



Metro-North Railroad

**ROADWAY WORKER
SAFETY MANUAL**

Effective April 3, 2005

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Vice President – Operations

The Roadway Worker Safety Manual contains instructions and procedures to provide on-track protection for roadway workers. On-Track Protection is a state of freedom from the danger of being struck by moving trains or other railroad equipment.

Federal Regulations

Nothing contained herein shall diminish or enlarge any rights or obligation contained in 49 CFR Section 214.

These rules and instructions govern all Roadway Workers.

Employees subject to this manual must provide themselves with a copy, and keep it current. All employees who are responsible for the on-track protection of others and those who are responsible for their own on-track protection must have this manual at the work site.

In this manual, the masculine pronouns will be used for clarity and ease of reading, and will apply equally to male and female persons.

This manual contains the following rules and instructions:

- RW 1 Definitions
- RW 2 Responsibilities
- RW 3 Job Briefings
- RW 4 Emergency Procedures
- RW 5 Establishing Working Limits
- RW 6 Train Approach Warning
- RW 7 Safety Precautions While Crossing Tracks
- RW 8 Safety Precautions for working around self-propelled Equipment
- RW 9 Movement of Track Cars
- RW 10 Radio Rules
- RW 11 Good Faith Challenges

RW 1 DEFINITIONS

ADJACENT TRACKS - Two or more tracks with track centers spaced less than 25 feet apart.

BLOCKING DEVICE - Blocking devices prevent the use of signals, switches, appliances or sections of track. They may be applied through the use of pins, pushbuttons, or computer keypads. Blocking devices shall not be considered effective until the appropriate confirmation on the respective model board or control device has verified that the blocking device is operative.

DERAIL - A track safety device designed to guide a car off the rails at a selected spot as a means of protection against collisions or other accidents.

EFFECTIVE SECURING DEVICE - A device, used to prevent the operation of a manually operated switch or derail, that is vandal resistant, tamper resistant and designed to be applied, secured, uniquely tagged and removed only by the class, craft, or group of employees for whom the protection is being provided.

EXCLUSIVE USE OF TRACK - A method of establishing working limits on controlled track in which movement authority is withheld or restricted by the Rail Traffic Controller, or one or more approaches to the working limits are protected by flagmen.

FLAGMAN - An employee designated to direct or restrict the movement of trains past a point on a track, to provide on-track protection for roadway workers on non-controlled track. This employee may not perform any other duties.

FORM M - Written movement authority issued by the RTC.

FOUL TIME - A method of establishing working limits on a controlled track. Notification is given to the requesting employee by the Rail Traffic Controller that no trains will operate within a specific segment of that track during a specific time period, and that required blocking devices have been placed on the control console to protect the track that will be fouled.

FOULING A TRACK - The location of an individual or 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 4 feet of the field side of the near running rail.

GANG - *See* Roadway Work Group

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 (ITD) - A form of Train Approach Warning. ITD may be used under strictly defined circumstances by trained and qualified lone workers to provide on-track protection on certain tracks outside working limits.

INTERLOCKING LIMITS - The tracks between extreme opposing signals of an interlocking.

LONE WORKER - An individual roadway worker who is not being afforded on-track protection by another roadway worker, is not a member of a gang, and is not engaged in a common task with another roadway worker.

LOOKOUT - A qualified employee assigned to provide train approach warning to a single roadway worker.

MW WORK EXTRA - A train that is being operated within working limits in conjunction with roadway maintenance, construction, or repairs, under the direction of a designated Employee in Charge.

ON TRACK PROTECTION - The state of freedom from the danger of being struck by a moving railroad train or other equipment, provided by operating and safety rules that govern track occupancy by personnel, trains, and on-track equipment.

PILOT - A qualified employee assigned to a train or track car when the Engineer, Conductor, or Track Car Driver is not qualified on the physical characteristics or rules of the railroad or portion of the railroad over which the movement is to be made.

QUALIFIED EMPLOYEE - An employee who has successfully completed all required training for, has demonstrated proficiency in, and has been authorized to perform the duties of a particular position or function.

RAIL TRAFFIC CONTROLLER (RTC) – The employee in charge of the movement of trains and equipment on main and other tracks specified in the Employee Timetable.

RAILROAD BRIDGE WORKER - An employee of, or employee of a contractor of, a railroad responsible for the construction, inspection, or maintenance of a bridge whose assigned duties, if performed on a bridge, include inspection, testing, maintenance, repair, construction, or reconstruction of the track; bridge structural members; operating mechanisms and water traffic control systems; or signal, communication, or train control systems integral to that bridge.

RESTRICTED SPEED - A speed that will permit stopping within one-half the range of vision, short of train, obstruction, switch, or derail, improperly lined, looking out for broken rail or crossing protection out of order and not exceeding 15 miles per hour for the entire movement.

ROADWAY WORKER - A roadway worker is a Company employee or an employee of a contractor to Metro-North, whose duties include inspection, construction, maintenance, or repair of track, bridges, roadway, signal and communication systems, electric traction systems, roadway facilities, or roadway maintenance machinery on or near track with the potential of fouling a track, and employees responsible for on-track protection.

ROADWAY WORK GROUP (GANG) - Two or more roadway workers working together on a common task. Also referred to as a Gang.

TRACK BARRICADE - A designated sign or obstruction fastened to a track that prevents access to that track.

TRACK CAR - Specialized equipment other than trains, including highway rail vehicles, operated on-track for inspection or maintenance purposes.

TRACK (Categories)

Main Track - A track where movements are controlled by a Block Signal System or Interlocking Rules.

Controlled Track – A track on which all movements must be authorized by an RTC.

Non-Controlled Track – A track on which movements are not controlled by an RTC.

TRACK CENTERS - The distance from the centerline of one track to the centerline of an adjacent track.

TRAIN APPROACH WARNING - A method of establishing on-track safety by warning Roadway Workers of the approach of trains in ample time for them to move to or remain in a place of safety.

WATCHMEN - Qualified employees whose sole duty is to warn other roadway workers of the approach of trains, engines, or other equipment, in order to allow the roadway workers to safely clear the track before the train, engine, or equipment reached the work site.

