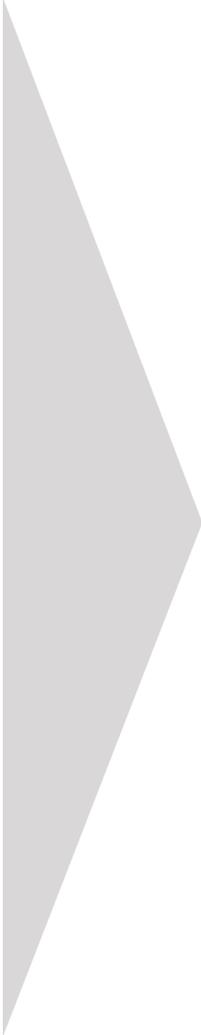




TIER 1 FINAL ENVIRONMENTAL IMPACT STATEMENT
VOLUME 1 (PREFERRED ALTERNATIVE)



7.8 Hazardous Waste and Contaminated Material

7.8 HAZARDOUS WASTE AND CONTAMINATED MATERIAL

7.8.1 Introduction

Hazardous waste and contaminated material (HWCM) include substances that are dangerous or potentially harmful to public health or the environment. This chapter briefly describes the types and quantities of HWCM sites in the NEC FUTURE Study Area (Study Area) and includes the evaluation of Environmental Consequences of the Representative Routes of the Existing NEC + Hartford/Springfield Line and Preferred Alternative on these HWCM sites as well as HWCM effects that could affect implementation of the Preferred Alternative.

HWCM are further defined below:

- ▶ **Hazardous Wastes** – These are wastes that the U.S. Environmental Protection Agency (EPA) has determined to be hazardous by the properties they exhibit (i.e., ignitability, corrosivity, reactivity, toxicity); or if it is acutely hazardous (i.e., can cause death, disabling injury, or serious illness at low doses); or if it contains listed toxic constituents capable of posing a potential hazard to public health or the environment.
- ▶ **Contaminated Materials** – Though not specifically defined as hazardous by the EPA, contaminated materials are substances that may cause pollution of the soils and groundwater, requiring remedial actions for the protection of public health and the environment.
- ▶ **HWCM Sites** – These sites are properties that have been affected by HWCMs, which may be manifested in the soil, groundwater, or soil gas because of past or present uses on the site or from adjacent properties.
- ▶ **High-Probability Sites¹** – For purposes of this Tier 1 Final Environmental Impact Statement (Tier 1 Final EIS) analysis, these sites are defined as properties located within a 300-foot-wide swath centered on the Representative Route for the Preferred Alternative and that are considered most likely to be affected by future construction activities.
- ▶ **National Priority List (NPL) Superfund** – This is the list of the hazardous waste sites in the United States eligible for long-term remedial action (cleanup) financed under the federal Superfund program. EPA regulations outline a formal process for assessing hazardous waste sites and placing them on the NPL. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation. The NPL is maintained by the EPA.
- ▶ **Resource Conservation and Recovery Act (RCRA) Corrective Actions (CORRACTS)** – This is a list of hazardous waste handlers with RCRA Corrective Action Activity. The RCRA CORRACTS list is maintained by the EPA.
- ▶ **Brownfield Sites** – These sites are considered contaminated because they were previously used for industrial or certain commercial uses but could be reused or redeveloped once they are appropriately remediated. The Brownfields list is maintained by the EPA.

¹ “High-Probability Sites” are defined in Appendix E.08, Hazardous Waste and Contaminated Materials Methodology as “High Risk Sites.”

