

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****Notice of Intent To Rule on Application 00-01-I-00-TTN To Impose the Revenue From a Passenger Facility Charge (PFC) at Trenton Mercer Airport, West Trenton, New Jersey**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of intent to rule on application.

**SUMMARY:** The FAA proposes to rule and invites public comment on the application to impose the revenue from a PFC at Trenton Mercer Airport under the provisions of the Aviation Safety and Capacity Expansion Act of 1990 (Title IX of the Omnibus Budget Reconciliation Act of 1990) (Public Law 101-508) and part 158 of the Federal Aviation Regulations (14 CFR part 158).

**DATES:** Comments must be received on or before August 11, 2000.

**ADDRESSES:** Comments on this application may be mailed or delivered in triplicate to the FAA at the following address: FAA-NYADO, Mr. Philip Brito, Suite 446, 600 Old County Road, Garden City, N.Y. 11530.

In addition, one copy of any comments submitted to the FAA must be mailed or delivered to Trenton Mercer Airport, Mr. Justin P. Edwards, Airport Manager at the following address: Trenton Mercer Airport, Terminal Building, Sam Weinroth Road, West Trenton, N.J. 08628.

Air carriers and foreign air carriers may submit copies of written comments previously provided to the Trenton Mercer Airport under section 158.23 of Part 158.

**FOR FURTHER INFORMATION CONTACT:** Mr. Dan Vornea, P.E. Airport Manager, Airports District Office, FAA-NYADO Suite 446 600 Old County Road, Garden City, New York 11530, Telephone (516) 227-3812. The application may be reviewed in person at this same location.

**SUPPLEMENTARY INFORMATION:** The FAA proposes to rule and invites public comment on the application to impose the revenue from a PFC at Trenton Mercer Airport under the provisions of the Aviation Safety and Capacity Expansion Act of 1990 (Title IX of the Omnibus Budget Reconciliation Act of 1990) (Public Law 101-508) and Part 158 of the Federal Aviation Regulations (14 CFR part 158).

On June 22, 2000, the FAA determined that the application to impose the revenue from a PFC

submitted by Trenton Mercer Airport was substantially complete within the requirements of section 158.25 of Part 158. The FAA will approve or disapprove the application, in whole or in part, no later than October 12, 2000.

The following is a brief overview of the application.

*PFC Application No.:* 00-01-I-00-TTN.

*Level of the proposed PFC:* \$3.00.

*Proposed charge effective date:* January 1, 2001.

*Proposed charge expiration date:* May 30, 2042.

*Total estimated PFC revenue:* \$15,300,000.

*Brief description of proposed project:* Design and Construction of New Terminal Building Project.

*Class and classes of air carriers which the public agency has requested not be required to collect PFCs:* ATCO—Air Taxi/Commercial Operators filing FAA Form 1800-31.

Any person may inspect the application in person at the FAA office listed above under **FOR FURTHER INFORMATION CONTACT** and at the FAA regional airport office located at: Federal Aviation Administration, Eastern Region, Airports Division, AEA-610, 1 Aviation Plaza, Jamaica, New York, 11434-4809.

In addition, any person may, upon request, inspect the application, notice and other documents germane to the application in person at the Trenton Mercer Airport.

Issued in NYADO, Garden City, N.Y. on June 26, 2000.

**Philip Brito,**

*Manager, NYADO, Eastern Region.*

[FR Doc. 00-17612 Filed 7-11-00; 8:45 am]

**BILLING CODE 4910-13-M**

**DEPARTMENT OF TRANSPORTATION****Federal Railroad Administration****Petitions for Waivers of Compliance; Petition for Exemption for Technological Improvements**

In accordance with title 49 Code of Federal Regulations (CFR) sections 211.9 and 211.41, and 49 U.S.C. 20306, notice is hereby given that the Federal Railroad Administration (FRA) has received a request for waiver of compliance with certain requirements of the Federal railroad safety regulations and a request for exemption of certain statutory provisions. The individual petition is described below, including the party seeking relief, the regulatory and statutory provisions involved, the nature of the relief being sought, and the petitioner's arguments in favor of relief.

**New Jersey Transit Corporation (NJ Transit)****Newark City Subway System (NCS)**

[FRA Waiver Petition No. FRA-2000-7335]

New Jersey Transit Corporation (NJ Transit) hereby seeks approval of shared use and waiver of regulations from the Federal Railroad Administration (FRA) for the portion of the light rail transit passenger operations of the Newark City Subway System (NCS) that operates on the general railroad system, as described in this Petition and its Exhibits.

New Jersey Transit Corporation (NJ Transit), seeks a permanent waiver of compliance from certain CFR parts of Title 49, specifically: part 219, Control of Alcohol and Drug Use; part 220, Radio Standards and Procedures; part 221, Rear End Marking Device—Passenger, Commuter and Freight Trains; part 223, Safety Glazing Standards—Locomotives, Passenger Cars and Cabooses; part 225, Railroad Accidents/Incidents—Reports Classification, and Investigations; part 229, Railroad Locomotive Safety Standards; part 231, Railroad Safety Appliance Standards; Part 238, Passenger Car Safety Standards; part 239, Passenger Rail Emergency Preparedness; part 240, Qualification and Certification of Locomotive Engineers, as well as the statutory requirements of 49 U.S.C. 20301 through 20305 and 49 U.S.C. 21101 through 21108.

NJ Transit seeks approval of shared track usage and waiver of certain FRA regulations involving light rail passenger operations on the Newark City Subway System (NCS). Currently, the NCS is a 4.3 mile, double-track light rail transit system that operates on an exclusive right-of-way in Newark, New Jersey. Presently, the NCS is a rapid transit system in an urban area not connected with the general railroad system. NJ Transit is involved in the construction of an 0.9-mile extension of the NCS which includes a portion of the Norfolk Southern (NS) Orange Industrial Track. NS will use a 0.24-mile portion of one of the tracks on this reconfigured 0.6-mile segment to maintain its operations to serve one freight customer. NCS and NS service on the Shared Track will be temporally separated. See FRA/FTA Proposed Policy Statement at 28241 (64 FR 28238; May 25, 1999).

In each section entitled "Justification," FRA merely sets out NJT Transit's justifications which are included in its petition. In doing so, NJT Transit references the proposed Joint Policy Statement on Shared Used of the General Railroad System issued by FRA and the Federal Transit Administration

(FTA) (64 FR 28238; May 25, 1999) ("FRA/FTA Policy Statement"). The proposed policy statement suggests that regulation of light rail service on the general rail system, under conditions of temporal separation from conventional rail movements, be handled through application of complementary strategies. FRA regulations would generally be employed to address hazards common to light rail and conventional operations for which consistent handling is necessary, while other hazards would be handled under FTA's program of State Safety Oversight (49 CFR part 659). See FRA/FTA Policy Statement for details.

Since FRA has not yet concluded its investigation of the planned NCS, the agency takes no position at this time on the merits of NJ Transit's stated justifications. As part of FRA's review of the petition, FTA will appoint a representative to FRA's Safety Board, and that person will participate in the board's consideration of NJ Transit's waiver petition.

#### *Part 217—Railroad Operating Rules*

Part 217 requires each railroad to provide training to employees on the operating rules and perform periodic operational tests to monitor compliance with the operating rules, pursuant to a written program. Under this part, each railroad must also retain testing records and file (or keep available in the case of Class III railroads) a copy of its operating rules with FRA. These requirements are intended to ensure the safety of railroad operations through employee knowledge of and compliance with operating rules.

#### *Justification*

NJ Transit requests a waiver from all of the requirements of this part. Training and testing on NCS operating rules are conducted pursuant to NJ Transit Light Rail Operations training requirements. The purpose of the training requirements is to produce an operator who can provide an optimum degree of safety to all employees, customers, and the general public. The initial operating rules training lasts for 7 days, and incorporates lectures, demonstrations and practical exercises. Employees are re-certified annually in operating rules and practices. These are described in Light Rail Operations Safety Rules & Procedures for Employees (LRT Rules and Procedures) and Light Rail Re-Certification Training Manual which contain additional operator training and testing requirements. These requirements will ensure that the NJ Transit employees know and comply with NJ Transit operating rules.

NJ Transit must submit its System Safety Program Plan (SSPP) and Operating Rules to the New Jersey's State Safety Oversight Board (Oversight Board) for review and approval. NJ Transit conducts initial and annual training for employees on the operating rules and conducts employee operational testing and rules inspections on a periodic basis. Employees are recertified on the operating rules annually. Employees receive reinstruction on the operating rules if they are involved in an accident, misuse of equipment, or unsafe acts. Employees also receive reinstruction if they have been away from subway operations for a period of 90 days or more, out sick for an extended period of time, or if reinstruction is requested by management. By start-up of operations on the NCS Extension, records of initial, annual and periodic employee testing and the LRT Rules and Procedures will be available for review by FRA during business hours. See FRA/FTA Policy Statement at 59054, 59056.

#### *Part 219—Control of Alcohol and Drug Use*

Part 219, Control of Alcohol and Drug Use, prescribes minimum Federal safety standards for the control of alcohol and drug use by railroad workers for the purpose of preventing accidents and casualties in railroad operations that result from impairment of employees by alcohol or drugs.

