

Proposed amendment to the Interim Resource Operations Licence for the Warrill Valley Water Supply Scheme – minimum 20 per cent announced allocation

Background

With the construction of the SEQ Water Grid there is capacity to change the way the Warrill Valley Water Supply Scheme (Warrill) is operated in the short term to improve the performance of interim water allocations.

As a consequence of the Grid's operations, ongoing demand from Moogerah Dam has been reduced by about 8000 ML. This is due to the System Operating Plan requiring CS Energy to be primarily supplied by purified recycled water from the Western Corridor Recycled Water Scheme for Swanbank Power Station and that the high priority B interim water allocation (HP-B IWA) previously contracted to Ipswich City Council be primarily supplied from run of river flows. The SEQ Water Grid Manager currently has approval to supply up to 500 ML per year to CS Energy out of the 8000ML (although wherever possible this water will not be released from Moogerah Dam).

The reduced demand from Moogerah Dam has enhanced supply reliability for urban users in Aratula, Boonah, Kalbar and Mount Alford, as well as improving the performance of medium priority (MP) water allocations in the Warrill. Further benefits to the security of supply of rural water supply could be provided to MP interim water allocation holders by amending the water sharing rules for the Warrill. This is recognised in the *South East Queensland Water Supply Strategy* as a key action.

In 2008 Councillor John Brent, Mayor of the Scenic Rim Regional Council, and a number of irrigators representing the Boonah Agribusiness Infrastructure Forum suggested that a greater level of security of a minimum of 20 per cent announced allocation for medium priority interim water allocations (MP IWA) would represent a significant improvement in the practical performance of the allocations.

The Queensland Water Commission has undertaken investigations to lead to a proposal to amend the water sharing rules of the Interim Resource Operations Licence for the Warrill Valley Water Supply Scheme (the IROL) to achieve this outcome by targeting a 20 per cent announced allocation for medium priority IWA. On 27 March 2009 the results of the above investigations were presented to representatives of the Scenic Rim Regional Council,

Department of Environment and Resource Management and the then Irrigator Advisory Group (Morris McInnes, Steve Pennell, Don Hines, Rob Hinrichsen, Rob Abbot). Attendees of this meeting unanimously endorsed the amendment to provide a minimum 20 per cent announced allocation for MP IWA. This amendment would be in place for 2 water years as a 'trial'.

The Rural Water Advisory Group, established under the implementation of the *South East Queensland Water Strategy*, has identified the IROL amendment as a priority action to enhance rural water supplies.

If you have any questions, or would like more detail about the proposed amendment, please contact Emma Brewis on emma.brewis@qwc.qld.gov.au or (07) 3247 4628.

Objective

It has been proposed to apply to amend the IROL to provide enhanced security for holders of interim water allocation (IWA) in the scheme by:

- providing historical no failure yield (100 per cent performance) for high priority interim water allocations that supply rural towns, including Boonah and Aratula
- providing a minimum 20 per cent announced allocation for MP IWA when Moogerah Dam is above 5000ML. This announced allocation rule would be in place for 2 water years (from 2011/12) as a 'trial'.

The amendment

The proposed amendment includes:

- a cut-off of 5000ML at Moogerah Dam to provide security for town water supply
- an increased reserve to enable water to be 'redistributed' from wet to dry years
- a minimum of 20 per cent announced allocation (when Moogerah Dam is above 5000ML)
- a more conservative transmission efficiency assumption for water sharing resource allocation (i.e. announced allocation calculations).

Resource assessment parameter	Current IROL	Proposed IROL amendment
MP and HP-B interim water allocation cut-off rule	None	5000 ML
Reserve	890 ML	20 000 ML
Minimum announced allocation for MP IWA (excluding cut-off rule)	0 %	20 %
Transmission efficiency	80 %	50 %

Amendment options

There are two amendment options:

- Option 1 – to apply to incorporate all four of the above changes. This amendment application will only be sought if supported by stakeholders.
- Option 2 – to apply to incorporate the cut-off rule. It is proposed to make an application to incorporate this rule independent of the outcomes of the consultation process.

Outcomes

Urban security

The cut-off rule and the non-use of the HP-B IWA provides for high priority interim water allocations at a historical no failure yield level of performance.

To provide secure town water supplies, an application to amend the IROL to incorporate the cut-off rule will be made (Option 2), independent of whether the minimum 20 per cent announced allocation amendment is sought.

Irrigator security

The monthly supplemented water sharing index (i.e. the percentage of months where full demand is supplied) is reduced with the proposed amendment. However this does not represent a reduction of access to water as 20 per cent announced allocation is guaranteed for most years (when Moogerah Dam is above 5000ML) and the mean annual diversion is predicted to remain at 13 000 ML/a under full utilisation conditions.

The minimum 20 per cent announced allocation provides greater certainty for irrigators.