WORKING LIMITS - A segment of track within defined limits, upon which trains may operate only as authorized by the designated roadway worker-in-charge.

RW 2 RESPONSIBILITIES

2-A ROADWAY WORKERS

All Roadway Workers must:

1. Complete the Roadway Worker Safety Class annually.
2. Not foul tracks except when necessary to perform duties.
3. Before fouling any track, each Roadway worker must:
 - Participate in a job briefing, per Rule RW-4.
 - Verify that proper on-track protection is being provided, the means of on-track protection, and the limits of the protection.
 - Acknowledge understanding of the on-track protection procedures being used
 - Know who is responsible for on track protection.
4. Not perform any work that will interfere with the safe passage of trains.
5. Comply with the rules and instructions in this manual and other instructions.
6. Wear a high visibility vest or other approved garment, hard hat and eye protection when working on or about tracks, along the right of way, or in yards.
7. Inspect passing trains and equipment. If dangerous conditions are noted, the Roadway worker must take appropriate action to stop the train. If unable to stop the train, the Rail Traffic Controller (RTC) must be notified.

2-B ROADWAY WORKER IN CHARGE


When roadway workers are working on or about track, one employee must be designated the Roadway Worker in Charge. When two or more gangs work as a single gang, one employee must be designated the Roadway Worker in Charge. A lone worker is also considered a Roadway Worker in Charge.

Roadway Workers in charge are responsible for a safe operation and must take every reasonable precaution to protect employee(s) in their charge. The Roadway Worker in Charge must:

1. Be responsible for the safety, instruction, performance, and on-track protection of all employees under his jurisdiction.
2. Prepare employees for their job assignments by conducting a job briefing per Rule RW-4.

3. Wear a warning whistle when on or about the track.
4. Make sure that employees comply with all applicable rules.
5. When assigned to work areas where outside contractors are employed, conduct a safety briefing with all roadway workers no less often than at the start of each shift. These safety briefings must be documented on form CSB-1.

Sample Form CSB-1

 Metro-North Railroad	RECORD OF CONTRACTOR SAFETY BRIEFING	FORM CSB-1
<p>Roadway Workers in Charge must conduct a safety briefing with all roadway workers in the work group no less often than at the start of each shift. The purpose of this briefing is to ensure that group are informed of all safety issues related to the work for that day.</p>		
<p>The following items should be covered in the safety briefing if applicable to the job. The Roadway Worker in Charge should also discuss any other safety-related issues as appropriate.</p>		
ON-TRACK PROTECTION: FOUL TIME: POWER:	Out-of-service tracks, working limits, clearance envelopes, track speeds, locations to clear Is foul time available? If so, for how long on what tracks? Status of third-rail, catenary	
<p>After completing the safety briefing, the Roadway Worker in Charge must complete the form below, obtain the signature of the Contractor's Employee-in-Charge, and retain this sheet for 24 hours.</p>		
DATE _____ TIME _____ LOCATION _____		
ROADWAY WORKER IN CHARGE'S NAME, OCCUPATION AND EMPLOYEE NUMBER _____		
COMMENTS: _____		
<p>The Roadway Worker in Charge has explained, and I understand, the Roadway Worker protection measures in effect at this time for this job.</p>		
_____ <small>Contractor's Employee-in-Charge (Print Name)</small>	_____ <small>Signature of Contractor's Employee-in-Charge</small>	_____ <small>Date</small>

6. Personally and continuously supervise any work involving hazards and discuss specific procedures to protect against such hazards.
7. Promptly advise his supervisor if an employee does not comply with orders or correct unsafe work habits.

2-C EMPLOYEE RESPONSIBLE FOR ON-TRACK PROTECTION

If two or more gangs are working within the same working limits, one employee must be designated Employee Responsible for On-Track Protection. The Employee Responsible for On-Track Protection must:

1. Be qualified on the Metro-North Operating Rules, the Roadway Worker Safety Manual, and the physical characteristics of the territory where the work will be performed.
2. Establish on-track protection as required.

3. Conduct job briefings, per Rule RW-4, with each roadway worker that include the on-track protection that will be provided and the safety procedures that will be followed.
4. Before any person fouls a track, inform each roadway worker (including Roadway Workers in Charge if multiple gangs are within working limits) of the on-track protection procedures to be used and followed while the work is being performed at that time and that location.
5. Make sure that protection is in effect on all adjacent tracks that are not included in the working limits when performing large-scale track maintenance, including but not limited to rail, tie and surface gangs; production in-track welding; ballast distribution; and undercutting. In addition, protection must be provided whenever fouling an adjacent track outside of the working limits or there is the potential of fouling the adjacent track.
6. Notify all roadway workers before the working limits are released for the operation of trains. The work area cannot be released until all affected roadway workers have either left the track or been given on-track protection.

RW 3 JOB BRIEFINGS

- 3-A** A job briefing must be held prior to fouling a track, and any time that there is a change in on track safety procedures. All Roadway Workers must participate in this job briefing.
- 3-B** A job briefing must include:
1. The identification of the Roadway Worker in Charge.
 2. The general plan and procedures for the work to be performed.
 3. The on-track protection methods that will be used including the means of on-track protection being provided and the limits of the protection.
 4. Definite work assignments
 5. The location where roadway workers are to go when it is necessary to clear for trains.
- 3-C** The job briefing is not complete until all roadway workers acknowledge that they understand the on-track protection being provided.

RW 4 EMERGENCY PROCEDURES

4-A At all times, employees are required to report by the quickest available means of communication any conditions that may affect the safe movement of trains or the safety of employees or the public. Initial notification should be made to the Operations Control Center at telephone x2050 (outside number 212-340-2050).

4-A(1) If an event occurs or conditions are observed that could interfere with the safe passage of trains, employees must immediately attempt to stop trains by radio, hand signal or other means.

When communicating by radio, the word ***Emergency***, repeated three times, is used to signify a condition that may endanger train movement or the safety of individuals. Use of this word gives the sending and receiving parties' absolute priority in use of the radio channel.

