



# Roadway Worker Protection Manual



**For the government of Roadway  
Workers performing duties on  
Amtrak NORAC territory**

Effective: April 1, 2017

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# RWP Revisions

Your comments on the Roadway Worker Protection Manual are invited. Please send all suggestions to:

RWP Rewrite Committee c/o  
Director Training and Development  
2955 Market St  
Mailbox 1  
Philadelphia, PA 19104

Please include with each suggestion:

Part # \_\_\_\_\_

Subpart (letter) \_\_\_\_\_

Subsection # \_\_\_\_\_

Page # \_\_\_\_\_

Recommended Changes, Corrections or  
Questions

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Submitted by: Name Address & Phone

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# ROADWAY WORKER PROTECTION MANUAL

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## **INTRODUCTION**

As an Amtrak employee you know that we are not simply a railroad; we are America's national railroad, responsible for moving people safely. We all have the fundamental responsibility for ensuring the safety and security of our passengers and fellow employees.

This manual is a comprehensive collection of all the rules and instructions that have been developed and implemented to ensure the safety of employees working along Amtrak's right-of-way, designed to prevent accidents and incidents that result in injuries and fatalities. These comprehensive rules were designed to prevent accidents and serious injuries/fatalities while working along the right-of-way. Each of the rules contained in this revised RWP manual empowers you to make your work environment a safe one for you and your co-workers, and these rules are just as important today as they were 20 years ago. Safety is embedded in our mission, our company values, our strategic plan, our culture, and most importantly, in our day-to-day work. It is your and your co-workers responsibility to ensure your workplace is a safe environment. Anything less than that is not acceptable.

We ask that you develop your own personal commitment to safety; take ownership and responsibility for yourself and the people around you. Safety is about demonstrating the right behavior in the workplace, teamwork, the ability to understand and mitigate risk, and the ability to make an unsafe situation safe. Before doing any job on the right-of-way, it is required that an On Track Safety Briefing be conducted, on-track protection be established, and that everyone understands and agrees with the type of protection being provided. Your safety, the safety of your co-workers, and our passengers depend on it as does your family.

We ask that you please take the time to review the RWP rules in this manual. If you have any question on how a rule should be applied, do not hesitate to ask your manager, supervisor a co-worker or one of your Safety representatives. We are all in this together and we are here to help and support you as we continue to improve Amtrak's culture of safety.

- As I begin my work today, I need to remind myself of my commitment to personal safety and the safety of those I work with.
- I must ensure that I clearly understand the work to be done and what each of my team members will be doing.
- I know the rules and procedures that apply and I must adhere to them.
- When I am unsure of how my actions will affect the safety of myself or others, I will STOP until I am sure.
- I know that returning home today after my shift in good health is the number one priority for myself, my family and loved ones and I realize the same is true for my fellow workers.
- I will do my work well and smart and never jeopardize my safety or that of others for any reason.

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(Signature)

# ROADWAY WORKER DISPUTE RESOLUTION (GOOD FAITH CHALLENGE) PROCEDURE

Amtrak guarantees each employee the absolute right to challenge in good faith whether:

1. The on-track safety procedures to be applied at the job location comply with Amtrak's Roadway Worker Protection Rules, *and*
2. *The applicable Operating Rules, Special Instructions, Safety Rules or other applicable operating practices are being complied with.*

The roadway worker(s) raising the challenge has the right to remain clear of the track until the challenge is resolved.

This process starts at the On-Track Safety Briefing where the work is being performed, and the protection *and working environment* are being discussed. Should there be a disagreement on the protection being provided *or the level of compliance with the applicable operating practices*, the employee(s) making the good faith challenge must specifically state the concerns to the Roadway Worker In Charge (RWIC). The RWIC will discuss the specific concerns and how the *safe working environment is being established*. If the employee(s) still dispute(s) the protection, the employee(s) will remain clear of the track until the challenge is resolved without fear of retaliation or retribution.

The RWIC's supervisor is then contacted to mediate or resolve the dispute. If the employee(s) still dispute(s) the provided protection, they may maintain the right to refuse. This Supervisor will document the unresolved dispute using the appropriate form and send to the relevant Lead Safety Specialist and Assistant Division Engineer (ADE) or equivalent position. The ADE will coordinate a meeting of a Dispute Resolution Panel within 2 business days.

The Dispute Resolution Panel will consist of the relevant: Division Engineer, ADE, Lead Safety Specialist, Safety Liaison for that craft, and the *Director of Training and Development Engineering* or Designee. The panel will review the dispute documentation and other information as needed to make an informed decision. The panel will produce a written finding as to appropriate protection for the situation in question. The panel's decision will be

binding, presented to the individuals involved, and documented within the Office of the Chief Transportation Officer for reference.

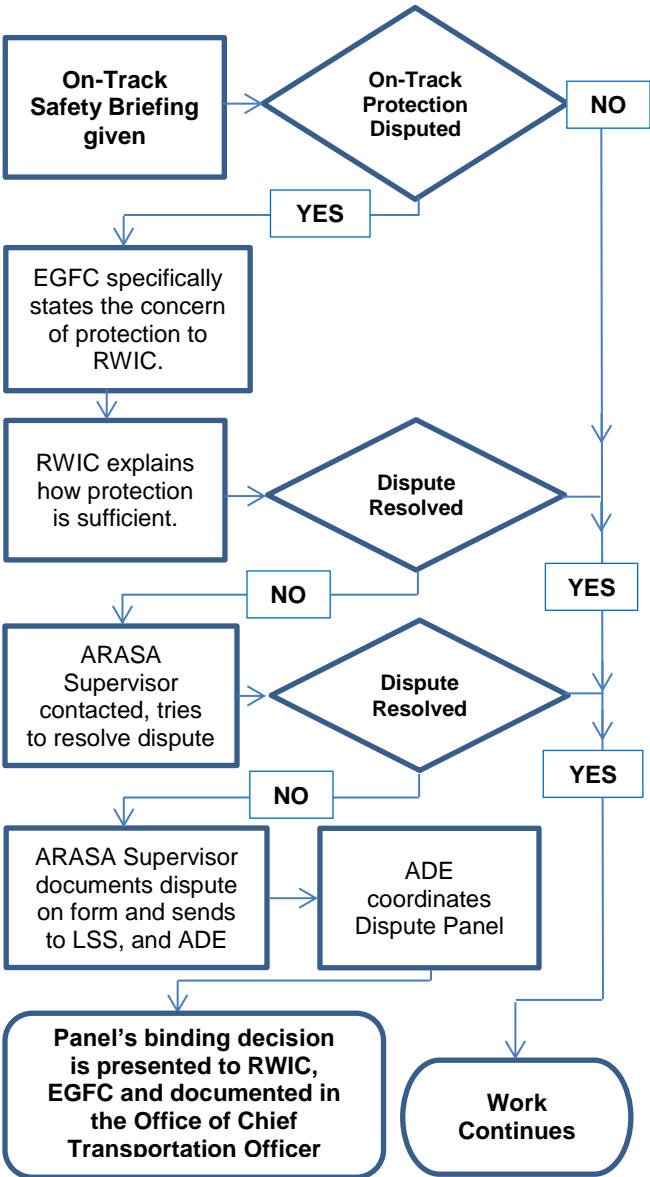
The rights and obligations of this procedure apply equally to agreement and non-agreement personnel.

## **ROADWAY WORKER DISPUTE RESOLUTION PROCESS**

**RWIC** = Roadway Worker in Charge

**EGFC** = Employee making Good Faith Challenge

**ADE** = Assistant Division Engineer or Equivalent Position



**ROADWAY WORKER  
DISPUTE RESOLUTION  
(GOOD FAITH CHALLENGE)**

**DOCUMENTATION FORM**

ARASA Supervisor Name:

\_\_\_\_\_

SAP ID #:

\_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_:\_\_\_\_ \_\_\_\_

Division: \_\_\_\_\_ Craft: \_\_\_\_\_

City, State: \_\_\_\_\_, \_\_\_\_\_

Line: \_\_\_\_\_ Mile Post: \_\_\_\_\_ Tracks: \_\_\_\_\_

Form of On-Track Protection in Dispute:

\_\_\_\_\_

Individuals involved in Good Faith Challenge:

	Name	SAP ID #
RWIC		
Disputing Employee		
Disputing Employee		
Disputing Employee		
Disputing Employee		
Disputing Employee		

**Provide a description of the dispute on the reverse side:**

Describe in detail the employee’s concerns relevant to the protection in dispute (include weather conditions, environmental factors, possible distractions or impairments at site, other work in vicinity, etc.):

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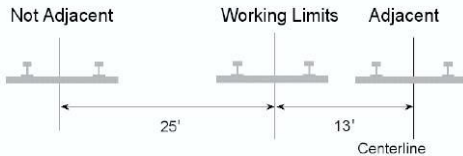
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**Send this completed form to the relevant Lead Safety Specialist and Assistant Division Engineer or equivalent position.**

## RWP DEFINITIONS

Definitions are particularly important to the understanding of this program.

**Adjacent tracks:** Two or more tracks with track centers spaced less than 25 feet apart.



**Adjacent Track (As used in 336):** A controlled or non-controlled track whose track center is spaced less than 25 feet from the track center of the occupied track.

**Control Operator:** The railroad employee in charge of a remotely controlled switch or derail, an interlocking, a controlled point, or a segment of controlled track. *This includes job titles such as Train Dispatcher, Train Director, Block Operator, etc.*

**Controlling Switch:** A switch that is either hand or power operated, that controls entry to working limits.

**Controlled Track:** A track upon which the railroad's operating rules require that all movements of trains must be authorized by a control operator.

**Effective Securing Device:** *A vandal and tamper resistant lock, keyed for application and removal only by the roadway worker(s) for whom the protection is provided.*

**Employee:** An individual who is engaged or compensated by a railroad or by a contractor to a railroad to perform any of the duties defined in this part.

**Employee In Charge (EIC):** *An employee responsible for a work group under the overarching authority of the Roadway Worker In Charge.*

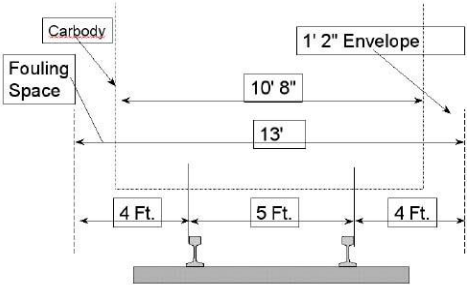
**Employer:** A railroad or a contractor to a railroad, that directly engages or compensates individuals to perform any of the duties defined in this manual.

**Exclusive Track Occupancy:** A method of establishing working limits on controlled track in which movement authority of trains and other equipment is withheld by the control operator, or restricted by flagman, as prescribed in §214.321.

**Flagman:** When used in relation to roadway worker safety, means an employee designated by the railroad to direct or restrict the movement of trains past a point on a track to provide on-track safety for roadway workers, while engaged solely in performing that function. **Note:** a Flagman is not a gang watchman or advanced gang watchman

**Foul Time:** A method of establishing working limits on controlled track in which a roadway worker is notified by the control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track, as prescribed in §214.323.

**Fouling a Track:** The placement of an individual or an item of equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment, or in any case is within four feet of the field side of the near running rail. Locations specifically engineered to provide protection from moving trains or on-track equipment may encroach into the four foot envelope and still not be considered fouling. These locations are designated as clearing bays.



**Gang Watchman / Advance Watchmen:** An employee who is qualified to provide warning to roadway workers of approaching trains or on-track equipment. **NOTE:** A Gang Watchman/Advanced Watchman is not a Flagman.



**Inaccessible Track:** A method of establishing working limits on non-controlled track by physically preventing entry and movement of trains and equipment.

**Individual Train Detection:** A procedure by which a lone worker acquires on-track safety by seeing approaching trains and leaving the track before they arrive and which may be used only under circumstances strictly defined in this manual.

**Inter-track Barrier:** A continuous barrier of a permanent or semi-permanent nature that spans the entire work area, that is at least four feet in height, and that is of sufficient strength to prevent a roadway worker from fouling the adjacent track.

**Job Briefing:** A meeting conducted prior to going to work. During the Job Briefing, the work unit meets to discuss all aspects of the work to be performed and any safety related concerns. Anyone can conduct a job briefing.

**Local Control:** When used in relation to Roadway Worker Protection, C&S employees may request permission to take local control of an interlocking to assist the Dispatcher when remote control is lost, or to expedite switch, signal or track circuit testing.

**Lone Worker:** An individual roadway worker who is not being afforded on-track safety by another roadway worker, who is not a member of a roadway work group, and who is not engaged in a common task with another roadway worker.

**Maximum Authorized Speed:** *Means the highest speed permitted for the movement of trains permanently established by timetable/special instructions, general order, or track bulletin.*

**Mechanical Facility:** *A Locomotive Servicing or Car Shop Repair Track area; which is one or more tracks, within an area in which the testing, servicing, repair, inspection, or rebuilding of locomotives or Railroad Rolling Equipment is under the exclusive control of Mechanical Department employee.*

**Minor Correction:** One or more repairs of a minor nature, including but not limited to, welding, spiking, anchoring, hand tamping, and joint bolt replacement that are accomplished with hand tools or handheld, hand supported, or hand guided power tools. The term does not include machine spiking, machine tamping, or any similarly distracting repair.

**Non-controlled Track:** A track upon which trains are permitted by railroad rule or special instruction to move without receiving authorization from a control operator.

**Non-Shunting Barricade:** A physical barricade erected to define working limits.

**Occupied Track:** A track on which on-track, self-propelled equipment or coupled equipment is authorized or permitted to be located while engaged in a common task with a roadway work group with at least one of the roadway workers on the ground.

**On-track Safety:** A state of freedom from the danger of being struck by a moving railroad train or other railroad equipment, provided by operating and safety rules that govern track occupancy by personnel, trains and on-track equipment.

**On Track Safety Briefing:** Briefing conducted to explain the type of on track protection afforded to employees when on track protection is required. Must be conducted and documented by the Roadway Worker In Charge (RWIC).

**Pre-determined Place of Safety (PPOS):** A specific location that an affected roadway worker must occupy upon receiving a watchman's warning of approaching movement(s) ("warning") or a roadway worker in charge's ("RWIC's") notification of pending movement(s) on an adjacent track ("notification"), as designated during the on-track safety job briefing. The PPOS may not be on a track, unless the track has working limits on it and no movements permitted within such working limits by the RWIC. Thus, under these circumstances, the space between the rails of the occupied track may be designated as a place to remain in position or to otherwise occupy upon receiving a warning or notification. The RWIC must determine any change to a PPOS, and communicate such change to all affected roadway workers through an updated on-track safety job briefing.

**Qualified:** A status attained by an employee who has successfully completed any required training for, has demonstrated proficiency in, and has been authorized by the employer to perform the duties of a particular position or function.

**Restricted speed** (refer to applicable Operating Rules for clarification)

**Roadway Maintenance Machine (RMM):** A device powered by any means of energy other than hand power which is being used on or near railroad track for maintenance, repair, construction or inspection of track, bridges, roadway, signal, communications, or electric traction systems. Roadway maintenance machines may have road or rail wheels or may be stationary.

**Roadway Work Group:** Two or more roadway workers organized to work together on a common task.

**Roadway Worker:** Any employee of a railroad, or of a contractor to a railroad, whose duties include and who is engaged in:

- (1) the inspection, construction, maintenance or repair of railroad track, bridges, roadway, signal and communication systems, electric traction systems, roadway facilities, roadway maintenance machinery, on or near track or with the potential of fouling a track
- (2) Flagman and Gang Watchman/Advance Watchmen as defined in this manual.

**Roadway Worker In Charge (RWIC):** A roadway worker who is qualified to establish on-track safety for roadway work groups, and lone workers qualified to establish on-track safety for themselves.

**RWP Tag:** Label applied to an effective securing device to indicate the presence of Roadway Workers on duty.



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**Shunting Barricade:** A physical barricade erected to define working limits used to provide positive shunt through track occupancy with documented verification to the dispatcher.

**Supplemental Shunting Device (SSD):** A device used to provide positive shunt through track occupancy with documented verification to the dispatcher.

**Tapman:** An individual who is responsible for tapping another worker when noisy machinery or equipment is in use or when any noise may interfere with detecting train approach warning. Tapman is not a Watchman.

**Train Approach Warning:** (Gang Watchman/Advanced Watchmen) A method of establishing on-track safety by warning roadway workers of the approach of trains *and/or equipment to ensure all workers can occupy a pre-determined place of safety (PPOS) at least 15 seconds before the train or equipment arrives.*

**Train Coordination:** A method of establishing Working Limits on a track upon which a train holds exclusive authority to move whereby the crew of that train yields that authority to a Roadway Worker.

**Train Dispatcher:** The railroad employee assigned to control and issue orders governing the movement of trains on a specific segment of railroad track in accordance with the operating rules of the railroad that apply to that segment of track.

**Working Limits:** A segment of track with definite boundaries established in accordance with this manual upon which trains, engines and on-track equipment may move only as authorized by the roadway worker having control over that defined segment of track. Working limits may be established through “exclusive track occupancy”, “inaccessible track”, “foul time”, or “train coordination” as defined in this section.

## **GENERAL INFORMATION**

### **301 PURPOSE & SCOPE**

The purpose of this manual is to prevent accidents and casualties caused by moving railroad cars, locomotives or roadway maintenance machines striking roadway workers or roadway maintenance machines.

These standards meet or exceed the federal regulation.

### **303 AMTRAK'S ON-TRACK SAFETY PROGRAM**

Amtrak has adopted and implemented a program that will afford on-track safety for all roadway workers whose duties are performed on Amtrak owned or leased property. Amtrak's program will provide specific levels of protection required by federal regulation.

*Any violation of a federal regulation associated with on track safety could result in corrective action by the Federal Railroad Administration, including civil penalties as specified in 49 CFR part 214.*

### **309 AMTRAK'S ON-TRACK SAFETY PROGRAM DOCUMENTS**

Rules and operating procedures governing track occupancy and protection will be maintained together in one manual and be readily available to all roadway workers. Each RWIC for the on-track safety of others (RWIC), and each lone worker will be provided with and will maintain a copy of the on-track safety program documents. Rules and operating procedures governing track occupancy and protection must be readily accessible while working on the right of way.

*Changes to the Roadway Worker Protection manual will be temporarily published in bulletins, notices or Rule Alerts. Such publications shall be retained along with the on-track safety manual until fully incorporated into the manual.*

Amtrak is responsible for the understanding and compliance by its employees with its rules and the requirements of this on-track safety program. Amtrak will guarantee each employee the absolute right to challenge in good faith whether the on-track safety procedures to be applied at the job location comply with the rules of Amtrak's Roadway Worker Protection Program, and to remain clear of the track until the challenge is resolved. Amtrak has in place a written procedure to achieve prompt and equitable resolution of challenges made in accordance with Parts 311 and 313.

### 313 INDIVIDUAL ROADWAY WORKER RESPONSIBILITIES

Each roadway worker is responsible for following Amtrak's Roadway Worker Protection procedures when working on Amtrak owned or leased property. **A roadway worker shall not foul a track except when necessary for the performance of duty.** Each roadway worker is responsible to ascertain that on-track safety is being provided before fouling a track. A roadway worker must refuse any directive to violate Amtrak's Roadway Worker Protection Manual by enacting a good faith challenge (Dispute Resolution). A roadway worker will inform Amtrak in accordance with rule 311 whenever the roadway worker makes a good faith determination that on-track safety provisions to be applied at the job location do not comply with Amtrak's Roadway Worker Protection Manual.

***Applicable Operating Rules/SI for this section:***

	Rule	Title	Page
N O R A C	996	Executing Instructions	A-49
	997	Responsibilities for Track Cars and Employees	A-49
	998	Responsibilities for the Track	A-49

When an Amtrak employee or contractor (roadway worker) is assigned a duty that calls for that employee to foul a track, an on-track safety job briefing must be provided prior to starting any work or fouling any track. This on-track job safety briefing must, at a minimum, include the following:

- (1) Information on the means by which on-track safety is to be provided for each track identified to be fouled;
- (2) Instruction on each on-track safety procedure to be followed;
- (3) Information about any adjacent tracks, on-track safety for such tracks, if required by this subpart or deemed necessary by the RWIC, and identification of any roadway maintenance machines that will foul such tracks;
- (4) A discussion of the nature of the work to be performed, the characteristics of the work location to ensure compliance, and the predetermined place of safety (PPOS); and
- (5) *The means of communication and contact information of the RWIC must be discussed and documented on the On Track Safety Briefing form. The RWIC must be readily available while providing on track protection.*

A job briefing for on-track safety shall be deemed complete only after the roadway worker has acknowledged understanding of the on-track safety procedures and instructions presented by signing required forms. *On-Track Safety Briefing forms must be retained for 7 days.*

### **Work Groups**

Every roadway work group whose duties require fouling a track shall have one roadway worker designated by Amtrak to provide on-track safety for all members of the group. The designated person shall be qualified under the rules of the railroad that conducts train operations on those tracks to provide the protection necessary for on-track safety of each individual in the group. The responsible person may be designated generally, or specifically for a particular work situation.

Before any member of a roadway work group fouls a track, the RWIC shall inform each roadway worker of the on-track safety procedures to be used and followed during the performance of the work at that time and location. Each roadway worker shall again be so informed at any time the on-track safety procedures change during the work period. Such information shall be given to all roadway workers affected before the change is effective, except in cases of emergency. Any roadway workers who, because of an emergency, cannot be notified in advance shall be immediately warned to leave the fouling space and shall not return to the fouling space until on-track safety is re-established.

### **Lone Worker**

Each lone worker shall communicate at the beginning of each duty period with a supervisor or another designated employee to receive a job briefing and to advise of his or her planned itinerary and the procedures that he or she intends to use *for on-track safety*.



## PROCEDURES

### 317 GENERAL AMTRAK ON-TRACK SAFETY PROCEDURES

Amtrak has adopted a program that contains specific rules for protecting roadway workers that comply with provisions of CFR §214.319-§214.337.

