

A. INTRODUCTION

This chapter identifies safety and security considerations related to operation of the 50th Street facility. Security during construction is discussed in Chapter 15, “Construction Impacts.”

Plans for all aspects of train safety, station safety, and safety in all East Side Access Project facilities (including emergency communications systems and fire exit procedures, for example) are a key component of the project’s design. East Side Access Project elements are being designed to be consistent with the standards established by the National Fire Protection Association (NFPA) in NFPA 130 (“Standard for Fixed Guideway Transit and Passenger Rail Systems”), which covers fire protection requirements for underground rail transit systems including trainways, vehicles, and transit stations; and for life safety from fire in transit stations, trainways, and vehicles. Safety and security measures to be implemented as part of the East Side Access Project are described in Chapter 20 of the Final Environmental Impact Statement (FEIS) prepared for the project.

B. ALTERNATIVE A (NO ACTION ALTERNATIVE)

As described in Chapter 2, “Project Alternatives,” Alternative A, the no action alternative, would have located the different ancillary project elements in dispersed locations near Grand Central Terminal. This would not allow Metropolitan Transportation Authority (MTA) the additional control over security functions provided by one centralized facility.

In Alternative A, fresh air intakes would be located in sidewalk grates along 49th Street and exhaust grates would be along 50th Street. In the event of a smoke condition in the southern portion of the train tunnels in the no action alternative, smoke would be exhausted through the sidewalk grates along 50th Street.

C. BUILD ALTERNATIVES

Alternative B, C, and Preferred Alternative D would incorporate security measures intended to protect the building during normal operations. In addition, the building’s emergency functions have also been designed to protect public health and safety.

SAFETY AND SECURITY DURING NORMAL OPERATIONS

Threat, risk, and vulnerability assessments for the design, construction, and/or operation of certain MTA-owned facilities are being conducted by the MTA Division of Security and its security program consultants. The MTA Division of Security participates in the New York City Joint Terrorism Infrastructure Task Force, which is made up of the New York Police Department, the New York City Fire Department (FDNY), the Federal Bureau of Investigation, and the U.S. Department of Homeland Security, in addition to other agencies. Through this task

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force, and by using outside security experts, the MTA Division of Security is at the forefront of developing strategies to strengthen protections against terrorist threats at New York City's transportation facilities.

The MTA Division of Security has developed a unified methodology to provide a rigorous, rational, and comprehensive method for risk assessment and mitigation project prioritization of the MTA's assets. Six steps are included in the process:

1. Develop inventory of assets
2. Determine asset criticality
3. Compute asset risk index
4. Compute post-mitigation asset risk index
5. Estimate mitigation costs
6. Develop mitigation project priority

As a first step in the development of the MTA unified methodology, a review of existing risk assessment methods was conducted including those from the U.S. Department of Homeland Security/Office for Domestic Preparedness. The threat, risk, and vulnerability assessments, including one completed for the proposed 50th Street facility, include consideration of adjacent uses, analysis of a range of threat scenarios and identification of design measures to protect against identified risks. While specific details from the assessment performed for the 50th Street facility must be kept confidential to ensure that they remain effective, the assessment indicates that the proposed facility would be "low visibility."

Standard measures that would be incorporated into the facility's design would permit the entire building to function as a security-controlled area. It is important to note that the facility would not be "fit out" for another 7 years (building demolition, construction access, and superstructure construction must be completed prior to the installation of the equipment, see Chapter 15). Technological advances in security system design and equipment are anticipated in the interim and, as a result, the security equipment that would be used in the 50th Street facility is not being specified at this time. However, criteria have been established to govern the design of the East Side Access Project in the primary engineering disciplines, including fire, life safety, and security. Such criteria stipulate the use of latest available technology to eliminate, minimize, or control hazards through design selection and emphasize fail-safe and redundant safety principles.

The design criteria specify that security shall be incorporated into facility design by:

- Providing sufficient space for electronic security systems, monitoring stations, and equipment;
- Providing adequate and redundant electrical power for security systems;
- Providing access control, as needed; and
- Protecting utilities by locating transformers, control valves, switches, and similar equipment within security-controlled areas.

One effective measure to protect against a terrorist act or other intrusions is control of access. Specific measures to be included at the 50th Street facility include the following:

- CCTV monitoring with integrated motion detectors, digital recording, and off-site recording capabilities;

- Intrusion detection systems (IDS), electrically supervised and continuously self-monitoring, including the use of point detectors (tamper switches used to protect door access), passive infrared detectors, and sensors (acoustic, shock, magnetic, microwave or a combination thereof);
- An active, electronic access control system, which would limit access into the facility and the freight elevators via magnetic stripe-based card readers, keypads (where a personal identification number must be entered), and magnetic door holders or equivalent.

