- (c) admits sub-paragraphs 329A(b) and (c);
- (d) otherwise denies the allegations.

299. The State admits paragraph 329B of the Statement of Claim.

300. As to paragraphs 330 and 331 of the Statement of Claim, the State:

- (a) admits that:
 - (i) throughout 10 January and 11 January 2011 the flood Engineers released water from Wivenhoe Dam;

- (ii) the water released from Wivenhoe Dam on 10 January and 11 January 2011, in combination with the inflows which were occurring downstream in the Lockyer Valley, Warrill Creek, the Bremer River and other downstream tributaries was at such volumes and at such rates that urban flooding was likely to occur;
- (b) relies on the matters pleaded in response to paragraphs 342 to 348 of the Statement of Claim below as to the volume of flows at Moggill by reason of downstream tributaries;
- (c) says that on 10 January 2011 and on 11 January 2011:
 - (i) outflows from Wivenhoe Dam and Somerset Dam were significantly less than the inflows into the dams;
 - (ii) the levels in each Dam rose;
 - (iii) the flood mitigation storage in each dam was used to mitigate the flood conformably with:
 - (1) the Flood Mitigation Manual;
 - (2) widely accepted competent professional practice in the field of flood mitigation and dam operation;
- (d) says that the operations of the Flood Engineers on 10 January and 11 January 2011 mitigated flood levels downstream and resulted in flooding being significantly less than it would have been if such flood mitigation operations had not been undertaken;
- (e) says that urban flooding downstream of Wivenhoe Dam was as a result of the materialisation of an inherent risk within the meaning of that expression in s 16 of the *Civil Liability Act 2003 (Qld)*;
- (f) otherwise denies the allegations.

301. As to paragraph 332 of the Statement of Claim, the State:

- (a) says that the Flood Engineers on duty at the relevant times:
 - (i) at 04:30 on 11 January 2011, by Somerset Directive 6, started reducing releases from Lake Somerset into Lake Wivenhoe by the progressive closure of Sluice gates J, N and K in one hour increments from 05:00 on 11 January 2011;

- (ii) at 08.30 on 11 January 2011, by Somerset Directive 7, continued reducing releases by the progressive closure of the Sluice gates M and L at 09:00 and 10:00 respectively on 11 January 2011;
 - (b) says that such gate closing operations accorded with Strategy S2 of the Flood Mitigation Manual;
 - (c) says that all sluice gates at Somerset Dam were closed by 10:00 on 11 January 2011;
 - (d) otherwise denies the allegations.
302. As to paragraph 333 of the Statement of Claim, the State:
- (a) says that the releases from Somerset Dam were in accordance with:
 - (i) Strategy S2 of the Flood Mitigation Manual;
 - (ii) the objective generally to follow the Operating Target Line pleaded above in answer to paragraphs 127 to 129 of the Statement of Claim;
 - (b) says that, from the time of the closure of the sluice gates at 10:00 on 11 January 2011:
 - (i) the storage of water in Lake Somerset increased;
 - (ii) releases continued over the gated spillway;
 - (c) otherwise denies the allegations.
303. As to paragraphs 334, 335 and 336 of the Statement of Claim, the State:
- (a) says that releases from Splityard Creek Dam into Wivenhoe did not increase the risk of flooding downstream of Wivenhoe Dam;
 - (b) says that:
 - (i) Tarong Energy did not inform the Flood Engineers of its intention to release water from Splityard Creek on 11 January 2011;
 - (ii) Tarong Energy was not a party over which the Flood Engineers exercised control or authority;
 - (iii) at about 18:20 on 11 January 2011, Tarong Energy was requested to make no further releases from Splityard Creek Dam;
 - (c) does not admit paragraph 335;
 - (d) otherwise denies the allegations.

304. The State denies the allegations in paragraph 337 of the Statement of Claim.
305. As to paragraph 339 of Statement of Claim, the State:
- (a) repeats and relies the matters pleaded in response to paragraphs 54, 310 to 337 of the Statement of Claim above;
 - (b) admits sub-paragraph 339(a):
 - (c) as to sub-paragraph 339(b):
 - (i) says that:
 - (1) to have reduced releases more significantly than the Flood Engineers in fact did would have been contrary to S2 within the Flood Mitigation Manual;
 - (2) from the closure of Sluice gate L at 10:00 on 11 January 2011, it was not possible for the Flood Engineers to have further reduced releases from Somerset Dam into Wivenhoe Dam, because all sluice gates were by then closed;
 - (d) as to sub-paragraphs 339(c) and (d), repeats and relies upon its response to the allegations in paragraphs 333 and 335 of the Statement of Claim above in relation to releases from Splityard Creek Dam;
 - (e) as to sub-paragraph 339(e), says that:
 - (i) a reasonably prudent flood engineer would not have acted in the manner alleged;
 - (ii) the steps alleged would have been contrary to the Flood Mitigation Manual;
 - (f) as to sub-paragraph 339(j):
 - (i) repeats and relies upon the matters pleaded in response to paragraph 136B of the Statement of Claim above;
 - (ii) denies that the Flood Engineers ought to have selected the rates stated therein;
 - (iii) says that Mr Ruffini did not select or input loss rates into the RTFM during those times on 10 January and 11 January 2011 when he was not on duty;
 - (iv) says that the initial and continuing loss rates for model runs used by Mr Ruffini whilst on duty on 10 and 11 January 2011 were selected by Mr Ruffini based upon the exercise of professional engineering judgement