- (a) *Employees must be alert and attentive to their duties, be alert to potential train movements, and take proper precautions in the event of traversing across live track(s). **Move directly and promptly across the track(s).** On-track protection is required when crossing the track(s) with tools or material that restricts motion, impairs sight or hearing.*

#### **Weed Spraying and Snow Removal**

- (b) *On non-controlled track, on-track roadway maintenance machines engaged in weed spraying or snow removal may proceed under the provisions of §214.301(c), under the following conditions:*
- (1) *All on-track movements in the affected area are informed of such operations;*
  - (2) *All on-track movements shall operate at restricted speed; and*
  - (3) *Communication between the on-track equipment and other on-track movements must be established.*
  - (4) *Roadway workers engaged in such snow removal or weed spraying operations have the absolute right to establish protection through rule 327 (inaccessible track).*
- (c) *Roadway workers assigned to work with weed spraying or snow removal equipment may line switches (or derails operated via a switch stand) for the machine's movement but shall not engage in any roadway work activity unless protected by another form of on-track safety.*
- (d) *Each roadway maintenance machine engaged in snow removal or weed spraying must be equipped with and utilize:*
- (1) *An operative 360-degree intermittent warning light or beacon;*

- (2) *Work lights, if the machine is operated during the period between one-half hour after sunset and one-half hour before sunrise or in dark areas such as tunnels, unless equivalent lighting is otherwise provided;*
- (3) *An illumination device, such as a headlight, capable of illuminating obstructions on the track ahead in the direction of travel for a distance of 300 feet under normal weather and atmospheric conditions;*
- (4) *A brake light activated by the application of the machine braking system, and designed to be visible for a distance of 300 feet under normal weather and atmospheric conditions; and*
- (5) *A rearward viewing device, such as a rearview mirror.*

### **Tunnel Niches and Clearing Bays**

- (e) *Tunnel Niches and Clearing Bays constructed prior to April 1, 2017, may be used as a Predetermined Place of Safety (PPOS) provided that they are:*
  - (1) *Visually inspected to determine that the niche or clearing bay is suitable for use as a place of safety;*
  - (2) *There is adequate sight distance to permit the roadway worker or lone worker to occupy the place of safety in the niche or clearing bay at least 15 seconds prior to the arrival of a train or other on-track equipment at the work location*

## **318 ON TRACK SAFETY BRIEFING GUIDELINES**

Prior to performing any task which requires fouling a track or has the potential to foul a track, all roadway workers involved must participate in an On Track Job Safety briefing. This On Track Safety Briefing must be conducted and documented at the work location and include the means by which on-track safety will be provided, and instructions for the on-track safety procedures to be followed.

The On Track Safety Briefing must be conducted by the Road Way Worker In Charge. This On Track Safety Briefing must include each roadway worker.

An On Track Safety Briefing must be conducted with roadway workers arriving after the initial job briefing and *prior to fouling a track.*

On Track Safety Briefings are not complete until the roadway worker signs the briefing and acknowledges understanding the on-track safety being afforded to them *and all on-track safety concerns have been addressed.*

Always consider the following when participating in an On Track Safety Briefing:

- Everyone's Attention and Participation
- Type of On-Track Protection
- Identification of Adjacent Track(s) and Protection being provided on such track(s)
- Working Limits
- Track Speeds
- Direction of Train Traffic
- Predetermined Place of Safety (PPOS)
- Potential distractions
- Unique workplace hazards
- Hot Spot Areas
- Placement of Watchmen and Rotation & Relief Policy
- Weather Conditions/Visibility
- Inspect Watchmen's Equipment
- Review Electronic Device Use
- Brief New Arrivals
- Re-Brief when Changes Occur
- Complete Understanding & Documentation

### ***Joint Occupancy of Working Limits***

(a) *A RWIC of working limits may allow additional roadway workers to occupy or foul a track within the working limits. Before authorization is given, the RWIC of the working limits must:*

- (1) ***Have a job briefing*** with the:
  - (i) *employee responsible for protecting the additional work group (EIC). The EIC must conduct a job briefing with all members of the additional work group.*
  - (ii) *Roadway workers who were part of original work group.*
- (2) ***Verify*** that the employee responsible for protecting the additional work group is qualified on:
  - (i) *Operating Rules,*

- (ii) Roadway worker protection,
  - (iii) Physical characteristics.
- (3) **Complete a Working Limits Occupancy Authority Form O (NRPC 3472) by recording:**
- (i) The name of the employee-in-charge of the additional work group,
  - (ii) The limits of the additional occupancy authority, and
  - (iii) The time the occupancy was authorized.
- (4) **The RWIC must ensure that all work groups are notified** of entrance and exit of additional work groups and document on the Form O (NRPC 3472).
- (5) **Getting Relieved: Employee Responsible for Protecting Additional Work Group:** If an employee responsible for protecting an additional work group gets relieved before reporting clear to the RWIC, the relieving employee must contact the RWIC and advise of the change. The RWIC must note the change on the original Form O (NRPC 3472).
- (6) **Reporting Clear:** Additional work groups given authority to occupy or foul a track within working limits must be reported clear to the RWIC of the working limits immediately after clearing the track. The RWIC of the working limits must record the time cleared on the Working Limits Occupancy Authority Form O (NRPC 3472).
- (7) **Returning Track to Service:** Prior to returning the track to service or relinquishing foul time, the RWIC of the work limits must determine that all additional work groups given authority to occupy or foul a track have reported clear. When the track is returned, the RWIC of the working limits must mark an 'X' through the Working Limits Occupancy Authority Form O (NRPC 3472) and retain it for seven days for inspection upon request.

### **Roadway Worker In Charge Transfer of Authority**

- (b) Prior to the RWIC Transfer of Authority process all affected roadway workers must be in a pre-determined place of safety. Transferring the authority of RWIC:
- (1) The RWIC relieving the current RWIC must have a Roadway Worker In Charge Transfer of Authority Form (NRPC 3471) with them.

- (2) *The current RWIC will ensure all roadway workers are not fouling a track.*
- (3) *The current and relief RWICs will meet in an area not fouling a track to have a discussion on the transfer.*
- (4) *The relief RWIC will complete the RWIC Transfer of Authority Form (NRPC 3471) while the current RWIC provides the information required to complete the form.*
- (5) *The transfer discussion must include, and document on the form, at a minimum:*
  - (i) *The current date and time the discussion began.*
  - (ii) *Every type of on track safety that is available for the given location:*
    - *If that type of on track protection was used at any time throughout the current RWIC's term of authority.*
    - *The track(s) on which the identified on track protection was utilized.*
    - *Any additional information on the identified on track protection.*
  - (iii) *If it was identified that Track(s) Out of Service was a type of protection used, then the following must be discussed and documented for each track:*
    - *The track number that was taken out of service,*
    - *The working limits of occupancy,*
    - *The locations of erected barricades,*
    - *The current condition of the track.*
  - (iv) *The type and location of each piece of equipment.*
  - (v) *The name of any contractor(s) present and the type of equipment they are using, if any.*
- (6) *The current RWIC must review the RWIC Transfer of Authority Form (NRPC 3471) for accuracy.*
- (7) *After the current RWIC has verified all the information on the form is accurate, they are to enter the following on the "Signing Off" line:*
  - *Name (printed),*
  - *Signature,*
  - *Employee Identification Number.*
- (8) *After the current RWIC has printed their name, signed the document, and provided their Employee Identification Number on the form (NRPC 3471), the relief RWIC is to enter the following on the "Signing On" line:*

- Name (printed),
  - Signature,
  - Employee Identification Number.
- (9) The RWIC who signed the “Signing Off” line is to retain the yellow copy of the form (NRPC 3471) for a minimum of 7 days, and the RWIC that signed the “Signing On” line is to retain the original copy of the form (NRPC 3471) for a minimum of 7 days.

## **LONE WORKER ON TRACK SAFETY BRIEFING GUIDELINES**

If lone workers are using ITD, the On Track Safety Briefing should be conducted at the work site or where communications can be established. The lone worker must complete the Amtrak Individual Train Detection Statement, NRPC 2999. The qualified employee providing the On Track Safety Briefing must also complete the Amtrak Individual Train Permit Daily Log (NRPC 2999-1).

Lone workers not using ITD must participate in an On Track Safety Briefing using the approved NRPC 3044 form.

### **Applicable Operating Rules/SI for this section:**

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R A C</b>	133-S3	FOREMAN GOING OFF DUTY	A-17

## **319 GENERAL AMTRAK WORKING LIMITS**

Working limits established on controlled track shall conform to the provisions of rule 321 Exclusive track occupancy, or rule 323 Foul time. Working limits established on non-controlled track shall conform to the provisions of rule 327 Inaccessible track. Working limits established on controlled or non-controlled track by the use of flagman must conform to the provisions of rule 351 training and qualifications of flagman. Working limits established under any procedure must, in addition, conform to the following provisions:

- (a) Only a roadway worker who is qualified in accordance with rule 353 shall establish or have control over working limits for the purpose of establishing on track safety.
- (b) Only one roadway worker shall have control over working limits on any one segment of track.
- (c) All affected roadway workers shall be notified before working limits are released for the operation of trains. Working limits shall not be released until all affected roadway workers have either left the track or have been afforded on-track safety through train approach warning in accordance with rule 329.

***Applicable Operating Rules/SI for this section:***

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R A C</b>	131	Protecting Work Locations: Qualified Employee’s Duties	A-8
	131-S1.	Protecting Work Locations: Conductor/Flagman Responsibility	A-9
	132	Protection for the Safe Passage of Trains	A-10
	132-S1.	Maintenance Work Without Form D	A-12

**321 EXCLUSIVE TRACK OCCUPANCY**

The following rules govern the establishment of exclusive track occupancy on controlled tracks.

- (a) The track within working limits shall be placed under the control of one RWIC by either:
  - (1) Authority issued to the RWIC by the train dispatcher or control operator who controls train movements on that track,
  - (2) Flagmen stationed at each entrance to the track within working limits and instructed by the RWIC to permit the movement of trains and equipment into the working limits only as permitted by the RWIC, or
  - (3) The RWIC causing fixed signals at each entrance to the working limits to display an aspect indicating “Stop.” Local Control – (See applicable Operating Rule and Special Instructions)
- (b) An authority for exclusive track occupancy given to the RWIC of the working limits shall be transmitted on a written or printed document directly, by relay through a designated employee, in a data transmission, or by

oral communication to the RWIC by the train dispatcher or control operator in charge of the track.

- (1) Where authority for exclusive track occupancy is transmitted orally, the authority shall be written as received by the RWIC and repeated to the issuing employee for verification.
  - (2) The RWIC of the working limits shall maintain possession of the written or printed authority for exclusive track occupancy while the authority for the working limits is in effect.
  - (3) The train dispatcher or control operator in charge of the track shall make a written or electronic record of all authorities issued to establish exclusive track occupancy.
- (c) The extent of working limits established through exclusive track occupancy shall be defined by one of the following physical features clearly identifiable to a locomotive engineer or other person operating a train or railroad equipment:
- (1) A flagman with instructions and capability to hold all trains and equipment clear of the working limits;
  - (2) A fixed signal that displays an aspect indicating "Stop", Local Control – (See applicable Operating Rule and Special Instructions);

**NOTE: Local Control is ONLY for C&S testing or inspection, or joint C&S and MW switch inspections.**

- (3) A station shown in the time-table, and identified by name with a sign, beyond which train movement is prohibited by train movement authority or the provisions of a direct train control system.
  - (4) A clearly identifiable milepost sign beyond which train movement is prohibited by train movement authority or the provisions of a direct train control system; or
  - (5) A clearly identifiable physical location prescribed by the operating rules of the railroad that trains may not pass without proper authority.
- (d) Movements of trains and roadway maintenance machines within working limits established through exclusive track occupancy shall be made only under the direction of the RWIC over the working limits. Such movements shall be restricted speed unless a higher speed has been specifically authorized by the RWIC of the working limits.



**Applicable Operating Rules/SI for this section:**

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R M A L</b>	133	Removing a Track from Service	A-12
	133-S1	Protection of Out-Of-Service Tracks	A-15
	133-S2	Admitting Additional Equipment	A-17
	133-S4	Work, Wreck or Wire Trains	A-19
	133-S5	Highway Crossing on Out-Of-Service Tracks	A-19
	133-S6	Removing A Track from Service: Form D Address	A-20
	601-S1	Local Control of Interlockings by C&S Employees	A-27

**323 FOUL TIME**

Working limits established on controlled track through the use of foul time procedures shall comply with the following requirements:

- (a) Foul time must be given orally by the train dispatcher or control operator only after that employee has withheld the authority of all trains *or other on-track equipment* to move into or within the working limits during the foul time period.
- (b) Permission to foul the track must include the following information:
  - 1. Title and name of employee receiving foul time
  - 2. Track designation
  - 3. Track limits (between/at)
  - 4. Time limits

The receiving employee must repeat this permission and the Dispatcher or Operator must then confirm it before the Foul Time becomes effective. Documentation must be recorded on the Foul Time Log (NRPC3045), and communicated to all affected roadway workers.

- (c) The control operator or RWIC shall not permit the movement of trains or other on-track equipment onto the working limits protected by foul time until the roadway worker who obtained the foul time has reported clear of the track.
- (d) Once protection has been provided, it must be maintained until the employee who was granted the foul time has released the foul time. Prior to releasing foul time, the *roadway worker who obtained the foul time* must ensure all roadway workers are clear of the track being released. The release must include the

employee's title and name, and the track designation and limits being released. This information must be repeated by the Dispatcher or Operator, and confirmed by the employee releasing the foul time before blocking devices are removed.

- (e) Supplemental Shunting Devices must be applied when equipment will be used to foul a track in signaled territory or within interlocking limits for more than 5 minutes. *The RWIC* must ensure Supplemental Shunting Devices, when required, are applied in accordance with the applicable Operating Rules or instructions.

**Applicable Operating Rules/SI for this section:**

	Rule	Title	Page
<b>N O R A C</b>	140	Foul Time	A-20
	140-S1	Foul Time	A-21
	140-S2	Use of Supplemental Shunting Device	A-21

**325 TRAIN COORDINATION**

Working limits established *on controlled track* by a RWIC through the use of train coordination, if operating rules permit, shall comply with the following requirements:

- (a) Working limits established by train coordination shall be within the segments of controlled track or tracks upon which only one train holds exclusive authority to move.
- (b) The roadway worker who establishes working limits by train coordination shall communicate with a member of the crew of the train holding the exclusive authority to move, and shall determine that:
  - (1) The train is visible to the roadway worker who is establishing the working limits.
  - (2) The train is stopped.
  - (3) Further movements of the train will be made only as permitted by the RWIC of the working limits while the working limits remain in effect, and
  - (4) The crew of the train will not give up its exclusive authority to move until the working limits have been released to the train crew by the RWIC of the working limits.

***Applicable Operating Rules/SI for this section:***

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R A C</b>	142	Train Coordination	A-24

**327 INACCESSIBLE TRACK**

The following rules govern the establishment of working limits on non-controlled tracks by making the track physically inaccessible to trains.

- (a) Working limits on non-controlled track shall be established by rendering the track within working limits physically inaccessible to trains and equipment at each possible point of entry by one of the following physical features:
- (1) A flagman with instructions and capability to hold all trains and equipment clear of the working limits.
  - (2) A switch or derail with RWP flag aligned to prevent access to the working limits and secured with an M/W lock and RWP tag by the RWIC of the working limits.
  - (3) A discontinuity in the rail that precludes passage of trains or engines into the working limits.
  - (4) Working limits on controlled track that connects directly with the inaccessible track, established by the RWIC of the working limits on the inaccessible track.
  - (5) A remotely controlled switch aligned to prevent access to the working limits and secured by a train dispatcher or control operator by application of a locking or blocking device to the control of that switch, when:
    - (i) The train dispatcher or control operator has notified the roadway worker who has established the working limits that the requested protection has been provided; and
    - (ii) The train dispatcher or control operator is not permitted to remove the locking or blocking device from the control of the switch until receiving permission to do so from the roadway worker who established the working limits.
- (b) Trains and roadway maintenance machines within working limits established by means of inaccessible track shall move only under the direction of the RWIC of the working limits, and shall move at restricted

speed.

- (c) No operable locomotives or other items of on-track equipment, except those present or moving under the direction of the RWIC of the working limits, shall be located within working limits established by means of inaccessible track.
- (d) *Only one roadway worker shall have control over working limits on any one segment of track.*
- (e) *All affected roadway workers shall be notified before working limits are released for the operation of trains. Working limits shall not be released until all affected roadway workers have either left the track or have been afforded on-track safety through train approach warning in accordance with rule 329.*

**Applicable Operating Rules/SI for this section:**

	Rule	Title	Page
N O R A C	141	Inaccessible Track	A-24

**328 RWP PROCEDURES FOR WORKING ON OR ABOUT TRACKS IN TERMINALS YARDS AND MECHANICAL FACILITIES**

RWP and Blue Signal protection cannot be shared; Engineering and Mechanical Departments must provide their own protection.

**RESPONSIBILITY**

The RWIC will be responsible for ensuring the following procedures are in effect prior to starting work.

**PROCEDURES**

- (a) **WORKING ON NON-CONTROLLED TRACKS WITH NO ROLLING EQUIPMENT OR LOCOMOTIVES IN WORKING LIMITS**
  - (1) The RWIC will notify the Mechanical Foreman and/or Yardmaster of the intended work. An On Track Safety Briefing covering the type and duration of work to be performed and the type of on-track protection to be used must be conducted prior to starting work.
  - (2) The Mechanical Foreman will remove the mechanical locks from each derail, in the non-

derailing position, leading to the working limits.

- (3) The RWIC will set the derails in the derailing position, and lock and tag with effective RWP securing device. The RWIC will erect an RWP flag at the derail.
  - (4) High Speed Rail S&I facilities will modify the automatic derail/blue signal control panel to accept multiple locking devices, allowing both Mechanical & Engineering Department personnel to apply separate protection.
  - (5) If a derail and RWP flag are not available, then the switches leading into the working limits must be lined, tagged with an appropriate RWP tag and locked with an effective securing device to prevent entry. Where applicable, remotely controlled switches must be lined to prevent entry, with appropriate blocking device applied by the Train dispatcher or control operator.
  - (6) If none of the above on-track protection is available, protection must be established by the use of Flagman (preventing entry to working limits) or Gang Watchman (warning of movement).
  - (7) Before on-track protection can be removed, all employees, tools, equipment, and materials must be clear of working limits. The RWIC will then remove their effective securing devices, and notify the Mechanical Foreman and/or Yardmaster that the working limits are clear. The Mechanical Foreman will restore Blue Signal Protection by installing locks to derails in the desired position.
  - (8) Roadway Worker Protection is not required when working at or below platform level when the track will not be fouled and there is no potential to foul.
- (b) WORKING ON NON-CONTROLLED TRACKS WITH ROLLING EQUIPMENT / LOCOMOTIVES OCCUPYING THE WORKING LIMITS. (Procedures in Paragraph A., #1 through #8 in effect with the following additions)
- (1) Mechanical Foreman will ensure that any rolling equipment not attached to a Locomotive(s) is secured against movement (hand brakes, chocks etc.).
  - (2) Locomotive(s) with or without cars attached with no train crew present will be secured by the

RWIC, utilizing RWP tags attached to the Operator's console on controlling unit(s).

- (3) Locomotive(s) with or without cars attached with train crew present will be secured by the RWIC utilizing the following:

- (i) Request engineer to apply engine brake and or train brake.
- (ii) Request train crew to set hand brakes.
- (iii) Attach RWP tags to the Operator's Console on controlling unit(s).

- (4) The RWIC will apply all RWP effective securing devices. If working in conjunction with Mechanical Department employees, the Mechanical Foreman will apply all Blue Signal protection securing devices. If a multiple locking device is available, both departments must use it. This applies to both derails and switches. If remotely controlled switch protection is required, both departments must contact the Train dispatcher or control operator for protection.

- (5) Before rolling equipment in the working limits can be moved, the RWIC and the MECHANICAL Foreman and/ or Yardmaster must ensure that all employees, tools, equipment, and materials are clear of the working limits. All effective securing devices must be removed before releasing the track to the Yardmaster or Control Operator. Before work is permitted again on the same track, the working limits must be reestablished and effective securing devices reapplied.

(c) WORKING ON CONTROLLED TRACKS IN TERMINALS

- (1) An On Track Safety Briefing must be conducted prior to starting work. Work on controlled tracks in terminals must be protected by the use of Train Approach Warning, Foul Time, or Exclusive Track Occupancy. Existing Blue Signal Protection must be removed.

- (i) If rolling equipment is present, work will be performed as stated in Section B, Items 1, 2 & 3.
- (ii) Before equipment can be moved, the RWIC must ensure all personnel and equipment are clear prior to returning control of track.

NOTE:

- Section B, items 2 & 3 will also apply on main line track in **controlled** territory.
- Only a qualified employee can provide On-Track Protection in yards that require physical characteristic qualification.

**Blue Signal Protection in a Mechanical Facility**

(d) *Blue Signal Protection will be utilized in lieu of RWP when all following conditions are met:*

- (1) *Work to be performed is located inside the defined limits of a Mechanical Facility,*
- (2) *The employee in charge of the work is not RWP qualified.*
- (3) *The work is incidental to the larger functioning Mechanical Facility.*

**Applicable Operating Rules/SI for this section:**

	Rule	Title	Page
<b>N O R A C</b>	36-S6	RWP Flags and Tags	A-7

**329 TRAIN APPROACH WARNING PROVIDED BY GANG WATCHMAN/ADVANCE WATCHMEN**

Roadway workers in a roadway work group who foul any track outside of working limits shall be given warning of approaching trains and engines by one or more watchmen in accordance with the following provisions:

- (a) Train approach warning shall be given in sufficient time to enable each roadway worker to clear all equipment and move to and occupy a Predetermined Place of Safety not less than 15 seconds before a train moving at the permanent maximum authorized speed on that track can pass the location of the roadway worker. *The predetermined place of safety to be occupied upon the approach of a train may not be*

*on a track, unless working limits are established on that track.*

*(1) Gang Watchman / Advanced Watchmen placement is governed by permanent maximum authorized speed as defined in this manual.*

*(b) If adjacent tracks are protected by a form of on track safety which will be in place the entire time roadway workers are fouling the work site, no train approach warning would be needed. If the on track safety on the adjacent tracks are given up periodically, train approach warning would be needed.*

**(c) Gang watchmen and advance gang watchmen must:**

(1) Devote their full attention to detecting the approach of trains, engines, and maintenance machinery, and communicating a warning thereof, and shall not be assigned or perform, even momentarily, any other duties while functioning as watchmen.

(2) Stand in position at the location identified during the On Track Safety Briefing until instructed, by the RWIC, that on-track safety is no longer necessary or relieved by another watchman, and ready to warn of approaching movements. If for any reason a gang watchman or advance gang watchmen must leave their position, they must first provide warning to clear all roadway workers from the tracks.

(3) Be relieved, rotated, or provided a 15-minute break every 2 to 4 hours.

(4) Signal the approach of train or equipment by sounding an audible warning and raising an orange disc or approved light at arm's length above the head. When it is safe to resume work, lower the orange disc or approved light horizontally at arm's length toward the point of work, hold this position momentarily, then lower to rest position.

(5) Provide train approach warning that can be plainly seen. Acknowledge and/or repeat train approach warning received from other watchmen or advance watchmen. If train approach warning is not acknowledged, advance watchmen will attempt to stop train by using red flag or fusees provided for that purpose.

