



Housatonic Railroad

ON TRACK SAFETY MANUAL

EFFECTIVE:

0001 Hours, Tuesday July 1, 2014
(Supersedes October 1, 2004)

FOR THE GOVERNMENT OF EMPLOYEES ONLY

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SAFETY**

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**REGULATIONS GOVERNING
ON-TRACK SAFETY**

The regulations herein are effective July 1, 2001. They must be observed by all Housatonic employees and contractor employees working on or within 4 feet of the outside rail of any Housatonic Railroad track.

The intention of these regulations is to guard against employees being struck by trains or on-track equipment while performing their duties.

This book contains all rules and procedures that apply to on-track safety, including the responsibility of Roadway Workers and procedures for providing protection from trains and on-track equipment.

All Roadway Workers must be qualified on the Operating Rules and when required by their duties, must be qualified on the Physical Characteristics of the territory they are required to work. Roadway Workers will be responsible to maintain all qualifications required.

Any employee providing on-track protection and each Lone Worker, as defined herein, must have a copy of this manual in his/her possession at all times.

Responsibilities of Employees

ROADWAY WORKERS

RW-1. Compliance

Each roadway worker is responsible for complying with the regulations governing On-Track Safety.

RW-2. Fouling

No roadway worker will foul tracks except when necessary in the performance of duty, and only then, in accordance with these rules.

RW-3. Before Fouling

Before fouling a track, ascertain that on-track safety is being provided.

RW-4. Good Faith Challenge

If you are given a directive that would violate an on-track safety procedure, you may make a good faith challenge to that directive. Inform the employee in charge of on-track safety that the on-track safety protection to be applied does not comply with the regulations governing On-Track Safety.

Remain in the clear of tracks until the conflict is resolved, as shown in rule RW-28.

RW-5. Safe Passage of Trains

No work may be attempted that would interfere with the safe passage of trains.

RW-6. Personal Protective Equipment

Roadway workers must wear a high visibility vest, or other approved garment, hard hat and safety glasses, when on or about the track.

RW-7. Clearing for Trains

On receiving warning or knowing of the approach of a train, all employees must clear tracks at least 15 seconds before the train reaches the point of work, discontinue all activity, and remain clear until safe to resume work.

EMPLOYEE IN CHARGE

RW-8. Employee in Charge

Every Roadway Work Group whose duty requires fouling a track shall have one roadway worker designated to provide on-track safety for all members of the group.

When two or more Work Groups are assembled to work as a single group, one foreman must be designated to take charge of the work and be responsible for the protection of the employees. Each foreman involved will be advised which one of them is to be Employee in Charge. In an emergency or until one foreman has been designated, the foreman in whose territory the work is being performed will take charge, but if he is not present, the foremen will agree as to which one of them will be in charge. The Employee in Charge will advise each of the other foremen what his duties will be with respect to the safety of their employees.

The designated employee shall be qualified on the NORAC Operating Rules, Regulations Governing On-Track Safety, and the physical characteristics of the territory where the work will be performed.

RW-9. Responsibilities

The Employee in Charge of on-track protection is responsible for a safe operation and must exercise precaution to protect the employees in his/her charge. The Employee in Charge must.

- a) Conduct job briefings with each employee that include the on-track safety protection that will be provided and the safety procedures that will be followed.
- b) Get an acknowledgment from each roadway worker that the job briefing was understood.
- c) If the on-track protection changes during the work period, inform each employee before the change becomes effective, except in an emergency. If the employee cannot be notified in advance because of an emergency, have the employee clear the track immediately, and stay clear until on-track protection is established.
- d) Notify all employees before the Working Limits are released for the operation of trains. Do not release the Working Limits until all affected employees have either left the track or have been given on-track protection.

RW-10. Job Briefing

All Roadway Workers whose duties require the coordination between two or more workers must perform a job briefing prior to starting their job. The Roadway Worker must acknowledge that they have a clear understanding of the task, how it is to be accomplished and the on-track protection procedure to be used.

Job Briefings should be conducted face to face. When not practical or possible to do so, radio or telephone can be used. Discussion between employees must include, but is not limited to, the following:

1. The specific job to be performed for the day. Example: Installing ties at new interlocking under construction.
2. What type of protection the Employee in Charge intends to use. Example: Depending on the nature of the work, the affected track will be taken out of service, obstructed, or Foul Time will be requested.
3. Responsibilities of each employee. Example: Which foreman will be in charge of the Work Group.
4. Any known hazards or situations that could jeopardize personal safety. Example: The adjacent track is in service and trains will be passing work site at Normal Speed.
5. How equipment is to be operated, and which communication method will be used. Example: Who will give the crane operator hand signals.
6. Any requirements that will affect their job, such as orders to clear the track by a certain time.
7. All known unusual conditions or situations that may affect their job assignment.
8. If necessary to work under traffic, where the Predetermined Place of Safety(PPOS) location will be to clear the track. Employees must **not** clear the track by occupying another track unless that track is out of service.

