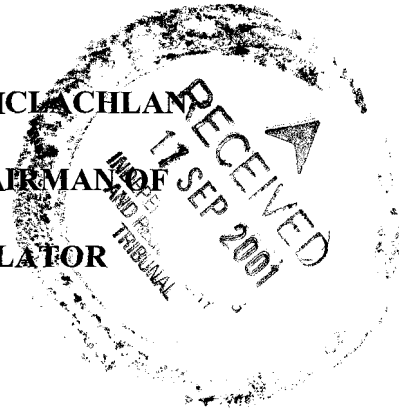


## Review of Hunter Water Corporation's Performance Standards

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**SUBMISSION BY ALLAN MCLACHLAN  
PAST MEMBER AND CHAIRMAN OF  
THE LICENCE REGULATOR**



### **1. Introduction.**

I was a member of the New South Wales Licence Regulator, from March 1995 to October 2000, and Chairman from January to October 2000. During that time the Licence Regulator commissioned and oversighted five Operational Audits of the performance of Hunter Water Corporation (HWC) under its Operating Licence. I took an active role in the preparation of the Licence Regulator's Audit Reports to the Minister.

I worked in the New South Wales water industry, both rural and urban, for more than 43 years and for the final five years of my service was Chief Executive of the Hunter Water Board which is now the Hunter Water Corporation (HWC). The comments in this submission are based on my experience both as an operator in and a regulator of the water industry.

This submission, although more extensive, draws heavily on a similar submission I made to the Independent Pricing and Regulatory Tribunal (IPART) on the Review of the Sydney Water Corporation Operating Licence in February this year.

### **2. Drinking Water Quality Standards.**

The issues on which the Tribunal seeks comment are:

- 1. What standards of drinking water quality are appropriate for inclusion in Hunter Water's Operating Licence?*
- 2. Should the requirements of Hunter Water's Memorandum of Understanding with NSW Health be codified as part of the Licence?*

My comments on the questions set out above will be based on the way they have been rephrased for the purposes of the Issues Paper.

### **3. Comment on Drinking Water Quality Standards.**

*3.2 The Tribunal seeks comments on appropriate drinking water quality standards for inclusion in Hunter Water's Operating Licence. Should Hunter Water be required, like Sydney Water, to comply with revisions to the health-related aspects of the Australian Drinking Water Guidelines, where specified by NSW Health?*

### **3. Comment on Drinking Water Quality Standards (continued).**

I can think of no reason why the drinking water quality standards in Hunter Water's Operating Licence should be different in any way from those in Sydney Water's Operating Licence as described in the Issues Paper.

*3.3 The Tribunal seeks comments on whether the requirements specified in Hunter Water's MOU with NSW Health should be included in the Operating.*

As the requirements of Sydney Water's MOU with NSW Health are included in its Operating Licence, it is logical that those of Hunter Water's MOU with NSW Health should be included in its Operating Licence.

### **4. System Performance Standards and Measures.**

The issues on which IPART seeks comment are:

- 1. Are the current system performance standards appropriate?*
- 2. Should any additional standards or indicators be included?*
- 3. Are the current standards adequately defined and appropriately measured?*
- 4. Do the standards reflect customer needs and preferences?*
- 5. Do the standards provide sufficient incentives for Hunter Water to improve its performance?*
- 6. What are the costs and benefits of amending the performance standards and including indicators?*

My comments in this submission on the questions set out above will be based on the way they have been rephrased or, in some cases amalgamated, for the purposes of the Issues Paper.

### **5. Comment on System Performance Standards and Measures.**

*4.2.1 Do the current system performance standards reflect customer needs and preferences? If not, how could they be modified to better reflect customer needs and preferences?*

What are the customer's (consumer's?) needs and preferences? For water supply, from past surveys conducted by HWC, it seems that customers need (want?) an uninterrupted supply of water that is palatable and safe to drink and delivered at adequate pressure (flow?) and preferably at a reasonable price. It is very likely that these also represent the general consumer's needs and preferences.

### 5. Comment on System Performance Standards and Measures (continued).

In addition to quality the performance standards for water in the Operating Licence are the percentages of properties unaffected by discontinuity of supply and loss of pressure. These are actually measures of the performance of the operating assets. From these data continuity of supply and adequacy of pressure at the consumer's tap are inferred. The performance measures for water quality are laboratory tests of what is put into the operating assets for actual delivery.

For sewerage, from the same surveys, it seems that customers need (want?) a sewerage system without chokes (blockages) or main breaks and the consequential surcharges, and a treatment system that does not cause pollution, and prefer that both are provided at a reasonable price. The general consumer's needs and preferences would be the same (plus that the treatment works be made invisible). The single performance standard for the sewerage reticulation assets in the Operating Licence is surcharges measured in two ways. It is inferential and incomplete because it does not include all overflows. Many of those not included, but not all, represent failures of the system due to chokes and main breaks or overflows from designed hydraulic system relief points.

