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July 6, 2015

Via U.S. Mail

To:

Ms. Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Copied:

Ms. Judith A. Enck
Regional Administrator
U.S. Environmental Protection Agency,
Region 2
290 Broadway
New York, NY 10007-1866

Re: Furtherance of CEC's April 6, 2014 Sixty-Day Notice Concerning the Remediation of the Gowanus Canal Superfund Site

Dear Administrator McCarthy:

This letter is in furtherance of CEC's April 6, 2014 sixty-day notice letter (the "60-Day Notice") concerning our intent to bring a civil action against the U.S. EPA (EPA) in connection with the planned remediation of the Gowanus Canal Superfund Site.

As originally stressed in CEC's April 27, 2013 Comment Letter to the Proposed Remedial Action Plan (the "PRAP") and reiterated in its 60-Day Notice, the EPA, through its acknowledged failure to require performance of an air pathway analysis/assessment (APA) as part of the feasibility study (the "FS") during remedy-selection process, has abrogated its mandatory duty associated with implementation of CERCLA, the National Contingency Plan (NCP), and the Clean Air Act (CAA). As shown below, this abrogation will almost invariably result in serious inhalation-based health effects to the local residents during implementation of the final remedy (the "Remedy"), should its design not be modified to incorporate air emission controls.

Notwithstanding the foregoing, CEC is encouraged by the fact that its concerns were acknowledged by the commitment to perform an APA, as stated in the February 2014 Remedial Design Work Plan. However, as of this writing, CEC has yet to see any documentation that such APA is actually underway, and, as such, we must again reiterate our concern that this analysis was required to have been performed during the FS remedy-selection process.

Performance of an APA Was Required During the Remedy-Selection Process

An APA should have been performed as part of the FS *before* selection of the final Remedy. This is required, unequivocally, by CERCLA, the NCP, and applicable EPA Guidance. CERCLA §121 requires potential alternative remedial actions to be assessed taking into account: (a) the "short- and long-term potential for adverse health effects from human exposure;" (b) "*the potential threat to human health and the environment associated with excavation, transportation, and re-disposal, or containment;*" and (c) compliance with all Federal and State



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applicable or relevant and appropriate requirements (“ARARs”), including but not limited to those requirements under the Clean Air Act. [Emphasis added].

According to the NCP, Subpart E §300.430, the purpose of the remedial investigation (RI) is to collect data necessary to adequately characterize the site for the purpose of developing and evaluating effective remedial alternatives.” §300.430 also provides, “[T]he primary objective of the feasibility study (FS) is to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the remedial action options can be presented to a decision-maker and an appropriate remedy selected.” “[D]evelopment of [remedial] alternatives shall be fully integrated with the site characterization activities of the remedial investigation” And, as part of the RI, “[b]ench- or pilot-scale treatability studies shall be conducted, when appropriate and practicable, to provide additional data for the detailed analysis and to support engineering design of remedial alternatives.”

§300.430 provides that each remedial alternative considered during the FS is evaluated in accordance with nine criteria: (a) overall protection of human health and the environment; (b) compliance with ARARs; (c) long-term effectiveness and permanence; (d) reduction of toxicity, mobility, or volume through treatment; (e) short-term effectiveness; (f) implementability; (g) cost; (h) state acceptance; and (i) community acceptance. In this situation, the salient criterion is (e) short-term effectiveness. “The short-term impacts of alternatives shall be assessed considering the following: (1) *Short-term risks that might be posed to the community during implementation of an alternative*” *Id.*, [emphasis added].

EPA’s “Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA,” EPA/540/G-89/004, October 1988 (“EPA RI/FS Guidance”) instructs that: (a) a “detailed analysis of remedial alternatives *follows* the development and screening of alternatives and *precedes* the actual selection of a remedy;” (b) the “*evaluation of the overall protectiveness of an alternative during the RI/FS should focus on whether a specific alternate achieves adequate protection and should describe how site risks posed through each pathway being addressed by the FS are eliminated, reduced or controlled through treatment, engineering, or institutional controls;*” and (c) “*the evaluation for each alternative considered must allow for consideration of whether an alternative poses any unacceptable short-term or cross-media impacts.* [emphasis added].

Thus, CERCLA, the NCP, and the EPA RI/FS Guidance are unequivocally clear that an alternative remedy must be: (a) evidenced to be protective of human health across all potential media (including air); and (b) compliant with all ARARs (including air) before the selection of the final Remedy to support engineering design of remedial alternatives.

