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Overview:

Coarse Particulate Matter and Agriculture

I. Introduction. The National Cattlemen's Beef Association (NCBA) represents tens of thousands of America's farmers, ranchers and cattlemen who provide much of the nation's supply of food. Our members are proud of their tradition as stewards and conservators of America's land, and good neighbors to their communities. They support dust control measures, which range from soil conservation to fugitive dust control plans, many contained in air pollution control permits or approved by air pollution control agencies. They carry out those measures every day of every year in supplying America with the food it needs.

NCBA members do not seek to roll back dust controls. Indeed, they seek to maintain and improve them, and make them more effective. Technology-based, reasonable and feasible fugitive dust control measures have been in the past, and must continue to be in the future, the basis for controlling fugitive coarse PM from farm, ranch, and cattle-feeding operations.

The amounts of fugitive dust remaining after using Best Management Practices from farm, ranch and cattle operations have never been demonstrated to have adverse impacts on health at ambient levels. It is for this reason that, over the last more than 30 years, the EPA has excluded these dusts in making determinations of ambient compliance. The proposed rule's exclusion of coarse PM from agriculture from the coarse PM NAAQS continues this historic, scientifically-based, policy and practice.

II. Basis for PM NAAQS. The critical feature of the Particulate Matter NAAQS, namely its concentration term, has, from its inception, been based on measurements of "British Smoke". It was not based on coarse PM data, and should not, scientifically, be applied to coarse PM, or used as a metric for determining the concentration at which coarse PM in the ambient air may be harmful. None of the PM NAAQS adopted prior to 1997 recognized the fundamental distinction between fine and coarse PM. In 1997, the EPA created a fine PM2.5 standard in recognition of the difference. While EPA initially proposed not to adopt a 24-hour coarse PM standard, in the final rule it did adopt such a standard. That coarse PM10 standard was, however, set at 150 µg/m3, a concentration level derived from fine PM, British Smoke data, not coarse data. The only concentration data discussed as the basis for this standard was at concentration levels well above 1000 µg/m3 and included both fine and coarse PM. (Hefflin, 1991; Gordian, 1996). The 1997 coarse PM10 standard was vacated by the D.C. Circuit Court of Appeals and set aside as confounded, because it included both fine and coarse PM. The result is that there has never been a valid coarse PM standard based on coarse PM evidence.

III. EPA's and CASAC's Current Controversial Review of the Vacated Coarse PM10 NAAQS. CASAC's review of the coarse PM standard over the last three years has been marked by controversy, abrupt and unexplained changes of position, last-minute changes in possible theoretical bases for such a standard, and an unprecedented

failure by CASAC even to review EPA's Final Staff Paper and reach "Closure" on its scientific basis for the coarse PM standard before that document and its recommendations to the EPA Administrator were finalized and released. CASAC reviewed that scientific basis only after that document had become final.

After several years of review and deliberation, several members of CASAC, including its then Chair and its leading health scientists, had expressed the view that EPA's Criteria Document and drafts of its Staff Paper did not provide an adequate basis for a coarse PM standard. Indeed, CASAC's May 11, 2005 draft letter to the Administrator stated that "the setting of this [coarse PM] standard be set aside until further deliberations on the appropriate metric can be made."

At its April 2005 meeting, CASAC had suggested a potential new rationale for a coarse PM Standard that EPA might substitute for its past, unsuccessful efforts to provide a basis for a coarse PM standard. This new concept was based not on the health effects of coarse PM, but its possible contamination by toxic urban contaminants that might be absorbed and carried by coarse PM in urban areas. EPA was urged to substitute this new concept for the years of work that had gone into the Criteria Document and two drafts of its Staff Paper that CASAC had found wanting. After a teleconference on its May 11, 2005 draft letter on May 18, 2005, CASAC wrote a final letter to the EPA Administrator stating that although "the evidence for a standard for coarse-mode particles was weaker than for the $PM_{2.5}$, the Panel agreed that a 24-hour NAAQS for $PM_{10-2.5}$ was appropriate, especially in urban areas, with caveats to make exceptions for those types of rural dusts thought to have low toxicity."

