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Dear Mr Baxter

**SUBMISSION ON WATER AND WASTEWATER PRICE REVIEW: DRAFT DECISION
REPORT 11 - DECEMBER 2007**

1. NEED FOR MORE TIME TO EXAMINE THE NEW ACTEW PROPOSALS

In this Draft Report 11 the Commission has had insufficient time to consider important announcements made by the ACT Government late last year on water infrastructure. This is the fault of no-one. It recommended here that extension of time be sought to enable proper examination of the major items.

The Chief Minister issued a press release which included major project items on 23 October 2007. The details of these projects were not provided to the Commission until 14 November (Commission's Draft Report 11, page ix).

ACTEW provided a paper, "Information paper: Implementation of the ACT Government's announcements on Water Security, 14 November 2007."

The McLennan Magasanik Associates (MMA) (Consultants to the Commission) provided their report, which is dated 19 November 2007.

ACTEW produced a Fact Sheet "Demonstration Water Purification Plant", dated December 2007.

The Commission's Draft Report 11 is dated December 2007.

Therefore the target date of 11 April for the final report of the Commission would seem impossible to achieve.

2. PRESS RELEASE BY THE CHIEF MINISTER

The press release 481/07 by the Chief Minister on 23 October 2007 announced, *inter alia*:

The range of water security measures that will be implemented include:

3. pursuing the possibility of purchasing water from Tantangara Dam (about \$38 million);
4. design of a demonstration Water Purification Plant, with the water produced during demonstration to be used for purposes other than drinking (about \$6 million will be spent during the year-long design phase);

and further:

The water from during demonstration will not be added to the drinking supply (*sic.*).
Funding is being sought from the National Water Fund for this project.

3. COSTS OF THE DEMONSTRATION WATER PURIFICATION PLANT IN THE COMMISSION'S DRAFT REPORT

3.1 Capital Costs

In reference to the design costs of the demonstration water purification plant (Executive Summary, pages ix & x) the Commission's Draft Report states:

..... to ensure that a full picture of potential tariffs is provided, the Commission has included ACTEW's forecast expenditure in this draft decision.

A design cost figure of \$3 million has been included in the Commission's Draft Report. (Table 7.4, "Forecast capital expenditure 2008-09 to 2012-13", page 62).

However \$3 million is only half the design cost.

The design cost provided by ACTEW is \$3.075 million in this year 2007/08, and \$3.152 million in the year 2007/08. (ACTEW Information Paper 14 November, Table 3, page 9).

Although the year 2008-09 is not covered by the present inquiry, the total cost should nevertheless be taken into account when considering the viability of the project.

As of 5 February the contract for the design of the demonstration plant had not been let.

The capital construction costs of the demonstration water purification plant should also appear in the Commission's Draft Report Table 7.4. The capital construction cost provided by ACTEW is \$53.4 million - \$17.9 million in 2008/09 and \$35.5 million in 2009/10. (ACTEW Information Paper 14 November, Table 6, page 11).

Note that this supposes commencement of construction within the next 18 months.

Therefore these capital costs now need to be included in the considerations of the final report of the Commission.

3.2 Operating Costs

Turning now to operating costs, in the Commission's Draft Report there appears the line "Demonstration water purification plant", but the costs are shown as nil for each year (Table 6.5, "Forecast operating expenditure 2008-09 to 2012-13", page 39).

The operating costs provided by ACTEW are \$4.415 million in 2010/11, \$4.636 million in 2011/12, and \$4.868 million in 2012/13 (ACTEW Information Paper 14 November, Table 6, page 11).

Therefore these operating costs now need to be included in the considerations of the final report of the Commission.

4. DESIGN OF A DEMONSTRATION WATER PURIFICATION PLANT WAS NOT RECOMMENDED BY ACTEW

Any recommendation from ACTEW to Government for the expenditure of some \$60 million must be accompanied by details explaining how and when, and with what justification, that money will be spent.

On the morning of Wednesday 5 February, the ACTEW Fact Sheet "Demonstration Water Purification Plant", dated December 2007, read:

As part of the 2007 Water Security Review, ACTEW recommended to the ACT Government that it proceed with the design of a demonstration plant

The ACTEW web site was changed. By 5:04 pm on Wednesday 6 February the relevant section read:

Following the 2007 Water Security Review, the ACT government announced that ACTEW would proceed with the design of a demonstration plant.