- ▶ **RCRA Information Systems (Info)** – This system includes information on Large Quantity Generator and Small Quantity Generator facilities that generate hazardous waste. The RCRA Info list is maintained by the EPA.
- ▶ **RCRA Treatment, Storage, and Disposal Facilities (TSDF)** – This list includes facilities that are involved with the treatment of hazardous waste, the temporary storage of hazardous waste prior to treatment or disposal, or the disposal of wastes. The RCRA TSDF list is maintained by the EPA.
- ▶ **State Databases** – State databases vary but include sites that are perceived to be contaminated by hazardous substances; have contamination caused by previous industrial or commercial uses; have land use restrictions due to known site contamination; have been identified as Hazardous Waste Corrective Action sites, Site Investigation & Restoration Branch sites, Solid Waste Landfills, Solid Waste Resource Recovery sites, and Unpermitted Landfills-Dumps; and are inventoried as abandoned landfills and pose potential environmental hazards. State databases are maintained by the individual states.

The Federal Railroad Administration (FRA) developed an effects-assessment methodology for the evaluation of HWCM sites that defined the Affected Environment as a 2-mile-wide swath centered along the Representative Routes of the Existing NEC + Hartford/Springfield Line and Preferred Alternative. Based on the numerous HWCM sites identified within the Affected Environment, the FRA performed a secondary analysis to identify HWCM sites that can be considered high-risk for adverse effects based on their proximity to the infrastructure improvements associated with each Alternative. Thus, the FRA identified HWCM sites in a High-Probability Area—defined as a 300-foot-wide swath centered along the Representative Routes of the Existing NEC + Hartford/Springfield Line and Preferred Alternative. Volume 2, Appendix E.08, provides the methodology for evaluating HWCM sites and includes the supporting data that were used in the analyses.

7.8.2 Resource Overview

The HWCM sites within the Study Area tend to be more densely located in urban areas including Philadelphia, PA; Camden, Trenton, Elizabeth, and Newark, NJ; Stamford and Hartford, CT; and Boston, MA. The FRA did not identify the type and extent of contamination at these locations.

7.8.3 Affected Environment

Table 7.8-1 identifies the number of HWCM sites within the Affected Environments for the Existing NEC + Hartford/Springfield Line and the Preferred Alternative. New Jersey ranks as having the highest quantity of HWCM sites within the Affected Environment for the Existing NEC + Hartford/Springfield Line and the Preferred Alternative. Appendix AA, Mapping Atlas of the Preferred Alternative, presents the Preferred Alternative in relation to mapped HWCM sites.

More developed, industrial areas along the NEC, such as Philadelphia County, PA; Essex County, NJ; and Fairfield, New Haven, and Hartford Counties, CT, generally have the largest number of HWCM sites within the Affected Environments for the Existing NEC + Hartford/Springfield Line and Preferred Alternative. The FRA did not identify any HWCM sites within the Affected Environment of the Existing NEC + Hartford/Springfield Line or the Preferred Alternative in the following counties: Bergen County, NJ, and Middlesex County, MA.

Table 7.8-2 identifies the number of National Priority List (NPL) Superfund and Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS) sites within the Affected Environments for the Existing NEC + Hartford/Springfield Line and the Preferred Alternative. Maryland, Pennsylvania, and New Jersey rank highest among the Existing NEC + Hartford/Springfield Line and Preferred Alternative for the number of NPL Superfund sites. Pennsylvania, New Jersey, and Connecticut rank highest among the Existing NEC + Hartford/Springfield Line and Preferred Alternative for the number of RCRA CORRACTS sites.

Table 7.8-1: Affected Environment: Total Hazardous Waste and Contaminated Material

Geography	Existing NEC + Hartford/Springfield Line (Number of Sites)	Preferred Alternative (Number of Sites)
D.C.	40	40
MD	390	420
DE	440	475
PA	980	890
NJ	2,850	2,910
NY	350	365
CT	4,290	4,480
RI	545	545
MA	505	505
TOTAL	10,390	10,630

Source: NEC FUTURE team, 2016

Table 7.8-2: Affected Environment: National Priority List Superfund and Resource Conservation and Recovery Act Corrective Actions Sites