EPA Has Long Recognized the Inhalation Risks That Components of the Final Remedy Pose to Residents Living Near the Remediation of Sites Such as the Gowanus Canal

EPA has long recognized that dredging, excavating, dewatering, handling, and *in situ* stabilization/solidification (“ISS”) of contaminated soils and sediments pose a significant risk of



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hazardous volatile compound release into the ambient air. In fact, there is ample EPA guidance on each of these activities such that the requirement to perform an APA prior to their final selection would appear to be commonsense, even if, *arguendo*, an APA were not legally required. Indeed, because EPA was and is aware of the health risks posed by the Remedy components, ignoring the requirement to quantify and mitigate those risks prior to final Remedy selection appears to be a critical oversight. By failing to conduct an APA during the FS, EPA has simply ignored known risks and delayed an assessment of how best to mitigate those risks until after an uninformed commitment to the final Remedy had already been made.

In fact, according to Section 1.4 of EPA's "Air/Superfund National Technical Guidance Study Series, Volume I – Overview of Air Pathway Assessments for Superfund Sites (EPA-450/1-89-001a, November 1992)," ("EPA Air/Superfund Guidance") APAs are necessary because, "[f]rom a health-risk perspective, *the dominant exposure pathway over the lifetime of a site will, in many cases, be due to air exposure during remediation.*" [emphasis added].

Quantification of Inhalation Exposure During *In Situ* Stabilization

As described in the Record of Decision, the ISS component of the final Remedy consists of mixing a stabilizing agent (in this case, blast-furnish slag and Portland cement) into the pockets of coal tar under the Canal bottom, thus preventing the contaminants from migrating further off-site via the groundwater. In the mixing process, however, heat is liberated, driving off large quantities of numerous volatile and semi-volatile compounds, which will then bubble up through the water for release to the ambient air. The EPA Air/Superfund Guidance, at page 4-9, cautions that ISS is not appropriate for treating wastes with a large VOC content because "[t]he mixing steps required to blend the contaminated material with the stabilizing agents will enhance VOC emission rates, as will the heating of the material from any exothermic reactions. Measurements have indicated that *most or all of the VOCs originally present in the waste material are lost to the atmosphere by the end of the curing period.*" [emphasis added].

Figures 1 and 2 present, for naphthalene and benzene, respectively, reasonably worst-case short-term (hourly) impacts associated with the ISS component of the final Remedy. These dispersion modeling simulations were performed using AERMOD (EPA's recommended "Guideline" air dispersion model) by CEC's air quality consultants, Minnich and Scotto. Loss factors of 50% and 100% for naphthalene and benzene, respectively, were used, consistent with EPA's aforementioned guidance for this exothermic reaction. It is judged likely that similar results would be obtained for many of the myriad other compounds comprising the coal tar.

Typically performed as part of an APA, these simulations depict the amount by which the New York State Short-Term Guideline Concentrations (SGCs) are exceeded. For example, for either contaminant, the impact at all locations within the enclosed area defined by the isopleth (line) marked "100" means that the predicted hourly concentrations exceed the safe level by a factor of 100 (i.e., greater than 100 times the safe level). The SGCs for naphthalene and benzene are 7.9 and 1.3 milligrams per cubic meter (mg/m³), respectively.



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Even more troubling, however, is how these modeled predictions compare to each contaminant's IDLH (the concentration in air which is "immediately dangerous to life and health"). The IDLH for naphthalene is 250 parts per million (ppm) (1,300 mg/m³), and 500 ppm (1,600 mg/m³) for benzene. Alarming, maximum predicted concentrations of naphthalene are so high that the IDLH is actually exceeded within broad areas along the Canal.

For benzene, small geographic areas of concentrations exceeding the IDLH showed up near each ISS location, although these areas were too small to be graphically depicted by the automated plotting software. Still, these results only serve to reinforce the obvious conclusion that implementation of the final Remedy without emission controls (as currently envisioned) poses a grave danger to local residents and on-site workers.

The Public Was Never Advised of the Risks Posed by the Selected Remedy

Prior to selection of the various sediment/soil remediation components of the final Remedy, the community was (and remains) entitled to be informed of the associated health risks and the extent to which emission controls or mitigative technologies were needed. Indeed, the community was (and remains) entitled to assess whether the Remedy actually satisfies the remedy-selection criteria at all – i.e., whether its implementation is sufficiently protective of human health.

Critically, had an APA been performed during the remedy-selection process, local residents would have had the opportunity to comment (and object) to the proposed final Remedy in a meaningful way, had they believed that its implementation would pose a substantial health-based risk. However, by not performing an APA until after the remedy-selection process, the Community was deprived of this opportunity.

Summary

Inhalation exposure arising from implementation of the final Remedy, as designed, is shown to pose a significant danger to human safety. IDLH exceedances are predicted within broad areas along the Canal. Such exposure potential should have been reasonably anticipated based on existing EPA guidance.

Because an APA was never performed during the FS, the various components of the Remedy were not evidenced to be sufficiently protective of human health, nor compliant with air quality ARARs, as required by CERCLA, the NCP, and the CAA. Moreover, because the local community was never informed about the well-known inhalation-based risks that the various Remedy components pose, they were deprived of a meaningful opportunity to comment on and/or object to the final Remedy.

