

Environment Protection and Biodiversity Conservation Act 1999**Referral Form**

Please complete this form then print it out, get any signatures required, attach the necessary map/s or other information and send the completed referral to Environment Australia. Please read the guide accompanying this form carefully and ensure that the completed referral meets the requirements of the Regulations, as outlined in the guide, in terms of length, format and content.

1.1 Person making the referral

Note: This must be either the person proposing to take the action, their agent (e.g. a consultant), or a State, Territory or Commonwealth agency making the referral in relation to an action to be taken by another person.

Burnett Water Pty Ltd
PO Box 3115
South Brisbane QLD 4101

Level 18
111 George Street
Brisbane QLD 4000

Ph: (07) 3404 3675
Fax: (07) 3224 2840

1.2 Corporation or individual(s) proposing to take an action.

Note: If the person proposing to take the action is the same as the person making the referral, write 'as above'.

Burnett Water Pty Ltd (ACN 097 206 614)
PO Box 3115
South Brisbane QLD 4101

Level 18
111 George Street
Brisbane QLD 4000

Ph: (07) 3404 3675
Fax: (07) 3224 2840

If a corporation is proposing to take the action, please also provide the name of a contact officer for this matter.

Graeme Newton
General Manager
Burnett Water Pty Ltd

1.3 Corporation or individual(s) proposed as proponent for the action

Allens Arthur Robinson 

Note: If the person proposed as proponent is the same as the person proposing to take the action, write 'as above'.

If the proponent is different from the person proposing to take the action, the signature of both is required (at Section 4).

As above

If a corporation is the proponent for the action, please also provide the name of a contact officer for this matter.

Graeme Newton
General Manager
Burnett Water Pty Ltd

2. Description of the proposal

2.1 Provide a summary description of the action

The action is to construct and operate a major water storage on the Burnett River near Paradise, 80km south west of Bundaberg in Queensland involving regulating the Burnett River to provide controlled discharges of water for environmental, irrigation, commercial, industrial, agricultural, local government and potable water uses.

The storage commands a catchment area of 30 785 km² and will create a water reservoir with a maximum storage of 300,000ML at Full Service Level (FSL) of 67.58m AHD.

2.2 details of the location of the project area

The project location is shown on Figure 1 attached.

Locality:

The co-ordinates of the proposed Paradise dam site are as follows:

Latitude:	-25 degrees	34 minutes	87 seconds
		10	53
Longitude:	151 degrees	08 minutes	34 seconds
		55	06

2.3 The timeframe in which the action is proposed to occur. (Include start and finish dates where applicable)

Construction activities are expected to commence in 2003. Duration of construction will be approximately 2.5 years.

2.4 Provide details of the action including activities proposed to be carried out as part of the proposed action.

The action includes the planning, environmental assessment, design, construction and operation of a major water storage reservoir on the Burnett River.

The proposed dam for the reservoir will be of composite concrete gravity, zoned earth and rock construction.

Construction of the dam will include the following activities:

- Diversion of the Burnett River during construction;
- Excavation for dam foundations;
- Blasting and quarrying for the supply of earth/rock fill and concrete aggregates;
- Construction of an earth and rockfill dam embankment;
- Production of concrete for construction of dam abutments/spillways etc.;
- Relocation of community services: roads, power and telecommunications etc.;
- Construction of new community services;
- Clearing of vegetation in the inundation zone; and
- Inundation of agricultural land, timber reserves and part of a State Forest on completion of the dam.

Operation of the dam will involve regulating the Burnett River to provide controlled discharges of water for environmental, irrigation, commercial, industrial, agricultural, local government and potable water uses.

2.5 provide an explanation of the context in which the action is proposed to take place, including any relevant planning framework, in which the action is proposed

The Burnett Region is heavily dependent on good quality water supply for agricultural, industrial and urban uses. Growth in agricultural and industrial development in the region, together with an increasing population has increased demand for water to the extent where further increases in agricultural and industrial production are limited by water availability.