Table 1: The monthly supplemented water sharing index for each scenario

Scenarios	Monthly supplemented water sharing index		
	Boonah HP IWA	HP-B IWA	MP IWA
Full utilisation of existing allocations (WRP - Base case)	78.0	81.6	45.4
Proposed IROL amendment and non-use of HP-B IWA (Option 1)	100	100	44(1)
Non-use of HP-B IWA, 5000 ML cutoff (Option 2)	100	100	50

(1) Monthly supplemented water sharing index reduces due to re-distribution of supply to ensure provision of minimum 20% announced allocation (excluding cutoff rule), rather than a reduction in access.

Graphs showing the effect of the proposed amendment on Moogerah Dam storage volume and annual diversion of MP IWA and associated results are provided on the next page.

Way forward

Prior to the application for the amendment of the IROL, support for the 20 per cent announced allocation rule from stakeholders, including irrigators, will be sought. The amendment application will be facilitated by Seqwater, as the IROL holder, in collaboration with irrigator representatives.

Implementation of the preferred water sharing rules is being targeted for the commencement of the 2011-2012 water year for a 'trial' period of 2 water years. Achievement of this timeframe is contingent on timely stakeholder support.

Target timeframes for the IROL amendment process are summarised in Table 2.

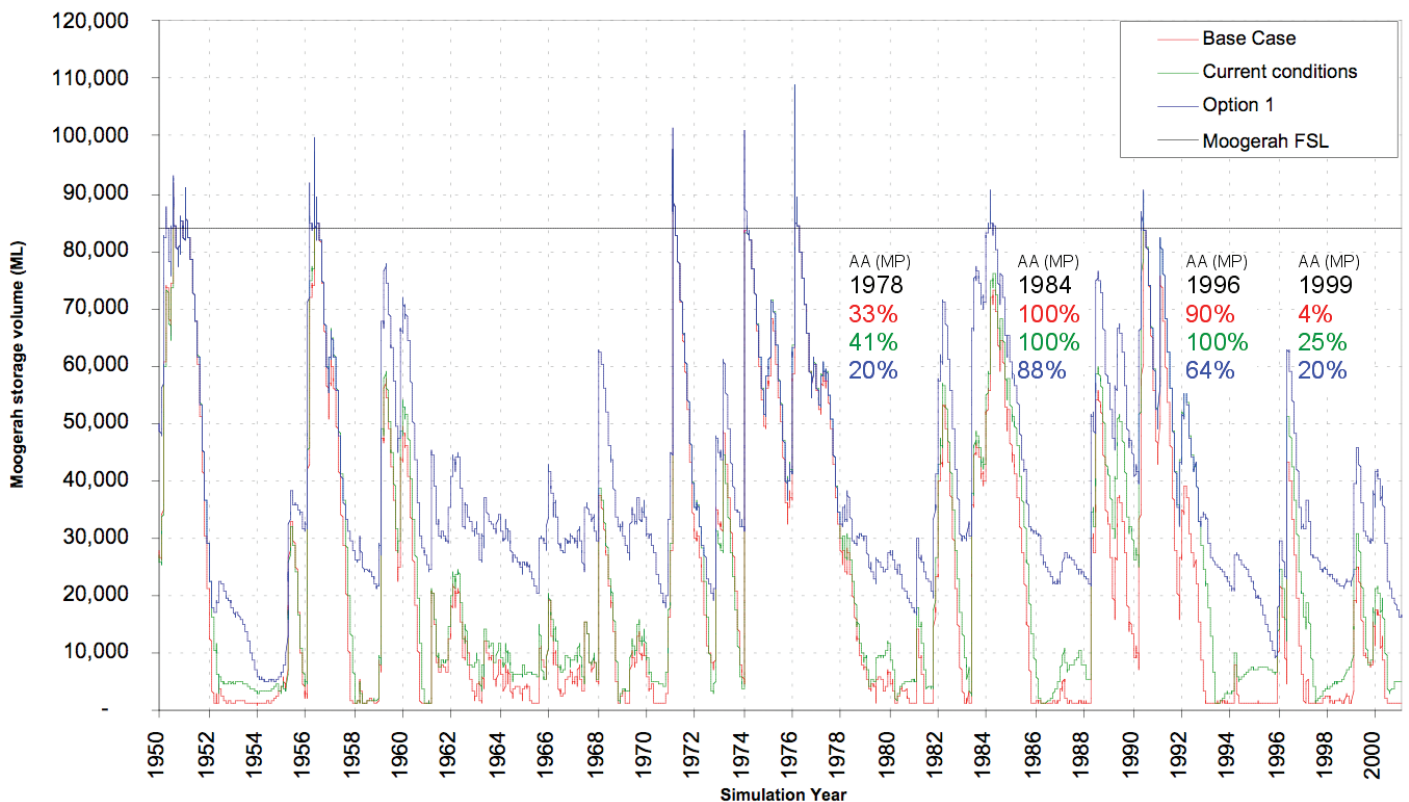
Table 2: Interim resource operations licence amendment process timeframe

Task	Timing by
Consult with stakeholders	December 2010 – end January 2011
Application to amend the IROL	early March 2011
IROL amendment process: additional information (if required) public notice (Seqwater to publish) 30 business days for submissions Chief Executive to consider the application, submissions and decide on the amendment application Assessment of proposed water sharing rules against the Moreton Water Resource Plan.	end of June 2011
If approved, amended IROL issued	1 July 2011 (start of new water year)

If the trial under an IROL arrangement is found to be effective, the rules might be considered in future revisions of the *Moreton Resource Operations Plan*.