Geography	Resource of Interest	Existing NEC + Hartford/Springfield Line (Number of Sites)	Preferred Alternative (Number of Sites)
D.C.	NPL Superfund	—	—
	RCRA CORRACTS	—	—
MD	NPL Superfund	5	10
	RCRA CORRACTS	10	10
DE	NPL Superfund	2	3
	RCRA CORRACTS	4	4
PA	NPL Superfund	5	5
	RCRA CORRACTS	30	30
NJ	NPL Superfund	5	5
	RCRA CORRACTS	30	30
NY	NPL Superfund	1	1
	RCRA CORRACTS	5	5
CT	NPL Superfund	1	1
	RCRA CORRACTS	75	75
RI	NPL Superfund	2	2
	RCRA CORRACTS	10	10
MA	NPL Superfund	1	1
	RCRA CORRACTS	3	3
TOTAL		189	195

Source: NEC FUTURE team, 2016

“—” = No presence and no effects identified for listed resource.

Table 7.8-3 identifies the total number of HWCM sites by type within the High-Probability Area of the Existing NEC + Hartford/Springfield Line and the Preferred Alternative. As mentioned in the introduction, for purposes of this Tier 1 Final EIS analysis, a High-Probability Area includes properties located within the 300-foot-wide swath around the Representative Route for the Preferred Alternative and which are considered most likely to be affected by construction activities.

Similar to the Existing NEC + Hartford/Springfield Line, the most frequent type of HWCM sites in the Preferred Alternative's High-Probability Areas are state database sites in New Jersey.

Table 7.8-3: High-Probability Areas: Hazardous Waste and Contaminated Material Sites

Geography	Resource of Interest	Existing NEC + Hartford/Springfield Line (Number of Sites)	Preferred Alternative (Number of Sites)
D.C.	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	—	—
	RCRA Info	—	—
	RCRA TSDF	—	—
	State	—	—
MD	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	5	10
	RCRA Info	—	1
	RCRA TSDF	—	—
	State	2	1
DE	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	10	10
	RCRA Info	1	1
	RCRA TSDF	—	—
	State	15	20
PA	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	—	—
	RCRA Info	3	10
	RCRA TSDF	—	—
	State	10	10
NJ	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	25	35
	RCRA Info	3	4
	RCRA TSDF	—	1
	State	30	45

Table 7.8-3: High-Probability Areas: Hazardous Waste and Contaminated Material Sites (continued)

Geography	Resource of Interest	Existing NEC + Hartford/Springfield Line (Number of Sites)	Preferred Alternative (Number of Sites)
NY	NPL Superfund	—	1
	RCRA CORRACTS	—	—
	Brownfields	—	1
	RCRA Info	10	15
	RCRA TSDF	—	—
	State	5	10
CT	NPL Superfund	—	—
	RCRA CORRACTS	4	4
	Brownfields	20	20
	RCRA Info	10	10
	RCRA TSDF	3	3
	State	85	100
RI	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	5	5
	RCRA Info	—	—
	RCRA TSDF	—	—
	State	4	4
MA	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	—	—
	RCRA Info	—	—
	RCRA TSDF	—	—
	State	15	15
TOTAL		265	336

Source: NEC FUTURE team, 2016

“—” = No presence and no effects identified for listed resource.

TSDF = Treatment, Storage, and Disposal Facilities

7.8.4 Environmental Consequences

Table 7.8-4 identifies the total number of HWCM sites by type within the Existing NEC + Hartford/Springfield Line and Preferred Alternative, the footprints range from 150 feet to 300 feet wide. The FRA identified NPL and RCRA CORRACTS sites as sites of particular concern with the potential to have the most significant impact.

