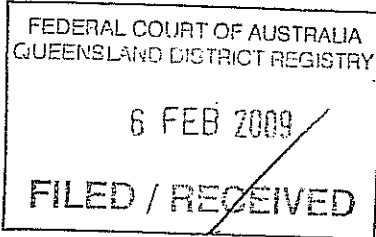


WIDE BAY BURNETT CONSERVATION COUNCIL INC

Applicant

BURNETT WATER PTY LTD

Respondent



**FURTHER AND BETTER PARTICULARS OF THE  
RESPONDENT'S DEFENCE**

The Respondent provides the following further and better particulars of its defence in answer to the applicant's request dated 2 December 2008 (the *Request*).

**Paragraph 4**

1. In relation to paragraph 1(a) of the Request, the reference in paragraph 4 of the defence to EL62.0 metres "being a level estimated to be achieved approximately 80% of the time" is a reference to the estimate made by the Respondent at the time the fishway was designed and constructed. The Respondent otherwise objects to paragraph 1(a) of the Request on the ground that it is a request for evidence. Without prejudice to that objection, the Respondent says that the estimate of 80% was based upon the Integrated Quality and Quantity Model (*IQQM model*) developed and calibrated by the Queensland Department of Natural Resources and Water's hydrologists and adapted by the Respondent's hydrologists for the Burnett River catchment's area and specifically the Burnett River dam. In estimating water levels in the Burnett River catchment the IQQM model takes into account input variables including:
  - (a) locations of, and inter-connectivity between, rivers, lakes, channels and other water related geographical features in the river catchment;
  - (b) measured rainfall data;
  - (c) measured evaporation data;
  - (d) measured river levels and river flow height ratings;
  - (e) metered and estimated water extractions;

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Filed on behalf of: the Respondent

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- (f) infrastructure details of the dams, weirs and off-stream storages (including storage height, storage volume, storage surface area relationship as well as the capacity and operating range of outlet works) in the catchment;
- (g) environmental flow rules and other operational requirements specified in the Resource Operations Plan;
- (h) locations, types and conditions attached to water licences, water allocations and other water entitlements;
- (i) water sharing and water accounting rules; and
- (j) water trading restrictions.

The issue is otherwise a matter for expert evidence which the Respondent will file in accordance with the directions of the Court.

The Respondent objects to paragraph 1(b) of the request on the ground that it is a request for evidence.

#### **Paragraph 6**

2. In relation to paragraph 2(a) of the Request, the Respondent has acted honestly at all times in that it has acted in the good faith belief that the fishway designed and installed by it complies with the requirements of condition 3 of the approval. The Respondent otherwise objects to paragraph 2(a) of the Request on the ground that it is a request for evidence.

In relation to paragraph 2(b) of the Request, the Respondent acted reasonably at all times in that it has taken reasonable steps to design, install and operate the fishway and has taken reasonable steps to monitor any possible effects of the dam (including the fishway) on lungfish populations. The steps taken by the Respondent are reflected in the substantial discovery made or to be made by the Respondent in the proceedings and it is oppressive to require the Respondent to particularise every step taken by it. In summary, however, the Respondent took the following steps:

- (a) the Respondent engaged numerous experts over the period 2001 to 2005 to advise it about potential environmental impacts of the dam including on the lungfish, such experts including Sinclair Knight Merz, SunWater, WBM Oceanics Australia, and the Queensland Department of Primary Industries and Fisheries (*DPIF*);

