Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Amendment Regulation 2016

Changes to flood flow thresholds under the Hunter River Salinity Trading Scheme

Questions and answers

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ISBN 978-76039-632-9
EPA 2016/0777
December 2016

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Introduction

The Hunter River Salinity Trading Scheme (the scheme) operates within the Hunter River catchment NSW, to minimise the impact of saline water discharges from industry on Hunter River water users and the environment. The scheme does this by only allowing industry participants to discharge saline water when there is a high flow of fresh water in the Hunter River, and it uses a system of tradeable salinity credits to limit the amount of salt that can be discharged at any one time. The scheme was established by the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002 (the Regulation) on 1 December 2002.

Between 2013 and 2016, the EPA carried out the ten-year statutory review of the Regulation. A key outcome of the review was a recommendation to increase flood flow thresholds under clause 11 of the Regulation.

The Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Amendment Regulation 2016 (the Amendment Regulation) increases flood flow thresholds:

- to >**6500 ML/day** in the upper sector
- to >**16,500 ML/day** in the middle sector, and
- to >**28,500 ML/day** in the lower sector.

These changes will commence on 16 March 2017.

Questions and answers

1. What are flood flows?

Under the Regulation, scheme participants are only permitted to discharge saline water from their premises into the Hunter River catchment during 'high' and 'flood' flow conditions. No discharges are permitted during 'low' flows. The flow thresholds can be found in clause 11 of the Regulation, which defines low, high and flood flows in the Hunter River in mega litres per day (ML/day). Different flow thresholds are set for the upper, middle and lower sectors of the River.

2. Why are flood flows important under the scheme?

During high flows, a participant's credit holdings **and** their licence Tributary Protection Limit (i.e. maximum daily volume discharge limits) are both used to determine the total amount of saline water that can be discharged.

However, during a flood flow event, credits are **not** required for discharge to occur and the **only** limitation is the participant's Tributary Protection Limit. This arrangement is referred to as the 'flood flow exemption'.

3. Why was the Managed Envelope of Residual Flows established and what does it do?

A complex framework for managing participant discharges under flood flow conditions has arisen due to the flood flow exemption.

When the pilot scheme commenced in 1995, it was believed that flood flows (at the established thresholds) were too large to be influenced by the salinity of participant discharges. When the pilot scheme was reviewed in 2002, modelling demonstrated that there was potential for the salinity targets to be exceeded during flood flows by participant discharges. This led to the inclusion in the Regulation of a 'trading rules order' (Division 5). The trading rules order stipulates that if salinity targets are exceeded during a flood flow event, then the EPA can suspend the flood flow exemption. To avoid this happening, the industry established the **Managed Envelope of Residual Flows** (**MERF**) process.

The industry-run MERF process has been administered by the NSW Minerals Council on behalf of participants since the scheme formally commenced, at a cost of around $27,000 per year. The MERF, which is not governed by any legislation, is a voluntary process that effectively duplicates the Hunter River Salinity Trading Scheme except that it does not require credits to be formally transferred. Its purpose is to 'share' flood flow discharge opportunities amongst those participants who wish to discharge during a flood flow event, and to prevent these discharges from exceeding the salinity targets. The EPA has no operational, administrative or regulatory role in relation to the operation of the MERF.

4. What did the review of the Regulation find?

The review of the Regulation found that:

1. While salinity targets have never been exceeded during flood flow conditions, there is a risk that simultaneous, full capacity discharges by all participants could exceed the salinity targets during flood flows, should the voluntary MERF process fail.
2. Licence Tributary Protection Limits alone (see Qu.2) are not adequate to guard against an exceedance of salinity targets for all flood flows.
3. The existence of the industry-run MERF system represents an unnecessary layer of complexity, duplication and financial burden on participants.

4. The EPA is not able to carry out regulatory action against any individual participant or participants for any exceedance of the flood flow salinity target that may result through either a failure or circumvention of the MERF. The only recourse available to the EPA is to implement a trading rules order (See Question 3), which means that all scheme participants are at risk of having the flood flow exemption suspended.
5. Many community and environment group stakeholders oppose the retention of the flood flow exemption under the Regulation, due to the perceived risk to the river and lack of transparency.
6. Since the Regulation commenced, for the vast majority of the time (96%), participants held enough credits for what they discharged into flood flows and would not have been restricted by their credit holdings if the flood flow exemption had not been in place. This means that the exemption was largely unnecessary.

