

DIRECTION & MINUTE OF THE DECISION-MAKING COMMITTEE

Hazardous Substances and New Organisms Act 1996 (“HSNO Act”)

Application APP203660: modified reassessment of methyl bromide

Direction & Minute WGT024 of the Decision-making Committee (DMC) – 28 September 2020

Background

1. Between 11 and 17 August 2020, the hearing for the modified reassessment of methyl bromide occurred, in which the DMC heard from the applicant, Environmental Protection Authority (EPA), submitters, and the associated witnesses nominated by those parties.
2. On 17 August 2020, the DMC adjourned the hearing to consider all of the evidence before it including the information provided at the hearing.
3. The DMC considers that there are aspects regarding the dispersion of methyl bromide through the air that it would like additional information on to inform its deliberations.
4. In the previous Direction and Minute WGT023, issued on 28 August 2020, the DMC directed Todoroski Air Sciences (TAS) to conduct additional air dispersion modelling. In response, TAS asked some questions seeking clarity from the DMC, as incorporated in to their memorandum to the DMC dated 11 September 2020. In the 20th Memorandum of Counsel, the applicant (Stakeholders in Methyl Bromide Reduction, STIMBR) requested clarification of aspects of the directed modelling. These memoranda are published in addition to this Direction and Minute.
5. In addition, EIM Research Limited have provided information further to that presented during the hearing.

Response to TAS request for clarification of scope

6. TAS has proposed a number of input parameters that are not exactly the same as those agreed in the three rounds of expert conferencing. Instead, those agreed parameters are updated by incorporating further information that was presented at the hearing. TAS suggested these proposals are peer reviewed prior to the modelling runs commencing, to reduce conflict later.
7. TAS has indicated that the number of possible combinations related to the fumigation types, fumigation rates, and recapture rates is over 8,000; and that to compile so many isopleth plots will take a long time to prepare (effectively one to two work-years), and take a long time to review and

absorb. TAS asked the DMC if there was a smaller set of combinations in which the DMC are most interested in. TAS proposed a selection of combinations which they considered would be most useful.

8. TAS have proposed modelling log stacks in a different arrangement to that used by Sullivan Environmental Consulting Inc. (SEC) in their 2020 modelling report. The DMC has no view on which of these approaches is correct, though understand from TAS that their proposed configuration better represents activity occurring during a fumigation and would more accurately model the use of methyl bromide under all wind conditions.
9. The DMC notes TAS's suggestion that they (TAS) consult on their proposed log stack set-up with operators, and liaise with the reviewing modellers on any assumptions made in these proposed changes prior to commencing work.
10. The DMC considers it appropriate for TAS to approach operators to confirm that their understanding of log stack arrangements during fumigations are correct.
11. The DMC considers that SEC and Atmospheric Sciences Global (ASG) are appropriate expert parties to review the modelling. The DMC considers that TAS's pre-modelling liaison with SEC and ASG should be restricted to just the assumptions behind those parameter values that differ from the expert conferencing.
12. The DMC considers that the general approach to isopleths proposed by TAS is appropriate. The DMC notes that there are additional scenarios which they wish to be covered in modelling. The full scope of scenarios to be modelled and for which isopleths are to be produced are attached as an appendix.
13. On reviewing the clarification questions, the DMC identified that they did not direct TAS to conduct modelling for no recapture on log stacks. The DMC takes this opportunity to correct this oversight.

Review of modelling

14. As noted above, the DMC consider that SEC and ASG are appropriate parties to review the new modelling from TAS.
15. The DMC would like to clarify that this review shall be limited to reviewing errors in the modelling itself, for example identifying if inaccuracies are introduced due to errors in the modelling program, output processing or other issues with the operation of modelling or processing of data.
16. The DMC emphasises that it is not requesting a review of the selection of modelling protocol, processing procedure, or the assessment and conclusions of the modelling output, except where a decision by the modeller results in a fundamental error.
17. The DMC considers that there has been sufficient information and discussion regarding the operation and processing of modelling in the material already shared with the DMC during the submission period, expert conferencing, and the hearing. As such, further discussion and analysis of these matters is not required.

Response to memorandum of counsel for applicant

18. The DMC notes the applicant's request, via their Counsel, for an explanation as to why the directed modelling will be using a deterministic approach, rather than a probabilistic one.