(6) When providing train approach warning for only one person and advance watchmen are not



needed, watchmen equipment must include an orange disc or approved light, a warning whistle, and a highly reflective vest or clothing which meets ANSI-2010-107 Class 2 specifications.

- (7) Must stand stationed at a point where they will have the best view of approaching trains or equipment in both directions, as identified and discussed at the On Track Safety Briefing, and a sufficient distance from the roadway worker or work group to prevent attention from being distracted by the work, but not further than their warning whistle can be distinctly heard. Gang watchmen, advance gang watchmen, and flagmen may be positioned in the fouling envelope of live track only if all the following conditions are met:
  - (i) The person responsible for on-track safety and the watchmen, advance watchmen, and or flagmen agree that the location and nature of work require placement on live track.
  - (ii) The On Track Safety Briefing specifically addresses the placement of watchmen in live track and where each will clear upon approaching trains.
  - (iii) Gang watchmen and flagmen must be able to clear in sight of the gang. Advance gang watchmen must clear in the sight of gang watchmen or adjacent advance gang watchmen. All watchmen, advance watchmen, or flagmen must be clear of all live tracks or in the gauge of a track where additional working limits were established for on-track safety.
  - (iv) The On Track Safety Briefing sheet specifically documents the requirements of i, ii and iii of this part.
- (8) Conduct a whistle test that meets the following conditions:
  - (i) Positioned at the identified watchman location, as identified and discussed at the On Track Safety Briefing.
  - (ii) Before any roadway worker fouls any tracks not protected with working limits
  - (iii) Performed with the whistle, not the air horn
  - (iv) Under similar noise conditions as the work will create.

The whistle test is to ensure that all affected







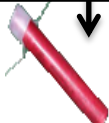
roadway workers are able to receive the notification of approaching movement. If any affected roadway worker cannot receive the notification the RWIC must immediately be notified, additional protection is to be provided, and a new On Track Safety Briefing is to be performed and documented.

- (9) When noisy machinery or equipment is in use or any noise that may interfere with detecting train approach warning, a tap man or other precautions must be taken.
- (10) Gang watchmen and advance gang watchmen must have the equipment indicated on the following chart. This equipment must be in good working order and readily accessible. Warning whistles must be worn on the outside of clothing. The person responsible for on-track safety must also be equipped with a warning whistle.

### Watchman Equipment

Visibility	Gang Watchman	Advanced Gang Watchmen
<b>Good</b>	Warning Whistle	Warning Whistle
	Orange Disc	Orange Disc <b>Red Flag</b>
	Air Horn	Air Horn
	Watchman's Vest	Watchman's Vest
<b>-Night Work -Tunnel</b>	Warning Whistle	Warning Whistle
	Watchman's Wand	Watchman's Wand <b>Two (2) Red Fuses</b>
	Air Horn	Air Horn
<b>-Poor Visibility</b>	Watchman's Vest	Watchman's Vest

    	 
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**Applicable Operating Rules/SI for this section:**

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R A C</b>	702	Requirements for Track Cars and Roadway Workers	A-31
	705	Radio Transmission and Reception Procedures	A-31
	716	Use of Electronic Devices	A-32
	716-S1	Use of Electronic Devices: Restrictions	A-37
	716-S2	Use of Telephones for Employees Involved in Main Track Authorities and Mandatory Directives	A-37

**335 ON-TRACK SAFETY PROCEDURES FOR ROADWAY WORK GROUPS**

No roadway worker subject to the provisions of this rule shall require or permit a roadway worker who is a member of a roadway work group to foul a track unless on-track safety is provided by either working limits, train approach warning, or definite train location in accordance with the applicable provisions of 319, 321, 323, 325, 327, or 329

No roadway worker who is a member of a roadway work group shall foul a track without having been informed by the RWIC of the roadway work group that on-track safety is provided.

**336 ON-TRACK SAFETY PROCEDURES FOR CERTAIN ROADWAY WORK GROUPS AND ADJACENT TRACKS.**

(a) General

(1) Except as provided in paragraph (e) of this section, on-track safety is required for each adjacent controlled track when a roadway work group with at least one of the roadway workers on the ground is engaged in a common task with on-track, self-propelled equipment or coupled equipment on an occupied track. The required on-track safety shall be established through § 319 (Working limits, generally) or 329 (Train approach warning provided by watchmen) and as more specifically described in this section.

(b) If a train or other on-track equipment is authorized to move on an adjacent controlled track each roadway worker in the roadway work group that is affected by such movement must comply with the following procedures:

(1) Ceasing work and occupying a predetermined place of safety. Except for the work activities as described in paragraph (e) of this section, each affected roadway worker shall, as described in Table 1 of this section, cease all on-ground work and equipment movement that is being performed on or between the rails of the occupied track or on one or both sides of the occupied track, and occupy a predetermined place of safety upon receiving either a watchman/lookout warning or, alternatively, a notification that the RWIC intends to permit one or more train or other on-track equipment

movements through the working limits on the adjacent controlled track.

(2) Resuming work.

- (i) An affected roadway worker may resume on-ground work and equipment movement (on or between the rails of the occupied track or on one or both sides of the occupied track as described in Table 1 of this section) only after the trailing-end of all trains or other on-track equipment moving on the adjacent controlled track (for which a warning or notification has been received) has passed and remains ahead of that roadway worker.
  - (ii) If the train or other on-track equipment stops before its trailing-end has passed all of the affected roadway workers in the roadway work group, the work to be performed (on or between the rails of the occupied track or on one or both sides of the occupied track as described in Table 1 of this section) ahead of the trailing-end of the train or other on-track equipment on the adjacent controlled track may resume only—
    - (A) If on-track safety through train approach warning (329) has been established on the adjacent controlled track; or
    - (B) After the RWIC has communicated with a member of the train crew or the on-track equipment operator and established that further movements of such train or other on-track equipment shall be made only as permitted by the RWIC.
- (c) Procedures for adjacent-controlled-track movements at any speed must comply with paragraph (b) of this section
- (d) Discretion of RWIC. Nothing in this subpart prohibits the RWIC from establishing on-track safety (protection) on one or more adjacent tracks as he or she deems necessary consistent with both the purpose and requirements of this subpart.
- (e) Exceptions to certain requirements for adjacent-controlled-track on-track safety. No on-track safety (other than that required by paragraph (f) of this section or provided under paragraph (d) of this section) is required by paragraphs (a) through (c) of this section for an adjacent controlled track during the times that the roadway work group is exclusively performing one or more of the following work activities:
- (1) On-ground work performed on a side of the occupied track meeting specified condition(s). A

roadway work group with all of its on-ground roadway workers (other than those performing work in accordance with another exception in paragraph (e) of this section) performing work while exclusively positioned on a side of the occupied track as follows and as further specified in Table 1 of this section:

- (i) The side with no adjacent track;
  - (ii) The side with one or more adjacent tracks, the closest of which has working limits on it and no movements permitted within such working limits by the RWIC; or
  - (iii) The side with one or more adjacent tracks, provided that it has an inter-track barrier between the occupied track and the closest adjacent track on that side.
- (2) Maintenance or repairs performed either alongside, or within the perimeter of, a roadway maintenance machine or coupled equipment on the occupied track.
- (i) One or more roadway workers performing maintenance or repairs alongside a roadway maintenance machine or coupled equipment, provided that such machine or equipment would effectively prevent the worker from fouling the adjacent controlled track on the other side of such equipment, and that such maintenance or repairs are performed while positioned on a side of the occupied track as described in paragraph (e)(1)(i), (ii), or (iii) and Table 1 of this section.
  - (ii) One or more roadway workers on or under a roadway maintenance machine or coupled equipment performing maintenance or repairs within the perimeter of the machine or equipment, provided that no part of their person breaks the plane of the rail of the occupied track except when toward one of the sides of the occupied track as described in paragraph (e)(1)(i), (ii), or (iii) and Table 1 of this section. A boom or other equipment extending beyond the body of a roadway maintenance machine or coupled equipment toward an adjacent controlled track is not considered to be within the perimeter of the machine or coupled equipment. All work must stop when notified of approaching movement.
- (3) Work activities involving certain equipment and purposes. One or more on-ground roadway workers engaged in a common task on an occupied track with on-track, self-propelled

equipment or coupled equipment consisting exclusively of one or more of the types of equipment described in paragraphs (e)(3)(i) through (iii) of this section. If such a roadway work group (“excepted group”) is authorized or permitted to operate on the same occupied track and within the working limits of a separate roadway work group performing work that is subject to the requirements of this section (“non-excepted group”) or vice versa (i.e., a non-excepted group is authorized or permitted to operate on the same occupied track and within the working limits of an excepted group), the groups must conduct an on-track safety job briefing to determine if adjacent-controlled-track on-track safety is necessary for the excepted group. Such determination shall be made by the RWIC of the working limits; however, if the groups are in such proximity where the ability of the roadway workers in the excepted group to hear or see approaching trains and other on-track equipment is impaired by background noise, lights, sight obstructions or any other physical conditions caused by the equipment, then this exception does not apply, and adjacent-controlled-track on-track safety must be provided to both groups. This exception otherwise applies to work activities involving one or more of the following types of equipment:

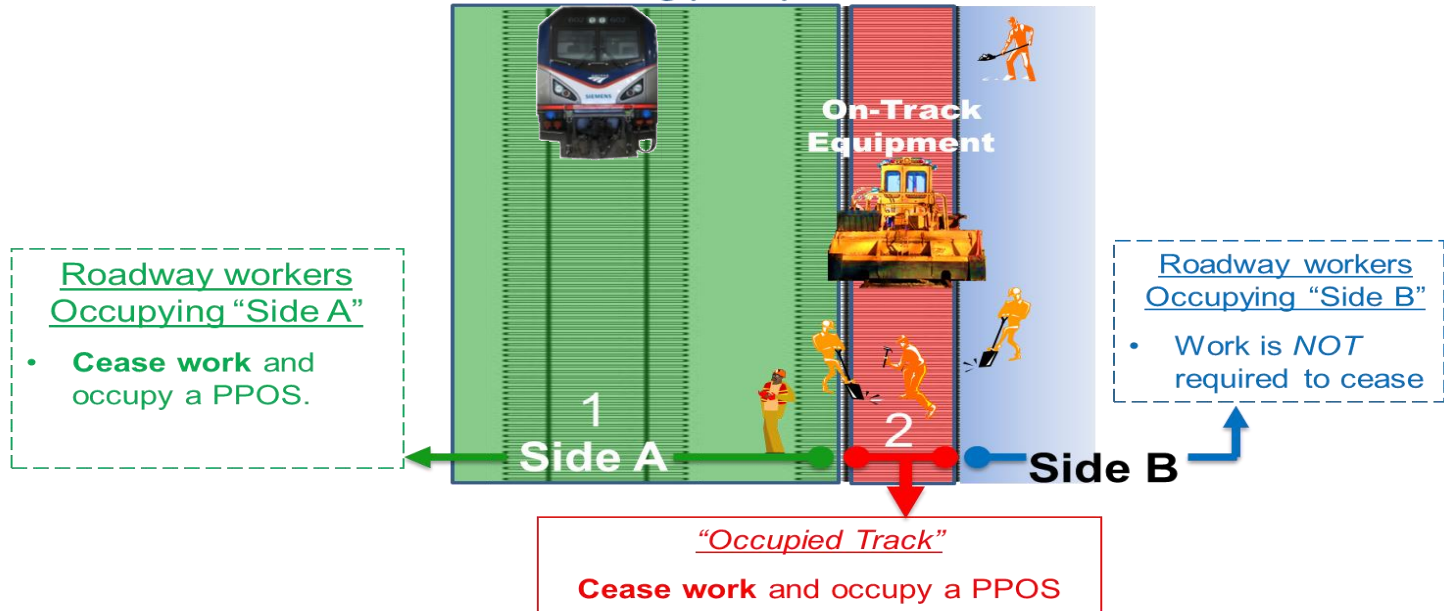
- (i) A hi-rail vehicle or other rail-bound vehicle (other than a catenary maintenance tower vehicle) being used for inspection or minor correction purposes, provided that such vehicle is not coupled to one or more railroad cars. In accordance with § 214.315(a), where multiple hi-rail or rail-bound vehicles being used for inspection or minor correction are engaged in a common task, the on-track safety job briefing shall include discussion of the nature of the work to be performed to determine if adjacent-controlled-track on-track safety is necessary.
- (ii) An automated inspection car being used for inspection or minor correction purposes.
- (iii) A catenary maintenance tower car or vehicle, provided that all of the on-ground workers engaged in the common task (other than those performing work in accordance with another exception in paragraph (e) of this section) are positioned within the gage of the occupied track for the sole purpose of applying or removing grounds

- (f) Procedures for components of roadway maintenance machines fouling an adjacent controlled track. Except as provided for in 341(c), a component of a roadway maintenance machine shall not foul an adjacent controlled track unless working limits have been established on the adjacent-controlled-track and there are no movements permitted within the working limits by the RWIC that would affect any of the roadway workers engaged in a common task with such machine.



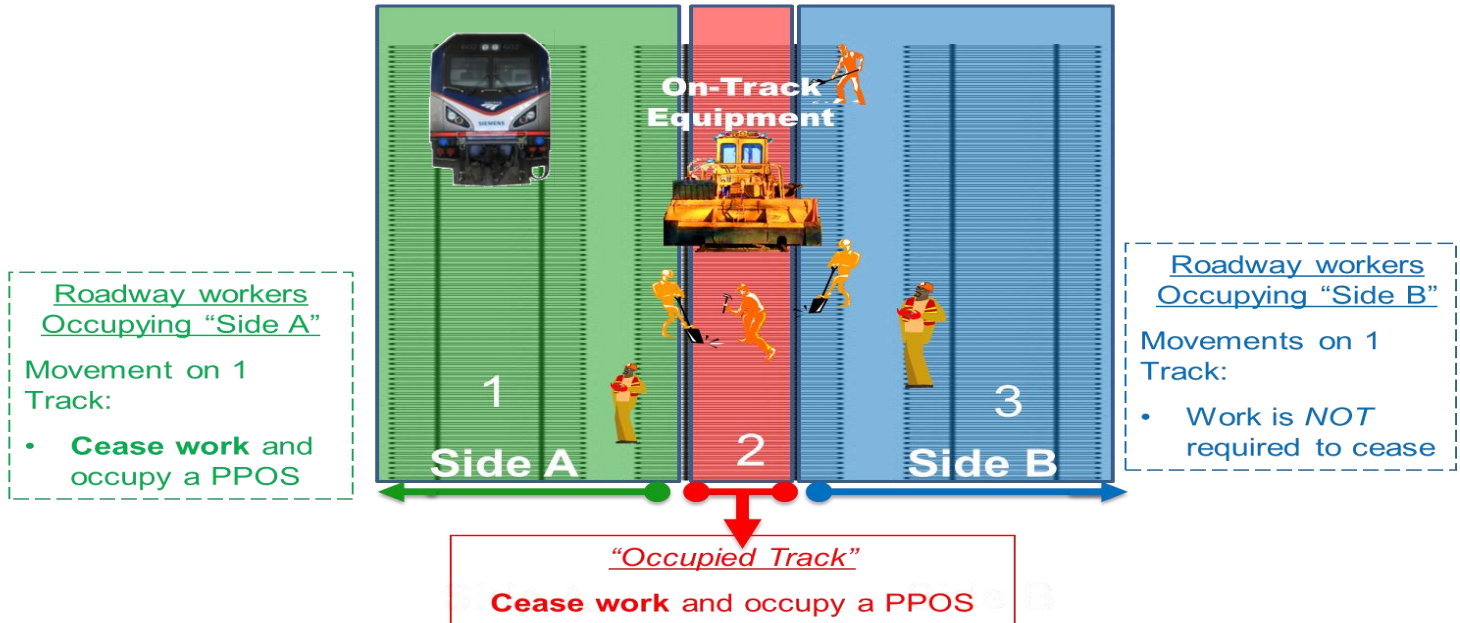
Ex. 1

***“Occupied Track”*** on #2 Track and Working Limits or Train Approach  
Warning (TAW) on #1 Track:



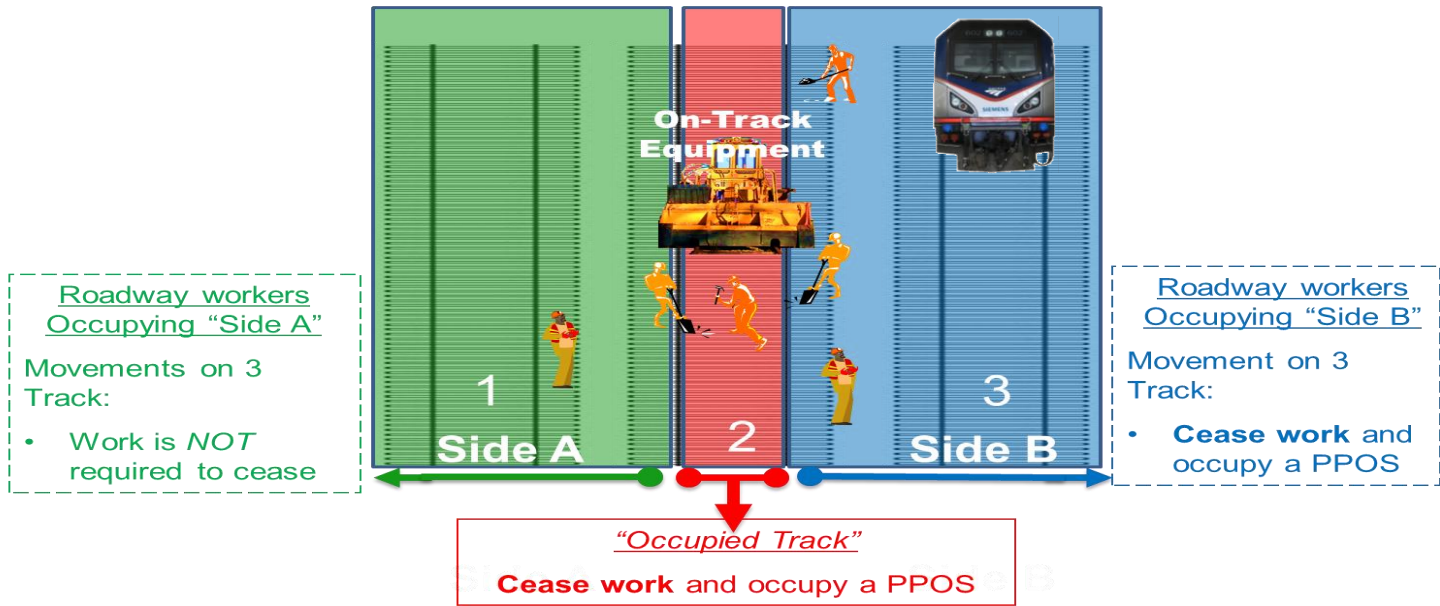
Ex. 2-A

***“Occupied Track”*** on #2 Track and Working Limits on 1 and 3 Track:

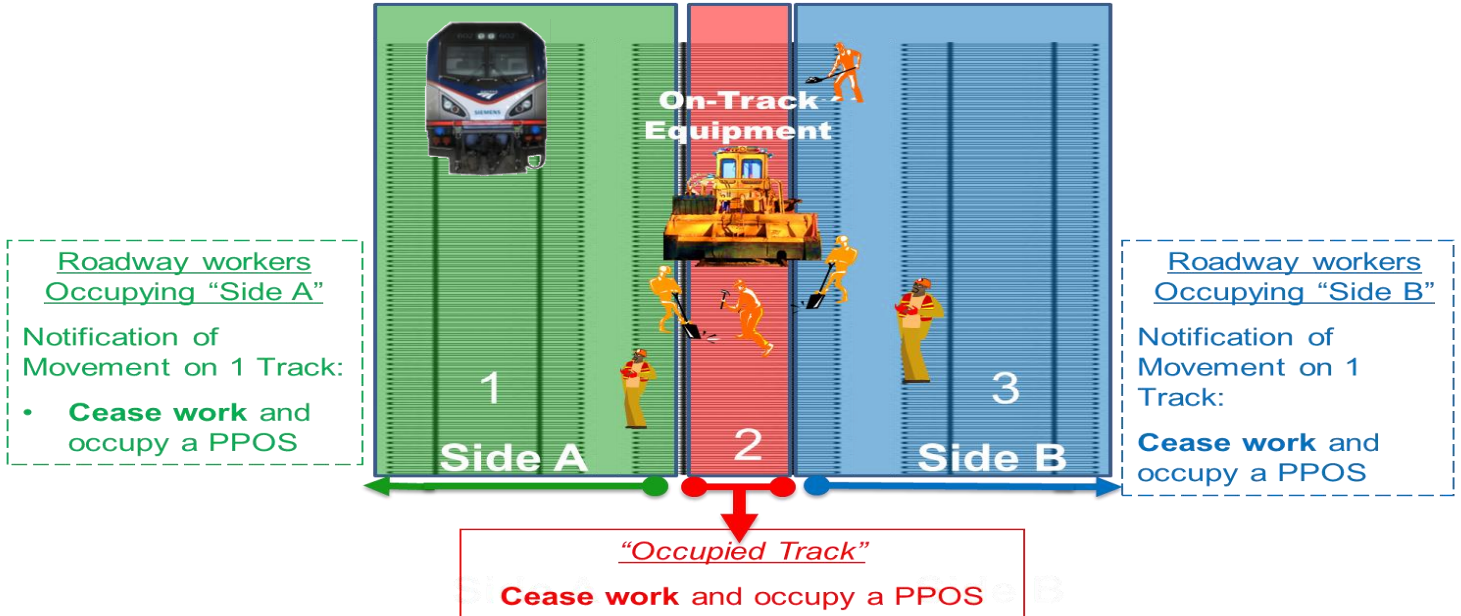


Ex. 2-B

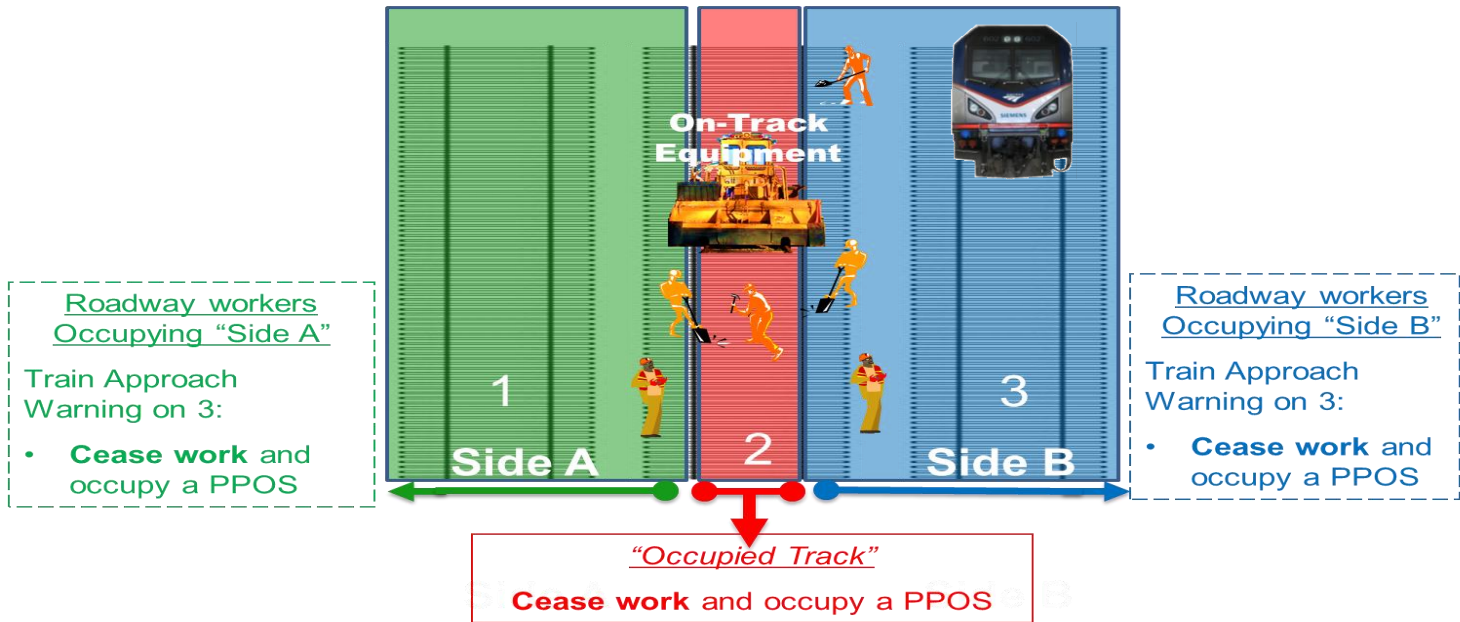
***“Occupied Track”*** on #2 Track and Working Limits on 1 and 3 Track:



