AmeriTies

541.296.1808
PO Box 1608 • The Dalles, OR 97058

April 7, 2009

Mr. Mark Fisher
Oregon Department of Environmental Quality
475 NE Bellevue Drive
Bend, OR 97701

Reference: Long Term Strategy for Reducing Odors

Dear Mr. Fisher:

In accordance with our Air Contaminant Discharge Permit, permit number 33-0003, section 6.2.b, we are enclosing a hardcopy of our repot "Long Term Strategy for Reducing Odors. The report was electronically submitted on March 31, 2008. This is a follow up to the electronic submittal.

After reviewing this report, should you have any questions or comments, please contact me at 541-296-1808.

Sincerely,

Jeff Thompson

Jeff Thompson
Plant Manager

cc: J. L. McGinley

Long Term Strategy for Reducing Odors
March 31, 2009

Introduction:

AmeriTies West was issued a 5 year extension on April 1, 2008 of its Air Contaminate Discharge Permit (ACDP), 33-003 by the Department of Environmental Quality (DEQ). Section 6.2.b. and c. of the new permit requires that AmeriTies develop long term strategy for reducing odors and submit our strategy to DEQ for approval by March 31, 2009. We are submitting this report to comply with sections 6.2.b. and c.

Requirements 6.2.b. and 6.2.c. are referenced below for the reader's convenience.

6.2.b. The permittee must develop a long term strategy for reducing odors. The permittee must consider at a minimum the following when developing the long term strategy.

i. Alternative wood treatment materials;
ii. To the extent feasible, (e.g., cost effective), capture and control of emission from the retort doors;
iii. To the extent feasible, (e.g., cost effective), capture and control of emissions from the drip pad;
iv. Further VOC Reduction from leak detection and repair program; and
v. Prompt shipment of treated produce, when possible

6.2.c. The long term plan for reducing odors must be submitted to the Department by March 31, 2009. The plan must include an implementation schedule not to exceed 3 years from the date of plan approval by the Department.

Interim Work Practices Review

AmeriTies is committed to reducing the impact of odor on the community as much as practicably possible. We have voluntarily implemented work practices intended to accomplish this and continue to work with the community to resolve any odor issues. Some of the practices we are currently using are a cooling mist system with an organic bonding agent, oil scrubber system, minimal door open times, and an enclosed treating system. We believe that we are one of the industry leaders in the use of control equipment and work practices geared to the reduction of emissions and odors.

In June of 2008, we submitted an interim practices report to the agency in which we committed to the following process changes:

1. Staggered retort load / unload cycles
2. Extended the East wall of the treating building to improve mist system mixing zone.
3. Shortened retort door open times
4. Install plastic freezer strips below the east wall.

All of these changes were completed in August, 2008, and appear to be effective. There have been no odor complaints received by AmeriTies or DEQ since we changed our load / unload procedures and completed our building modifications.

Long Term Odor Reduction Strategies

Alternative Preservative Systems:

AmeriTies has partnered with Union Pacific Railroad to investigate alternative preservative systems for replacing creosote. They include: Pigmented Creosote Emulsion, Axzo Nobel's PXTS, and Copper Napthenate. Unfortunately, none of these systems have been accepted for use by Union Pacific at this time. Their preservative of choice for their wood products is creosote for the immediate future.

Ownership and licensing of the Pigmented Creosote Emulsion system has been challenged in Australian court by the professor who refined it to a usable product and his employing university. While it demonstrated promise in initial field testing the product is unavailable for additional testing and acceptance by the wood preserving industry.

PXTS is a sulfur based preservative developed by Axzo Nobel and introduced to the preservative industry in 2002. Our economic analysis determined that using PXTS would quadruple the cost treating a crosstie when compared to current creosote treatment. The railroad can not afford a cost increase of this magnitude. Also, there is concern that we would be trading one set of odors for another since the system is Sulfur based. Finally, Axzo Nobel has discontinued research and development of PXTS.

Neither of the above discussed preservative systems has obtained acceptance from the American Wood Protection Association (AWPA) or any of the Class 1 railroads.

Copper Napthenate is an established preservative and is accepted by the AWPA. However, most railroads feel that it is not as effective as creosote is in the areas of tie life and protection from insect attack. Also, the treatment cost is double that of a creosote system which is unacceptable to the railroad industry.