taking into account the matters pleaded in response to paragraph 136B of the Statement of Claim;

(g) otherwise denies the allegations.

306. As to paragraphs 339A and 339B of the Statement of Claim, the State:

- (a) repeats and relies upon its responses to paragraphs 54, 136A, 136B, 149, 150 and 310 to 337B of the Statement of Claim above;
- (b) says that for the Flood Engineers to have acted in the manner alleged would have been contrary to widely accepted peer professional opinion as competent professional practice in the field of flood mitigation and dam operation;

Particulars

The State relies on the particulars to paragraph 308 below.

- (c) says that the Flood Engineers had no authority to reduce the levels of the Dams below FSL;
- (d) says that the dam operations between 16 December 2010 and 9 January 2011 had no causative relevance to the flooding which occurred subsequent to 9 January 2011;
- (e) says that during the times Mr Ruffini was on shift on 10 January 2011:
 - (i) Mr Ruffini could not have reduced the water levels in Somerset Dam and Wivenhoe Dam to the levels alleged in sub-paragraphs 339B(a), (b), (c), (d), (e), (f), (g) or (h) of the Statement of Claim;
 - (ii) attempting to reduce the water levels in Somerset Dam and Wivenhoe Dam to any of the levels alleged in paragraph 337B of the Statement of Claim:
 - (1) may have caused downstream flooding at night without any or adequate warning, with the risk of injury, loss of life or damage to property;
 - (2) would have been contrary to the general strategy that had been set by the Senior Flood Operations Engineer;
 - (3) would have been contrary to the terms of the Flood Mitigation Manual;
- (f) says that:
 - (i) the Second Wivenhoe Peak was not reasonably foreseeable;

(ii) at the time Mr Ruffini commenced duty in the Flood Operations Centre at 19:00 on 10 January 2011 and at all material times thereafter, the implementation of a strategy different from that being implemented by the Flood Engineers would not have prevented or materially reduced the urban inundation which occurred;

(h) otherwise denies the allegations.

307. As to paragraphs 340 and 341 of the Statement of Claim, the State:

(a) denies the allegations;

(b) repeats and relies upon its responses to paragraphs 310 to 339B of the Statement of Claim above.

Alleged breaches of duty

308. In response to each of the breaches of duty alleged in the Statement of Claim, the State:

(a) says that the conduct of the Flood Engineers and the operation of Wivenhoe Dam and Somerset Dam by them during December 2010 and January 2011 was consistent with widely accepted peer professional opinion as competent professional practice in the field of flood mitigation and dam operations.

Particulars

(i) Subsequent to the 2011 Flood Event the dam operations conducted by the Flood Engineers in January 2011 were independently reviewed by the U.S. Department of the Interior Bureau of Reclamation and by the U.S Army Corp of Engineers, which review concluded, inter alia:

(1) The operational decisions made by the Flood Engineers were reasonable;

(2) By the U.S Army Corp of Engineers, that the release decisions selected by the Flood Engineers were those that would best meet the objectives stated in the Flood Manual;

(3) By the U.S Army Corp of Engineers, that there was no indication that had the Flood Engineers taken a different path, materially different outcomes would have resulted;

(4) By the U.S Army Corp of Engineers, release decisions, based on known information, were prudent and showed considerable insight into the precision and accuracy of available hydrometeorological

information, the forecasting modelling results, and the risks involved in alternative releases, tradeoffs, and timing;

- (5) By the U.S Army Corp of Engineers, decisions were in line with stated flood operation objectives in the Flood Manual;
 - (6) By the U.S Army Corp of Engineers, balancing the lake flood storage levels via the target operating line appeared to be an effective procedure to effectively turn two separate lakes into one flood storage project;
 - (7) By the U.S Army Corp of Engineers, given the unprecedented magnitude and the sequence of events, the overall operation and results are considered commendable.
- (ii) the State will further rely upon the reports and opinions of the dam operation experts from whom it is intended to adduce expert evidence at trial;
- (b) further or in the alternative, says that the conduct of the Flood Engineers involved the exercise of professional engineering judgements within the range of judgements that were reasonable in the circumstances of the December 2010 and January 2011 flood event;
 - (c) denies that the Flood Engineers breached any duty of care.

