



Department of Pesticide Regulation



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MEMORANDUM

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TO: George Farnsworth
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HSM-09008

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DATE: August 31, 2009

SUBJECT: OBSERVATIONS AND RECOMMENDATIONS FROM A WORKPLACE
EVALUATION OF TWO FUMIGATION FACILITIES IN THE LONG BEACH
AREA, LOS ANGELES COUNTY ON JULY 7, 2009

On July 7th 2009, Randy Segawa from Environmental Monitoring (EM) and I traveled to Los Angeles County to conduct workplace evaluation of active fumigation sites and a proposed negative-pressure facility in the Long Beach area. These consultations were requested by the Los Angeles County Agricultural Commissioner's (CAC) Office. Both CAC staff and Enforcement staff were present during the consultations. Additionally, the manager of the first facility and the fumigator contracted for the applications were present.

The first facility visited, located at the PriceTransfer company property in Long Beach, presently conduct outdoor tarpaulin fumigation of intermodal vans. The location of this fumigation was such that buffer zones would intrude into structures where workers would be present. This results in non-compliance with the "Suggested Permit Conditions: Methyl Bromide (MeBr) Commodity Fumigation" Permit Conditions concerning Definition R/Condition 19: Treatment Zone Access and Duration. The facility manager proposed moving the fumigation site to an alternate location, adjacent to a structure identified as "Building Four" (see Figure One) where two of the rollup doors could be left down.



Figure One: Building Four Intermodal Site

This was still not deemed suitable, since depending on the number of intermodals and the rate of application, the buffer zones could extend far enough to reach rollups on the adjoining building that could not be left closed. However, the facility manager was supportive of the idea of equipping the affected structure with real time MeBr monitoring equipment; such as, but not necessarily limited to, the Pure Aire “Air Check Advantage Methyl Bromide Monitor.” The manufacturer of this monitor has stated that they can achieve detection limits of 500 parts per billion (ppb). The facility manager stated that his company would be willing to deploy and maintain such a system in Building Four if this would allow intermodals to be tarp-fumigated by the structure.

The second fumigation issue, also at the PriceTransfer location, is the potential conversion of a warehouse (Building Three) into a negative pressure facility (NPF). The NPF site would be enclosed on two sides by the original warehouse exterior walls and on the other two sides by interior walls recently added in anticipation of use as a fumigation site. It is presently in non-compliance with MeBr Permit Conditions; Condition Four: Common Walls (see Figure Two for picture of wall separating fumigation area from the rest of the structure). The NPF fumigation site would not be a chamber proper, but an enclosure for tarpaulin-covered intermodal fumigations. This is along the same lines as the existing NPF presently operated by Clark Pest Control in Long Beach. According to the facility manager, the site can be retrofitted to allow for use as a NPF. There is also the option of fumigation/aeration when workers are not present (night or weekend fumigation).



Figure Two: Building Three Interior NPF Wall

The third fumigation issue dealt with a smaller facility called San Pedro Forklift. This facility was using two metal structures (not gas tight), connected by a 300 foot loading bay area (see Figure Three).



Figure Three: San Pedro Forklift Load Dock and Fumigation Structure

Since both structures are in close proximity, their buffer zones are calculated from a combination of both MeBr application loads. This results in the buffer zone extending beyond the facilities fence-line and into the adjoining property, where idling tractor-trailers, with drivers, are awaiting to unload their loads (Figure Four) and also extending to the air handlers/doors of the “portable” office structure (Figure Five). Note that “buffer zone exclusion tape” includes the office.



Figure Four: Trucks Potentially in Buffer Zones



Figure Five: Office in Buffer Zone

The off-property extension of the buffer zone results in non-compliance with Definition R, Condition 19; Treatment Zone Access and Duration of the MeBr Permit Conditions. While we were conducting the workplace evaluation of the facility, the facility manager arrived and

discussed the buffer zone problems with the CAC staff. When the manager mentioned the idea of converting the existing metal structures to NPFs, I'd cautioned against such a conversion. The sheet metal structures were in some disrepair and were riddled with penetrations. Simply attempting to plug the obvious penetrations and install a negative pressure system would likely result in a distorted or collapsing structure.