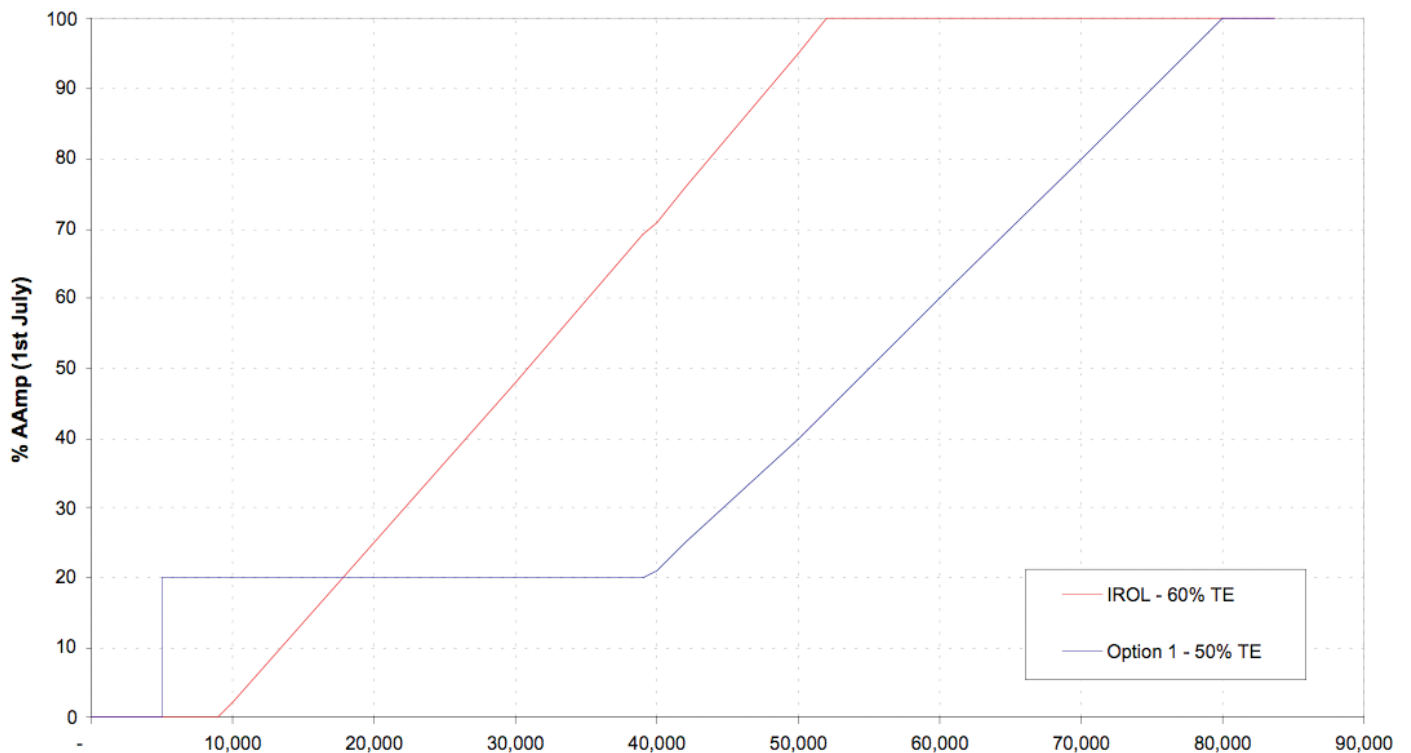
It is noted that the Department of Environment and Resource Management is the agency responsible for decisions relating to the allocation and management of water under the IROL. Officers from the Department will continue to be consulted during the development of this proposal.

Figure 1: IQQM Simulated Moogerah Storage Volume (1950–2000)



Results: This graph shows that under the proposed amendment (Option 1) Moogerah Dam is maintained at a higher level, enabling water to be supplied to medium priority interim water allocation during dry years. An indication of what the announced allocation for medium priority interim water allocation might have been 1 July for particular water years is also provided for different scenarios (i.e. prior to the 8000ML not being used (base case), current operating conditions, and under the proposed amendment (option 1)).

