

## **CHAPTER 18: SAFETY AND SECURITY**

### **18.1. INTRODUCTION**

This chapter identifies safety and security considerations related to the design, construction and operation of the emergency ventilation plant for the 8<sup>th</sup> Avenue Subway Line and 7<sup>th</sup> Avenue Subway Line, and includes discussion of the safety procedures to be implemented during the project's construction, as well as those that would be in place once the facility is in operation. The increased need for greater public safety and security, both locally and regionally, has also demonstrated the need for potential safety and security improvements to existing transit facilities beyond what has traditionally existed.

The construction and operation of the emergency ventilation plant would be implemented in compliance with relevant Federal, State and City codes, policies and guidelines, including those of MTA NYCT intended to protect safety and security for construction workers, patrons and the general public. Key elements in these codes and policies are guidelines on safety in the event of a fire or other threat, security from crime, and safe construction practices.

### **18.2. CONSTRUCTION SAFETY AND SECURITY**

MTA NYCT has extensive experience in overseeing and managing safety and security in construction projects; MTA NYCT has particularly extensive experience in safely operating the City's subway system. Construction safety and security are top priorities for all MTA NYCT projects. Requirements for safety and security are detailed within the contract specifications, which requires the contractor to develop a comprehensive safety program administered by a full-time Safety Engineer. These requirements would be part of the construction plan for the emergency ventilation plant for the 8<sup>th</sup> Avenue Subway Line and the 7<sup>th</sup> Avenue Subway Line. The require safety and security plans would require compliance with all applicable laws and regulations and would be coordinated in their development and implementation with appropriate State and City agencies and pursuant to other existing MTA NYCT inter-agency coordination mechanisms, such as regular meetings with the New York City Department of Transportation (NYCDOT).

Appropriate security measures would be implemented during construction to address site needs prior to the completion and implementation of operational security structures and systems.

NYCT codifies its requirements for construction safety and security in its Standard Specification "1S" which is included in all construction contracts. Table 18-1 presents excerpts of key MTA NYCT requirements in this regard.

As a result of the above, the emergency ventilation plant is not expected to result in adverse impacts to safety and security during the construction phase. Coordination with the New York Police Department (NYPD) and the Fire Department of New York (FDNY) will be implemented.

**TABLE 18-1: KEY MTA NYCT SAFETY AND SECURITY REQUIREMENTS (EXCERPTS)**

<p><b>General Requirements</b>  <i>Safety and security of passengers and other persons, property, Authority employees and of all employees of the Contractor and Subcontractors working on the job site of this Project shall be a primary responsibility and concern of the Contractor. The Contractor shall maintain safe, clean and healthy worksites for the entire duration of the Project.</i></p> <p><i>The Contractor shall comply with this Specification Section and the applicable provisions of the New York State Uniform Fire Prevention and Building Code, Occupational Safety and Health Administration (OSHA), the Environmental Protection Administration (Federal), Department of Environmental Conservation (State), Department of Environmental Protection (City), the National Fire Protection Association (NFPA) including National Electrical Codes, The New York City Building and Electrical Codes, the New York State Industrial Code, The New York City Transit “Safety Reference Documents,” issued by the Department of Capital Program Management at the Engineer’s Safety Orientation meeting, and all other applicable rules and regulations, including Drug and Alcohol Laws.</i></p>
<p><b>Accident Prevention Program/Hazard Communication Program</b>  <i>The Contractor shall develop and maintain a Project specific Accident Prevention Program (APP) and a Hazard Communication Program (HCP) to: a) protect the lives and health of all persons, b) prevent damage to property and environment, and c) avoid work interruptions or any delay to train services due to accidents.</i></p>
<p><b>Safe Work Plan (SWP)</b>  <i>A Safe Work Plan (SWP) and SWP summary is a written work plan, which identifies the tasks to be completed, including access/egress and set-up/breakdown under all expected environmental conditions. Also included is the method of work for completing these tasks, associated work hazards, and the corresponding equipment and methods that will be used to prevent loss for all contracted work, including that of Subcontractors. The SWP and summary document shall provide the Engineer with a defined plan of action for identified hazards and comprehensive prevention methods for exposures to workers, the public, and property. SWPs shall address all foreseeable exposures to employees, the public, and property for Contract work, including all tiers of Subcontractors. The SWP shall be used as basis for Contract coordination items and safety planning discussions in the Construction Management process.</i></p>
<p><b>Accident Reporting and Investigation</b>  <i>The Contractor shall immediately notify the Engineer of all accidents involving personal injury and damage to property and all near misses. The Contractor shall submit a copy of the Authority’s Supervisor’s Accident Investigation Report to the Engineer no later than twenty-four (24) hours following each accident. Near misses shall be reported verbally to the Engineer and lessons learned session should be held.</i></p>
<p><b>Unsafe Conditions</b>  <i>An Unsafe Condition is a condition that gives rise to the imminent possibility of serious injury to workers or the public, of serious damage to property or the environment, or of affecting the safe movement of trains. When an Unsafe Condition exists at the Site, work shall be stopped in the affected area until the condition is corrected. If the Contractor does not take corrective action immediately, or within the time period specified by the Engineer, the Engineer reserves the right to take whatever action is required to correct the Unsafe Condition.</i></p>