Job Briefing should be updated regularly. When there is more than one foreman on the jobsite only one foreman can be in charge of the worksite. The foremen in charge must keep all other foreman up-to-date and must have a clear understanding as to how the job is to be conducted.

LONE WORKER

RW-11. Lone Worker

Each Lone Worker will communicate at the beginning of each duty period with a supervisor or another designated employee in order to receive a job briefing. The Lone Worker will advise such person of the Lone Worker's planned itinerary and the procedures that the Lone Worker intends to use for on-track safety.

When communication channels are disabled, the Lone Worker may begin the work and conduct the job briefing as soon as communications are restored.

RW-12. Job Briefing for Lone Worker

All Roadway Workers whose duties require them to work alone and who are not part of any other work group must contact their supervisor before the start of their work and conduct a job briefing. The Roadway Workers must acknowledge that they have a clear understanding of the task and the on-track protection procedure to be used.

Job Briefings should include how the worker intends to protect him/herself against moving track equipment or trains.

Discussion between Lone Worker and his/her supervisor must include, but is not limited to, the following:

1. All specific jobs to be performed for the day. Example: Inspecting track between two specific locations.
2. Responsibilities of the Lone Worker. Example: What portions of the job will require "Individual Train Detection" and when the track would need to be taken out of service.
3. Any known hazards or situations that could jeopardize personal safety. Example: The adjacent track is in service and trains will be passing the Lone Worker at Normal Speed.
4. How communication will be established. Example: Will the Lone Worker be monitoring the radio and on which frequency.
5. Any requirements that will affect the job, such as orders to clear the track by a certain time if the track is to be taken out of service.
6. All known unusual conditions or situations that may affect the job assignment.
7. If necessary to work under traffic, where will the PPOS location be to clear the track. Employees must **not** clear the track by occupying another track unless that track is out of service.

Job Briefing should be updated regularly. When it is not possible to contact the supervisor another employee must be designated to conduct an updated job briefing. If no other M of W employee is available to conduct a job briefing, the Dispatcher must be contacted and a job briefing will be conducted with the Dispatcher.

TYPE OF ON-TRACK PROTECTION TO BE USED

RW-13. Type of Track

The Employee in Charge of on-track protection will determine if the track to be protected is:

- a) Controlled Track.
- b) Non-controlled Track.
- c) Interlocking Limits.

RW-14. Employees Protected

The Employee in Charge of on-track protection will determine if the employee(s) to be protected are a Roadway Worker Group or a Lone Worker.

RW-15. Protection Available

The Employee in Charge of on-track protection will determine what types of protection are available based upon the type of track and the employees that need protection.

One of the following means of protection must be selected:

- a) Exclusive use of track
- b) Foul time
- c) Inaccessible track
- d) Individual train detection

RW-16. Exclusive Use of Track

Exclusive use of track establishes Working Limits on Controlled Track by one of two methods:

- a) The Dispatcher or Block Operator withholds or restricts authority to move into the Working Limits as established by Form D Line 4, or Line 5.,

RW-17. Foul Time

Foul Time establishes Working Limits on controlled track Through exclusive track occupancy by:

- a) The Dispatcher or Block Operator giving an employee verbal permission to foul a specific segment of controlled track during a specific time period.

Foul Time remains in effect until the employee to whom the Foul Time was issued reports clear of the track.

NOTE: Foul Time cannot be used if the work involves on-track equipment, or if the work will make the track structure unsafe for Normal Speed.

RW-18. Inaccessible Track

Inaccessible track establishes Working Limits on Non-controlled Track by using switches, derails, and/or M of W Watchmen to prevent access to the Working Limits.

RW-19. Individual Train Detection

Individual Train Detection (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.

Note: Lone Workers have the right to use on-track protection other than ITD if they feel it is necessary to perform their work safely.

RW-20. Watchmen/Lookouts

(Does not apply to HRRC)

RW-21. Train Coordination

(Does not apply to HRRC)

ESTABLISHING THE ON-TRACK PROTECTION

RW-22 Exclusive Use of Track

The following rules give procedures for establishing exclusive use of track.

(NORAC Rule 132)

Protection When Fouling Working on a Track; Protection in Unforeseen Conditions.

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

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:

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

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 NORAC 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.

