OMB Control No. 2130-0553

Annual PTC Progress Report 2015

2015

NJ TRANSIT Rail Operations

FRA-2010-0033

The Annual Positive Train Control (PTC) Progress Report is due by March 31st of each year until full PTC system implementation is complete. The Annual PTC Progress Report must cover the railroad's implementation efforts and progress from the directly previous calendar year, and must be submitted electronically to the Federal Railroad Administration (FRA) via the FRA Secure Information Repository at https://sir.fra.dot.gov.

Name of Railroad or Entity Subject to 49 U.S.C. § 20157(a): NJ TRANSIT Rail Operations

Railroad Code: NJTR

Annual PTC Implementation Progress Report for: 2015

PTCIP Version Number of File with FRA (basis for goals stated): 4.0

Submission Date: 3/31/2016

Contents

1. Summary

Please provide a narrative summary of overall PTC implementation progress during the preceding calendar year (January 1 to December 31):

NJ TRANSIT's PTC system is called ASES II, and is fully interoperable with and similar to Amtrak's ACSES II system. It differs significantly from the freight-based I-ETMS system. Calendar year 2015 saw the testing of two pilot Prototype vehicles (one locomotive and one cab car), start of work on 4 other prototype vehicles and commencement of production on 4 other cab cars. Additionally NJT's demonstration territory for a pilot installation is being prepared for demonstration testing later in 2016. Preparations include installation of wayside track transponders, installation of a fiber optic communications link to its Rail Operations Center. Late this spring the wayside communications equipment (data radios and communications managers will be installed.

Category	Quantity Installed During Calendar Year	PTCIP Year End Goal (If Applicable)	Cumulative Quantity Installed at End of Calendar Year	Total Quantity Required for PTC Implementation
Locomotives Fully Equipped	0	0	0	440
Installation/Track Segments Completed	0	0	0	11
Radio Towers Fully Installed and Equipped	0	0	0	124
Employees Trained	0	0	0	1100
Route Miles In Testing or Revenue Service Demonstration	0	0	0	6
Route Miles in PTC Operation	0	0	0	326

2. Update on Spectrum Acquisition

Required content:

- The amount of spectrum acquired and available for use during the applicable calendar year and the cumulative amount acquired and available for use at the end of the applicable calendar year, as compared to the amount the railroad stated would be acquired and available for use by the end of that calendar year and in total for PTC implementation, in the applicable revised PTCIP, as amended
- The basis for how the railroad is determining that the acquired spectrum is available for use by PTC radios (e.g., ensuring non-interference with other radios)

Spectrum Area or Location (E.g., county)	Spectrum Acquired and Available for Use (Owned/Leased) During Calendar Year	Cumulative Amount of Spectrum Acquired and Available for Use (Owned/Leased) at End of Calendar Year	PTCIP Year End Goal for Spectrum Acquired and Available for Use	Total Spectrum Required for PTC Implementation, as Reported in PTCIP
Rockland County	**0**	**0**	**2016**	**150 kHz**
Passaic County	**0**	**0**	**2016**	**100 kHz**
Bergen County	**0**	**0**	**2016**	**175 kHz**
Essex County	**0**	**0**	**2016**	**150 kHz**
Hudson County	**0**	**0**	**2016**	**150 kHz**
Morris County	**0**	**0**	**2016**	**100 kHz**
Union County	**0**	**0**	**2016**	**150 kHz**
Somerset County	**0**	**0**	**2016**	**100 kHz**

Hunterdon County	**0**	**0**	**2016**	**50 kHz**
Warren County	**0**	**0**	**2016**	**50 kHz**
Sussex County	**0**	**0**	**2016**	**50 kHz**
Camden County	**0**	**0**	**2016**	**100 kHz**
Atlantic County	**100 kHz**	**100 kHz**	**2016**	**100 kHz**
Ocean County	**0**	**0**	**2016**	**50 kHz**
Burlington County	**0**	**0**	**2016**	**Not Required At This Time**
Monmouth County	**0**	**0**	**2016**	**100 kHz**
Middlesex County	**0**	**0**	**2016**	**100 kHz**

Please provide any additional narrative for Spectrum Acquisition below:

NJ TRANSIT Rail is currently engaged two separate acquisition efforts to acquire RF Spectrum. The first is a lease of RF Spectrum in the 218 MHz range from the MTA (Metro North Railroad). This will cover eight counties served by NJT. The second is a purchase of RF Spectrum in the 218 MHz range from PTC-220 LLC, which covers 9 counties served by NJT. Finalization of these lease and purchase transactions will complete the acquisition of all necessary RF Spectrum for its PTC system coverage. NJT anticipates completion of these two independent transactions by the end of calendar year 2016.