#### *Justification*

NJ Transit requests a waiver of all of the requirements of part 219 because all of the employees assigned to the NCS who would otherwise be covered employees under this part are already covered employees subject to NJ Transit's existing drug and alcohol program under the FTA rules at 49 C.F.R. Part 653, Prevention of Prohibited Drug Use in Transit Operations and part 654, Prevention of Alcohol Misuse in Transit Operations. NJ Transit's drug and alcohol program incorporates: drug and alcohol screening for new employees; an employee assistance program; drug and alcohol testing for persons receiving a bi-annual physical as part of the Commercial Driver's License requirements, and; random, post-accident, and reasonable suspicion drug/alcohol screening.

The FTA regulations apply to recipients of Federal mass transit funds except those "specifically excluded" because those recipients are operating railroads regulated by FRA. 49 CFR 653.5; 49 CFR 654.5. In such cases, a recipient is to follow the FRA regulations in 49 CFR part 219 for its

railroad operations. Id. However, such a recipient is still required to certify that it is in compliance with applicable rules and to comply with parts 653 and 654 for its "non-railroad operations." Id. NJ Transit is a recipient of Federal mass transit funds, and therefore, is subject to these compliance certification provisions. Subjecting NCS employees to FRA regulations would create an administrative burden for NJ Transit, both in terms of cost and in terms of recordkeeping.

If granted a waiver from the requirements of part 219, NCS light rail operations would remain under the regulatory jurisdiction of FTA. NCS employees are employed by NJ Transit Bus Operations, Inc. and tested with bus operators and supervisors. Most other safety functions for NCS employees also are administered through NJ Transit Bus Operations, Inc. All of the employees assigned to the NCS LRT operation that would otherwise be covered employees under part 219, would remain covered employees under FTA's rules at parts 653 and 654. Application of the FTA drug and alcohol rules will provide an equivalent level of safety consistent with the policy underlying part 219. A basic review of the respective FRA and FTA regulations reveals that they are quite similar in purpose, structure and substance. Both regulations are intended to enhance safety by prohibiting and eliminating misuse of drugs and alcohol that might otherwise result in accidents and injuries to employees and the traveling public. Both regulations provide for procedural and recordkeeping requirements safeguarding the integrity of the program and providing privacy and due process protections for covered employees. Finally, both sets of regulations prohibit impaired employees from performing safety sensitive functions and require testing in the same situations (random, post-accident, reasonable suspicion, return-to-duty and pre-employment).

Although there are differences between the regulations, there are no major policy differences with respect to the need to eliminate drug and alcohol misuse and the primary importance of safety in transportation operations. The most obvious difference involves the application of penalties for non-compliance. Under FRA rules, a regulated entity found to be in violation of the rule may be subject to civil penalties in accordance with a published schedule. The FTA regulations do not contain such a civil penalty structure. However, under FTA regulations, compliance is a condition for eligibility for receipt of Federal

funds. Non-compliance can result in suspension of eligibility for applicable Federal funding altogether. Thus, the severity of the potential penalty suspension and funding eligibility under FTA rules serves as a deterrent in the same way as does the FRA civil penalty program.

Application of the FTA regulations will provide a level of safety equivalent to that provided by the FRA regulations. This request is consistent with FRA's position on the appropriate treatment of this Part. See FRA/FTA Policy Statement at 59054, 59056.

#### *Part 220—Railroad Communications*

Part 220 sets forth minimum requirements governing the availability and use of radios and other wireless communications equipment in connection with railroad operations and right-of-way maintenance. These requirements are intended to enhance operational safety by facilitating communications among railroad employees and offices through the availability of radios and the use of standardized communications protocols.

#### *Justification*

NJ Transit requests a waiver from all of the requirements of this part because radio communications on the NCS are conducted according to the requirements of the NCS SSPP. In addition, because of the strict temporal separation, there will be little need for communication between NCS personnel and personnel of NS. Primary indication of track occupancy is provided by the train control system. The NCS has redundant means of communicating, including two-way mobile and base radios, and a remote OCC two-way base radio. All NCS maintenance workers are equipped with two-way radios for communication with each other and the OCC. The LRT Rules and Procedures stipulate communications protocols addressing content and priority of communications, as well as emergency communications, identification of speakers, employee training and testing regarding proper use of radios. Paragraph 3012 states that all two-way radio transmissions are governed by the Federal Communications Commission regulations. LRT Rules and Procedures, E. Compliance with the LRT Rules and Procedures is also monitored as required by Section 4.4 of the SSPP. The LRT Rules and Procedures provide for an equivalent level of safety as FRA rules. This request is consistent with the FRA's position on the appropriate treatment of this part. Statement

Concerning Jurisdiction at 59054, 59056.

#### *Section 221.14(a)—Rear End Marking Device*

Section 221.14(a) requires that passenger, commuter, and freight trains be equipped with at least one such compliant marking device, which has been approved by FRA in accordance with the procedures included in Appendix A of part 221, and which has specific intensity, beam arc width, color and flash rate characteristics. The requirements are intended to reduce the likelihood of rear-end collisions attributable to the inconspicuity of the rear-end of a leading train.

#### *Justification*

NJ Transit requests a waiver from this requirement because the NCS vehicle are equipped with lights and reflectors similar to those required for highway vehicles as contained in NJDOT regulations. The NJDOT regulations adopt and incorporate by reference the Federal Highway Administration's ("FHWA") Federal Motor Carrier Safety Regulations found at 49 CFR part 393. The external illumination on the NCS vehicles includes headlights, turn signals, tail and brake lights, reflectors, clearance lights, and marker lights at each end of the bi-directional NCS vehicles. In addition, marker lights, turn signal lights, and a reflecting strip, are located on the side of the vehicle. One headlight is mounted next to each brake light, with the headlights capable of being switched from low to high beam. Turn signal lights are visible from both the front and the side of the vehicle. The mounting height and candela value of the lights provided is consistent with the FHWA requirements for commercial motor vehicles. See 49 CFR part 393.

In addition, a railroad lamp is mounted at the center top of each end of the vehicle. The railroad lamp, which has high and low beam capability, is designed for use in dedicated track territory. This lamp meets the applicable requirements of 49 CFR 229.125.

The NCS vehicles have tail and brake light and marker lights to define the end contour of the vehicle, substantially similar to the marking devices required by FRA regulations. NJ Transit submits that safety on the Shared Track will not be compromised by the use of the NCS marking devices. The variation in illumination levels between NCS vehicles and NS trains is not material because of the temporal separation of the operations. The exterior lighting of the NCS vehicle will make the rear of the vehicles conspicuous to following

vehicles and temporal separation will mean that freight trains will not follow behind leading NCS vehicles.

#### *Section 223.9(c)—Glazing Requirements*

Section 223.9(c) requires that passenger cars be equipped with FRA certified glazing in all windows. This requirement is intended to reduce the likelihood of injury to passengers and/or employees from breakage and shattering of windows (including windshields) and to avoid ejection of passengers from the vehicle in a collision.

#### *Justification*

NJ Transit requests a waiver of this requirement for NCS vehicle side windows. FRA will not permit operations on the general system in the absence of effective alternatives to the requirements of this part that provide an equivalent level of safety. Petitioners seeking waiver of this requirement should explain what equivalent safeguards are in place to provide assurances that passengers and crew members are safe from the effects of objects striking the vehicle's windows. Statement Concerning Jurisdiction at 59053. FRA has acknowledged that a transit system that has an SSPP developed under FTA's rules may be able to demonstrate that the Plan satisfies the safety goals of this part. Id. FRA also has recognized that temporal separation can form the basis for a grant of a waiver from safety glazing requirements. In FRA's waiver decision with respect to the Southern New Jersey Light Rail Transit (SNJLRT) project, FRA granted a waiver from the requirements of Section 223.9(c) based upon recognition that "a transit authority providing service on the general rail system under time separated arrangements should have wide latitude to select equipment well suited to the particular service requirements."

NCS vehicle side windows will conform to the side impact requirements of "American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways." Glass meeting this standard is break-resistant in normal usage, but can be broken with a standard rescue tool, such as a pry bar or punch, in an emergency. Upon breaking, the glass "crumbles" into pebble-like pieces, posing no significant hazard to passengers, employees or rescue personnel. The use of such safety glass windows is standard throughout the rail transit industry, where it has proved both durable and safe.

In addition, the risk associated with vandalism (such as by ballast or other objects thrown against the windows) is addressed from an operations standpoint in the SSPP. Sections 7.0 and 8.0 of the SSPP contain the NCS Security Program tasks and verification procedures. The NCS right-of-way is monitored by Closed-Circuit TV. The NJ Transit Police Department has primary responsibility for NCS security, including assessment and corrective action with respect to facility and equipment damage, vandalism and trespassing. NJ Transit has developed Standard Operating Procedures ("SOP's") intended to accomplish security goals, including SOP's regarding patrolling facilities and vehicle operator procedures for handling security threats. There is no reason to believe that the NCS vehicle side windows will pose any safety hazard in NCS operations on the Shared Track. The crumble characteristics of the NCS vehicle side windows, the NCS SSPP and NCS temporal separation from freight operations together offer necessary equivalent safety for Shared Track operations.

