



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2

290 BROADWAY

NEW YORK, NEW YORK 10007-1866

June 9, 2010

Mr. Edward A. Gerdts  
Managing Principal  
TRC Environmental Corporation  
1430 Broadway – 10<sup>th</sup> Floor  
New York, New York 10018

Re: June 9, 2010 Proposed Amendment #14 – Ambient Air Monitoring Program Plan and June 9, 2010 Proposed Amendment #14 - Quality Assurance Project Plan (QAPP) for the Ambient Air Monitoring Program for the 130 Liberty Street Abatement and Deconstruction Project, September 7, 2005, 130 Liberty Street, New York, N.Y.

Dear Mr. Gerdts:

This is to inform you that the U.S. Environmental Protection Agency (EPA) has completed its review of the June 9, 2010 Proposed Amendment #14 to the September 7, 2005 Section 2 – Ambient Air Monitoring Program Plan of the 130 Liberty Street Abatement and Deconstruction Project and the June 9, 2010 Proposed Amendment #14 to the September 7, 2005 Quality Assurance Project Plan (QAPP) for the Ambient Air Monitoring Program of the 130 Liberty Street Abatement and Deconstruction Project submitted by TRC Environmental Corporation (TRC) on behalf of the Lower Manhattan Development Corporation for 130 Liberty Street in lower Manhattan.

Based on our review, and in consultation with the New York State Department of Labor (NYSDOL) and the New York City Department of Environmental Protection (NYCDEP), EPA accepts the above-referenced proposed amendments.

EPA's acceptance is not intended as a review and/or acceptance of structural engineering and safety matters or requirements for the protection of worker safety and health or for fire protection and safety at 130 Liberty Street. EPA is relying on the New York City Department of Building's, the U.S. Department of Labor Occupational Safety and Health Administration's and the New York City Fire Department's expertise in these areas, respectively.

EPA will continue to work with our regulatory partners to monitor the 130 Liberty Street activities throughout the execution of the project.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Evangelista', written in a cursive style.

Pat Evangelista  
Director, Office of Strategic Programs

cc: Richard Mendelson, OSHA  
Christopher Alonge, NYSDOL  
Krish Radhakrishnan, NYCDEP  
Christopher Santulli, NYCDOB  
Thomas Kunkel, LMCCC  
Michael Weinlein, FDNY  
Suzanne Mattei, NYSDEC

# QAPP AMENDMENT FORM: Amendment # 14

DATE FORM SUBMITTED: 06/09/10

**QAPP Title**                    **Quality Assurance Project Plan for the Ambient Air Monitoring Program**  
**130 Liberty Street Deconstruction Project**  
**September 7, 2005**

## AMENDMENT #14

This Amendment presents data to support discontinuation of monitoring of PM<sub>10</sub> and PM<sub>2.5</sub> particulate matter in ambient air using EPA Reference Method monitors during the balance of the 130 Liberty Street deconstruction project.

### Background

The September 7 2005 Ambient Air Monitoring Plan for the 130 Liberty Street Abatement and Deconstruction Project specified that PM<sub>10</sub> and PM<sub>2.5</sub> be monitored on a continuous basis using Met One EBAM Beta Attenuation monitors at all stations. Since these monitors are not designated as USEPA Reference Method samplers, it was agreed that USEPA Reference Method samplers would be collocated with the EBAM continuous monitors to serve as a quality assurance (QA) check on the data generated from the EBAM units. To meet the requirements of the Air Monitoring Plan, Andersen RAAS samplers (EPA Federal Reference Method samplers or FRM) were used since the inception of the monitoring program in 2005 and continue until the present time (PM<sub>2.5</sub> samplers were discontinued in October 2009). As prescribed in the Air Monitoring Plan and QAPP, the Andersen FRM samplers were collocated with the EBAM monitors for an approximate one month period at each of the stations in the 130 Liberty Street Air Monitoring network. The FRM samplers were relocated to another station in the network on a monthly basis for the duration of the monitoring program (October 2005 to June 2010). PM<sub>10</sub> and PM<sub>2.5</sub> data expressed as ug/m<sup>3</sup> (24-hour average) measured gravimetrically using the filter collection method (FRM) were directly compared to the average PM<sub>10</sub> and PM<sub>2.5</sub> concentrations measured using the primary monitoring technique or collocated EBAM sampler. The latter value was expressed as a 24-hour average comprised of all 10-minute average values (144 10-minute averages per 24 hour period). These comparison data were summarized in tabular form and submitted to USEPA on a biweekly basis during the entire term of the 130 Liberty Street monitoring program. As a result of the comparison data collected in the early months of the monitoring program (September-November 2005), LMDC agreed to apply a correction factor to all EBAM 24-hour average concentrations prior to direct comparison to PM<sub>10</sub> and PM<sub>2.5</sub> Trigger Level and Target Air Quality concentrations. This practice of applying correction factors to the EBAM data was discontinued in November 2005 (November 23, 2005 approval letter from USEPA). Since that time no correction factors have been warranted or applied to EBAM data.

