Newtown Creek Technical Community Advisory Group (TCAG)
Meeting Summary
June 19, 2019
Sunnyside, NY

Upcoming Meetings and Events

Event	Date	Venue
Newtown Creek CAG meeting	September 18, 2019, 6:30-8:30 PM	TBD
Newtown Creek TCAG meeting	October 16, 2019, 6:30-8:30 PM	TBD

The CAG will not meet in July or August.

Presentation and Discussion[1]

Update on Potentially Responsible Parties (PRPs): Current PRPs and details on those added in the last 2 to 3 years

To identify PRPs, EPA has reviewed industrial operations at facilities upland of the study area from the mid to late 1800s to the present. The has included a review of a large variety of industries and processes, looking for hazardous substances generated and released at industrial facilities, and pathways for hazardous substances to reach Newtown Creek (e.g. point source, overland flow, groundwater, bank erosion, overwater activities.) The CERCLA liability scheme holds responsible a current owner/operator, a past owner/operator (at time of disposal), an arranger, or a transporter of hazardous materials.

Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, EPA has a responsibility of responding to hazardous waste releases. This occurs either through a fund-financed activity, meaning the Superfund pays for it, or as enforcement, in which PRPs are performing and paying for the work. EPA conducts a rigorous PRP search in order to bring on as many PRPs as possible to share the costs of the high expenses associated. If a party is still in existence or has a legal successor that has the financial ability to participate, EPA may unilaterally determine through an administrative decision that it is a PRP.

Update to the list of PRPs

The Newtown Creek Group (NCG) are the performing respondents who agreed to perform the remedial investigation (RI) and feasibility study (FS). The NCG includes:

1. BP America, Inc.
2. The Brooklyn Union Gas Company d/b/a National Grid
3. The City of New York

[1] The following is a summary of the presentations. Refer to the presentation slides found at https://newtowncreekcag.wordpress.com/presentation-slides/ for additional detail.

4. ExxonMobil Oil Corporation
5. Phelps Dodge Refining Corporation (now Part of Freeport McMoRan, Inc.)
6. Texaco, Inc. (now part of Chevron Corporation)

The following additional PRPs were named in 2017:

1. Consolidated Edison Company of New York
2. National Railroad Passenger Corporation (AMTRAK)
3. American Premier Underwriters, Inc.
4. Connell Limited Partnership
5. The Long Island Railroad Company
6. Motiva Enterprises, LLC
7. Shell Oil Company
8. Simsmetal East LLC (subsidiary of Sims Metal Management, Inc.)

The following additional PRPs were recently named:

1. Darling Ingredients Inc.
2. Sunoco Entities:
    a. Sunoco, Inc.
    b. Energy Transfer L.P.

Questions and comments *(direct responses from EPA are in italics)*

- Is the Van Iverstein company (which has since been legally succeeded by subsequent companies) liable because another company that released hazardous material used their dock?
    - *That is a basis, but their own operations discharged huge amounts of contaminated wastewater containing solvents, metals, and hazardous substances as well.*
- Concerning Long Island Railroad and Amtrak: Was there contamination from other parts of the rail system?
    - *The tracks extend all along the river. The focus is on PCBs and metals in railyards. The operations of the trains going over Newtown Creek were known to release PCBs in their operation, which would likely have been discharged to the water body. Therefore, the operation of the rail is of concern, not just the operation of the railyard.*

Data regarding aeration in Newtown Creek

In response to concerns the CAG has expressed related to the operation of the aeration systems in English Kills and the East Branch, EPA made a presentation of data it had concerning the aeration systems, with the goal of discussing these concerns and providing an opportunity to ask questions.

Key community concerns regarding aeration include:

- Resuspension/disruption of contaminated sediments in Creek.