(NORAC Rule 133)

Removing a Track from Service

Whenever Form D line 4 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 authority until:

1. The affected track is clear of other movements that are not part of the work group

AND

2. Controlled signals leading to the affected track are in Stop position,

AND

3. 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 NORAC Rule 134, paragraph (a), "Movement in the Direction of the Out-of -Service Track".

b. Addressees

Form D must be issued to both:

1. The employee requesting use of track,

AND

2. 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:

1. A whole mile post.
2. A station or other physical characteristic location.
3. A track barricade or flagman at a designated location.

(NORAC Rule 133, cont'd.)

d. Operation Within Out-of-Service Limits

The employee named in Form D Line 4 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. Interlocking switches within the out-of-service limits must not be operated without permission of the employee in charge.

EXCEPTION: In territory where non-signalled 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:

1. The track to be used must be clear and safe for the speed to be authorized.
2. All affected switches must be secured in normal position.
3. All affected Roadway Workers must be notified.
4. 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.
5. No following movements may be permitted behind the train given this authority.

The train must not reverse direction without the 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.

1. Additional equipment may enter the out-of-service limits after:

- (a) 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 to the person in charge of the additional equipment unless the limits are published by Bulletin Order.
- (b) 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.

(NORAC Rule 133, cont'd.)

g. 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:

1. He must notify the Dispatcher or Operator of any restrictions necessary for the safe passage of trains.

AND

2. 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.

(NORAC Rule 135)

Protection by Stop Signs When an In-Service Track is Obstructed for Maintenance

Whenever Form D line 5 is to be issued in accordance with item 1 of Rule 132, "Protection When Fouling or Working on a Track," the following procedures will apply. The "Working Limits" refers to the area designated by Form D line 5 or Bulletin Order, which must be identified by a whole milepost, station, or other physical characteristic location.

a. Addressees

Form D Line 5 must be issued to both:

1. The employee requesting to obstruct the track,

AND

2. Trains approaching the obstructed track.

EXCEPTION: When the Working Limits is published by Bulletin Order, issuance of Form D to approaching trains is not required.

b. Required use of Signs

The approach to the Working Limits must be indicated by an Approach Sign. The Approach Sign indication will not apply when permission is received to proceed past the stop sign.

The Working Limits must be indicated by a Stop Sign and a Working Limits Resume Speed Sign. A Working Limits Speed Limit Sign may be substituted for the Stop Sign when the track is not obstructed.

c. Action Required Prior to Issuance

The Dispatcher must not issue Form D line 5 authority until:

The affected track is clear of movements that are not part of the work group.

AND

The Employee in Charge has advised that all signs associated with the working limits have been properly placed.

(NORAC Rule 135, cont'd.)

d. Movements within Working Limits

A train must not enter the Working Limits until permission has been received from the employee in charge, unless a Working Limits Speed Limit Sign is displayed. The Employee in Charge must not authorize a train to enter the Working Limits or display a Working Limits Speed Limit Sign until he has been assured that the track through the Working Limits is not obstructed, and all Roadway Workers have been notified. Trains must not exceed 30 MPH through the Working Limits, unless directed by the Employee in Charge to operate at a higher or lower speed.

EXCEPTION: Trains and track cars that will be performing maintenance within the Working Limits:

1. May be admitted by the Employee in Charge while the Working Limits is still obstructed.
2. Must operate at Restricted Speed (ABS, DCS and CSS rules do not apply to such movements).
3. Must not leave the Working Limits without proper authority.

e. Interlocking Switches within Restricted Area

Dispatchers or Operators controlling interlocking switches within the Working Limits must line such switches for movements within the Working Limits and must apply blocking devices to the controls of those switches. These blocking devices must not be removed without permission of the Employee in Charge of the Working Limits. This requirement does not relieve employees operating within the Working Limits from complying with interlocking signal indications.

Before displaying a signal for a train to divert into the Working Limits, the Dispatcher must confirm with the Engineer that the train has permission to enter the Working Limits.

f. Trains in the Working Limits when Bulletin Order Item Becomes Effective.

Any train that is in the Working Limits when Bulletin Order becomes effective may continue at Normal Speed through the Working Limits. The Dispatcher must not issue Form D Line 5 until the limits are clear of movements that are not part of the Work Group.

Housatonic Railroad

Table 1. Minimum stopping distances From Approach Signs to Stop Signs on level or ascending grades.

Normal Speed (MPH)	Maximum Stopping Distance (feet)	
	Passenger	Freight
80	6,200	-----
70	4,700	-----
60	3,450	14,500
50	2,700	11,100
40	2,000	8,700
30	1,400	5,900
20	900	3,800
10	500	1,900

Table 2. Minimum stopping distances from Approach Signs to Stop Signs on descending grades. The approach distance from Table 1 should be increased as follows:

Grades	Increase	Grades	Increase
0 - .09%	None	1.01 % - 1.10%	50%
.10% - .30%	10%	1.11% - 1.30%	60%
.31% - .50%	20%	1.31% - 1.40%	70%
.51% - .80%	30%	1.41% - 1.60%	80%
.81% - 1.00%	40%	1.61% 0 1.70%	90%

RW-23. Foul Time

The following rule gives the procedures for establishing Foul Time. Also refer to NORAC Rule 132, Protection When Fouling or Working On a Track, Protection In Unforeseen Conditions.

