

DCA13MR002
Conrail - Shared Assets
Derailment/Hazardous Material Release
Paulsboro, New Jersey
November 30, 2012

Conrail
Operating Rules and Safety Training
Lesson Plans



Transportation Department
Operating Rules and Safety Training
For
Train & Engine Service Employees
And
Yardmasters

2012 Lesson Plan

2012 Transportation Department Operating Rules and Safety Training Train & Engine Service + Yardmasters

Key Themes for the Day

Personal Responsibility and Accountability for Safety
Special Instructions, Rule Changes and Past Problem Areas
Human Factors & Regulatory Issues
Security & Hazardous Materials

INSTRUCTOR AGENDA

- | | |
|--|------------|
| 1. Introduction & Job Safety Briefing | 15 Minutes |
| 2. Administrative Issues | 45 Minutes |
| • Attendance / Sign-In Sheet | |
| • Engineer Certification | |
| • NDR & DAC Forms Completed and Notarized | |
| 3. Personal Responsibility and Accountability for Safety | 60 Minutes |
| • General Safety Responsibilities | |
| • Communication And Situational Awareness | |
| • Fitness For Duty | |
| • Rule G | |
| • Medications | |
| • Hours of Service Rule Q | |

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INSTRUCTOR AGENDA

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|---|------------|
| 4. Operating Rules | 60 Minutes |
| <ul style="list-style-type: none">• Human Factors Rules & Regulatory Issues<ul style="list-style-type: none">• Handling Switches• Leaving Equipment in the Foul• Safety Stops• NORAC Rules<ul style="list-style-type: none">• New or Revised Instructions• Past Problem Areas / Eff. Ck. Rules• Timetable #9 Overview | |
| 5. Customer Service Discussion and On-Board | 15 Minutes |
| 6. LUNCH Superintendent Talk etc... | 45 Minutes |
| 7. Bulletin Chart Comparison | 15 Minutes |
| 8. Conductors Certification , PowerPoint & Test | 45 Minutes |
| 9. Hazardous Materials | 30 Minutes |
| <ul style="list-style-type: none">• Paperwork & applicable fines• Haz Mat PowerPoint & discuss | |
| 10. 2012 Specific Rules | 60 Minutes |
| 11. SAFETY & SOFA (Lifesavers & Fatalities) | 15 Minutes |
| <ul style="list-style-type: none">• Handout only. Brief discussion if time permits | |
| 12. Wrap Up, Q&A, Local Issues | 40 Minutes |
| 13. PowerPoint Test if Time Permits | |

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14. Examination

60 Minutes

- with Recertification Exam for Engineers & RCOs
- CT-1515 and Disposition of Paperwork

Adjourn

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Training Materials & Appliances

Appliances Needed

DVD Player or computer connected to Projector or TV

Power Point presentation on Conductors Certification

Handout Materials

DARS Pamphlets

SOFA

Efficiency Check & Injury Review

Other Materials

2012 Conrail Train & Engine Service Operating Rules Examination
(25 copies)

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Instructor Background Information

This course provides a standard training format and content for all Train and Engine Service employees and Yardmasters.

This one-day course will be presented to all of these Conrail employees during 2012 as assigned by crew management or the chief clerk.

Again this year the training is focused on key topics, while also addressing rules, instructions and requirements in general. Sections integrate the various safety, risk management, customer service and rules topics.

As in previous years, the objective is for each student to learn how to look up the information required for his or her job in the various operating manuals.

And as in previous years, the rules test will be conducted at the conclusion of the program. A passing grade is a score of no less than 85%.

When delivering this training, it is important to follow the outline and general content, so that every employee receives the same information. However, you may add examples that are relevant to the specific location and jobs of the attendees, and encourage the students to add their examples to enrich and customize the learning experience. However, all topics must be covered.

Training Purpose and Objectives

The purpose of this training is to reinforce specific topics with our employees and to provide skills for students to identify prevent and manage risks at their workplace; and to understand the various rules that control operations on the railroad. In order to do this, the students will:

- Learn how to look up the answers to various questions in the various operating manuals.
- Know how to protect themselves and their co-workers, and to stay secure and safe, while working on the property.