- Aeration system effects on transport of contaminants by ebullition
- Potential health impacts from aerosolization of chemicals by aeration
- Aerosolization of bacteria[2]

Background on the aeration system:

- Aeration system was constructed by NYCDEP pursuant to an administrative order on consent with NYSDEC
- The aeration system was constructed and is operated under regulatory oversight of NYSDEC.
- Required to maintain dissolved oxygen levels >3 mg/L during warm weather to support fish and biota survival
- Aeration system constructed in upper and lower English Kills and East Branch
- Operates from May through September and is periodically tested for short periods at other times

In the English Kills aeration system, air is pumped through a diffuser at a height of 14.5 inches placed at intervals on a series of PVC pipes.

Sediment resuspension

Total suspended solids (TSS) measure the amount of solids in the water column and can provide insight into potential resuspension of sediments by aeration. TSS data for English Kills do not show consistently elevated TSS in summer months (when the aeration system operates) as would be expected if the aeration system was resuspending sediments. Additionally, the range of TSS concentrations is consistent with the range of TSS concentrations in other creek reaches and tributaries that don't have aeration. Therefore, the TSS data does not suggest that the aeration system is resuspending sediments.

Questions and comments *(direct responses from EPA are in italics.)*

- These responses are not satisfactory. While data presented may have a correlation to the impacts, it is not a proper way to evaluate the impacts of aeration and does not account for algal blooms, prop wash, and other issues to which the data could be corresponding. We disagree with the notion that the pipes remain 14 inches above the sediment rather than subsiding into and disrupting the sediment. Additionally, when the system is on, disruptions and sediment rising to the surface can be seen. Aeration is not treated at the same level as prop wash, ebullition, etc. We know that where the pipes are located are some of most heavily contaminated areas of the Creek.
    - *It is correct that this is not a proper study of this issue. EPA did not study this issue in the Superfund process. Knowing that this was a concern of the CAG, EPA*

[2] EPA's presentation did not address aerosolization of bacteria, because it concerns issues outside the purview of CERCLA. EPA pointed to NYCDEP analysis for more information: https://www1.nyc.gov/site/dep/environment/east-branch-aeration.page)

took existing data to do a semi-quantitative analysis to see if there was any indication of the magnitude of disruption from the aeration system on the Creek. EPA is studying the Creek from a Superfund perspective, looking at where contamination is, might go, and how to clean it up. When EPA finishes the FS process, the aeration system will be consideration in alternatives evaluated to clean up creek. The ultimate design of a remedy will need to take the aeration system into account. If there are issues with the aeration system, the design will address that. The system is run under city and state purview.

Aeration system effects on the transport of contaminants by ebullition

Background on the ebullition process:

- Ebullition is a natural process occurring in sediment due to decomposing organic matter. Bacteria digest and produce gases: CO and methane
- The gases tend to build up in sediment until they exceed the pressure of the water and sediment column above, then come up through water column to surface.
- Gases fracture the sediment and rise in the water column to the water surface.
- Ebullition rates are generally higher in the summer due in part to higher sediment temperatures.

Ebullition-facilitated NAPL transport process:

- Gas bubbles create an air-water interface to which hydrophobic chemicals and NAPL adhere to.
- NAPL-covered bubbles reach the water surface and spread out forming sheens.
- When sheens are no longer supported by the water's surface tension, the sheens descend through the water column and deposit on the sediment surface.
- Ebullition-facilitated NAPL transport can transfer contaminants from sediment to surface water and act to move contaminants from the sediments to other locations within the creek.

Ebullition generally takes place inside the sediment, generally about a meter down in the sediment. The aeration system does not impact what is occurring down deeper in the sediment. Once the bubbles rise, the only potential effect of aeration would be dispersal of sheens on the water's surface.

Questions and comments *(direct responses from EPA are in italics.)*

- This assumes a properly operating aeration system. As documented by the Newtown Creek Alliance, the system is frequently broken and spraying water into the air. EPA is doing a comprehensive ebullition study, but when the aeration system breaks its impacts must dwarf that of ebullition. Our concern is not that the aeration system is increasing ebullition. With aeration, NAPL comes to the surface, and then a rush of bubbles is pushing it into the air and moving it around. This is disrupting what would otherwise happen where NAPL would rise then slowly sink again. The human health and

risk assessment (HHRA) looked at a Plank Road user. Now at Plank Road, the aeration system is on, and is washing NAPL on Plank Road, which is the only public place besides the nature walk. Does EPA have data on the frequency of the malfunctioning of the aeration systems and the process for fixing them?