A tidal barrage and several weirs have been constructed in the lower section of the river, and a major dam on the Kolan River (Fred Haigh Dam), to supply irrigation water for a thriving sugar cane and horticultural industry and Bundaberg. Proposals for one or more additional water storages have been considered by the Queensland Government over the past 20 years, mostly to supply additional water for sugar cane. Currently there are more than 20 existing water storages within the catchment with capacities ranging from 30ML (Monto Weir) to 212 000ML (Boondoma Dam).

The region is unable to attract new industrial developments, which may be critical to continued economic well being, if a reliable water supply cannot be guaranteed. Prolonged drought conditions in the 1990s also showed the vulnerability of the Burnett Catchment in relation to water supply.

Additional future water supply needs for the region are considerable.

The development of the Paradise Dam is an integral part of meeting these projected future supply needs.

Legislative and Approvals Process

The Project has been proposed as a significant project pursuant to Section 26 of the Queensland State Development and Public Works Organisation Act 1971 and will require the development of an EIS under that Act. The Department of State Development (*DSD*) is the authority responsible for the management of the impact assessment process for the Project.

The proponent will undertake a comprehensive Environmental Impact Assessment for the proposal to satisfy the requirements of:

- *State Development and Public Works Organisation Act 1971;*
- *Environmental Protection Act 1994;*
- *Water Act 2000;*
- *Environment Protection and Biodiversity Conservation Act 1999.*

The EIS will be advertised for public comment, and a Supplementary EIS will be prepared to address all comments from the public and government referral agencies. The Coordinator General will assess the EIS and prepare a report in accordance with the *State Development and Public Works Organisation Act 1971*.

On completion of the EIS process, the proponent will be required to make a development application to the relevant Shire Councils, through the integrated development assessment system (*IDAS*) under the Queensland *Integrated Planning Act 1997* for final development approvals.

Other major approvals and permits may include:

- opening and closing roads under the *Land Act 1994* and the *Transport Infrastructure Act 1994*;
- permanent or temporary barrier across a watercourse under the *Fisheries Act 1994*;
- referable Dam Licence under the *Water Act 2000*;
- inundation of state forests and timber reserves under the *Forestry Act 1959*;
- notice of intention to acquire land under the *Acquisition of Land Act 1967*;
- cultural heritage survey permit under the *Cultural Record (Landscapes Queensland and Queensland Estate) Act 1989*;
- resource operations licence (*ROL*) by DNRM authorising the operation of the dam and granting water allocations under the *Water Act 2000*.

The Water Act 2000

The recently enacted Queensland *Water Act 2000* is of particular importance to the planning of the project. The Act introduced a range of new measures for determination of appropriate allocation of water resources in the state. It is intended to manage the allocation of water for the "physical, social and economic well being" of the people of Queensland while at the same time ensuring that principles of environmental sustainability are maintained. The Act establishes a process by which the allocation of water resources within a catchment is determined. The initial step in this process is the development of a Water Resource Plan.

The Department of Natural Resources and Mines (*DNRM*) manages the development of water resource plans which involves technical and scientific studies by a Technical Advisory Panel as well as extensive consultation with water operators, users and other stakeholders. Public comment is sought. Following approval, a Water Resource Plan is gazetted as subordinate legislation to the *Water Act 2000*. The Plan is a statutory document and has legal force under the Act.

Following gazettal of a Water Resource Plan, the *Water Act 2000* calls for development of a Resource Operations Plan (ROP). The resource operations plan is the means by which the objectives set in the water resources plan are implemented and will record volumes of water allocated for consumptive purposes at various points within the catchment, as well as the environmental flow conditions that must be maintained. The DNRM is responsible for development of the ROP in a consultative process.


The Water Resource (Burnett Basin) Plan 2000

This plan for the Burnett Basin (incorporating the catchments of the Burnett, Kolan, Isis, Gregory and Elliot Rivers) was completed in December 2000 and includes environmental flow performance objectives developed by the Technical Advisory Panel as a result of its review of existing scientific and hydraulic data on the catchments. It also includes water entitlement security objectives which will provide a framework for allocations to users.

The plan identified that it would be appropriate to make an additional 170,000 ML per annum available for consumptive use from the catchment. This amount reflects consideration of the needs of water users as well as environmental sustainability objectives. In order to make this additional amount available, additional storage capacity is required within the catchment. This can be achieved through construction of dams (major storage facilities) and weirs (minor storage facilities).