Accordingly, although CEC is encouraged by EPA's commitment to correct its acknowledged failure to conduct an APA during the remedy-selection process (by committing to performing an



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APA during the remedial-design phase), the APA must still be performed within the regulatory framework and comply with relevant EPA guidance. Further, EPA must provide an opportunity for the community to comment on and/or submit objections to this APA, since they were deprived of such opportunity earlier.

On behalf of CEC, I look forward to having a good-faith discussion with EPA to ensure these urgent and critical public health concerns are addressed in a transparent way going forward.

Sincerely,



Kristian Karl Larsen, Esq.

FIGURE 1

In Situ Stabilization (ISS)

**Predicted Reasonably Worst-Case Hourly Impacts for Naphthalene
(in SGC Exceedance Factors and Exceedance of the IDLH)**

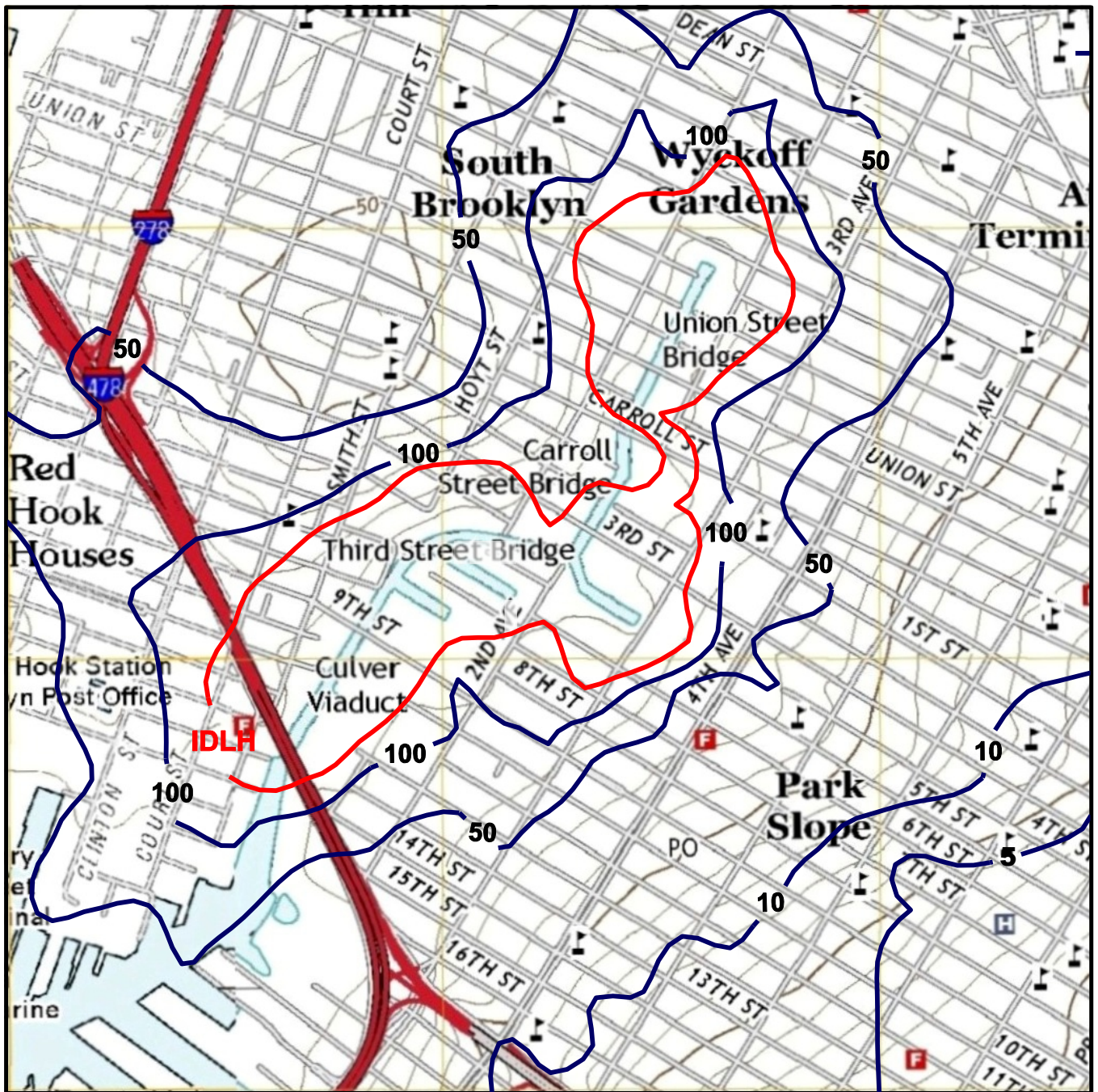


FIGURE 2

In Situ Stabilization (ISS) Predicted Reasonably Worst-Case Hourly Impacts for Benzene (in SGC Exceedance Factors)

