

SUBJECT: COMMENTS ON THE JANUARY 2, 2024, DRAFT RISK MANAGEMENT DIRECTIVE FOR OCCUPATIONAL BYSTANDER CANCER RISK FROM 1,3-DICHLOROPROPENE AND RESPONSES

Under Food and Agricultural Code (FAC) section 14023(f), the Director of the Department of Pesticide Regulation (DPR) “shall determine, in consultation with the Office of Environmental Health Hazard Assessment (OEHHA), the State Air Resources Board (CARB), and the air pollution control or air quality management districts in the affected counties, the need for and appropriate degree of control measures. Any person may submit written information for consideration by the Director in making determinations on control measures. The Director’s written determination and any formal written comments made by the consulting agencies shall be made available to the public.” Pursuant to FAC section 14023(f), DPR provided OEHHA, CARB, and the air pollution control and air quality management districts with a proposed risk management directive (RMD) to address occupational bystander cancer risk for 1,3-dichloropropene (1,3-D) on January 2, 2024. Pursuant to a Memorandum of Understanding, DPR also consulted with the California Department of Food and Agriculture (CDFA) on the proposed risk management directive (RMD). The following is a summary of comments from these agencies and DPR’s responses. DPR did not receive any comments from the air pollution control or air quality management districts.

Office of Environmental Health Hazard Assessment (January 4, 2024)

Since we are working on this regulation together as part of the joint and mutual process outlined in Food and Agricultural Code, sections 12980-12982, we do not have any additional feedback at this time. We look forward to reviewing the comments received from the California Air Resources Board and air pollution control districts or air quality management districts as we work together to complete the 1,3-D occupational bystander regulation through the joint and mutual process.

DPR Response:

DPR appreciates OEHHA's comments and collaboration in addressing potential cancer risks to occupational bystanders from 1,3-D. We look forward to jointly and mutually developing regulations with OEHHA consistent with FAC sections 12980, 12981, and 14024.

California Air Resources Board (January 17, 2024)

1. The proposed RMD notes that DPR will follow OEHHA’s recommendations of December 13, 2023. On page 3 of OEHHA’s comment memo to DPR dated December 13, 2023, OEHHA stated that if ambient air concentrations are found to be “significantly” above the acceptable exposure level, DPR should evaluate additional mitigation options. We suggest stating in the RMD how DPR intends to interpret “significantly above.” We suggest considering additional air monitoring or mitigation if ambient air concentrations are found to exceed the acceptable exposure level.

2. We understand that the occupational bystander RMD is focused on protecting workers in nearby fields from exposure to 1,3-D. We did not see worker housing addressed. We suggest clarifying the RMD to note whether worker housing near fields is addressed under DPR's recently completed residential bystander regulation for 1,3-D or, if not, how worker housing will be addressed.

DPR Response:

DPR appreciates CARB's comments. CARB's comments generally do not pertain to the reference concentration selected in the proposed RMD or the proposed determination regarding the need for and degree of control measures to protect occupational bystanders from potential cancer risks from 1,3-D use. DPR appreciates the two points raised by CARB on what the significant action threshold is for DPR to evaluate additional mitigation options as we evaluate the effectiveness of our residential bystander regulations, and on consideration of potential additional exposures to workers when they also reside near 1,3-D applications. Since these questions relate to OEHHA's recommendations for the development of mitigation measures to address cancer risks to occupational bystanders, DPR will consider them as part of the joint and mutual regulatory development process under FAC sections 12980 and 12981 with OEHHA. Moreover, these comments can also be raised as part of the Toxic Air Contaminant (TAC) consultation consistent with FAC section 14024.

California Department of Food and Agriculture (January 17, 2024)

The documents suggest mitigation measures are needed for some fumigation methods to mitigate cancer risks for occupational bystanders. CDFA agrees that occupational bystanders should be protected from unreasonable cancer risks. CDFA is offering comments on several assumptions about agricultural practices, data gaps, and implementation issues that may help improve or clarify the final regulations.