Following approval, the Water Resource (Burnett Basin) Plan 2000 was gazetted and a Resource Operations Plan (ROP) is now required.

It is intended that the operational arrangements for the proposed dam (including environmental flow rules) will be determined through the ROP process, rather than through the EIS (as would have been the case prior to the introduction of the *Water Act 2000*) and it is expected that the ROP process and the EIS process will need to be progressed in parallel to ensure the approval process occurs in a timely fashion.

Allens Arthur Robinson 

2.6 Indicate whether, and in what way, the action is related to other actions or proposals in the region.

The construction of this dam at Paradise, the new weirs, at Barlil on the Barambah Creek and Eidsvold and the raising of Walla and Jones Weir on the Burnett River are all expected to commence construction in 2002. The relevant section of the Burnett River is regulated by, in part, flows from Jones Weir.

3. Nature and extent of the likely impacts of the action

3.1 Describe the affected area, referring as appropriate to attached maps. In particular indicate the location of any of the following features: World Heritage properties, Ramsar wetlands, listed threatened species or communities and/or known habitat for these species or communities, listed migratory species and/or known habitat for these species, Commonwealth marine areas and Commonwealth land.

The project site does not directly impact any World Heritage Areas, RAMSAR sites, or Commonwealth Areas.

Conservation Areas listed within the project area include:

- Goodnight Scrub National Park
- Goodnight Scrub Resources Reserve
- Bullyard Conservation Park

It is considered that impacts on these areas will not be important.

Some migratory and threatened species, recognised as such under the *Environmental Protection and Biodiversity Conservation Act 1999* may occur in the project area and there is not presently available any background data to make a clear judgment that the project will not have a significant impact on these species or related communities.

3.2 Describe the nature and extent of likely impacts on the following matters protected by the EPBC Act (to the extent that each is relevant to the action and the affected area):

- ***the world heritage values of a declared World Heritage property;***
- ***the ecological character of a declared Ramsar wetland;***
- ***the members of a listed threatened species (except a conservation dependent species) any threatened ecological community, or their habitat;***
- ***the members of a listed migratory species or their habitat;***
- ***part of the Commonwealth marine area; and***
- ***Commonwealth land.***

Construction of the dam may have an impact on:

- members of a listed threatened species;
- a threatened ecological community, or their habitat;
- listed migratory species or their habitat.

The impacts may be caused by the following:


- inundation of the reservoir area and removal of vegetation causing loss of environmentally sensitive localities, rainforest remnants, old growth forests, mature hollow-bearing trees, urban bushland, remnant vegetation and habitat corridors over an area of 7.5km²;
- soil erosion in the reservoir area causing sedimentation of downstream reaches of the river;
- changes to the stream-flow regime, which will impact in-stream and connected wetland morphology including:
 - in-stream pools/runs, riffles/rapids;
 - estuarine channels and off-stream perennial pools (billabongs, oxbow, lakes, etc);
 - off-stream ephemeral pools;
 - riparian vegetation;
- changes to estuarine/offshore ecology affected by the change in the flow regime;
- changes to the stream-flow regime which will impact in water quality downstream of the dam;
- changes to the stream-flow regime and water quality which will impact on fish species, especially the lungfish (*ceratodus*) and aquatic invertebrates occurring in the waterways within the reserve area;
- floristic changes on the aquatic fauna habitat and food supply both within the reservoir and downstream.

3.3 Indicate whether the action is a nuclear action or an action by the Commonwealth or by a Commonwealth agency

The action is not a nuclear action or an action by the Commonwealth or by a Commonwealth Agency.

3.4 Provide a description of important features of the project area and the affected area, including (if relevant to the project area or affected area) information about:

- (a) *soil and vegetation characteristics;*
- (b) *water flows, including rivers, creeks and impoundments;*
- (c) *the presence of outstanding natural features, including caves;*
- (d) *gradient;*
- (e) *any buildings or other infrastructure;*
- (f) *any marine areas;*
- (g) *kinds of fauna in the area; and*

Allens Arthur Robinson 

- (h) *the current state of the environment in the area, including information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.*

The proposed dam is on the Burnett River within the Burnett Catchment Area. The catchment is bound to the north by the Fitzroy River catchment, to the north-east by the Kolan River catchment, to the west and south-west by the Dawson River and Condamine River catchments and to the south by the Brisbane and Mary River catchments.