#### *Section 223.15(c)—Emergency Window Requirements*

Section 223.15(c) requires each passenger train car to be equipped with at least four emergency windows designed to permit rapid and easy removal during an emergency. This requirement is intended to enhance safety by providing emergency egress in addition to egress through vehicle doorways.

#### *Justification*

NJ Transit requests a waiver of this requirement because the NCS vehicles are not manufactured with designated emergency windows. The vehicles, however, are designed to permit equivalent or superior emergency exit options. Each vehicle has nine passenger windows on each side, all of which are made of safety glass and are bonded to the sidewalls. All of these windows are large (approximately 48 inches long by 36 inches high) when compared with conventional commuter rail cars, can be broken with standard rescue tools and can function as emergency windows if necessary. Furthermore, the NCS vehicle doorways provide greater access/egress capability than is found on conventional commuter rail cars. Each vehicle has four sets of double doors on each side of the vehicle. The minimum clearance height of each doorway is 80 inches and the flow lane width of each doorway is at least 24 inches (48 inches in total for

each doorway). The vehicle is designed such that the egress time of an AW2 load shall not exceed 60 seconds, calculating egress assuming a flow rate of 2 seconds per passenger per flow lane. The doors are releasable through an emergency release lever located on the inside of each doorway and from at least one doorway per side on the outside of the vehicle. This will enable a closed and interlocked door to be lock-released without power supply. Activation of the emergency release levers allows the door leaves to be manually operated. The interior door release levers are clearly marked and in a location accessible to all passengers, compliant with ADA and FRA marking requirements. These release lever features enable quick and easy opening of the doors by passengers, equivalent to FRA emergency exit window requirements.

The doorways are designed to provide the main means of emergency access/egress and because the large windows can function as additional emergency access/egress points, there is very little risk of passengers becoming trapped or rescue personnel being unable to reach passengers. The NCS SSPP contains emergency response plan requirements that include passenger evacuation and crowd control planning.

#### *Section 223.9(d)—Emergency Exit Window Markings*

Section 223.9(d) requires that each emergency window be conspicuously and legibly marked with luminescent material on the inside of each car and that clear and legible operating instructions be posted at or near each such window. This section also requires that each window intended for access by emergency responders for extrication of passengers be marked with a retroreflective, unique and easily recognizable symbol or other clear marking and that clear and understandable window-access instructions be posted at each such window or at the end of each car. These requirements are intended to distinguish emergency windows from other windows and provide information on the operation of the emergency windows.

#### *Justification*

NJ Transit requests a waiver from these requirements because all side windows on the NCS vehicles are suitable for use in the event of an emergency. It would make no sense and, in fact, could cause confusion to mark any particular side set of windows as designated "emergency windows." All side windows can be broken with

standard rescue tools and can function as emergency windows if necessary. Thus, identification of some windows as "emergency windows," and the posting of special operating instructions is not appropriate in this instance and is not necessary for safe emergency egress from the NCS vehicle. Enforcing the marking requirements will not serve the intended safety purpose. In the SNJLRT Waiver Letter, FRA granted NJ Transit's request for relief from the emergency window exit requirements, including the marking requirements. FRA indicated that it believed that emergency egress and rescue access for the vehicle should be resolved through the SSPP process. NJ Transit assumes that FRA would have the same concerns and recommendations here.

Accordingly, NJ Transit intends to work with NJ Department of Transportation State Safety Oversight Program to address emergency egress and rescue access. Emergency preparedness drills will be carried out on LRTs on an annual basis. For the foregoing reasons, enforcing the marking requirements would not serve the intended safety purpose.

#### *Part 225—Accident Reporting and Investigation*

Part 225 prescribes reporting requirements for equipment and grade crossing accidents and employee injuries meeting specified thresholds. Part 225 also provides for recordkeeping and retention policies, and FRA accident investigations. These requirements support FRA's enforcement efforts and provide information to detect trends on an industry-wide basis.

#### *Justification*

NJ Transit requests a waiver of the reporting and investigation requirements for injuries because NJ Transit will be following the injury reporting requirements prescribed in Section 4.3 of the SSPP. NJ Transit intends to comply with injury reporting and investigation requirements in the event of grade crossing accidents.

Employee injuries are subject to FTA rules, and therefore provisions for reporting and investigating employee injuries are included in the SSPP. Pursuant to the SSPP, any employee responsible for the operation or maintenance of the NCS having direct knowledge of an accident or an incident that results in an injury must file a written report. Minor employee injuries such as those requiring first aid or a near miss must be investigated by the Supervisor, Claims Department. Employee injuries of moderate severity

resulting in medical treatment and/or lost time must be investigated by the Supervisor of both the Claims Department and Safety Department, depending upon the severity and circumstances of the injuries. Major injuries involving either serious injury or death must be investigated in-depth by the Supervisors of the Claims and Safety Department. The Safety Department must maintain an investigation recommendation matrix and a follow-up database to track implementation of recommendations. Pursuant to the NJ State Safety Oversight Program, NJ Transit must submit a monthly statement of among other things, injuries to passengers or employees.

If an accident results in a passenger or employee fatality; a fatality occurs at a grade crossing; or two or more employees or passengers are seriously injured requiring admission to a hospital, NJ Transit must provide verbal notification to the National Transportation Safety Board and the NJDOT within two hours of occurrence of the incident. The verbal notification must be followed by submittal of a written report. Records of injuries are maintained at NCS headquarters and may be made available upon FRA request during business hours.

FTA rules require NJ Transit's SSPP to contain provisions for reporting and maintaining records of certain injuries. Therefore, NJ Transit has an interest in establishing a system for uniform reporting of injuries. In addition, NJ Transit is responsible for compliance with applicable workplace injury reporting requirements contained in the New Jersey Public Employee's Occupational Safety and Health Act. The New Jersey Public Employee's Occupational Safety and Health Act is intended to adopt all applicable occupational health and safety standards of, and be as effective as, the Occupational Safety and Health Act of 1970, 29 U.S.C. 651 *et seq.* See N.J.A.C. 12:100, Safety and Health Standards for Public Employees; see also N.J.S.A. 34:6A-29(g) and 34:6A-30(a).

NJ Transit must already comply with FTA and New Jersey Public Employee's Occupational Safety and Health Act reporting requirements for injuries on the NCS. Requiring NJ Transit to also comply with FRA regulations would place an unnecessary administrative burden on NJ Transit. NJ Transit's system for recording, reporting and investigating injuries will be equally effective as FRA regulations in terms of preserving important data on injuries. This request is consistent with FRA's position on the appropriate treatment of

part 225 as stated in the Statement Concerning Jurisdiction. See FRA/FTA Policy Statement at 59054, 59056.

#### *Section 229.125—Headlights and Auxiliary Lights*

Sections 229.125(a) and (d) require locomotives to have headlights and auxiliary lights of specified brightness and placement on the vehicle. The purpose of these requirements is to reduce the risk of collisions attributable to inconspicuity of the train.

#### *Justification*

NJ Transit requests a waiver from these two requirements of Section 229.125. The NCS vehicles have headlights and auxiliary lights that together present a triangular pattern and make the vehicles conspicuous to motor vehicles at grade crossings. However, the headlights and auxiliary lights do not match the dimensions set forth in Section 229.125(d) and the lights are not as bright as prescribed in Section 229.125(a).

FRA has stated that it is important for all locomotives (including LRT vehicles meeting the definition of "locomotive" or "cab car") to present the same distinctive headlight-auxiliary light profile to motor vehicle operators approaching grade crossings in order to reduce the risk of grade crossing accidents. Statement Concerning Jurisdiction at 59053. FRA is amenable to light rail headlights being less bright than conventional locomotive headlights. Id. FRA is willing to grant waivers of part 229, including Sections 229.125(a) and (d), provided that a petitioner explains how its practices will provide for the safe condition and operation of its vehicles and how the vehicle design maintains the triangular pattern required of other locomotives and cab cars to the extent practicable. Id.

The NCS vehicles will have two auxiliary lights similar to those used on motor vehicles. The auxiliary lights will meet the requirements of NJDOT motor vehicle headlight standards. The auxiliary lights will be capable of illuminating a person or object 500 feet away. The NCS vehicles will have a headlight on the top center of each end of the vehicle meeting the requirements of Section 229.125(a) and forming a triangular pattern with the auxiliary lights, to present a distinctive and conspicuous profile to motor vehicle drivers approaching grade crossings. The auxiliary lights on the NCS vehicle will be 43.5 inches above the top of rail and 42 inches apart. The vertical distance from the headlight to the

horizontal axis of the auxiliary lights will be 94 inches.

As noted in Section II.G., there are two grade crossings on the segment of the Orange Industrial Track that will become the Shared Track, located at Franklin Street and at Belmont Avenue. As part of the NCS extension project, NJ Transit will reconstruct the Franklin Street and Belmont Avenue grade crossings. The crossings will be protected in accordance with the MUTCD to a design approved by the NJDOT. The public review process required under state law for the reconstruction of the grade crossings at Franklin Street and Belmont Avenue included participation of local emergency service organizations, municipalities (including the City of Belleville, where both grade crossings are located) and transportation planning organizations. The NCS extension includes installation of Bar Signals that are sequenced with traffic signals and grade crossing gates and lights. In addition, the grade crossings at Franklin Street and Belmont Avenue will be maintained in accordance with FRA regulations in part 234.