How this change came about is explained in Appendix A

The change is of material importance, since it points to the fact that the design of a demonstration water purification plant was NOT recommended to the ACT Government by ACTEW. This fact demands further scrutiny.

5. ACTEW RECOMMENDATIONS TO ACT GOVERNMENT

The report "Water Security for the ACT and Region - Recommendations to ACT Government", July 2007, was the major report and one of 33 which have been made available by ACTEW on a compact disc.

This capstone report did NOT recommend to Government the design of a demonstration water purification plant.

There are 29 of these reports dated July 2007, and four dated April 2005.

A list of these reports, from the ACTEW compact disc, is attached here as Appendix B.

6. THERE IS NO URGENCY FOR THE DESIGN OF A DEMONSTRATION WATER PURIFICATION PLANT

The spending of \$6 million dollars on the design of a demonstration water purification plant in a year-long design phase, beginning now, is entirely premature and unnecessary.

The major work already committed, the construction of a new Cotter Dam of 78 GL capacity, will postpone the need for augmentation, and provide water security for a number of years.

The combination of an enlarged Cotter Dam and significant increased capacity to take or store water from the Murrumbidgee River will provide assurance in most circumstances of water security long into the future. (ACTEW: Water security for the ACT and region, July 2007, page vii)

The (new Cotter) dam would supply up to 180 ML per day to the Mount Stromlo Water Treatment Plant. (*ibid.*, page 23).

Note that 180 ML per day equates to 65.7 GL per year, and exceeds the present total Canberra demand.

The new Cotter dam is scheduled for completion by the year 2011. Then the ACT system will supply a "Maximum Service Population" of 510,000, until the year 2029. (ACTEW: Future Water Options, July 2007, Table 6-5, page 38).

Therefore, the proposal to spend \$6 million on the design of a demonstration water purification plant at the present time is a wasteful exercise. This money would be better spent on negotiating for the Tantangara water, and there is no urgency even for that.

7. COMPARING WATER COSTS PER KILOLITRE

Water from Tantangara is estimated to cost about \$4 million per year in operating costs, for 20 or 25 GL per year (ACTEW Information Paper, Table 5, Page 10). Thus, assuming the 20 GL figure, Tantangara water would cost about \$0.20 per kilolitre.

The capacity of the proposed demonstration water purification plant will be "up to" 8 ML per day. (2.9 GL per year). (ACTEW Fact Sheet Demonstration Water Purification Plant, December 2007).

Water from the demonstration plant is estimated to cost about \$4.5 million per year in "incremental" operating costs, for the 2.9 GL per year plant (ACTEW Information Paper Table 6 Page 11). Thus demonstration plant water would cost about \$1.55 per kilolitre.

Information from The Canberra Times, 24 October 2007, page 2 reveals the following:

Mr Stanhope promised the water would not go into the drinking supply. It was not clear what the 4 gegalitres of water produced each year would be used for.

Mr Stanhope said the treated water might be used for industry, although he was not sure there would be much demand. The water might be put back into the river to flow to downstream users.

From what industry will come the demand for this extraordinarily high price non-potable water?

8. REVISED TIMETABLE TO SUPPORT A NEW CONSULTANCY

It is now obvious that from the previous points that a consultancy is required, similar the recent MMA consultancy of 19 November 2007.

As months will be needed, I call for a new timetable for the Commission's report, giving time for submissions from interested parties, as has been the case so far.

MMA Consultants carried out technical and commercial audits on a sample set of projects chosen from the "Capital Expenditure Programme 2008/09-2027/28 (*sic.*)" (MMA Report page 166).

Most of the projects listed by MMA are well under a few million dollars.

A future consultant's report commissioned to examine the demonstration water treatment plant must commit to a similar in-depth examination of the projects announced in the Chief Minister's Press Release of 23 October 2007.

9. RESEARCH AND DEVELOPMENT EXPENDITURE

The Commission's Draft Report page 49 "6.7.8 Research and development expenditure" shows remarkable insight, with the last paragraph, page 50, stating:

However, the Commission has included design expenditure on a demonstration water purification plant as part of the phase 1 water security measures for the purposes of this draft decision.. In effect this represents a research and development project which the Commission has approved for the purposes of the setting of prices. Should ACTEW be able to provide details of their proposed research and development projects, the Commission would consider the proposals as part of its final report.

Clearly the Commission recognises that the demonstration water purification plant is a research and development project.

