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M E M O R A N D U M

TO: Barry Cortez, Branch Chief
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HSM-03003

VIA: Joseph P. Frank, Senior Toxicologist
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FROM: Sally Powell, Senior Environmental Research Scientist
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445-4248

DATE: January 23, 2003

SUBJECT: REVIEW OF "SUPPORTING INFORMATION FOR CALIFORNIA MANAGEMENT PLAN FOR TELONE® AND IN-LINE® FUMIGANTS" FROM DOW AGROSCIENCES (ASSIGNMENT 03-0005)

I have reviewed the letter to Tobi Jones from Brian Bret of Dow AgroSciences, dated 23 December 2002, which provides specific information requested by the Department of Pesticide Regulation (DPR). This information is relevant to the modification of the management plan for 1,3-dichloropropene (1,3-D) fumigant products that allows townships to exceed the 90,250-lb annual use limit under specified conditions.

Item 1 "Confirmation that all 1,3-D products currently registered for use in California are covered by the program". Dow's response confirms that "all 1,3-D products being sold in California are covered by the [program]". Nancy Grussing says that pesticides purchased out-of-state may be used in California if the use is in compliance with FAC section 12991(f), which requires any purchase for use in California (including those made out-of-state) of a pesticide labeled for agricultural use be from a California-licensed pesticide dealer. I don't know if this is a real possibility, but there is an incentive for growers to purchase out-of-state to circumvent the use limit.

Item 2 "Documentation that 180,500 pounds of 1,3-D per township does not pose an acute risk". The response to this item is inadequate. Dow modeled 10 years of daily air concentrations at each point on a grid of "receptors" covering a 9-township area. They then selected the highest daily (24-hr) concentration in each year for each receptor. This formed a distribution consisting of 10 years times 11,664 receptors = 116,640 annual 24-hr maxima. This was done for each of three levels of 1,3-D use in the center township (1X, 2X and 3X the current annual limit of 90,250 pounds). Dow showed that the upper percentiles of the three distributions were not very different, and concluded that increasing the limit does not have a significant impact on acute risk. However, this is the wrong distribution for acute exposure. Acute exposure is only an issue near applications; the highest 24-hr concentrations occur close to application sites and within several days after the application. In Dow's approach, there are many receptors in the modeled area that are far from any applications. Acute exposure is not even a possibility at these locations.

Including them in the distribution dilutes the apparent effect at the near-field locations. An appropriate distribution of "acute" concentrations would consist of the maximum 24-hr concentration per application. That is, for each simulated application, the maximum 24-hr concentration for any receptor within a predefined distance and a predefined number of days after the application would be selected. Bruce Johnson (personal communication, 15 January 2003) has proposed an alternate acute concentration distribution consisting of the annual maximum 24-hr concentrations for all receptors within a predefined distance of any application. He believes the upper-percentile concentrations of this distribution could be substantially increased by increasing the township use limit.

Item 3 "Written description of how DAS is managing use and distribution of 1,3-D under the new program". I am unable to judge whether the response is adequate.

Item 4 "Description of the information that DAS will provide DPR and CACs at end of year for those townships that exceed 90,250 pounds". Dow's response does not indicate that DPR will be provided the full CDMS use records for those townships. This should be required, not only for the townships in exceedance of the limit, but for all townships. DPR needs to be able to audit CDMS' use records.

cc: Chuck Andrews