

June 25, 2008

Mr. Mark Fisher  
Oregon Department of Environmental Quality  
300 Reed Market Road  
Bend, OR 97701

Reference: Odor Complaint

Dear Mr. Fisher:

In accordance with our Air Contaminant Discharge Permit, permit number 33-0003, section 6.2.a, we are submitting the enclosed report for the Department's approval.

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

Sincerely,



Jeff Thompson  
Plant Manager

cc: J. L. McGinley

RECEIVED

JUN 27 2008

Eastern Region - Bend

Interim Practices Report  
AmeriTies West LLC  
June 25, 2008

**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.a. of the new permit requires that AmeriTies develop interim work practices for minimizing odors and submit these practices to DEQ for approval by June 30, 2008. We are submitting this report to comply with section 6.2.a.

AmeriTies realizes that there is an odor associated with manufacture of treated railroad products and is committed to reducing the impact of this odor on the community as much as practicably possible. We have voluntarily continued every odor reducing practice of the previous facility owners and strived to work with the community to resolve any odor issues. Some of the practices we are current 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.

To compile this report, we assembled a team of employees to work on reviewing existing work practices and to explore new methods for odor reduction. All members of the team were volunteers who are concerned about our company's relationship with the community. We want to be assets for the economic vitality and quality of living in The Dalles not detract from it. The team members and qualifications are:

- Grayson Walker is a new employee with AmeriTies but with 5 years of experience in the wood products industry. He has lived in The Dalles for 44 years, and has an interest in the local agricultural community.
- Lance Bliss has worked at our facility for 10 years and is responsible for shipping treated switch tie orders. He has operated several pieces of plant equipment and has been tasked with assembling untreated charges and storing treated material in the yard.
- Fred Saunders has worked at the tie plant since 1979 and is the lead-person in charge of drip pad operations. He is responsible for the treating retorts and movement of material on and off of the drip pad.
- Rob Haberman is the Treating Supervisor and is responsible for operation of the treating plant and waste water system. He has worked at the plant for over eleven years.
- Larry Keller is the Maintenance Supervisor and has over 40 years of treating process experience.
- Jeff Thompson is the Plant Manager and has a degree in Chemical Engineering from the Georgia Institute of Technology. He has worked in the wood treating industry since 1983.

**Evaluated Work Practices:**

The team approached this problem using the Total Quality Management (TQM) process. We held weekly meetings to develop ideas, assign tasks, and report progress of our individual duties.

The first goal of the group was to define the scope of work for the team using the permit condition 6.2.a. as the basis for our problem statement:

The permittee must develop an interim work practices plan (in addition to, but not in place of the management practices plan required by condition 3.3) for minimizing odors. The plan must be submitted by June 30, 2008 to the Department for review and approval. The plan must be implemented immediately upon approval. At a minimum, the following work practices should be evaluated in developing the plan:

- i. If possible, cool charges with in the retort without causing adverse consequences;
- ii. To the extent possible, cool charges while stored on the drip pad;
- iii. Evaluate the effectiveness of staggered retort load/unload cycles; and
- iv. Evaluate the effectiveness of off-shift load/unload time frames.

We formulated this problem statement to guide our group in development of the new interim practices.

**We are to evaluate all phases of our material handing and treating process for the purpose of developing new work practices that will reduce emissions and lessen the odor impact to the community.**

We had a series of brainstorming sessions to produce as many ideas as possible. They are summarized in Table 1.

Table 1				
	Idea	Does Idea Comply with Problem Statement	Further Research by Team	Reason
1	Cooling charges within the retort	Yes	Yes	VOC emissions are proportional to tie and air temperature
2	Cooling charges while stored on the drip pad	Yes	Yes	VOC emissions are proportional to tie and air temperature
3	Evaluate staggered retort load/unload times	Yes	Yes	VOC emissions are proportional to volume of treated ties
4	Evaluate off shift load/unload times	Yes	Yes	Odor detection occurs when people are outside in nice weather.
5	Extend east wall down to improve mist system mixing zone	Yes	Yes	Should reduce emission due to improved mixing and cooling

6	Pull vacuum while retort door is open	Yes	Yes	Reduce untreated emissions
7	Shorten door open times	Yes	Yes	Reduce time for vapors to escape retorts
8	Evaluate material handling procedures for the drip pad	Yes	Yes	Can control volume and time treated wood is stored on drip pad.
9	Change preservative	No	No	No substitute available. No procedural change
10	Reduce treated inventory stored on site.	No	No	Controlled by UPRR only.
11	Place plastic freezer door strips below the east wall	Yes	Yes	Should reduce emission due to improved mixing and cooling

**Research and Data:**

**Cooling charges with in the Retort:**

The theory behind this practice is that a cooler charge will emit fewer VOC emissions. In support of this, we have observed very little, if any, vapors being released for charges pulled on Monday mornings. These have cooled to less than 120 °F over the weekend idle time.