To stop approaching trains by radio in an emergency, use the following format. Whenever possible, provide a brief explanation of the reason for the emergency transmission:

"Emergency, Emergency, Emergency. All trains approaching (location) come to a stop due to (condition)."

Example: "Emergency, Emergency, Emergency. All trains approaching Yonkers come to a stop due to trespassers on the tracks."

4-A(2) As quickly as possible after making an *Emergency* radio transmission or stopping trains by other means, the employee must inform the RTC of the situation, including the employee's name, craft, location, the reason for the emergency transmission, and what action has been taken by the employee.

4-A(3) Flag protection must be provided in both directions on all affected tracks until the unsafe condition has been corrected or until informed by the RTC that other protection has been provided.

4-B If an emergency situation occurs on tracks not controlled by the RTC, or on company property not affecting the right-of-way, the employee must notify the employee in charge of those tracks (such as the Yardmaster for yard tracks), his supervisor, or the MTA Police. All appropriate action must be taken to protect the safety of employees and the public, and to protect company property.

4-C Any object waved violently by any person on or near the tracks will be taken as a signal to stop. An employee who sees such a signal must immediately bring equipment to a stop, determine the reason for the signal, and take appropriate action.

RW 5 ESTABLISHING WORKING LIMITS

5-A Working limits must be established when:

- Occupying or fouling a track with equipment.
- Roadway Workers cannot clear the tracks at least 15 seconds before a train reaches the work location.
- Any work is to be performed that would affect the safe passage of trains.

5-B Working limits are established by:

- Removing the track from service by Bulletin Order or Form M;
- Receiving verbal authority from the RTC to work where interlocking rules are in effect;
- The RTC granting foul time;
- Placement of Working Limits Stop Signs;
- Establishing Inaccessible Track

5-C REMOVING TRACKS FROM SERVICE

Main tracks where CTC or MBS rules are in effect will be removed from service to establish working limits by Bulletin Order or by Form M, Line 3. The RTC will prevent unauthorized movement on out-of-service track by blocking the controls to the switches and signals that provide entrance to the track.

5-D VERBAL AUTHORITY OF THE RTC

Main Tracks where interlocking rules are in effect will be removed from service by verbal permission of the RTC to establish working limits. The RTC will prevent unauthorized movement on out-of-service track by blocking the controls to the switches and signals that provide entrance to the track.

The person requesting the track must contact the RTC, who will provide the following information in granting verbal authority:

- Track designation
- Limits of Protection (between locations or at location)
- Time limits
- Means of protection being provided

The person requesting the track must repeat this information to the RTC before the track will be considered out-of-service.

Each work group performing separate tasks must establish their own working limits with the RTC.

5-E FOUL TIME

Foul Time is a method of establishing working limits on controlled track in which the RTC gives a qualified roadway worker employee verbal permission to foul a specific segment of track during a specific time period. The RTC applies approved blocking devices to protect the track being fouled; however, the track is not removed from service.

The person requesting foul time must provide the following information when contacting the RTC:

- Track designation
- Specific location where the work is being performed
- A description of the work being performed
- Anticipated time frame required.

In granting foul time, the RTC will provide the requesting roadway worker with:

- Track designation
- Limits of Protection (between locations or at location)
- Time limits
- Means of protection being provided

The person requesting foul time must repeat this information to the RTC before the foul time will be considered in effect.

The person requesting foul time must report clear of the track prior to the time limit established by the RTC. However, the RTC is required to maintain protection on the track until the employee reports clear, regardless of the time.

Foul time cannot be used if the work involves on-track equipment or if the work will make the track structure unsafe for operation of trains at Maximum Authorized Speed.

5-F PROTECTION BY WORKING LIMITS STOP SIGNS

1. When work is to be performed adjacent to, or with the potential to foul active tracks, or when one track is out-of-service and it is necessary to provide protection of workers and equipment from trains on adjacent tracks, working limits may be established by Form M, Line 4, or by Bulletin Order.
2. When operating equipment that will foul a track where protection is being provided by Working Limits Stop Signs, the worker must communicate with the Employee in Charge to determine that no trains have been authorized to operate in the working limits.
3. Once cleared for a train, the track may not be fouled again until authorized by the Employee in Charge.

4. The Bulletin Order or Form M designating the working limits will indicate the Mobile Unit number of the employee governing entrance to the working limits. Trains and track cars approaching the working limits will contact the designated Mobile Unit prior to passing the Approach sign or Diverting Approach sign, providing their symbol number, direction of travel if an extra train, and track designation:

*Example: **Metro-North No 1318 to Mobile Unit 402, approaching your stop sign on Track 2, or CSX extra 6843 east to Mobile Unit 402, approaching your stop sign on Track 2***

5. The employee governing entrance to the working limits must determine that all persons and equipment are clear of the affected track prior to giving trains or track cars permission to pass the stop sign.



Trains will not pass the stop sign unless authorized to proceed by verbal permission of the employee governing entrance to the working limits or a proceed signal with a yellow flag. Verbal permission will be given in the following format:

No. ____ has permission to pass the Stop Sign on No. ____ track at MP ___, in a ____ ward direction.

If the train is to operate through working limits at other than Medium speed, the following line is added:

Proceed at ____ MPH through working limits.

6. Hand signals will be given as follows:





	Illustration	Description	Indication
a.		Hand, flag or light swung horizontally at right angle to the track. The hand, flag or light movement may be above the shoulder.	Stop
b.		Hand or light raised and lowered vertically.	Proceed

7. After permission is given by the employee governing entrance to working limits, trains will operate at Medium Speed from the Working Limits Stop Sign until the lead unit has passed the Working Limits Resume Speed sign, unless directed by the Employee in Charge to operate at a lower or higher speed. Working Limits Resume Speed sign will be moved as work progresses.

8. SIGNS USED IN WORK AREAS

- a. The following signs are used to govern train movement through work areas.

Operating Rule No.