In the SNJLRT Waiver Letter, FRA granted NJ Transit's request for relief from the requirements of Sections 229.125(a) and (d) based upon the conditions that the vehicle maintain the basic triangular pattern of lights as described in NJ Transit's petition and that NJ Transit undertake a public education and awareness campaign to familiarize residents of the area with the new NCS service on the line, recognition of the light rail vehicles and the continuation of freight service. NJ Transit plans to undertake a public education and awareness campaign to familiarize motorists with the NCS extension.

#### *Section 231.14—Passenger Cars Without End Platforms*

Section 231.14 specifies the requisite location, number, dimensions, and manner of application of a variety of railroad car safety appliances, directly implementing a number of statutory requirements found in 49 U.S.C. 20301-05, the Safety Appliances Act.

The statute contains specific standards for automatic couplers, sill steps, hand brakes, and secure ladders and running boards. Where ladders are required, the statute mandates compliant handholds or grab irons for the roof of the vehicle at the top of each ladder. Compliant grab irons or handholds also are required for the ends and sides of the vehicles, in addition to standard height drawbars. In addition, the statute requires trains to be

equipped with a sufficient number of vehicles with power or train brakes so that the engineer may control the train's speed without the use of a common hand brake. At least 50 percent of the vehicles in the train must be equipped with power or train brakes and the engineer must use the power or train brakes on those vehicles and all other vehicles equipped with such brakes that are associated with the equipped vehicles in the train.

Aside from the statutory requirements, the regulations provide additional and parallel specifications for handbrakes, sill steps, side handholds, end handholds, end handrails, side-door steps and uncoupling levers. More specifically, each passenger vehicle must be equipped with an efficient handbrake that operates in conjunction with the power brake on the train. The handbrake must be located so that it can be safely operated while the passenger vehicle is in motion. Passenger cars must have four sill steps and side-door steps and prescribed tread length, dimensions, material, location and attachment devices for sill steps and side-door steps. In addition, there are requirements for the number, composite material, dimensions, location and other characteristics for side and end handholds and end handrails. Finally, this section requires the presence of uncoupling attachments that can be operated by a person standing on the ground.

These very detailed regulations are intended to ensure that sufficient safety appliances are available and that they will function safely and securely as intended.

#### Justification

NJ Transit seeks an exemption from the statutory requirements of the Safety Appliances Act and waiver of the implementing of regulations in 49 CFR 231.14. As explained below, NJ Transit seeks an exemption from the statutory requirements of the Safety Appliances Act, because compliance with those requirements would preclude the introduction of efficient railroad transportation equipment "light rail vehicles" in temporally-separated shared use operations. NJ Transit seeks a waiver from the corresponding regulations in Section 231.14, because the appliances and the specifications for the appliances contained in that section are unnecessary for assuring the safety of the NCS vehicles to NCS vehicle operators and passengers.

The NCS vehicle has a number of features that provide an equivalent or superior level of safety as compared to a conventional hand brake. Each NCS

vehicle will be equipped with four automatic spring applied parking brakes located on the two power trucks in each vehicle. The parking brake operates as part of the normal service braking function of the car. The parking brake is capable of holding the vehicle on a gradient of seven percent at an AW4 load. A one-person crew will operate the NCS vehicles. Normally the NCS will operate the system with single cars. There may be occasions where two cars will be coupled. The car or train will be normally operated from the console in the lead cab. During normal operating conditions, the operator will make all service brake applications. In the event of an emergency, the NCS vehicle will have several features that would permit passengers to activate the braking system. First, an emergency release device located on each passenger door pillar causes an irrevocable application of the service brakes in the event of any application. Second, the eight doors with double door leafs (four locations on each side of each vehicle) are interlocked with the propulsion system to ensure that the NCS vehicle does not move while any doors are open and the opening of the doors while the NCS vehicle is in motion will cause an irrevocable application of the service brake. The braking characteristics of the NCS vehicle will result in a shorter full service brake activation time and easier brake application than would be achieved by the presence of a traditional hand brake. Thus, the safety purpose of the hand brake requirement is achieved, but in a manner that provides an equivalent or superior level of safety.

Sill steps and side-door steps are not necessary for safety on the NCS vehicle, because it is a low floor vehicle designed for low level boarding. The door threshold is 13.75 inches above the top of the rail. This configuration renders sill steps and side-door steps unnecessary. Compliance with the sill step and side-door step requirements would not enhance the safety of the vehicle.

Handholds and handrails are typically intended for use by conductors and crew members performing service and yard duties. However, NCS operations will not involve any service and yard duties from positions outside and adjacent to the vehicle or near vehicle doors. Yard moves will be controlled from the console by the on-board operator and switches will be thrown remotely or through local controls initiated by the on-board operator.

Therefore, there is no need for personnel to mount or dismount the vehicle using external appliances of any kind and no need for handholds or

handrails on NCS vehicles. In sum, there is no practical need for handholds or handrails and their presence might constitute a safety hazard in the operating environment.

The NCS vehicle is equipped with a fully automatic electric coupler and a mechanical coupler at each end controlled from the operator's position in the cab. The coupler and associated draft gear system has a centering device that retains the unconnected coupler head within its gathering range. The couplers are central couplings with automatic electrical and pneumatic coupling. The operator can initiate uncoupling from the console and no external crew is required to assist in this operation. NJ Transit believes that performing all coupling/uncoupling from inside the vehicle will enhance safety. This elimination of the need for frequent coupling/uncoupling of vehicles, combined with the ability for such activity to take place without crew members in close proximity to the coupler mechanisms eliminates the need for specially placed uncoupling levers and any hazard associated with manual coupling. The NCS vehicle uses dynamic brakes as the primary braking for all service brake applications. The LRT Rules and Procedures requires that each operator perform a pre-trip inspection of his/her equipment, including inspection, testing and maintenance of brake equipment. Operators are required to report any defects or failures to the Maintenance Department immediately and to note such defects or failures on their vehicle condition reports. Therefore, the NCS vehicle brake system will be equivalent to a standard air brake system and thus provide an equivalent level of safety.

NJ Transit may obtain exemption from the statutory safety appliance requirements mentioned above only if application of such requirements would "preclude the development or implementation of more efficient railroad transportation equipment or other transportation innovations." 49 U.S.C. 20306. The exemption for technological improvements was originally enacted to further the implementation of a specific type of freight car, but the legislative history shows that Congress intended the exemption to be used elsewhere so that "other types of railroad equipment might similarly benefit." S. Rep. 96-614, at 8, (1980), reprinted in 1980 U.S.C.A.N. 1156, 1164.

FRA has recognized the potential public benefits of temporally separated transit use on segments of the general railroad system. Light rail transit systems "promote more livable

communities by serving those who live and work in urban areas without adding congestion to the nation's overcrowded highways." FRA/FTA Policy Statement at 28238. They "take advantage of underutilized urban freight rail corridors to provide service that, in the absence of the existing right-of-way, would be prohibitively expensive." *Id.* There have been many technological advances in types of equipment used for passenger rail operations, such as the use of light rail transit vehicles that will be used for the NCS System. Light rail transit equipment is energy-efficient for passenger rail operations because it is lighter than conventional passenger equipment. Light rail vehicles are able to quickly accelerate or decelerate, which makes them more suitable than other equipment types in systems with closely configured stations. Denying NJ Transit's request for an exemption from certain safety appliance requirements would preclude the implementation of light rail transit for shared use/temporal separation operations. Moreover, compliance with the statutory requirements is not necessary for safe operations. With regard to the regulatory requirements of Section 231.14, as discussed above, the NCS vehicles will be equipped with safety appliances that are more appropriate for light rail transit vehicles, thus achieving an equivalent level of safety in the NCS operating environment.

#### *Part 238—Passenger Equipment Standards*

Part 238 prescribes minimum federal safety standards for railroad passenger equipment. NJ Transit requests a waiver from the requirements of part 238, because the NCS vehicles will not meet the requirements of the Part. NCS and NS operations will be temporally-separated. NCS is subject to state safety oversight pursuant to FTA's rules at 49 CFR part 659 and has an SSPP in place.

#### *Section 238.113—Emergency Window Exits*

Section 238.113 requires passenger cars to have a minimum of four emergency exit windows, either in a staggered configuration or with one located at each end at each side of the car. Each window must have a minimum unobstructed opening with dimensions of 26 inches horizontally and 24 inches vertically. Each emergency exit window must be easy to maneuver without requiring the use of a tool or other implement. This requirement is intended to provide for sufficient, easily accessible avenues of egress from passenger cars in the case of emergency.

#### *Justification*

NJ Transit requests a waiver of this requirement because the NCS vehicles do not come equipped with emergency exit windows. The cars, however, are designed to permit equivalent egress so that passengers will not become trapped in the cars in the case of an emergency. See also the discussion related to emergency egress and emergency planning above.