(NORAC Rule 140)

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 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.

(NORAC Rule 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.

RW-24 Individual Train Detection

The following rules give procedures for using Individual Train Detection (ITD). If you are a Lone Worker and cannot comply with all the provisions of Individual Train Detection, you must establish another form of on-track protection before you foul any track.

Individual Train Protection (Watching For Trains Yourself)

If you are a Lone Worker who fouls a track while performing routine inspection or minor correction, you may watch for trains yourself only if all of the following eight conditions are met:

1. You are trained and qualified to use Individual Train Detection (ITD).
2. You are not within an Interlocking.
3. You are able to visually detect the approach of a train moving the maximum speed authorized for that track and

move to a previously determined place of safety at least 15 seconds before the train reaches you.

Note: The place of safety may not be another track unless Working Limits are established on that track.

4. There are not power-operated tools or roadway maintenance machines in use within your range of hearing.
5. Your 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. You may not occupy a position or engage in any activity that would interfere with your ability to maintain a vigilant lookout for, and detect the approach of, a train moving in either direction.
7. You must participate in a job briefing with your supervisor or other designated employee, such as the Dispatcher or Block Operator, at the beginning of your tour of duty. This briefing must include:
 - a) Your Planned itinerary,AND
 - b) The on-track protection you plan to use.

EXCEPTION: If you are not able to communicate with the designated employee due to a communications failure, you may begin the work and conduct the job briefing as soon as communications are restored.

8. You have completed a Statement of On-Track Safety. Only one statement can be in effect at a time.

RW-25 Watchmen

(Does not apply to HRRC)

PERFORMING THE WORK AND CLEARING THE TRACK

The following rules must be followed while operating roadway maintenance machines and when clearing the tracks.

RW-26 Operating Self-propelled Equipment

Follow these precautions when operating self-propelled equipment:

1. The employee must be qualified or must be a trainee under the supervision of a qualified employee.
2. Keep the Operator's Manual available on the equipment to determine safe operating procedures.
3. Communicate with any employee(s) who are near the equipment regarding:
 - a) Normal equipment operating procedures.
 - b) Location of employees working around or observing the equipment.
 - c) Operator's blind spots.
 - d) Signals warning that the equipment will move.
4. Do not get closer than 15 feet to employees working on the track in front of or behind the equipment unless:
 - a) The operation requires employees to be closer,

AND

- b) You have communicated with the affected employees.
5. Keep at least 30 feet from standing or working equipment to avoid collisions. Increase the distance between machines when:
 - a) The equipment is working on territory where grades or curves limit the sight distance,

OR

- b) The rail is wet, icy, or slippery.

EXCEPTION: When the operation requires, the 30 foot distance between equipment may be reduced after arrangements have been made with all affected employees to ensure that no employees are between the equipment.

6. Consider the following factors when determining a working speed for the equipment:
 - a) Location of employees required to be on the track in the area.
 - b) Operator's visibility.
 - c) Braking distance.
 - d) Speed required to do the job.
 - e) Physical characteristics of the track.
 - f) Environmental conditions.
7. Do not foul the track with any part of the equipment unless:
 - a) The adjacent track is a controlled track and exclusive use or Foul Time has been established on the track.
 - b) The adjacent track is a non-controlled track and the track has been made inaccessible.
8. Test the brakes immediately after starting to travel.
9. When employees are getting on, getting off, or between self-propelled equipment, disengage the clutch or gears and set the brakes to hold.
10. Do not allow anyone to distract you or interfere with your duties. If this happens, stop all movement.

RW-27 Clearing Tracks

The following rules give procedures for clearing tracks.
(NORAC Rule 808)

Clearing a Track Specified on Form D Line 2

When a track car clears the track specified on Form D line 2, the Form D authorizing the use of the track is fulfilled, and a new Form D must be issued for any further movement. The Foreman or Track Car Driver must report clear to the Dispatcher or Operator.

Safety Precautions For Clearing All Tracks

Follow these safety precautions when clearing tracks:

1. When you are notified or become aware of the approach of a train, stop all work. Clear the tracks at least 15 seconds before the train reaches you.
2. Move to the location established by the Employee in Charge during the job briefing.

Note: You may not clear onto another track unless Working Limits have been established on that track.

