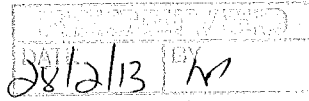


APPENDIX 2

INTER AGENCIES ASSESSMENT OF THE GWRT

1. Endorsement letter from the DEC
2. Endorsement letter from the DOW
3. Endorsement letter from the DOH



Ms Sue Murphy
Chief Executive Officer
Water Corporation
629 Newcastle Street
LEEDERVILLE WA 6007

Dear Ms Murphy 

ASSESSMENT OF THE GROUNDWATER REPLENISHMENT TRIAL

The Department of Environment and Conservation (DEC) has participated in the Inter Agency Working Group (IAWG) set up to provide oversight of the Water Corporation's Groundwater Replenishment Trial (GWRT).

To fulfill the commitments made by the IAWG, DEC has undertaken an assessment of groundwater replenishment (GWR). As a result of this assessment I can confirm:

- DEC regulated the GWRT through a licence issued under Part V of the *Environmental Protection Act 1986*. This licence set conditions relating to the operation of the Advanced Water Recycling Plant (AWRP) and set limits and targets on the quality of recycled water recharged to the Leederville aquifer.
- Throughout the GWRT and to date, the AWRP has produced recycled water that has met all licence limits and targets.
- The GWRT demonstrated that the Water Corporation's AWRP treatment process and associated management systems and procedures successfully protect the environmental values of the Leederville aquifer. This was evidenced by an extensive monitoring program which confirmed compliance with required water quality guidelines at the point of recharge and throughout a series of 20 monitoring bores within the Leederville aquifer.
- As part of the IAWG DEC committed to producing an approvals framework. This has been successfully achieved with the issue of the Groundwater Replenishment Regulatory Framework which defines the approvals pathway for developing a GWR scheme, approving the commencement of recharge and providing on-going regulation of a GWR scheme.
- DEC is confident that a GWR scheme operated in accordance with the AWRP process, management systems and procedures defined in the GWRT, can adequately protect the identified environmental values of the receiving aquifer.
- DEC will assess any future GWR scheme proposal submitted by the Water Corporation in accordance with the issued Groundwater Replenishment Regulatory Framework.

DEC's assessment of the trial has considered all information provided throughout the GWRT including presentations by the Water Corporation and its consultants, groundwater research and monitoring outcomes, quality management systems and IAWG progress reports together with information received by DEC as a result of our regulation of the AWRP and recharge of recycled water.

A summary report that supports DEC's assessment of the GWRT is being prepared and once approved will be provided to the Water Corporation.

Yours sincerely

A handwritten signature in black ink, appearing to read "J. Sharp", with a large, sweeping flourish that loops back under the name.

Jim Sharp
ACTING DIRECTOR GENERAL

26 February 2013



Government of Western Australia
Department of Environment and Conservation

Your ref: JT1 2011 08449 V01
Our ref: DEC12637
Enquiries: Bhabesh Das
Phone: 9333 7521
Fax: 9333 7550
Email: bhabesh.das@dec.wa.gov.au

Manager, Environment and Aboriginal Affairs
Water Corporation
PO Box 100
Leederville WA 6902

Attention: Vanessa Moscovis

Dear Sir

PERTH GROUNDWATER REPLENISHMENT SCHEME (GWRS)- STAGE 2A RISK ASSESSMENT

Thank you for your letter of 22 April 2013 requesting an evaluation of the Perth Groundwater Replenishment Scheme – Stage 2A Risk Assessment Reports, April 2013.

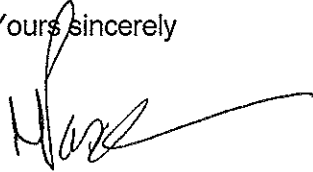
Swan Region represented by Dr Bhabesh Das attended the presentation of the project risk assessment on 17 April 2013 and reviewed the reports, the Department of Environment and Conservation (DEC) notes the following:

- the Trial Advanced Water Recycling Plant (AWRP) has successfully demonstrated over a period of more than two years that the plant sufficiently treats secondary treated wastewater that consistently and reliably meets the water quality guidelines and complies with the environmental protection licence;
- the proposed Perth GWRS Stage 2A AWRP will use the same technology utilised in the Trial AWRP to produce approximately 14GL/yr recycled water;
- the risk assessment demonstrates that the proposed advanced water recycling process, management systems and procedures will result in a low risk of recharging up to 14 GL/yr of recycled water to the Leederville and Yarragadee aquifer, adequately protecting the agreed environmental values;
- Water Corporation will seek DEC approvals outlined in the GWR Regulatory Framework;
- recognise the iterative nature of the risk assessment process, Water Corporation will continue risk assessment through design, construction and commissioning of the Scheme; and
- based on the successful performance of the Trial AWRP, the emissions and discharges from the Perth GWRS – Stage 2A project are considered to be insignificant and is unlikely to impact the environment.

Considering the above, DEC advises that the project can be managed through works approval and licence under Part V of the *Environmental Protection Act 1986*.

If you have any queries relating to the above, please contact Dr Bhabesh Das at Swan Region on 9333 7521.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Marko Pasalich', with a long horizontal flourish extending to the right.

