Comments of TMFAG on the

Todoroski Air Dispersion Modelling Report of 1 December 2020

Introduction

The Decision-making Committee (DMC) hearing the application for a reassessment of the use and application of methyl bromide directed that additional air dispersion modelling be conducted in relation to the application of methyl bromide at the Port of Tauranga. On 3 December 2020, the DMC directed all parties to the hearing to provide feedback within 10 working days, that is by the end of business on 17 December 2020. In an email dated 10 December 2020, that time for feedback was extended to 22 January 2021 (and on 18 January 2021, that deadline was extended to 29 January 2021).

TMFAG notes that it does not have the resources or expertise to undertake its own modelling or technical assessment of the modelling carried out by Todoroski Air Sciences (TAS)[1] or the review of that modelling by Sullivan Environmental Consultants (SEC) and Atmospheric Sciences Global (ASG).

TMFAG's comment on the modelling and the TAS Report is therefore limited to the scenario's that TAS has chosen to analyse and TMFAG notes that other "worst case" scenario's could have been modelled, but have not been.

In considering the dispersion of methyl bromide outside the immediate zone of the fumigation, the EPA is dealing with impacts of the use of methyl bromide on innocent bystanders. The impact will be felt by residents and workers outside the Port boundary who have no control over the use of this poison and often no knowledge that they have been impacted. That includes children playing sport at the nearby hockey fields and at Blake Park and elderly users of the Mount Maunganui bowling club and residents of the surrounding houses. In those circumstances, TMFAG submits that the DMC must take the most conservative approach, when deciding on recapture requirements and imposing buffer zones.

The TAS Report and the STIMBR Submission

It is clear from a review of the TAS Report and the STIMBR submissions to the DMC that the only scenarios that have any relevance to the situation at the Port of Tauranga are the scenarios that indicate no recapture or limited recapture (of 30% of the methyl bromide left in the headspace after fumigation) applied to only some of the log stacks.

In response to enquiries from the EPA, STIMBR has stated that, in relation to recapture of methyl bromide from log-stacks, it wants a two to six year lead-in period "to have enough of the log-stack recapture equipment being developed by Genera and constructed for New Zealand's needs".

Based on that submission, the most relevant scenario (for log-stack fumigations) is what TAS has described as scenario 15 "0% recapture, worst case logs only", which requires the buffer distance to meet the 1-hour TEL to be **700 metres from the log-stack**. Where ship-hold fumigations are brought into the equation, the buffer zone must be between **900m to 1020m** from the application of the methyl bromide. The other scenario that reflects the recapture that Genera claims it can achieve (although it is not clear whether Genera needs time to make further investment to achieve this rate of recapture) is scenario 1, with the application of methyl bromide at the level of 120g/m3 to 6 log stacks with 30% recapture of 50% of the log stacks and ship hold fumigations with no recapture. That scenario requires a buffer zone of 900m.

It is not clear to TMFAG whether the buffer zones referred to in those scenarios take into account all of the concerns raised in the ASG report which states that "the TAS model is underpredicting the methyl bromide concentrations by at least 20-50% for each ship hold and for log piles, especially in the near field <

[1] Draft dated 2 November 2020 and Final dated 1 December 2020.

300m which reduces to around 10% out to 2km". If all of the points raised in the ASG report have not been taken into account, then the buffer zones need to be extended further.

We note the conclusion in the ASG Report:

> ASG does not recommend any new modelling. **The TAS modelling has already shown that methyl bromide assessed at the 99.9th percentile regardless of application rate and recapture, would exceed the 1-hour TEL limit of 3,900 µg/m3 at various distances from the modelled source.** (Emphasis added).

The buffer zones required are the minimum to protect the residents and workers in Mount Maunganui. Our understanding is that all of the modelling ignores potential "outlier" results at the 100th percentile.

Our understanding is that those buffer zones also need to be extended in the event of unfavourable wind conditions.

All of the modelling makes it clear that the Tauranga Port is a wholly unsuitable location for methyl bromide fumigation of log stacks or ship holds. The EPA must not allow this practice to continue without requiring recapture of 100% to the level of 5ppm as was the direction in the 2010 Reassessment.

Submission of TMFAG

25 January 2021