11-F(1)		<p>NAME: Approach Sign</p> <p>PURPOSE: Indicates the approach to a stop sign.</p> <p>INDICATION: Proceed prepared to stop at the Stop Sign; trains exceeding Medium Speed must immediately begin reduction to that speed.</p> <p>EXCEPTION: See exceptions under Rule 22-A(6).</p>
11-F(2)		<p>NAME: Diverting Approach Sign</p> <p>PURPOSE: Indicates the approach to a stop sign on other track(s) where it is possible to be diverted onto affected track(s).</p> <p>INDICATION: Unless it is determined that train will not be diverted onto affected track(s), proceed prepared to stop at the Stop Sign; trains exceeding Medium Speed must immediately begin reduction to that speed.</p> <p>EXCEPTION: See exceptions under Rule 22-A(6).</p>
11-F(3)		<p>NAME: Working Limits Stop Sign</p> <p>PURPOSE: Denotes beginning of work area.</p> <p>INDICATION: Stop unless permission has been received to pass the stop sign. If permitted to pass Stop Sign, trains will operate at speed directed by employee in charge of work area, or Medium Speed if no speed has been specified.</p>
11-F(4)		<p>NAME: Working Limits Resume Speed Sign</p> <p>INDICATION: Resume speed after lead unit has passed this sign.</p>

9. PLACEMENT OF SIGNS

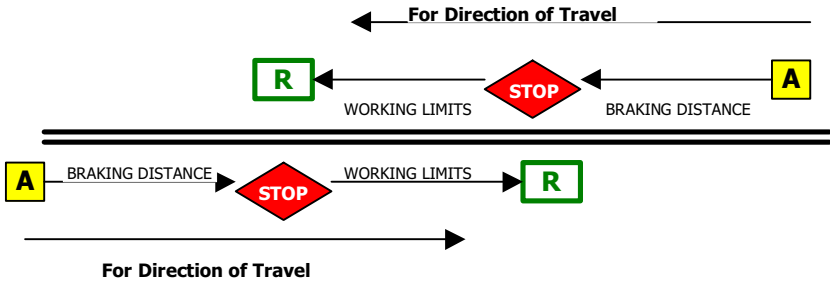
- a. Approach, Diverting Approach, Working Limits Stop Signs and Working Limits Resume Signs must be placed to the right of each track to be protected for both directions of traffic.

- b. The signs must be placed to give the greatest possible unobstructed view, considering alignment and other local conditions.
- c. The reflecting surfaces of signs must be clean, to preserve the reflecting ability.
- d. Working Limits Stop Signs:
 - The Working Limits Stop Sign is placed at the point where the working limits begin.
 - The Working Limits Stop Sign must be in place at exactly the time indicated in the Daily Train Operations Bulletin Order, and must remain in place until the expiration time of the Bulletin Order or Form M.
- e. Working Limits Resume Speed Signs:
 - The Working Limits Resume sign is placed where the working limits end.
 - Working Limits Resume signs should be moved as the work progresses.
- f. Approach Signs:

The Approach Sign is placed so that it faces the direction from which trains are approaching, and is far enough ahead of the Working Limits Stop Sign to permit trains to stop from Maximum Authorized Speed, in accordance with the following table.

<i>Minimum Stopping Distance from Approach Sign to Working Limits Stop Sign Level or Ascending Grades</i>			<i>Additional Stopping Distance Required for Descending Grades</i>	
Max Auth Speed	Minimum Stopping Distance		Descending Grade (%)	Increase Stopping Distance by:
	Passenger	Freight		
10 mph	200 ft	1,900 ft	Level to 0.09	None
20 mph	400 ft	3,800 ft	0.10 to 0.30	10%
30 mph	900 ft	5,900 ft	0.31 to 0.50	20%
40 mph	1,550 ft	8,700 ft	0.51 to 0.80	30%
50 mph	2,400 ft	11,100 ft	0.81 to 1.00	40%
60 mph	3,450 ft		1.01 to 1.10	50%
70 mph	4,700 ft		1.11 to 1.30	60%
80 mph	6,200 ft		1.31 to 1.40	70%
90 mph	7,500 ft		1.41 to 1.60	80%
100 mph	9,200 ft		1.61 to 1.70	90%
			1.71 to 1.80	100%
			1.81 to 1.90	110%
			1.91 to 2.00	120%

g. The order of sign placement is as follows:



g. Working Limits Resume, Approach, and Diverting Approach and Stop Signs should be taken down in reverse order.

5-G WORKING LIMITS ON NON-CONTROLLED TRACKS (INACCESSIBLE TRACK)

1. To establish working limits on non-controlled track, all points of entry to that track must be rendered physically inaccessible in one of the following ways:
 - A switch or derail is lined to prevent access to the working limits, secured with an effective securing device and properly tagged with an RW2 tag. The securing device and tag may be removed only at the direction of the employee in charge of the working limits.

Sample RW-2 Tag

Metro-North Railroad	MAINTENANCE OF WAY – TRACK OUT OF SERVICE	FORM RW-2
Use of this track requires the permission of the Roadway Worker-in-Charge whose name appears below.		
LOCATION		
TRACK DESIGNATION		
REASON FOR TRACK OUT-OF-SERVICE:		
ROADWAY WORKER-IN-CHARGE:		
TITLE:		
DATE APPLIED:		TIME:

- A remotely controlled switch is aligned to prevent access to the working limits and secured by a blocking device applied by the person who controls the switch. BDA must be confirmed by the employee applying the device before the protection is considered in effect, and the blocking device may not be removed until authorized by the employee requesting protection.
- A rail is disconnected or a track barricade erected.
- A flagman is assigned to hold trains and track cars clear of the working limits.

2. In addition to complying with paragraph 1 above, in yards where tracks come under the authority of the Yardmaster or the Mechanical Department, verbal authorization must be obtained from either the Yardmaster or designated Mechanical Department employee to obtain exclusive track usage and to establish the designated working limits.
3. Movements within working limits may be made only with permission of the Roadway Worker in charge.
4. Blue Signal Protection is used by the Mechanical Department and cannot be used by Roadway Workers. If the track to be protected is equipped with a Mechanical Department derail and blue flag, only the derail can be used to establish working limits, and the derail must be tagged with a Form RW-2 and secured with a lock that only the Roadway Worker-in Charge can remove.