Causation and Loss

309. As to paragraphs 342 to 348 inclusive of the Statement of Claim, the State:

- (a) admits the allegation in paragraph 342;
- (b) says that rain in catchments below Wivenhoe Dam which occurred during the Extreme Rainfall Event pleaded in paragraph 261 above had the consequence that inflows from tributaries below Wivenhoe Dam and at or above Moggill produced flows at Moggill which peaked at approximately 09:00 on 12 January 2011 at approximately 6,517 m³/s without contribution from any water released from Wivenhoe Dam;
- (c) says that between 9 and 14 January 2011 the peak flow at Moggill which occurred between 09:00 and 10:00 on 12 January 2011 was approximately 9544 m³/s including contribution from water released from Wivenhoe Dam;

- (d) says that the contribution of water released from Wivenhoe Dam to the peak flow at Moggill between 09:00 and 10:00 on 12 January 2011 was approximately 3027 m³/s;
- (e) says that the peak of the flood downstream of Moggill which occurred subsequently resulted from the flows referred to in sub-paragraph (c) above, further inflows to the Brisbane River below Moggill and tidal effects;
- (f) denies that the Flood Engineers committed any of the breaches alleged in paragraph 343;
- (g) admits that there was insufficient available capacity in the flood storage compartments of Lake Wivenhoe and Lake Somerset to store all the incoming flows produced as a consequence of the Extreme Rainfall Event and to entirely mitigate the effect of such inflows;
- (h) denies that the insufficient available capacity in the flood storage compartments of Lake Wivenhoe and Lake Somerset to store all the incoming flows and to entirely mitigate the effect of such inflows was caused by any act or omission of the Flood Engineers or any of them;
- (i) denies that any harm suffered by any of the plaintiff or the Group Members was caused by any act or omission of the Flood Engineers or any of them;
- (j) further or in the alternative, says that it is not in the circumstances appropriate for the scope of any liability of the Flood Engineers or any them (which is denied) to extend to any harm suffered by any of the plaintiff or the Group Members;
- (k) admits that the Extreme Rainfall Event which occurred between 9 January and 11 January 2011 necessitated release of water from Wivenhoe Dam;
- (l) is not able to plead to the allegations of the loss or damage alleged to have been suffered by the Plaintiff until after receipt of all the Plaintiff's expert hydrological reports;
- (m) denies that any loss or damage suffered by the Plaintiff was caused by the conduct of the Flood Engineers.
- (n) further or in the alternative, says that, but for the flood mitigation operations undertaken by the Flood Engineers, the plaintiff would have suffered greater flooding than any flooding that occurred;
- (o) further or in the alternative, says that any harm suffered by the plaintiff and any Group Members (which is not admitted), was suffered as a result of the

materialisation of an inherent risk within the meaning of that expression in s 16 of the *Civil Liability Act 2003* (Qld);

- (p) otherwise denies the allegations contained in paragraphs 342 to 348 inclusive of the Statement of Claim.

Direct Liability of Seqwater and SunWater in Negligence

310. As to paragraphs 349 to 353 inclusive of the Statement of Claim, the State:

- (a) denies that the Flood Engineers committed any of the breaches alleged in the Statement of Claim;
- (b) denies that any act or omission was causative of loss or damage to the plaintiff;
- (c) repeats and relies upon the matters pleaded in response to paragraphs 342 to 348 of the Statement of Claim;
- (d) otherwise does not admit paragraphs 349 to 353 inclusive of the Statement of Claim because those paragraphs make no allegations against the State.

Private Nuisance and Trespass

311. As to paragraphs 354 and 355 of the Statement of Claim, the State:

- (a) repeats and relies upon its responses to paragraphs 143, 147 and 149 of the Statement of Claim above;
- (b) otherwise does not admit the allegations.

312. As to paragraph 356 of the Statement of Claim, the State:

- (a) repeats and relied upon its response to paragraph 142A of the Statement of Claim above;
- (b) otherwise denies the allegations.

313. As to paragraphs 357 to 362 inclusive of the Statement of Claim, the State:

- (a) repeats and relies upon the matters pleaded in response to paragraphs 342 to 353 of the Statement of Claim above;
- (b) does not admit paragraph 357 because it has requested, but been refused, particulars of:
 - (i) the identity of the Subgroup Members;
 - (ii) the identity of the land, and interests in the land, located downstream referred to;

- (c) repeats and relies upon the matters pleaded in response to paragraphs 143, 147 and 149 of the Statement of Claim above;
- (d) denies that the releases of water from Wivenhoe Dam constituted a private nuisance;
- (e) denies that the releases of water from Wivenhoe Dam constituted a trespass to land committed by the Flood Engineers;
- (f) in the premises, denies paragraphs 357 to 362 of the Statement of Claim.