Ex. 3-A ***“Occupied Track”*** on #2 Track, Working Limits on 1 Track and TAW on 3 Track:

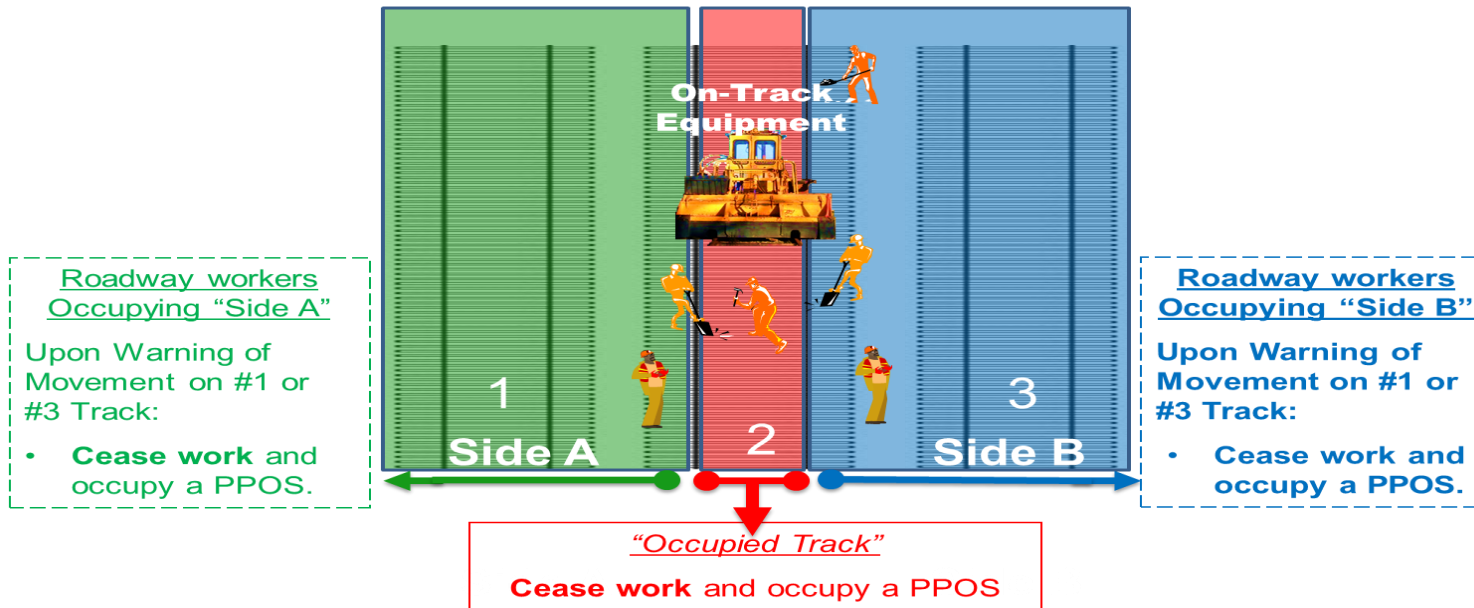


Ex. 3-B ***“Occupied Track”*** on #2 Track, Working Limits on 1 Track and TAW on 3 Track:

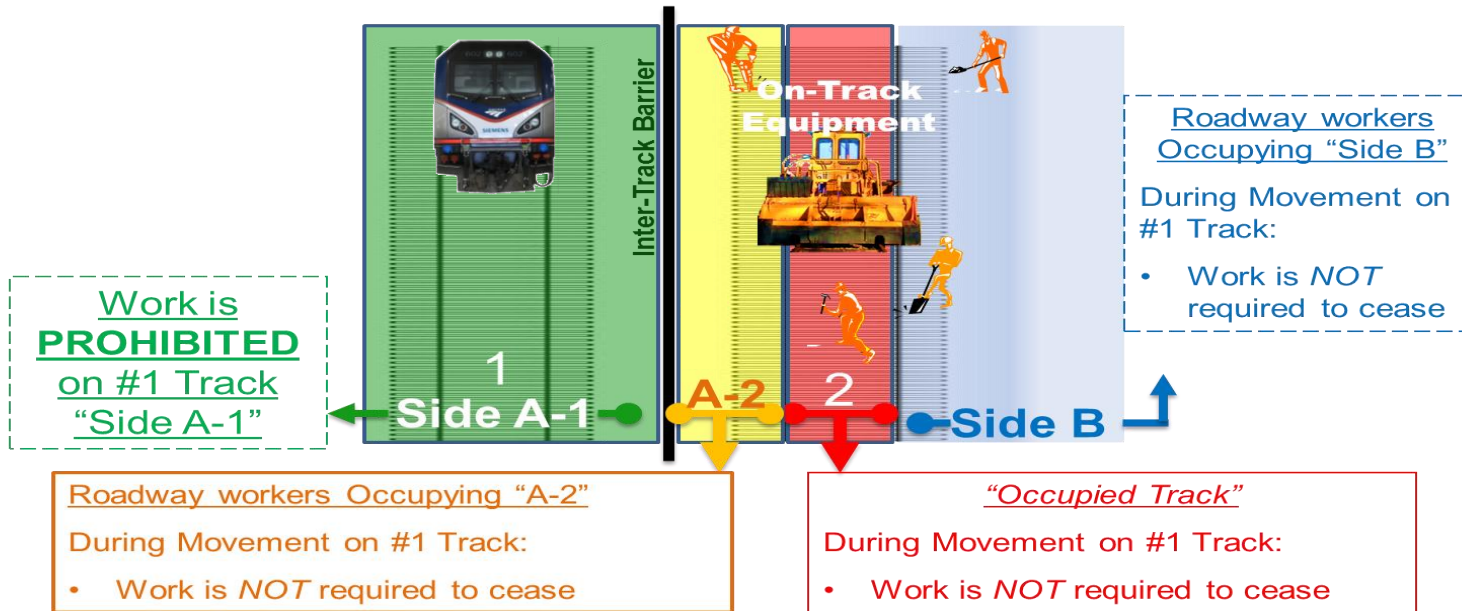


Ex. 4

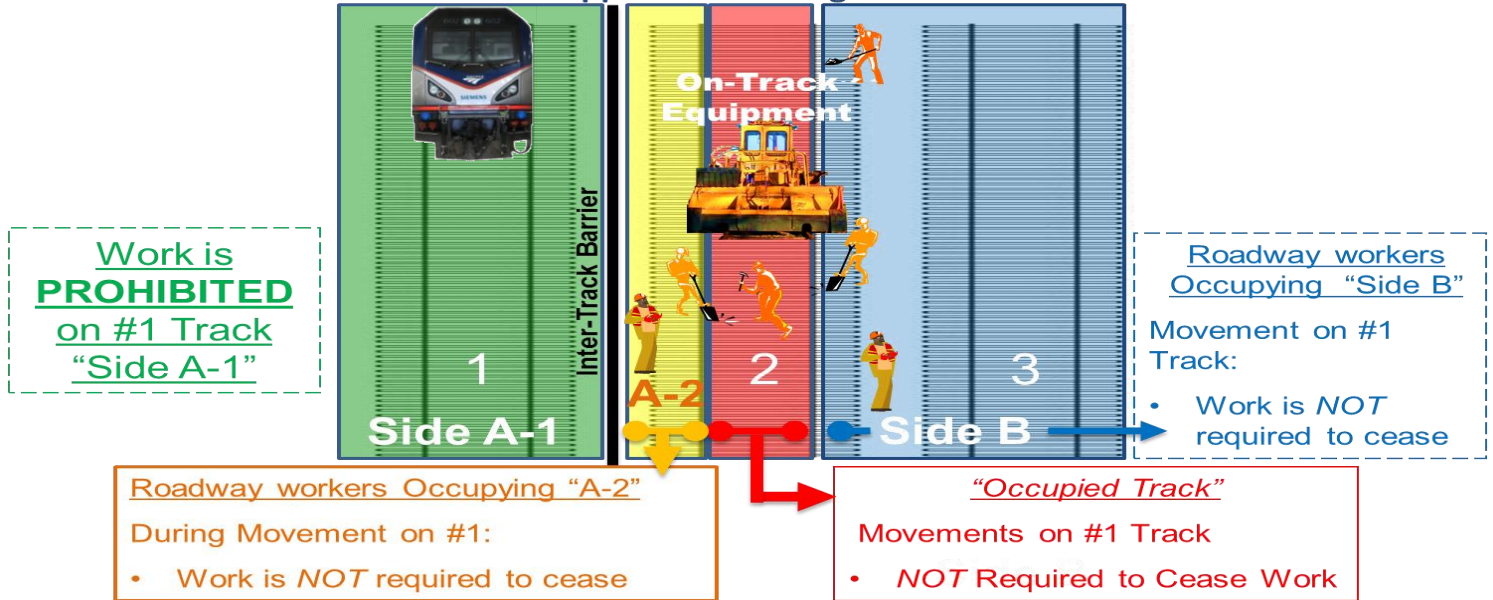
***“Occupied Track”*** on #2 Track, TAW on #1 and #3 Track:



**“Occupied Track” on #2 Track,  
“Inter-Track Barrier” Between #1 and #2 Track**

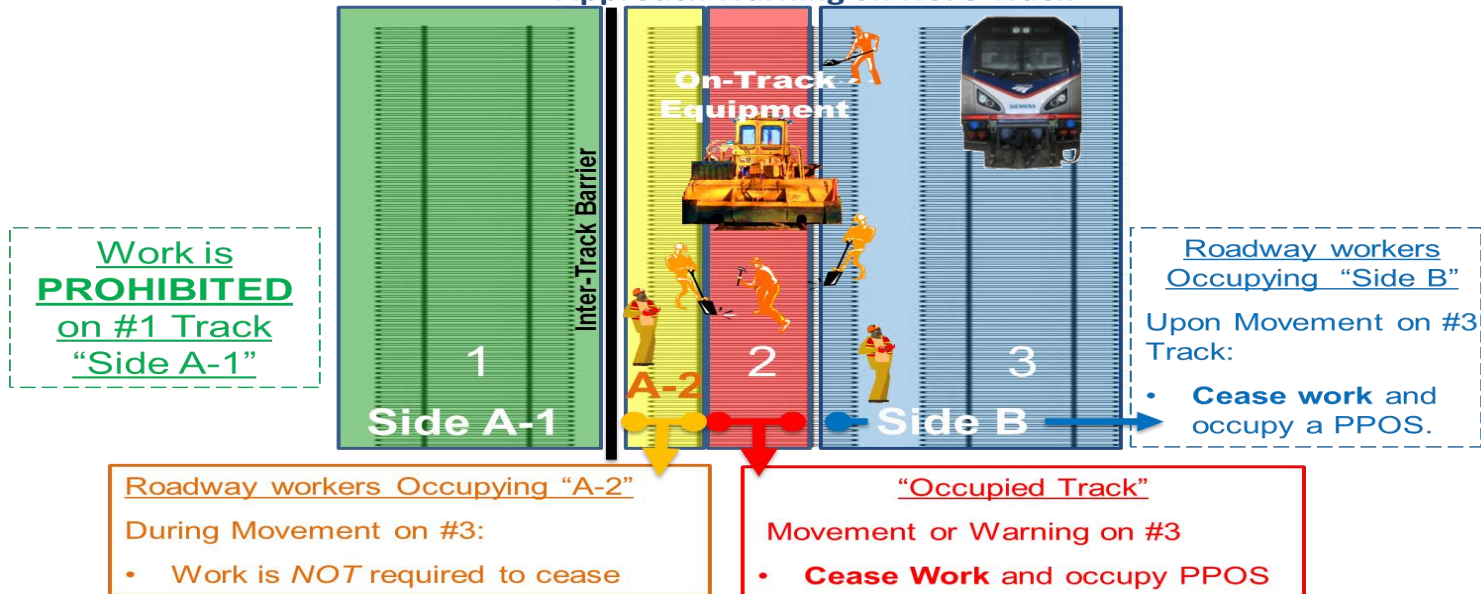


Ex. 6-A ***“Inter-Track Barrier”*** Between No. 1 and No. 2 Track – Working Limits or Train Approach Warning on No. 3 Track





Ex. 6-B ***“Inter-Track Barrier”*** Between No. 1 and No. 2 Track – Working Limits or Train Approach Warning on No. 3 Track



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**ON-TRACK SAFETY PROCEDURES FOR LONE WORKERS**

- (a) A lone worker who fouls a track while performing routine inspection or minor correction may use individual train detection to establish on-track safety only where permitted by this section and the on-track safety program of the railroad.
- (b) A lone worker retains an absolute right to use on-track safety procedures other than individual train detection if he or she deems it necessary, and to occupy a place of safety until such other form of on-track safety can be established.
- (c) Individual train detection may be used to establish on-track safety only:
  - (1) By a lone worker who has been trained, qualified, and designated to do so by Amtrak in accordance with Sec. 214.347 of this subpart;
  - (2) While performing **routine inspection and minor correction work**;
  - (3) On track outside the limits of an interlocking, or a controlled point (*except those consisting of signals only*);
  - (4) Where the lone worker is able to visually detect the approach of a train moving at the maximum speed authorized on that track, and move to a Predetermined Place of Safety (PPOS), not less than 15 seconds before the train would arrive at the location of the lone worker;
  - (5) Where no power-operated tools or roadway maintenance machines are in use within the hearing of the lone worker; and
  - (6) Where the ability of the lone worker to hear and see approaching trains and other on-track equipment is not impaired by background noise, lights, precipitation, fog, passing trains, or any other physical conditions.
- (d) The Predetermined Place of Safety (PPOS) to be occupied by a lone worker upon the approach of a train may not be on a track, unless working limits are established on that track.
- (e) A lone worker using individual train detection for on-track safety while fouling a track may not occupy a position or engage in any activity that would interfere with that worker's ability to maintain a vigilant lookout for, and detect the approach of, a train moving in either direction as prescribed in this section.
- (f) A lone worker who uses individual train detection to establish on-track safety shall first complete a written Statement of On-track Safety *and an On Track Safety*

*Briefing Form (NRPC 3044)*. The Statement shall designate the limits of the track for which it is prepared and the date and time for which it is valid. The statement shall show the *permanent* maximum authorized speed of trains within the limits for which it is prepared, and the sight distance that provides the required warning of approaching trains. The lone worker using individual train detection to establish on-track safety shall produce the Statement of On-track Safety when requested by a representative of the Federal Railroad Administrator. This statement must be retained for seven days.

- (g) *Individual train detection shall not be used to provide on-track safety for a lone worker using a roadway maintenance machine, equipment, or material that cannot be readily removed by hand.*

**338 AMTRAK INDIVIDUAL TRAIN DETECTION STATEMENT**

**Individual Train Detection Statement  
Illustration (side 1)**

Individual Train Detection Statement		
Date	Time	
Subdivision		
Supervisor		
Territory		
Track	From	To
Speed	Distance*	
Track	From	To
Speed	Distance*	
Track	From	To
Speed	Distance*	
Track	From	To
Speed	Distance*	
Territory		
Speed	Distance*	
<b>Checklist</b>  <input type="checkbox"/> Conducted On Track Safety Briefing  <input type="checkbox"/> List All Work Locations  <input type="checkbox"/> Discussed Protection Use  <input type="checkbox"/> I will comply with Roadway Worker Regulations		
Signature		

In order to use Individual Train Detection, Amtrak requires this statement to be completed, discussed with a designated employee and carried on your person. (A lone worker retains an absolute right to use on-track safety procedures other than individual train detection if he or she deems it necessary, and to occupy a place of safety until another form of on-track safety can be established).

NRPC 2999 (04/09)

## Individual Train Detection Statement Illustration (side 2)

214.337 On-Track Safety Procedure for Lone Workers

- (a) Only routine inspection or minor correction
- (b) Right to use other on-track safety procedures
- (c) Requirements for Individual Train Detection
  - (1) Trained, qualified, and designated
  - (2) Same as (a) above
  - (3) Only outside interlocking or controlled point
  - (4) Able to visually detect train 15 seconds before train arrives
  - (5) Not permitted where power tools or on-track machines are in use
  - (6) Not permitted where hearing or vision is impaired
- (d) Must clear entirely or into protected area
- (e) Cannot engage in any activity that interferes with ITD
- (f) Complete statement and discuss with designated employee

**\*15 Second Distance**

<b>* 160 mph – 3520 ft</b>	<b>150 mph – 3300 ft</b>
<b>140 mph – 3075 ft</b>	<b>135 mph – 2970 ft</b>
<b>125 mph – 2750 ft</b>	<b>110 mph – 2420 ft</b>
<b>90 mph – 1980 ft</b>	<b>80 mph – 1760 ft</b>
<b>60 mph – 1320 ft</b>	<b>50 mph – 1100 ft</b>
<b>30 mph - 660 ft</b>	<b>15 mph - 330 ft</b>

**Comments**


**Must be retained for 7 days**

## SPEED DISTANCE CHART

Miles Per Hour	Feet Per Second	Feet in 15 Seconds	Miles Per Hour	Feet Per Second	Feet in 15 Seconds	Miles Per Hour	Feet Per Second	Feet in 15 Second	Miles Per Hour	Feet Per Second	Feet in 15 Seconds
10	14.7	220	50	73.3	1100	90	132.0	1980	130	191	2860
15	22.0	330	55	80.7	1210	95	139.3	2090	135	198	2970
20	29.3	440	60	88.0	1320	100	146.7	2200	140	205	3080
25	36.7	550	65	95.3	1430	105	154.0	2310	145	213	3190
30	44.0	660	70	102.7	1540	110	161.3	2420	150	220	3300
35	51.3	770	75	110.0	1650	115	169.6	2530	155	227	3410
40	58.7	880	80	117.3	1760	120	176.0	2640	160	235	3520
45	66.0	990	85	124.7	1870	125	183.3	2750	170	250	3740

Amtrak operating rules require that the locomotive whistle be sounded, and the locomotive bell be rung, by trains approaching roadway workers on or about the track. Such audible warning shall not substitute for on-track safety procedures prescribed in this part.

(a) **Portable Whistle Board Use**

- (1) Signs are to be used by roadway work groups of five (5) persons or more when the duration of work exceeds (1) hour. With groups of less than five (5) people, the signs are optional. **SIGNS ARE NOT TO BE USED TO REDUCE OR REPLACE WATCHMEN.**
- (2) Signs are optional for High Speed surfacing equipment such as MDZ or other surfacing equipment that are continuously moving across the railway performing their work. **However, while working in an interlocking or at a specific work location (such as a bridge job), the use of these signs for this type of work group is mandatory.**
- (3) Signs will be used for TLS components that are directly involved with tie installation and removal. Material distribution and pick up sections of this crew may or may not elect to use the signs. The RWIC, along with the people he or she is providing protection for, decides.
- (4) Signs are required for tie and rail gangs. If a tie gang is moving rapidly across the railway due to light tie installation, it may be required to move the boards one or more times during the day to ensure advanced train warning system is working effectively.
- (5) When signs are in use, watchmen must always have the proper sight distance as prescribed in the RWP manual to warn the work group or next watchman of approaching trains. **DO NOT DEPEND UPON THE LOCOMOTIVE ENGINEER TO SOUND THE HORN, AS THE SIGN MAY BE MISSED!** Watchmen are responsible for staying vigilant to detect approaching trains visibly and warn their work group.



(b) **Placement**

(1) Signs are to be placed before the work location as designated by the RWIC. Consideration of the following factors will determine appropriate advanced location placement:

- (i) Weather
- (ii) Visibility
- (iii) Secondary noise
- (iv) Track speeds
- (v) Track geometry characteristics (curves or tangents)
- (vi) Right of way access

(2) Signs will be posted to provide advanced warning on the track the work group is working on and on any immediately adjacent tracks in both directions from the work site. In two track territory you will require four (4) signs. In more than two track territory, you will require up to a maximum of six (6) signs if you are performing work on an interior track (2 signs for the track you are working on and 2 signs on each of the adjacent tracks as per the guidelines for use). Should the person providing ON-TRACK PROTECTION determine that protection of more than adjacent tracks is necessary to ensure a clearing path, they may require additional signs. If the track you are working on is out of service and it is determined that you will clear within the gage of this track, four (4) advance whistle board signs would be required in multiple track territory.

Whistle boards are optional in Terminals.

- (i) Signs will be placed to the right of and adjacent to the track it refers. This is the same standard as temporary speed signs.
- (ii) Signs will be bolted to standard temporary speed post signs and driven into the ground to ensure stability in accordance with temporary speed board placement instructions or utilizing the approved bracket.
- (iii) The RWIC will determine the specific/best location and distances based on the condition factors listed above. The location of watchmen/flagmen and their responsibilities have not changed with the addition of whistle boards.
- (iv) For this process to have integrity the whistle boards must be removed or covered at the end of the work day.