**TABLE 18-1: KEY MTA NYCT SAFETY AND SECURITY REQUIREMENTS (EXCERPTS)  
(CONTINUED)**

<p><b><i>Fitness for Duty</i></b>  Contractor shall ensure that its supervisory staff and the supervisory staff of Subcontractors perform a fitness for duty inspection of all workers when they report for work and throughout the day. Should a worker be found to demonstrate incapacity because of drugs or the use of alcohol, the worker shall be immediately removed from the Project for the entire Project duration.</p>
<p><b><i>Employee Conduct</i></b>  The Engineer reserves the right to refuse access to the Project Site or require immediate removal from the Project Site any individual violating or alleged to have violated site safety or security regulations and Contractor agrees to obtain consent of its Subcontractors to a similar provision, and Contractor agrees to hold the Engineer harmless for taking such actions.</p>
<p><b><i>Safety Engineer</i></b>  The Contractor shall employ and assign a full time Safety Engineer exclusively to this Project within 2 weeks from Contract award until its physical completion.</p>
<p><b><i>Competent Persons</i></b>  Competent Person – Per 29CFR Part 1926.32(f):   One who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous, or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them.</p>
<p><b><i>Personal Protective Equipment (PPE)</i></b>  NYCT has PPE requirements for work on the Project. Mandatory items shall be worn at all times while on the Project Site.</p>
<p><b><i>Safety Requirements for Work Performed along the Right Of Way (ROW)</i></b>  The Contractor shall ensure that all of his employees and those of his Subcontractors fully understand and comply with the provisions of applicable Authority Flagging Rules and Authority Safety Rules, before working on or adjacent to any operating track (Refer to Chapter 3, rule 71 to 82, NYCTA Rules &amp; Regulations).</p>
<p><b><i>Safety Requirements for Crane Operation</i></b>  Contractor shall furnish the Engineer with copies of the following documentation indicating compliance with applicable local Authority restriction pertaining to the use of cranes:   Certification (approved by a Professional Engineer) of pavement and ground support and submittal of grillage design and details.   The most current Annual Inspection of the Hoisting Machinery as specified in the ANSI B 30.5 Standard.</p>
<p><b><i>Office of System Safety Design Guideline - Plastic Flexible Barrier/Solid Barrier</i></b>  Use of Plastic Flexible Warning Fencing is prohibited for use as temporary storage enclosures in all public access areas.   The Contractor shall build and maintain a solid barrier on a daily basis if the work creates a safety hazard for the public.</p>