### Reason for Amendment

LMDC has been monitoring PM<sub>10</sub> and PM<sub>2.5</sub> since September 2005 using both EBAM continuous monitors and Andersen RAAS FRM samplers. With approval from USEPA, the use of correction factors in reporting of EBAM data was discontinued in November 2005 based upon FRM data collected up to that time. Since November 2005, comparisons of EBAM and RAAS FRM sampler data expressed as 24-hour average PM<sub>10</sub> and PM<sub>2.5</sub> concentrations have continued and have been reported to USEPA on an ongoing basis (e.g., biweekly data reports). Data presented in all of these summary reports have served to

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support the November 2005 finding that correction factors for EBAM PM<sub>10</sub> and PM<sub>2.5</sub> data are not necessary or warranted. A representative subset of the data, as presented in Table 1 (attached), serves to justify the elimination of FRM monitoring during the remainder of the 130 Liberty Street deconstruction program on the basis that the two types of monitoring data are equivalent.

### Sections of QAPP Affected:

Table 7-1c (Phase II – Structural Deconstruction): This table will be revised to eliminate the use of PM<sub>10</sub> and PM<sub>2.5</sub> reference samplers.

Table 7-3 (Phase II – Structural Deconstruction Phase Sampling and Analysis Summary):

This table will be revised to eliminate the use of PM<sub>10</sub> and PM<sub>2.5</sub> reference samplers.

Section 10.2.9, PM10: The requirement to run the reference method PM<sub>10</sub> sampler as a QA check on the E-BAM sampler at one location per day will be eliminated from the program.

Section 10.2.10, PM2.5: The requirement to run the reference method PM<sub>2.5</sub> sampler as a QA check on the E-BAM sampler at one location per day will be eliminated from the program.

**Date Implemented:** June 2010

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**Table 1**  
**LMDC - 130 Liberty Street Deconstruction Project**  
**Comparison Between EBAM Particulate Matter Readings and FRM Particulate Matter Results**

Site	Particle Size	Dates	Number of Pairs	Mean Concentrations		RAAS % difference		Absolute % Difference Mean Values <sup>c</sup>
				EBAM (ug/m3)	RAAS FRM (ug/m3)	Absolute Average % Difference <sup>a</sup>	Average % Difference <sup>b</sup>	
<b>Station 2</b>	PM10	3/23/07 to 2/19/10	437	27.84	33.04	29.90%	11.41%	15.73%
<b>Station 10</b>	PM2.5	12/27/07 to 10/15/09	289	15.48	15.07	15.80%	-3.96%	2.70%

**Notes:**

a - Average of all Absolute %D values; Absolute %D was calculated using the equation:  $\text{abs\%D} = \text{abs}((X1 - X2) / X1) * 100\%$ ;  
 where X1 = RAAS FRM concentration, X2 = EBAM concentration.

b - Average of all Actual %D values; Actual %D was calculated using the equation:  $\text{\%D} = (X1 - X2) / X1 * 100\%$ ;  
 where X1 = RAAS FRM concentration, X2 = EBAM concentration.

c - Absolute % difference mean value using the equation:  $\text{abs\%D} = \text{abs}((X3 - X4) / X3) * 100\%$ ;  
 where X3 = RAAS FRM mean concentration, X4 = EBAM mean concentration.