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May 25, 2005

Mr. Doug Neeley  
Air and Radiation Technology Branch  
US EPA Region IV  
61 Forsyth Street SW  
Atlanta, GA 30303

Re: CY 2002 Flagged particulate monitoring data

Dear Mr. Neeley:

Included with this letter is the documentation supporting the exceptional event flags placed on South Carolina ambient monitoring data for 2002. During the year there were several periods of impact over large areas of the state from remote fires. These included the May fires in the Okefenokee Swamp and the Quebec fires in early July. In addition there were several smaller wildfires that impacted the samples on single monitors. I believe the data that has been flagged is consistent with the intent of the guidance I that the data identified has been influenced by events that are not expected to occur routinely and are uncontrollable through the SIP process. I request that the Region review the provided documentation and determine concurrence with our decision to flag these data.

During the period of May 7-May 9, 2002 many of the fine particulate monitoring sites in South Carolina were impacted by smoke from wildfires in the Okefenokee Swamp in Florida. The smoke from the fires is clearly documented through satellite observations as being carried through Georgia and impacting wide areas of the South Carolina. We have applied exceptional event flags to the to the PM<sub>2.5</sub> FRM data most obviously impacted by the event.

The Division of Air Quality Analysis has also examined data from PM<sub>10</sub> samples in those areas showing the clearest impact of the fires. Although the impact is most obvious in the fine fraction, we feel it appropriate to flag the concurrent PM<sub>10</sub> data from both samplers and continuous monitors since the fine fraction is a significant proportion of the collected material. The specific sites and dates flagged have been listed in the attached Table. (Table 1)

Although there is some indication in the data that impacts may have included the May 2 samples and extended to additional coastal sites, particularly in Charleston, the data and supporting documentation is not as clear and we elected not to apply the exceptional event flags.

There is evidence in the particulate record that the Quebec fires that most severely affected the Northeast states in early July also impacted South Carolina, although for a shorter period and lesser extent. During early July there is evidence in the data, as both increased mass and indicators of vegetative burning in the speciation results, of impact across much of the state. The impact was most significant and best documented for monitors representing the central and northwest portions of the state, but impact was also indicated for shorter periods at several of the coastal sites as the air mass moved from west to east. (Table 2)

In addition to the larger impacts of the remote fires, there is one PM2.5 sample value flagged for the Chesterfield site (450250001) due to smoke impact from a local fire on March 6, 2002; one value flagged due to impact on a local wildfire on the Myrtle Beach (450510002) sampler and one day's samples at CPW (450190049) impacted by local fireworks. Those values are also listed in the table and supporting documentation accompanying this letter. (Table 3)

I have included with this letter a disk containing satellite imagery, media reports, and NOAA wildfire products related to the areas and periods where data was flagged. The information is organized by date and information type.

We believe the flags we have applied, indicating the data as being impacted by natural events, is consistent with criteria described in Guideline for the Identification and Use of Air Quality Data Affected by Exceptional Events (EPA-450/4-86-007) and request that the concurring flags be applied.

If additional supporting information is needed to support your concurrence, or if you have any questions concerning the supporting information, please contact me at (803) 896-0902.

Sincerely yours,

Scott A. Reynolds, Director  
Division of Air Quality Analysis

Enclosure

cc: Allison Humphries, APTMD  
USEPA - Region 4  
Renee Shealy, BAQ  
SC DHEC (no disk)

