

Annual PTC  
Progress  
Report

2015

*Maryland Area Regional Commuter*

FRA-2010-0038

The Annual Positive Train Control (PTC) Progress Report is due by March 31<sup>st</sup> 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): Maryland Area Regional Commuter

Railroad Code: MACZ

Annual PTC Implementation Progress Report for: 2016

PTCIP Version Number of File with FRA (basis for goals stated): 2.0

Submission Date: 7/26/2010

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## 1. Summary

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

In 2015, MARC installed I-ETMS hardware on 12 locomotives\*. This install did not include the Meteorcomm radio.

\* The term "locomotive" throughout this document includes cab cars.

\*\* The term "employee" includes 3<sup>rd</sup> parties who operate and maintain the MARC consists. As these are not direct employees, the number of necessary trainees is an estimate and will vary.

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	12	71	12	84
Installation/Track Segments Completed	N/A – tenant railroad	Not specified – tenant railroad	N/A – tenant railroad	N/A – tenant railroad
Radio Towers Fully Installed and Equipped	N/A – tenant railroad	Not specified – tenant railroad	N/A – tenant railroad	N/A – tenant railroad
Employees Trained	0	Not specified	0	100**
Route Miles In Testing or Revenue Service Demonstration	0	Not specified	0	0
Route Miles in PTC Operation	N/A – tenant railroad (0 miles of hosts)	Not specified – tenant railroad	N/A – tenant railroad (0 miles of hosts)	N/A – tenant railroad

## 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
Spectrum Coverage Area or Location†: <small>Click here to enter text.</small>	N/A	N/A	N/A	N/A

†Note: To add rows for additional spectrum areas or locations, click on the blue “+” symbol at the bottom right-hand corner. Please be sure to first click anywhere inside the table to activate this function.

If this function is unavailable for your document, please manually add additional rows.

Please provide any additional narrative for Spectrum Acquisition below:

As a tenant railroad, MARC will be utilizing the host base stations.

### 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
<b>Locomotive (Apparatus)<sup>1</sup></b>				
On-board Computers (e.g., Train Management Computer)	12	71	12	84
Software For Train Management and other applications	12	71	12	84
PTC Displays	12	71	12	84
Event Recorders	12	71	12	84
Onboard Antennas and/or Transponder Readers	12	71	12	84
GPS Receivers	12	71	12	84
Locomotive Radios – Primary Communications (e.g., 220 MHz radios)	0	71	0	84

<sup>1</sup> Railroads may elect to add categories or subcategories if more detail is desired.

Secondary Communications (e.g., cell or Wi-Fi communications) Equipment	12	71	12	84
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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.

I-ETMS software is currently an engineering build.  
 All MARC locomotives are currently event recorder equipped. The number above only includes the number of recorders which are capable of recording PTC.

**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
<b>Infrastructure (Back Office)</b>				
<b>Dispatching Locations (installations complete)</b>	N/A – tenant railroad	N/A – tenant railroad	N/A – tenant railroad	N/A – tenant railroad
<b>Physical Back Office System Equipment (installations complete)</b>	0	0	0	0

Are the Back Office Location(s) fully operable?	N/A
Are the Dispatching Location(s) fully operable?	N/A

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

As stated in the PTCIP, dispatching functions are performed by the host railroad. MARC does intend to utilize a server system for maintenance of I-ETMS data.

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
<b>Infrastructure – Wayside Installations by Territory (i.e., Subdivision, District, Track Segment, Etc.)<sup>2</sup></b>				
<b>Identification of the Territory (i.e., Subdivision, District, Track Segment, Etc.)†: N/A – tenant railroad</b>				
<b>Wayside Interface Units†</b>	N/A – tenant railroad			
<b>Communication Towers or Poles†</b>	N/A – tenant railroad			
<b>Switch Position Monitors†</b>	N/A – tenant railroad			
<b>Wayside Radios†</b>	N/A – tenant railroad			
<b>Base Station Radios†</b>	N/A – tenant railroad			
<b>Are all necessary communication backbone utilities for this track segment (including fiber, copper, ground wiring etc.) installed and ready for operation?† Choose Yes or No.</b>				

†Note: To add rows for additional territories and associated sub-components, click on the blue “+” symbol at the bottom right-hand corner. Please be sure to first click anywhere inside the table to activate this function. If this function is unavailable for your document, please manually add additional rows.