Table 7.8-4: Environmental Consequences: Representative Route – Hazardous Waste and Contaminated Material Sites

Geography	Resource of Interest	Existing NEC + Hartford/Springfield Line (Number of Sites)	Preferred Alternative (Number of Sites)
D.C.	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	—	—
	RCRA Info	—	—
	RCRA TSDF	—	—
	State	—	—
MD	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	3	10
	RCRA Info	—	1
	RCRA TSDF	—	—
	State	—	—
DE	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	3	5
	RCRA Info	—	1
	RCRA TSDF	—	—
	State	5	15
PA	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	—	—
	RCRA Info	1	3
	RCRA TSDF	—	—
	State	5	10
NJ	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	10	20
	RCRA Info	1	1
	RCRA TSDF	—	—
	State	10	20
NY	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	—	1
	RCRA Info	2	5
	RCRA TSDF	—	—
	State	4	5
CT	NPL Superfund	—	—
	RCRA CORRACTS	1	1
	Brownfields	10	10
	RCRA Info	5	5
	RCRA TSDF	3	3
	State	35	40

Table 7.8-4: Environmental Consequences: Representative Route – Hazardous Waste and Contaminated Material Sites (continued)

Geography	Resource of Interest	Existing NEC + Hartford/Springfield Line (Number of Sites)	Preferred Alternative (Number of Sites)
RI	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	—	—
	RCRA Info	—	—
	RCRA TSDF	—	—
	State	1	1
MA	NPL Superfund	—	—
	RCRA CORRACTS	—	—
	Brownfields	—	—
	RCRA Info	—	—
	RCRA TSDF	—	—
	State	—	—
TOTAL		99	157

Source: NEC FUTURE team, 2016

“—” = No presence and no effects identified for listed resource.

* The Preferred Alternative assumes improvements to the Existing NEC + Hartford/Springfield Line; therefore, the data presented include the Environmental Consequences inclusive of improvements to the Existing NEC + Hartford/Springfield Line and any new route option or off-corridor route associated with the Preferred Alternative.

This section identifies the total number of HWCM sites by type within new or upgraded segments proposed under the Preferred Alternative.

7.8.4.1 Elements South of New York City

- ▶ **Maryland/Delaware – Bayview to Newport (new segment)** – The FRA identified four HWCM sites and no NPL and RCRA CORRACTS sites within this portion of the Preferred Alternative.
- ▶ **Delaware – Wilmington Segment (bypasses Wilmington Station)** – The FRA identified one HWCM site and no NPL and RCRA CORRACTS sites within this portion of the Preferred Alternative.
- ▶ **Pennsylvania – Philadelphia Segments (new segments)** – The FRA identified no additional HWCM sites and no NPL and RCRA CORRACTS sites located within this portion of the Preferred Alternative.
- ▶ **New Jersey – New Brunswick to Secaucus (new segment)** – The FRA identified 13 HWCM sites and no NPL and RCRA CORRACTS sites located within this portion of the Preferred Alternative.
- ▶ **New Jersey – Secaucus/Bergen loop (new segment)** – The FRA identified no additional HWCM sites and no NPL and RCRA CORRACTS sites located within this portion of the Preferred Alternative.

7.8.4.2 Elements North of New York City

- ▶ **New York/Connecticut – New Rochelle to Greens Farms (new segment)** – The FRA identified no additional HWCM sites and no NPL and RCRA CORRACTS sites located within this portion of the Preferred Alternative.
- ▶ **Connecticut/Rhode Island – Old Saybrook-Kenyon (new segment)** – The FRA identified no additional HWCM sites for the Old Saybrook-Kenyon new segment. No HWCM sites were identified in Rhode Island for the Existing NEC or Preferred Alternative. There are no NPL and RCRA CORRACTS sites located within this portion of the Preferred Alternative.
- ▶ **Connecticut/Massachusetts – Hartford/Springfield Line (upgraded track/electrification)** – The FRA identified three HWCM sites in Connecticut for the Hartford/Springfield Line upgraded track: one in New Haven County and two in Hartford County. There are no HWCM sites in Massachusetts. There are no NPL and RCRA CORRACTS sites located within this portion of the Preferred Alternative.