Protection of the East Side Access project elements to be included in the 50th Street facility in Alternatives B and C would be maximized by the fact that these elements would be centralized in a single building that would be owned and operated by MTA. These project elements would include ventilation equipment, a loading dock, a cooling tower, emergency generators and fuel oil storage tank, and electrical substations. The centralization of these project elements under Alternatives B and C would allow MTA security personnel to have maximum control over access and implementation of appropriate security measures. Preferred Alternative D would also be a centralized facility for numerous project elements, allowing security control. However, in Preferred Alternative D, certain project elements—the cooling tower, fuel oil storage tank, and electrical substations—would be relocated either to the concourse or to an adjacent building. This is still acceptable from a security standpoint and addresses concerns raised by the public after publication of the 2005 EA related to the safety of the fuel tank in the 50th Street facility's basement as well as concerns about the size of the building and the potential adverse effects associated with the cooling tower on the roof of the 50th Street facility. The relocated fuel tank and substations would be placed in access-controlled rooms in the service corridor portion of the new East Side Access terminal, which would not be accessible to the public and MTA security personnel would have control of appropriate security measures. Significant cooperation from the owners of the Colgate-Palmolive Building has made it possible to develop Preferred Alternative D and an agreement to build and maintain the cooling tower on the roof of 300 Park Avenue is under development. This agreement will include appropriate security protocols.

The placement of the ventilation intake louvers above street level in the new, above-grade 50th Street facility in Alternatives B, C, and Preferred Alternative D would also represent an improvement to security conditions over Alternative A. While location of ventilation intakes at street level is acceptable, location of such intakes above street level is preferable from a security standpoint, because it would increase protection against the possible introduction of harmful substances into the East Side Access passenger concourse's air supply system. The 50th Street facility would exhaust only ambient air from the terminal during normal operations. No PCBs or other pollutants would be present in this air, since there would be no source for such pollutants in the ambient air of the concourse or caverns.

The loading dock at the 50th Street facility in any of the build alternatives would have a security checkpoint to ensure that all trucks arriving at the dock have appropriate security clearance. The loading dock would be used exclusively by MTA-related trucks. Based on public input received during the preparation of the January 2005 EA, an alternative was examined under which the loading dock would also serve trucks destined for 437 Madison Avenue. However, due to the fact that optimal security for the proposed facility could be compromised by the introduction of non-MTA trucks and security personnel, this alternative was eliminated from consideration.

In Alternatives B and C, the fuel oil storage tank for the emergency generators would be located in the 50th Street facility and would be designed in accordance with the New York City Building Code. The fuel tank room for the emergency generator would be vaulted and located in the

lowest level of the facility (in the third level below grade, 50 feet below the street), which would be constructed in solid bedrock. It would house an approximately 6,000- to 8,000-gallon fuel tank containing low-sulfur diesel fuel oil to power the emergency generators. The fuel tank room would be surrounded by a 3-hour rated fire wall and would have containment to prevent leaks. The tank would be subject to the New York State Department of Environmental Conservation's (NYSDEC's) petroleum bulk storage regulations and would be installed in accordance with the requirements of the New York City Fire Department. The fuel tank would be comparable in size to those in nearby office buildings. Within an approximately two-block radius of the proposed location for the 50th Street facility, there are at least eight fuel tanks registered on NYSDEC's Petroleum Bulk Storage List, of which half are equal to or greater in size than the proposed tank; some are located above-ground. One nearby office building contains two 10,000-gallon tanks, capable of storing considerably more fuel than the 6,000 to 8,000 gallons that would be stored in the 50th Street facility.

In Preferred Alternative D, the fuel oil storage tank for the emergency generators would be located off-site, in the East Side Access concourse. The tank would be in an access-controlled room in the service corridor portion of the new East Side Access terminal, which would not be accessible to the public and which represents another of the MTA's centralized, security-controlled locations. This revision to the design of the 50th Street facility was made to address public concerns regarding the safety of the fuel tank at the 50th Street facility. The fuel tank would be encased in reinforced concrete and surrounded by a 3-hour rated fire wall, and would include fire suppression measures and containment to prevent leaks. The location and design of the fuel oil storage tank under this alternative has been reviewed and approved by FDNY. Three meetings were held with FDNY to discuss the design of the 50th Street facility, on December 17, 2004 regarding the design of Alternatives B and C; on April 26, 2005, regarding public comments received on the January 2005 EA; and on November 18, 2005 regarding Preferred Alternative D. Minutes for the December 17, 2004 meeting are included in Appendix H to this EA.

