# Background Report Reference

**AP-42 Section Number:** 9.9.1

**Background Report Section:** 4

**Reference Number:** 2

**Title:** Letter from David Bossman, American Feed Industry Association, To Frank Noonan, USEPA, RTP NC July 24, 1987

Received 7/29/87

AFIA

AMERICAN FEED INDUSTRY ASSOCIATION

July 24, 1987

AP-42 Section Reference 9.9.1
Report Sect. Reference 4 2

ND

Mr. Frank M. Noonan
United States Environmental
Protection Agency
Mail Drop 14
Office of Air Quality Planning
and Standards
Research Triangle Park, N.C. 27711

Dear Mr. Noonan:

Thank you for supplying me with a draft version of section 6.4, "Grain Elevators and Processing Plants," which is to be a supplement to AP-42, Compilation of Air Pollutant Emission Factors. AFIA is pleased to provide the following comments and suggestions on the proposed supplement.

The American Feed Industry Association (AFIA) is the national trade association for the livestock and poultry feed industry. AFIA members represent over 70% of the primary formula feed sold in the U.S. Its members range in size from small, single plant, family-owned operations to large, multi-plant corporations and cooperatives.

The draft version of Section 6.4 and the attachments you supplied were sent to the entire AFIA Manufacturing Committee. The AFIA Manufacturing Committee consists of fifteen members who represent the technical manufacturing expertise of the industry. The Manufacturing Committee is responsible for the association's education, training,

1701 N. Fort Myer Drive, Arlington, Virginia 22209 703-524-0810

engineering and technical services for the feed production and environment concerns of the feed manufacturers. These fifteen technical experts reviewed or had their engineering staffs review the draft you supplied.

The following comments on Section 6.4 are a concensus of this Manufacturing Committee.

Introduction to comments - AFIA believes the existing data is far too limited for EPA to establish a definitive emission factor for feed mills.

In Appendix B "Derivation of Emission Factors for Grain Processing Operations - Feed Mills" - the acknowledgement of limited data is in each section. For receiving, the author admits "emission factor data for this operation are sparse". For shipping, the discussion reads "...little emission data are available." For the handling operations, there is no data available as stated in the first line of the paragraph. For the grinding operation discussion, the statement reads "because of the wide variation in grains and grinders used, an average emission factor would be difficult to determine." The discussion of pellet coolers also admits very limited data, and a review of the data shows that an average emission is .36 pounds per ton but the conclusion in the charts indicate that .1 pounds per ton was established.

There appears to be no conclusive data for any of the emission points in a feed mill, yet a factor was applied in each case.

Discussion - A brief discussion of the feed mill operation is appropriate to assist you in the task of determining more realistic emission factors for the feed mill

operation.

Livestock and poultry feed mills are users of by-products from several other industries included in 6.4 of AP-42. The feed mills use the wheatmiddlings and bran from the wheat milling industry, the oat hulls and oat by-products from the oat milling industry, rice hulls and by-products from the rice milling industry, soybean meal from soybean processing, and several by-products from the wet and dry corn milling industries. Each of the "ingredients" or products we receive from these various supplying industries have a much smaller particulate size than do the initial processing industry, i.e. soybean meal is smaller than whole soybeans; wheatmidds are much smaller than whole grain wheat; corn glutin is of much smaller particulate size than whole corn.

Within the feed mill, these small particle ingredients or by-products are handled along with other small particulate ingredients such as limestone, di-calcium phosphate, etc., which causes additional particulate emissions from the feed mill. For these reasons, it is logical to have a larger emission factor for a feed mill than for the same type of operation in the other grain processing industries.

In preparing draft Section 6.4, the author made assumptions that the operation of a feed mill would be similar to a grain elevator and did use grain elevator factors to arrive at a feed mill conclusion, i.e. 6.4-9, third paragraph states "...emission factor data for feed mill operations are sparse. The factors for receiving, shipping, and handling have been estimated on the basis of measurements made on similar operations at grain elevators." The receiving, shipping and handling operations in a feed mill are not

similar to those in a grain elevator for the same reasons as described above. The particulate of the ingredients, i.e. mids, soy bean meal, dehydrated alfalfa, and corn glutin meal are much smaller than the whole grains received, handled and shipped by a grain elevator. The emission factors for a feed mill must certainly be much higher than for a grain elevator.

AFIA believes that specific total particulate emission factors for feed mills should be eliminated from Section 6.4 of AP-42. However, if it is necessary for feed mills to be included in the document, AFIA offers the following emission factors to be used until more conclusive data is available -

Receiving - 2.5 pounds per ton;
Shipping - 1.0 pounds per ton;
Handling - 5.5 pounds per ton;
Grinding - .5 pounds per ton;
Pelleting - .5 pounds per ton.

The combined totals for these emissions in a feed mill equals 10 pounds per ton or approximately 1/2 of 1 percent shrink or loss. This 1/2 percent emission loss is consistent with the current industry average for shrink not due to moisture loss. The combined loss from the feed mill would still be less than most of the other processing operations, but would certainly be more consistent with the current feed manufacturing operations.

Conclusion - The American Feed Industry Association's Manufacturing Committee strongly objects to the proposed emission factors for feed mills set forth in draft Section 6.4, "Grain Elevators and Processing Plants" which is to be published in AP-42, Compilation of Air Pollutant Emission Factors. The data available does not support any of the conclusions made by the author of the draft and by his

own admission the determination of a emission factor would be difficult to make.

Because the ingredients/products received into a feed mill have a much smaller particulate size than any of the other process industries or grain elevators, it is proper to conclude that the emission factors for a feed mill should be higher than the other process industries or for grain elevators. Unless more accurate data can be made available, AFIA suggests that feed mills be excluded from the document. However, if this is not possible, AFIA offers the emission factors as outlined above to be included in the final document until data supporting other factors can be supplied.

AFIA appreciates this opportunity to comment and I would be happy to discuss our proposals with you at any time. Please feel free to call me at 703/524-0810.

Sincerely,

David Bossman
Vice President
Feed Production-AFIA