# Department of Pesticide Regulation

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SUBJECT: OBSERVATIONS AND RECOMMENDATIONS FROM AN EVALUATION OF A PROPOSED NEGATIVE PRESSURE FUMIGATION FACILITY AT THREE RIVERS TRUCKING, IN THE LONG BEACH AREA, LOS ANGELES COUNTY ON SEPTEMBER 30, 2009

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On September 30th, 2009, I traveled to Los Angeles County to conduct an evaluation of a proposed negative-pressure facility in the Long Beach area. These consultations were requested by the Los Angeles County Agricultural Commissioner's (CAC) Office. CAC staff were present during the consultations. Additionally, the manager of the first facility, the ventilation engineer and the fumigator contracted for the applications were present.

The facility visited, located at the Three Rivers Trucking company property in Long Beach, presently conduct indoor tarpaulin fumigation on tarpaulin-covered commodity piles. The location of the enclosing structure is such that buffer zones would intrude into both an area that shares a common wall structures where workers would be present (non-compliance with General Condition Four of the August 1994 "Suggested Permit Conditions: Methyl Bromide Commodity Fumigation"[MeBr Permit Conditions]) and also into an adjoining structure (portable office trailer) where not only would workers be present, but also not under the control of Three Rivers Trucking (non-compliance with the "MeBr Permit Conditions" concerning Definition R/Condition 19: Treatment Zone Access and Duration). The facility manager proposed converting the structure where fumigations are done into a negative pressure facility (NPF).

The proposed NPF site would be enclosed on three sides by exterior walls (interior sheetrock and exterior metal walls) and on the remaining side by an interior sheetrock wall. The interior wall has one large rollup door penetrating it; one of the exterior walls has multiple rollup loading dock doors (Figure One). The NPF fumigation site would not be a chamber proper, but an enclosure for tarpaulin-covered commodity pile fumigations. According to the facility manager, the site can be retrofitted to allow for use as a NPF. Conversion to NPF would allow fumigation to take place in the existing facility, since there are no buffer zones for a functional NPF facility.

**Figure One: Major penetrations in proposed NPF facility**

Unlike the NPF designed by Clark Pest Control (CPC), the ventilation engineers for this facility are proposing to not include auto-closing louvers to control air flow (see HSM-09012). Instead they are going to depend on the intrinsic air leakage from the unsealed building. Such dependence on building envelope leakage for inward air flow also means that if there is a power loss to the air movers, methyl bromide-contaminated air can also flow back out. Preventing such outward flow was the point of using louvers and sealing the building envelope at the CPC NPF. Since air flow direction would be highly dependant on air mover operation, a method to guarantee inward flow (as opposed to preventing outward flow with louvers) at all times during fumigation and aeration must be installed. The facility manager stated that he will install a dedicated backup power system for the air movers. Such a system must be capable of starting automatically within 15 seconds of power loss and be able to run for the entire time of a fumigation and aeration cycle.

An adjoining area, sharing the interior wall, has multiple loading dock penetrations that lack any doors, essentially making it an unenclosed space. However, the wall separating these areas was damaged in multiple locations (Figure Two) and will need to be both repaired and clad with a more impact/puncture resistant material (e.g.. steel diamond plate) to prevent subsequent damage. There are also several locations along the wall where the sheetrock was intentionally penetrated (pipe insertions, circuit breaker box cutouts, structural support members). These should be sealed up as well as possible, using film covering or foam fill or other applicable method.

Solid roll-up doors should not be installed on the adjoining loading dock structure. The fact that this area is defined as an unenclosed space is dependant on the lack of roll-up doors. If doors need to be installed later, they should still allow free air movement, such as a roll-up grill doors.

**Figure Two: Wall damage in proposed NPF facility**

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

**OPTION ONE:** All fumigation and aeration work performed when all non-application workers are not present (e.g. weekends or nights). This would entail an agreement with the adjoining property owner to verify no workers will be present during these times.

**OPTION TWO:** 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 gross penetrations such as pipe perforations, sheetrock mismatches, and wire raceways.

2. Repair damaged walls and wainscot with damage-resistant cladding.

3. Contract with a ventilation engineer to design a system with adequate capacity to maintain negative pressure ($\geq$ 0.1 inches of water) sufficient to prevent any outward leakage of fugitive emissions from the tarped piles. The engineer should confer with Worker Health and Safety (WHS) Branch for guidance.

4. Only tarped pile fumigations are allowed. An NPF is not a fumigation chamber.

5. Install backup power supply for air movers. Power should activate within 15 seconds of normal supply interruption and be capable of providing power for one fumigation and aeration cycle.

6. An exhaust stack of sufficient height must be installed.

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 (SCBA).

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 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.

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