Vicarious Liability

314. As to paragraphs 363 to 372 inclusive of the Statement of Claim, the State:

- (a) denies that the Flood Engineers committed any of the breaches alleged in paragraphs 363, 364 and 369 of the Statement of Claim;
- (b) denies that the Flood Engineers caused any alleged nuisance or trespass;
- (c) in the premises pleaded in sub-paragraphs (a) and (b), denies the allegations;
- (d) otherwise does not plead to paragraphs 363 to 372 inclusive of the Statement of Claim because those paragraphs contain no allegation against the State.

315. As to paragraphs 373 to 376 inclusive of the Statement of Claim, the State:

- (a) denies that Mr Ruffini committed any of the breaches alleged in paragraph 373 of the Statement of Claim;
- (b) denies that Mr Ruffini caused any alleged nuisance or trespass;
- (c) repeats and relies on the matters pleaded in response to paragraphs 91, 92 and 93 of the Statement of Claim;
- (d) says that the State could not direct the manner in which Mr Ruffini was to perform his duties and functions as a Flood Engineer;
- (e) in the premises, denies each of the allegations in paragraphs 373 to 376 inclusive of the Statement of Claim.

316. As to paragraph 377 of the Statement of Claim, the State:

- (a) repeats and relies upon the matters pleaded in sub-paragraphs (a) and (b) of the preceding paragraph;
- (b) in the premises, denies that SunWater has any liability as alleged;
- (c) repeats and relies upon the matters pleaded in response to paragraphs 91, 92 and 93 of the Statement of Claim above;

(d) otherwise does not admit the allegations.

317. Further, if (which is denied) the State has any liability for the alleged breaches, the State says that the plaintiff's claims and those of Group Members are apportionable claims within the meaning of s 31 of the *Civil Liability Act 2003*.

Section 374 of the Water Supply Act

318. As to paragraphs 378 and 379 of the Statement of Claim, the State:

- (a) admits the allegations in paragraph 378;
- (b) denies that the effect of s 374 of the *Water Supply Act* is as pleaded in paragraph 379;
- (c) denies that any liability attaches to the State by the operation of s 374(3) or otherwise.

Relief

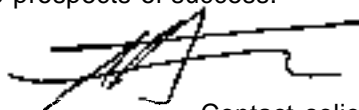
319. As to paragraph 380 of the Statement of Claim, the State:

- (a) denies that the plaintiff is entitled to the relief claimed or any relief;
- (b) denies that Group Members are entitled to the relief claim or any relief.

SIGNATURE OF LEGAL REPRESENTATIVE

I certify under clause 4 of Schedule 2 to the *Legal Profession Uniform Law Application Act 2014* that there are reasonable grounds for believing on the basis of provable facts and a reasonably arguable view of the law that the claim for damages in this statement of cross-claim has reasonable prospects of success.

Signature



Capacity

Contact solicitor

Date of signature

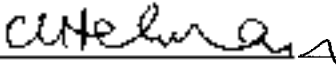
4 September 2015

AFFIDAVIT VERIFYING

Name Caroline Louise Helman
 Address C/- 100 George Street, Brisbane, QLD 4000
 Occupation Solicitor
 Date 4 September 2015

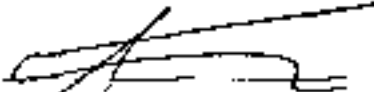
I say on oath:

- 1 I am the A/Special Legal Adviser, State Coordination of Legal Representation for the Department of the Premier and Cabinet of the State of Queensland, the Third Defendant in these proceedings.
- 2 I believe that the allegations of fact contained in the defence are true.
- 3 I believe that the allegations of fact that are denied in the defence are untrue.
- 4 After reasonable inquiry, I do not know whether or not the allegations of fact that are not admitted in the defence are true.

SWORN at Brisbane
 Signature of deponent 
 Name of witness Christopher Hardy Gasteen
 Address of witness C/- Level 11, 50 Ann Street, Brisbane, QLD 4000
 Capacity of witness Solicitor

And as a witness, I certify the following matters concerning the person who made this affidavit (the **deponent**):

- 1 I saw the face of the deponent.
- 2 I have known the deponent for at least 12 months.

Signature of witness 

Note: The deponent and witness must sign each page of the affidavit. See UCPR 35.7B.

[* The only "special justification" for not removing a face covering is a legitimate medical reason (at April 2012).]

[*(-"Identification documents" include current driver licence, proof of age card, Medicare card, credit card, Centrelink pension card, Veterans Affairs entitlement card, student identity card, citizenship certificate, birth certificate, passport or see Oaths Regulation 2011.)]