7.8.5 Stations

The Preferred Alternative includes continued service to existing stations along the NEC, modifications to existing stations (which may require an increase in the station footprint), and new stations. Effects to HWCM sites would not occur at existing stations where there are no proposed modifications. Effects to HWCM sites may occur at stations where modifications are proposed and an increase in the station footprint overlaps with HWCM sites. Greater effects would be associated in areas where new stations are proposed and overlap with HWCM sites. Table 7.8-5 identifies stations that are new or will be modified. Additionally, the table identifies the number of HWCM sites that are present within the exiting station footprint or proposed station footprint.

Table 7.8-5: Environmental Consequences: Preferred Alternative – Modified or New Stations – Hazardous Waste and Contaminated Material

State	County	Station ID	Station Type	Station Name	Number of Sites
DE	New Castle	26	New	Newport	1
PA	Delaware	34	New	Baldwin	2
NJ	Middlesex	64	Modified	New Brunswick	1
		68	New	Metropark H.S.	3
CT	Fairfield	94	New	Stamford H.S.	1
		101	Modified	Greens Farms	1
RI	Kent	127	Modified	TF Green	3
Hartford/Springfield Line					
CT	Hartford	163	Modified	Hartford	1

Source: NEC FUTURE team, 2016

7.8.6 Context Area

There is no notable difference between the types, quantities, and distribution of HWCM sites within the Affected Environment and the Context Area. A shift in the Representative Route of the Preferred Alternative could avoid encroaching upon some HWCM sites, but would most likely result in encroaching upon other HWCM sites.

7.8.7 Comparison to the Action Alternatives

The total number of HWCM sites identified for the Affected Environment of the Preferred Alternative is less than the total number of HWCM sites identified for the Action Alternatives. However, the number of NPL Superfund and RCRA CORRACTS sites for the Preferred Alternative is greater than those identified for the Action Alternatives (depending on the segment that was selected).

When looking at the High-Probability Area, the total number of HWCM sites identified for the Preferred Alternative is less than those identified for the Action Alternatives.

When looking at Environmental Consequences, New Jersey contains most of the HWCM sites for the Existing NEC and Preferred Alternative. However, Connecticut contained most of the HWCM sites for Alternatives 1 and 2. Additionally, the Preferred Alternative contains fewer identified HWCM sites identified than identified for the Action Alternatives.

7.8.8 Potential Mitigation Strategies

Examples of programmatic mitigation measures for handling and transporting HWCMs would include contaminant management to prevent any existing contamination from migrating to adjacent sites, and providing a safe working environment to protect both the workers and the public. Typical best management practices used to mitigate the release of contaminants during construction include the use of dust control technologies, the proper management of soils and groundwater, ensuring that contaminated material is transported to licensed disposal facilities and containment and management of contaminated materials generated during construction activities. Furthermore, the protection of workers who participate in these activities is typically managed by ensuring that workers wear proper personnel protection equipment such as gloves, boots, safety glasses, Tyvek suits, or respirators as appropriate. During HWCM analyses conducted as part of Tier 2 project studies, and after completion of additional review and investigations of site conditions, these issues would be further analyzed and more-specific information related to public health effects can be addressed.

All appropriate RCRA regulations, guidance, and policies will be followed for the management of HWCM. Additionally, air monitoring during site work may also be applicable.

7.8.9 Subsequent Tier 2 Analysis

In addition to the information provided in Volume 2, Chapter 7.8, subsequent Tier 2 project analysis could include interviews with persons knowledgeable about site activities. Site investigations could also include sampling for potential vapor intrusion. Site investigations in New Jersey will be conducted in accordance with the Site Remediation Program Linear Construction Technical Guidance. Additionally, the distinction between sites that are currently undergoing remediation and ones that are not will be made as part of the Tier 2 project analysis along with updating the source data.