After inspecting the facilities and reviewing the proposed site modifications, I have the following recommendations:

For Price Transfer

OPTION ONE FOR BUILDING FOUR: If the outdoor tarped/intermodal fumigation site is to be moved to the Building Four location, the rollup doors that lie within the buffer zones of the fumigation and aeration must be latched and locked down for the duration of the fumigation and aeration. Any exit doors that would lie within the fumigation and aeration buffer zones must be equipped with emergency alarms and be designated "EMERGENCY EXIT ONLY" during the fumigation and aeration buffer zones. Do not chain off or otherwise render inoperable any exit door.

OPTION TWO FOR BUILDING FOUR: If a real-time air monitoring system, specific for MeBr, is installed in Building Four, only the two rollup doors closest to the fumigation and aeration need be latched and locked. Deployment of the detector's sensors should be such that they are not unduly affected by outside air (i.e., not right next to openings to the exterior) and that they are located in areas that an intruding buffer zone would be located. This monitoring system will need to be maintained and calibrated according to the manufacturer's recommendations and be capable of data logging, recording at a minimum of 5 minute intervals during fumigation and aeration events. When there are no fumigations or aerations, logging may be suspended. The data logs must be available for CAC inspection and a hard copy maintained for 3 years. Exit doors that are immediately adjacent to the latched and locked rollups should be equipped with emergency alarms and designated "EMERGENCY EXIT ONLY" during the fumigation and aeration buffer zones. Do not chain off or otherwise render inoperable any exit door.

OPTION THREE FOR BUILDING FOUR: All fumigation and aeration work performed when all non-application workers are not present (e.g. weekends or nights).

OPTION ONE FOR BUILDING THREE: Conducting all fumigations and aerations during periods when no workers are present in the structure or working in buffer zone areas would allow for fumigation to be done with little to no modifications. Compliance with the basic requirements of the MeBr Permit Conditions would be necessary, but no further efforts would be required.

OPTION TWO FOR BUILDING THREE: The structure may be modified into a NPF. Preliminary work by the facility manager appears to set up the framework for conversion of the structure into a negative pressure facility. If this route is taken, the following actions are required:

1. Seal airtight all penetrations, including power outlets, breaker boxes, switch boxes, door gaps, etc.
2. Contract with a ventilation engineer to design a system with adequate capacity to maintain negative pressure (≥ 0.1 inches of water) sufficient to prevent any outward leakage of fugitive emissions from the tarped intermodals. The engineer should confer with Worker Health and Safety (WHS) Branch for guidance.
3. Only tarped intermodal or tarped stack fumigations are allowed. An NPF is not a fumigation chamber.
4. Install louvered air intakes along the outside walls, which are open during negative pressure activity, but automatically close during zero air flow or reversed (positive pressure) air flow. Circulatory fans may also be necessary to prevent any "dead" air pockets.
5. Roof fan located outside of negative pressure site shall be fully on, in positive pressure mode (blowing fresh air into the remainder of the structure that is not the negative pressure portion) during any fumigations and aerations.
6. An exhaust stack of sufficient height shall be installed. Do not situate such that the roof fan mentioned in Point 5 recaptures the exhaust air and sends it back into the general facilities air space.
7. A gauge (e.g. Magnehelic) shall be installed outside the negative pressure area to confirm system operation. Optionally, an alarm may also be installed to indicate ventilation failure.
8. All persons entering the negative pressure area during fumigation or aeration must wear self contained breathing apparatus.
9. If during the retrofitting to the negative pressure configuration, conditions not mentioned in this list are found that can affect the seal integrity of the structure, the Department of Pesticide Regulation/WHS Branch/Industrial Hygiene and the LA CAC must be notified both of the condition and the proposed solution.
10. Any fumigation monitoring equipment must exhaust back into the negative pressure area.

11. Necessary security and warning requirements will be installed.
12. A real-time monitoring system, as mentioned in Option Two for Building Four, may be installed in the interior the main structure that share the common walls with the negative pressure area. If no such system is installed, periodic (at least weekly) colorimetric tube testing of the facility interior that shares the common wall with the NPF must be performed during a fumigation. Results must be logged and available to CAC. Minimum sensitivity of the colorimetric tubes shall be 1 part per million.
13. All applicable requirements of the MeBr Permit Conditions, other than buffer zones, still apply.

For San Pedro Forklift

There appear to be no useful engineering or administrative controls available beyond those listed in the MeBr Permit Conditions. The enclosing structures are of doubtful gas tightness and even less structural capability as negative pressure facilities. The movement of the office trailer out of the buffer zones should be completed as soon as possible, with evacuation of the trailer during fumigation and aeration as an interim solution.

cc: Mr. Richard Sokulsky, Los Angeles CAC's Office
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