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COMMUNITY AIR MONITORING PLAN FOR OPERABLE UNIT 4

Sunnyside Yard
Queens, New York

Prepared for:

NATIONAL RAILROAD PASSENGER CORPORATION
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1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) has developed a project-specific Community Air Monitoring Plan (CAMP) to implement real time monitoring at the Amtrak Sunnyside Yard, Queens, New York (Yard) during the Remedial Action planned for Operable Unit 4 (OU-4). Investigation results indicate that inorganic compounds (metals), semivolatile organic compounds (SVOCs)/carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and polychlorinated biphenyls (PCBs) are present in the Yard. Based on soil borings/sample analysis, the New York State Department of Environmental Conservation (NYSDEC) set forth compounds of concern (COCs) in soil for OU-4, including PCBs, lead, and total SVOCs. Since the Remedial Action includes excavation, soil stockpiling, and backfill activities, particulates will be monitored.

The monitoring program will monitor for total VOCs and particulates at the downwind perimeter of the work area during ground intrusive activities. The design of the CAMP is intended to provide a measure of protection for the downwind community and onsite workers not directly involved with the subject work activities from potential airborne contaminant releases as a direct result of remedial work activities. This plan is consistent with the NYSDEC's Technical Administrative Guidance Memorandum 4031 (Fugitive Dust Suppression and Particulate Monitoring Program) and the New York State Department of Health's (NYSDOH's) Generic Community Air Monitoring Plan guidance document.

Roux Associates will be responsible for the implementation of the CAMP and will have direct and constant communication with all components of the remediation team in order to effectively and instantaneously initiate the necessary Yard controls to prevent and/or minimize any work stoppages related to CAMP issues.

The specifics of the CAMP are presented in the following four (4) sections:

1.1 VOC Monitoring Approach

1.2 Particulate Monitoring, Response Levels, and Actions

1.3 Meteorological Monitoring Approach

1.4 Available Suppression Techniques

1.1 VOC Monitoring Approach

During all remedial activities, VOCs will be monitored periodically at the upwind perimeter and continuously at the downwind perimeter of the Work area or Yard boundary at temporary monitoring stations. Upwind concentrations will be measured at the start of each workday and at four-hour intervals, or more frequently in the event that a continued upwind source of VOCs exists, to establish background conditions. The monitoring work will be conducted using MiniRAE 2000 portable VOC monitors or similar type monitors for all VOC monitoring. The equipment will be calibrated at least once daily using isobutylene as the calibration gas. One (1) upwind and one (1) downwind monitor will be deployed each day. Each monitoring unit is equipped with an audible alarm to indicate exceedance of the action levels (as defined below and summarized in Table 1).

The equipment is capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or the exclusion zone (defined as any areas where there is active excavation and handling of contaminated materials) exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or the exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, suppression techniques employed to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor (i.e., work area perimeter) or residential/commercial structure, whichever is less, is below 5 ppm over background for the 15-minute average.

- If levels are in excess of 25 ppm above background, identified contributing ground intrusive activities will be halted and vapor suppression techniques will be evaluated and modified until monitoring indicates VOC levels below the action level.

All 15-minute readings will be recorded and made available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, used for decision purposes will be recorded. If an exceedance of the action level occurs, an Action Limit Report will be completed identifying

the monitoring device location, the measured VOC level, the activity causing the exceedance, meteorological conditions, and the corrective actions taken, as provided in Attachment 1. Additionally, the NYSDEC and NYSDOH will be notified within 24 hours of the VOC Action Limit Report generation. Daily monitoring equipment locations and meteorological conditions will also be documented on a daily CAMP Monitoring Location Plan. All documentation will be kept on file at the Yard. Chemical specific air monitoring using similar methods and procedures as outlined for the VOC baseline sampling will be conducted if perimeter action levels for VOCs are regularly exceeded are prevalent offsite.

1.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the work area at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action levels (as defined below and summarized in Table 1). Monitoring equipment will be MIE Data Ram monitors or equivalent. A minimum of one (1) upwind and one (1) downwind monitor will be deployed each day equipped with an omni-directional sampling inlet and a PM-10 sample head. The data logging averaging period will be set to 15-minutes with time and date stamp recording. Alarm averaging will be set at 90 micrograms per cubic meter ($\mu g/m^3$) per 15-minute period. This setting will allow proactive evaluation of work conditions prior to reaching Action Levels of 100 $\mu g/m^3$ above background. The equipment is equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. The monitoring will be used to compare values to the following:

- If the downwind PM-10 particulate level is 100 $\mu g/m^3$ greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 $\mu g/m^3$ above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m^3 above the upwind level, work must be stopped, a re-evaluation of activities initiated, and dust suppression techniques modified. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 µg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and made available for NYSDEC and NYSDOH personnel to review. If an exceedance of the action level occurs, an Action Limit Report will be completed identifying the monitoring device location, the measured particulate level, the activity causing the exceedance, meteorological conditions, and the corrective actions taken, as provided in Attachment 1. Daily monitoring equipment locations and meteorological conditions will also be documented on the daily CAMP Monitoring Location Plan. All documentation will be kept on file at the Yard.