AmeriTies will continue to evaluate new preservative systems and make recommendations to Union Pacific Railroad regarding their acceptance and use. Ultimately, it is Union Pacific's choice as to which preservative will be used to treat their railroad ties.

Capture and Control of Emission from the Retort Doors:

When charges of material are either loaded or unloaded from the retorts, there is an exchange of air from the treating retort. We currently attempt to minimize the impact of this air exchange by limiting the amount of time the retort door is open and operating a mist system during the load / unload process. It has been suggested that AmeriTies

install a vent hood system to capture and treat these emissions. We have evaluated this suggestion and believe that it is feasible to accomplish this. With the modifications made to our treating building this past summer, we have formed a rectangular mixing chamber above the retort doors which can function as a vent hood to capture these vapors. All that is required for conversion of this space to a vent hood is to install air handling equipment and determine the best method of controlling the door emissions. We will address this plan in detail in the summary of this report.

Capture and Control of Emission from the Drip Pad:

The drip pad is a concrete slab measuring 65'-0" wide by 425'-0" in length covering and area of over 16,000 square feet. When a treated charge of material is removed from the treating retort, it is required to remain on the drip pad until all preservative drippage has ceased. Normally, it will remain on the pad from two to six hours. When the material is removed from the retort, it is approximately 160 ^{o}F in temperature and it emits vapors while cooling on the drip pad.

The treating industry has looked at various methods of capture and control of emission from drip pads. The following section summarizes these studies.

Trapping of Treated Material:

Treated material was covered with tarps until they cooled to ambient temperature trapping any vapors under the tarp. The tarps were very labor intensive to install and remove around the treated material. Attempting to install tarps in heavy wind proved to be next to impossible to do and vapor leaked from their bottom and joints. Trapping offered no control of emission only reduced their rate of release.

Cooling Chambers:

Some treating plants have experimented with storing a freshly treated charge in a spare retort or cooling shed until it had cooled to ambient temperature. Our business volume would not allow us to remove half of our retorts to use as cooling chambers and due to the configuration of our existing drip pad, it is impractical for us to install a cooling shed.

Enclosed Drip Pad:

There have been several suggestions from the public that we should enclose the drip pad within a building, capturing all of the emissions, and treat them using some type of incinerator or scrubber system. We have evaluated this proposal and found it to be cost prohibited. To cover the drip pad requires a 57,000 square foot building measuring 125'-0" wide by 450'-0" long. Building construction including foundations and lighting was estimated at $40.00 per square foot by Maul Foster and Alongi Engineering. A total cost of 2.28 million dollars.

The building would require adequate ventilation to create a safe working environment for our employees so we would need to install air handling and control equipment to accomplish this. Preliminary design work resulted in budget pricing for this equipment ranging between 1.80 million and 3.00 million dollars depending on the method of control used.

The minimal capital investment to enclosed and control the drip pad is 4.10 million in 2008 dollars. This does not include any estimate for increased operating costs due to lighting, air handling, and air treatment. Our operating cost can not be calculated until a control technology is defined.

Our consulting engineer has cautioned that we may be trading our existing set of public concerns for a new set of public concerns. Due to the estimated volume of air that would need treatment, the air handling equipment would consist of large fans or blowers requiring several hundred horse power for operation. The noise generated by this system would very likely be more offensive to the community than the current level of creosote odor.

The wood treating industry has looked a several technologies for controlling VOC emissions and odors. They are summarized listing their pros and cons in the next section of this report.

Granular Activated Carbon (GAC): GAC is considered the best filtration medium available today. However it is the most expensive, has a limited active life, and would require disposal as a hazardous waste.

Incineration: This method of treatment is energy intensive, creates green house gases, and thermal pollution. We could not afford to operate and incinerator due to the high cost of natural gas

Compost Filtration: Our consulting engineer has recommended further investigation of this filtration medium. Since creosote vapors are organic, in theory a compost filter should remove the organic volatiles. This is an unproven technology and would require further testing before implementation.

Venture Scrubber: Like the incinerator, a venture scrubber is energy intensive and operational noise would be a concern. Also, disposal of the filtration medium would present a concern.