3. Quantity Update on Hardware Installation

Required content:

- Separated by each major hardware category and subcategory identified below, the amount of PTC hardware installed during the applicable calendar year and the cumulative quantity installed at the end of the applicable calendar year, as compared to the amount the railroad stated would be installed by the end of that calendar year and in total for PTC implementation, in the applicable revised PTCIP, as amended

3.1. Locomotive Status

Category / Installation Feature	Quantity Installed During Calendar Year	PTCIP Year End Goal	Cumulative Quantity Installed at End of Calendar Year	Total Required for PTC Implementation, as Reported in PTCIP
Locomotive (Apparatus)[1]				
On-board Computers (e.g., Train Management Computer)	4	4	4	440
Software For Train Management and other applications	0	0	0	440
PTC Displays	4	4	4	440
Event Recorders	4	4	4	440
Onboard Antennas and/or Transponder Readers	4	4	4	440
GPS Receivers	NA	NA	NA	NA
Locomotive Radios – Primary Communications (e.g., 220 MHz radios)	4	4	4	440

[1] Railroads may elect to add categories or subcategories if more detail is desired.

Secondary Communications (e.g., cell or Wi-Fi communications) Equipment	NA	NA	NA	NA

Please provide any additional narrative for Locomotive Status below. If any of the information called for in Section 3.1 is unavailable to the railroad at the time it is completing and submitting this form, please insert "TBD" in the appropriate field and/or use this comment box to explain when such information will be available and when the railroad expects to submit it to FRA.

NJT's fleet consists of 440 electric and diesel electric locomotives, cab cars, and electric multiple unit cars, all of which will be equipped with its ASES II PTC system, which is fully interoperable with Amtrak's ACSES II system. This system uses a wayside-based technology and differs from the Class I freight "locomotive" based I-ETMS system. Therefore no GPS receivers are necessary.
NJT's fleet requires that 11 different vehicle types to be prototyped in advance of production. NJT is currently engaged in prototype designs for four additional vehicle types, resulting in six of the eleven now in a prototype stage. Additional complexity arises from the vintage of this fleet, varying from 5 years to 40 years in age. Production installations are also now underway on previously prototyped cars.

3.2. Infrastructure/Back Office Status

Category / Installation Feature	Completed During Calendar Year	PTCIP Year End Goal	Cumulative Quantity Complete at End of Calendar Year	Total Required for PTC Implementation, as Reported in PTCIP
Infrastructure (Back Office)				
Dispatching Locations (installations complete)	0	0	0	1
Physical Back Office System Equipment (installations complete)	0	0	0	1

Are the Back Office Location(s) fully operable?	No
Are the Dispatching Location(s) fully operable?	No

Please provide any additional narrative for Infrastructure/Back Office Status below:

NJT has one central Dispatching location – its Rail Operations Center. That center is being modified to incorporate two new 2oo3 Safety Servers for PTC in conjunction with the modification to the Dispatcher interface to enable Dispatchers to enter TSRs, GCMs, PTSOs and other PTC related messages. One Safety Server will handle the Hoboken Division; the second Safety Server will handle the Newark Division. This location will also support network, diagnostic and maintenance functions associated with NJT's PTC network.

3.3. Installation/Territory Status

Category / Installation Feature	Quantity Installed During Calendar Year	PTCIP Year End Goal	Cumulative Quantity Installed at End of Calendar Year	Total Required for PTC Implementation, as Reported in PTCIP
Infrastructure – Wayside Installations by Territory (i.e., Subdivision, District, Track Segment, Etc.)[2]				
ENTIRE NJ TRANSIT Rail System Routes (11 Lines)				
Wayside Interface Units†	0	0	0	86
Communication Towers or Poles†	0	0	0	124
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	124
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				

[2] Each railroad should report information in a manner consistent with its PTCIP. That is, if a railroad monitors implementation of track segments by territory or subdivision, it should report that way.