- (b) in 2001 the Respondent proposed in its Environmental Impact Statement for the Burnett River Dam, to install an effective fishway to reduce any level of risk associated with the dam to lungfish;
- (c) the Respondent commenced a concept design for the fishway in 2002 and engaged DPIF to carry out surveys of lungfish population for use in the design of the fishway;
- (d) upon the listing by the Department of Environment (later called Department of Environment, Water, Heritage and the Arts (*DEWHA*)) of the lungfish as a threatened species, the Respondent voluntarily agreed to DEWHA's proposed conditions 3 to 9 in respect of lungfish contained in the Variation of Conditions of Approval dated 8 August 2003;
- (e) the Respondent liaised over the period 2001 to 2005 with numerous government departments about the potential environmental impacts of the dam (including on the lungfish) and the design of the fishway, such departments including DPIF, Queensland Department of Natural Resources and Mines (*DNRM*), the Queensland Environmental Protection Agency (*EPA*) and in respect of the lungfish specifically, DEWHA;
- (f) the Respondent consulted the following experts over the period 2001 to 2005 about lungfish and/or the design of the fishway and/or its suitability for various fish including the lungfish:
  - (i) Errol Beitz – Principal Design Engineer SunWater;
  - (ii) Jeffrey Johnson – Manager Ichthyology Queensland Museum;
  - (iii) Dr John Harris – Fish Biologist;
  - (iv) Ben Rizzo – Fish biologist and Fishway designer (USA);
  - (i) Dr Martin Mellen-Cooper – Fish Biologist and Fishway designer;
  - (ii) Brent Mefford – Fishway and Environmental Hydraulic Specialist;
  - (iii) Klaas Smit – Fishway design engineer;
  - (iv) Andreas Neumaier – Dam design engineer;
  - (v) Richard Herwyen – Dam design engineer;
  - (vi) Mick Howland – Aquatic Environment Specialist;
  - (vii) Christine Giudici – Senior Environmental consultant;
  - (viii) Ian Yarroll – Manager Fisheries and Aquaculture – DPIF;

- (ix) Dr Peter Jackson – Fish Biologist DPIF;
  - (x) Andrew Berghuis – Fish Biologist DPIF;
  - (xi) Craig Broadfoot – Fish Biologist DPIF;
  - (xii) Dr Peter Kind – Fish Biologist DPIF;
  - (xiii) Steven Brooks – Fish Biologist DPIF;
- (g) in 2003 the Respondent formed the Burnett Dam Alliance (**BDA**) consisting of it, Walter Construction Group, SMEC Australia Pty Ltd, Hydro Tasmania and McMahon Contractors Pty Ltd which alliance was responsible for the design and construction of the dam and fishway;
  - (h) on 5 November 2003 the DPIF directed the Respondent to build the fishway in general accordance with the Respondent's concept plan Drawing No Team1-303 and Drawing No Team 1-306 and to conduct more detailed design work in consultation with DPIF;
  - (i) the Respondent had numerous discussions, meetings, site inspections and workshops with representatives of the DPIF about the proposed design of the fishway over the period 2002 to 2003 and from 2003 to 2005 the BDA continued such discussions and meetings with the DPIF;
  - (j) prior to final design of the fishway the Respondent caused a hydraulic model of the proposed dam and fishway to be constructed and tested at SunWater's Rocklea laboratory over the period May 2003 to April 2004;
  - (k) the Respondent conducted fishway design workshops at SunWater's Rocklea laboratory over the period January 2003 to February 2004 which workshops were attended by representatives of the Respondent, BDA, SunWater, DPIF and, in respect of one such workshop, Professor Jean Joss;
  - (l) the Respondent liaised with the DEWHA about the fishway over the period 2002 to May 2004 including providing a copy of the proposed design of the fishway to DEWHA in May 2004;
  - (m) in December 2003 the BDA submitted its proposed dam and fishway design to Peer Reviewers;

- (n) in determining the operating ranges for the fishway the BDA in consultation with the DPIF, identified inter alia, ecological priorities and upstream and downstream migration times, examined the hydrological data and considered the probability of achieving fish passage success at various flows;
- (o) over the period 2001 to 2005 the Respondent caused hydrological modelling to be carried out during the fishway design stage which modelling indicated that the dam would be above EL 62.0 approximately 80% of the time;
- (p) the BDA determined that the downstream fishlock with a fish lock tower of 5.7m commencing at an EL of 62.0 meters would operate for 80% of the time (based upon the hydrology data referred to in (p)) and for 93% of the peak migration periods of major species of fish which was considered by the BDA to offer the best cost benefit risk for all stakeholders that balanced ecology and accountability;
- (q) the Respondent obtained DPIF's confirmation and acceptance of the Respondent's fishway design in October 2004 including that the design took account of whole fish communities and size ranges of fish and that the proposed manipulation of water releases from the dam sought to minimise injury to fish;
- (r) the Respondent engaged DPIF to prepare a baseline lungfish monitoring report in May 2005 in order to monitor the aquatic environment and impact of the dam, if any, in subsequent years;
- (s) the Respondent has made arrangements to carry out the monitoring of lungfish referred to in paragraph 5 below with a view to taking the action referred to in paragraph 5(e) below if monitoring indicates ongoing lungfish population decline at about AMTD 119 KM that cannot be attributed to natural periodic fluctuations;
- (t) the downstream fishway, until January 2009, had not operated due to the water level in the dam being less than EL62.0 meters due to drought conditions prevailing during the period 2006 to 2008;