***Applicable Operating Rules/SI for this section:***

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R A C</b>	19	Engine Whistle or Horn Signals	A-5
	19-S2.	Portable Whistle Signs	A-6
	20	Engine Bell	A-7

**340 MISCELLANEOUS SIGNALS**

***Applicable Operating Rules/SI for this section:***

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R A C</b>	10	Proper Equipment for Signaling	A-2
	12	Day and Night Signals	A-2
	13	Hand Signals	A-2
	297-297d	Aspects	A-26

- (a) Amtrak has included in its on-track safety program specific provisions for the safety of roadway workers who operate or work near roadway maintenance machines. These provisions address:
- (1) Operators' training and qualification.
  - (2) General and specific safety procedures for each piece of equipment.
  - (3) Job briefing between machine operators and roadway workers assigned to work near or on roadway maintenance machines.
  - (4) When two or more pieces of equipment are working together, they must maintain a ten (10) foot clearance between each other unless otherwise instructed by the Employee In Charge.
  - (5) While equipment is in working mode, roadway workers must stay ten (10) feet from its working area unless otherwise specified by the operator.
  - (6) Operate equipment, machinery, or vehicle on track not exceeding the speed indicated in the governing Operating Rules. If the track on which the equipment is being operated is restricted by Timetable Bulletin or Train Order, such equipment must not be operated in excess of the speed so specified.
  - (7) A roadway worker, other than the machine operator, is prohibited from riding on any on-track roadway maintenance machine unless a safe and secure position for each roadway worker on the machine is clearly identified by stenciling, marking, or other written notice. (§214.518 Safe and secure positions for riders)
- (b) Instructions for the safe operation of each roadway machine shall be provided and maintained with each machine large enough to carry the instruction document.
- (1) No roadway worker shall operate a roadway maintenance machine without having been trained and qualified or under the direct supervision of a qualified employee.
  - (2) No roadway worker shall operate a roadway maintenance machine without having knowledge of the safety instructions applicable to that machine. For purposes of this paragraph, the safety instructions applicable to that machine means:
    - (i) *The manufacturer's instruction manual for that machine; or*

- (ii) *The safety instructions developed to replace the manufacturer's safety instructions when the machine has been adapted for a specific railroad use. Such instructions shall address all aspects of the safe operation of the crane and shall be as comprehensive as the manufacturer's safety instructions they replace.*
- (3) Supervision shall not assign roadway workers to work near roadway machines unless the roadway worker has been informed of the safety procedures applicable to persons working near the roadway machines and has acknowledged full understanding.
- (c) Roadway maintenance machines shall be kept clear of trains and equipment passing on adjacent tracks. Where operating conditions require roadway maintenance machines to foul an adjacent track, the RWIC must establish working limits on the track to be fouled.

Approach all highway grade crossings prepared to stop, sound warnings and proceed through the crossing when safe to do so.

***Applicable Operating Rules/SI for this section:***

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R A C</b>	800	Foremen and Track Car Drivers: Responsibilities, Governing Rules, Qualifications	A-38
	801	Inspection of Track Cars	A-38
	802	Rules and Signals	A-38
	803	Placing or Operating Track Cars on Tracks	A-38
	803-S1	Operation of Specialized MW Equipment	A-39
	803-S2	Track Car Authority to Pass Stop Signal	A-42
	804	Additions to Form D Line 2	A-42
	805	Track Car Following Other Movements	A-43
	811	Highway Crossings	A-44
	812	Operating Over Switches and Movable Point Frogs	A-44
	813	Movement of Multiple Track Cars	A-44
	813-S1	Movement of Multiple Track Cars	A-45
	814	Displaying Lights	A-45

<b>N O R A C</b>	814-S1	Displaying Lights	A-45
	815	Maximum Speeds	A-45
	815-S1	Rail Grinding Unit	A-46
	815-S2	Catenary Maintenance Car	A-46
	815-S3	Track Structure Assessment Vehicle, Automated Track Inspection Vehicle, NJT & CSXT Track Geometry Inspection Vehicle	A-47
	815-S4	Spring Frogs	A-47
	815-S5	Brandt Truck Track Cars: Maximum Speed	A-49

**342. ROADWAY WORKER PROCEDURES FOR UNATTENDED TRACK CARS AND OTHER M/W ON-TRACK EQUIPMENT**

(a) **Controlled Track**

- (1) Obtain permission to leave the equipment unattended from the train dispatcher or control operator in charge of the track.
- (2) Chain and lock wheels of first and last piece of equipment to rail.
- (3) Apply a shunting barricade at one or both ends of the stored equipment, depending on access to the track. This applies to all equipment except the TLM.
- (4) Interlocking Exception—use a non-shunting barricade when equipment will be stored within interlocking limits.

(b) **Non-Controlled Track**

- (1) Obtain permission from Yardmaster, Back Shop Foreman or RWIC of track to leave the equipment unattended and secured properly.
- (2) Make the track inaccessible by physically preventing the entry and movement of train and rolling stock at all entry switches with effective securing device.
- (3) Chain and lock wheels of first and last piece of equipment to rail.
- (4) Install and lock portable derails with RWP flag in the derailing position on the side away from controlled track.

- (5) Derail should not be less than 50' from end or ends of equipment.

***Applicable Operating Rules/SI for this section:***

	<b>Rule</b>	<b>Title</b>	<b>Page</b>
<b>N O R A C</b>	816	Unattended On-track Equipment	A-49

## **TRAINING AND QUALIFICATIONS**

### **343 TRAINING AND QUALIFICATIONS, GENERAL**

- (a) Amtrak supervision must not assign an employee to perform the duties of a roadway worker and no employee shall accept such assignment, unless that employee has received Roadway Worker Protection training associated with the assignment to be performed, and that employee has demonstrated the ability to fulfill the responsibilities for on-track safety that are required of an individual roadway worker performing that assignment.
- (b) Amtrak will provide Roadway Worker Protection training to all roadway workers once every calendar year.
- (c) *Except as provided for in 353*, Railroad employees other than roadway workers, who are associated with on-track safety procedures, and whose primary duties are concerned with the movement and protection of trains, shall be trained to perform their functions related to on-track safety through the training and qualification procedures prescribed by the operating railroad for the primary position of the employee, including maintenance of records and frequency of training.
- (d) Amtrak must maintain written or electronic records of each roadway worker qualification in effect. Each record must include the name of the employee, the type of qualification made, and the most recent date of qualification. These records shall be kept available for inspection and copying by the Federal Railroad Administration during regular business hours.

### **345 RWP TRAINING FOR ALL ROADWAY WORKERS**

*Consistent with 343*, The training of all roadway workers shall include, as a minimum, the following:

- (a) Recognition of railroad tracks and understanding of the space around them within which on-track safety is required.
- (b) The functions and responsibilities of various persons involved with on-track safety procedures.
- (c) Proper compliance with on-track safety instructions given by persons performing or responsible for on-track safety functions.

- (d) Signals given by watchmen/lookouts, and the proper procedures upon receiving a train approach warning from a lookout.
- (e) The hazards associated with working on or near railroad tracks, including review of on-track safety rules and procedures.
- (f) *Instruction on traversing across live track(s).* (See 317(a))

**347 RWP TRAINING AND QUALIFICATION FOR LONE WORKERS**

Each lone worker shall be trained, qualified, and authorized by Amtrak to establish on-track safety in accordance with the requirements of this section.

- (a) The training and qualification for lone workers shall include:
  - (1) Roadway Worker Protection (same training as all roadway workers)
  - (2) Operating Rules
  - (3) Physical Characteristics

**NOTE:** *when it is impracticable for the Roadway Worker Protection Manual to be readily available to the lone worker, the lone worker must be able to contact a supervisor for reference.*

- (b) Initial and periodic qualification of a lone worker shall be evidenced by demonstrated proficiency.

**349 RWP TRAINING AND QUALIFICATION FOR GANG WATCHMAN/ADVANCE WATCHMEN**

- (a) The training and qualification for roadway workers assigned the duties of Gang Watchman/ Advanced Watchmen shall include, as a minimum:
  - (1) Employee must be RWP qualified.
  - (2) Employee must have a minimum of 80 hours while being protected under Train Approach Warning.
  - (3) Employee must have successfully completed Amtrak's four hour watchmen training program. (This may be scheduled through Training and Development not less than 6 weeks after completion of new hire training)
  - (4) After successful completion of the watchmen training program employee will be assigned a watchmen mentor.



- (5) The Qualifying Employee will observe a Watchman for a minimum of 8 hours, over 2 calendar days, from a PPOS under the direction of the watchman mentor.
  - (6) The Qualifying Employee will post as a watchman for a minimum of 8 hours, over 2 calendar days, under the observation of the watchman mentor, working alongside a qualified watchman, whose purpose is to ensure Train Approach Warning is provided.
  - (7) Record of qualification shall be recorded on NRPC 3301 and will be maintained by Training and Development.
  - (8) Employee must have a minimum of 90 days of railroad service.
- (b) All Watchmen must be annually requalified to continue to perform the duties of a watchman.

**351 RWP TRAINING AND QUALIFICATION FOR FLAGMEN**

- (a) The training and qualification for roadway workers assigned the duties of flagmen shall include:
- (1) RWP
  - (2) Operating Rules
  - (3) Physical Characteristics
- (b) Initial and periodic qualification of a flagman shall be evidenced by demonstrated proficiency.

**353 RWP TRAINING AND QUALIFICATIONS FOR EACH ROADWAY WORKER IN CHARGE**

- (a) Roadway workers and/or Flagmen who provide for on-track safety through the establishment of working limits by exclusive track occupancy (part 321), must have, as a minimum, the following qualifications:
- (1) RWP
  - (2) Operating Rules
  - (3) Physical Characteristics
- (b) Roadway workers and/or Flagmen who provide for on-track safety through the establishment of working limits by the use of foul time (part 323) must have, as a minimum, the following qualifications.
- (1) RWP
  - (2) Operating Rules

- (3) Physical Characteristics
- (c) Roadway workers who provide for the on-track safety by the assignment, placement, and supervision of gang watchmen (part 329) must have, as a minimum, the following qualifications:
  - (1) RWP
  - (2) Operating Rules
  - (3) Relevant Characteristics (Example: Roadway workers must be familiar with the geographic layout of the territory in which they work.) Note: this is not a qualification
- (d) Demonstrated proficiency and annual recorded examinations shall evidence initial and periodic qualification of all roadway workers who provide on-track safety.
- (e) *The responsibilities of all Roadway Workers In Charge are defined throughout this manual.*

**355 RWP TRAINING AND QUALIFICATION FOR OPERATORS OF ROADWAY MAINTENANCE MACHINES**

- (a) The training and qualification of roadway workers who operate roadway maintenance machines shall include:
  - (1) RWP
  - (2) Operating Rules (where applicable)
  - (3) Physical characteristics (where applicable)
- (b) Procedures to prevent a person from being struck by the machine when the machine is in motion or operation.
- (c) Procedures to prevent any part of the machine from being struck by a train or other equipment on another track.
- (d) Procedures to provide for stopping the machine short of other machines or obstructions on the track.
- (e) Methods to determine safe operating procedures for each machine that the operator is expected to operate.
- (f) Initial and periodic qualification of a roadway worker to operate roadway maintenance machines shall be evidenced by demonstrated proficiency.

**RWP TRAINING FOR CUSTOMER  
SERVICE EMPLOYEES**

- (a) Railroad employees other than roadway workers, who are associated with on-track safety procedures, and whose primary duties are concerned with the movement and protection of trains, shall be trained to perform their functions related to on-track safety through the training and qualifications procedures prescribed by Amtrak for the primary positions of the employees, including maintenance of records and frequency of training.

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**Subpart D**  
**On-Track Roadway Maintenance Machines**  
**and Hi-Rail Vehicles**

**501            PURPOSE AND SCOPE**

- (a) The purpose of this subpart is to prevent accidents and casualties caused by the lawful operation of on-track roadway maintenance machines and hi-rail vehicles.
- (b) This subpart prescribes minimum safety standards for on-track roadway maintenance machines and hi-rail vehicles. An employer may prescribe additional or more stringent standards that are consistent with this subpart.
- (c) Any working condition that involves the protection of employees engaged in roadway maintenance duties covered by this subpart but is not within the subject matter addressed by this subpart, including employee exposure to noise, shall be governed by the regulations of the U.S. Department of Labor, Occupational Safety and Health Administration.

**503            GOOD-FAITH CHALLENGES;  
PROCEDURES FOR NOTIFICATION AND  
RESOLUTION**

- (a) An employee operating an on-track roadway maintenance machine or hi-rail vehicle shall inform the employer whenever the employee makes a good-faith determination that the machine or vehicle does not comply with FRA regulations or has a condition that inhibits its safe operation.
- (b) Any employee charged with operating an on-track roadway maintenance machine or hi-rail vehicle covered by this subpart may refuse to operate the machine or vehicle if the employee makes a good-faith determination that it does not comply with the requirements of this subpart or has a condition that inhibits its safe operation. The employer shall not require the employee to operate the machine or vehicle until the challenge resulting from the good-faith determination is resolved.
- (c) Each employer shall have in place and follow written procedures to assure prompt and equitable resolution of challenges resulting from good-faith determinations

made in accordance with this section. The procedures shall include specific steps to be taken by the employer to investigate each good-faith challenge, as well as procedures to follow once the employer finds a challenged machine or vehicle does not comply with this subpart or is otherwise unsafe to operate. The procedures shall also include the title and location of the employer's designated official.

**505           REQUIRED ENVIRONMENTAL CONTROL  
AND PROTECTION SYSTEMS FOR NEW  
ON-TRACK ROADWAY MAINTENANCE  
MACHINES WITH ENCLOSED CABS**

- (a) The following new on-track roadway maintenance machines shall be equipped with enclosed cabs with operative heating systems, operative air conditioning systems, and operative positive pressurized ventilation systems:
- (1) Ballast regulators;
  - (2) Tampers;
  - (3) Mechanical brooms;
  - (4) Rotary scarifiers;
  - (5) Undercutters; and
  - (6) Functional equivalents of any of the machines identified in paragraphs (a)(1) through (a)(5) of this section.
- (b) New on-track roadway maintenance machines, and existing on-track roadway maintenance machines specifically designated by the employer, of the types identified in paragraphs (a)(1) through (a)(5) of this section, or functionally equivalent thereto, shall be capable of protecting employees in the cabs of the machines from exposure to air contaminants, in accordance with 29 CFR 1910.1000.
- (c) An employer shall maintain a list of new and designated existing on-track roadway maintenance machines of the types identified in paragraphs (a)(1) through (a)(5) of this section, or functionally equivalent thereto. The list shall be kept current and made available to the Federal Railroad Administration and other Federal and State agencies upon request.
- (d) An existing roadway maintenance machine of the type identified in paragraphs (a)(1) through (a)(5) of this section, or functionally equivalent thereto, becomes "designated" when the employer adds the machine to the list required in paragraph (c) of this section. The designation is irrevocable, and the designated existing

roadway maintenance machine remains subject to paragraph (b) of this section until it is retired or sold.

- (e) If the ventilation system on a new on-track roadway maintenance machine or a designated existing on-track roadway maintenance machine of the type identified in paragraphs (a)(1) through (a)(5) of this section, or functionally equivalent thereto, becomes incapable of protecting an employee in the cab of the machine from exposure to air contaminants in accordance with 29 CFR 1910.1000, personal respiratory protective equipment shall be provided for each such employee until the machine is repaired in accordance with §214.531.
- (f) Personal respiratory protective equipment provided under paragraph (e) of this section shall comply with 29 CFR 1910.134.
- (g) New on-track roadway maintenance machines with enclosed cabs, other than the types identified in paragraphs (a)(1) through (a)(5) of this section or functionally equivalent thereto, shall be equipped with operative heating and ventilation systems.
- (h) When new on-track roadway maintenance machines require operation from non-enclosed stations outside of the main cab, the non-enclosed stations shall be equipped, where feasible from an engineering standpoint, with a permanent or temporary roof, canopy, or umbrella designed to provide cover from normal rainfall and midday sun.

**507                    REQUIRED SAFETY EQUIPMENT FOR  
NEW ON-TRACK ROADWAY  
MAINTENANCE MACHINES**

- (a) Each new on-track roadway maintenance machine shall be equipped with:
  - (1) A seat for each operator, except as provided in paragraph (b) of this section;
  - (2) A safe and secure position with handholds, handrails, or a secure seat for each roadway worker transported on the machine. Each position shall be protected from moving parts of the machine;
  - (3) A positive method of securement for turntables, on machines equipped with a turntable, through engagement of pins and hooks that block the descent of turntable devices below the rail head when not in use;
  - (4) A windshield with safety glass, or other material with similar properties, if the machine is designed

- with a windshield. Each new on-track roadway maintenance machine designed with a windshield shall also have power windshield wipers or suitable alternatives that provide the machine operator an equivalent level of vision if windshield wipers are incompatible with the windshield material;
- (5) A machine braking system capable of effectively controlling the movement of the machine under normal operating conditions;
  - (6) A first-aid kit that is readily accessible and complies with 29 CFR 1926.50(d)(2); and
  - (7) An operative and properly charged fire extinguisher of 5 BC rating or higher which is securely mounted and readily accessible to the operator from the operator's work station.
- (b) Each new on-track roadway maintenance machine designed to be operated and transported by the operator in a standing position shall be equipped with handholds and handrails to provide the operator with a safe and secure position.
  - (c) Each new on-track roadway maintenance machine that weighs more than 32,500 pounds light weight and is operated in excess of 20 mph shall be equipped with a speed indicator that is accurate within  $\pm 5$  mph of the actual speed at speeds of 10 mph and above.
  - (d) Each new on-track roadway maintenance machine shall have its as-built light weight displayed in a conspicuous location on the machine.

**509            REQUIRED VISUAL ILLUMINATION AND REFLECTIVE DEVICES FOR NEW ON-TRACK ROADWAY MAINTENANCE MACHINES**

Each new on-track roadway maintenance machine shall be equipped with the following visual illumination and reflective devices:

- (a) An illumination device, such as a headlight, capable of illuminating obstructions on the track ahead in the direction of travel for a distance of 300 feet under normal weather and atmospheric conditions;
- (b) Work lights, if the machine is operated during the period between one-half hour after sunset and one-half hour before sunrise or in dark areas such as tunnels, unless equivalent lighting is otherwise provided;
- (c) An operative 360-degree intermittent warning light or beacon mounted on the roof of the machine. New



roadway maintenance machines that are not equipped with fixed roofs and have a light weight less than 17,500 pounds are exempt from this requirement;

- (d) A brake light activated by the application of the machine braking system, and designed to be visible for a distance of 300 feet under normal weather and atmospheric conditions; and
- (e) Rearward viewing devices, such as rearview mirrors.

**511                    REQUIRED AUDIBLE WARNING DEVICES  
FOR NEW ON-TRACK ROADWAY  
MAINTENANCE MACHINES**

Each new on-track roadway maintenance machine shall be equipped with:

- (a) A horn or other audible warning device that produces a sound loud enough to be heard by roadway workers and other machine operators within the immediate work area. The triggering mechanism for the device shall be clearly identifiable and within easy reach of the machine operator; and
- (b) An automatic change-of-direction alarm which provides an audible signal that is at least three seconds long and is distinguishable from the surrounding noise. Change of direction alarms may be interrupted by the machine operator when operating the machine in the work mode if the function of the machine would result in a constant, or almost constant, sounding of the device. In any action brought by FRA to enforce the change-of-direction alarm requirement, the employer shall have the burden of proving that use of the change-of-direction alarm in a particular work function would cause a constant, or almost constant, sounding of the device.

**513                    RETROFITTING OF EXISTING ON-TRACK  
ROADWAY MAINTENANCE MACHINES;  
GENERAL**

- (a) Each existing on-track roadway maintenance machine shall have a safe and secure position with handholds, handrails, or a secure seat or bench position for each roadway worker transported on the machine. Each position shall be protected from moving parts of the machine.
- (b) By March 28, 2005, each existing on-track roadway maintenance machine shall be equipped with a

permanent or portable horn or other audible warning device that produces a sound loud enough to be heard by roadway workers and other machine operators within the immediate work area. The triggering mechanism for the device shall be clearly identifiable and within easy reach of the machine operator.

- (c) By March 28, 2005, each existing on-track roadway maintenance machine shall be equipped with a permanent illumination device or a portable light that is securely placed and not hand-held. The illumination device or portable light shall be capable of illuminating obstructions on the track ahead for a distance of 300 feet under normal weather and atmospheric conditions when the machine is operated during the period between one-half hour after sunset and one-half hour before sunrise or in dark areas such as tunnels.

**515                    OVERHEAD COVERS FOR EXISTING ON-  
TRACK ROADWAY MAINTENANCE  
MACHINES**

- (a) For those existing on-track roadway maintenance machines either currently or previously equipped with overhead covers for the operator's position, defective covers shall be repaired, and missing covers shall be reinstalled, by March 28, 2005 and thereafter maintained in accordance with the provisions of §214.531.
- (b) For those existing on-track roadway maintenance machines that are not already equipped with overhead covers for the operator's position, the employer shall evaluate the feasibility of providing an overhead cover on such a machine if requested in writing by the operator assigned to operate the machine or by the operator's designated representative. The employer shall provide the operator a written response to each request within 60 days. When the employer finds the addition of an overhead cover is not feasible, the response shall include an explanation of the reasoning used by the employer to reach that conclusion.
- (c) For purposes of this section, overhead covers shall provide the operator's position with cover from normal rainfall and midday sun.

**517                    RETROFITTING OF EXISTING ON-TRACK  
ROADWAY MAINTENANCE MACHINES  
MANUFACTURED ON OR AFTER  
JANUARY 1, 1991**

In addition to meeting the requirements of §214.513, after March 28, 2005 each existing on-track roadway maintenance machine manufactured on or after January 1, 1991, shall have the following:

- (a) A change-of-direction alarm or rearview mirror or other rearward viewing device, if either device is feasible, given the machine's design, and if either device adds operational safety value, given the machine's function. In any action brought by FRA to enforce this requirement, the employer shall have the burden of proving that neither device is feasible or adds operational safety value, or both, given the machine's design or work function.
- (b) An operative heater, when the machine is operated at an ambient temperature less than 50 degrees Fahrenheit and is equipped with, or has been equipped with, a heater installed by the manufacturer or the railroad.
- (c) The light weight of the machine stenciled or otherwise clearly displayed on the machine, if the light weight is known.
- (d) Reflective material, or a reflective device, or operable brake lights.
- (e) Safety glass when its glass is normally replaced, except that replacement glass that is specifically intended for on-track roadway maintenance machines and is in the employer's inventory as of September 26, 2003 may be utilized until exhausted.
- (f) A turntable restraint device, on machines equipped with a turntable, to prevent undesired lowering, or a warning light indicating that the turntable is not in the normal travel position.