Training Design

The course is designed in a modular format. Topics may be added or modified, or the order changed, as we gain experience with the materials.

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Class Size and Instructors

Total class size will be between determined by the crew management department.

Classroom Training Methods

Most modules will begin with a combination of lecture by the instructor (sometimes using PowerPoint), discussions between instructor and students, and other experiential exercises. A variety of materials and methods are used including one DVD video used for instruction regarding horn compliance of trains.

The key instructional goals are to have maximum two-way communication and participation among students and instructor; and to keep the session lively at all times. This means that the instructor must actively facilitate the session at all times.

On the one hand, ideally you will encourage participation from every student, and bring out the issues that are on their minds. From that standpoint, we have built some flexibility into the schedule, to enable you to probe interesting and fruitful conversations.

On the other hand, you will need to keep the discussion under control, to keep to the general time frames of the course.

Overheads and Handouts

Use the PowerPoint to lead the students through important and detailed information. Remember, PowerPoint presentations are not intended to convey the information. They should be used to support and enhance two-way communication with the group.

Handouts are provided for use during certain modules, and to allow for subsequent review. Encourage students to use the handouts, to write notes and ideas on them, and to take them home.

Rules Training Process

Due to the amount of material to be covered and the length of time afforded for this training the use of self-study Student Teamwork Workbooks and collaboration in small teams has been eliminated. Therefore, each module will begin with the instructor using lecture format to discuss and describe the topic content and, where appropriate, referencing its general location in the operating manual.

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Custom Requirements

The agenda and schedule have little flexibility during the training day. It would be during the wrap-up section, when you may address and discuss additional topics, issues and information that are important in your area, or that are hot topics based on experience.

If there should be an event of major importance that occurs during the training cycle (the first quarter of the year), a new module will be developed and furnished to each trainer as a substitute for an existing module.

Break and Lunch Arrangements

Again this year, lunch is being furnished by the Company. Due to space limitations, lunch will be served and eaten in the classroom when in company facilities. Where hotel accommodations are used, separate eating facilities will be provided.

Time has been allotted for breaks (4 breaks at 15 minutes each) but not designated for specific periods. You should use your discretion on giving breaks based on the difficulty of the material, student reaction or feedback and your own needs.

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Course Content

Introduction & Job Safety Briefing

Introduce yourself and give a brief history of your background, particularly as it pertains to the railroad (i.e. Years of Service, craft experience, past and present locations where employed).

If time and class size permit, then ask each employee to introduce himself and give similar information about him.

Next, conduct the Job Safety Briefing.

- Reference Timetable page 1 for the outline and the 5 steps used.
- Mention that Conrail, both as a Class I and as a Switching & Terminal railroad, has long been a proponent of Job Safety Briefings. Also note that FRA emphasizes Job Briefings in SOFA and with every special order or advisory they issue. (Example = EO-24 on hand operated switches in non-signaled territory & EO-26 cell phone usage)

Administrative Issues

- Complete Sign In Sheet
- Count employees and yourself and order lunch
- Pay Codes

The information shown pertains to Train & Engine service employees who will enter their own time into the Crew Call system. Payroll inputting for members of the Yardmasters and any other non T&E crafts present will be handled by the person who enters their payroll.

- Claim Code = IW
- Occupation Code
 - CO = Conductor
 - EN = Engineer
 - B1 = Brakeman

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- **Employee Photo ID Badges**

Reference TTSI A-4 – EMPLOYEE IDENTIFICATION

Insist that each employee present his or her ID badge for inspection.

Any employees who were not photographed last year will have been identified to you with the assignment list. Human Resources Department representatives will come to the New Jersey training site to take their photos. Arrangements are being made on how to handle any such employees in Detroit. Any photos taken by anyone else are to be sent to Bill Judge in Mount Laurel via email.

For those who have lost his or her badge, please arrange to contact either Bill Judge (SMART 320-7244) or Lou Sarandrea (SMART 320-2165) to arrange for a replacement. These will be drawn from the digital photo file taken last year.

This would be a good time to remind everyone to check the address shown for them in the payroll system when they get back to their sign up or work location. They will NOT do this during class time, but instead on their own time.