In the volumes currently required from the plant, treating demand allows for down time in the early hours of the morning when treating all dry material. Generally, all five retorts are idle between the hours of 2:00 a.m. and 6:00 a.m. We decided to use our existing vacuum equipment to draw cool air in to the retorts after all five charges have finished their final treatment. Our vacuum system can move approximately 800 cubic feet of air per minute which is discharged through our oil scrubber system. If we crack the retort door we can draw cool air thru the first third of the retort.

We have conducted two tests of this procedure to determine the heat loss per hour in each retort. The results are tabulated in Table 2 shown below. When compared to ambient cooling over a weekend of retort idle time, both tests yielded improved rates of temperature loss. While the results are positive, further study is need before implementing this practice.

For this practice to be efficient, it will require piping changes and larger air handling equipment. Our existing system is not designed to handle the volume of air required to be effective.

Table 2					
Normal Temperature Loss Over Weekend Idle Time					
Retort	Starting Temperature	Ending Temperature	Temperature Change	Hours of cooling	Rate of heat loss
1	184	114	70	57.50	1.22
2	146	111	35	55.92	0.63
3	156	107	49	55.08	0.89
4	179	118	61	62.08	0.98
5	167	113	54	51.50	1.05
Pulling Ambient Temperature Air Thru a Cracked Retort Door Using Vacuum					
Retort	Starting Temperature	Ending Temperature	Temperature Change	Hours of cooling	Rate of heat loss
1	173	162	11	0.75	14.67
5	151	146	5	0.17	30.00
Pulling Ambient Temperature Air Thru a Open Safety Valve Using Vacuum					
Retort	Starting Temperature	Ending Temperature	Temperature Change	Hours of cooling	Rate of heat loss
2	145	130	15	8.67	1.73
3	156	133	23	12.00	1.92
4	150	134	16	10.25	1.56

With our current required treatment levels, we would be able to incorporate this additional process step without affecting production. However, there are conditions that, in the future, will prevent this extra process from occurring being possible. Some of these are:

**Boultonizing wet material:** This cycle requires long periods of vacuum to remove the moisture from the wood. Our existing vacuum system does not have enough volume to maintain proper vacuum levels in the active treating retort while simultaneously pulling outside air in to the finished retorts. Therefore, when Boultonizing, as required, this process could not be implemented.

**Increase in treatment volume:** When UPRR's required treating volumes increase we are required to treat more than 5 charges per day and there will be little or no retort idle time freeing the vacuum system to perform the retort cooling task.

AmeriTies will incur additional expense from adding this extra process step to the treating cycle. Utilities and maintenance will increase due to extended use of the vacuum system. Our wastewater system will have to process an addition 20 gallons per minute of water from the

vacuum pump operation. Cooler retort temperatures will require extra time and energy to raise the starting process temperature to the minimum temperature requirement of 180 °F.

#### **Cooling charges while stored on the drip pad:**

Currently, we do not have any equipment to cool charges while they are stored on the drip pad. We have investigated the cost of a mist blowing fan system that might help towards this effort, but have discovered that allocating the significant resources necessary in this equipment will not result in equivalent benefit towards the desired goal. In addition, we have serious concerns about resulting noise pollution that will impact the community from the fan operation, especially if used at night. Given that there is no certainty that this system would be effective at reducing odors, this proposal will not be pursued. Finally, although the drip pad is a large area to attempt to control emissions, we will continue to investigate idea in this area.

#### **Evaluate staggered retort load/unload times:**

When our work day starts every morning, all five retorts have treated charges waiting to be pulled and either shipped or stored in the treated storage yard. In the past, we have started removing treated charges as soon as the day shift starts at 6:00 a.m., and the Cat operator will pull two charges as quickly as possible to store on either the north or south side of the pad. A grapple will then start transporting the treated ties from these two charges and building two new untreated charges for treatment. While the grapple is processing the first two charges, the Cat operator will remove additional treated charges on the drip pad and stage them for transporting. This method of pad operation results in all 5 treated charges being removed over a period of about 3 hours, during which time there could be up to 4 treated charges on the pad awaiting transport.

Our team has established a new procedure for charging retorts which may reduce the overall odors emanating during the process. We will no longer simultaneously stage multiple treated charges on the drip pad. The employees who operate the drip pad have revised their procedures and from now on at the start of the day shift will remove only one treated charge from a retort and position it for transport on the pad. The Cat operator will not remove the next treated charge until the first charge has been transported and the next untreated charge is ready to be pushed in to a retort. At that time he will remove the next treated charge from a retort and push the untreated charge into an empty retort. This process will be repeated four more times until all retorts have been changed.

The new procedure will insure that only one treated charge will be out on the drip pad at any given time and that charges will be pulled over a 7 hour period instead of the current 3 hour time frame. This procedure change should reduce the volume and concentration of emission released per hour. The additional cost of taking the extra steps in a new sequence will not be easy to calculate, but will be absorbed by the company.

#### **Evaluate off shift load/unload times:**

We analyzed shifting the charging of the retorts until later in the workday, for example after 10:00 a.m. in the morning. This would avoid having treated charges on the drip pad in the early morning when more people are likely to be outside starting their day. Unfortunately, this procedure change would not allow enough time in the standard workday to service 5 retorts. AmeriTies would have to adjust manpower and/or work schedules to process ties and possibly require mandatory overtime to keep production levels as required.