3. Stop all equipment and vehicles on the right of way while the train is passing.
4. Do not leave tools, objects, material, or equipment where they could be struck by the passing train.
5. Face the direction from which the train is approaching. Watch for projecting, dragging, or falling objects.
6. Inspect all passing trains. If you detect a dangerous condition, use any available means to warn the crewmembers on the passing train to stop. If the train does not stop at once, notify the Dispatcher.
7. Stay clear until you are notified that it is safe to resume work.

Clearing Controlled Tracks

Follow this procedure to clear a controlled track, which is any Track shown in the Timetable as being under the control of a Dispatcher, Block Operator, or Yard Master.

1. Clear all tracks, keeping at least 30 feet away from passing trains and equipment, if possible. Do not clear onto another in service track.
2. If you are operating equipment and you are within the gauge of the track, stay on your machine. If you are not within the gauge of the track, dismount the equipment and clear the track.

Clearing Non-Controlled Industrial and Yard Tracks

Follow these procedures when working on and clearing non-controlled track (industrial, Yard, or any other track not controlled by the Dispatcher, Block Operator or Yard Master):

1. If a train is approaching on an adjacent track, stop work and stand in the center of the track where you are working.
2. If you are a Lone Worker using ITD you must be governed by the following:
 - a) The place of safety cannot be on a track that is not shown on your Statement of On-track Safety, unless Working Limits are established on that track.
 - b) A maximum of three adjacent tracks may be shown on one Statement of On-track Safety.
 - c) You must always be prepared to clear all tracks if necessary.

CHALLENGE RESOLUTION

HRRC Roadway Workers have the absolute right to challenge, in good faith, any directive that would violate any Regulation Governing On-Track Safety. The Roadway Worker will remain clear of the track until a challenge is resolved.

RW-28. Resolving an On-track Safety Challenge

When a Roadway Worker has concerns about any directive that would violate the Regulations Governing On-track Safety the following procedures will apply:

1. The Roadway Worker will discuss the on-track safety procedures at the work location with the Employee in Charge. The worker and the Employee in Charge will try to clarify any misunderstanding and will resolve any differences of opinion about the on-track safety procedures.
2. If the worker and the Employee in Charge are unable to resolve the conflict, the employee may challenge the on-track safety procedures. To issue such a challenge, the worker must:
 - a) Do so in good faith. The worker must have an honest concern that the procedures in place do not comply with these on-track safety regulations.
 - b) Be able to explain his/her concern about the proposed on-track safety procedures being applied.
3. If the worker decides to challenge the on-track safety procedures, he/she must:
 - a) Notify the Employee in Charge.
 - b) Notify any other Roadway Workers of his/her concern.
 - c) Remain clear of the track.
 - d) The worker will explain the reason(s) for their concern on a "Roadway Worker Challenge Form".
 - e) The worker will give the "Roadway Worker Challenge Form" to the Employee in Charge.
4. The Employee in Charge will review the Challenge Form and determine whether the worker's statement of on-track safety procedures at the work location is accurate and the On-track Safety procedures comply with the Regulations Governing On-track Safety.

5. If the Employee in Charge determines that the worker's concerns are valid, the Employee in Charge changes the procedures so that they comply with the regulations. If the worker considers the challenge resolved, the Employee in Charge forwards the challenge form to the Division Engineer's office and the workers return to work.
6. If the Employee in Charge determines that the worker's concerns are not valid the Employee in Charge notifies the worker and documents the determination on the Challenge Form. If the worker considers the challenge to be resolved, the Employee in Charge forwards the Challenge Form to the Division Engineer's office and the worker returns to work.
7. If the worker does not consider the challenge to be resolved, the Employee in Charge will contact his /her supervisor for a resolution.
8. The Supervisor reviews the Challenge Form and determines whether the proposed on-track safety procedures at the work location comply with the regulations. The Supervisor will contact the employees named on the form to make this determination.
9. If the Supervisor determines that the challenge was valid, the Supervisor will arrange for the procedures to comply with the regulations. Once the procedures are in compliance, the worker(s) returns to work. If the Supervisor determines that the challenge was not valid, the Supervisor explains to the worker why the challenge was not valid. The challenge is considered resolved and the worker(s) return to work.
10. A copy of the completed challenge form will be forwarded to the Division Engineer's (or designee) office. For the purpose of this section, the title "Division Engineer" may also include Engineers of Track, Structures, and Signal Construction. The original copy of the completed challenge form must be sent to the Director of Rules and Safety (or designee).

TYPES OF PROTECTION	CONTROLLED TRACK		NON-CONTROLLED TRACK		INTERLOCKING	
	GANG	LONE	GANG	LONE	GANG	LONE
EXCLUSIVE USE OF TRACK	X	X			X	X
FOUL TIME	X	X			X	X
INACCESSIBLE TRACK			X	X		
INDIVIDUAL TRAIN DETECTION		X				X

Responsibilities of Employees

BRIDGE WORKER SAFETY

RW-40. Compliance

Each roadway worker is responsible for complying with the regulations governing Bridge Worker Safety.