While the explosive capacity of diesel fuel is somewhat independent of the volume of diesel fuel, it is highly dependent on the volume of the surrounding air space, which is represented by the volume of the room in which the tank is located. The tank would be located in a 13-foot by 36-foot by 21-foot-tall space, resulting in a very small explosive potential. The presence of a fuel oil tank in the 50th Street facility would present no more threat than similar fuel tanks present in other surrounding buildings. The appropriate degree of structural reinforcements, fire suppression, and blast-retardant materials in accordance with MTA Security Division recommendations and all relevant codes and standards would be incorporated into the 50th Street facility's design.

In Alternatives B and C, the electrical substations would be located within the 50th Street facility. In Preferred Alternative D, the electrical substations would be located off-site, in the East Side Access concourse. The substations would be in access-controlled rooms in the service corridor portion of the new East Side Access terminal, which would not be accessible to the public. Substations produce electromagnetic fields (EMF) generated by electric current, which increase proportionately with electric loads. The substations would not be used for traction power. They would be medium- to low-voltage substations (two substations of 2,000 kilovolt amperes [KVA] and two substations of 1,500 KVA) providing power only to the signal room in the tunnel and to the functions (e.g., ventilation equipment and cooling equipment) housed in the 50th Street facility. The combined power of the four substations would be comparable to Consolidated Edison or owner-provided transformer vaults located in high-rise buildings (which

typically have vaults on different floors, with four transformers typically of 1,000 KVA each). Such substations are common throughout Midtown Manhattan. They would be designed to minimize magnetic field levels at adjacent buildings through the use of state-of-the-art shielding and by maximizing, to the extent possible, the distance between the substations and the walls of the 50th Street facility that abut adjacent buildings. Although some public concern exists regarding possible effects of EMFs on health, no cause and effect relationship has been established and no federal and state regulatory agencies have identified a specific magnetic field level that is unsafe.

Representatives of the Palace Hotel have expressed concern that the 50th Street facility would raise security issues when dignitaries stay at the hotel. Security at the facility would be provided by MTA personnel, following established MTA security procedures. The construction and operation of the project would not interfere with security measures required for dignitaries staying at the Palace Hotel.

SAFETY AND SECURITY DURING EMERGENCIES

As described in Chapter 2, “Project Alternatives,” during an emergency (such as a smoke condition) in the southern portion of the train tunnels (between 50th and 55th Streets), the emergency ventilation system would clear smoke from the tunnels by providing longitudinal (or “push-pull”) ventilation, in which fans on one side of the incident would be operated in supply mode, while fans on the opposite side would be operated in exhaust mode. The supply fans would establish a smoke-free zone for evacuation, rescue, and fire-fighting activities, while the exhaust fans would purge smoke from the tunnel system. The tunnel ventilation fans located in the 50th Street facility would work in conjunction with fans in the 55th Street ventilation facility, and would function in either intake or exhaust mode, depending on the location of the incident relative to the position of the train in the tunnel. For a fire located anywhere else in the tunnels, the 50th Street tunnel ventilation fans may operate in support of the ventilation facilities at either 44th or 55th Streets, but no smoke would be exhausted from the 50th Street facility. The maximum ventilation rate during emergency conditions would be 800,000 cfm.

Smoke from a fire in the new passenger concourse and caverns would not be exhausted from the 50th Street facility. In the event of a fire in the concourse or caverns, smoke would be exhausted through the 44th Street facility. PCBs would not be present in the air emissions during emergencies, as they are a banned substance and will not be used in the construction of the new tunnels and are not present in LIRR’s trains.

Such emergencies are by definition life-threatening, extremely rare, and of very short duration. In the rare event that a tunnel fire or smoke condition did occur, the most important consideration would be to remove smoke from the tunnels below to minimize danger to people in those below-grade spaces. Any smoke that would emerge from the louvers on the 50th Street facility would be exhausted at high velocity horizontally away from the facility and would be diluted by the outside air. This would achieve a higher degree of dilution as compared to Alternative A, under which smoke would be exhausted at relatively low velocity from street-level grates on 50th Street. Additional details on smoke from the tunnel vent system are provided in Chapter 8, “Air Quality.”

The 50th Street facility would include two emergency generators, fueled by low-sulfur diesel fuel oil, that would be used to provide power to the East Side Access concourse and cavern spaces at Grand Central Terminal in the event of a power outage. The generators’ size was designed to provide adequate power to allow concourse and cavern lighting and functions to

operate long enough for everyone to safely evacuate the underground spaces. As with emergency generators in most buildings in New York City, these generators would be tested once a month, for 30 minutes at 50 percent of full-rated load, to ensure their availability and reliability in the event of an actual emergency.

CONCLUSIONS

In conclusion, none of the build alternatives would result in significant safety or security impacts since all appropriate, state-of-the-art safety and security measures would be implemented to protect the health and safety of the general public. Alternatives B and C would centralize a greater number of project elements at the 50th Street site; however, Preferred Alternative D remains acceptable from a security standpoint. *