RW 6 TRAIN APPROACH WARNING

6-A Train Approach Warning can be established by:

- Watchmen and Advance Watchmen; or
- Lookout

Train Approach Warning may not be used when:

- Occupying or fouling the track with equipment.
- Work will affect the safe passage of trains.
- There is no place of safety for Roadway Workers to clear for trains.
- It is not possible for Roadway Workers to clear at least 15 seconds before trains reach the work location.

6-B CLEARING THE TRACK

1. When roadway workers are notified or become aware of the approach of a train, all work must stop. All persons must clear the tracks at least 15 seconds prior to the arrival of the train, based on the assumption that the train is operating at the maximum speed permitted for passenger trains. The chart below shows the distance trains will travel in 15 seconds.

Distance Trains Travel in 15 Seconds

Speed (MPH)	Distance Traveled in 15 sec	Speed (MPH)	Distance Traveled in 15 sec (FT)
10	220 ft	55	1210 ft
15	330 ft	60	1320 ft (1/4 mile)
20	440 ft	65	1430 ft
25	550 ft	70	1540 ft
30	660 ft	75	1650 ft
35	770 ft	80	1760 ft
40	880 ft	85	1870 ft
45	990 ft	90	1980 ft
50	1100 ft	95	2090 ft

2. When clearing the track, roadway workers must report to the location designated by the Roadway Worker in Charge during the job briefing. When working on a track where working limits are established, workers may clear for trains in the gage of the out-of-service track.
3. Tools, objects, material or equipment must not be left where they could be struck by the passing train.
4. Workers should face the direction from which the train is approaching and watch for projecting, dragging or falling objects.

5. Workers must remain clear until notified that it is safe to resume work.
6. Workers who are operating equipment within the gage of the track must stay on their machine. Workers operating equipment not within the gage of the track should leave the equipment and clear the track, exiting the equipment on the side away from the approaching train.

6-C WATCHMEN AND ADVANCE WATCHMEN

1. Watchmen establish on-track protection outside of working limits by warning employees of the approach of trains in ample time for them to move to or remain at a place of safety. Advance watchmen are assigned when sight distance prevents the watchman from providing sufficient warning to Roadway Workers.

The Roadway Worker in Charge assigns watchmen and advance watchmen. If a watchman has not been assigned, the Roadway Worker in Charge acts as a watchman.

2. In order to become a qualified watchman, a Roadway Worker must complete the annual Roadway Worker Safety Class and pass a gang watchman physical every two years. Qualified watchmen must carry their qualification card (MW-200) at all times when on duty.
3. ASSIGNING WATCHMEN AND ADVANCE WATCHMEN
 - a. Only qualified watchmen may be assigned.
 - b. If employees may have trouble hearing the watchmen’s warning whistle due to noisy machinery, the size of the gang, or any other reason, other methods of on-track protection must be provided.
 - c. Advance watchmen must be assigned if the watchman does not have sufficient sight distance to clear the gang at least 15 seconds before the train or engines reach the work site. Refer to Rule **RW 6-B** for the distances a train travels in fifteen seconds.

4. STATIONING WATCHMEN AND ADVANCE WATCHMEN

The stationing of watchmen and advance watchmen is the responsibility of the Roadway Worker in Charge.

Watchmen must:

- a. Be stationed so that they are clear of all tracks, except that when it is not practical to station watchman clear of all tracks, watchman may be positioned on tracks where Working Limits are established.

- b. Be able to see trains approaching from either direction far enough in advance to allow time for all roadway workers to reach the previously designated area of safety at least 15 seconds before the train or equipment reaches the work location.
- c. Close enough to the gang to allow employees to hear the audible warning device clearly.
- d. Be stationed far enough from the gang to prevent being distracted by the work. When employees are working near noisy equipment that will interfere with the watchman's ability to communicate with the employees, station an employee at the equipment's shut-off valve. This employee observes the watchman and, at the watchman's signal, shuts off the equipment so that the other employees can hear the watchman's signals.
- e. Station advance watchmen far enough from the gang that they can clear the gang at least 15 seconds before the train reaches the work location.

5. RESPONSIBILITIES OF WATCHMEN

- a. Watchmen must give full attention to detecting the approach of trains and warning employees to clear the tracks.
 - b. Watchmen must not perform any other duties, even momentarily.
 - c. Watchmen must signal employees to clear the tracks when required.
 - d. Watchmen must acknowledge and act upon signals from Advance Watchmen.
6. Watchmen must not leave their assigned station until informed by the Roadway Worker in Charge that the gang is no longer fouling the track and watchmen are no longer needed, or until another assigned watchman is in position.

7. DUTIES OF WATCHMAN

When a train, engine, or on-track equipment approaches from either direction on any track, the watchman must immediately warn employees to clear the tracks. Employees must be in the clear at least 15 seconds before the train reaches the work location, assuming that the train is moving at the maximum authorized speed for that track.

Watchmen will signal employees of an approaching train as follows:

- Sound an audible warning device.

- Hold the white disc at arm’s length above his head. This signal is to be maintained until the train is clear of the work location.

Watchmen will signal employees that it is safe to resume work as follows:

- Hold the white disc horizontally at arm’s length toward the work site.

8. DUTIES OF THE ADVANCE WATCHMAN

Advance watchmen are responsible for watching for approaching trains and signaling the watchman when a train is approaching. The watchman repeats the signal.

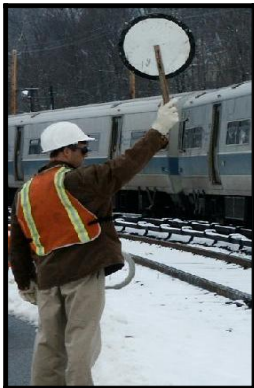
Advance Watchmen will signal the watchman of an approaching train as follows:

- Sound an audible warning device
- Hold the white disc at arm’s length above his head.