<sup>2</sup> 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.

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.

N/A – tenant railroad

#### 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 <sup>3</sup>	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	Not specified	0	10
Employees who Dispatch Train Operations	N/A - tenant	Not specified	N/A - tenant	N/A - tenant
Train and Engine (Operations) Employees	0	Not specified	0	85
Roadway Worker Employees	N/A - tenant	Not specified	N/A - tenant	N/A - tenant
Direct Supervisors of the Above Employees	0	Not specified	0	5

Please provide any additional narrative for Employee Training below:

The term “employee” includes 3<sup>rd</sup> parties who operate and maintain the MARC consists. As these are not direct employees, the number of necessary trainees is an estimate and will vary.

<sup>3</sup> See 49 C.F.R. § 236.1041(a).

## 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

The PTCIP had onboard installation starting in 2011. Due to procurement lead-times, install did not start until 2015.  
The PTCIP had onboard installation completing in 2013. This is expected to occur in 2017.

## 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:

### Software

- Onboard TMC: The requirements for 9-aspect cab signal integration with I-ETMS was approved by the Interoperable Train Control Committee in the 3rd-quarter of 2015. This software is not expected to be available for testing until 2nd-quarter 2016.
- Onboard Slot-10: MARC slot-10 software has not been developed. MARC will be approaching its host railroads in 2016 to discuss requirements.
- Back Office: MARC is investigating the option of a 3rd-party hosted back office, who may also be made responsible for onboard software updates.

### Testing

- IETMS 125 mph & 9-aspect testing: MARC's I-ETMS installation differs from prior installations as it includes a 9-aspect cab signal system on trains that may reach 125 mph. Several tests are expected to be performed 3rd-quarter of 2016 on Amtrak's test bed to validate the I-ETMS braking algorithm up to 125-mph, radio communications up to 125 mph and the 9-aspect interface.
- Testing (and ultimately implementation) will only be able to occur as the host railroads implement wayside.

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 <sup>4</sup>	Number of Route Miles in Segment	Status at End of Calendar Year <i>Current status of installation/track segment. <b>Choose one:</b></i>	Estimated Start Date for Revenue Service Demonstration (if not already completed)
Segment <i>(add additional rows for segments as necessary):</i> Click here to enter segment identification.	0	<input checked="" type="radio"/> Not Started <input type="radio"/> Installing <input type="radio"/> Testing <input type="radio"/> Operational/Complete	2018 – contingent on host railroads

Note: To add additional rows, click on the blue “+” symbol at the bottom right-hand corner. Please be sure to first click anywhere inside the table to activate this function.

If this function is unavailable for your document, please manually add additional rows.

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

Click here to enter text.

<sup>4</sup> Segment identification should be consistent with segments listed in Section 3.3.

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:

MARC has engaged Wabtec for a turn-key install of the onboard equipment. Multiple engineering consultants have been engaged as necessary to review plans, schedules, designs, installation and testing.

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.

Tenant: No updates to the PTCIP agreements with Amtrak or CSXT. The hosts have not yet specified installation milestones.

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

<b>Tenant Identification</b> <i>(Please add rows for additional tenants as necessary)</i>	<b>Estimated Tenant Locomotive Fleet</b> <i>(if the tenant does not have a separate PTCIP on file)</i>	<b>Current Tenant Implementation Status</b> <i>Choose one:</i>
Click here to enter tenant’s full name.	Click here to enter estimated tenant locomotive fleet.	<input type="radio"/> Not Started <input type="radio"/> Installing <input type="radio"/> Testing <input type="radio"/> Operational/Complete

Note: To add additional rows, click on the blue “+” symbol at the bottom right-hand corner. Please be sure to first click anywhere inside the table to activate this function.

If this function is unavailable for your document, please manually add additional rows.

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
N/A - tenant

Please provide any additional narrative for PTCSP Submission below:

Click here to enter text.

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

Please provide Update on Testing and Integration efforts below:

All onboard installations are currently being tested to Wabtec's I-ETMS procedures.

## 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:

N/A - tenant

Public reporting burden for this information collection is estimated to average 38.41 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for this information collection is **2130-0553**. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection, including suggestions for reducing this burden to OMB's Office of Information and Regulatory Affairs, Attn: FRA OMB Desk Officer.