

**Assistance Agreement Quarterly Report
for the period of January 1, 2001, to March 31, 2001**

April 2, 2001

Fresno, California, Particulate Matter (PM) Supersite Monitoring Program
EPA Assistance Agreement No. R-82805701-01

WORK PROGRESS AND STATUS

First quarter 2001 activities are summarized based on applicable tasks stated in the Fresno Supersite QAPP.

Task 1 – Equipment Procurement and Installation. No new instruments were installed during this reporting period. Evaluation of an additional scanning mobility particle sizer (TSI Model 3025-A-S) is in progress.

Task 2 – Network Operations and Data Processing.

- The California Regional PM_{2.5}/PM₁₀ Air Quality Study's winter intensive study ended on 2/3/01.
- USEPA and Battelle completed instrument testing at the Fresno Supersite on 2/18/01 for collocated PM_{2.5} mass, carbon, nitrate, PAH, light scattering, light absorption, and particle size measurements. These tests were part of their Environmental Technology Verification (ETV) program.

Task 3 – Laboratory Measurements. Completed PM_{2.5} mass and chemistry analyses of filter samples from FRM and chemical speciation samplers collected every sixth day through 12/31/00.

Task 4 – Quality Assurance.

- Participated in the second CRPAQS field audit on 11/29/00 and 11/30/00. Field operators are following standard operating procedures. Remedial actions were taken to correct or explain flow discrepancies.
- Continued to assemble standard operating procedures for the field measurements.
- USEPA's comments on the draft Quality Assurance Project Plan (QAPP) were received on 2/22/01, and revision of the QAPP is in progress.

Task 5 – Data Validation and Data Analysis. Level I data validation was completed for continuous gas, particle mass and chemistry, light scattering, light absorption, particle size, and meteorology measurements through 12/31/00.

Task 6 – Management and Reporting. The principal investigators visited the Fresno Supersite from 2/12/01 to 2/14/01. They participated in a meeting of the Advisory Panel to the concurrent Fresno Asthmatic Children’s Environment Study (FACES) at Berkeley, CA, on 2/26/01 and 2/27/01. They also participated in a meeting of the California Regional PM_{2.5}/PM₁₀ Air Quality Study (CRPAQS) Technical Committee on 2/28/01 to define methods and criteria for data validation.

PERSONNEL

There have been no changes of key personnel related this study.

EXPENDITURES

Budget expenditures to date are on target, and no revisions to the approved budget are expected to be necessary at this time.

QUALITY ASSURANCE

Standard operating procedures continue to be assembled for the field measurements. Comments on the draft Quality Assurance Project Plan (QAPP) were received during this quarter, and revisions to the QAPP are in progress.

RESULTS

Data analysis of filter-based carbon measurements and in-situ continuous carbon measurements from calendar year 2000 is being performed. January 2000 winter episodes were examined, and two manuscripts were submitted on 1/31/01 and 2/27/01 for journal publication.

PLANNED ACTIVITIES FOR THE FORTHCOMING QUARTER:

During the second quarter of 2001, the principal investigators plan to: 1) continue assembling standard operating procedures, 2) finalize data validation criteria and database structure, and 3) procure an additional scanning mobility particle sizer in order to measure particles in the range of 3 to 10 nm (the current system only measures particles ≥ 10 nm).

PUBLICATIONS AND PRESENTATIONS:

Dr. Watson presented a “Data Validation of In-Situ and Filter Carbon Measurements at the Fresno Supersite” at the CRPAQS Data Analysis Workshop held in Sacramento, CA, on 2/28/01.

Dr. Chow gave a presentation on “Particle Chemistry Validation Methods” at CRPAQS Data Analysis Workshop held in Sacramento, CA, on 2/28/01.

The following manuscripts were submitted during this quarter:

- Chow, J.C.; and Watson, J.G. (2001). A wintertime PM_{2.5} episode at the Fresno, CA, supersite. *Atmos. Environ.*, submitted.
- Watson, J.G.; and Chow, J.C. (2001). Comparison and evaluation of in-situ and filter carbon measurements at the Fresno Supersite. *J. Geophys. Res.*, submitted.

QUARTERLY REPORT SUMMARY:

See attached.