Advance Watchmen will signal the watchman that it is safe to resume work as follows:

- Hold the white disc horizontally at arm’s length toward the work site.

If the watchman does not acknowledge the signal of the advance watchman, the advance watchman will signal the approaching train to stop.



Watchman’s signal to clear for train



Watchman’s signal to return to work

9. REQUIRED EQUIPMENT FOR WATCHMEN AND ADVANCE WATCHMEN

Watchmen, advance watchmen and employees in charge must have the appropriate equipment to perform their duties. The equipment must be in good condition and ready for use. The audible device must be worn outside of the watchman’s clothing for quick access.

The following equipment is required:

Visibility	Employee Classification	Equipment Required
Good	Watchman	Audible warning device Standard white disc
	Advance watchman	Audible warning device Standard white disc Red flag
	Employee in Charge	Audible warning device
Poor, also for nights and in tunnels	Watchman	Audible warning device Suitable white light
	Advance watchman	Audible warning device Suitable white light
	Employee in Charge	Audible warning device


6-C LOOKOUT

1. A lookout is an employee assigned to provide train approach warning to a single employee. A lookout is not required to be a qualified gang watchman.
2. A lookout must:
 - Give full attention to detecting the approach of trains from either direction so as to provide train detection warning to the employee they are assigned to protect. Lookouts may be utilized where working limits have not been established.
 - Warn the affected employee to clear the track at least 15 seconds prior to the arrival of the train or equipment.
3. The lookout must be positioned at such a location to ensure that the effected employee can hear a verbal warning. In the event of the use of noisy tools or machinery, the lookout must be positioned so as to touch the employee to warn of the approach of trains or equipment.
4. A lookout is not required to be equipped with watchman’s equipment.

6-D INDIVIDUAL TRAIN DETECTION (ITD)

1. Individual Train Detection (ITD) is a means of on-track protection in which a Lone Worker maintains on track safety by seeing approaching trains and leaving the track at least 15 seconds before they arrive. ITD may be used under strictly defined circumstances by qualified lone workers on certain tracks outside working limits.
2. Lone workers who cannot comply with all the provisions of ITD must establish another form of On-Track Protection before fouling any track.
3. Lone workers have the right to chose to use types of on-track protection other than ITD if they feel it is necessary to perform the work safely.
4. Lone workers who foul a track while performing routine inspection or minor repairs may use ITD for protection only if the following eight conditions are met:
 - 1) The worker is trained and qualified to use ITD;
 - 2) The work is not being performed within an interlocking;
 - 3) The worker is able to visually detect the approach of a train moving the maximum authorized speed for that track and move to a previously determined place of safety at least 15 seconds before the train reaches the worker's position. The place of safety may not be on another track unless working limits are established on that track;
 - 4) There are no power-operated tools or roadway maintenance machines in use within range of hearing;
 - 5) The worker's ability to see and hear approaching trains and other on-track equipment is not impaired by background noise, lights, fog, precipitation, passing or standing trains, or any other physical conditions.
 - 6) The worker does not occupy a position or engage in an activity that would interfere with his ability to maintain a vigilant lookout for, and detect the approach of, a train in either direction.
 - 7) The worker conducts a job briefing with his supervisor or a designated employee, such as the RTC, at the beginning of the tour of duty. This briefing must include:
 - The worker's planned itinerary, and
 - The method on-track protection to be used.
 If the worker is unable to communicate with the designated employee due to a communication failure, he may begin the work and conduct the job briefing as soon as communications are restored.
 - 8) The worker has completed and is carrying an Individual Train Detection Permit. Only one permit can be in effect at a time.

Sample Individual Train Detection Permit


Metro-North Railroad

Individual Train Detection Permit

Date _____ Time _____ Line _____ Branch _____

Job Briefing Conducted with _____ Title _____

Track _____ From _____ To _____ Speed _____ mph Distance _____ ft

Track _____ From _____ To _____ Speed _____ mph Distance _____ ft

Track _____ From _____ To _____ Speed _____ mph Distance _____ ft

Track _____ From _____ To _____ Speed _____ mph Distance _____ ft

Other Locations _____ Speed _____ mph Distance _____ ft

Check List

In order to use Individual Train Detection, employees are required to:

Conduct Job Briefing

Discuss Protection to be used

List all Work Locations

I will comply with all Safety Rules and Roadway Worker Safety Manual instructions:

Employee Signature: _____

THIS PERMIT MUST BE CARRIED BY THE EMPLOYEE WHILE USING ITD.

15-Second Sight Distance Table

Speed	Distance	Speed	Distance	Speed	Distance
10 mph	220 ft	40 mph	880 ft	70 mph	1540
15 mph	330 ft	45 mph	990 ft	75 mph	1650
20 mph	440 ft	50 mph	1100 ft	80 mph	1760
25 mph	550 ft	55 mph	1210 ft	85 mph	1870
30 mph	660 ft	60 mph	1320 ft	90 mph	1980
35 mph	770 ft	65 mph	1430 ft	95 mph	2090

RW 7 SAFETY PRECAUTIONS WHILE CROSSING TRACKS

When crossing tracks, workers must expect equipment to move on any track, in either direction, at any time. Workers must:

1. Before crossing tracks, be certain there is a safe place to clear for trains.
2. Take into account track speed, sight distance, and how long it will take to cross.
3. Cross tracks at least 15 feet from standing equipment.
4. Avoid crossing in front of moving equipment when possible. If necessary to cross in front of a moving train or equipment, the worker must be able to reach the opposite side at least 15 seconds before a train or equipment arrives.
5. Stop and look both ways before crossing each track, and take the shortest safe route.
6. Use an approved walkway when available.

RW 8 SAFETY PRECAUTIONS FOR WORKING AROUND SELF-PROPELLED EQUIPMENT

8-A The following precautions must be taken when working on or around self-propelled equipment:

- All persons operating and riding on self-propelled equipment must understand the duties that each person will perform.
- Workers must use the handrail when getting on, riding on, or getting off equipment.
- Employees are prohibited from getting on or off moving equipment.