RW-41. Conditions Requiring Use of Fall Arrest Systems

When bridge workers work twelve feet or more above the ground or water surface, they shall be provided and shall use a personal fall arrest system or safety net system.

RW-42. Conditions That Do Not Require Use of Fall Arrest Systems

(1) If the installation of the fall arrest system poses a greater risk than the work to be performed, OR

(2) If the inspection of railroad bridges are conducted in full compliance with the following conditions:

(i) The railroad has a written program in place that requires training in, adherence to, and use of safe procedures associated with climbing techniques and procedures to be used;

(ii) Bridge workers have been trained and qualified according to that program to perform bridge inspections, have been previously and voluntarily designated to perform inspections under the provision of that program, and have accepted the designation;

(iii) Bridge workers are familiar with the appropriate climbing techniques associated with all bridge structures they are responsible for inspecting;

(iv) Bridge workers are engaged solely in moving on or about the bridge or observing, measuring and recording the dimensions and condition of the bridge and its components;

(v) Bridge workers are provided all equipment necessary to meet the needs of safety, including any specialized alternative systems required.

(3) Where bridge workers are working on a railroad bridge equipped with walkways and railings of sufficient height, width, and strength to prevent a fall, so long as bridge workers do not work beyond the railings, over the side of the bridge, on ladders or other elevation devices, or where gaps or holes exist through which a body could fall.

(4) This section shall not apply where bridge workers are performing repairs or inspections of a minor nature that are completed by working exclusively between the outside rails, including but not limited to, routine welding, spiking, anchoring, spot surfacing, and joint bolt replacement

RW-43. Procedures Prior to Use of Fall Arrest Systems

Prior to use and after any component or system is changed, bridge workers shall be trained in the application limits of the

equipment, proper hook-up, anchoring and tie-off techniques, methods of use, and proper methods of equipment inspection and storage.

RW-44. Components of a Fall Arrest System

All components of a personal fall arrest system shall conform to the following standards:

(1) Lanyards and vertical lifelines that tie off one bridge worker shall have a minimum breaking strength of 5,000 pounds.

(2) Self-retracting lifelines and lanyards that automatically limit free fall distance to two feet or less shall have components capable of sustaining a minimum static tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

(3) Self-retracting lifelines and lanyards that do not limit free fall distance to two feet or less, ripstitch, and tearing and deformed lanyards shall be capable of withstanding 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

(4) Horizontal lifelines shall be designed, installed, and used under the supervision of a competent person, as part of a complete personal fall arrest system that maintains a safety factor of at least two.

(5) Lifelines shall not be made of natural fiber rope.

(6) Body belts shall not be used as components of personal fall arrest systems.

(7) The personal fall arrest system shall limit the maximum arresting force on a bridge worker to 1,800 pounds when used with a body harness.

(8) The personal fall arrest system shall bring a bridge worker to a complete stop and limit maximum deceleration distance a bridge worker travels to 3.5 feet.

(9) The personal fall arrest system shall have sufficient strength to withstand twice the potential impact energy of a bridge worker free falling a distance of six feet, or the free fall distance permitted by the system, whichever is less.

(10) The personal fall arrest system shall be arranged so that a bridge worker cannot free fall more than six feet and cannot contact the ground or any lower horizontal surface of the bridge.

(11) Personal fall arrest systems shall be worn with the attachment point of the body harness located in the center of the wearer's back

near shoulder level, or above the wearer's head.

(12) When vertical lifelines are used, each bridge worker shall be provided with a separate lifeline.

(13) Devices used to connect to a horizontal lifeline that may become a vertical lifeline shall be capable of locking in either direction.

(14) Dee-rings and snap-hooks shall be capable of sustaining a minimum tensile load of 3,600 pounds without cracking, breaking, or taking permanent deformation.

(15) Dee-rings and snap-hooks shall be capable of sustaining a minimum tensile load of 5,000 pounds.

(16) Snap-hooks shall not be connected to each other.

(17) Snap-hooks shall be dimensionally compatible with the member to which they are connected to prevent unintentional disengagement, or shall be a locking snap-hook designed to prevent unintentional disengagement.

(18) Unless of a locking type, snap-hooks shall not be engaged:

- (i) Directly, next to a webbing, rope, or wire rope;
- (ii) To each other;
- (iii) To a dee-ring to which another snap-hook or other connector is attached;
- (iv) To a horizontal lifeline; or
- (v) To any object that is incompatibly shaped or dimensioned in relation to the snap-hook so that unintentional disengagement could occur.