At the dam site the river channel is about 60 metres wide. On the left bank a flood terrace occurs at about 6 metres above bed level to give an effective channel width of 180 metres.

The Burnett River in the reach containing the Paradise dam site is in a well-defined, incised channel.

The river at the Paradise dam site is regulated by flows from upstream storages, including Jones Weir and Claude Wharton Weir and consists of long pools separated by large rock bar controls. The river has a sandy bed downstream of the dam site near Mingo Crossing.

Hydrology

Streamflow measurements recorded throughout the catchment indicate a high variability of seasonal flows in the Burnett River.

There are no major dams on the River and impacts of upstream storages on the flow regime of the river in the Paradise reach are mitigated by natural flows from unregulated tributaries. High flows have been reduced but typically remain at least 70% of the undeveloped regime. Comparisons of historical records for daily flows indicate that high and medium flows have been reduced and baseflows have increased as a result of regulation.

The mean annual discharge from the Burnett River catchment at Wall Gauging Station, downstream of the Paradise dam site is 1 418 000ML.

Water Quality

Water Quality varies considerably between locations, because many tributaries contribute water and contaminants. At the Paradise dam site, water quality is rated at moderate to poor (Dr Poplawski 1999). Algal blooms are known to occur in the river and are most evident in September and at times of low flow.

Flora and Fauna

A range of studies of aquatic and riparian flora and fauna have been carried out within the Burnett Catchment. During preparation of the Burnett Catchment WAMP, a review of these studies was undertaken to determine the overall health of aquatic and riparian vegetation.

Some loss of riparian vegetation has occurred, as well as riparian zone and channel disturbance from agricultural and grazing activities. However direct physical disturbances to the stream channel in the Paradise reach are relatively minor. Overall riparian vegetation and in-stream habitat in the Burnett River was generally found to be in moderate to good condition (van Manen 1999).

A considerable portion of the Burnett River, including the Paradise reach of the river, has been regulated by weirs, which has resulted in the loss of shallow, fast flowing aquatic habitats.

Anthropogenic disturbances in the lower Burnett catchment, particularly due to habitat deterioration is also likely to have reduced recruitment success of many estuarine and freshwater species thought to use the areas for larval development (WAMP; Brizga, 1999/2000).

3.5 Whether the project area is held under freehold, leasehold or any other tenure.

The major proportion of the reservoir area lies within the existing Burnett River channel. However, there are a number of areas of freehold land along the river and along the small tributaries within the proposed reservoir area that will be inundated. These lands will either be purchased by the proponent or resumed by the Queensland State Government.

3.6 Current or proposed land uses for the project area

Agriculture is the major economic activity in the Burnett catchment. Major agricultural commodities produced in the Burnett Catchment include:

- Beef
- Vegetables (including marrows, squash, snow peas, sweet potatoes)
- Citrus (including lemon, lime, orange and mandarin)
- Nuts (including macadamia and peanuts)
- Sugar cane (coastal plain)

National Parks within the catchment include:

- Goodnight Scrub National Park, located on the Burnett River upstream of Walla Weir
- Auburn River National Park
- Cania Gorge National Park
- Mount Walsh National Park

Recreational uses associated with water bodies within the Burnett Catchment include fishing, boating and canoeing, bathing and aesthetic enjoyment. The proposed dam may impact on some recreational activities but may also create new opportunities for recreation.