- *EPA spoke with the city and the state after receiving the emails with photos that you provided. EPA's understanding is that there will be changes made to the aeration system and that your concerns are being heard. We expect it to be run for a shorter period. We hear your concern about the short-term impacts. In the long-term, once the Creek is cleaned up, these issues should be addressed, but we understand that does not help in the interim before cleanup occurs.*
- DEP: there is a lot of data available, though we may not currently have the shared maintenance logs. However, we are aware of the challenges of the system.

- Has there been a cost/benefit analysis of running or not running the aeration system? Obviously, it effects biota and water.
  - *It is run to keep biota alive. Without it, in the summer the biota will die, float to the surface, stink, and wash up on shores. Before the system was in pace, there was a lot of hydrogen Sulphur gas, which smells bad and is not healthy.*

Potential health impacts from aerosolization of chemicals by aeration

Background:

- Air sampling was conducted at Newtown Creek in June 2013 to assess potential impacts to air from site-related contaminants (VOCs and PCBs).
- Air samples collected at shoreline and from in-creek stations over a period of 24 hours
- Used cannisters that collect continuous air samples at on- creek and shoreline stations.
- Sampling was conducted when the English Kills aeration system was operating.

Results of the air sampling did not show the presence of VOCs and PCB Aroclors at concentrations above background air concentrations (based on statistical tests at 95% confidence level)

Potential health risks from aerosolized chemicals:

- Risk to shoreline recreations users from exposure to chemicals in ambient air were well below EPA's cancer risk range (1 E-4 to 1E-6)and non-cancer hazard index (1).
- The BHHRA did not specifically quantify risks for exposure to aerosolized droplets.
- The HHRA did estimate risks to boaters and swimmers (and others) via ingestion and dermal contact with surface water. Risks for these exposures were well below EPA thresholds.
- Cancer risks for these exposures were 1 E-7 or lower, and non-cancer hazards were 0.01 or lower.

Questions and comments *(direct responses from EPA are in italics.)*

- Data from one day of testing in June 2013 is not a comprehensive study, and was not designed to study the impacts of aeration. The air quality data is insufficient.
- Generally, it is frustrating to see EPA use data that was not intended to study aeration. Particularly comparing to data for exposure via swimming to exposure through breathing. This system was recently, knowingly put in, and was poorly done. Where the system is needed, the city and state should find other designs to improve oxygen that does not create these hazards. Gowanus had an oxygen improvement system that did not aerosolize the water. We recommend that that system be evaluated as a long-term solution if deemed necessary. Will other aeration options be considered during the FS process, if not sooner?
    - *EPA could work with the city and state on whether other options could be incorporated. It might not be in the FS but later in the remedial design.*
- Do PRPs have a responsibility to make information about contamination levels public?
    - *The fact that they are PRPs is not hidden. Regarding information employees, this is not the same as OSHA, though there could be OSHA issues. The reason for Superfund is not for current practices and operations.*

Site work update and overview of OU3: proposed early action

EPA will be sending out the executive summary of the revised RI, along with a caveat that EPA is not in agreement with some statements made in the executive summary.

EPA is completing an RI/FS, which is used to select a remedy for the whole creek. The current schedule anticipates remedy selection in 2023. After negotiating with PRPs on the remedial design, clean up would likely begin in 2027 or later. Given this long timeline, the NCG said it would like to start work cleaning up portions of the Creek sooner. In the Superfund process, this can be considered under an early action (EA.) By the September meeting, there will likely be a legal agreement under which the NCG will conduct an evaluation of the proposed EA in a process similar to the focused feasibility study (FFS) for the long-term control plan (LTCP.) If through the process it is determined to be feasible, EPA will select a clean-up plan for the EA as an interim remedy for the Creek, implement the remedy, and conduct a comprehensive performance monitoring plan. These results would be used to inform a sitewide remedy process.