19. The DMC has directed the additional modelling to gain a better understanding of how different recapture rates, on different percentage of log stacks, at different treatment rates would affect potential buffer zones. It is the DMC's understanding that a deterministic approach is better suited to provide the information it seeks and to allow a comparison of a number of different scenarios. Therefore, the DMC has requested deterministic modelling be used.
20. The DMC notes the applicant's concern and request for additional time to review the new modelling. As noted above, the DMC considers that SEC is an appropriate party to review the modelling produced by TAS. As such, the DMC considers that 10 working days for review of the information by all parties (following the aforementioned review by modelling experts) is sufficient and does not require extension.

Information from EIM Research

21. The DMC notes that EIM Research (EIM), a submitter on this reassessment, has provided additional information to the EPA to be provided to the DMC. The statutory deadline for providing information to be considered for the reassessment has passed. This information from EIM is therefore considered late information and it is at the discretion of the DMC as to whether they wish to receive and consider it or not.
22. The DMC declines to receive this information as it is outside of the scope of its current deliberations in respect to the decision that it has to make. The DMC, therefore, will not consider the information submitted.

Directions

23. The DMC directs the following.
- a. TAS are to engage with the fumigation operators to confirm the assumptions made in their proposed modelling are correct, as discussed in paragraph 10. If a response has not been received by 5 October 2020, then TAS are directed to proceed as if the operator has confirmed that the assumptions are correct.
 - b. Prior to commencing modelling work, TAS are to liaise with SEC and ASG regarding any assumptions or changes to the input parameters which differ to those established in expert conferencing, in accordance with paragraph 11. If a response has not been received by 5 October 2020, then TAS are directed to proceed as if the reviewers have confirmed that the assumptions are correct.
 - c. To supplement Direction 10(b) from WGT023, TAS are to include a scenario for 0% recapture from log stacks.
 - d. TAS are to undertake the deterministic air dispersion modelling to provide the information requested in line with the proposals established in WGT023, the response from TAS, and direction (c) above, and the isopleth scenarios encapsulated in the attached appendix, allowing for any changes to reflect consultation with operators or review from peer reviewers. The draft of the modelling report is to be shared with the EPA and peer reviewers by 2 November 2020.
 - e. SEC and ASG are to undertake a peer review of the modelling conducted by TAS, in accordance with paragraphs 14 – 17. The review(s) shall be presented to the EPA and TAS within two weeks of the document being made available to the reviewers.
24. The DMC will then consider all evidence provided at that point, and advice on the next steps in the process. This will be communicated in a further Direction and Minute.

For the Decision-making Committee:



28 September 2020

Tipene Wilson
Chairperson

Date

Appendix: TAS's proposed isopleth plots with DMC additions

Case Number	Case descriptor (if desired)	Log Treatment rate (g/m3)	Ship Treatment rate (g/m3)	Log stack recapture rate (%)	Ship recapture rate (%)	Fraction of logs with recapture	Number of log stacks ventilated in an area (per hour)
	Default Available variables	120	120	30%	0%	100%	1
	(can be added to if desired, except # of log piles)	80	80	40%	50%	75%	3
		72	72	50%	60%	50%	6
		40	40	60%	70%		
				70%	80%		
				80%	90%		
				90%	99%		
				99%			
1		Worst case logs + ship	120	120	30	0	50
2	Worst case logs only	120	-	30	-	50	6
3	Worst case ship only	-	120	-	0	-	-
4	More likely high case L+S	72	72	30	0	50	6
5	More likely high case L	72	-	30	-	50	6
6	More likely high case S	-	72	-	0	-	-
	S		72		50		
7	Likely future high case L+S	72	72	60	0	50	6
	L+S	72	72	60	50	50	6
8	Likely future high case L	72	-	60	-	50	6

Case Number	Case descriptor (if desired)	Log Treatment rate (g/m3)	Ship Treatment rate (g/m3)	Log stack recapture rate (%)	Ship recapture rate (%)	Fraction of logs with recapture	Number of log stacks ventilated in an area (per hour)
9	Likely future high case S	-	72	-	0	-	-
10	Likely future moderate case L+S	72	72	60	0	75	3
	L+S	120	120	90	50	100	6
	L+S	72	72	90	50	100	6
	L+S	40	40	90	50	100	6
11	Likely future moderate case L	72	-	60	-	75	3
	L	120		90		100	6
	L	72		90		100	6
	L	40		90		100	6
12	Logs buffer worst case 3 stacks/hr (adds to case 2, which is 6 stacks/hr)	120	-	30	-	50	3
13	Logs buffer worst case 1 stacks/hr	120	-	30	-	50	1
14	Ship only buffer low (adds to case 3 & 9)	-	40	-	0	-	-