The performance standards for the treatment system are the conditions of the Licences issued by the Environment Protection Authority (EPA).

In my opinion the answer to this question is that the standards very probably do reflect customer needs and preferences as surveyed by HWC. However to strengthen this connection a sampling and recording protocol under which the accuracy of the systems operation data is tested regularly at key locations should be introduced.

Continuity could be tested by surveying some of the households affected to check the times that the interruption and restoration actually occurred. Sewage surcharges could be tested in a similar way. The sampling of pressure would require temporary installation of pressure gauges in some households known to be subject to pressure variations and some others selected at random.

As discussed later in my comments on performance incentives the operational non-performance data should be linked with the consumer complaint data. Some modest costs and some years to capture data will be needed to indicate how HWC is improving performance effectively. It will also focus operational performance on those customers whose needs have not been met. The sooner it is introduced the sooner the trend information will be available.

*4.2.2 In addition to meeting customers' requirements, do the individual standards at their current levels provide sufficient incentive for Hunter Water to improve its performance?*

The performance standards in the Operating Licence were chosen originally because the data were readily available or could be extracted at minimal cost and the connection between the satisfactory operation of the system and consumer satisfaction although inferential was plausible. The incentive for improvement was to be the target performance included in the standard. These were chosen as measures of success and, with one exception, appear to have been soft targets which have provided little incentive for investing in improvement of the operating systems.

### 5. Comment on System Performance Standards and Measures (continued).

In my opinion this approach requires modification if the performance measures are to be an effective incentive for improvement. The modification has two parts.

First the measures must be **measures of the unmet needs** not of those which have been satisfied. What must be corrected if performance is to be improved is the level of failure. The satisfaction level is the popular choice of operators. The results look positive because the numbers are large and the standards are invariably exceeded significantly. As I said above this probably means the targets were soft in the first place. The measures I propose have the ring of negativity which is not popular with operators. However I repeat that it is the operational under-performance that needs to be addressed not the over-performance.

Second the measures of non-performance **must become tighter progressively**. Over time, with the exception of the number of sewer surcharges per 100 kilometres of main, the current measures become easier to meet because, as the total number of properties increases, the number of failures permissible increases also.

For example, if the total number of connections is say 150,000, the permissible number of failures is 12,000 (8%) for continuity and 7500 (5%) for pressure. When the total rises to 160,000 the permissible failures rise to 12,800 and 8000 respectively. This gives the wrong message entirely. It seems to me that the permissible number of failures as a percentage of the total may already be too high. Examination of Table 4.1 of the Issues Paper shows that, over the eight years of records, the highest failure rate for continuity of supply was about 7.3% (1996/97) and the lowest about 2.5% (1994/95). The average over eight years was about 4.9%. The performance has fluctuated considerably from year to year but, with the exception of 1996/1997 and 1997/1998 there has been a significant cushion of about 3%. Similar examination of Table 4.2 shows that the highest, lowest and average failure rates for pressure were about 1.1%, 1% and 1%. The variation is virtually imperceptible and the cushion of about 4% seems rather excessive.

In my opinion the better approach to these performance targets would be to set a number which must not be exceeded not a percentage which must be met. Looking at the eight years of results a reasonable number may be 11,000. I understand this is a little more than 7% of current connections. From the results shown in Table 4.2 the appropriate number for water pressure may be 4,000 which I understand to be about 2.5% of connections. From Table 4.4 the appropriate number for sewer overflows may be 5,000 which I understand to be about 3% of connections.

I argue that this modification would have two significant benefits for consumers. First it would bring a sense of reality to the measures of HWC performance. Second it would impose a real incentive on Hunter Water to improve performance and, more importantly in my view, to plan for and make the investment required not only to maintain its assets in best working order but also to improve the performance of its operating assets. I have shown, irrefutably I think, that the current measures do not create such an incentive.

### 5. Comment on System Performance Standards and Measures (continued).

In its Submission to the Review, HWC argues that “the use of percentages enables the standard to automatically adjust for growth and time and to draw a line under historic performance. If absolute numbers are used in the standard, these would need to be reviewed and adjusted periodically. If they are not adjusted appropriately, then absolute numbers could become a *de facto* tightening of the standards with significant and unintended infrastructure cost implications.” (see page 19)

In my view this statement is at best specious and at worst a sophistry. The use of percentages automatically and continuously **relaxes** the standards. This is also what the statement “these would need to be reviewed and adjusted periodically” is designed to achieve.