Super F Additive: This is a chemical which is added to the creosote solution. The manufacturer claims that it will mask creosote odor. Masking the odor may not be permissible under our current air permit. We will need to do further research on the Super F product.

Oil Scrubber: We currently use this technology in our facility and feel that it effectively controls emissions without creating and addition hazardous waste

steam for disposal. We would prefer to continue using this system in future control applications.

Further VOC Reduction from Leak Detection and R&M Program:

We feel that our current programs for leak detection and plant maintenance provide adequate protection from accidental VOC releases. We do not believe we would gain any significant emission reductions for investing further in these areas.

Prompt Shipment of Treated Product:

We do not have direct control of the shipping process of our business. It is driven by the railroads demand for ties and the availability of rail cars for shipment. Union Pacific controls both the treating and shipping demand through out the year. We have discussed with UPRR the need to maintain the smallest level of treated tie inventory as possible.

Tank Car Unloading:

This is a point source of emissions where we feel we could add control equipment. We will discuss this in greater detail in the implementation section of the report.

Cooling Treated Material Before Removal from a Retort:

Our economic analysis of this idea proved that it would reduce our treating capacity by 40 percent and the operational cost could not be sustained by our business volume and income.

6.2.c. Timeline for Implementation Schedule:

2009

We will further evaluate the Super F additive to determine if it will perform as the manufacturer claims. The first hurdle will be to insure that the chemical will physically reduce odors and not function as a masking agent. We will present our test data to DEQ for review and interpretation for compliance with condition 11.4 of our air permit. After receiving Department approval, we will install the necessary mixing equipment and conduct trials.

AmeriTies will engineer an air handling system for the mixing chamber over the retort door area. Our conceptual design is to use low velocity fans and draw the door emission through an oil scrubber system similar to the system we use to control work and storage tank emission today. The system would only operate when we are in the process of loading or unloading a retort minimizing the operation cost and the noise impact on the community. After the cost of this system is determined, we will allocate capital for either the 2010 or 2011 capital budget for installation.

2010

Hopefully, the Super F additive will perform as advertised and we would continue its use for odor control. However, we will have a contingency plan and budget for the installation of additional control equipment.

We would evaluate the need for installing the retort door vent system based on current level of odor impact on the community and the financial performance of the company. Meaning, if the Super F additive effectively controls odor, then there would be no reason for this capital expenditure or if the economy is still in recession, the cost of the project may be a burden of the stability of the company.

If we install the additional scrubber system, we will design it so that it has the capacity to control emission generated during tank car unloading. When we unload preservative from tank cars we are required to heat the car up to 180 ^{o}F so that all of the constituents are in solution and that it is at the correct viscosity for pumping. The heating and pumping process takes and average of 6 hours. We feel that we could redesign our tank car unloading station and incorporate a vent hood to capture any odors released from the car. These would be treated in the new oil scrubber system.

2011

If we determine that we need the new scrubber system, we would conclude it's installation during 2011. In addition, there may be new technologies available for consideration at this future time.

Fate Amerities

Oregon

Theodore Kulongoski, Governor

Department of Environmental Quality
Eastern Region Bend Office
475 NE Bellevue Dr., Suite 110
Bend, OR 97701
(541) 388-6146
FAX (541) 388-8283

April 10, 2009

Jeff Thompson
Plant Manager
AmeriTies
P.O. Box 1608
The Dalles, OR 97058

RE: Long Term Odor Control Strategy
Air Contaminant Discharge Permit 33-0003

Dear Mr. Thompson:

The Long Term Plan for reducing odors required by permit conditions 6.2.b and c. was received on March 31, 2009. The plan has been reviewed and is approved. The plan included the following long term strategies:

1. Continued implementation of the interim work practices;
2. In 2009, evaluate the effectiveness of an odor reducing additive;
3. In 2009, design an air handling system and oil scrubber system for the retort door area and rail tank unloading;
4. In 2010, evaluate the need for the retort vent system and oil scrubber based on the effectiveness of the odor reducing additive and odor impact on the community, as well as the cost to the company, and
5. In 2011, install the retort vent system and oil scrubber, if needed.

Sincerely,

Mark D. Fisher

Mark Fisher
Senior Permit Writer
Eastern Region DEQ