RW-45. Components of a Safety Net System

Use of safety net systems shall conform to the following standards and practices:

(1) Safety nets shall be installed as close as practicable under the walking/working surface on which bridge workers are working, but shall not be installed more than 30 feet below such surface.

(2) If the distance from the working surface to the net exceeds 30 feet, bridge workers shall be protected by personal fall arrest systems.

(3) The safety net shall be installed such that any fall from the working surface to the net is unobstructed.

(4) Except as provided in this section, safety nets and net installations shall be drop-tested at the jobsite after initial installation and before being used as a fall protection system, whenever relocated, after major repair, and at six-month intervals if left in one place. The drop-test shall consist of a 400-pound bag of sand 30 inches, plus or minus two inches, in diameter dropped into the net from the highest (but not less than 3½ feet) working surface on which bridge workers are to be protected.

(i) When the railroad or railroad contractor demonstrates that a drop-test is not feasible and, as a result, the test is not performed, the railroad or railroad contractor, or designated competent person, shall certify that the net and its installation are in compliance with the provisions of this section by preparing a certification record prior to use of the net.

(ii) The certification shall include an identification of the net, the date it was determined that the net was in compliance with this section, and the signature of the person making this determination. Such person's signature shall certify that the net and its installation are in compliance with this section. The most recent certification for each net installation shall be available at the jobsite where the subject net is located.

(5) Safety nets and their installations shall be capable of

absorbing an impact force equal to that produced by the drop test specified in this section.

(6) The safety net shall be installed such that there is no contact with surfaces or structures below the net when subjected to an impact force equal to the drop test specified in this section.

(7) Safety nets shall extend outward from the outermost projection of the work surface as follows:

(i) When the vertical distance from the working level to the horizontal plane of the net is 5 feet or less, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 8 feet.

(ii) When the vertical distance from the working level to the horizontal plane of the net is 5 feet, but less than 10 feet, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 10 feet.

(iii) When the vertical distance from the working level to the horizontal plane of the net is more than 10 feet, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 13 feet.

RW-46. Inspection of Safety Nets

Safety nets shall be inspected after any occurrence that could affect the integrity of the safety net system.

RW47. Working Over or Adjacent to Water

Bridge workers working over or adjacent to water with a depth of four feet or more, or where the danger of drowning exists, shall be provided and shall use life vests, or buoyant work vests with life preservers within ready access. This Rule does not apply to bridge workers using personal fall arrest systems or safety nets that comply with rule RW-44.

RW48. Use of River Craft

Where life vests are required, at least one lifesaving skiff, inflatable boat, or equivalent device shall be immediately available. If it is determined by a competent person that environmental conditions, including weather, water speed, and terrain, merit additional protection, the skiff or boat shall be manned.

RW49. Use of Scaffolding

Each scaffold and scaffold component, including footings and anchorage, shall be capable of supporting, without failure, its own weight and at least four times the maximum intended load applied or transmitted to that scaffold or scaffold component.

DEFINITIONS

Adjacent Tracks – Two or more track centers spaced less than 25 feet apart.

Anchorage – A secure point of attachment for lifelines, lanyards or deceleration devices that is independent of the means of supporting or suspending the employee.

Body Belt – A strap that can be secured around the waist or body and attached to a lanyard, lifeline, or deceleration device.

Blocking Device – A lever, plug, ring, or other method of control that restricts the operation of a switch or signal.

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.

Controlled Track – Track upon which all movements must be authorized by a Train Dispatcher or Control Operator.

Deceleration Device – Any mechanism, including, but not limited to, rope grabs, ripstitch lanyards, specially woven lanyards, and automatic self-retracting lifelines/lanyards that serve to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy on a person during fall arrest.

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 protection is being provided.

Exclusive Track Occupancy - A method of establishing Working Limits on Controlled Track in which movement authority is withheld or restricted by the Train Dispatcher or Control Operator or where one or more approaches to the Working Limits are protected by flagmen.

Flagman – An employee designated to direct or restrict the movement of trains at a point on track to provide on-track protection for Roadway Workers, while engaged solely in performing that function.

Form D – See Movement Permit Form D.

Foul Time – A method of establishing Working Limits through exclusive use of the track in which notification is given and recorded by the Train Dispatcher or Control Operator to an employee that no trains will operate within a specific segment of Controlled Track during a specific time period, and the required blocking devices have been placed on the control machine to protect the track fouled. Foul Time shall remain in effect until the employee to whom the Foul Time was issued has reported clear of the track.

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, within 4 feet of the field side of the running rail.

Inaccessible Track – A method of establishing Working Limits on Non-controlled Track by preventing access to the Working Limits.

Individual Train Detection (ITD) – A procedure that 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 the opposing home signals of an interlocking.

