



**Centre for Resource and Environmental Studies
The Australian National University
Canberra ACT 0200 Australia**

**Mr Paul Baxter
Senior Commissioner
Independent Competition and Regulatory Commission
PO Box 975
Civic Square ACT 2608**

Re: Water Prices Reviews 2006-2007

Dear Sir

I am writing to address some issues concerning the application by ACTEW Corporation for increased ACT water charges as a result of the costs of providing inter-basin water transfer from the lower Cotter to the Queanbeyan River and of the continued outlays in rehabilitating the Lower Cotter catchment.

I believe that the double treatment and pumping required in the inter-basin transfer unnecessarily increases costs. There appears to be scope for significant cost savings in this scheme. The request for increased water charges for catchment rehabilitation would seem to be triple-dipping. Firstly the ACT government received a substantial insurance payout for the January 2003 fire damage to pine forestry in the lower Cotter. Secondly, water users in the ACT pay a substantial Water Abstraction Charge to fund catchment and environmental management related to water abstraction. Rehabilitation of the lower catchment has been recommended for the past 40 years and is simply one facet of the appropriate management of water-supply-catchments.

One of the principal thrusts of the widely-supported and continuing COAG water reforms further developed in the National Water Initiative is to ensure that water users pay the full costs of water supply and effluent disposal. This strategy is fundamentally important to improving water use efficiency, however we must be certain that all costs passed on to users are legitimate and unavoidable.

Cotter-Queanbeyan Rivers Inter-basin Transfer

1. The inter-basin transfer from the Lower Cotter on face value seems a neat short-term way of avoiding difficult and complex decisions over a new water sources in the ACT. However it is an expensive option requiring treatment of Lower Cotter water at the new Mt Stromlo water treatment plant before introduction into the domestic reticulation system used in the transfer to the Queanbeyan River. Before discharge into Googong, water is again treated to remove chlorine introduced at Stromlo. Finally, water drawn from Googong must be again fully treated. This double handling and associated pumping costs in transferring and recovering water from Googong means that the transferred water is more expensive than upper Cotter water, which flows under gravity.

2. Prior to the fires, the old Mount Stromlo water treatment plant, which did not include filtration, could treat about 320 ML/day of excellent quality upper Cotter water sourced from Bendora Dam. This was adequate to meet Canberra and Queanbeyan's peak summer demand of around 240 ML/day. The new treatment plant appears capable of only treating 180 ML/day. Googong water, which is more expensive because it requires full treatment and pumping, must be used to supplement peak demand. It also means that the inter-basin transfer of water can only operate in periods outside peak demand such as winter.
3. Water quality in the drawdown area of the upper Cotter Dams returned to prefire quality by the start of 2005 (I have attached a paper on this). This means that the old treatment procedures, chlorination, fluoridation and pH adjustment without filtration, could now be reintroduced with suitable monitoring. Unfortunately there is no facility for increasing the capacity of the new treatment plant by allowing by-pass or part by-pass of the filters. If a by-pass were in place, the treatment costs of Canberra water could be reduced and excess upper Cotter water could be transferred to Googong at reduced costs and reduced pumping compared with Lower Cotter water.
4. It could be argued that continuing the full-time use of the new Stromlo treatment plant provides greater assurance of high quality water and reduces risk. However, a by-pass or partial by-pass when upper Cotter water is of low turbidity would not remove the backup capability of the new treatment for the limited time when upper Cotter water quality is a problem. Examination of the performance of the old Stromlo plant over nearly 40 years demonstrates its effectiveness and robustness when coupled with a well managed catchment.
5. It was unfortunate that the ACT government did not fully consider the options in the Lower Cotter. Raising the Lower Cotter Dam wall height (really a new dam), while costing around \$120 M, would have solved some of the rehabilitation issues in the lower Cotter and provided a much longer term reliable supply of water for the ACT and surrounding region.

Lower Cotter Rehabilitation

1. The ACT Government's Environment ACT is the land manager in the Cotter catchment. Forestry operations in the ACT, and in particular in the lower Cotter, are now conducted under Environment ACT.
2. Pine forests in the lower Cotter catchment were insured against fire loss. The ACT government has received a substantial insurance payment to cover the costs of fire damage to pine forests in the general area of the lower Cotter. That payment could be appropriately used for catchment rehabilitation works in the lower Cotter.
3. The catchment of Lower Cotter Dam has a long history of mismanagement. Studies undertaken by the Commonwealth Department of Works in the 1960's over water quality problems in the Lower Cotter Dam (principally turbidity) clearly identified forestry practices such as road and firebreak construction as major contributors to poor water quality in the lower Cotter (Department of Works, 1965 "*On the investigation of turbidity in the Cotter River catchment and Canberra's water supply.*" Canberra ACT, Report No. CD 65/1, Part 1, December 1965, 55 pp.). However the commissioning of the upper Cotter Dams in the 1960's meant that the Lower Cotter was surplus to requirements and the Dam was mothballed until after the January 2003 fires. Forestry practice changed little over the intervening 40 years. Recent surveys suggest that the capacity of the Lower Cotter Dam has been reduced by about

18% due to sedimentation since the 1960s. The recommendations of the 1965 report were largely ignored.

4. The lower Cotter catchment was severely impacted by the 2003 fires and, unlike native forests, pines do not re-shoot following severe fires. Natural regenerating groundcover vegetation, a critical factor in protecting water quality, has been removed over large areas as pines have been replanted in the lower catchment. Replanting pines has involved the felling, windrowing and intense burning of killed trees, frequently aligned down steep slopes adjacent to streams. These practices, along with deep ripping, and herbicide spraying of native regrowth over an area of at least 220 ha have led to erosion and sediment inputs into Lower Cotter Dam.
5. Our studies (see attached) have shown that while water quality (turbidity, total iron and manganese) in the native vegetated upper Cotter catchment in 2004-5 has returned to pre-fire low levels in the upper levels of Corin and Bendora Dams. However, water quality in Lower Cotter Dam was worse in 2004-5 than immediately after the fire in 2003-4.
6. ACTEW Corporation are doing an excellent job of addressing water quality hotspots in the Lower Cotter, through decommissioning of some forestry roads and strategic placement of culverts, gabion protections, and the construction of wetlands and basins. However, broad acre forestry operations are at cross-purposes with many of the interventions. It is important that the costs of legitimate rehabilitation must be carefully separated from on-going pine forestry operations. Continued pine forestry is inimical to best practice management for water supply catchments. The argument advanced after the fires was that there was insufficient local stock of native vegetation to replant the lower Cotter and that pines were therefore a rapid way of revegetating burnt pine forests. This is no longer the case and has additionally involved the removal of regenerating ground cover.
7. Canberrans are currently paying \$250/ML in Water Abstraction Charges (WAC) to cover the costs of abstracting water from Canberra's catchments. Much of this charge is disappearing into the ACT's consolidated revenue. This widely-supported charge was intended to cover the costs of abstracting water from ACT catchments. The continued improvement of the water supply catchment is a legitimate and fully appropriate use of the WAC.
8. With both insurance payments and the WAC there appears no justification for additional imposts on ACT and Queanbeyan water users to cover the costs of catchment rehabilitation.

Yours sincerely



Ian White
Professor of Water Resources
CRES
Ian.white@anu.edu.au

6 March 2006

Attachment: White et al Environ 2006 Paper