Table 1 Okefenokee fire

Monitor ID	Site Name	06-May-2002	07-May-2002	08-May-2002	09-May-2002	10-May-2002
45-007-0003-3	POWERSVILLE Cont	11.4	23.9*	29.3	20.1*	12.7
45-013-0007-1	BEAUFORT			9.8		
45-019-0048-1	FAA	6.3	5.9	13.9	7.6	16.0
45-019-0048-2	FAA Dup			13.8		
45-019-0049-1	CHARLESTON PUBLIC WORKS	5.5	3.9	8.5	5.1	12.5
45-019-0049-5	CHARLESTON PUBLIC WORKS Spec			10.6		
45-025-0001-1	CHESTERFIELD			27.1		
45-025-0001-5	CHESTERFIELD Spec			30.0		
45-037-0001-1	TRENTON			33.5		
45-037-0001-3	TRENTON Cont	10.6	30.2*	32.6	28.9*	12.6
45-041-0002-1	H L SNEED			28.7		
45-043-0009-1	WINYAH			15.9		
45-045-0008-1	GREENVILLE HEALTH DEPT			28.4		
45-045-0009-1	TAYLORS	10.1	20.7	25.2	16.5	11.0
45-045-0009-2	TAYLORS DUP			27.5		
45-045-0009-5	TAYLORS Spec			32.1		
45-045-0009-3	TAYLORS Cont		-	-	-	
45-047-0003-1	MERRYWOOD SCHOOL			38.8		
45-063-0008-1	IRMO			31.0		
45-073-0001-1	LONGCREEK			22.0		
45-073-0001-3	LONGCREEK Cont	11.2	20.2	26.0	18.6	9.6
45-075-0002-1	ORANGEBURG			29.2		
45-077-0002-3	CLEMSON	12.7		27.8	17.7	9.1
45-079-0007-1	PARKLANE			30.5		
45-079-0018-3	OLYMPIA Cont	15.5	35.6*	38.9	41.5*	20.3
45-079-0019-1	BATES HOUSE (USC)	10.2	27.7	30.3	37.4	16.6
45-079-0019-2	BATES HOUSE Dup			30.4		
45-079-0019--5	BATES HOUSE Spec			30.9		
45-083-0010-1	WEST VIEW	9.6	20.2	24.2	20.6	11.1
PM10						
45-003-0003-1	JACKSON			38		
45-011-0001-1	BARNWELL			32		
45-063-0005-3	SALTECH			37		
45-063-0009-1	CAYCE	34	53*	57	61*	59
45-079-0018-1	OLYMPIA	29	57*	79	63*	42
45-079-0019-1	BATES HOUSE (USC)			48		
45-079-1003-1	DHEC			44		
45-079-0007-2	PARKLANE			41		
45-079-0007-3	PARKLANE Dup			42		
45-091-0005-1	ROCK HILL			42		
45-083-0001-1	SPARTANBURG			37		
45-043-0010-1	HOWARD HIGH			78		
45-043-0007-1	WINYAH			86		

\*continuous monitor - partial day flagged

Table 2 Quebec fires

Monitor ID	Site Name	06-Jul-2002	07-Jul-2002	08-Jul-2002	09-Jul-2002	10-Jul-2002	11-Jul-2002	16-Jul-2002	17-Jul-2002	18-Jul-2002
45-007-0003-3	POWDERSVILLE Cont	26.7	25.2	24.2	24.3	18.3	21.9	19.4	45.0	19.5
45-013-0007-1	BEAUFORT							21.5		
45-019-0048-1	FAA							24.4	44.1	32.6
45-019-0048-2	FAA Dup									
45-019-0049-1	CHARLESTON PUBLIC WORKS							25.2	44.0	24.2
45-019-0049-5	CHARLESTON PUBLIC WORKS Spec							29.0		
45-025-0001-1	CHESTERFIELD		19.5					31.5		
45-025-0001-5	CHESTERFIELD Spec		24.6							
45-029-0002-3	ASHTON Cont	27.8						22.0	38.5	40.1
45-037-0001-1	TRENTON		20.5							
45-037-0001-3	TRENTON Cont	34.2	18.7	31.1			16.7	22.0	37.2	
45-041-0002-1	H L SNEED							29.6		
45-043-0009-1	WINYAH							26.7		
45-045-0008-1	GREENVILLE HEALTH DEPT		25.9			19.7		23.3		
45-045-0009-1	TAYLORS	25.2	24.9	24.9	28.1	18.4	20.2	21.5	49.8	28.5
45-045-0009-2	TAYLORS DUP		25.8							
45-045-0009-5	TAYLORS Spec		26.6							
45-047-0003-1	MERRYWOOD SCHOOL							20.5		
45-051-0002-1	MYRTLE BEACH							30.3		
45-063-0008-1	IRMO							24.7		
45-073-0001-1	LONGCREEK		22.9			21.2		22.1		
45-073-0001-3	LONGCREEK Cont							23.7	28.5	15.9
45-075-0002-1	ORANGEBURG							26.2		
45-077-0002-3	CLEMSON	23.9	23.4	22.8	24.5	15.9	18.3	15.9	28.5	17.2
45-079-0007-1	PARKLANE							28.3		
45-079-0018-3	OLYMPIA Cont	38.2		37.1			27.1	34.8	48.3	52.2
45-079-0019--1	BATES HOUSE (USC)	33.5		30.5			20.9	29.2	43.3	37.3
45-079-0019-2	BATES HOUSE Dup									
45-079-0019-5	BATES HOUSE Spec									
45-083-0010-1	WEST VIEW	25.7	22.8		27.3	14.7	18.4	19.5	41.5	30.8

Table 3 Local events

Monitor ID	Site Name	06-Mar-2002	16-Jun-2002	04-Jul-2002	FLAG
45-025-0001-1	CHESTERFIELD	41.2			O
45-025-0001-5	CHESTERFIELD Spec	---			O
45-051-0002-1	MYRTLE BEACH		28.7		E
45-051-0002-2	MYRTLE BEACH Duplicate		27.7		E
45-019-0049-1	CHARLESTON PUBLIC WORKS				E
45-019-0049-5	CHARLESTON PUBLIC WORKS Spec				E