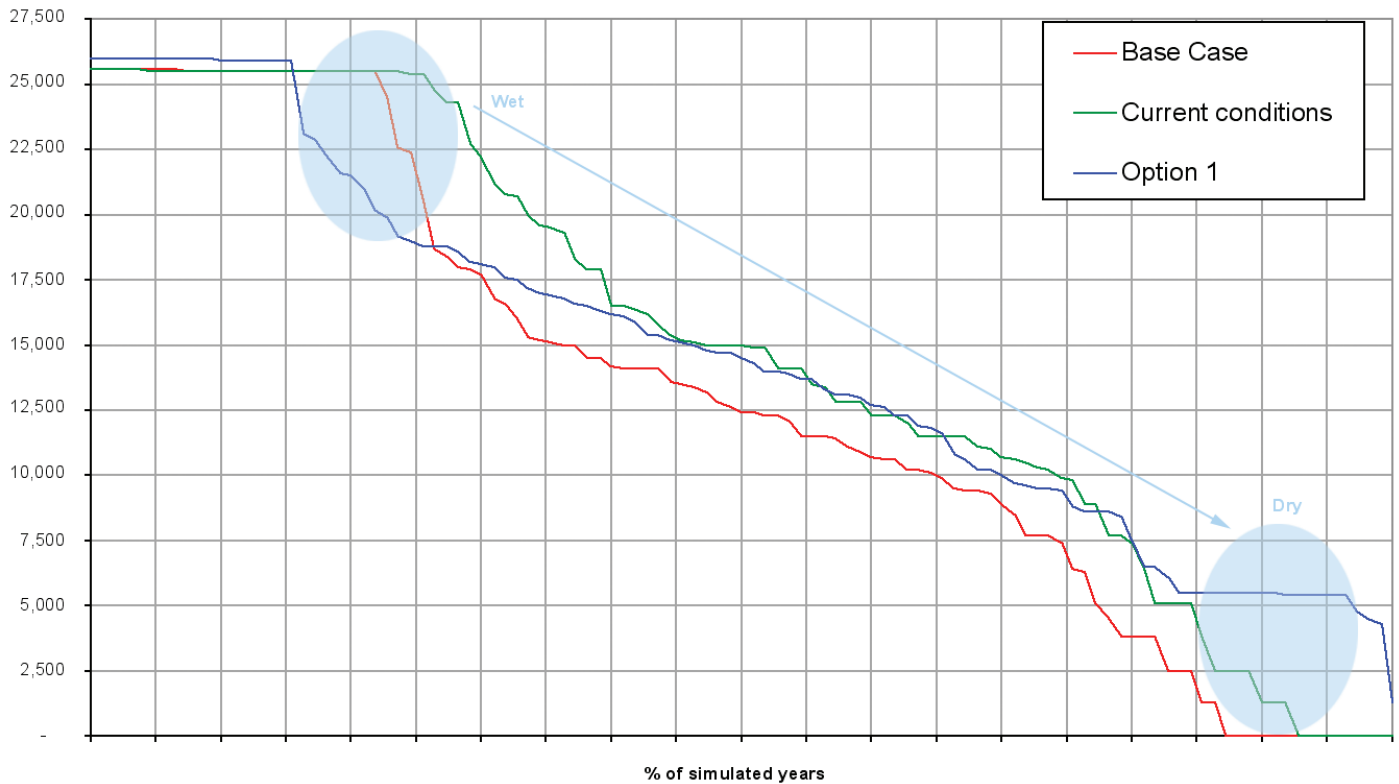
Figure 2: Comparative 1st July Announced Allocation



Results: This graph provides an indication of what the announced allocation for medium priority interim water allocations would be at the beginning of each water year. An announced allocation estimate is given for the current operating conditions of the IROL (using a transmission efficiency of 60 per cent, which is the long term average of what Seqwater has used) and for the proposed amendment (option 1).