None of the cost of this experimental work should be charged to ACT rate payers, since it has not been shown that it can produce any benefit whatever to those rate payers above alternative measures (Tantangara, but not exclusively Tantangara) which do not require any research. The design which is in progress (or about to start) should be stopped immediately.

10. FURTHER WORK REQUIRED BEFORE DESIGN OF A DEMONSTRATION WATER PURIFICATION PLANT

ACTEW report number 20 calls for pilot plant study of many issues, and lists recommendations for 12 items of further work required (ACTEW report number 20, "Water Purification Plant Options Assessment Study Vol 1, July 2007", Executive Summary, page xiii.)

Appendix C "Further Work Required" is found in the ACTEW report number 20.

Therefore, if water recycling is to proceed at all, then further work is required, but not of the nature of a large (small full size) demonstration plant.

11. FURTHER ENLARGEMENT OF THE DEMONSTRATION WATER PURIFICATION PLANT

Three possible sizes for a full size water purification plant were considered by ACTEW. They are 25 ML per day, 50 ML per day, and 75 ML per day. (ACTEW report number 20, "Water Purification Plant Options Assessment Study Vol 1, July 2007".)

The proposed demonstration plant will produce 8 ML per day (2.9 GL per year).

The demonstration plant would have the capacity to produce up to eight megalitres (ML) of purified water a day and be flexible in design to upgrade to a 25ML a day plant if required.
(ACTEW Fact Sheet, "Demonstration Water Purification Plant, December 2007)

Therefore, comparing this with the 25 ML per day capacity for a "real" plant, it can be seen that far from being a "pilot" plant, the proposal is in fact a small full sized plant.

12. CONTINGENT PROPOSALS

The demonstration water treatment plant and the Tantangara proposal have been described as "contingent" (the word used by ACTEW). This implies that they are equivalent options for the future. They are not. In terms of cost, there is no close comparison, nor in the benefits to ACT ratepayers.

As recognised in the Commission's Draft Report 11, the demonstration water purification plant is a research project. It has not been shown anywhere that a water purification plant would bring any benefit to ACT ratepayers above alternative available projects (refer to the 33 reports released by ACTEW July 2007, Appendix B here).

Water from the Tantangara proposal will be available for drinking, whereas water from the demonstration plant will not (as above, statement by the Chief Minister).

Therefore, if the Tantangara proposal proceeds there will be no requirement for a water purification plant, demonstration or otherwise, for decades. The \$6 million spent on design of a demonstration water purification plant will be wasted.

13. CONCLUSION AND RECOMMENDATIONS

13.1 The Commission has been left with insufficient time to properly study the ramifications of the projects announced by the Chief Minister on 23 October 2007, the details of which the Commission received on 14 November 2007. These details are of great significance to the future of ACT water, but were not considered by the (then) consultant due to time constraints.

Therefore, it is recommended that the Commission seek an extension of time to allow proper consideration of these matters.

13.2 The Commission's Draft report 11 has not included the all relevant costs provided by ACTEW on 14 November 2007.

At the least, the full costs announced by ACTEW should be included in the determination of water charges which ACT ratepayers must pay.

13.3 It is recommended that the design of a demonstration water purification plant should not proceed.

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13 February 2008

APPENDIX A

ACTEW Fact Sheet as it changed on 6 February 2008

Available:

<http://www.actew.com.au/watersecurity/DemoWPPFactSheet.aspx>

(I will not be providing names of officers in this forum, and preface what follows by saying that on the several times I have telephoned to ACTEW concerning water engineering matters I have always received courteous assistance.)

EXPLANATORY NOTE

The ACTEW Fact Sheet "Demonstration Water Purification Plant", dated December 2007, stated,

As part of the 2007 Water Security Review, ACTEW recommended to the ACT Government that it proceed with the design of a demonstration plant

I telephoned to ACTEW at 1:52 pm on Tuesday 29 January 2008 and asked if I could see the recommendation which went to the ACT Government. I read out to the ACTEW person from the Fact Sheet mentioned above, and explained that expenditure of that magnitude must involve detailed engineering calculations to come up with an estimate, and MUST have involved a substantial report to Government.

On Wednesday 30 January I spoke to that person again and was told that there was no report on the matter. I expressed disbelief, and asked him to inquire further.

I repeated my request, to the same person, on Monday 4 February, expressing the urgency to obtain an answer to my question. I read out capital cost figures from the ACTEW Information paper, to be assured of the information I was seeking. (ACTEW Information paper: Implementation of the ACT Government's announcements on Water Security, 14 November 2007, page 11).