8-B Persons working near or observing equipment must communicate with the equipment operator to ensure that they and any others in the immediate vicinity understands:

- Normal equipment operating procedures.
- Location of all employees working around or observing equipment
- The operator’s blind spots.

8-C Whenever possible, employees should keep outside the 15-foot safe area around the equipment. If duties require employees to be within the 15-foot safe area around the equipment, the employee must communicate with the equipment operator and establish safe locations for the employee while work is being performed.

8-D When operating self-propelled equipment, the following precautions must be taken:

1. The operator must be qualified to operate the equipment or qualifying under the supervision of a qualified employee. Qualified employees must carry their qualification card (MW-200) at all times when on duty.
2. Whenever possible, the Operator’s Manual should be available on the equipment for reference to safe operating procedures.
3. Brakes must be tested immediately after starting to travel.
4. The operator must communicate with any employee(s) who are near the equipment regarding:
 - Normal equipment operating procedures
 - Location of employee(s) working around or observing the equipment
 - Operator’s blind spots
5. The equipment must not operate within 15 feet of employee(s) working in front of or behind the equipment unless the operation requires employee(s) to be closer, and the operator and employees have communicated per Rule 8-C.
6. When employee(s) are getting on, getting off, or moving between self-propelled equipment:
 - Stop the equipment.
 - Disengage the clutch or gears.
 - Set the brakes to hold

7. The equipment operator must not allow anyone or anything to distract him from his duties. If distracted, the operator must stop all movement.

8-E At least 30 feet separation should be maintained between standing or working equipment to avoid collisions. The separation distance should be increased when the equipment is working on territory where grades or curves limit the sight distance, or when the rail is wet, icy, or oily. When the operation requires, the 30-foot distance between equipment may be reduced after ensuring that no ground employee(s) are between the equipment.

8-F The following horn signals will be used by the operator of self-propelled equipment:

“o” indicates a short sound
 “—” indicates a long sound

Sound	Indication
o o	Prior to moving forward
o o o	Prior to backing up
— — o —	Approaching roadway workers on or near the tracks.

8-G The following factors must be considered when determining a working speed for the equipment:

- Location of employee(s) required to be on the track in the area
- Operator visibility
- Braking distances
- Speed required to do the job
- Physical characteristics of the track
- Environmental conditions

8-H Self-propelled equipment must not foul an adjacent track with any part of the equipment unless:

- The adjacent track is a controlled track and exclusive use or foul time has been established on the track, or
- The adjacent track is a non-controlled track and the track has been made inaccessible.

RW 9 MOVEMENT OF TRACK CARS

9-A Movement of track cars is governed by Rule 23 of the Metro-North Railroad Operating Rules. Responsibility of Track Car Driver. In the event of conflict between these instructions and the Operating Rules, the Operating Rules will govern.

9-B TRACK CAR DRIVERS

1. Foremen, track car drivers, and other designated employees are responsible for the movement of track cars.
2. Employees who receive Form Ms for track car movement must be qualified on the Operating Rules, Employee Timetable and the physical characteristics of the territory over which they operate.
3. Operators of individual pieces of equipment who are not qualified on the Operating Rules and physical characteristics must be piloted by a qualified employee.

9-C RIDERS

Only authorized individuals may ride in track cars.

A roadway worker other than the 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.

9-D INSPECTION OF TRACK CARS

Prior to operating any track car, the foreman, track car driver or other qualified employee must perform a visual inspection to determine that the track car is in safe condition. A brake test must be conducted immediately after starting movement. Any condition that would inhibit safe operation must be corrected prior to operating. If equipment cannot be repaired, and if the non-complying condition does not affect the safety of the operation, the defect shall be reported and indicated with the RMM 1 tag.

Sample RMM 1 Tag

Metro-North Railroad	
R.M.M. 1	Tag #
MACHINE/VEHICLE UNIT #	
APPLIED BY	
EMPLOYEE #	
DATE	/ /
DEFECT	
SUPERVISOR NOTIFIED	

Metro-North RR	
R.M.M. 1	Tag #
MACHINE/VEHICLE UNIT #	
APPLIED BY	
EMPLOYEE #	
DATE	/ /
DEFECT	
SUPERVISOR NOTIFIED	

9-E FLAGGING EQUIPMENT

Track cars must not be operated from their origination point without being equipped with a minimum of one red flag, a white light, and 6 fusees. When multiple track cars are operated under one Form M, only the leading and trailing piece are required to carry flagging equipment.

9-F SPEEDS

1. Maximum Authorized Speeds for track cars are shown in Operating Rules 23-Q and 23-R.
2. All Track Cars are required to operate at **Restricted Speed** on out-of-service tracks and non-controlled tracks.

9-G GOOD FAITH CHALLENGE (Roadway Maintenance Machines)

An employee operating any track car, including all on-track roadway maintenance machines and hi-rail vehicles, 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.

The employee must follow the procedures outlined in Rule **RW-11**.

Once a Good Faith Challenge has been made in accordance with these instructions, the employer shall not require the employee to operate the machine or vehicle until the challenge is resolved.

RW 10 RADIO RULES

10-A RADIO REQUIREMENTS FOR MW EQUIPMENT

A single track car or piece of MW equipment operated on the right-of-way must be equipped with a working radio.

When multiple track cars or pieces of MW equipment are operated under a single movement authority, at least one unit must have a working radio, and all units must have a means of communication with each other.

10-B RADIO REQUIREMENTS FOR INDIVIDUAL ROADWAY WORKERS

Individual roadway workers and employees assigned to protect groups of roadway workers shall be provided with and maintain access to a working radio.

10-C PROCEDURE FOR USE OF RADIOS

1. To originate a radio call, the employee must:
 - Listen to ensure that the channel is clear;
 - Identify their employing railroad; and
 - Identify themselves, as follows:
 - For track cars, "TC" and the track car number;
 - For other persons and portable units; the employee's title, last name and location.