PILOT DEMONSTRATION SEGMENT OF MORRISTOWN LINE				
Wayside Interface Units†	0	0	0	2
Communication Towers or Poles†	0	0	0	5
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	5
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† Yes				
MORRISTOWN LINE (INCLUDES PILOT DEMONSTRATION AREA QUANTITIES)				
Wayside Interface Units†	0	0	0	24
Communication Towers or Poles†	0	0	0	30
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	30
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				

GLADSTONE LINE				
Wayside Interface Units†	0	0	0	8
Communication Towers or Poles†	0	0	0	9
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	9
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				
MONTCLAIR BOONTON LINE				
Wayside Interface Units†	0	0	0	5
Communication Towers or Poles†	0	0	0	5
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	5
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				

MAIN LINE				
Wayside Interface Units†	0	0	0	8
Communication Towers or Poles†	0	0	0	10
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	10
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† Yes				
BERGEN COUNTY LINE				
Wayside Interface Units†	0	0	0	4
Communication Towers or Poles†	0	0	0	6
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	6
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				

PASCACK VALLEY LINE				
Wayside Interface Units†	0	0	0	8
Communication Towers or Poles†	0	0	0	9
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	9
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† Yes				
SPORT LINE				
Wayside Interface Units†	0	0	0	1
Communication Towers or Poles†	0	0	0	1
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	1
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				

RARITAN VALLEY LINE				
Wayside Interface Units†	0	0	0	10
Communication Towers or Poles†	0	0	0	19
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	19
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				
ATLANTIC CITY LINE				
Wayside Interface Units†	0	0	0	9
Communication Towers or Poles†	0	0	0	18
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	18
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				

NORTH JERSEY COAST LINE				
Wayside Interface Units†	0	0	0	13
Communication Towers or Poles†	0	0	0	16
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	16
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				
HUDSON LINE				
Wayside Interface Units†	0	0	0	1
Communication Towers or Poles†	0	0	0	1
Switch Position Monitors†	NA	NA	NA	NA
Wayside Radios†	0	0	0	1
Base Station Radios† (Rail Operations Center)	0	0	0	1
Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† No				

Please provide any additional narrative for Installation/Territory Status below. If any of the information called for in Section 3.3 is unavailable to the railroad at the time it is completing and submitting this form, please insert "TBD" in the appropriate field and/or use this comment box to explain when such information will be available and when the railroad expects to submit it to FRA.

NJT is actively engaged in building out its GBN on all lines where required. NJT currently has fiber optic lines installed on about 35% (114 miles) of its route-miles. NJT has acquired another 75 miles of fiber optic cable for installation on its lines. NJT has also issued requisitions to purchase the fiber optic cable for its remaining lines in conjunction with inter-duct and other installation materials.

4. Quantity Update on Employees Trained

Required content:

- Separated by each employee category identified below, the number of employees trained during the applicable calendar year and the cumulative number of employees trained at the end of the applicable calendar year, as compared to the number the railroad stated would be trained by the end of that calendar year and in total, in the applicable revised PTCIP, as amended

Employee Category[3]	Number of Employees Trained During Calendar Year	PTCIP Year End Goal	Cumulative Number of Employees Trained at End of Calendar Year	Total Reported in PTCIP
Employees who Install, Maintain, Repair, Modify, Inspect, and Test the PTC System	0	0	0	180
Employees who Dispatch Train Operations	0	0	0	70
Train and Engine (Operations) Employees	0	0	0	450
Roadway Worker Employees	0	0	0	200
Direct Supervisors of the Above Employees	0	0	0	200

Please provide any additional narrative for Employee Training below:

[3] *See* 49 C.F.R. § 236.1041(a).

Partial training on CSS commenced in late summer 2015. NJT has on-board training set up now being used to introduce equipment maintenance forces to the new hardware and maintenance practices. Bi-weekly training meetings have been held with the Contractor to review and comment on training materials, content and format.

5. Progress on Implementation Schedule/Milestones

Required content:

- Describe the extent to which the railroad or other entity is not complying with the implementation schedule it provided in its revised PTCIP, as amended

Not applicable at this time.