#### *Section 238.115(b)(4)—Emergency Lighting*

Section 238.115(b)(4) requires passenger cars to provide battery powered emergency lighting with a 90-minute back-up power system capable of operating without a loss of more than 40 percent minimum illumination levels in all equipment orientations within 45 degrees of the upright and vertical position. The emergency lighting must be capable of operating after the initial shock of a collision or derailment resulting from prescribed individually applied accelerations. The purpose of these requirements is to ensure that in an emergency situation, sufficient lighting will remain available to aid passengers, crew members, and rescue personnel to access and leave the train safely.

#### *Justification*

NJ Transit requests a waiver of these requirements because the NCS vehicles will not meet the requirements. However, power for the emergency lighting in the NCS vehicles is provided by a battery with sufficient capacity to sustain emergency loads, including the above lighting, and radio and public address systems, for a period of at least 60 minutes. Additionally, the battery will have sufficient capacity to sustain power to door controls, propulsion and brake controls, coupler control and the horn and bell for a period of at least 60 minutes. The battery is located on the roof of the B section near the central C section of the car, removed from the front of the vehicle where direct collisions may occur. The battery is designed for transit use that requires a rugged design capable of withstanding reasonable shock and vibration. The battery box mounting brackets, as are all mounting brackets of equipment above 90 kg (200 lbs.), are designed to withstand not less than 5.0 g in the longitudinal direction, 2.0 g in the lateral direction and 3.0 g in the vertical direction.

The NCS vehicles will operate in an urban region; the route short segment of Shared Track is at-grade with many points of easy access for police, fire and

other emergency rescue units from adjacent streets. On the Shared Track, emergency responders can reach the NCS system within five (5) minutes. Additionally, the headway between NCS vehicles is no more than 6 minutes (non-rush hour periods) and each vehicle has the capability of acting as a rescue car by coupling with a failed unit and moving it to the next stop for detrainment of passengers. The rescuing car can supply sufficient electrical power to the failed vehicle for the emergency lighting and other functions. In the event that the last scheduled vehicle in a day lost power, the previous vehicle would be returned to recover the failed vehicle.

The NCS main and backup lighting and power systems will provide a level of safety in the NCS operating environment equivalent to that provided in FRA's regulations.

#### *Structural Requirements in Part 238*

The waiver requests for the primary structural requirements in part 238 are addressed in this Section III.10.c. Many aspects of the safety justification for waiver of the structural requirements apply equally to all of the structural requirements and, therefore, the generally applicable points are set forth in this introduction.

NJ Transit seeks waiver of all of the structural requirements in part 238, because the NCS vehicle will not meet the requirements. The strict temporal separation of the NCS and NS services virtually eliminates the risk of a collision between a NCS vehicle and a NS freight train, obviating the need for NCS equipment to meet the passenger car structural standards. In addition, the NCS vehicles are designed to withstand collisions with other light rail vehicles, motor vehicles and similar objects. Relevant aspects of these design standards are described below.

The NCS collision avoidance system is at the heart of the NCS safety design. Marked by complementary elements such as operating rules and procedures, train control technology and the NCS signal system, the collision avoidance system will significantly reduce the likelihood of collisions involving NCS vehicles. Moreover, the NCS vehicle's rapid deceleration design features will work to further reduce the prospect of collisions and to significantly reduce the closing speed, and accordingly, the seriousness of collisions that do occur.

#### *Section 238.203—Static End Strength*

Section 238.203 provides for the overall compressive strength of rail passenger cars, requiring them to have a minimum static end strength of



800,000 pounds on a line of draft at the ends of occupied volumes without permanent deformation of the car body structure. This section is intended to prevent sudden, brittle-type failure of the main structure of a passenger car, thereby providing protection of occupants in the case of a crash.

#### Justification

NJ Transit requests a waiver from this requirement because the NCS vehicle will not meet the requirements, but will be designed to attain an equivalent level of safety in the NCS operating environment.

Above and beyond the crash avoidance features of the NCS System, the NCS vehicles are designed to prevent sudden, brittle-type failure of the main structure of a passenger car. The vehicle design accommodates the actual progression of a failure induced by a sudden collision phenomenon; from the elastic limit, through the plastic limit, to a brittle failure. NJ Transit requires the NCS vehicles to be manufactured to comply with the standards summarized in the Summary of NCS Structural Specifications further summarized below:

The structure is capable of sustaining, without any permanent deformation, a longitudinal load 490 kN (110,156 lbf) applied uniformly at coupler bracket, with a uniformly distributed applied AW4 vertical load of 218 kN (49,008 lbf). Actual tests have determined that these minimum values were achieved.

The structure is capable of sustaining, without any permanent deformation, a longitudinal load of 441 kN (99, 141 lbf) applied uniformly at the end sill anticlimber, with a uniformly distributed applied AW4 vertical load of 218 kN (49,008 lbf). In addition the end sill structure is capable of: Sustaining loads up to the peak collapse load of the crush zone without permanent deformation; sustaining the reaction loads generated from the loads specified for collision posts, corner posts and anti-climbers without permanent deformation; and distributing the collision loads incurred during scenarios specified for crashworthiness, such that the collapse of the energy absorption elements in the crush zones is the primary failure mode.

Vehicles are capable of withstanding collisions with other NCS vehicles, motor vehicles, or over-travel buffers without unnecessary risk of injury to passengers or excessive damage to NCS cars and/or track equipment. In a collision, no passenger compartment shell will rupture or suffer any opening through which passengers limbs may protrude; high voltage devices and

associated connecting cables will remain contained and will not create electrical shock hazards to personnel; and electrical systems will not create a fire hazard.

To achieve the objective of crashworthiness, a crash energy management approach was used as the basis of the NCS vehicle's structural design. Further, as it is expected that during peak hours that some passengers will stand, it was deemed important to minimize the deceleration of passengers in the event of a frontal collision. The crash energy management of the NCS vehicle in a collision between a NCS two car consist moving at speed V and a stationary two car NCS consist (i) both consists on level tangent track and unbraked, (ii) couplers fully engaged, and (iii) NCS vehicle having a design weight of AW0 of 45,000 kg (99,208 lb.) is detailed in Exhibit E. Actual car weights are averaging 47,700 kg (95,459 lbs.), enhancing the above performance.

The NCS crash avoidance system combined with the above stated specifications will provide equivalent protection to occupants in the case of a crash in the NCS operating environment.

#### *Section 238.205 (a)—Anti-Climbing Mechanism*

Section 238.205 (a) requires locomotives (as defined in § 238.5) to have forward and rear end anti-climbing mechanisms capable of resisting an upward or downward vertical force of 200,000 pounds without failure. These requirements are intended to prevent override or telescoping of one passenger train unit into another in the event of high compressive forces caused by a derailment or collision.

#### Justification

NJ Transit requests a waiver of this requirement because the NCS vehicle is designed so that: with only two ribs of the anticlimbing mechanism engaged, and a vertical load of 150 kN (33,721 lbs.) combined with a longitudinal compressive load of AW0, 441 kN (99,141 lbs.) applied at the carbody centerline, there will be no permanent deformation of the carbody structure. Analysis has shown that this component will sustain higher loads. In addition, elements within the couplers absorb 115 KJ (84,780 ft.-lbs.) of energy in recoverable energy absorption elements. When this occurs, the coupler moves back until the maximum energy absorption limit is reached when special calibrated bolts break at a predetermined design release load of 450 kN (101,164 lbs. force), allowing the anti-climbers of the colliding vehicles to

engage and the loads are taken by the carbodies directly. Anti-climbers are fitted to each end of the cars to avoid overriding and underriding.

While individual structural elements will not conform to the requirement of Section 238.205(a), the assembled carbody uses "crush zones" and other techniques to protect passengers in the event of collisions. Specifically, the NCS vehicle is designed using advanced computer methods to incorporate modern energy absorbing and dissipation methods to dissipate energy and transfer loads to protect the passenger compartment. The anti-climbers and energy absorption mechanisms are designed to limit the potential for override and underride and prevent telescoping. The NCS vehicle design will achieve the uniformity of end structure deformation essential to this objective. The standard to which the NCS vehicle is manufactured will prevent override or telescoping and provide an equivalent level of safety as that provided by the FRA rule.

#### *Section 238.207—Link Between Coupling Mechanism and Car Body*

Section 238.207 requires the link between the car coupling mechanism and the car body to be designed to resist a vertical downward thrust from the coupler shank of 100,000 pounds for any normal horizontal position of the coupler, without permanent deformation. The purpose of this requirement is to avoid a premature failure of the draft system so that the anticlimbing mechanism will have an opportunity to engage.

#### Justification

NJ Transit requests a waiver from this requirement because the NCS vehicle has its own design features to accomplish the purpose of the requirement.

The NCS vehicle is designed so that the carbody structure supporting the coupler will sustain without permanent deformation a load that is equal to 110 percent of the coupler release load (if applicable) or failure load applied at the coupler brackets, with a uniformly distributed AW4 vertical load. In addition, the method of attaching the coupler to the coupler anchor bracket allows the coupler to become fully released from the coupler anchor bracket once the coupler has absorbed its maximum design energy. The coupler is contained and prevented from coming in contact with the track or from protruding into the passenger compartment. The coupler and draftgear is designed to withstand an operating consist with a 17,570 kg (38,735 lbs.),



(AW3) passenger load, pushing or pulling an unpowered consist with a 17,570 kg (38,735 lbs.) (AW3) passenger load, over all grades and curves on the NCS Line, without damage to the coupler.