5. Why do the flood flow thresholds need to increase?

Raising the flood flow thresholds under the scheme will significantly lower the risk that salinity targets could be exceeded by simultaneous, full capacity discharges by all participants during flood flows. The new thresholds have been set so that flood flows in the river can accommodate full capacity discharges, based on participants' licence Tributary Protection Limits (see Question 2). The thresholds also include a 25% buffer for possible future growth in discharge capacity across the scheme area.

By raising the flood flow thresholds, the industry-run MERF process (see Question 3) is no longer necessary, as there is no need for participants to 'share' the flood flow discharge opportunity.

6. Why are these thresholds higher than those originally proposed?

A public consultation draft of the Amendment Regulation (EPA 2015) was publically exhibited in January 2016, in order to consult on proposed amendments to the Regulation arising from the review. This draft Amendment Regulation proposed to increase flood flow thresholds to 5000 megalitres per day (ML/day) in the upper sector, 15,000 ML/day in the middle sector and 25,000 ML/day in the lower sector.

The thresholds needed to be raised further to accommodate increases in participant discharge capacity since the previous analysis was done more than 18 months ago (EPA 2016).

7. How will the new flood flow thresholds impact on participants?

The new flood flow thresholds will have no impact on the total amount of salt that can be discharged by participants and the frequency, size and duration of discharge opportunities under the scheme. Figure 1 below shows that on average over the life of the scheme, there have been around 32 discharge opportunities (days) per year (a combination of all high and flood flow opportunities), which is about 9% of the year. This would not change under the new flood flow thresholds.

What is likely to change, is the number of discharge opportunities that would be classified as 'high flow' versus 'flood flow'. There may be slightly more discharges being classified as 'high flow'. Participants would need to ensure that they hold sufficient credits in order to discharge their desired quantity of saline water into these high flow discharge opportunities.

Figure 2 below shows that on average we can expect a decrease in 'flood flow' discharge opportunities by around four opportunities (days) per year. These four discharge opportunities would instead be classified as 'high flow' discharge opportunities. We expect

only around 13% of all discharge opportunities to be reclassified as 'high flow' rather than 'flood flows' under the revised 'flood flow' thresholds.

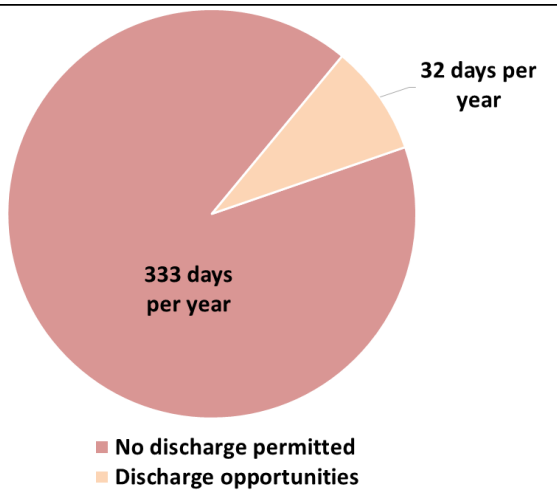

Figure 1: Average number of days with discharge opportunities per year (2003–2014) [i]

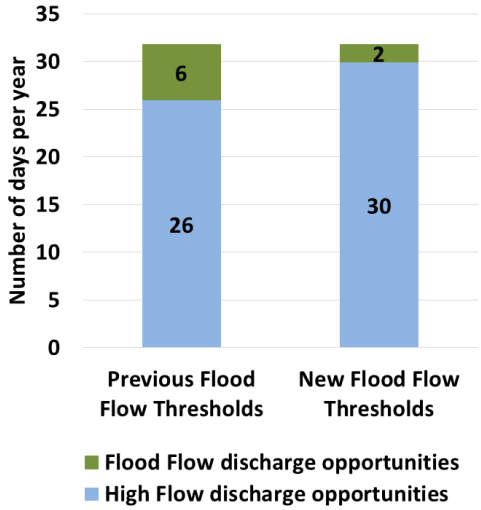

Figure 2: Likely change in the average number of high and flood flow discharge opportunities[ii]