IV. EPA's Final Staff Paper. EPA issued its final Staff Paper on PM NAAQS revision at the end of June 2005. It recommended an "urban" coarse PM standard. Significantly, the Staff Paper noted that the studies and data on which it based its proposal were weak, uncertain, limited, and not even adequate to support a health risk assessment, since they did not fulfill the minimum requirements for such assessments. That remains the case. EPA also stated that a coarse PM standard might be based on providing protection somehow "equivalent" to the 1987 24-hour PM10 standard, whose concentration term was based on fine PM, not coarse PM. That approach is plainly unsound legally, practically and scientifically.

V. EPA's Proposed Revisions to the PM NAAQS. On January 17, 2006, EPA published its proposed revisions for the PM NAAQS. 71 Fed. Reg. 2620-2708. The coarse PM standard it proposed is a 24-hour $PM_{10-2.5}$ standard "qualified so as to include any ambient mix of $PM_{10-2.5}$ that is dominated by resuspended dust from high-density traffic on paved roads and PM generated by industrial sources and construction sources." 71 Fed. Reg. 2620. The indicator for this standard "excludes any ambient mix of $PM_{10-2.5}$ that is dominated by rural windblown dust and soils and PM generated by agricultural and mining sources." *Id.* In addition, it states that "[a]gricultural sources, mining sources, and other similar sources of crustal material shall not be subject to control in meeting this standard." *Id.* at 2698-99. The concentration term of the proposed coarse PM standard is 70 $\mu g/m^3$. That level, EPA says, is intended to provide a "generally equivalent level of protection" to the 1987 PM_{10} standard.

VI. EPA's Proposal of an "Urban-Type" Coarse PM Indicator and PM NAAQS Is not Based on Sound Science and Should not Be Adopted. The new concept for development of a coarse PM standard based on its potential role in urban areas (where the hypothesis posits that it has the potential to combine with other substances that may be hazardous, such as industrial emissions, construction emissions, or mobile source emission components) is a novel one, first put forward in April of 2005.

In presenting its proposed 24-hour coarse $PM_{10-2.5}$ standard, EPA places primary reliance on four studies that it claims provided the support necessary for demonstrating the necessity of controlling coarse PM to a concentration of 70 $\mu g/m^3$, 71 Fed. Reg. 2655-2568. It states that these studies show significant associations of coarse $PM_{10-2.5}$ with mortality and morbidity at this concentration. The severe problems that militate against any reliance on these four studies are not discussed in EPA's discussion of them as its basis for the proposed coarse PM standard. However, in a later discussion of a possible "alternative interpretation" of the health evidence, EPA does acknowledge the fatal flaws in the four studies. The discussion makes it clear that the rationale for the proposed coarse PM standard is not at all supported by the four studies.

In addition, in an egregious failure to guard against the appearance of any unfair and unsound scientific weighing of the evidence on coarse PM, the EPA failed to consider and weigh the far larger number of studies with much larger and more powerful databases and longer duration that specifically considered $PM_{10-2.5}$, but did not find statistically significant associations. (Schwartz 1996), (Thurston 1994), (Sheppard 2003), (Fairley 2003), (Schwartz 1996), and (Lipfert 2000).

Last year, Dr. Jonathan Borak of Yale University School of Medicine, with expertise in toxicology, epidemiology and occupational health exposure to pollutants, reviewed the science in the Criteria Document and Staff Paper and found a general lack of scientific support for a proposed NAAQS for PM10-2.5.

VII. EPA Acknowledgement of Uncertainties. The NPRM, in an acknowledgement of the uncertainties associated with the scientific data, solicits comments on "not adopting a thoracic coarse particle standard at this time, and taking into account any new relevant research that becomes available as a basis for considering a more targeted standard for thoracic coarse particles in the next periodic review of the PM NAAQS." This is the correct ultimate outcome.

VIII. Conclusion. For all of the reasons discussed above, NCBA submits that there is not a sound or adequate basis for the adoption of a coarse PM standard at this time. It supports the alternative of not adopting a coarse PM standard for ambient exposure. NCBA's members will continue their efforts to control dust and will continue to support the improvement of those practices.