

11 February 2009 Dr. Rudolf Husar Preliminary Review Comments on Coarse Particle Speciation

PM_{10-2.5} Species or Components

1. *Table 1 provides a list of proposed PM_{10-2.5} species and analysis methods. Among these species, which are most important? Are there important PM_{10-2.5} species or components missing from this list? Are there important analysis methods missing from this list?*

No

2. *In the consideration of potential ion measurements for PM_{10-2.5} species, what ions should be on the target list? Are nitrate or ammonium ions important? If so, is an acid gas denuder and nylon filter required for the proper collection of these species in PM_{10-2.5}?*

Nitrate is important

3. *The 2004 CD included a list of important PM_{10-2.5} components which included biological materials and fly ashes. If these species are important to characterize, what specific types of biological materials and fly ashes should be included? Is scanning electron microscopy (SEM) on Teflon filters sufficient to quantify and identify these species? Is the proposed total protein assay technique important to obtain a quantitative indicator of the total biological material present?*

Not familiar with bio aerosol sampling issues

4. *Can the complication of particle size and absorption effects in XRF be resolved using absorption correction factors? If not, what other method(s) should be considered?*

Saturation is real. Keep deposition density low?

5. *Are metal oxides a significant source of interference in thermal-optical analysis (TOA) of PM_{10-2.5} for OC and EC given the large expected soil component? If so, how should this interference be addressed?*

I am not familiar with oxides-OC/EC interference.