

## **Background and experience**

1. I am a retired civil engineer with over 30 years' experience in managing water, and specifically nearly 20 years in the Hunter River. I make this submission on the review of the HRSTS Regulations in the context of:
  - 1.1. Experience during development of the original proposal. I was responsible for negotiation and sponsorship of the first trial controlled release of water from a Hunter dam to test the concept of diluting saline discharges from mine and power industry sites
  - 1.2. From 2005 to early 2013 I was the operator of the Scheme, monitoring the river and determining the River Registers
  - 1.3. My experience with the Operations Committee of HRSTS as well as dealings with environmental regulators and HRSTS credit holders
  - 1.4. My knowledge of the irrigation industry (38 years' experience with water user groups) and environmental management programs (20 years association with environmental regulators and operators through catchment management programs)
2. I strongly believe that the HRSTS Regulation should continue in some form. The alternative, that allows trickle discharges from existing or new industries, is not a smart option for managing the consequences of the mobilisation or concentration of natural salinity by industry activities. I make the comments in the realisation that it is highly likely that industry will continue, in some form, as the economic activities bring attractive short term gains to the Hunter Valley.
3. My comments relate to my understanding of both regulatory and operational aspects of HRSTS.

## **Regulatory**

### *Catchment approach*

4. The Regulation provides an area in which the Scheme can operate. The current boundaries are a practical approach to a problem as they restrict the Scheme to areas that can be managed easier. However, discharges already occur in the Hunter catchment in areas outside the Scheme area and it is likely that new industries will wish to discharge into natural systems outside the current Scheme area. This is inequitable and potentially undermines the value of credits issued under HRSTS. It may increase the background salinity and lessen the tonnage of salt that could be discharged under a particular River Register.
5. There should be a surface water catchment wide approach to managing saline discharges. All regulated discharges should be made under the Regulation. The Scheme should move to a surface water catchment management approach.
6. There would be operational issues associated with such a philosophy. For example, discharges may need to be piped to the Hunter River, or discharges in major tributaries tied to salinity and flow limits within those tributaries. These limits would need to be correlated and timed (travel time) with the current targets so that those would not be compromised.
7. Implementation of this option may require additional strategic river gauging stations and modification of the HRSTS model that assists in the production of the River Register. As an alternative a 'Goulburn' sub-catchment STS and credit scheme could be considered where

the Scheme is operating and to establish recommendations to improve its outcomes. The process is transparent and it works.

17. A similar process should be identified by the new Regulation.

## **Operational**

### *Tributary impact*

18. During a HRSTS event the focus is on the Hunter River. Some discharges occur into tributaries, but there are no regulatory requirements to actually protect the tributary. As far as I am aware there have never been studies to determine the actual impact of a discharge on the tributary. At times I have observed that whilst rain has caused a flow in the upper Hunter and triggered a HRSTS event, a tributary in another part of the Hunter that is receiving a discharge, may not have received much natural run-off. There is effectively little dilution of the discharge until the flow reaches the Hunter River.
19. Discharges into tributaries should also protect the health of the tributary. To do so consideration should be given to developing a monitoring program and discharge strategy for each tributary or discharge site to replace the current tributary limit condition in discharge licences.
20. For example, during a HRSTS Flood flow the maximum discharge from a licensed discharge facility is limited to the discharge licence tributary limit, which is usually just a reflection of the discharge capacity of the licensed site. It does not protect the tributary.

### *What is in a discharge*

21. The Scheme has always been about managing salinity. However, as recognised in the discussion papers industry has the potential to mobilise other pollutants such as heavy metals, as well as industrial or waste by-products. Most community enquiries I received during my time when I operated the Scheme were about the 'full' disclosure of what makes up the discharge.
22. I strongly suggest independent assessment and disclosure of monitoring results on water that may be potentially discharged.

### *Monitoring discharges from sites to operator*

23. At present the data from individual discharge sites is not readily available to the HRSTS operator when assessing a River Register. The operator assumes that every credit holder will be discharging to the limit of their credit holdings. This is a conservative approach, but it lessens the opportunities to maximise the use of credits under the Scheme.
24. Real time monitoring of discharges should be made available to the operator and the river model modified to include the inputs of this data.
25. I also suggest that the current HRSTS trading site include a facility where credit holders could register an 'intention' to discharge so that the operator can build the data into future forecasts.

available credits that could be traded before a new Register should be published so that credit holders could monitor and advise the operator of a pending transaction.



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