The intent of the NCS vehicle design is to prevent the coupler shank from contributing to potential damage during a frontal collision. The approach taken is to release the coupler from mechanical connection to the carbody once it has absorbed its maximum design energy. When this occurs the coupler assembly is separated from the coupler anchorage on the car structure. The coupler is retained to prevent it from coming into contact with the track or from protruding into the passenger compartment. This feature is provided to reduce the risk of derailment and penetration of the occupied space. These design standards will allow the NCS vehicle to meet a level of safety equivalent to Section 238.207.

#### *Section 238.209—Forward-Facing End Structure of Locomotives*

Section 238.209 requires the skin of the forward-facing end of each locomotive to be equivalent to a ½ inch steel plate with a 25,000 pounds per square inch yield strength; designed to inhibit the entry of fluids into the occupied cab area of the locomotive; and to be affixed to the collision posts or other main vertical structural members so as to add to the strength of the end structure. These requirements are intended to provide protection to persons in the occupied area of the locomotive cab.

#### *Justification*

NJ Transit requests a waiver of the requirements in this section because the NCS vehicle is designed to attain a sufficient level of safety in the NCS operating environment.

With respect to the specific design of the forward-facing end structure, both vehicle ends are designed similar to a push-pull cab configuration with corner posts, collision posts and structural shelf. The operator's cab floor finished height is 890 mm (35 inches) above TOR and the vehicle provides a buff strength of 441 kN (99, 141 lbf), applied uniformly at the end sill anticlimber. The cab floor structure is located immediately behind the anticlimber. NJ Transit believes that the NCS vehicle, along with the other system safety design features, will provide an equivalent level of safety.

#### *Section 238.211—Collision Posts*

Section 238.211 requires locomotives to have two full-height collision posts at

each end where coupling and uncoupling are expected. Each collision post must have an ultimate longitudinal shear strength of not less than 500,000 pounds at a point even with the top of the underframe member to which it is attached and a longitudinal shear strength of not less than 200,000 pounds exerted at 30 inches above the joint of the post of the underframe.

Alternatively, cars may be constructed with an end structure that can withstand the sum of forces that each collision post is required to withstand. This requirement is intended to provide for protection against crushing of occupied areas of passenger cars in the event of a collision or derailment.

#### *Justification*

NJ Transit requests a waiver of this requirement because the NCS vehicle has collision posts or a structural equivalent, protecting at least the area between the underframe and the bottom of the windshield. NJ Transit believes the NCS vehicle design will provide an adequate measure of safety. In order to preclude sudden catastrophic failure or overriding of NCS cars, all connections which attach collision posts, corner posts and structural shelf to each other and/or the underframe structure and roof structure, are made in such a manner to develop the full strength of the load bearing members in shear. The ultimate shear strength of the collision posts is not less than a compression load of 441 kN (99,141 lbs.) applied at the top of the underframe, and at any angle up to ±15° from the longitudinal axis. A compression load of 150 kN (33,721 lbs.) similarly applied 15 inches above the top of the underframe will cause no yielding of the collision posts. All underfloor, and roof mounted equipment weighing more than 90 kg (200 lbs.) is designed to withstand not less than 5.0 times the equipment weight in the longitudinal direction, 2.0 times the equipment weight in the lateral direction, and 3.0 times the equipment weight in the vertical direction. These loads applied separately will not result in stresses that exceed the ultimate strength of the material.

These design requirements provide for the same type of protection of the occupant space as the FRA collision posts requirements, but do so in a way consistent with the design of the NCS vehicle. As noted elsewhere herein, the NCS vehicle is designed using advanced computer methods to incorporate modern energy absorbing and dissipation methods as part of an overall protection system designed to dissipate energy and transfer loads from impacts

to protect the passenger compartment. As part of this system, the NCS collision posts provide protection for the occupied volume of the vehicle shell during a collision. Thus, the NCS vehicle effectively isolates passengers and crew from the hazards of penetration.

#### *Section 238.213—Corner Posts*

Section 238.213 requires two full-height corner posts at the end of each vehicle capable of resisting without failure a load of 150,000 pounds at the point of attachment to the underframe and a load of 20,000 pounds at the point of attachment to the roof structure. Each corner post must be able to resist a horizontal load of 30,000 pounds applied 18 inches above the top of the floor without permanent deformation. These requirements serve to provide protection to occupant compartments from side-swipe type collisions.

#### *Justification*

NJ Transit requests a waiver of this requirement because the NCS vehicle is designed to attain a sufficient level of safety in the NCS operating environment.

The NCS vehicle corner posts have a minimum ultimate shear strength of 225 kN (50,582 lbf) applied at the top of the underframe and 75 kN (16,861 lbf) applied 380 mm (15 inches) above the top of the underframe. These requirements cause no yielding of the corner posts. All underfloor, and roof mounted equipment weighing more than 90 kg (200 lbs.) is designed to withstand not less than 5.0 times the equipment weight in the longitudinal direction, 2.0 times the equipment weight in the lateral direction, and 3.0 times the equipment weight in the vertical direction. These loads applied separately will not result in stresses that exceed the ultimate strength of the material.

Here too, while individual structural elements of the NCS vehicle may not conform to the specific requirements, the assembled carbody uses "crush zones" and other energy absorption and dissipation techniques to protect passengers in the event of collisions. As part of this system, the corner posts extend from the underframe to the roof structure and are combined with the collision posts, structural shelf, and underframe to become part of the end structure. This design effectively isolates passengers and crew from the hazards of penetration, thereby providing protection for the occupied volume of the vehicle shell during a collision.

The NCS vehicle specifications provide for additional structural protection of the occupant compartments, and, in conjunction with the other safety design features of the vehicle, will provide an equivalent or superior level of safety to the FRA specification.

#### *Section 238.215—Rollover Strength*

Section 238.215 sets forth the structural requirements intended to prevent significant deformation of the occupant compartments of passenger cars, in the event the car rolls onto its side or roof. Under this section, a passenger car must be able to support twice the dead weight of the vehicle while the vehicle is resting on its roof or side.

#### *Justification*

NJ Transit requests a waiver of this requirement because the NCS vehicle is designed such that the roof is designed to support, without permanent deformation, the equipment mounted on the roof, and maintenance personnel performing their duties. The heaviest equipment is the HVAC unit at 680 kg (1,500 lb). All underfloor and roof mounted equipment weighing more than 90 kg (200 lbs.) is designed to withstand not less than 5.0 times the equipment weight in the longitudinal direction, 2.0 times the equipment weight in the lateral direction, and 3.0 times the equipment weight in the vertical direction. These loads applied separately will not result in stresses that exceed the ultimate strength of the material. With a load of 178 kN (40,000 lbs.) applied to the side wall at the side sill, and distributed along 2,500 mm (98.5 inches), there is no yielding or buckling of the carbody structure. With a load of 44 kN (10,000 lbs.) applied to the side wall at the belt rail, and distributed along 2,500 mm (98.5 inches), there is no yielding or buckling of the carbody structure.

The features specified above are designed to enhance crashworthiness and protect the occupied volume. The NCS vehicle incorporates a lightweight low floor design (14 inches from the ground), which lowers the center of gravity as well as the load conditions in rollover circumstances. The NCS vehicle has a lower center of gravity than a standard commuter rail car. Moreover, in the unlikely event of a rollover, the lighter weight of the NCS car means that the roof does not have to support as much weight as would a standard commuter rail car. Because of the inherent requirements for roof and side wall strength, the car will not have significant deformation when the car is

resting on its roof or side. In the unlikely event that a derailment leading to a rollover occurs, the NCS vehicle specifications provide for structural protection of the occupant compartments and, in conjunction with the other safety design features of the vehicles, will provide an equivalent measure of safety.

#### *Section 238.217—Side Structure*

Section 238.217 sets strength requirements for side posts and corner braces. This section also requires that outside sheathing of mild, open-hearth steel when used flat and without reinforcement in certain side frames be no less than 1/8-inch nominal thickness. When sheathing used for truss construction serves no load-carrying function, the minimum thickness is 40 percent of 1/8-inch nominal thickness. These specifications are intended to provide for additional structural protection, so that a car will derail before it collapses into the occupant compartments.

#### *Justification*

NJ Transit requests a waiver of these requirements because the NCS vehicle is designed so that with a load of 178 kN (40,000 lbs.) applied to the side wall at the side sill, and distributed along 2,500 mm (98.5 inches), there is no yielding or buckling of the carbody structure. In addition, with a load of 44 kN (10,000 lbs.) applied to the side wall at the belt rail, and distributed along 2,500 mm (98.5 inches), there is no yielding or buckling of the carbody structure.

The approach used in designing the NCS vehicle involved minimizing weight while providing maximum protection for passengers consistent with the service requirements. The vehicle has a well-lit interior and external indicator, marker lights and a side reflecting strip, and will therefore be more conspicuous than a regular commuter or freight train.