Marko Pasalich
Team Leader Industry Regulation
Swan Region

20 June 2013



Your ref:
Our ref: WT2419-04
Enquiries: Adrian Parker 6364 7139

Mark Leathersich
Manager Infrastructure Planning
Water Corporation
PO Box 100
LEEDERVILLE WA 6100

Dear Mr Leathersich,

PERTH GROUNDWATER REPELNISHMENT SCHEME, STAGES 1 & 2A - AQUIFER RISK ASSESSMENT EVALUATION STATEMENT

The Department understands that, pending the consent of Government, the Water Corporation intends to refer the above project to the Office of the Environmental Protection Authority (OEPA) under Section 38 of the *Environmental Protection Act (1986)*. The project involves the recharge up to 14GL/yr of recycled, drinking quality water into the Leederville and Yarragadee aquifers on site at the existing Beenyup facility.

The purpose of this letter is to confirm the position of the Department regarding this proposal, and to advise the adequacy of the supporting information. The Department's key consideration in this regard is to ensure that the identified environmental and resource values of the aquifers are maintained.

In accordance with the *Groundwater Replenishment Regulatory Framework (December 2012)*, the Department has assisted the Corporation to establish the environmental values and conduct the risk assessment for the project. The Department has subsequently assessed the *Perth Groundwater Replenishment Scheme Stage 2A, Aquifer Risk Assessment for the Leederville and Yarragadee Aquifers (March 2013)* report.

I can confirm that this report has adequately demonstrated that the proposed advanced water recycling management systems and procedures should adequately protect the agreed environmental values of the target aquifers. Should you require any additional clarification then please contact Adrian Parker on 6364 7139.

Yours sincerely

Paul Brown
**EXECUTIVE DIRECTOR
REGIONAL DELIVERY AND REGULATION**

24 April 2013



Government of Western Australia
Department of Health

Your ref: CEO462013
Our ref: EHB-01081
Enquiries: Clemencia Rodriguez (9388 4812)

Ms Sue Murphy
Chief Executive Officer
Water Corporation
PO Box 100
LEEDERVILLE 6902 WA

Sue
Dear Ms ~~Murphy~~

Approval to continue operation of the 1.5 GL/year – Beenyup Groundwater Replenishment (GWR) scheme

Thank you for submitting the Beenyup Groundwater Replenishment Trial (GWRT) final report and the independent audit of the GWRT recycled water quality, management and reporting systems conducted by Deloitte Touche Tohmatsu as requested by this Department in January 2013.

The Department of Health (DOH) is satisfied with the operational performance of the treatment process and system management implemented by the Water Corporation for the operation of the GWRT, as formalised through the Memorandum of Understanding (MoU) between the Water Corporation and the DOH in September 2010.

I note that the Water Corporation has implemented the three minor improvement opportunities identified by the independent audit report.

I agree that both the Trial report and the independent audit confirm that the Trial was successful in its aim - to demonstrate that advanced water treatment processes are technically feasible, and manageable from a public health viewpoint. The Trial demonstrated the highest standards of risk management throughout, including extremely intensive monitoring of water quality, with relevant water quality standards being met. The Trial more than adequately protected human health and the environment.

I am pleased to endorse the continued operation of the Beenyup Groundwater Replenishment (GWR) scheme in accordance with the management systems and procedures defined in the GWRT.

I propose that we review and amend the current Memorandum of Understanding. In so doing, I would request the following:

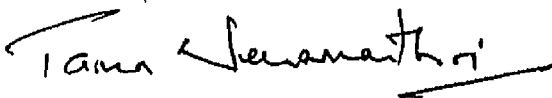
- That regular monitoring using Recycled Water Quality Indicators (RWQI) be conducted for compliance purposes;

- The Water Corporation ensures that nanomaterials research is reviewed as part of the annual risk assessment review for GWRS;
- When validated analytical methods for nanomaterials are available, feed water concentrations to the Advanced Water Recycling Plant and after reverse osmosis treatment are measured, in order to characterise nanomaterial occurrence and removal in the Perth context;
- Section 7.3 "Additional Management and Quality Criteria" of the MoU for Ground Water Replenishment is reviewed to enable the Department of Health to request to the Corporation to include any additional quality criteria based on environmental scan reports, catchment assessment reports, or community perceived risk;
- Chemical parameters for which further method development is required in accordance with Appendix F of the Water Corporation's final report is included in the annual risk assessment review for GWR;
- The above mentioned chemical parameters are reflected in Schedule 1 of an amended MoU; and
- Virus challenge testing is conducted in compliance with the National Recycled Water Guidelines (Phase 2 Augmentation of Drinking Water Supplies) for any replacement ultrafiltration membranes at the current 1.5 GL Advanced Water Recycling Plant (AWRP) or any new /upgraded AWRP.

If the State Government determines that recycled water is a safe, sustainable and reliable drinking water source option for Perth, the DOH will assess any future Groundwater Replenishment (GWR) scheme proposals in accordance with the Interagency Working Group "Groundwater Replenishment Regulatory Framework" document signed by this Department on 19 December 2012.

If you have any questions, please do not hesitate to contact the Water Unit of the Department of Health on (08) 9388 4999.

Yours sincerely



Dr Tarun Weeramanthri
EXECUTIVE DIRECTOR
PUBLIC HEALTH AND CLINICAL SERVICES DIVISION

20th May 2013

Cc: Department of Water
Department of Environment and Conservation