The new flood flow thresholds will not reduce discharge opportunities. In limited circumstances, a very small number of participants may be required to obtain additional credits (via temporary or permanent trading) to allow them to discharge the desired volume of saline water into discharge opportunities that are reclassified as 'high' flow instead of 'flood' flow. However, the majority of participants tend to hold sufficient credits for these discharges.

Using participants' past discharge behaviour as a reasonable predictor of future behaviour, we can expect on average only around **one discharge opportunity roughly every two years** (i.e. 0.5 days per year[iii]) where a single participant may need to acquire additional credits if they would like to discharge their desired quantity of saline water in a single event. This is a very low level of constraint.

8. How will the changes affect the EPA's regulatory oversight of the scheme?

Participants are always bound by the conditions of their environment protection licence and the EPA may take regulatory action at any time (including during flood flows) if a participant discharges a greater volume of saline water than their Tributary Protection Limit allows (see Question 2).

Raising the flood flow thresholds improves the EPA's regulatory oversight of discharge arrangements further, as more discharges will occur during high flows. During high flows, the EPA is able to carry out regulatory action against individual participants that do not discharge in accordance with the scheme rules, even when they discharge in accordance with their licence Tributary Protection Limit.

As the changes significantly lower the risk of salinity targets being exceeded during flood flows it is highly unlikely that an exceedance would occur. The trading rules order provisions (see Question 3) will remain in the Regulation as a penalty and back-stop measure should salinity targets ever be exceeded during flood flows.

9. Will the Managed Envelope of Residual Flows be abolished?

The industry-run MERF process (see Question 3) may continue to operate during flood flows. This is a decision for participants. During consultation on the draft Amendment Regulation, the NSW Minerals Council indicated that they would cease to operate the MERF if flood flow thresholds were raised.

10. Why didn't the EPA remove the flood flow exemption entirely?

The option of removing the flood flow exemption from the scheme was explored at all stages of the review and was an option preferred by many community and environment group stakeholders. Some industry participants, including the NSW Minerals Council, indicated that they do not support removing the flood flow exemption from the scheme.

After careful consideration and further analysis, the EPA decided that raising the flood flow thresholds was the best approach at this time.

11. Will the flood flow exemption issue be revisited in the future?

Yes. The EPA will revisit the issue of flood flows under the Scheme in the second half of 2018, following the next credit auction and review of the credit trading platform. The EPA may consider the possibility of removing the flood flow exemption from the Regulation at that time, in consultation with participants.

The EPA may also decide to reconsider flood flows at any time if there are indications that participant discharge capacity is approaching the 25% growth buffer that has been built into the amended flood flow thresholds, in any sector.

12. Where can I find more background and information on the flood flow issue?

The discussion paper (EPA, 2013) and the final Report on the review (EPA 2016) both provide further background and a more detailed overview of the flood flow issue including the operation of the MERF. A summary of stakeholder submissions on the draft Amendment Regulation can be found on the review website.

References

EPA 2013 *Review of the Protection of the Environment (Hunter River Salinity Trading Scheme) Regulation 2002: Discussion Paper*, NSW Environment Protection Authority, November 2013. URL: http://www.epa.nsw.gov.au/resources/licensing/hrsts/13771hrstsdp.pdf

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Endnotes

[i] The average number of discharge opportunities per year is derived from river flow data in the lower sector since the scheme commenced (between 2003 and 2014). Days were counted if they included flow conditions in the lower sector that would typically qualify as either ‘high’ or ‘flood flow.

[ii] The average number of discharge opportunities per year is derived from river flow data in the lower sector since the scheme commenced (between 2003 and 2014). Days were counted if they included flow conditions in the lower sector that would typically qualify as either ‘high’ or ‘flood flow.

[iii] The EPA’s analysis identified six potentially constrained opportunities over eleven years (20013-2014) (EPA 2016)