**Unless the absolute numbers are maintained without adjustment there will be no incentive to improved performance.** The purpose of the change to absolute numbers rather than percentages is to effect “a *de facto* tightening of the standards” which will require timely decisions on the significant and **intended** “infrastructure cost implications” of continuously improving performance.

That HWC should perceive a need to make the statement quoted above is an unintended endorsement of my case. Surely HWC cannot be arguing that its current performance does not need to be improved?

*4.2.3 The Tribunal seeks comments as to whether the definition and measurement procedures for the standards are adequate and whether they should be incorporated in the Operating Licence.*

The standards, the measurement of them and the sampling procedures to capture the necessary data have been defined by HWC and documented in its Service Performance Evaluation Manual (SPEM). The SPEM is not referred to in the Operating Licence. Operational Audits prior to 1999/2000 referred to the need for the SPEM to be independently reviewed. I understand that, notwithstanding these references, HWC has not offered the SPEM for independent review.

The 1999/2000 Audit has recommended that the SPEM be referenced in the Operating Licence conditions. The Issues Paper does not mention the purpose of the reference. In my opinion, as a minimum, it should provide for independent review of the SPEM at regular intervals.

*4.2.4 The Tribunal seeks comments on whether the system performance standards in Hunter Water's Operating Licence should be made consistent with the standards of Sydney Water or other utilities.*

There are significant physical and demographic differences between HWC's area of operations and operating systems and those of Sydney Water and other Australian Water Utilities. Provided these differences are recognised and taken into account, I think consistency (not similarity) between HWC's and SWC's Operating Licences is desirable for the purpose of comparing performance where such comparisons are practical and appropriate.

### 5. Comment on System Performance Standards and Measures (continued).

However, there are statutory and regulatory differences between New South Wales and the other States in addition to the physical and demographic differences between the areas of operation and operating systems of interstate Utilities. In my opinion these differences make consistency between HWC's standards and those of Australian Utilities, other than SWC, for the purpose of comparing performance, difficult and, for practical purposes, of doubtful value.

In my opinion any consideration of consistency with overseas standards for the purpose of comparing performance is inappropriate and probably irrelevant.

#### 4.5.1 Water Standards

##### Water Continuity

*The Tribunal seeks comment on the adequacy of the water continuity standard in addressing customers' expectations of a reliable water supply.*

Continuity is the major component of the measure of reliability. Others are pressure or flow, if customers perceive a difference, and security of supply. These are addressed in the other standards under review in this section of the Issues Paper. Water quality is another and it has been considered earlier in this submission.

Again the question is what are "customers' expectations? I have expressed a view of the answer to this question earlier in this submission. I think that in relation to this issue customers expect (and in my opinion are entitled to expect) an uninterrupted supply. It is true that there is greater inconvenience as a result of unplanned interruptions and repeat occurrences. Accordingly there is value in distinguishing between discontinuities resulting from planned and unplanned interruptions, and repeat occurrences. If the data are dissected and counted in this way, the standard will be providing satisfactory regulation of these incidents,

Additional measures may require costly new equipment and/or extensive new procedures to capture and record the necessary data without contributing anything of significance to HWC performance. The only new measure that appeals to me is the number of main breaks per 100 kilometres of main, which it seems to me could be introduced at a very modest cost. This would match the existing standard for sewer surcharges.

##### Water Pressure.

*The Tribunal seeks comment on the targets and measurement of the water pressure standard.*

The standard has two elements – the minimum head and the percentage to be met. The minimum head may be a little high. I have already suggested that the percentage target should be converted to a number not to be exceeded. I think it would be just as important to regulate what HWC is doing to improve pressure in the defined low-pressure areas excluded from this standard.

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### 5. Comment on System Performance Standards and Measures (continued).

I argue that the distinction between pressure (head) and flow is between cause and effect. Put simply - head creates hydraulic pressure which creates flow. Drawing the distinction seems to be related to the consumer's ability, with a watch and a bucket, to get a reasonably accurate measure of the flow from, rather than the system pressure, at the tap. I think the better response would be to provide information on how to convert flow to pressure and leave the standard as it is.

Security of Supply.

*The Tribunal seeks comment on the appropriateness of the security of supply standard.*

It seems to me from my reading of the Issues Paper that what is of concern is not the appropriateness of the standard but rather the way in which compliance with the standard is measured. If the concern is that the method of measurement is so ambiguous that external scrutiny impossible for practical purposes, HWC should be required to remove the ambiguity. If, on the other hand, the ambiguity merely makes external scrutiny difficult I cannot see that the problem is of sufficient magnitude to justify changing the standard.

The reference to losses from the system being a consideration in relation to security of supply seems to me to be unrelated to the appropriateness of the standard. While there is no doubt that reducing such losses would increase the security of supply this has no effect on the standard. It is simply one of the inputs to the model.



Allan McLachlan  
14 September 2001.