1.3 Meteorological Monitoring

Meteorological data consisting of wind speed, wind direction, temperatures, barometric pressure, and relative humidity will be collected. At a minimum, a full set of values will be collected at the start of each workday, noon of each workday, and the end of each workday. Wind direction readings will be utilized to position the VOC and particulate monitoring equipment in appropriate upwind and downwind locations. A Davis Corporation wireless instrument station or equivalent will be used to collect all meteorological monitoring data.

1.4 Available Suppression Techniques

Water misting via controlled fire hose and/or dedicated water truck will be utilized as a daily Yard control measure to mitigate the potential for particulate/dust release in non-contaminated work areas and roadways. Excavation methods and material staging and loading methods will be continually evaluated and modified (as necessary) to alleviate the potential for VOC and particulate releases.

1.5 Reporting

All recorded data will be downloaded and field logged daily, including Action Limit Reports (if any) and daily CAMP monitoring location plans. All records will be maintained onsite for NYSDEC/NYSDOH review. A description of all CAMP-related activities will be included in the Monthly Progress Report submitted to the NYSDEC and NYSDOH. Additionally, all CAMP monitoring records will be included in the overall Final Engineering Report that will be submitted to the NYSDEC and NYSDOH. If an Action Limit Report is generated due to VOC exceedances, then the NYSDEC and NYSDOH must be notified within 24 hours.

Table 1. Action Limit Summary for VOCs and Particulates, Amtrak Sunnyside Yard, Queens, New York

Contaminant	Downwind Action Levels*	Action/Response
Volatile Organic Compounds (VOCs) (Monitoring Via Photoionization Detector and Odor Observation)	< 5 ppm	1. Resume work with continued monitoring.
	5 ppm < level < 25 ppm	1. Work activities must be temporarily halted, source vapors must be identified, suppression techniques employed to abate emissions, and monitoring continued. 2. After these steps, if VOC levels (200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or structure, whichever is less) are below 5 ppm over background, resume work.
	> 25 ppm	1. Identified contributing ground intrusive activities must be halted and vapor suppression techniques must be evaluated and modified until monitoring indicates VOC levels below the action level. 2. After these steps, if VOC levels (200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or structure, whichever is less) are below 5 ppm over background, resume work.
Particulates (Monitoring Via Particulate Meter and Observation)	< 100 ug/m^3	1. If dust is observed leaving the work area, then dust control techniques must be implemented or additional controls used.
	100 ug/m3 < level < 150 ug/m^3	1. Employ dust suppression techniques. 2. Work may continue with dust suppression techniques provided that the downwind PM-10 particulate concentration does not exceed 150 ug/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
	> 150 ug/m^3	1. STOP work 2. Re-evaluate activities, modify dust suppression techniques. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m^3 of the upwind level and in preventing visible dust migration.

* 15-minute running time-weighted average (twa) above background. Particulate readings are based on the respirable (PM-10) fraction. Background readings are taken at upwind locations relative to Work Areas or Exclusion Zones.

COMMUNITY AIR MONITORING PLAN

ATTACHMENT 1

Action Limit Report

ACTION LIMIT REPORT

Project Location: Amtrak Sunnyside Yard, Queens, New York

Date: _____ Time: _____

Name: _____

Contaminant: PM-10: _____ VOC: _____

Wind Speed: _____ Wind Direction: _____

Temperature: _____ Barometric Pressure: _____

DOWNWIND DATA

Monitor ID #: _____ Location: _____ Level Reported: _____

Monitor ID#: _____ Location: _____ Level Reported: _____

UPWIND DATA

Monitor ID #: _____ Location: _____ Level Reported: _____

Monitor ID#: _____ Location: _____ Level Reported: _____

BACKGROUND CORRECTED LEVELS

Monitor ID #: _____ Location: _____ Level Reported: _____

Monitor ID#: _____ Location: _____ Level Reported: _____

ACTIVITY DESCRIPTION

CORRECTIVE ACTION TAKEN