**518                    SAFE AND SECURE POSITIONS FOR  
RIDERS**

On or after March 1, 2004, a roadway worker, other than the machine operator, is prohibited from riding on any on-track roadway maintenance machine unless a safe and secure position for each roadway worker on the machine is clearly identified by stenciling, marking, or other written notice.

**519 FLOORS, DECKS, STAIRS, AND LADDERS OF ON-TRACK ROADWAY MAINTENANCE MACHINES**

Floors, decks, stairs, and ladders of on-track roadway maintenance machines shall be of appropriate design and maintained to provide secure access and footing, and shall be free of oil, grease, or any obstruction which creates a slipping, falling, or fire hazard.

**521 FLAGGING EQUIPMENT FOR ON-TRACK ROADWAY MAINTENANCE MACHINES AND HI-RAIL VEHICLES**

Each on-track roadway maintenance machine and hi-rail vehicle shall have on board a flagging kit that complies with the operating rules of the railroad if:

- (a) The equipment is operated over trackage subject to a railroad operating rule requiring flagging; and
- (b)(1) The equipment is not part of a roadway work group; or
- (b)(2) The equipment is the lead or trailing piece of equipment in a roadway work group operating under the same occupancy authority.

**523 HI-RAIL VEHICLES**

- (a) The hi-rail gear of all hi-rail vehicles shall be inspected for safety at least annually and with no more than 14 months between inspections. Tram, wheel wear, and gage shall be measured and, if necessary, adjusted to allow the vehicle to be safely operated.
- (b) Each employer shall keep records pertaining to compliance with paragraph (a) of this section. Records may be kept on forms provided by the employer or by electronic means. The employer shall retain the record of each inspection until the next required inspection is performed. The records shall be made available for inspection and copying during normal business hours by representatives of FRA and States participating under part 212 of this chapter. The records may be kept on the hi-rail vehicle or at a location designated by the employer.
- (c) A new hi-rail vehicle shall be equipped with:
  - (1) An automatic change-of-direction alarm or backup alarm that provides an audible signal at least three

seconds long and distinguishable from the surrounding noise; and

- (2) An operable 360-degree intermittent warning light or beacon mounted on the outside of the vehicle.
- (d)(1) The operator of a hi-rail vehicle shall check the vehicle for compliance with this subpart, prior to using the vehicle at the start of the operator's work shift.
  - (2) A non-complying condition that cannot be repaired immediately shall be tagged and dated in a manner prescribed by the employer and reported to the designated official.
  - (3) Non-complying automatic change-of-direction alarms, backup alarms, and 360-degree intermittent warning lights or beacons shall be repaired or replaced as soon as practicable within seven calendar days.

**525 TOWING WITH ON-TRACK ROADWAY  
MAINTENANCE MACHINES OR HI-RAIL  
VEHICLES**

- (a) When used to tow pushcars or other maintenance-of-way equipment, each on-track roadway maintenance machine or hi-rail vehicle shall be equipped with a towing bar or other coupling device that provides a safe and secure attachment.
- (b) An on-track roadway maintenance machine or hi-rail vehicle shall not be used to tow pushcars or other maintenance-of-way equipment if the towing would cause the machine or hi-rail vehicle to exceed the capabilities of its braking system. In determining the limit of the braking system, the employer must consider the track grade (slope), as well as the number and weight of pushcars or other equipment to be towed.

**527 ON-TRACK ROADWAY MAINTENANCE  
MACHINES; INSPECTION FOR  
COMPLIANCE AND SCHEDULE FOR  
REPAIRS**

- (a) The operator of an on-track roadway maintenance machine shall check the machine components for compliance with this subpart, prior to using the machine at the start of the operator's work shift.
- (b) Any non-complying condition that cannot be repaired immediately shall be tagged and dated in a manner

prescribed by the employer and reported to the designated official.

- (c) The operation of an on-track roadway maintenance machine with a non-complying condition shall be governed by the following requirements:
  - (1) An on-track roadway maintenance machine with headlights or work lights that are not in compliance may be operated for a period not exceeding 7 calendar days and only during the period between one-half hour before sunrise and one-half hour after sunset;
  - (2) A portable horn may be substituted for a non-complying or missing horn for a period not exceeding seven calendar days;
  - (3) A fire extinguisher readily available for use may temporarily replace a missing, defective or discharged fire extinguisher on a new on-track roadway maintenance machine for a period not exceeding 7 calendar days, pending the permanent replacement or repair of the missing, defective or used fire extinguisher;
  - (4) Non-complying automatic change-of-direction alarms, backup alarms, and 360-degree intermittent warning lights or beacons shall be repaired or replaced as soon as practicable within 7 calendar days; and
  - (5) A structurally defective or missing operator's seat shall be replaced or repaired within 24 hours or by the start of the machine's next tour of duty, whichever is later. The machine may be operated for the remainder of the operator's tour of duty if the defective or missing operator's seat does not prevent its safe operation.

**529 IN-SERVICE FAILURE OF PRIMARY BRAKING SYSTEM**

- (a) In the event of a total in-service failure of its primary braking system, an on-track roadway maintenance machine may be operated for the remainder of its tour of duty with the use of a secondary braking system or by coupling to another machine, if such operations may be done safely.
- (b) If the total in-service failure of an on-track roadway maintenance machine's primary braking system occurs where other equipment is not available for coupling, the machine may, if it is safe to do so, travel to a clearance or repair point where it shall be placed out of service until repaired.

Except as provided in §§214.527(c)(5), 214.529, and 214.533, an on-track roadway maintenance machine or hi-rail vehicle that does not meet all the requirements of this subpart shall be brought into compliance as soon as practicable within seven calendar days. If repairs are not made within seven calendar days, the on-track roadway maintenance machine or hi-rail vehicle shall be placed out of on-track service.

**SCHEDULE OF REPAIRS SUBJECT TO AVAILABILITY OF PARTS**

- (a) The employer shall order a part necessary to repair a non-complying condition on an on-track roadway maintenance machine or a hi-rail vehicle by the end of the next business day following the report of the defect.
- (b) When the employer cannot repair a non-complying condition as required by §214.531 because of the temporary unavailability of a necessary part, the employer shall repair the on-track roadway maintenance machine or hi-rail vehicle within seven calendar days after receiving the necessary part. The employer may continue to use the on-track roadway maintenance machine or hi-rail vehicle with a non-complying condition until receiving the necessary part(s) for repair, subject to the requirements of §214.503. However, if a non-complying condition is not repaired within 30 days following the report of the defect, the employer shall remove the on-track roadway maintenance machine or hi-rail vehicle from on-track service until it is brought into compliance with this subpart.
- (c) If the employer fails to order a part necessary to repair the reported non-complying condition, or if it fails to install an available part within the required seven calendar days, the on-track roadway maintenance machine or hi-rail vehicle shall be removed from on-track service until brought into compliance with this subpart.
- (d) Each employer shall maintain records pertaining to compliance with this section. Records may be kept on forms provided by the employer or by electronic means. The employer shall retain each record for at least one year, and the records shall be made available for inspection and copying during normal business hours by representatives of FRA and States participating under part 212 of this chapter. The

records may be kept on the on-track roadway maintenance machine or hi-rail vehicle or at a location designated by the employer.



**APPENDIX A – NORAC**



**NORAC**  
**OPERATING RULES**

**NORTHEAST OPERATING RULES  
ADVISORY COMMITTEE**

## **APPENDIX B** **APPLICABLE NORAC RULES**

### **10. Proper Equipment for Signaling**

Employees whose duties may require them to give signals must provide themselves with the proper equipment. They must keep this equipment in good order and ready for immediate use.

A train or track car must not be operated without a red flag, white light, and at least 6 fuses.

### **12. Day and Night Signals**

Day signals must be displayed from sunrise to sunset, but if day signals cannot be plainly seen, night signals must be used. Night signals must always be used from sunset to sunrise.

The following signals will be used by employees performing flagging duties:

Day Signals: A red flag and fuses.

Night Signals: A white light and fuses.

### **13. Hand Signals**

Hand Signals must be given from a point where they may be plainly seen, in a manner that can be understood and sufficiently ahead of time to permit the train to comply.

Movement must be stopped if:

1. There is doubt concerning the meaning of a signal. or
2. There is doubt for whom the signal was intended. or
3. The signal disappears from view.

Any object waved violently by anyone on or near the track is a signal to stop. While handling a crane at a derailment, an engine must not be moved until:

1. The proper hand signal with green flag or green light is received. or

2. Positive instructions in accordance with radio rules are clearly understood.

If a train has one engine unit, signals to the Engineer must be given according to the way the unit is headed. If a train has more than one engine unit, and they are headed in opposite directions, no movement will be made until the Conductor has an understanding with his crew.

Hand signals, with or without a flag or lamp, must be given as follows:

**(a) Stop**

Swung horizontally at right angle to the track.



**(b) Reduce Speed**

Held horizontally at arm's length



**(c) Proceed**

Raised and lowered vertically.



**(d) Back**

Swung vertically in a circle at half arm's length, at right angle to the track.



**(e) Apply Air Brakes**

Swung horizontally above the head, when train is standing.



**(f) Release Air Brakes**

Held at arm's length above the head, when train is standing.



**(g) Drop or Raise Pantograph**

Swung vertically in a circle at full arm's length, at right angle to the track.



## 19. Engine Whistle or Horn Signals

The following are engine whistle or horn signals. The signals are illustrated by “o” for short sounds and “—” for long sounds. The sound of the whistle or horn should be distinct, with intensity and duration proportionate to the distance the signal is to be conveyed. The unnecessary use of the engine whistle or horn is prohibited.

Engine whistle or horn signal must be sounded as follows:

**(a) Sound: —**

**Indication:** Crew members apply brakes.

**(b) Sound: — — o —**

**Indication:**

1. When approaching a public highway-rail crossing at grade and at a whistle sign displaying “W,” “W/MX,” or other specified aspect, with the engine in front, start whistle signal at least 15 seconds but not more than 20 seconds before occupying the crossing. The signal must be prolonged or repeated until the engine occupies the crossing. For multiple crossings, the signal must be prolonged or repeated until the last crossing is occupied.

For trains and engines exceeding 60 MPH, the whistle signal must not be started more than ¼ mile in advance of the public grade crossing, even if the advance warning provided by the locomotive horn will be less than 15 seconds in duration.

When a train or engine is stopped at a location such that it will take less than 15 seconds for the movement to occupy a public grade crossing, the whistle signal may be sounded for less than 15 seconds provided:

- (a) The public grade crossing is equipped with automatic flashing lights and gates and the gates are fully lowered;

**or**

- (b) There are no conflicting highway movements approaching the public

grade crossing.

**EXCEPTION:** This warning must not be sounded at a whistle sign indicating “W/R” or in areas otherwise designated as Quiet Zones, except in an emergency.

2. Approaching and passing standing trains.

(c) **Sound:** Succession of sounds

**Indication:** Use as an alarm when persons or livestock are on the track at other than highway crossings at grade.

In addition, use to warn railroad employees when an emergency exists, such as a derailment. When crews on other trains hear this signal, they must stop until it is safe to proceed.

(d) **Sound:** — o

**Indication:** Approaching Roadway Workers or their equipment on or near the track, regardless of any whistle prohibitions. After this initial warning, sound two short whistle signals intermittently until the head end of train has passed the Roadway Workers or their equipment.

(e) **Sound:** o o o

**Indication:**

1. When stopped, back up.
2. Acknowledgement of hand signal to back up.

## 19-S2. PORTABLE WHISTLE SIGNS

Portable Whistle Signs are used by Engineering Department employees to provide Locomotive Engineers with advance warning that MW employees are working ahead. These signs have a reflective orange background, are oval in shape (1 foot wide by 2 feet high), and display a black letter “W” in the middle. They are placed to the right of affected tracks, and sufficiently in advance of the work area to provide adequate warning.

Engineers observing a Portable Whistle Sign **on**

**any track** must sound the engine whistle or horn in accordance with Rule 19(d).

## **20. Engine Bell**

If a train is equipped with an engine bell, it must be sounded:

1. When the engine is about to move.
2. When running through tunnels.
3. While approaching and passing public highway crossings at grade.
4. When approaching locations where Roadway Workers may be at work on tracks, bridges, and other points.
5. When passing a train standing on an adjacent track.
6. In an emergency.

In cases where a momentary stop and start, forward and backward movement is part of a switching operation that does not involve movement over a public highway crossing at grade, the engine bell need not be sounded, unless Roadway Workers are known to be in the area.

## **36-S6. RWP FLAGS AND TAGS**

RWP flags and tags are used in conjunction with certain Roadway Worker Protection (RWP) safety procedures. An RWP flag is a reflectorized orange flag with black letters "RWP." An RWP tag is a fluorescent orange tag with the words "RWP PROTECTION. DO NOT REMOVE" on one side, and "DO NOT REMOVE. EMPLOYEE AT WORK" on the reverse side.

RWP flags are erected at derails applied to prevent entrance to track segments fouled by Roadway Workers, to make the derail more visible to approaching trains.

RWP tags are fastened to locks or other securing devices applied to switches or derails positioned to prevent entrance to track segments fouled by Roadway Workers, to prevent unauthorized employees from removing the securing device.

RWP tags are also attached to the controls of unattended engines that are located within a track segment fouled by Roadway Workers, to prevent unauthorized movement. Engines with an RWP tag attached to the controls must not be moved.

RWP flags and tags may be removed only by the Roadway Worker in charge of the working limits, or by another Roadway Worker who has been authorized by the Roadway Worker in charge of the working limits.

### **131. Protecting Work Locations: Qualified Employee's Duties**

Qualified employees assigned to protect work locations of railroad construction or private contractors whose operations may affect the safe movement of trains must take the five actions below.

#### **a. Secure Flagging Equipment**

Employees must secure proper flagging equipment according to Rule 12, "Day and Night Signals."

#### **b. Ensure that Tracks Are not Fouled Without Permission**

Upon reporting for work each day, the employee must determine who is in charge of the workers. The employee must also ensure that all workers have been instructed not to foul any railroad track at any time without his permission.

#### **c. Get Permission to Foul Track**

When workers request permission to foul any specific track, the employee assigned to protect the work location must communicate with the employee in charge of the track to secure necessary permission.

#### **d. Report Failure to Comply by Workers**

If workers fail to comply with instructions of the employee, he must make an immediate report to the employee in charge of the track.

#### **e. Take Action if Safe Passage is Endangered**



If an event occurs that would interfere with the safe passage of trains, the employee must take immediate action to stop trains by radio communication to trains and the Dispatcher. If protection cannot be immediately ensured, or if communications fail, flag protection must be immediately provided as prescribed by Rule 130, paragraph (b), "Flag Protection Against Trains on Adjacent Tracks."

### **131-S1. PROTECTING WORK LOCATIONS: CONDUCTOR/FLAGMEN RESPONSIBILITY**

1. Any employee that accepts an assignment as a Conductor/Flag must have a valid Roadway Worker Protection card in their possession.
2. Conductor/Flags are required to hold a job briefing (On Track Safety) with all railroad and private contractor employees working at the specific job site that the Conductor/Flag is assigned to protect. Conductor/Flags must document every briefing with employees and contractors on NRPC Form 3044-C. After completion, this form must be retained for ten (10) days.
3. The Conductor/Flag will be responsible for securing authority for contractor employees to foul the tracks of the railroad. The contractors will not be allowed to foul or obstruct any track/catenary structure under foul time until a member of the contractor's group has signed off on the Authority to Foul Tracks Record form NRPC 3045. The Conductor/Flag must not release foul time until the same member of the contractor's group has signed off in the release portion of this same form.
4. When a Conductor/Flag is assigned as the employee in charge of protection for employees and/or contractors who require foul time, the Conductor/Flag must:
  - A. Discuss the form of protection during the job briefing with all employees and contractors involved;
  - B. Determine who possesses the formal authority

of protection for the section of track in question;

- C. If anyone other than the Train Dispatcher or an NHB, DB or MRS Line “Point Conductor” (RWP employee in charge) is in charge of the track, the Conductor/Flag must read or obtain a copy of the Form D or Foul time authority [NRPC 3045] from the person in charge of the track.
  - D. When a “Point Conductor” receives or releases foul time directly with the Train Dispatcher, paragraph C above applies to the Conductor/Flagmen under the jurisdiction of the “Point Conductor”, and such Conductor/Flagmen must receive and record foul time authority from the “Point Conductor” using NRPC Form 3045.
5. Conductor/Flags must ensure that a brake application has been made and where possible, have visual confirmation that the brakes have applied and released on each piece of equipment in the work unit. The Conductor/Flag must then have the operator perform a “rolling stop” to ensure proper brake operation on units where it is not possible to visually observe the application and release of the brakes.
6. Flagging assignments, although not considered covered service under the Federal Hours of Service law, will be governed as follows:
- A. Conductor/Flags must not perform service in excess of twelve (12) hours on the job site unless authorized by a Trainmaster.
  - B. Conductor/Flags who work a flagging assignment in excess of four (4) hours on the job site, must have at least eight (8) hours rest before accepting another flagging assignment.

## **132. Protection for the Safe Passage of Trains**

Trains must be fully protected against any known condition that may interfere with their safe passage.

### **a. Protection When Fouling or Working on a Track**

If work on or adjacent to a track will create a condition interfering with the safe passage of trains, that work must not be attempted without permission of the employee in charge of the track.

On tracks where ABS, DCS, or Interlocking rules are in effect, the Dispatcher (or Operator when authorized by the Dispatcher) must assure that protection against trains in both directions has been provided as follows:

- i. If the work involves on-track equipment or will disturb the track or catenary structure so that it would be unsafe for Normal Speed, Form D line 4 or Form D line 5 must be issued.
- ii. If the work will not disturb the track or catenary structure, the Dispatcher may verbally authorize Foul Time in accordance with Rule 140.

Form D line 4, Form D line 5, and Foul Time may be issued only to employees who are qualified on the operating rules and the physical characteristics of the territory involved.

Form D line 13 may be issued in lieu of Form D line 4 when the information necessary to clearly delineate the limits of the affected track area will not physically fit on line 4. When Form D line 13 is used in this manner, the instructions it contains must be formatted as though issued on Form D line 4.

## **b. Protection in Unforeseen Conditions**

If an event occurs or conditions are found that may interfere with the safe passage of trains and no protection has been provided, employees must immediately attempt to stop trains by radio communication to trains and the Dispatcher. They must provide flag protection in both directions as prescribed by Rule 130, paragraph (b), "Flag Protection Against Trains on Adjacent Tracks." Flag protection must be maintained until the unsafe condition has been corrected, or until employees are assured by the Dispatcher or Operator that other protection has been provided.

## **132-S1 MAINTENANCE WORK WITHOUT FORM D**

Work or wire trains, single unit rail grinding track cars, the MPMV, and the MTW-100 catenary inspection car, may perform work without Form D Line 4, but only under the conditions listed below:

1. Permission is obtained from the Dispatcher, AND
2. The work is confined to interlocking limits, AND
3. No other MW equipment is involved, AND
4. The track or catenary structure is not disturbed to the extent that a restriction on movements would be required if it were necessary to clear the equipment performing the work. Movements will be governed by Interlocking Rules. If necessary to make shifting movements outside of interlocking, the applicable rules will apply.

### **133. Removing a Track from Service**

Whenever Form D line 4 or line 13 is issued to remove a track from service, the following procedures will apply:

#### **a. Action Required Prior to Issuance**

The Dispatcher must not issue the Form D line 4 or line 13 authority until:

- i. The affected track is clear of movements that are not part of the work group, AND
- ii. Controlled signals leading to the affected track are in Stop position, AND
- iii. Blocking devices are applied to the controls of switches and signals leading to the affected track.

These signals must not be displayed for movement leading to the out-of-service track, except as provided for in Rule 134, paragraph (a), "Movement in the Direction of the Out-of-Service Track."

#### **b. Addressees**

Form D must be issued to both:

- i. The employee requesting use of the track,  
AND
- ii. The Operators controlling entrance to the track.

**c. Establishing Out-of-Service Limits**

Each end of the out-of-service limits must be defined by one of the following physical features:

- i. A whole mile post.
- ii. A station or other physical characteristic location.
- iii. A track barricade or flagman at a designated location.

**d. Operation Within Out-of-Service Limits**

The employee named in Form D line 4 or line 13 is in charge of the out-of-service limits. ABS, CSS, DCS, and Interlocking rules do not apply within the out-of-service limits. All movements must operate at Restricted Speed. Interlocked switches, derails, movable point frogs and movable bridges within the out-of-service limits must not be operated without permission of the employee in charge.

EXCEPTION: In territory where non-sigaled DCS rules apply in both directions, the employee in charge of the out-of-service limits may authorize trains to operate within the out-of-service limits at Normal Speed not exceeding 30 MPH, when the following conditions have been met:

- i. The track to be used must be clear and safe for the speed to be authorized.
- ii. All affected switches must be secured in normal position.
- iii. All affected Roadway Workers must be notified.
- iv. Permission must be given in the following manner: "Extra 453 may proceed North through my out-of-service limits at Normal Speed (not exceeding 30 MPH) from A to B."

This permission must be repeated and confirmed before it is acted upon.

- v. No following movements may be permitted behind the train given this authority.

The train must not reverse direction without permission of the employee in charge. If permission is received, the movement must be made at Restricted Speed.

**e. Additional Equipment Entering or Leaving Out-of-Service Limits**

- i. Additional equipment may enter the out-of-service limits after:
  - 1. The person in charge of the additional equipment has received permission from the employee in charge of the out-of-service limits. The employee in charge of the out-of-service limits must show or read his copy of the Form D line 4 or line 13 to the person in charge of the additional equipment unless the limits are published by Bulletin Order.
  - 2. If movement to the out-of-service limits will involve passing a Stop Signal, the Dispatcher or Operator may then authorize movement in accordance with Rule 241.
- ii. The employee in charge of the out-of-service limits must make a written record, which includes:
  - 1. The name of the person in charge of the additional equipment, or train identification.
  - 2. Time permission to enter is given.
  - 3. Time determined the additional equipment is clear of limits.

**f. Returning the Track to Service**

When the track is to be returned to service, the employee in charge of the out-of-service track must take two actions:

- i. He must notify the Dispatcher or Operator of any restrictions necessary for the safe passage of trains,  
AND

- ii. He must ascertain that all track cars and trains are clear of the track, and notify the Dispatcher or Operator that they are clear.

EXCEPTION: With the Dispatcher's permission, the track may be returned to service while it is still occupied by equipment. Before the track is returned to service, the employee in charge of the track must ensure that the equipment remaining on the track receives proper authority to occupy the track after it is returned to service. If the track is governed by Rule 261, permission must include direction of movement.