Additionally the relatively short car length 27,440 mm (90 feet), ensures that the vehicle will not obstruct a grade crossing for an extended period. This, in conjunction with the present constant warning time crossing protection, will encourage observation of grade crossing warnings by the NCS vehicle operator and road vehicle drivers.

NJ Transit believes that although NCS vehicle design elements set forth above may not conform to the specific requirements of the FRA regulation, they will provide, in conjunction with the other safety design features of the vehicles, an equivalent level of safety.

#### *Section 238.233—Interior Fittings and Surfaces*

Section 238.233 requires each seat in a passenger car to be securely fastened to the carbody so as to withstand individually applied acceleration of 4g acting in the vertical and in the lateral direction on the deadweight of the seat or seats if a tandem unit. Seat attachments must have an ultimate strength capable of resisting a longitudinal inertial force of 8g acting on the mass of the seat plus the impact force of the mass of an unrestrained 95th percentile male occupant striking the seat from behind when the floor to which the seat is attached decelerates with a triangular crash pulse having a peak of 8g and a duration of 250 milliseconds. This section also requires overhead racks to provide longitudinal and lateral restraint for stowed articles and be attached to the car body with sufficient strength to resist loads due to a longitudinal force of 8g, a vertical force of 4g and a lateral force of 4g. Other interior fittings must meet the same strength requirements. In addition, to the extent possible, all interior fittings in the passenger car are to be recessed or flush-mounted and sharp edges and corners in the locomotive cab or passenger car will be either avoided or padded. Floor mounted seats provided for a crew member assigned to occupy the cab of a locomotive must be capable of withstanding the same load limits as required for overhead storage racks with the mass being that of the seat and a 95th percentile male crew member. These requirements are designed to reduce the likelihood and severity of injury to train occupants caused by the dislodging of seats or other interior items or by occupants striking interior items in the event of an accident.

#### *Justification*

NJ Transit requests a waiver of these requirements because the seats and interior fittings of the vehicle have been designed for the NCS operating environment. The vehicle is designed such that the passenger seat consists of a cantilevered supporting structure in the low level and mounted on equipment boxes in the high level. The seat shell and cushion inserts for the seat and back are similar in both locations. The NCS car does not have luggage racks. Aspects of this regulation are more appropriate to an intercity vehicle where luggage accompanies most passengers. This vehicle is used in local service where luggage is typically limited to small carry-on items not

requiring luggage racks such as purses, attache cases, *etc.*

The vehicle interior provides recess or flush-mounted fittings and readily accessible stanchions and resilient seat top grab rails for passenger safety and comfort. Stanchions and grab rails are sized and located to provide optimum arrangement for all passengers. Windscreens are provided adjacent to each doorway in the low level areas, with the upper portion transparent, and incorporating a stanchion extending from the windscreen to the NCS car ceiling. This vehicle also provides more floor space for passenger circulation than an intercity or commuter rail car due to its service characteristics.

It is also important to note that the proposed seat attachment strength requirements are a function of the 800,000 pound compression strength requirement for commuter cars and main line coaches. Because the NCS vehicles have different compression strength values, it is not necessary for the NCS car to meet the proposed 8g/4g force resistance requirements. In the NCS vehicles, the provision of crashworthiness features prevents acceleration in the passenger compartment from reaching such levels. Rather, the limit for collisions up to 20 km/h (12.5 mph) is 1.5 g. Moreover, the high emergency brake rate means that most collisions will be at a lower speed than would be the case with conventional commuter rail cars. The design parameters used for the passenger seats and the attachments are consistent with those specified for use for advanced design transit motor coaches. The NCS vehicle itself is designed for a maximum service speed of 90km/h (55 mph) and does not therefore attain the speeds of rail commuter cars.

#### *Section 238.235—Doors*

Section 238.235 provides that each passenger car must have a minimum of two exterior side doors with each door providing a minimum clear opening of 30 inches horizontally and 74 inches vertically. This section also provides for the availability of override devices enabling the opening of doors without power from both the inside and outside of the cars without the use of a tool or other implements.

#### *Justification*

NJ Transit requests a waiver of these requirements because the NCS vehicle is designed with an emergency release lever on the inside of each doorway and for one doorway per side on the outside of the vehicle. This enables a closed and interlocked door to be lock-released

without power supply. Activation of the emergency release levers will allow the door leaves to be manually moved. The interior emergency door release levers will be clearly marked and will be in a location accessible to all passengers, consistent with ADA requirements.

The NCS vehicle has four doorways on each side to permit egress time of an AW2 load in less than 60 seconds. The passenger doorways are two-panel sliding plug type and flush with carbody in the closed position. They are opened and closed electrically and provide direct access from the platform to the car interior. There is no vestibule with secondary door access through a partition to the passenger compartment. The clear opening is 48 inches. The car has four doors per side in the low floor area. This door configuration permits evacuation of 190 passengers from either side in less than 60 seconds. Also, with regard to emergency services access, all side windows can be safely shattered using common rescue implements to provide additional access/egress locations. The design of the door and windows provides an equivalent level of safety to the FRA specifications.

#### *Section 238.237—Automated Monitoring*

Section 238.237 requires that controlling locomotives have working alerters. The alerter timing must be set by the operating railroad taking into consideration maximum train speed and signal system capabilities. Under this section, the working alerter must initiate a penalty brake application if the train operator does not respond to the alerter. If the alerter fails en route then a second qualified person will be stationed in the cab or the operator will be in constant communication with a second crew member until the train reaches the next terminal. These requirements are intended to prevent a train collision or derailment due to the inattention or incapacity of the train operator, resulting in loss of control of the train.

#### *Justification*

NJ Transit requests a waiver from these requirements because the NCS vehicle is equipped with its own controller and audible type features to provide an equivalent level of safety. If a vehicle operator fails to respond to speed commands, the vehicle automatically goes into a full service brake application that is only released when the speed command is achieved. A keyed control switch is provided on each master controller, which is interlocked such that when keyed up, only the controls in that cab are

operable. The master controller power and brake handle incorporates a “dead-man” device which when released for any reason when the car is moving in forward or reverse, immediately initiates a propulsion inhibit and a full service brake application, independent of the position of the handle.

In addition to the master controller, redundant safety systems are provided. For example, the vehicle is also controlled by enforce-stop devices that initiate a brake application, if the vehicle is not compliant with speed commands. Also, an emergency stop push-button is provided such that, when pushed, it will activate the emergency brakes. It is possible to activate the emergency stop push-button from any console in a consist. Finally, the NCS service route involves frequent station stops in signaled territory under control of a dispatcher. Violation of a signal aspect will result in a penalty brake application.

#### *Sections 238.301–238.319—Inspection, Testing and Maintenance*

Subpart D of part 238, §§ 238.301 through 238.319, contains requirements pertaining to the inspection, testing and maintenance of the passenger equipment and systems required for Tier I passenger equipment. These requirements are designed to ensure that passenger rail operations are conducted only on vehicles whose components and systems are in good working order, thereby reducing both the chances of a equipment-related accident and the severity of damage or injury in the case of an accident.

#### *Justification*

NJ Transit anticipates being in compliance with the requirements of Subpart D. However, NJ Transit requests a waiver of any requirements that correlate to the Subpart B or C standards from which NJ Transit has sought waivers. NCS equipment will be subject to a detailed program of inspection, testing and maintenance, as required by the NJDOT System Safety Program Standard and the NCS SSPP. Specifically, Section 5.1.5 of the NJDOT System Safety Program Standard requires the NCS SSPP to provide for periodic and as needed maintenance inspection and testing of equipment and facilities, as well as training and certification of employees in safety-sensitive positions. The NCS SSPP will address these issues in detail, setting forth specific inspection maintenance and testing schedules and protocols for all major equipment, components and systems. Compliance with the SSPP

requirements will be monitored through a periodic audit and reporting program.

*Part 239—Passenger Train Emergency Preparedness*

Part 239 contains standards for the preparation, adoption, and implementation of emergency preparedness plans by railroads connected with the operation of passenger trains. The rules in part 239 were promulgated to reduce the risk of death or injury to passengers, employees and others in the case of accidents or other incidents by providing sufficient emergency egress capability and information to passengers and by having emergency preparedness plans calling for coordination with local emergency response officials. The rules were adopted as a result of several serious crashes involving commuter trains.

*Justification*

NJ Transit requests a waiver of the emergency preparedness plan requirement in part 239, because the NCS operates in accordance with the emergency preparedness specifications of the NCS SSPP, under the oversight of NJDOT's State Safety Oversight Program.

The SSPP sets forth procedures and requirements dealing with emergency situations tailored to the NCS system, but which also draw on the experience of emergency preparedness standards from other rail transit systems whose operations and equipment more closely resemble the NCS than FRA-regulated commuter rail systems. Section 9 of the State Safety Program Standard, requires the SSPP to contain Emergency Operating Procedures to deal with a variety of emergency situations, including accidents and natural disasters as well as sabotage or other criminal activities. The NCS SSPP contains a detailed emergency response plan which provides for contingency planning for passenger evacuation and crowd control coordination, training and simulation drilling with outside emergency response providers. The emergency response plan also specifies required emergency equipment.