On Tuesday 5 February I repeated my request to see the report which recommended to Government the design of a demonstration plant, and after being told again that there was no such report, I asked to speak to a senior engineer on the matter.

On Wednesday I spoke to the senior engineer, and explained that I would like to see the recommendation which ACTEW gave to Government recommending that design of a demonstration water purification plant be undertaken. He told me, without hesitation, that there was no such report, and that the ACTEW web site would be changed by the end of that day. It was.

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APPENDIX A

ACTEW Fact Sheet as it changed on 6 February 2008

Earlier version on web site, morning of 6 February 2008:

"Why a demonstration plant?"

As part of the 2007 Water Security Review, ACTEW recommended to the ACT Government that it proceed with the design of a demonstration plant, which will enable opportunities for: ..."

Later version on web site, 5:04 pm, 6 February 2008:

"Why a demonstration plant?"

Following the 2007 Water Security Review, the ACT government announced that ACTEW would proceed with the design of a demonstration plant."

Thus ACTEW did NOT recommend to the ACT Government that it should proceed with the design of a demonstration plant.

Part of ACTEW Fact Sheet "Water Security Projects" as it appeared on the morning of Wednesday 6 February 2008:

If the demonstration plant progresses to construction stage, the water from the demonstration plant would be used for non-potable (non-drinking) purposes only and would not be introduced as part of the ACT's drinking water supply.

Why a demonstration plant?

As part of the [2007 Water Security Review](#), ACTEW recommended to the ACT Government that it proceed with the design of a demonstration plant, which will enable opportunities for:

- optimization and testing of the water purification processes under real operational scenarios*
- research into the health issues surrounding the introduction of purified water to the drinking water system,*

APPENDIX A

ACTEW Fact Sheet as it changed on 6 February 2008

Part of ACTEW Fact Sheet "Water Security Projects" as it appeared at 5:04 pm Wednesday 6 February 2008. It had been changed since the morning of 6 February.



Water Security Projects

Demonstration Water Purification Plant [PDF version](#)

The ACT Government has approved the initial design phase of the Demonstration Water Purification Plant based at the Lower Molonglo Water Quality Control Centre (LMWQCC).

What is it?

During the design phase ACTEW will develop initial engineering and construction designs for the demonstration plant, suitable for Canberra conditions. The planning will take approximately one year and will ensure the plant meets all necessary health, safety and construction requirements. From here, the ACT Government will decide whether to go ahead with construction of the demonstration plant based on Canberra's water requirements.

The demonstration plant would have the capacity to produce up to eight megalitres (ML) of purified water a day and be flexible in design to upgrade to a 25ML a day plant if required. The design will include membrane filtration, reverse osmosis and ultra violet process technology which is able to treat water in a planned and controlled manner to comply with the Australian Drinking Water Guidelines and other relevant standards.

If the demonstration plant progresses to construction stage, the water from the demonstration plant would be used for non-potable (non-drinking) purposes only and would not be introduced as part of the ACT's drinking water supply.

Why a demonstration plant?

Following the [2007 Water Security Review](#), the ACT government announced that ACTEW would proceed with the design of a demonstration plant. This will enable opportunities for:

- optimization and testing of the water purification processes under real operational scenarios
- research into the health issues surrounding the introduction of purified water to the drinking water system,

Water Security Projects

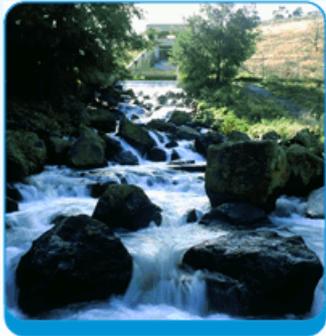
- > What's in place?
- > **What's in progress?**
- > Drought contingency measures
- > Information for Industry

Future Water Planning

- > ACTEW's Water Security Review 2007
- > What factors affect water supply?