### **133-S1. PROTECTION OF OUT-OF-SERVICE TRACKS**

When a track governed by block system or interlocking rules is removed from service by Form D Line 4, the **Foreman issued the Form D must ensure that each of the following safeguards are taken prior to beginning work.** When C&S assistance will be required as prescribed below, the Foreman must request this assistance **prior** to obtaining the Line 4.

**Exception:** When work is performed exclusively with the following equipment, the safeguards prescribed below are not required: Work Trains, MDZ (coupled or separate), TLM, 08-Unimat Switch Tampers, 09-4S Combo Tampers, BMS, Plasser Undercutters, Sperry Cars, Catenary Maintenance Car (MTW-100), Switch Exchange System (SES), Rail Grinding Trains, MPMV (coupled or separate), Brandt Truck (with or without cars), MMU-1000 (coupled together with the material car and working car), TSAV, ATIV, CSXT GRMS 1 & GRMS 2, and NJT-TGIV.

1. A shunting barricade must be erected at each end of the work area within the Line 4 limits and locked into position with a private lock. A non-shunting barricade consisting of two crossed ties or a "Non-Shunting Barricade" sign may be substituted for a

shunting barricade when only a portion of a track within interlocking limits is removed from service. When only a portion of a track within interlocking limits is removed from service, a C&S employee must approve the location of the barricades and must remain available to establish desired routes, if necessary.

2. It must be determined that the track at each end of the work area is shunted. In ABS territory, this may be determined by visual observation of the last automatic block signal leading to the work area in both directions. (In Rule 251 territory, no confirmation of shunt is required for movements against the current of traffic.) If the work area is in or near interlocking limits, shunt may be verified by confirming with the Operator or Dispatcher that a track occupancy light is displayed on his interlocking machine in the appropriate location(s).
3. If the work area cannot be protected by Panel Blocking Devices, a C&S employee must de-energize the track circuits for the work area. This requirement is in addition to the above barricade requirement. Work in the following areas **cannot** be protected by Panel Blocking Devices, and therefore requires C&S employee assistance:
  - a) Work **within** the following interlocking limits:
    - NHB Line** - Read, Forest, Plains;
    - NYS Line** - Pelham Bay; NYT Line—"Q";
    - NYP Line** - Dock, Iselin, Menlo, Ham, Zoo;
    - PW Line** - Zoo, Penn (Except: 1 & 4 trks 36th St. Connection; N5 & N3 routes, 1 & 4 River Line trks between MP 1 & Spring Garden St; 10 trk pocket; 7 lead; 1 & 4 River Line trks between Walnut & South Sts), Phil, Bell-Ragan inclusive, Ruthby (except trk 1), Davis-Perry inclusive, Oak-Bridge inclusive, Winans (except trk 1), Grove, Bowie, Landover;
    - PH Line** - Zoo, Valley, Overbrook, Paoli, Glen, Downs, Thorn, Caln, State (except trks between int signals west of Harrisburg station have



panel blocking).

- b) Work in the **ABS** territory adjacent to any of the following interlockings:

**PH Line** - Caln, Downs, Glen, Overbrook (no panel blocking eastward on Tracks 1, 2 and 4, nor westward on Track 3), Paoli (no panel blocking eastward on Track 3), State, Thorn, Valley, and Zoo.

**Exception:** In Washington Terminal, de-energizing of track circuits is not required. When only a portion of an interlocking or Station Track in Washington Terminal is out of service by Form D Line 4 or Bulletin Order, a C&S employee must ensure the signal leading to the out-of-service portion will not display an aspect more favorable than Restricting. Prior to cancellation of Form D, the Foreman must ensure that barricades are removed and track circuits restored to normal.

### **133-S2. ADMITTING ADDITIONAL EQUIPMENT**

The Dispatcher or Operator may admit additional track cars or trains to the out-of-service limits after obtaining permission of the employee named in the Form D Line 4. When authorizing additional equipment to enter an out of service track, the Foreman named on Form D Line 4 must advise the employee in charge of the additional equipment of all conditions affecting movement on the out-of-service track, including the location of barricades, *Roadway Workers*, equipment, and the condition of the track structure.

The Foreman must ensure that any barricades removed to admit the additional equipment are reapplied, and their shunt verified, as soon as the equipment enters the work area.

Track cars and trains that clear an out-of-service track must obtain permission from the Foreman before re-entering the out-of-service track.

### **133-S3. FOREMAN GOING OFF DUTY**

When a track is out of service by Form D Line 4,

and the Foreman in charge is to go off duty, Form D Line 4, must be issued to another qualified Foreman if work is to continue.

If work is to be suspended, but track must remain out of service to protect equipment or track conditions:

1. The Dispatcher must ensure that Blocking Device protection remains applied. Operators involved must be issued Form D, Line 13, instructing them to hold all trains clear of the affected track.
2. The Foreman addressed must ensure that barricades erected to protect non-shunting equipment or track conditions are repositioned adjacent to non-shunting equipment and/or track requiring protection, and must verify that repositioned barricades shunt properly as per SI 133-S1.
3. The Foreman must then contact the Dispatcher and Track Supervisor in charge of the territory involved to advise them of all conditions affecting the out of service track area, to include the locations of barricades, equipment, and condition of track structure. This information must be recorded by the Dispatcher, and repeated back to the Foreman.
4. After steps 1, 2, and 3 are completed, the Form D, Line 4 must be canceled.

No further movements shall be permitted or maintenance performed on affected track until Form D, Line 4 is issued to a qualified Foreman, or Conductor as specified in S.I. 133-S4. Before requesting Form D, Line 4, Foreman must communicate with the Dispatcher and Track Supervisor in charge of the territory involved to ascertain all conditions affecting the out of service track area.

Upon completion of work, the provisions of steps 1 through 4 above will apply, if track must again remain out of service to protect equipment or track conditions.

**EXCEPTION:** Conductors need only comply with the procedures contained in step 3 above, and need only contact the Dispatcher.

The Dispatcher must provide information regarding all conditions affecting the out of service track area, to include the location of barricades, equipment, and condition of track structure, to the next Foreman or Conductor who obtains Form D, Line 4 to perform maintenance in the affected track area.

### **133-S4. WORK, WRECK OR WIRE TRAINS**

The Train Dispatcher may issue a Form D to the Conductor of a Work, Wreck, or Wire Train when both of the following conditions have been met:

- There is no qualified Foreman on the train, AND
- No track cars will occupy the out-of-service limits, except as provided for in NEC Special Instruction 133-S3, which allows **unattended** track cars to be stored on a track when the Foreman responsible for their operation goes off duty.

Once the Conductor receives the Form D Line 4, he or she may authorize other trains (but not track cars) into the out-of-service limits in accordance with Rule 133. Work that will disturb the track or catenary structure so that it would be unsafe for Normal Speed must not be performed unless the track is removed from service in the name of a qualified employee.

### **133-S5. HIGHWAY CROSSINGS ON OUT-OF-SERVICE TRACKS**

In the application of Rule 138(g), trains operating on an out-of-service track must not foul a highway crossing equipped with automatic warning devices until it is ascertained that the warning devices have been operating at least 20 seconds, or the gates (if equipped) are in the horizontal position. If the automatic highway crossing warning devices are not operating, the movement must not be made until protection is provided by on-ground personnel.

## **133-S6. REMOVING A TRACK FROM SERVICE: FORM D ADDRESS**

When an Engineering Department employee requests use of the track, he or she will be identified in the address of the Form D removing the track from service as a "Foreman," plus his or her last name.

### **140. Foul Time**

Foul Time may be issued only by the Dispatcher, or Operator when authorized by the Dispatcher.

#### **a. Action Required Prior to Issuance**

Before issuing or authorizing Foul Time, the Dispatcher must determine that no trains or other on-track equipment have been authorized to occupy the track segment to be fouled. In signaled territory, the Dispatcher must ensure that Stop Signals have been displayed and blocking devices applied to controls of switches and signals leading to the affected track. When trains are to be held at a TBS where blocking devices cannot be applied, the Dispatcher must issue Form D line 13 instructing the Operator to hold trains clear of the affected track.

#### **b. Permission to Foul**

Permission to foul the track must include the following information:

1. Title and name of employee receiving foul time
2. Track designation
3. Track limits (between/at)
4. Time limits

The receiving employee must repeat this permission and the Dispatcher or Operator must then confirm it before the Foul Time becomes effective.

#### **c. Releasing Foul Time**

Once protection has been provided, it must be

maintained until the employee who was granted the foul time has released the foul time. The release must include the employee's title and name, and the track designation and limits being released. This information must be repeated by the Dispatcher or Operator, and confirmed by the employee releasing the foul time before blocking devices are removed.

## **140-S1. FOUL TIME**

In the application of Rule 140, Foul Time information must be recorded by the Dispatcher or Operator issuing the foul time, and recorded by the employee requesting the foul time on form NRPC 3045 "Authority to Foul Tracks Record".

Before allowing additional employees to join the work being performed under Foul Time permission, the employee who was granted Foul Time by the Dispatcher must conduct a job briefing with the additional employees, and must review the track(s) being protected, the Foul Time track and time limits, and all other factors affecting the work. The additional employees must not be permitted to foul the track(s) involved until they have verified their full understanding of all topics discussed during the job briefing.

The employee who was granted Foul Time by the Dispatcher or Operator must not release the Foul Time until they have ensured that all fouling activity under their authority has been cleared.

The Authority to Foul Tracks Record must be retained and held available for inspection for a period of 7 days.

## **140-S2. USE OF SUPPLEMENTAL SHUNTING DEVICE**

This instruction requires the employee in charge of "covered fouling activities" to apply an approved Supplemental Shunting Device (SSD) to the track(s) to be fouled, after receiving foul time from the Dispatcher or Operator. The purpose of the SSD is to supplement, not replace, blocking device

protection provided by the Dispatcher or Operator.

**A. Covered Fouling Activities:** Except as noted below, this instruction applies when equipment will be used to foul a track in signaled territory or within interlocking limits for more than 5 minutes.

This instruction does **not** apply when the fouling activity:

1. Requires Form D line 4 or line 5 authority,  
**or**
2. Is within the approach circuit to a highway crossing that is not equipped with a device that will automatically interrupt the operation of the crossing's warning devices (i.e., any crossing listed in Special Instruction 138 that does not have an "X" in Column 1 of that instruction),  
**or**
3. Is within 200 feet of any highway crossing that is equipped with automatic warning devices.

**Note:** Roadway Workers performing service without equipment may elect to use an SSD. Roadway Workers electing to use an SSD must do so in accordance with sections "B" and "C" of this instruction.

**B. Actions to Be Taken Before Performing Covered Fouling Activities:** The following requirements apply to each track to be fouled. The person in charge of the work must take the following actions before permitting the fouling activity to begin.

1. **Obtain verbal permission to foul the track from the Dispatcher or Operator.**
2. **Fouling Within Interlocking Limits:** For the purpose of this instruction, a "signal pocket" is defined as a section of track located between two interlocking signals that govern movement out of the pocket, with no switches between the two signals. Signal pockets are usually found where a passenger station exists within interlocking limits. Signal pockets are designed to allow the Dispatcher to route other trains around a

train that is making a station stop or standing in the pocket.

**a. Fouling Within Signal Pocket** – When track is to be fouled within a “signal pocket”, SSD will be applied within that interlocking signal pocket.

**b. Fouling Outside of Signal Pocket** – When necessary to foul an interlocking track that is not located within an interlocking “signal pocket”, **prior to beginning work**, the employee in charge of the fouling activity must contact the Division Engineer or his designated C&S Department representative to determine the location(s) at which SSD device(s) must be applied within interlocking limits. SSD device(s) must then be applied within interlocking limits at the previously approved location(s).

**c.** Verify that the track is shunted by asking the Dispatcher or Operator if there is a track occupancy light (TOL) on the model board in the appropriate location.

**3. Fouling Outside Interlocking Limits:** For the purpose of this instruction, a “block” is defined as a length of track between fixed signals.

**a.** If only **one block** will be fouled, apply a SSD to the track in the block to be fouled.

**b.** If **more than one** block will be fouled, be governed as follows:

- On a Rule 251 Track, apply a SSD in the first block to be fouled (or in the block prior to that block), as determined by a train operating with the current of traffic.

- On a Rule 261 Track, apply a separate SSD in each block to be fouled.

**c.** Verify that the track is shunted by observing that the signal governing entrance to the block is displaying Stop Signal, Stop and Proceed, or Restricting, or asking the Dispatcher or Operator if there is a track occupancy light (TOL) on the model board in the

appropriate location.

### **C. Actions to Be Taken Before Reporting**

**Clear:** Before reporting clear of the track to the Dispatcher or Operator, the employee in charge of the work must remove the shunt(s) by either:

1. Disconnecting the coupler in the middle of the SSD
- or**
2. Removing the SSD from the track.

The SSD must be removed from the track when reporting clear for last time.

## **141. Inaccessible Track**

Roadway Workers may establish working limits on a track not controlled by the Dispatcher or Operator, by making the track inaccessible at each possible point of entry through one of the following means:

1. A switch or derail aligned to prevent access to the working limits and secured with an effective securing device, and properly tagged. The effective securing device and tag may be removed only by direction of the employee in charge of the working limits.
2. A remotely controlled switch aligned to prevent access to the working limits and secured with a blocking device by the employee who controls the switch. Blocking device protection must not be considered in effect until it has been confirmed by the employee controlling the switch. Protection must be maintained until the employee who requested the protection has reported clear.
3. A disconnected rail.
4. A flagman assigned to hold trains and equipment clear of the working limits.

Movements within working limits may be made only with permission of the employee in charge.

## **142. Train Coordination**

Working limits may be established to protect



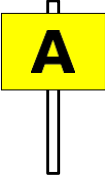


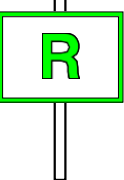
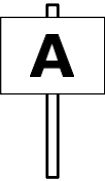
Roadway Workers assigned to a train by the use of Train Coordination protection. Train Coordination protection may be established within segments of track or tracks upon which one train holds exclusive authority to move, and there are no other conflicting movements.

To establish Train Coordination protection, the Roadway Worker in charge must obtain assurance from the train crew that no movement will be made without permission of the Roadway Worker in charge. The train must be stopped and visible to the Roadway Worker in Charge when Train Coordination protection is established.

When the Roadway Worker in Charge no longer requires Train Coordination, he must advise the train crew.

When the Train Crew is required to relinquish its exclusive authority by the Dispatcher, the Train Crew must first advise the Roadway Worker in Charge before releasing that authority. That exclusive authority must not be released until the working limits are released by the Roadway Worker in charge.

## 297 – 297d. Train Coordination

Rule	Aspects	Name	Indication
297		<b>APPROACH SIGN</b>	Proceed prepared to stop at the Stop Sign. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the engine passes the Approach Sign.
297a		<b>STOP SIGN</b>	Stop, unless permission is received as prescribed by Rule 135.
297b		<b>WORKING LIMITS SPEED LIMIT SIGN</b>	Proceed not exceeding 30 MPH until passing a Working Limits Resume Speed Sign, unless otherwise instructed by the employee in charge.
297c		<b>WORKING LIMITS RESUME SPEED SIGN</b>	Resume speed after the entire train has passed the Working Limits Resume Speed Sign.
297d		<b>DIVERGING APPROACH SIGN</b>	If routed to affected track, proceed prepared to stop at the Stop Sign. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the engine passes the Diverging Approach Sign.

# **601-S1. LOCAL CONTROL OF INTERLOCKINGS BY C&S EMPLOYEES**

## **A. General Requirements**

A C&S employee may only request permission to take local control of an interlocking to:

- Assist the Dispatcher when remote control is lost, or
- Expedite C&S switch, signal or track circuit inspection, testing, troubleshooting, adjustments, and general maintenance, or
- Expedite joint C&S and MW switch inspections, testing or maintenance.

C&S employees must obtain permission from the Dispatcher before taking local control, and must follow the Dispatcher's instructions while the interlocking is in local control, including the application and removal of blocking devices.

The Dispatcher must not authorize local control when a track within interlocking limits is out of service by Form D line 4, except as outlined in section "B" below.

### **1. Qualification Requirements for C&S Employees:**

C&S employees who take local control must be qualified on the operating rules, all operating functions of the local control panel, and the physical characteristics of the interlocking.

### **2. Job Briefings with the Dispatcher**

Before permission to take local control is given or received, the C&S employee and the Dispatcher must have a job briefing to discuss:

- a) The identification and reason for any blocking devices applied by the Dispatcher. (See section 3 below.)
- b) The nature of any C&S, or joint C&S and MW, tests or inspections to be performed, and the effect that the work will have on the Dispatcher's model board indications.
- c) Whether testing or inspection activities will require the use of opposing Stop

Signals to establish exclusive track occupancy protection.

The C&S employee granted local control must conduct an additional job briefing with the Dispatcher each time the conditions of the work change.

### **3. Blocking Devices Applied or Ordered Applied by the Dispatcher**

- a) Dispatcher instructions regarding the application or removal of blocking devices must be correctly repeated by the C&S employee receiving them, before being acted upon.
- b) C&S employees must obtain permission from the Dispatcher before removing any blocking devices applied by, or ordered applied by, the Dispatcher.
- c) C&S employees must keep a written record of these blocking devices on form NRPC 3436 to ensure compliance. The record must include the identification of each blocking device, the time it was applied, and the time the Dispatcher authorized its removal.
- d) Once control of the interlocking is returned to the Dispatcher, the C&S employee must draw an "X" through the blocking device record, and retain the record for 7 days. (See section D below.)

### **4. Permission to Take Local Control**

- a) The Dispatcher's permission to take local control must include the title and name of the employee authorized to take local control, the interlocking name, and the time permission is being given.
- b) The receiving employee must document the permission on form NRPC 3436 and repeat it to the Dispatcher or Operator, who must then confirm it before the receiving employee takes local control.

### **5. Displaying Signals for Train Movements**

The C&S employee must not display a signal for a train movement unless:

- a) Authorized by the Dispatcher.
- b) The C&S employee and the Dispatcher have discussed and verified the position

of all switches involved in the route.

- c) All affected Roadway Workers are clear of the tracks to be used, or have established alternate protection.

## **6. Permission by Stop Signals**

While an interlocking is in local control, Dispatchers must not issue Rule 241 permission for a train to pass a Stop Signal until they have contacted the C&S employee in control of the interlocking to confirm the position of all switches involved in the route, and to advise the C&S employee of the move to be made.

## **B. Track Out-of-Service within Interlocking Limits by Form D Line 4**

### **1. Dispatcher Responsibility**

The Dispatcher must not authorize local control when a track within interlocking limits is out of service by Form D line 4, except:

- a) In an emergency,
- b) When necessary to route a train to, from or around an out of service track on which a track circuit has been de-energized, or
- c) When necessary to perform C&S tests on a movable bridge.

### **2. C&S Responsibility**

The C&S employee authorized to take local control must receive permission from the person in charge of the out-of-service track and be read or shown a copy of the Form D before operating any interlocking appliance on that track.

## **C. Roadway Worker Protection**

### **1. Restrictions**

The C&S employee must not authorize:

- a) Any work unrelated to C&S testing or inspection, or joint C&S and MW switch inspections.
- b) Any work that involves on-track equipment or will disturb the track or catenary structure so that it would be unsafe for Normal Speed.

**NOTE:** When protection outside of interlocking limits is required, Foul Time

must be obtained from the Dispatcher in the usual manner. Before granting Foul Time, the Dispatcher must order the C&S employee who has local control of any affected interlockings to apply blocking devices to the affected controls.

## **2. Exclusive Track Occupancy Using Opposing Stop Signals**

In the application of Amtrak and Federal Roadway Worker Protection rules, a qualified C&S employee who has local control of an interlocking may, with permission of the Dispatcher, use opposing Stop Signals to establish exclusive track occupancy protection for employees involved with the C&S testing or inspection being conducted, or joint C&S and MW switch inspections.

The C&S employee must:

- a) Prior to establishing working limits, apply blocking devices to prevent the display of any signal leading to the limits to be protected.
- b) Keep a written record of these blocking devices on form NRPC 3436 to ensure compliance. The record must include the identification of each blocking device, the time it was applied, and the time removed. It is not necessary to report these blocking devices to the Dispatcher.
- c) Blocking devices must remain applied until all employees authorized to foul the track have cleared the affected track(s), or the employees have established alternate protection.

## **D. Returning Remote Control to the Dispatcher**

Before returning remote control to the Dispatcher, the C&S employee in charge must:

1. Notify all affected Roadway Workers that remote control is being returned to the Dispatcher for the operation of trains.
2. Ensure that all affected Roadway Workers are clear of the tracks or have established alternate protection.

3. Notify the Dispatcher that all Roadway Workers are clear or have established alternate protection, and that control of the interlocking is being returned.

Once control of the interlocking is returned to the Dispatcher, the C&S employee must document the time on form **NRPC 3436** and retain the record for 7 days.

## **702. Requirements for Track Cars and Roadway Workers**

Track cars moving between work locations must have a working radio. When more than one track car is moving under the same authority, only one working radio is required.

Each employee assigned to provide on-track safety for Roadway Workers and each lone worker must have immediate access to a working radio. When immediate access to a working radio is not available, the employee must be within hearing range of a radio capable of monitoring transmissions from train movements in the vicinity. These requirements do not apply when the work location is physically inaccessible to trains, or has no through traffic or traffic on adjacent tracks during the period when Roadway Workers are present.

## **705. Radio Transmission and Reception Procedures**

Before transmitting by radio, the employee must listen to ensure that the channel on which he intends to transmit is not in use.

All transmissions must be repeated by the employee receiving them except:

1. Transmissions used in yard switching operations.
2. Those transmissions that do not contain any information, instruction or advice that could affect the safety of a railroad operation.

Employees must ensure that radio contact with the proper persons has been made and must not take

action until certain that all conversation with them has been heard, understood and acknowledged.

Any radio communication that is not fully understood or completed in accordance with the requirements of these rules shall not be acted upon and shall be treated as though not sent. Emergency communications are an exception.

An employee receiving a radio call must acknowledge the call immediately unless doing so would interfere with safety.

## **716. Use of Electronic Devices**

An employee shall not use an electronic device if that use would interfere with the employee's or another employee's performance of safety-related duties. No individual in the controlling locomotive cab or control compartment of a train or track car shall use an electronic device if that use would interfere with an employee's performance of safety-related duties.

### **a. Personal Electronic Devices**

**1. Prohibited:** The unauthorized use of a personal electronic device to perform any function when required to perform service is prohibited. When use is not authorized, personal electronic devices must be turned off and stored out of sight, along with any earpieces, headphones or other similar peripheral devices.