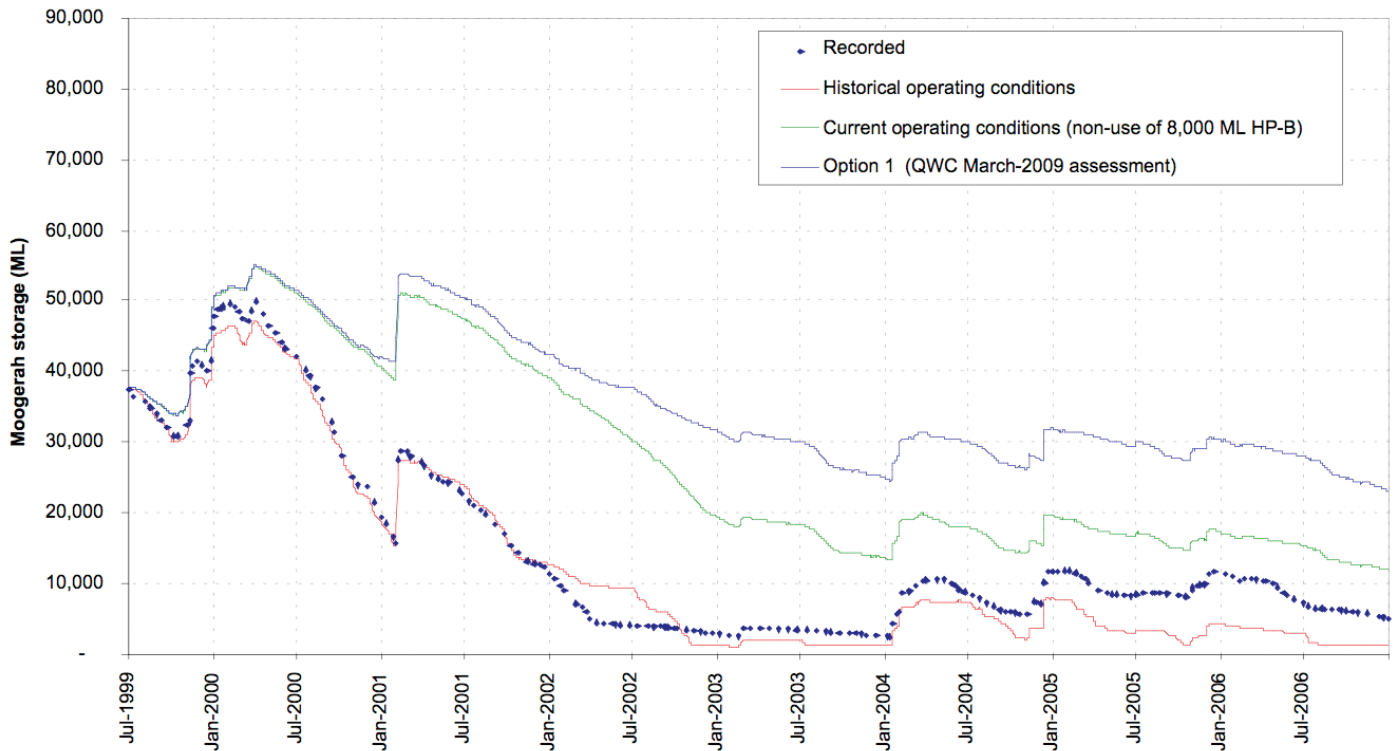
Year	IQQM simulated storage (ML)			Announced allocation % (medium priority) as at 1 July			Cutoff
	Base case	Current conditions	Option 1	Base case	Current conditions	Option 1	
1982	39780.8	44378.6	61857.7	94	100	64	
1983	44148	47061	77052.1	100	100	94	
1984	63166.6	67038.9	74025.1	100	100	88	
1985	26190.9	35946.8	42734.9	52	83	26	
1986	1225.9	1225.9	27692.9	0	0	20	
1987	1659.1	10491.8	29513.4	0	4	20	
1988	34646.9	42983.5	58931	78	100	58	
1989	36299.2	53882.1	69162.6	84	100	78	
1990	83104.8	83196.9	83201.1	100	100	100	
1991	51094.8	60233.1	60404.3	100	100	61	
1992	25855.8	42838.2	43131	51	100	27	
1993	1480.5	1265.7	27616.6	0	0	20	
1994	1259.3	8783	27398.6	0	0	20	
1995	1205.9	7170	17095.4	0	0	20	
1996	38506	47342.9	61967.5	90	100	64	
1997	1433.6	2373	28329.4	0	0	20	
1998	1781.1	5638.6	22875.5	0	0	20	
1999	10428.9	17467.5	32719.7	4	25	20	
2000	1222.6	1787.7	23660.1	0	0	20	
2001	1592.2	5773	27315.8	0	0	20	
2002	1200	4748.1	18565.5	0	0	20	
2003	1698.1	3561.7	10055.7	0	0	20	
2004	3736.9	7248.3	10453.3	0	0	20	
2005	1397.5	6472.9	9911.6	0	0	20	
2006	2843.8	7135.8	8525.7	0	0	20	20 in Dec