In addition to emergency response planning required by Sections 5 and 9, the State Safety Program Standard requires NJ Transit to engage in a process by which hazards occurring in operations, maintenance and engineering are identified and categorized according to severity and likelihood. Resolutions to reduce hazards to the lowest level practical must then be considered. This process helps NCS to develop the emergency response plan, including the design, in

advance, of processes for handling exceptions to established procedures where situations require them. A hazard resolution matrix is included in the SSPP.

In addition, the Safety Committee addresses emergency preparedness issues and provides coordination between NJ Transit, NS and local emergency response agencies. The NJDOT, as part of its oversight activities is responsible for investigation of accidents and other emergency situations. Part 239 prescribes specific requirements for the content and implementation of an emergency preparedness plan. The following is an explanation of how each portion of the NJ Transit emergency preparedness plan will address specific FRA requirements in part 239.

Section 239.101 requires that an emergency preparedness plan include procedures for initial and on-board notification by the control center of outside emergency responders, adjacent rail modes and appropriate railroad officials. The NCS conducts annual emergency simulation exercises. Additionally, local fire departments are briefed regularly on emergency procedures, escape routes and safety issues associated with the NCS system and operation. The NCS SSPP also provides that in the event of an emergency/fire, the OCC will ensure that the NJ Transit Police Department and appropriate local emergency agencies have been notified. The OCC is responsible for: ensuring that the appropriate local emergency agencies have been contacted; shutting down all electrical power to the NCS; maintaining recording communication between NCS management, NJ Transit rail management, car operators, and NCS employees within the affected areas.

Section 239.101(a)(12) requires that the emergency preparedness plan address individual employee responsibility and provide for initial and periodic (every other year) training for OCC personnel and on-board personnel. The NCS SSPP provides extensive training that includes training on the emergency preparedness plan. Section 239.101(a)(12) requires that the emergency preparedness plan address individual employee responsibility and provide for initial and periodic (every other year) training for OCC personnel and on-board personnel. The NCS SSPP provides extensive training that includes training on the emergency preparedness plan. Operators receive extensive training on emergency procedures during their initial operational training. In addition,

operators receive annual training on operating rules, procedural rules, and emergency response procedures. Operators will receive initial training for the new OCC train control systems which will include instruction on the traction power system used to control emergency power shut off and the signal system before start-up of operations on the NCS Extension. Once all of the new components of the train control system are in place, NJ Transit will develop an updated comprehensive training program.

Section 239.101(a)(7)(i) requires each railroad to provide passengers with information for emergency situations. Operators are provided with a checklist of emergency procedures to assist passengers. They are also in constant communication with the OCC. Vehicles are signed to indicate emergency actions and precautions.

Section 239.101(a)(5) requires each railroad to establish and maintain a working relationship with the on-line emergency responders. Section 4.7 of the State Safety Program Standard requires NJ Transit to adopt an emergency response plan and procedures which must include a means to communicate and coordinate with external emergency response agencies, and provide for emergency simulations and drills, and training.

Section 239.101(4)(iii) requires the railroad's emergency preparedness plan to coordinate emergency efforts where adjacent rail modes of transportation run parallel to either the passenger railroad or the railroad hosting passenger operations. All NS movements will occur on routes under the control of the NJ Transit Rail Dispatcher or the OCC Dispatcher. Normal emergency response procedures would apply. Moreover, the NS delivery on the Orange Industrial Track has been a regular move for many years under the direction of NJ Transit's Rail Dispatcher. This office is experienced and highly qualified to respond to any eventuality.

Section 239.103 requires each railroad to conduct full-scale emergency simulations to ensure capacity to execute the emergency preparedness plan and coordination with emergency responders. The NCS SSPP requires periodic drills to ensure complete understanding of fire evacuation procedures. In addition, NCS will conduct full-scale emergency simulations on an annual basis.

Section 239.107 requires emergency exit markings and inspection, testing, malfunction reporting and recordkeeping regarding emergency exits. NCS emergency exits were discussed in Sections III.C.5.b and 5.c.

Section 4.4 of the SSPP requires safety audits and investigations. Section 3.4 of the SSPP covers the same ground on recordkeeping. Section 239.301 requires each railroad to periodically conduct operational efficiency tests of its on-board and control center employees to determine the extent of compliance with the emergency preparedness plan. These emergency preparedness standards will provide a level of safety equivalent to the FRA requirements in a manner more appropriate to the NCS operating environment.

*Part 240—Qualification and Certification of Locomotive Engineers*

Part 240 contains requirements for locomotive engineer eligibility, training, testing, certification and monitoring. In the FRA/FTA Policy Statement, FRA and FTA indicated that FRA would waive the requirements of part 240 for temporally-separated light rail operations subject to state safety oversight under 49 CFR part 659. FRA/FTA Policy Statement, 64 FR at 28241. FRA repeated that intention in the Statement Concerning Jurisdiction, 64 FR at 59055–56.

FRA says petitioners should describe those aspects of their SSPP that assure that operators “receive the necessary training and have proper skills to operate a light rail vehicle in shared use on the general railroad system.” Statement Concerning Jurisdiction, FR at 59055. FRA suggests that the petition should “explain what safeguards are in place to ensure that operators receive at least an equivalent level of training, testing, and monitoring on the rules governing train operations to that received by locomotive engineers employed by conventional railroads.” *Id.*

NJ Transit requests a waiver from these requirements because NCS will be following operator training and qualification standards contained in the NCS SSPP. Under Section 5.5 of the SSPP, NCS vehicle operators must meet specific training and certification requirements. All operators must pass the operator certification in order to be authorized for operations. NCS operators receive a 7-day training and certification course from the Light Rail Operations Training personnel. The Operational Training Instructors have experience in subway operations. These Instructors are selected from candidates with a three-year clean driving record. They are also experienced as Bus Operator Instructors. Once selected, an Instructor receives Instructional and Presentation skills training and six weeks of on-the-job training. Finally, once the Instructor begins operational

training, he/she conducts his/her first class under the observation of a trained Instructor.

The NCS SSPP also provides for recertification of operators by way of reinstruction training or refresher training. An operator receives reinstruction training if he/she has been involved in an accident, misuse of equipment, or has been observed engaging in unsafe acts by management supervision. An operator receives refresher training if the operator has been inactive for more than 90 days, out sick for an extended period of time, or has been requested by management to do so. This training is tailored to the individual employee needs and is done on a one-on-one basis with an Operational Training Instructor.

The initial training course has three days of instruction and three days of operation with an Instructor. Each of the three days of operation requires at least 8 hours; each day covers a different run and at least one day covers a night run. The seventh day of training includes a final road test, a written exam and a review of emergency procedures. The minimum passing score on the written exam is 70 percent. Candidates for operator positions must meet qualifications consistent with NJDOT Commercial Drivers License qualifications. Such qualifications are intended to substantially conform to the requirements and standards under the Commercial Motor Vehicle Safety Act of 1986, 49 U.S.C. 2701 *et seq.* See N.J.S.A. 39:3–10.10. The requisite visual acuity must be correctable to 20/20.

NJ Transit believes that compliance with these operator qualification and training requirements will provide at least an equivalent level of safety to the training and other requirements in part 240. See FRA/FTA Policy Statement at 28422.

Interested parties are invited to participate in this proceeding by submitting written views, data, or comments. FRA does not anticipate scheduling a public hearing in connection with either the request for a waiver of certain regulatory provisions or the request for an exemption of certain statutory provisions. If any interested party desires an opportunity for oral comment, he or she should notify FRA, in writing, before the end of the comment period and specify the basis for his or her request.

All communications concerning these proceedings should identify the appropriate docket number (e.g., Waiver Petition Docket Number FRA 2000–7335) and must be submitted to the DOT Docket Management Facility, Room PL–401 (Plaza level) 400 Seventh Street,

S.W., Washington, D.C. 20590. Communications received within 45 days of the date of this notice will be considered by FRA before final action is taken. Comments received after that date will be considered as far as practicable. All written communications concerning this proceeding are available for examination during regular business hours (9:00 a.m.–5:00 p.m.) at the above facility. All documents in the public docket are also available for inspection and copying on the Internet at the docket facility’s Web site at <http://dms.dot.gov>.

Issued in Washington, DC on June 22, 2000.

**Grady C. Cothen, Jr.,**

*Deputy Associate Administrator for Safety Standards and Program Development.*

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**BILLING CODE 4910–06–P**

## DEPARTMENT OF THE TREASURY

### Office of the Secretary

#### List of Countries Requiring Cooperation With an International Boycott

In order to comply with the mandate of section 999(a)(3) of the Internal Revenue Code of 1986, the Department of the Treasury is publishing a current list of countries which may require participation in, or cooperation with, an international boycott (within the meaning of section 999(b)(3) of the Internal Revenue Code of 1986).

On the basis of the best information currently available to the Department of the Treasury, the following countries may require participation in, or cooperation with, an international boycott (within the meaning of section 999(b)(3) of the Internal Revenue Code of 1986).

Bahrain  
Iraq  
Kuwait  
Lebanon  
Libya  
Oman  
Qatar  
Saudi Arabia  
Syria  
United Arab Emirates  
Yemen, Republic of

Dated: July 6, 2000

**Philip West,**

*International Tax Counsel (Tax Policy).*

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