The amount of time an occupational by-stander is exposed to 1,3-D is a key component of the analysis and depends significantly on agricultural practices related to the treated field and those around it. In estimating lifetime exposure to occupational bystanders, OEHHA assumes that a worker in an adjacent field would be exposed for 144-288 hours a year (eight hours a day, three days a week, for three weeks after application, repeated two-four times a year) by being at the edge of the treated field. This seems to be a highly conservative estimate of time spent on the edge of the field. Regardless of the activity the worker was performing, they would not spend eight hours per day only on the edge of the field but would work their way into the adjacent field and away from the treated field. It is also a conservative estimate to assume the same worker would return to that same field edge for three weeks in a row post application. The only conceivable time this might occur is if the adjacent field is harvesting a continually harvested crop, which would not be happening next to every 1,3-D application. If harvest were occurring for three weeks post application, it would not be solely at the field edge. The potential overlap of harvest crews and 1,3-D applications is a noted data gap in the analysis. CDFA will be providing

DPR with a memo of our findings on how often crops could have been harvested next to 1,3-D applications for several focal counties.

The exposure calculation (144-288 hours a year) and how that relates to the need for more mitigation does not seem to account for the frequency of applications that currently use methods that are deemed by the attachment to not need further mitigation (TIF tarped applications). Roughly 27% of applications from 2017-2020 used those methods. This is largely regional, with highest use in the Coastal region. For example, in Monterey, roughly 72% of applications used those methods from 2017-2020. It is not clear from the document if the numbers in Table 2 and/or the buffers in Table 3 have accounted for the use patterns of each method. While the document specifies that no buffers would be required for these methods, their current use should be added to the exposure calculation. For example, if the average worker in Monterey is exposed to three TIF tarped applications and one shallow injection application in a year, is a buffer still needed on the shallow injection application to mitigate lifetime risk? If this is already included in the calculations, CDFA requests that this be clarified in the methods.

A related data gap is the spatial distribution of 1,3-D applications within an area and timeframe relevant to occupational bystanders. CDFA is willing and able to provide detailed analyses of the spatial distribution of 1,3-D applications over time in several focal counties including Monterey and Fresno. This would provide more information to support or change assumptions around the frequency and length of expected worker exposure.

Table 2 in the attachment assumes that every application is an 80-acre application. From 2017-2020, 62% of applications were under 20 acres. A full 84% of applications were under 40 acres. This does not account for the additional reductions in applications that would come about due to the non-occupational bystander regulations. Doing all the calculations with the assumption that applications are 80 acres is a highly conservative approach.

In the recently enacted non-occupational bystander regulations, several new methods were created to reduce emissions. Of note here, the 24-inch injection methods were added. In Table 3 of the attachment, three 24-inch injection methods (1224, 1225, 1226) have the largest/longest buffers zones suggested. The suggested buffer zones are greater than those for shallow, untarped injection. This does not seem to match those methods providing a reduction in emissions. Additionally, the table notes that calculations were based on average application rates. As these methods are new and have not been in use, how were average application rates calculated? CDFA is requesting clarification about estimated emissions from 24-inch injection methods and the calculations in Table 3.

There are several more areas where clarification is needed to understand how the mitigations would be implemented.

- The documents lay out three options to mitigate risks, but it is not clear how these interact or would be instituted. For example, would soil water content, mentioned in point three, change the

need to use buffer zones, mentioned in point two? How high a moisture content would be sufficient? Details like that would be needed for each acceptable mitigation.

- Do the buffer zones and durations listed in Table 3 of the attachment change with the size of the application and/or the rate? For example, would a 20-acre application have the same buffer requirement as an 80-acre application?
- The table labeled Table 1 in the attachment has an incomplete entry in the PUR Data column for the fumigation methods 1242 and 1243.
- What happens if the average concentration reductions in Table 4 are met by the previously enacted non-occupational bystander regulations?

DPR Response:

DPR appreciates CDFR's response. CDFR's comments generally do not pertain to the reference concentration selected in the proposed RMD or the proposed determination regarding the need for and degree of control measures to protect occupational bystanders from potential cancer risks from 1,3-D use. DPR appreciates the various points raised by CDFR around realistic use and exposure scenarios and assumptions relied upon in OEHHA's recommendations. Since these questions relate to OEHHA's recommendations, DPR will consider them as part of the joint and mutual regulatory development process under FAC sections 12980 and 12981 with OEHHA. Moreover, DPR will consider these questions as part of the Toxic Air Contaminant (TAC) consultation as consistent with FAC section 11454.2.