

Comment Response Log, Letter of January 29, 2002 from Paul T. Mairose, Southwest Clean Air Agency (SWCAA), Vancouver, WA to Dallas Safriet, USEPA, Research Triangle Park, NC.

Comment	Response
<p>1) Please explain whether deadboxes were used on all ship loading spouts.</p> <p>The test report states that the control devices were deactivated during test periods, but does not elaborate on whether or not this deactivation only pertained to the air drawn to baghouses. SWCAA facilities are required to use deadboxes at the end of the loading spouts which significantly reduce particulate emissions and can be considered control devices even without any added aspiration.</p>	<p>Only aspirated controls were deactivated during test periods. Deadboxes were not removed from spouts.</p>
<p>2) Clarify whether any mineral oil was added to the grain used during the tests.</p> <p>In the same topic of operation parameter documentation, there was no mention of whether or not any oiling was performed on the grain used in the study. This is a common particulate matter reduction practice for grain facilities including the three grain terminals in SWCAA's jurisdiction, however there was no mention of this factor in the report. There are sometimes two to three points along the grain handling process where mineral oil may be added to the grain. Also, the terminals in our jurisdiction generally do not have information on whether or not the grain has been oiled prior to reaching their facility. Is this the same for those facilities tested? Any emission factor development should consider this element.</p>	<p>No mineral oil was added to any grain handled during the tests. None of the host facilities routinely oil grain upon receipt or at any other point in the handling process.</p> <p>Because the host sites are export facilities that can receive grain from hundreds of other elevators, it is possible that some fraction of the grain had been oiled at some time (i.e., between farm and arrival at the host export facility). However, it is impossible to strictly determine what fraction had been oiled or when it had been oiled. This is essentially equivalent to retracing the exact path for every kernel of corn prior to its receipt at the host site.</p> <p>The important point to remember is that the grain handled is representative of typical commodities exported. Material from many different elevators is blended numerous times to the typical grade (e.g., No. 2 yellow corn) exported.</p>

<p>3) Explain whether grain was cleaned in any way prior to its use in this study.</p> <p>Grain cleaning after or prior to storage is a standard procedure for facilities on the West Coast whose exported commodities must meet certain dockage standards. There is no discussion in regards to the sampling/weighing/cleaning process that might have been employed to the grain used in this study. Again, there are multiple opportunities for grain to be cleaned prior to export. Any emission factor development should consider this element.</p>	<p>No special cleaning was performed specifically for these tests. In addition, no special effort was made to select grain or oilseeds for testing based upon a predetermined quality factor but were accepted as they routinely occurred at the facility and in commercial markets. As noted previously, the important point to remember is that the quality of the grains and oilseeds sampled and loaded during these tests were representative of typical commodities exported.</p>
<p>4) Describe the distance between the spout and the piles of loaded grain during the ship loading tests.</p> <p>The barge loading test description mentions the heights of the loading spout above the grain pile in the vessel during different loading tests, however there is no corresponding information for the ship loading test documentation. Although the report does show emission calculations at different points in the ship loading cycles, there is no discussion of how far the grain fell once the grain left the end of the loading spout. SWCAA has found that particulate emissions are less if the distance from the end of the spout to the loaded grain is kept to a minimum. It has also been SWCAA's experience that there can be some variability in the distance that different ship loading crews will use. In addition there is considerable variability in emissions between allowing grain to load in a fashion which causes steep, tall piles of grain in a vessel hold versus the loading spout operator continuously moving the spout to prevent pile formation. Again, this is a critical element in knowing how to develop and/or apply any emission factor.</p>	<p>Facility operators loaded the ships in the same manner that they always use. Other than removing the tarps used by one facility as a part of its dust control practices, the only modification to loading practice was the intermittent starts/stops corresponding to individual test periods. Consistent with normal procedures and equipment limitations, facility operators extended the spout into the ship hold as close as possible to the top of the grain pile throughout loading operations.</p> <p>Field-testing followed the test protocol previously approved by EPA and gathered data to support development of reliable emission factors for ship loading. The test protocol used during the test program is more fully described in the test report.</p>
<p>On a more general note, it appears that the study evaluated PM₁₀ and PM_{2.5} with no discussion of TSP. TSP is still a regulated pollutant in Washington State. Should it be assumed that PM₁₀ was 25 percent of the total filterable PM during this study as suggested in AP-42 Table 9-9.1 Particulate Emission Factors for Grain Elevators, or is there other guidance available?</p>	<p>No tests of TSP were conducted during the test program.</p>
<p>In addition, there was no discussion of opacity in the report. Opacity is the major surrogate parameter that is helpful in the field to assess compliance with</p>	<p>No opacity observations were made during the test program.</p>

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<p>emission limits. An opacity correlation is also valuable for comparing tested emission data from one facility to the emission rates of another facility. Therefore, for the test data to be most useful, it is necessary to have opacity information correlated with emission test data. Please elaborate in the test report any observations of opacity.</p>	
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