**TABLE 18-1: KEY MTA NYCT SAFETY AND SECURITY REQUIREMENTS (EXCERPTS)**  
(CONTINUED)

<p><b>Contractor Equipment and Power Hand Tools</b> All operators of Power Actuated tools shall be certified in their use in accordance with the manufacturer's instructions. A NYC Fire Department Certificate of Fitness is required.</p>
<p><b>Safety Requirements for Confined or Enclosed Spaces</b> The Contractor may be required to enter confined or enclosed space locations. Confined or enclosed space locations are as defined in OSHA 29 CFR 1910.146 and NYCT Policy Instruction 8.22.1. The Contractor shall ensure that all the requirements for entering a confined space as listed in OSHA 29 CFR 1910.146 and NYCT Policy Instruction 8.22.1 are strictly adhered to.</p>
<p><b>Welding and Cutting</b> The Contractor shall supply a list of certified operators and fire watch personnel who will be performing cutting and welding and evidence of their training and certification.</p>
<p><b>Compressed Gas Cylinder Storage</b> All compressed gas cylinders shall be transported and properly stored in a safe manner.</p>
<p><b>Fire Protection and Prevention</b> Install, and maintain firefighting equipment of suitable types to provide sufficient firefighting protection for any type of fire that may occur. Periodically inspect this equipment, to ensure that it is ready for use. The equipment shall always be filled, in good condition, and placed in readily accessible locations.</p>
<p><b>Fall Protection</b> The Contractor shall enforce a 100% fall protection policy with zero tolerance for non-compliance. It is required to have fall protection for all work areas where a worker or other person is exposed to an unprotected fall from elevation or into an excavation greater than 6 feet.</p>
<p><b>Spill Prevention, Leakage Containment, and Clean-Up</b> The Contractor shall provide for the immediate reporting of each release of hazardous materials into the environment to the Engineer.</p>
<p><b>Motor Vehicles, and Mobile Construction Equipment</b> Construction equipment of the Contractor, whether owned or rented, and the equipment of all Subcontractors shall be suitable for safe and efficient performance of the work.</p>

## 18.3. OPERATIONAL SAFETY AND SECURITY

MTA NYCT routinely trains its staff and contractors on aspects of the MTA NYCT's safety program that are pertinent to individual staff duties, such as track safety, emergency communications, fire exit procedures and security.

As with other MTA NYCT projects, the emergency ventilation plant design would reflect safety and security considerations as paramount issues. Operational safety measures would include specific security, control and communication systems directed toward maintaining a safe environment during everyday and emergency situations. In conjunction with the facility's physical design, MTA NYCT would coordinate with appropriate public safety agencies such as NYPD and FDNY to develop detailed safety and security plans for all areas of the proposed facility.

The design of the project would meet or exceed the safety requirements applicable under the Building Code of New York State (BCNYS), NFPA 130 Standard for Fire Guideway Transit and Passenger Rail Systems and other appropriate codes, standards and MTA NYCT design guidelines.

Operation of the emergency ventilation plant would be under the direct control of the Subway Control Center via redundant communication routing within the subway to ensure its operation as a fire/life safety system. Security of the facility is remotely monitored to maintain controlled access to the ventilation plant.

As a result of the above, the emergency ventilation plant is not expected to result in adverse impacts to safety and security during the operational period.

### 18.3.1. BUILDING/FIRE CODE AND SYSTEM REQUIREMENTS

The emergency ventilation plant would adhere to the NFPA 130 as its primary document for fire/life safety requirements. NFPA 130 specifies fire protection and life safety requirements for underground, surface and elevated fixed guideway transit systems including trainways, vehicles, transit stations and vehicle areas. Smoke control would be in place to create an atmosphere which would enhance egress and emergency response operations.

### 18.3.2. CODE & STANDARD REPORT

An assessment of the BCNYS and NFPA 130 has been initiated by MTA NYCT to compare the applicability and requirements of both documents. In general, NFPA 130 has been followed for the design of an emergency ventilation plant over the past 15 years. The following codes have been identified as relevant to the proposed action:

- *NFPA 130 – Standard for Fixed Guideways* – This standard provides guidance for the fire protection of passenger rail, underground, surface and elevated fixed guideway transit stations, trainways and vehicles with a complete section concerning emergency ventilation.
- *Building Code of New York State (BCNYS)* – The BCNYS is the code that dictates principal requirements applied to non-station areas.
- *Building Code of the City of New York (BCCNY)* – Although not mandatory, NYCT has a Memorandum of Understanding with NYCDOB to attempt adherence to this set of requirements.
- *NYCT Design Guidelines* – These Guidelines address fire and safety in new and existing stations and are used in the development of fire and life safety strategies. In addition, many of these guidelines provide long-time, proven design requirements in the area of structures and electrical.