6. Summary Update of Challenges/Risks

Required content:

- Any update to the summary of remaining technical, programmatic, operational, or other challenges that the railroad or other entity provided in its revised PTCIP, as amended, including challenges with availability of public funding, interoperability, spectrum, software, permitting, and testing, demonstration, and certification
- Schedule Risk Updates (e.g., funding, technology, agreements)

Please provide Summary Update of Challenges/Risks below:

Completion of installation and successful implementation is dependent upon a number of critical activities occurring in a timely and sequential manner:

- Retrofit of “rainbow” fleet with minimal impact on revenue service.
- Systems Integration of on-board, wayside, office and communications network technology and compatibility with Amtrak NEC operations.
- Construction and testing of the ground based network to support communications to NJT’s Rail Operations Center.
- Development and Installation of a “hosted server” communications network to support tenant freight operations on NJT territory.
- Training of Locomotive Engineers in a timely manner without impacting revenue service.
- Preparation and submission of RSD and PTCSP documentation that fulfills FRA requirements.
- Contractor completion of PTC designs in accordance with the current Project schedule.

7. Progress on Revenue Service Demonstration (RSD) or Implementation

Required content:

- The total number of route miles on which PTC has been initiated for revenue service demonstration or implemented, as compared to the total number of route miles required to have a PTC system (see Section 1 Summary Table)
- Estimated start date (month and year) for RSD

Segment Identification[4]	Number of Route Miles in Segment	Status at End of Calendar Year *Current status of installation/track segment.* ***Choose one:***	Estimated Start Date for Revenue Service Demonstration (if not already completed)
PILOT DEMONSTRATION AREA	6	○ Not Started ◉ Installing ○ Testing ○ Operational/Complete	October 2016 – Test demonstration only
MORRISTOWN LINE (INCLUDES PILOT DEMONSTRATION AREA)	58	○ Not Started ◉ Installing ○ Testing ○ Operational/Complete	This Line is included in the Hoboken Division start in January 2018.
GLADSTONE LINE	21	◉ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Hoboken Division start in January 2018.
MONTCLAIR BOONTON LINE	25	○ Not Started ◉ Installing ○ Testing ○ Operational/Complete	This Line is included in the Hoboken Division start in January 2018.
MAIN LINE	27	◉ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Hoboken Division start in January 2018.

[4] Segment identification should be consistent with segments listed in Section 3.3.

BERGEN COUNTY LINE	15	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Hoboken Division start in January 2018.
PASCACK VALLEY LINE	24	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Hoboken Division start in January 2018.
SPORT LINE	2.0	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Hoboken Division start in January 2018.
RARITAN VALLEY LINE	51	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Newark Division start in August 2018.
ATLANTIC CITY LINE	58	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Newark Division start in August 2018.
NORTH JERSEY COAST LINE	44	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Newark Division start in August 2018.
HUDSON LINE	1.0	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete	This Line is included in the Newark Division start in August 2018.

Please provide any additional narrative for Revenue Service Demonstration or Implementation below:

NJT is preparing to bring PTC into revenue service on the Hoboken Division first (Pascack Valley Line, Bergen County Line, Main Line, Montclair Boonton Line, Morristown Line, Gladstone Line and Sport Line), then followed by the Newark Division (Raritan Valley Line, North Jersey Coast Line, Atlantic City Line, and Hudson Line).

8. Update for Intercity or Commuter Rail Passenger Transportation (if applicable)

If this section is not applicable to your railroad, please mark N/A.

Required content (if applicable):

- For each entity providing regularly scheduled intercity or commuter rail passenger transportation, a description of the resources identified and allocated to implement PTC

Please provide Update for Intercity or Commuter Rail Passenger Transportation below, if applicable:

NJ TRANSIT awarded a Consultant PTC Scope of Work in 2010, and PTC design, test and installation Contract to a Contractor in April 2011. Additionally NJT created an internal PTC Project team that works directly with its Rail Operations staff to participate in the design engineering, testing, and implementation of PTC. NJT has committed $225 M in funding to the PTC Project.

As work has advanced through various stages NJT has requested additional Consultant support and dedicated Rail Operations staff to complement the breadth of work. Once demonstration testing begins and vehicle testing ramps up it is expected that additional staffing support will be required, and NJT will act accordingly when necessary.

9. Update on Interoperability Progress and Other Formal Agreements

Required content:

- For host railroads: provide updates to any agreements and key milestones for all tenant operations
- For tenant railroads: provide updates to any agreements and key milestones for all operations over tracks hosted by another railroad

Host and Tenant Railroads: Please provide a general update on interoperability in the textbox below.