**2. Authorized:** A stand alone calculator may be used for an authorized business purpose, provided this use does not interfere with the performance of any employee's safety-related duties. The use of the voice communication functions of a personal electronic device by an employee other than an employee controlling a moving train or track car is authorized, as follows, subject to the Restrictions governing the use of railroad-supplied devices:

#### **(a) For All Employees:**



- (1) To respond to or coordinate an emergency situation involving the operation of the railroad or to respond to an emergency encountered while on-duty;
- (2) To perform duties directly related to the operation of the railroad when radio communication fails; or
- (3) To perform duties directly related to the operation of the railroad when the railroad is not required by Federal regulation to provide a working radio. When the railroad is not required by Federal regulation to provide a working radio, an employee may use a personal electronic device for assigned duties after a safety briefing, provided all employees responsible for the movement of the train or track car agree that it is safe to do so.

**(b)For Roadway Workers:** To perform duties directly related to roadway worker activities.

**(c)For Members of a Train Crew:** To perform assigned tasks directly related to the operation of the railroad when:

- (1) The train is stopped;
- (2) No member of the crew is riding rolling equipment during a switching operation;
- (3) No member of the crew is on the ground;
- (4) No employee is assisting in the preparation of the equipment for movement, and
- (5) The engineer and conductor perform a safety briefing to confirm that it is safe to do so and other crew members are informed.

## **b. Railroad-Supplied Electronic Devices**

An employee may use a railroad-supplied electronic device only for an authorized business purpose as prescribed below.

**1. Authorized Business Purposes:** Subject to the Restrictions below, the following are

authorized business purposes for railroad-supplied electronic devices by an employee who is not controlling a moving train or track car:

- (a) Emergencies:** Use is authorized for voice communication to respond to or coordinate an emergency situation involving the operation of the railroad or to respond to an emergency encountered while on-duty.
- (b) Assigned Tasks Directly Related to Duties:** Use is authorized for revenue related functions, delay reporting, mechanical defect troubleshooting and reporting, roadway maintenance work, passenger service requests, and numerical calculations.
- (c) Radio Communication Failure:** Use is authorized for voice communication:

  - (1) To perform duties directly related to the operation of the train or track car when radio communication has failed; or
  - (2) To perform duties directly related to the operation of the railroad when the railroad is not required by Federal regulation to provide a working radio. When the railroad is not required by Federal regulation to provide a working radio, an employee may use a railroad-supplied electronic device for assigned duties after a safety briefing, provided all employees responsible for the movement of the train or track car agree that it is safe to do so.
- (d) Supplemental Reference Materials:** The use of digital and display functions of an electronic device is authorized as a supplemental means to refer to a railroad rule, special instruction, timetable, or other directive.
- (e) Documentation of a Safety Hazard:** Use is authorized for still photograph

documentation of a safety hazard or a violation of a rail safety law, regulation, order, or standard provided the device is turned off immediately after the documentation has been made, unless its use is otherwise permitted.

## **2. Restrictions**

### **(a) Use in Locomotive Cab or Control Compartment**

- (1) Use of a railroad-supplied electronic device for an authorized business purpose by an employee controlling the movement of a train or track car is prohibited:
  - i. When the train or track car is moving,
  - ii. When any employee is assisting in the preparation of the equipment for movement,

**or**

  - iii. When any train crew member is on the ground, or riding rolling equipment during a switching operation.
- (2) An employee, other than the employee operating the controls of a moving train or track car, may use a railroad-supplied electronic device in the controlling locomotive cab or control compartment of a train or track car for an authorized business purpose after a safety briefing, provided all employees in the controlling locomotive cab or control compartment agree that it is safe to do so. Any other use in the controlling locomotive cab or control compartment is prohibited.
- (3) When use of an electronic device is authorized, audible ringers or alerts must be turned off and devices set to vibrate, if possible.

### **(b) Use in Body of Train or Trailing**

**Locomotive:** An employee may use a railroad-supplied electronic device for an authorized business purpose while on

duty within the body of a passenger train, in a trailing locomotive, or in a railroad business car. Such use must not interfere with any safety related duties.

**(c) Use Other than When on a Train or Track Car**

The use of a railroad-supplied electronic device for an authorized business purpose when required to perform service other than when on a train or track car is prohibited:

- (1) While fouling any track;
- (2) While participating in a switching operation;
- (3) While required to perform any other safety related duty.

EXCEPTION: A roadway worker fouling a track may use a railroad-supplied electronic device for an authorized business purpose when protected by on-track safety procedures and not in an area where a distraction could result in being struck by machinery, tools or on-track equipment.

**c. Deadheading Employees**

Deadheading employees are prohibited from using electronic devices within the controlling locomotive cab or control compartment of a train or track car. Employees in deadhead status located outside the controlling locomotive cab or control compartment of a train or track car may use an electronic device only when such use does not interfere with any employee's personal safety or performance of safety-related duties.

**d. Supervisors**

Supervisors may use an electronic device for assigned tasks directly related to their duties provided this use does not interfere with the performance of any employee's safety related duties. When necessary to foul a track, the supervisor must ensure protection against trains or other on-track movements is established.

**e. Penalties**

Any individual who violates these prohibitions or uses any of the described devices without observing any of the restrictions is subject to federal civil penalties and/or disqualification, and company discipline up to and including discharge. If there are any questions or doubt regarding the authorized use of a personal or railroad-supplied electronic device, employees should refrain from any use until the proper authority can be consulted.

## **716-S1. USE OF PERSONAL ELECTRONIC DEVICES: RESTRICTIONS**

In the application of Rule 716, a personal electronic device must not be used when a railroad radio or a railroad-supplied electronic device is available.

## **716-S2. USE OF TELEPHONES FOR EMPLOYEES INVOLVED IN MAIN TRACK AUTHORITIES AND MANDATORY DIRECTIVES**

Telephones must not be used in lieu of radio communication to obtain or release main track authorities or to copy mandatory directives. Where radio communication is not possible, a telephone may be used to obtain or release main track authorities or to copy mandatory directives.

- a.** Before using a telephone to obtain or release a main track authority or copy a mandatory directive, all crew members must participate in a job briefing and agree that it is safe to do so.
- b.** Immediately after **obtaining** main track authorities or copying a mandatory directive, all crew members must again participate in a job briefing to properly disseminate information from that communication.
- c.** Before **reporting clear or releasing** a main track authority, all crew members must participate in a job briefing to ascertain and agree on the exact location that their entire train has passed, and that it has cleared the affected limits (DTC Block, Track Warrant, Track Permit, etc.).

## **800. Foremen and Track Car Drivers: Responsibilities, Governing Rules, Qualifications**

Foremen and Track Car Drivers will be in charge of the track cars under their jurisdiction. They will be governed by the rules and special instructions that apply to trains, except as modified by the rules governing Movement of Track Cars. Foremen, and Track Car Drivers addressed by Form D, must be qualified on the Operating Rules, Timetable and physical characteristics of the territory on which they are to operate.

## **801. Inspection of Track Cars**

The Foreman or Track Car Driver must perform a visual inspection to see that the track car is in safe operating condition before operating it. Track cars must not be operated if found in an unsafe condition.

## **802. Rules and Signals**

ABS rules, DCS rules, and numbered automatic block signals do not apply to the movement of track cars.

Track cars must approach interlocking signals, controlled point signals, and unnumbered automatic block signals prepared to stop.

## **803. Placing or Operating Track Cars on Tracks**

### **a. Tracks Where ABS or DCS Rules are in Effect**

Form D line 2 and line 3 is the authority for the movement of track cars and must be obtained before track cars are placed or operated on a track where ABS or DCS rules are in effect.

Three exceptions are:

1. Track car movements within yard limits in non-signaled DCS territory may be made with verbal permission of the Dispatcher (or Operator when authorized by the

Dispatcher).

2. Track car movements at an interlocking may be made one track car length beyond the home signal into ABS or DCS territory for an immediate movement in the opposite direction. Such movements require verbal permission of the Dispatcher (or Operator when authorized by the Dispatcher).
3. Track car movements that will be performing maintenance within Working Limits may be made on verbal permission of the employee in charge as prescribed by Rule 135, part (d), "Movements within Working Limits."

Before issuing Form D lines 2 and 3 or granting verbal permission for a track car to shift at an interlocking as outlined in item (2) above, the Dispatcher must ensure that:

1. No trains have been authorized to move in the direction of the point to be occupied,  
AND
2. Signals governing opposing and following movements are in Stop position  
AND
3. Blocking devices are applied to protect against opposing and following movements.

The Dispatcher must issue a copy of the Form D to all Operators involved.

**b. Tracks Where ABS or DCS Rules Are Not in Effect**

On tracks where ABS or DCS rules are not in effect and an employee is in charge of the track, track cars must not be placed or operated on the track unless authorized by that employee. Where no employee is in charge of the track, track cars may occupy the track without permission.

**803-S1. OPERATION OF SPECIALIZED MW EQUIPMENT**

**1. Operation Under Train Rules**

The following specialized MW equipment is

designed to reliably shunt track circuits. When the driver of this equipment is qualified on the operating rules **and** physical characteristics that apply to freight trains, and is accompanied by a second employee who is qualified on operating rules (see Rule 94), the equipment may run under the operating rules that apply to freight trains, instead of the operating rules that apply to track cars.

If the driver lacks either of these qualifications, or is not accompanied by a second employee qualified on operating rules, the Dispatcher must be notified and the equipment operated under track car rules. This equipment must also operate under track car rules when operating on tracks where DCS Rules are in effect.

Whenever the specialized MW equipment listed below is run under the operating rules that apply to freight trains, the employee at the controls must communicate the following information via the road radio channel, for each wayside signal encountered: name of signal aspect, track number, location, and direction of movement.

- a. **MDZ:** A track geometry unit composed of 3 pieces coupled together — the 09-32 or 09-16 cat tamper, high capacity ballast regulator, and dynamic track stabilizer. All 3 pieces must be coupled together to assure a positive shunt. If not coupled together, the Dispatcher must be notified and the equipment operated under track car rules.
- b. **08-Unimat Switch Tamper**
- c. **09-4S Combo Tamper**
- d. **BMS:** A high capacity ballast regulating and distributing machine. The BMS is designed to shunt with or without its conveyor or transfer car.
- e. **MTW-100:** An electric traction inspection and repair unit. If the MTW-100 is coupled to its single-axle trailer car, the Dispatcher must be notified and the equipment operated under track car rules.
- f. **MPMV:** The Multi-Purpose Maintenance Vehicle is composed of 2 pieces coupled together – a main power unit & the trailing control unit. If not coupled together (or



operated with ballast car coupled between power unit & control unit), the Dispatcher must be notified and the equipment operated under track car rules.

- g. MMU-1000:** The Mobile Maintenance Machine is composed of three cars coupled together - a main power unit, material car and a working car. All three pieces must be coupled together to assure a positive shunt. If not coupled together, the Dispatcher must be notified and the equipment operated under track car rules.

## **2. Maximum Speed of Equipment**

The maximum speed for the equipment specified in part "1" of this instruction is 50 MPH not exceeding freight train speeds when operating under train rules, and 30 MPH not exceeding freight train speeds when operating under track car rules.

On the NHB Line, specialized MW equipment that is operating under the rules that apply to trains, must not exceed 30 MPH in ACSES territory, unless the MW equipment has operative on-board ACSES equipment.

## **3. Performing Maintenance**

Where maintenance is performed by the equipment specified in part "1" of this instruction, a Form D must be issued in accordance with Rule 133. When operating under the direction of the Foreman in charge of the out-of-service track, the equipment may test over its own work area not exceeding 30 MPH, prepared to stop within one half the range of vision.

## **4. Operation in Cab Signal System (CSS) Territory**

When the equipment specified in part "1" of this instruction is operating without a Form D on an in-service track in CSS territory, it must not pass a signal displaying Stop and Proceed or Restricting unless authorized by the Dispatcher. The Dispatcher must not authorize this equipment to pass a Stop and Proceed, Restricting, or Stop Signal until he has determined that the block is not occupied. **EXCEPTION:** The Dispatcher may authorize

movement into an occupied block in an emergency, or when the equipment will enter a block occupied by stored equipment.

Because of potential cab signal code leakage through the equipment, SI 561-S1 (page 337) will apply when a Unimat Switch Tamper, 09-4S Combo Tamper or MTW-100 is operating as a single unit, the BMS is operating without its conveyor or transfer car, or the MPMV is operating as a train with its power unit and control unit coupled. Before operating in CSS territory, the driver must advise the Dispatcher or Operator of the equipment consist, and remind the Dispatcher or Operator that SI 561-S1 applies. Before operating in Rule 562 territory, where cab signals are used without fixed automatic block signals, the equipment specified in part "1" of this instruction must receive a signal displaying Rule 280a, Clear to Next Interlocking. If entering from a location where this signal cannot be displayed, the equipment must be operated under track car rules.

#### **5. Identification of Equipment**

When identifying the equipment specified in part "1" of this instruction by radio, telephone or Form D, employees must include the number of the leading piece of equipment.

### **803-S2. TRACK CAR AUTHORITY TO PASS STOP SIGNAL**

Permission to pass a Stop Signal must not be issued to a track car via Form D Line 3 at either the initial or final interlocking listed on the Form D Line 2, or at any moveable bridge. Verbal permission (Rule 241) of the Dispatcher (or Operator when authorized by the Dispatcher) must be given at the aforementioned locations.

**Note:** This instruction also governs "additional Line 2" authorities.

### **804. Additions to Form D Line 2**

The Dispatcher may direct addressee(s) to add

additional line 2 authorities to a specified direction Form D which is still in effect providing no new trains or track cars have been authorized to operate within the limits of the additional line 2. Before issuing additional line 2 authorities, protection as prescribed by Rule 803, "Placing or Operating Track Cars on Tracks", must be applied.

Additional line 2 authorities will be added as follows:

1. The Dispatcher must contact the addressee(s), state his intent to give them an additional line 2 authority, and state the number and date of the Form D to which the line 2 authority will be added.
2. The Dispatcher will then transmit the additional line 2 authority and his initials. The addressee(s) will repeat the authority. The Dispatcher must not transmit the "time" of the addition to the addressee(s) until they have correctly repeated the authority. The addressee(s) must not act upon the additional authority until they receive the "time" of the addition.
3. The Dispatcher and the addressee(s) must record all additional information on line 2 of their Form D.

When an additional line 2 authority is given to a track car, Form D line 3 authority may be issued or extended to authorize the track car to proceed past Stop Signal(s) at interlockings or controlled points. The Dispatcher must not transmit the "time" of the addition to the addressee(s) for the line 2 authority until the addressee(s) have correctly repeated both the line 2 and line 3. The Dispatcher and the addressee(s) must record all information on lines 2 and 3 of their Form D.

## **805. Track Car Following Other Movements**

A track car with a specified direction Form D line 2 authority may be permitted to follow a train or another track car when Form D line 3 specifies the train or track car ahead. When no trains or track cars are ahead, "NONE" must be written on line 3 of Form D. When line 3 indicates a train or track car

ahead, speed must be regulated as follows:

1. Passenger and truck type highway rail cars must operate at a speed that will allow stopping within one-half the range of vision, short of a train or track car.
2. All other track cars must operate at Restricted Speed.

When the train or track car ahead clears the limits of the following track car's line 2 authority, the Dispatcher may authorize the following track car to operate at Normal Speed. To make this authorization, the Dispatcher must instruct the Track Car Driver or Foreman to add the words, "[insert applicable train or track car number] is clear at [time] [Dispatcher's initials]" to line 13 of the original Form D.

### **811. Highway Crossings**

Track cars must approach highway crossings at grade prepared to stop. They must give highway traffic the right-of-way.

### **812. Operating Over Switches and Movable Point Frogs**

Track cars must not pass over switches or movable point frogs until it is determined that such appliances are properly lined.

Track cars must not trail through spring switches or semi-automatic switches unless such switches are properly lined.

### **813. Movement of Multiple Track Cars**

Multiple track cars operating on the same Form D line 2 authority must regulate their speed to permit stopping short of equipment ahead.

The employee addressed in the Form D must inform other employees operating under his jurisdiction of the contents of the Form D before acting upon it. If necessary, drivers of additional track cars must remind the employee

addressed in the Form D of the contents of the authority.

**813-S1. MOVEMENT OF MULTIPLE TRACK CARS**

*The first paragraph of Rule 813 is revised as follows:* Multiple track cars operating on the same Form D line 2 authority must regulate their speed to permit stopping within one-half the range of vision short of equipment ahead.

**814. Displaying Lights**

When they are so equipped, track cars must display a white light to the front and a red light to the rear under the following conditions:

- 1. When visibility is restricted.
- 2. When passing through tunnels.
- 3. At night.

Highway rail vehicles must have headlights on high beam when moving on any track.

**814-S1. DISPLAYING LIGHTS**

Contractor equipment that includes an illuminated lighting tower may extinguish the headlights and leave just the running lights on when stationary and working on-track. This Special Instruction does not supersede the requirement of having the headlight on high beam when moving on any track.

**815. Maximum Speeds**

Track cars must not exceed the maximum freight train speed. In addition, the following maximum speeds apply to the movement of track cars:

Rail Detectors, Geometry Cars, and Psgr Type Highway Rail Cars . . . . .	50 MPH
All Other Track Cars . . . . .	30 MPH

All Types:

When backing up. . . . .	10 MPH
When diverting through switches . . . . .	10 MPH
When passing standing trains on adjacent tracks . . . . .	10 MPH
When pulling or pushing equipment. . . . .	10 MPH
When operating through self-guarded frogs or switch point guards, or diverting through spring frogs . . . . .	1 MPH
When being passed by a train on an adjacent track . . . . .	STOP

EXCEPTIONS: The following “Specialized Equipment” is not required to be stopped while being passed by a train on an adjacent track:

1. Rail Grinders
2. Switch Grinders
3. Rail Detector Cars
4. Geometry Cars
5. GRMS (Gage Restraint Measurement System)
6. Catenary Repair Cars

**815-S1. RAIL GRINDING UNIT**

The Rail Grinding Unit track car is authorized to operate at 50 MPH, not exceeding the maximum speed for freight trains.

**815-S2. CATENARY MAINTENANCE CAR**

The MTW-100 (catenary maintenance car) may operate at 30 MPH when it is pulling its single-axle trailer car.

### **815-S3. TRACK STRUCTURE ASSESSMENT VEHICLE, AUTOMATED TRACK INSPECTION VEHICLE, NJT & CSXT TRACK GEOMETRY INSPECTION VEHICLE**

The Track Structure Assessment Vehicle (TSAV, Amtrak A68402) and Automated Track Inspection Vehicle (ATIV, Amtrak A68335) are track geometry cars that may perform testing under Form D Lines 2 and 3 authority, in accordance with Track Car Rules 800 through 816.

Amtrak TSAV A68402 may operate governed by Train Type "C" speeds, not exceeding 50 MPH.

Unless otherwise restricted, TSAV & ATIV may operate not exceeding 20 MPH when diverting through switches and passing standing trains on adjacent tracks. TSAV & ATIV are not required to stop when being passed by trains on adjacent tracks.

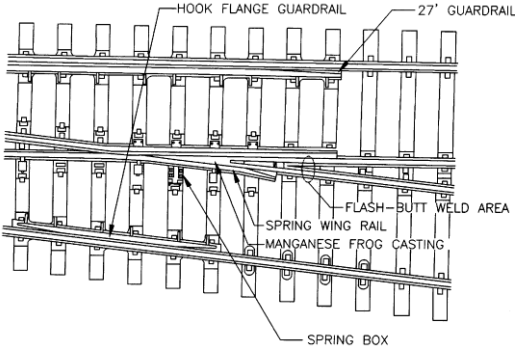
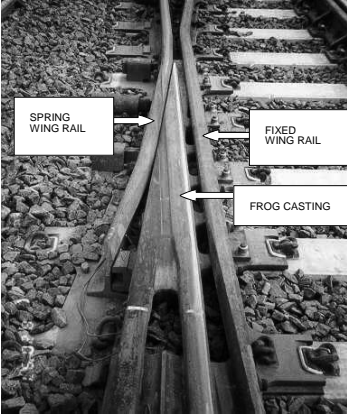
If operating under Form D Line 4, under the direction of Foreman in charge of out-of-service track, TSAV & ATIV may test not exceeding 30 MPH, prepared to stop within one half the range of vision (see SI 133-S1, pg 322).

**Note:** New Jersey Transit's Track Geometry Inspection Vehicle (NJT-TGIV) and CSXT Track Geometry Inspection Cars (GRMS 1, GRMS 2) may operate on Amtrak property in the same manner as TSAV, except that they must not exceed the maximum freight train speeds.

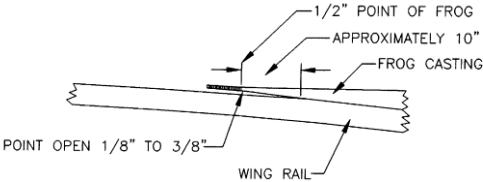
### **815-S4. SPRING FROGS**

Many main track hand operated and interlocked switches are equipped with spring frogs. Spring frogs contain, among other things, a fixed frog point, a moveable spring wing rail, a rigid wing rail, frog hold-down assemblies, and spring box. The frog makes use of a 27 foot guard rail (on the straight side). The spring frog design provides a continuous bearing surface for the wheel tread as it traverses through the frog point area. The following photograph and

diagrams illustrate the various spring frog components. Switches equipped with spring frogs were installed at these interlockings, when this page was last revised: NHB Line - Davisville, Lawn, Mansfield; NYP Line - Hudson, Rea, Hunter, Lane, Union, County, Midway, Morris; PH Line - Leaman, Cork; PW Line - Davis, Prince.



**MANGANESE SPRING FROG LAYOUT**



**DETAIL OF SPRING FROG POINT AREA**



## **815-S5. BRANDT TRUCK TRACK CARS: MAXIMUM SPEED**

Unless otherwise restricted, the following maximum speeds apply to the movement of Brandt Trucks:

- Lite or when pulling equipment..... 20 MPH
- When pushing/shoving equipment..... 10 MPH

## **816. Unattended On-track Equipment**

When any type of on-track equipment is not continuously attended by the employee in charge of the equipment, the equipment must be secured to prevent movement.

## **996. Executing Instructions**

Foremen and Track Car Drivers must obey the instructions of Dispatchers, Operators, Yardmasters (when within their jurisdiction), and others with proper authority.

## **997. Responsibilities for Track Cars and Employees**

Foremen and Track Car Drivers are responsible for the movement, safety, and care of track cars and employees in their charge. They must follow the rules, special instructions, and other authorizations that govern this responsibility.

## **998. Responsibilities for the Track**

Track Foremen are responsible for the safe condition of the track and roadway in their charge. When inspecting or performing work on a track, they will be governed by the prescribed standards. Whenever a track does not conform to these standards, they will immediately take appropriate protective and/or corrective action.