Changing charges in the retort is not just limited to drip pad operations, the ties have to be transported from the yard to the pad, treated ties have to be removed from the pad, rail cars need to be moved on and off the loading tracks, and trams are shared with other plant operations. All of these tasks are coordinated between yard and drip pad operations. The off shift load times would cause any efficiency and synergy between these two operations to be lost and the benefit gained to the goal at hand is only speculative. Therefore, we do not believe that off shift loading should be considered at this time, especially given that other interim practices will yield greater results at reducing odors.

**Extend the east wall down to improve the mist system mixing zone:**

While this is not a procedural or process change, our team believes that by extending the east wall of the treating building down to just above the retort doors we will improve the mixing zone of the mist system. This will increase the contact time between the mist and the door vapor plume, yielding greater vapor cooling and interaction with the Ecosorb chemical. There is an obvious cost to this plant modification that the Company will incur.

**Pull vacuum while the retort door is open:**

When we open the retort door and remove the treated charge, air and vapor is released to the atmosphere. We have experimented with our vacuum system to see if drawing a vacuum on the vessel while the door is open will reduce the amount of vapor emitted and the results seemed to be positive. There are several draw backs to this procedure: vacuum system has to be available for use (which is a function of required production volume), the vacuum system is not currently designed to handle this volume of air, and door open times are limited to 3 to 4 minutes.

**Shorten door open times:**

We have realized that if door open times are kept to a minimum less vapor is released from a retort. Historically, the opening and closing of the retort doors has been the sole responsibility of the Cat operator. He would open the door, get into the Caterpillar machine and remove the treated charge, and then walk back to the front of the pad and close the door. In order to expedite the closing of the door immediately after the charge has been removed, the team has added a second person to this procedure who is responsible for opening and closing the retort door. This reduced the average door open time from 6 to 3 minutes.

There is a cumulative additional labor cost due to the requirement of an extra person to be available during this process and the Company will be absorbing this cost.

**Evaluate material handling procedures for the drip pad:**

The team did evaluate our drip pad procedures and several changes were made to them. These changes were discussed in the sections above.

**Place plastic freezer strips at the bottom of the east wall in front of the retort doors:**

This idea will be incorporated in to the east wall construction project. When the project is complete, there will be a layer of vapor containment in front of the retort door which should keep retort vapors contained in the treating building and in contact with the mist system. Additional IH testing will be required to ensure employee exposure limits are not exceeded.

**Summary**

We propose to implement these Items from Table 1 as interim practices after approval from DEQ.

Item #3, Staggered retort load/unload times.

Item #5, Extend east wall of the treating plant to improve mist system mixing zone.

Item #7, Shorten retort door open times.

Item #11, In conjunction with Item #5, install plastic freezer strips below the east wall.

We believe these items deserve further investigation before implementation as an interim practice.

Item #1, Cooling charges within the retort.

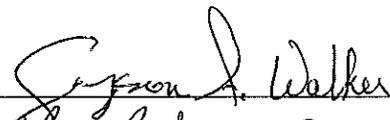
Item #2, Cooling charges while stored on the drip pad.

The remaining Item in Table 1 should not be considered as an interim practice.

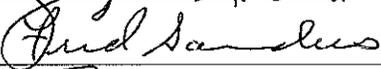
Respectfully submitted:

Interim Practices Team

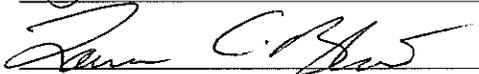
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Fred Saunders:

  
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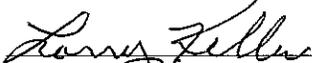
Lance Bliss:

  
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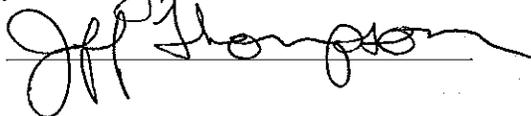
Robert Haberman:

  
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Larry Keller:

  
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Jeff Thompson:

  
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# Oregon

Theodore Kulongoski, Governor

Department of Environmental Quality  
Eastern Region Bend Office  
300 SE Reed Market Road  
Bend, OR 97702  
(541) 388-6146  
FAX (541) 388-8283

July 21, 2008

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

RE: Interim Work Practices  
Air Contaminant Discharge Permit 33-0003

Dear Mr. Thompson:

The Interim Work Practices Plan required by permit condition 6.2.a was received on June 27, 2008. The plan has been reviewed and is approved. The plan included the following work practices that will be implemented immediately:

1. Staggered retort load/unload times;
2. Extend east wall of the treating plant to improve mist system mixing zone;
3. Shorten retort door open times; and
4. Install plastic freezer strips below the east wall

In addition, the plan identified the following work practices that will require further investigation:

5. Cooling charges within the retort; and
6. Cooling charges while stored on the drip pad

Please provide an update of your further investigations by November 1, 2008.

Sincerely,

Mark Fisher  
Senior Permit Writer  
Eastern Region DEQ