Host Operations: Norfolk Southern Railway (NS) will be equipping its locomotives with the I-ETMS system. Conrail will use power from the NS or CSX that will be equipped with I-ETMS. These tenant freight railroads will be interoperable with NJT's PTC system via a "hosted server" which enables the NJT Back Office to communicate necessary information to the NS or Conrail Back Office. NS and Conrail are providing I-ETMS radio facilities to communicate with their trains.
Two Short Lines (Morristown & Erie and Southern Railroad of New Jersey) will be equipped with NJ TRANSIT's ASES II on-board equipment to enable them to read NJT's track transponders and communicate with the data radios and WIUs on the right-of-way.

Tenant Operations: NJ TRANSIT is a tenant on Amtrak's Northeast Corridor Line from Morris (MP 58.3) to New York Penn Station (MP 0.0) and Frankford Junction (MP 81.8) to Philadelphia 30th Street Station (MP 1.5). NJ TRANSIT will be fully interoperable with Amtrak's ACSES II PTC system and is capable of reading Amtrak's wayside transponders, communicating with their WIUs and data radios, understanding Amtrak TSRs and operations are controlled by Amtrak's Train Dispatchers.
NJ TRANSIT has boundaries with the Amtrak's NEC at Frankford Junction Interlocking from its Atlantic City Line, at Morris from its Morrisville Yard, at Union from its North Jersey Coast Line, at Hunter from its Raritan Valley Line, at Cape from its Hudson Line, and at Swift from its Morristown Line.
NJ TRANSIT is also a tenant on Conrail's Lehigh Line which carries NJT's Raritan Valley Line operation. This line is being fully equipped with ASES II technology on the wayside for a seamless operation. All NJT locomotives and cab cars will be equipped with on-board ASES II equipment.

Host Railroads Only: For each tenant, please provide additional tenant information below.

Tenant Identification *(Please add rows for additional tenants as necessary)*	**Estimated Tenant Locomotive Fleet** *(if the tenant does not have a separate PTCIP on file)*	**Current Tenant Implementation Status** ***Choose one:***
Norfolk Southern Railway	Please Refer to Tenant PTCIP	⦿ Not Started ⦿ Installing ○ Testing ○ Operational/Complete
Conrail Shared Assets Organization (Conrail does not own any locomotives)	Please Refer to Tenant PTCIP. Conrail uses PTC locomotives equipped by Class I Freight RRs.	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete
Morristown & Erie Railway	3	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete
Southern Railroad of New Jersey	3	⦿ Not Started ○ Installing ○ Testing ○ Operational/Complete

10. Estimated PTC Safety Plan (PTCSP) Submission Date (if not already submitted)

If this section is not applicable to your railroad, please mark N/A.

PTCSP Submission Date
12/1/16

Please provide any additional narrative for PTCSP Submission below:

NJT will be using the Demonstration Test to gather data to support NJT's submission of the PTCSP. Currently NJT is reviewing "templates" from other railroads to draft its own submission.

11. Testing and Integration Efforts (if applicable, laboratory, integration, and revenue service demonstration)

Please provide Update on Testing and Integration efforts below:

NJT is currently testing the Cab Signal element of its ASES II system on the two Prototype vehicles. Certain software functions and hardware interfaces are being modified as a result. This is creating a "template" for future testing of production vehicles and establishing inspection, static and dynamic test criteria. NJT anticipates completing the Factory Acceptance Test of its ASES II PTC system in July 2016, thus advancing transition to the demonstration phase. Successful completion of the Pilot Demonstration test will provide data and technical documentation to support NJT's PTCSP submission.

12. Updated Information That FRA Can Use to Maintain Its Geographic Information System (GIS) Database – Segments Complete and Operable

In its annual progress reports, a subject railroad or entity may submit a geographic information system (GIS) shapefile to indicate where various rail segments that must have PTC are located, as long as it includes the following fields: (1) a PTC attribute field (coded

with "Y" if line segment is to have PTC installed, otherwise left blank); (2) a SUBDIV attribute field (populated with subdivision name); (3) a MONTH attribute field (populated with the month in which PTC is to be installed); and (4) a YEAR attribute field (populated with the year in which PTC is to be installed). A railroad may submit this information by means other than shapefile format.

Please provide any additional narrative for GIS Information below:

Eleven of NJ TRANSIT's rail lines, encompassing 326 Route-miles will be equipped with PTC. Only one other line, the Princeton Branch – a 2 mile shuttle operation will not be equipped since it is included with other NJT MTEAs. Once the critical installations for each line are verified and incorporated in a Configuration Management data base that information will be provided in a GIS shapefile or other accessible format.