NCG is proposing this EA occur in miles 0-2 of the Creek, because the lower two miles of the creek (CM 0-2) are generally less complicated from an environmental perspective than the upper portions of the creek and the tributaries. The NCG holds the following hypothesis about the lower two miles. If these are true, then it would make sense to conduct the EA on this portion of the Creek:

Position 1: Tidal flow from the East River is currently the dominant source of solids to the surface water and sediment in CM 0–2.

Position 2: The lower 2 miles of Newtown Creek are net depositional, and natural recovery toward urban reference conditions is expected to continue over time via deposition of solids from the East River.

Position 3: The creek bed is physically stable as evidenced by minimal or no net erosion of the sediment bed (supported by pre- and post-Hurricane Sandy bathymetric evaluation) and lower concentrations of contaminants of concern observed in surface sediment (top 6 inches) versus subsurface sediment.

Position 4: Ongoing sources of hazardous substances will not negatively impact Early Action remedy success. Potential sources include, but are not necessarily limited to:

- In-creek potential sources, such as NAPL transport, ebullition, shoreline erosion, groundwater, propeller scour, sediment transport and tidal inputs.
- Out-of-creek potential sources, such as overland flow, point source inputs, industrial outfalls, other stormwater inputs, CSOs and MS4s.

The FFS aims to evaluate these positions. If the data and analyses support an EA for the lower two miles, then a remedy would be determined, and a robust performance monitoring plan would be conducted, which would also provide an opportunity to collect data to see if the assumptions in the conceptual site model are accurate. The FFS would lead to a record of decision (ROD), which gives the public an opportunity to weigh in formally.

Once a sitewide remedy is selected, it would have to be determined with it was consistent with the EA. We would hope that the EA would be the final solution for the lower two miles, but that would be evaluated over time. The goal is to implement the EA before the ROD for the full site, though it is key that this proposed EA cannot slow down progress on overall site RI/FS. The next steps are to finalize an agreement with NCG, conduct additional sediment sampling of the lower two miles to help define areas of contamination, which is expected to start in July, and prepare the FFS.

Questions and comments *(direct responses from EPA are in italics.)*

- If an EA could move forward, why not consider one of the kills where there may be less risk of recontamination?
    - *Based on the conceptual site model, this would be less complicated and less likely to be recontaminated. There is an assumption which EPA needs to explore that because the tributaries get less flow from the East River and have less tidal effect, the recontamination potential is higher.*
- Can you provide more information on the basis for these assumptions about the likelihood of recontamination of the lower two miles?
    - *The assumption is that ongoing sources would not negatively impact the EA. The deposition from upstream would be so low that relative to other influences it would not be significant.*

- How will early action on miles 0-2 help inform and impact the design of remediation for more complicated areas to remediate, such as the kills?
- Is an EA this far ahead of a ROD - even before an FS - common on other sites? Can you give examples of how this played out elsewhere?
    - *This has been done before and is becoming more common. Because studies take so long, if there is an opportunity to take action, it can be beneficial. It can help to gain experience working on the site.*
- How would data collection this summer account for ongoing seepage and contamination issues?
    - *Those are ongoing contributions. Data will be collected, and if the action goes forward, data will continue to be collected.*
- Is EPA equipped to manage the increased workload of running a concurrent FFS on an EA while preparing the broader FS?
    - *Consultants can be increased. EPA has a big team and all who are involved are doing their best to keep up.*
- Does the FFS account for upland sources of ongoing contamination and opportunities for restoration?
    - *EPA will evaluate upland sources as part of this. If bulkhead repair is needed, EPA is already considering this. The FFS is a significant document and will involve careful calculation of these issues.*

The meeting was adjourned at 8:30 PM.