UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
ONE DENVER PLACE — 999 18TH STREET — SUITE 1300
DENVER, COLORADO 80202-2413

JUN 5 1985

REF: 8AT-AP

Mr. Thomas Braverman
U.S. Environmental Protection Agency
Source Receptor Analysis Branch, MD-14
Research Triangle Park, N. C. 27711

Dear Tom:

Enclosed you will find the material pertinent to the use of the SAI Urban Air Shed model for the Denver carbon monoxide (CO) analysis as discussed in our conversation of May 29, 1985. I have numbered the attachments, 1-4 for easier reference.

Attachment #1, "Assessment of CO Air Quality Nationwide" deals with CO trends nationwide and specifically, Denver. The paper indicates that under worst case meteorology, that of strong winter time inversion, it is more important to access urban wide CO emissions both vehicular and wood burning emissions, than just the downtown central business district in order to develop a proper strategy for the reduction of CO concentrations; for the whole Denver urban area.

Attachment #2 "Carbon Monoxide: Hotspots, Coldspots and Implications for Attainment Planning " addresses the same concept, that under strong inversions the whole urban wide CO emissions are very important in determining the amount of CO reduction necessary for NAAQS compliance.

Attachment #3 is extracted from "The Denver Carbon Monoxide Study: Fixed Station Documentation" One observation of the study is that as many as 10 of the 15 CO monitors show violations of the 8 hour NAAQA during worst case stagnation episodes.

Attachment #4 is also from the "Denver Carbon Monoxide Study" which indicates that as much as 32% of the CO emissions from 6pm - midnight, is from wood burning. Wood burning is a regional type of problem not capable of being addressed by standard CO modeling methods that address only hotspots. This is because of the peculiar meteorological problems of long stagnation periods due to strong temperature inversion. This worst case meteorology creates an urban area wide problem that is compounded by CO emissions from residential wood burning, an area type of source.

In order for the state to develop a meaningful plan to reduce CO concentrations the specific problems of these worst case conditions must be addressed differently from the usual CO "hotspot" methodology. Region VIII would like to be able to support the State of Colorado, Department of Health's position on this matter and we believe the enclosed documents justify the use of the SAI model. Another possibility would be to use SAI to develop "background" concentrations using area source emissions and a model like APRAC to superimpose the hot spot concentrations using major line emissions. We would appreciate hearing your views on this.

If you have any questions or need further information please contact me at FTS-564-1754.

Sincerely yours,

John Notar

John Notar
Meteorologist

cc: Robin-Dennis-RTP
Frank Rogers-CDH