Lanyard – A flexible line of rope, wire rope, or strap that is used to secure a body harness to a deceleration device, lifeline, or anchorage.

Lone Worker – An individual employee who is not being afforded on-track protection by another employee, is not a member of a Roadway Work Group, and is not engaged in a common task with another Roadway Worker.

Movement Permit Form D – A form containing written authorization(s), restriction(s), or instruction(s), issued by the Dispatcher to specified individuals.

Non-Controlled Track – Track upon which trains are permitted by rules or special instructions to move without receiving authorization from a Train Dispatcher or Control Operator.

On-Track Roadway Maintenance Machine – A self propelled, rail mounted, non-highway, maintenance machine whose light weight in excess of 7,500 pounds, and whose purpose is not for the inspection of railroad track.

On-Track Roadway Maintenance Machine, new – A machine ordered after 12/26/03 and completed after 9/27/04.

On-Track Safety – 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.

Personal Fall Arrest System – A system used to arrest a fall of a person from a working level.

Personal Place of Safety – A predetermined location where a Roadway Worker or group will occupy when it is necessary to clear a work location.

Pilot – An employee assigned to a train or track car when the Engineer, Conductor, or Track Car Driver is not qualified on the physical characteristics or the operating rules of the territory to be traversed.

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.

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 the 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 designation that requires the Operator to be prepared to stop within one-half the range of vision short of other trains or railroad equipment occupying or fouling the track, obstructions, switches not properly lined for movement, derails set in the derailing position, or any signal requiring a stop. Operator must be on the lookout for broken rail and misaligned track. Speed must not exceed 20 MPH outside interlocking limits, or 15 MPH within interlocking limits. This speed applies to the entire movement unless otherwise specified in the rule or instruction that requires Restricted Speed.

Roadway Maintenance Machine – Powered equipment, other than by hand, which is being used on or near the track for maintenance, repair, construction, or inspection of track, bridges, roadway, or signal, communication, or electric traction systems. These machines may have road or rail wheels or may be stationary.

Roadway Maintenance Work Train - A train which is being operated within Working Limits in conjunction with roadway maintenance, construction, or repairs, under the direction of a designated employee in charge.

Roadway Work Group – Two or more employees working together on a common task.

Roadway Worker – An employee of HRRC, or employee of a contractor of HRRC, 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 an employee of HRRC or of a contractor of HRRC who is responsible for on-track protection.

Three-Step Protection – A procedure used by an engineer to protect employees before they foul equipment. Three-step protection has three components:

- Apply the brake.
- Center the reverser.
- Put the generator field in the OFF or OPEN position.

Track Barricade – A designated sign or obstruction fastened to a track that prevents access to the track.

Track Centers – The distance from the centerline of one track to the centerline of an adjacent track.

Warning Tag – Tag used to indicate that equipment is out of service and should not be operated.

Watchman (Train Approach Warning) – A method of establishing on-track protection by warning employees of the approach of trains in ample time for them to move to or remain at a place of safety in accordance with the Watchman Rules.

Working Limits – A segment of track within definite limits, established by NORAC rules, upon which trains and engines may move only as authorized by the Employee in Charge having control of the track within the Working Limits. Working Limits may be established through Exclusive Use of Track, Foul Time, or Inaccessible Track.

Housatonic Railroad

STATEMENT OF ON-TRACK SAFETY

Lone Workers who use individual train detection to establish on-track safety must complete this “Statement of On-track Safety” for each assignment. The statement shall be available for inspection by a railroad official or Federal Railroad Administration representative whenever the Lone Worker is using individual train detection. (49 CFR 214.335(f)).

Railroad Name:	Housatonic Railroad		
Lone Worker Name:			
Date:		Time:	
Job Location:			
Indicate track Limits the Lone Worker will be working:			
Date and time the Lone Worker will be using individual train detection at this location:			
Date:			
Start Time:			
End Time:			
Maximum authorized speed for trains at this location: MPH			
Sight distance at this location along the tracks where trains will be visible:			
Feet		Yards	
Lone Worker Signature:			

Housatonic Railroad

GOOD FAITH CHALLENGE FORM

The employee making challenge shall complete this form, sign and date it, and give it to his Supervisor who shall document this determination, sign and forward form to his immediate Supervisor.

Name:	Housatonic Railroad		
Job Position:	SAMPLE FORM		
Job Location:			
Supervisors Name		Title:	
Date and Time of Occurrence:			
Work Location:			
Nearest City/Town:			
On-Track Safety Procedure applied (or lacking) at working Location:			
Railroad Safety or Operating Rule not being complied with:			
Reason for this Challenge:			
Other Employees with information regarding this situation:			
Signature:		Date	
Determination by Supervisor:			
Supervisor Signature:		Date	