3.7 For information given in this referral

- (a) ***the source of the information; and***
 - (b) ***how recent the information is; and***
 - (c) ***how the reliability of the information was tested; and***
 - (d) ***what uncertainties (if any) are in the information.***
- Acquisition of Land Act 1967
 - Brizga/DNR Burnett Basin WAMP – Current Environmental Conditions and Impacts of Existing Water Resource Development

Allens Arthur Robinson 

- *Chenoweth 1999 Lower Burnett River Dam Sites – Volume 1 Main Report – Initial Environment Evaluation*
- *Commonwealth Government's Environmental Protection and Biodiversity Conservation Act 1999*
- *Cultural Heritage Survey Permit under the Cultural Record (Landscapes Qld and Qld Estate) Act 1989*
- *DNR 1999 Lower Burnett River Dam Sites – Hydrologic and Hydraulic Investigations*
- *DNR 1999 Lower Burnett River Dam Sites – Initial Engineering Appraisal, Vol 1*
- *DNR 2000 Water Allocation Management Plan Burnett Basin – Condition and Trend Report*
- *Environmental Australia On-line Interactive Map and Search Query*
- *Environmental Protection Act 1994*
- *Forestry Act 1959 – <http://epbcweb.ea.gov.au/images/index.html>*
- *Land Act 1994*
- *Queensland Integrated Planning Act 1997*
- *SKM 2000 Water Infrastructure Pre-feasibility Study*
- *State Development and Public Works Organisation Act 1972*
- *Transport Infrastructure Act 1994*
- *Van Manen 1999 State of the Rivers: Burnett River and Major Tributaries, DNR, Brisbane*
- *Water Act 2000*

4. Signatures and Declarations

1. Signature of person making the referral

I, GRAEME WILLIAM NEWTON.....(full name), declare that the information contained in this form is, to the best of my knowledge, true and not misleading.

Signature



Date 28/08/01

2. Declaration of person nominated as proponent in Section 1.3, if different from person proposing to take the action.

I, GRAEME WILLIAM NEWTON.....(full name), being (or agent acting on behalf of) the person nominated in Section 1.2 of this referral form as the nominated proponent agree to be designated as the proponent for the action described above if it is decided that the action requires approval under Part 9 of the EPBC Act.

Signature

Date 28/08/01

Signature of person proposing to take the action

Date 28/08/01

3. Statement by person making this referral on whether or not they believe the referred action to be a controlled action and nomination of relevant controlling provisions (note: this Section must be completed in *all* cases except where the referral is made by a State or Territory or a Commonwealth agency in relation to an action to be taken by another person.)

I, GRAEME WILLIAM NEWSON (full name), being the person making this referral and the person proposing to take the action (or agent acting on behalf of the person) believe that the action described in this referral is a controlled action because of the following provisions of the Act:

(If you believe that this action *IS* a controlled action indicate YES or NO against the relevant controlling provisions in the spaces provided below)

NO	Controlling provisions of Section 12 and 15A (significant impacts on the values of a world heritage property)
NO	Controlling provisions of Sections 16 and 17B (significant impacts on the ecological character of a Ramsar wetland)
YES	Controlling provisions of Section 18 and Section 18A (significant impacts on a listed threatened species or on a listed threatened ecological community)
YES	Controlling provisions of Sections 20 and 20A (significant impacts on a listed migratory species)
NO	Controlling provisions of Sections 21 and 22A (nuclear actions)
NO	Controlling provisions of Sections 23, 24 and 24A (actions relating to the Commonwealth marine area and fishing in coastal waters managed by the Commonwealth)

Allens Arthur Robinson 

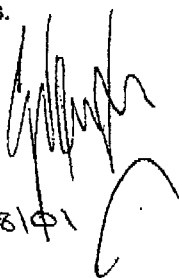
NO	Controlling provisions of Section 26 and 27A (actions relating to Commonwealth Land)
NO	Controlling provisions of Section 28 (actions by the Commonwealth having a significant impact on the environment)

Briefly provide reasons why you believe the action to be controlled or not controlled:

I believe the action to be controlled because the development of the project may:

- inundate areas of land containing threatened plant species;
- inundate habitats that are important to migratory bird and threatened bird and reptile species.

Signature



Date

28/08/01

If the person making this referral is or is representing, a small business (ie. A business having less than 20 employees), please provide an estimate of the time taken to complete this form.

Please include

- The time actually spent reading the instructions, working on the questions and obtaining the information
- The time spent by all employees in collecting and providing this information

Hours

Minutes

END OF FORM