Figure 3: IQQM simulated Medium Priority ranked annual diversion



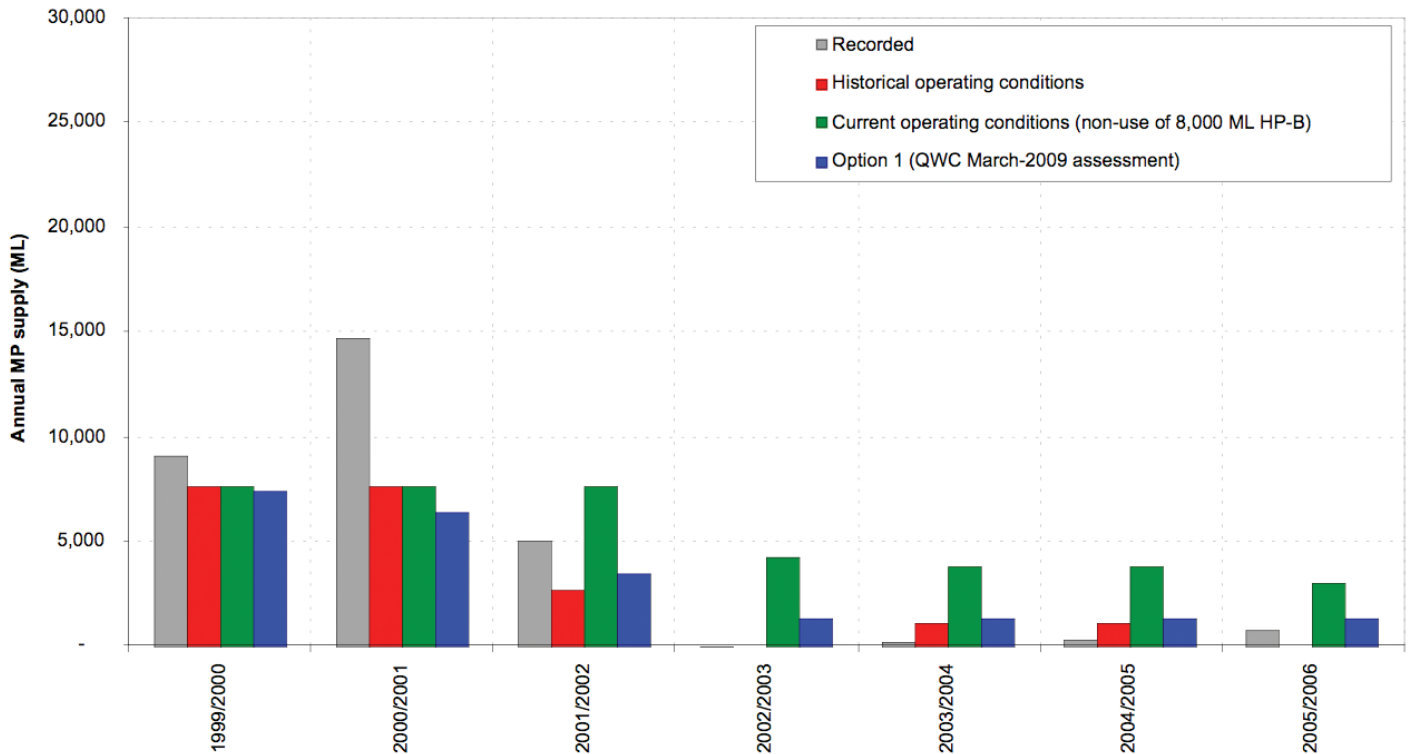
Results: This graph shows that the mean annual diversion remains the same with the proposed amendment (Option1). The water available during wet years is able to be supplied to medium priority interim water allocation holders in dry years with the 20 000ML reserve.

Figure 4: IQQM simulated and recorded Moogerah storage volume 1st July 1999–31st December 2006 (assumes 30% MP demands)



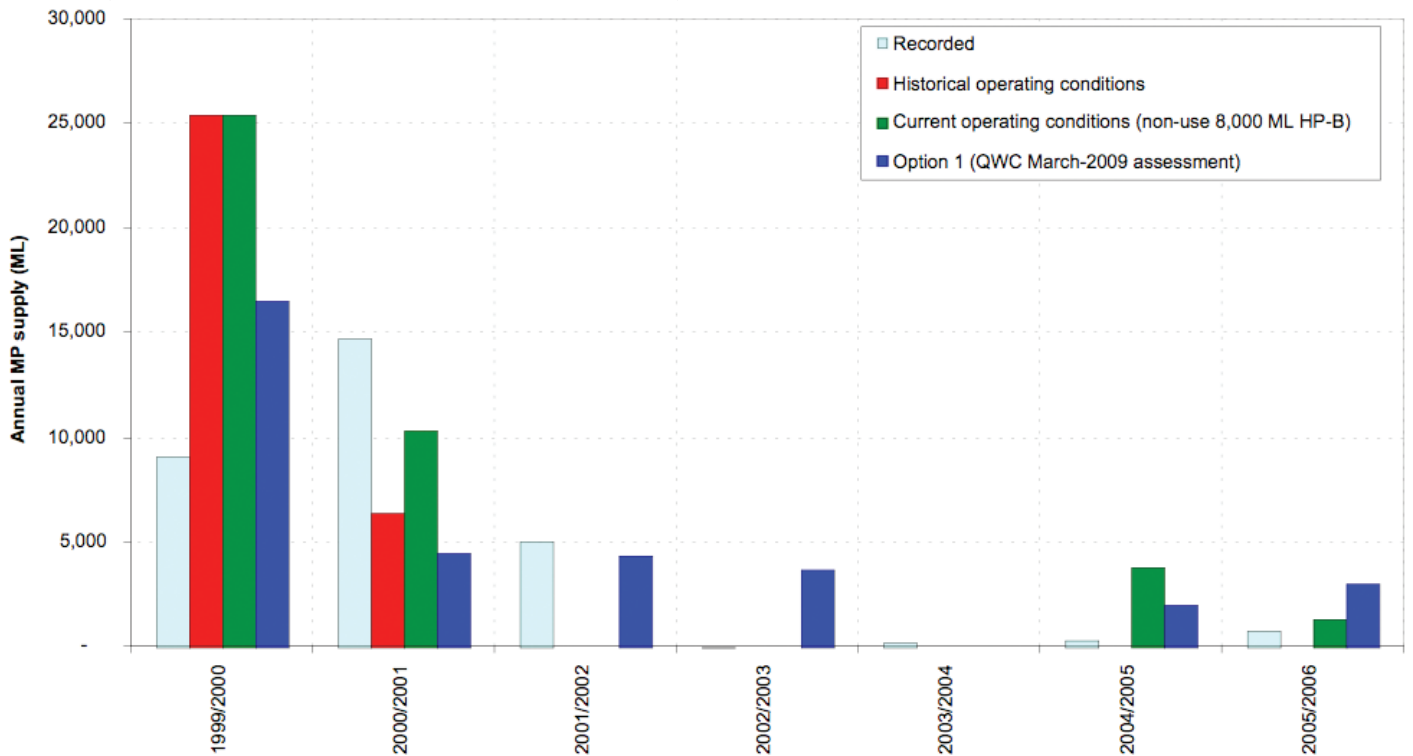
Results: This graph shows a comparison of the proposed amendment and the historical operating conditions in ‘recent years’ on Moogerah Dam’s storage volume. It shows that the model gives a good representation of the behaviour of the Warrill Water Supply Scheme, and indicates that approximately 30 per cent of medium priority demand was active during this period.