10-D KEY WORDS USED IN RADIO TRANSMISSIONS

- *ROGER* indicates that the message has been received and understood, or that the instructions have been repeated correctly;
- *OVER* is used at the end of each transmission for which a response is expected;
- *OUT*, preceded by the sending party's identification, is used at the end of the transmission when no response is expected

The word *EMERGENCY*, repeated three times, will be used to signify a condition, which may endanger train movement or the safety of individuals. Use of this word gives the sending and receiving parties the absolute priority in the use of the radio channel.

- 10-E** If radio communications fail, other means of communications must be used to ensure safety and avoid delay.

RW 11 GOOD FAITH CHALLENGES

11-A RIGHTS OF ROADWAY WORKERS

A roadway worker has the absolute right to challenge, in good faith:

- Any directive that would violate a Metro-North Safety or Operating Rule or Roadway Worker Safety Manual instruction; and
- The safe operating condition of any track car, including all on-track roadway maintenance machines and hi-rail vehicles.

Once such a good faith challenge is made, the roadway worker has the right to remain clear of the track or not operate the track car until the challenge is resolved, and may refuse any directive that, in his opinion, would violate an operating rule, safety rule or federal regulation.

11-B CHALLENGING ON-TRACK SAFETY PROCEDURES OR THE CONDITION OF TRACK CARS

1. Prior to initiating a challenge, the roadway worker shall discuss the on-track safety procedures at the job location or condition of the track car or other on-track equipment with the Roadway Worker in Charge, in order to clarify any misunderstandings about those procedures, and attempt to resolve any difference of opinion concerning those procedures.
2. A Metro-North roadway worker who has decided to challenge the on-track safety procedures or condition of a track car must:
 - Do so in good faith; that is, have an honest concern over whether the on-track safety procedures or track car condition complies with Metro-North rules. Such concern must be of such a nature that a reasonable person under the same circumstances would also have such a concern;
 - Immediately notify the Roadway Worker in Charge, who will promptly notify their supervisor (or his/her designee);
 - Notify any fellow roadway workers of potential danger; and,
 - Be able to explain his concerns regarding the on-track safety procedures being applied or track car condition.

11-C RESOLUTION OF CHALLENGES

1. A roadway worker making a good faith challenge, per Rule RW 9-G or RW 11-B, shall explain the basis for his concerns to his immediate supervisor or designee. This explanation shall be written on an "Good Faith Challenge Form", and shall include:
 - Identification of the roadway worker, the supervisor and work location;
 - A full description of the on-track safety procedure and basis for challenge; or


- The identification of the track car and a full description of the condition which renders the track car unsafe for operation;
 - The applicable Metro-North Roadway Worker Safety Manual instruction, Safety or Operating rules, or FRA regulation; and
 - The names of other employees (including supervisors and the Roadway Worker in Charge) with knowledge of the facts applicable to the challenge at that job location.
2. The roadway worker's immediate supervisor shall review the roadway worker's statement and:
- Determine if the roadway worker's statement of the applicable on-track safety procedures at the job location or condition of the track car is accurate; and,
 - Determine if the procedures applicable at the job location or condition of the track car comply with Metro-North Roadway Worker Safety Rules and Operating Rules and FRA regulations.
- The involved roadway worker and supervisor shall attempt to resolve the employee's concern to the employee's satisfaction. If resolved, the supervisor shall forward the Challenge Form to his Department Head's office.
3. If the challenge cannot be resolved, and the supervisor determines that the on-track safety procedures being applied at the job location or condition of the track car comply with all applicable instructions and rules, he shall so notify the roadway worker and document the determination on the Challenge Form.

The roadway worker has the right to progress the challenge, through his immediate supervisor, to the next level of supervision (or designee) for review. The next level of supervision shall be provided all information available to the employee's immediate supervisor, the immediate supervisor's determination, and an explanation of why the employee does not accept his immediate supervisor's determination.

4. The next level of supervision will review the challenge to determine if the on-track safety procedure being applied at the job location or track car condition is in compliance with Metro-North Roadway Worker Safety Manual instructions, all Safety and Operating Rules, and FRA regulations. He shall contact all involved parties, as appropriate, to get additional facts necessary to make his determination. If he determines that the on-track safety procedures are inadequate or that the track car condition is not in compliance, he shall arrange for rule compliance before allowing the roadway worker to foul the track or operate the track car. If he determines that the on-track safety procedures or condition of the track car comply with the applicable rules and instructions, he shall inform the roadway worker that the challenge is not valid and explain the reasons for this decision.

5. Once the next level of supervision makes his decision, the challenge shall be deemed resolved under this program and the roadway worker shall be instructed to resume his assigned duties.

Sample Good Faith Challenge Form

 Metro-North Railroad	Good Faith Challenge Form
<p>Instructions: <i>The employee making the challenge must complete the top portion of this form and submit it to their supervisor. The supervisor will document the determination, sign the form, and forward it to the next level non-agreement manager.</i></p>	
<p>Employee Name _____</p> <p>Position/Hqtrs _____</p> <p>Spvr Name/Title _____</p> <p>Date and Time of Occurrence _____</p> <p>Work Location _____</p> <p>Track _____ Mile Post _____ State _____</p> <p>Nearest City or Town _____</p>	
<p>This challenge concerns (check one)</p> <p>() On-Track Safety Procedures applied or lacking at work location</p> <p>() The condition of Track Car or On-Track Equipment _____ <small>(unit identification number)</small></p>	
<p>Description of unsafe condition: _____</p> <p>_____</p>	
<p>Metro-North Roadway Worker Safety Manual instruction, Safety Rule, Operating Rule or FRA Regulation not being correctly applied:</p> <p>_____</p>	
<p>Instruction or Rule Number, if known: _____</p>	
<p>Reason for Challenge: _____</p> <p>_____</p>	
<p>Other Employees with Knowledge of Situation:</p> <p>_____</p> <p>_____</p>	
<p>_____ <i>Signature of Employee making Challenge</i> _____ <i>Date</i></p>	
<p>Determination of Supervisor:</p> <p>_____</p> <p>_____</p>	
<p>_____ <i>Signature and Title of Supervisor</i> _____ <i>Date</i></p>	