- (u) the upstream fishway has not operated on occasions since commencement of the operation of the dam in November 2005 due to:
  - (i) normal teething problems to be expected with substantial and newly engineered equipment which problems the Respondent has attended to as soon as reasonably practical;
  - (ii) low storage water levels making granite rock remaining after construction of the dam alongside the fishlift dangerous to the hopper; or
  - (iii) construction works at the dam which construction work has required the fishlift to be turned off for safety or access reasons.
- 3. In relation to paragraph 3 of the Request, the Respondent relies on the facts pleaded in paragraphs 6(a), (d), (f) and (g) of the defence as particularised in paragraph 2 above and paragraph 5 below in support of the allegation that it has not acted recklessly at any time.
- 4. In relation to paragraph 4 of the Request, the Respondent relies on the following facts, matters and circumstances in support of the allegation that the fishway has not had, and is not likely to have, any significant adverse impact on lungfish populations in the Burnett River:
  - (a) the system of monitoring referred to in paragraph 6(f) of the defence as particularised in paragraph 5 below is designed to detect any or any significant impact on lungfish populations;
  - (b) the system of monitoring referred to in paragraph 6(f) of the defence has not detected any or any significant impact on lungfish populations;
  - (c) the Respondent has made arrangements to carry out the monitoring of lungfish referred to in paragraph 5 below with a view to taking the action referred to in paragraph 5(e) below if monitoring indicates ongoing lungfish population decline at about AMTD 119 KM that cannot be attributed to natural periodic fluctuations.

Otherwise the issue of any actual or likely impact on lungfish is a matter for expert evidence which the Respondent will file in accordance with the directions of the Court.

5. In relation to paragraph 5 of the defence, the system of monitoring of lungfish populations in place is as follows:
- (a) the Respondent engaged the DPIF to conduct lungfish surveys during August 2004 (Winter), December 2004 and January 2005 (Summer) and lungfish spawning surveys in September 2004 to November 2004 as a result of which in May 2005 the Respondent caused a report entitled Baseline Lungfish Monitoring Report to be prepared by the DPIF recording results of baseline monitoring of lungfish in the vicinity of the Burnett River Dam wall to be compiled;
  - (b) in June 2005 the Respondent engaged the DPIF to commence fishway monitoring programs which will continue for 5 years;
  - (c) in 2006 the Respondent engaged the DPIF to commence lungfish monitoring program at AMTD 119 KM and AMTD 201 KM and at AMTD 64, 122, 135, 158, 183, 242 KM for a period of 10 years. This monitoring program includes the measurement of the condition of lungfish and lungfish habitat/macrophytes. The program includes sampling of the 8 sites, twice a year and monthly spawning surveys during the lungfish spawning season of August to November;
  - (d) the Respondent will conduct a review of the impacts of the dam on the lungfish at the conclusion of the 10 year monitoring program in consultation with the DEWHA to determine whether any future monitoring is required;
  - (e) if the lungfish monitoring referred to in paragraph (c) or the review referred to in paragraph (d) indicates ongoing lungfish population decline at about AMTD 119 KM that cannot be attributed to natural periodic fluctuations then the Respondent will initiate appropriate recovery actions consistent with any Commonwealth lungfish recovery plan.
6. In relation to paragraph 6 of the Request:
- (a) the Respondent relies on the matters pleaded in paragraphs 6(a) to (i) of the Request as particularised in paragraphs 2, 3, 4 and 5 above;

- (b) the Respondent cannot at this stage state whether it will rely on any grounds of economic hardship or financial cost of compliance because, despite request, the Applicant has failed to provide any particulars of the design characteristics of the fishway or modifications to the fishway which it alleges are required in order to comply with condition 3 of the approval. Until such time as the Applicant provides those particulars the Respondent is unable to identify the financial or other consequences of the relief sought by the Applicant.

Dated 6 February 2009



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**Allens Arthur Robinson**  
Solicitor for the Respondent