Publications

Save Water for Life



APPENDIX B

List (Index) of ACTEW Reports

From Compact Disc provided by ACTEW

Index to Reports

Report Name	No
Key Reports	
Water Security for the ACT and Region - Recommendations to ACT Government, July 2007	1
Community Consultation Report, July 2007	2
Enlarged Cotter Dam Update Report, July 2007	3
Water Purification Scheme for the ACT, July 2007	4
Angle Crossing Option Project Plan, July 2007	5
The Cotter Dam Option, April 2005	6
The Tantangara Dam Option, April 2005	7
Supplementary Reports	
Future Water Options Review, Water Security Program, July 2007	8
Economic Benefit-cost Analysis of New Water Supply Options, April 2005	9
Planning Approvals – Water Security Program, July 2007	10
Methodology for Evaluating Future Water Options, July 2007	11
Land Status Report on the Proposed Water Security Program, July 2007	12
Cotter Recreation Issues Paper, July 2007	13
Enlarged Cotter Dam – Cost Estimates Review, July 2007	14
Enlarged Cotter Dam – Review and Update of Cost Estimates and Comparisons, July 2007	15
Preliminary Ecological Review for the Proposed Water Transfer from LMWQCC to Cotter Catchment, July 2007	16
The Tennent Dam Option, April 2005	17
Seawater Desalination, July 2007	18
Inputs to the Water Purification Process - Preliminary Assessments, July 2007	19
Water Purification Plant Options Assessment Study Vol 1, July 2007	20
Proposed Water Purification Plant - Power Supply Study for LMWQCC, July 2007	21
Preliminary Review of Environmental Factors for Discharge of Recycled Water into Cotter Reservoir, July 2007	22
Technical Feasibility Assessment Of A Water Purification Plant At Lower Molonglo Water Quality Control Centre, July 2007	23
Pumping Station and Pipeline from LMWQCC to Cotter – Preliminary Sizing and Cost Estimates, July 2007	24
Pumping Station and Pipeline from LMWQCC to Cotter – Cost Estimates Review, July 2007	25
Water Quality Monitoring Program for Use of Purified Water in the Canberra Water Supply Network, July 2007	26
Sub-Report 1 - Treatment Options for Dewatering Brine Waste, July 2007	27
Sub-Report 2 - Review of Offsite Disposal Options – Evaporation Ponds, July 2007	28
Sub-Report 3 - Review of Offsite Brine Disposal Options – Pipelines, July 2007	29
Sub-Report 4 - Review of Offsite Brine Disposal Options – Landfill and Other Alternatives, July 2007	30
Sub-Report 5 - Discharge to Molonglo and Murrumbidgee River System, July 2007	31
Sub-Report 6 - Social and Human Impacts, July 2007	32
Sub-Report 7 - Review of Options – Multi Criteria Analysis, July 2007	33

APPENDIX C

Further work required

From ACTEW Report number 20 - Water Purification Plant Options Assessment Study Volume 1, July 2007, Executive Summary, page xiii:

Further work required

The following further work is recommended:

- *Because of the resulting increases in salinity in the Cotter Reservoir and the City water supply system it is recommended that ACTEW/ActewAGL consider the potential impacts on customers and the aquatic ecosystem in the Cotter Reservoir and determine whether it is desirable to consider the Ozone/BAC option further;*
- *The plant capacity needs to be determined taking account the findings of this report and the hydrologic studies being undertaken by ActewAGL;*
- *It is recommended that further discussions/investigations be carried out for the river brine disposal option for MF/RO;*
- *It is recommended that further discussions take place with ACT health authorities to determine specific requirements regarding water quality;*
- *It is recommended that investigations be carried out to determine the water quality Trigger Values for the Cotter Reservoir (for the existing and raised Reservoir);*
- *Whilst a high level risk assessment has been carried out for the project, it is recommended that a risk assessment for the total scheme be carried out for the preferred WPP process option once it is selected and more specific details are known about the project concept;*
- *It is recommended that hydrodynamic modelling be carried out for the Cotter Reservoir (for the existing and raised Reservoir) to determine flow patterns and mixing requirements and in particular to identify optimum discharge arrangements to minimize any short circuiting in the Reservoir;*
- *Conduct detailed effluent sampling and analysis at the LMWQCC to improve characterisation of Water Purification Plant influent;*
- *It is recommended that pilot testing be carried out for the selected process option(s) to confirm and optimise selected treatment technologies for both the liquid and brine streams;*
- *It is recommended that preliminary concept design be undertaken to refine a number of design issues and to enable approvals processes to proceed. This will also assist in the expedition of the project delivery if it proceeds;*
- *It is recommended that the community engagement and consultation process continue;*
- *It is recommended that further review be carried out to determine suitable project delivery options.*

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None of these recommendations for further work can be construed as a recommendation for a demonstration water purification plant.