Figure 5: IQQM simulated MP diversions 1st July 1999–31st December 2006
(simulation assumes 30% MP demands)



Results: This graph shows a comparison of the volume of water likely to have been supplied under the proposed amendment and historical operating conditions in ‘recent years’ assuming only 30 per cent medium priority demand. While the volume of water supplied is less with the proposed amendment (compared to current operating conditions), the proposed amendment (Option 1) does provide greater security for medium priority users, particularly if demand increases (see Figure 5).

Figure 6: IQQM simulated MP diversions 1st July 1999–31st December 2006
(simulation assumes full utilisation of entitlements)



Results: This graph shows a comparison of the volume of water likely to have been supplied under the proposed amendment and historical operating conditions in ‘recent years’ full use of all allocations. It shows that from 2000-2006 current operating conditions would have provided some improvement over what was experienced, but not to same extent as proposed amendment. With the proposed amendment irrigators would have received a 20 per cent announced allocation during the majority of this period.

Figure 7: IQQM simulated 1st July announced allocation (30% utilisation of MP entitlements)

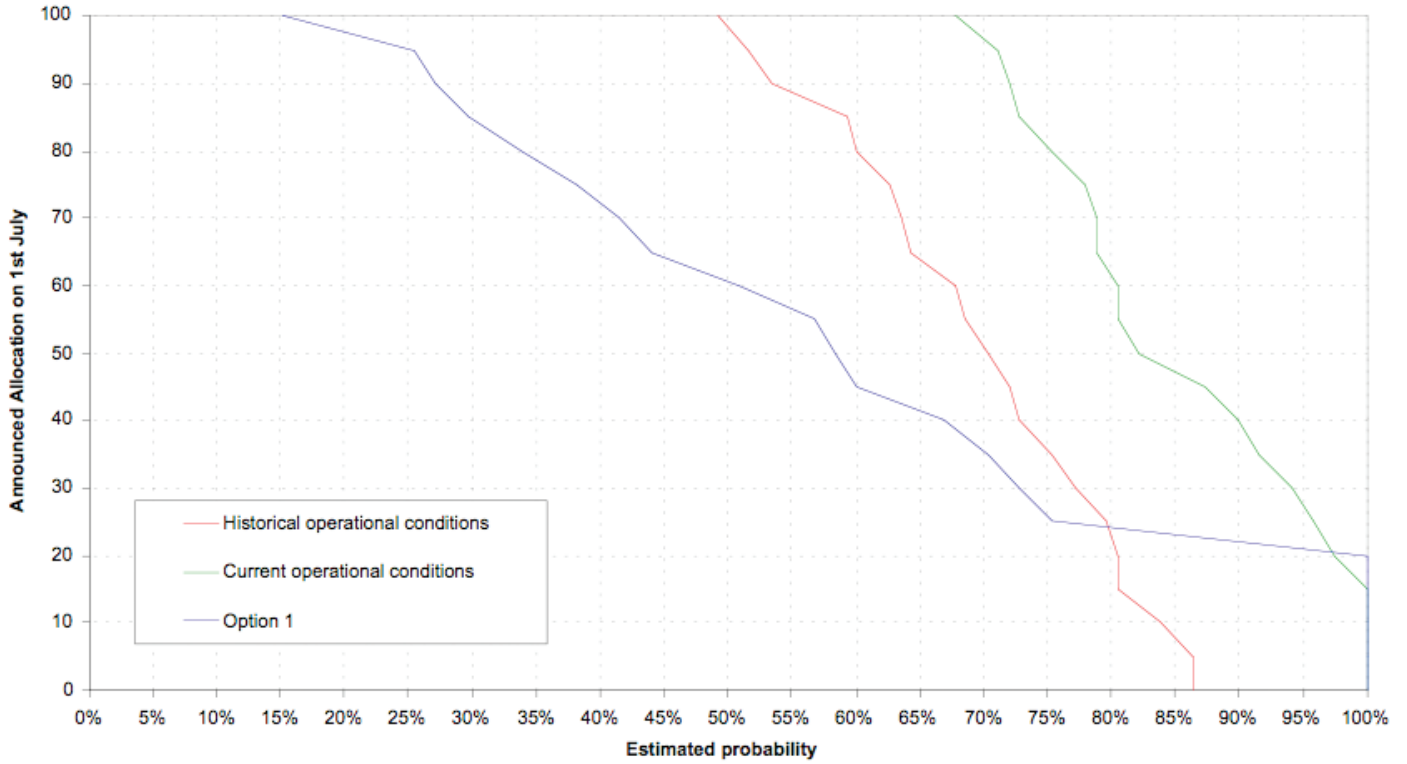
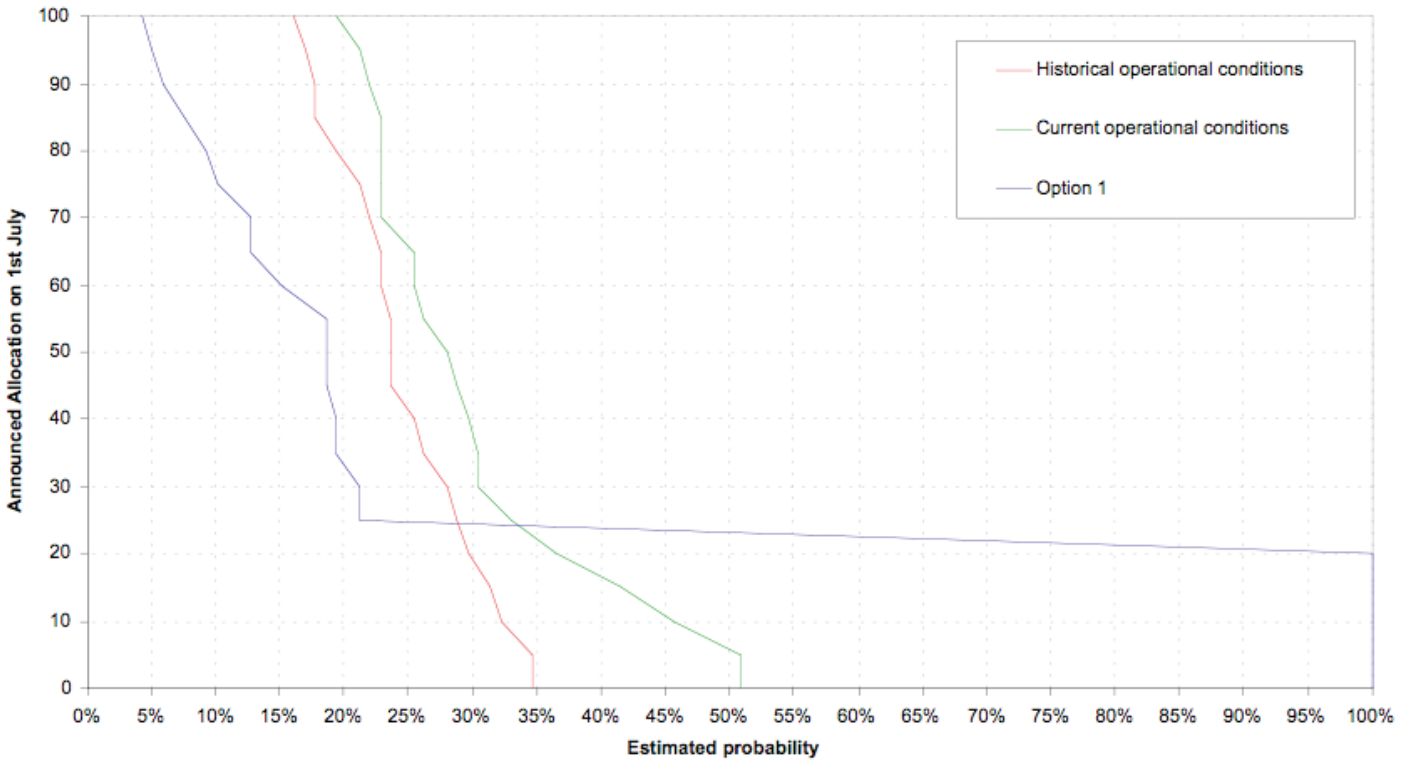


Figure 8: IQQM simulated 1st July announced allocation (full utilisation of MP entitlements)



Results: These graphs provide a comparison of the announced allocation under the current operating conditions and the proposed amendment. As illustrated in Figures 4 & 5, these graphs show that with low demand (i.e. 30 per cent demand), current operating conditions provide greater announced allocations, however the proposed amendment provides greater security with a minimum 20 per cent announced allocation in most years.