Make sure all employees have TWIC Cards.

- **Engineer/Remote Control Operator Recertification Registration
And Conductor Certification**

- All employees are scheduled for either re-certification Engineer /RCO and /or Conductor in 2012.
- Driver License Review Forms (NDR & USIS/DAC)
 - Distribute, Collect & Notarize

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Review of Operating Manual - Publications in Effect

Following the order of Operating Manual tabs:

<u>Manual</u>	<u>Effective Date</u>
• Operating Rules = NORAC 10 th Edition	Nov. 6, 2011
• Air Brake Rules = NS-1	October 1, 2007
• Hazardous Materials = HM-1	01/01/12
• Safety Rules	June 1, 2001
• Timetable No.9	June 20, 2011
• Restricted Equipment Rules	Rev. May 1, 1999
• Emergency Response Guide (ERG)	2008

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Policies & Programs

Drug & Alcohol

Rule G has been on the books almost as long as there have been railroads. The Conrail – Amtrak tragedy at Chase, Maryland in January of 1987 and the resulting Federal Railroad Administration involvement has resulted in strict prohibition of drugs and alcohol in the railroad work place. Company policy (Zero Tolerance) reinforces that for both hours of service and all other employees.

Submitting to random, reasonable suspicion (employee shows Signs & Symptoms), reasonable cause (see below) and major incident testing is a condition of employment. This comes from the federal regulations.

Reasonable Cause Criteria

Reportable Accident/Incident + Employees acts or omissions contributed to occurrence or severity

Rule Violations:

- Occupying main track without authority
- Failure to clear a main track
- Moving across RR Xing at grade without permission
- Failure to stop at a Stop or Stop and Proceed signal
- Failure to protect a train by flagging
- Speed violation of 10 MPH or by 50% of max speed
- Run through switch
- Failure to apply or stop short of a derail
- Failure to secure a hand brake or sufficient hand brake
- Entering X-over before both switches are lined

In addition, Conrail Policy requires a drug screen whenever any employee undergoes a Company physical examination.

Refer anyone with questions about the federal regulations or company policy to L J Sarandrea, Manager, Operating Rules (856-231-2165).

It is all about impairment and being a safety hazard to yourself, other employees and the surrounding public.

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- Medications & Alertness

Allied to our discussion of Rule G and the regulations prohibiting drugs & alcohol in our industry is the issue of prescriptions and over the counter (OTC) medications that may cause drowsiness. DOT is looking into the effects and possible preventive measures related to these medications in the entire transportation industry.

It is best to ask your doctor or pharmacist for medications that do not cause drowsiness. Again, it is all about impairment and the risk to you, your fellow employees and the public.

Reference Safety Rule (SR) 2.4, page 2-5

DARS

- It is a benefit provided by Conrail & Norfolk Southern for employees and their families who have substance abuse problems.
- DARS Staff is composed of trained & certified counselors, who have a lot of experience in helping fellow employees and who are recovering folks themselves.
- Participation Options
 - Self Referral – Strictly Confidential
 - Co-Worker/Union Referral
 - Supervisor's Referral
- DARS is also the avenue for returning to our workplace if an individual has been found in violation of the Drug & Alcohol Policy and/or Rule G.

Pamphlets should be distributed to employees when requested.

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Starting to Work

General Safety Responsibilities = The Seven Point Safety Message

(Overhead = Information below)

- Safety is the first priority.
- Do not perform work that cannot be safely accomplished.
- Make a safe move, not a fast move.
- Do not take short cuts.
- Work the safest way possible.
- Wear your protective equipment.
- Three ways to handle hazards
 - Avoid
 - Eliminate
 - Compensate

Communication and Situational Awareness

We've talked about this subject in past rules classes.

"Situational Awareness" means being continuously vigilant about what is happening around you, and maintaining alertness on the job.

We need you to be aware at all times for cues about the situation that come from:

- Equipment and systems
- Crew members
- Yourself
- The general environment

A major focus area of Situational Awareness" is CELL PHONES.

There is much discussion about cell phones, not only in our industry but in the general public as well. We hear about it in the media all the time. Often it is discussed when a state or local lawmaker thinks it's a good idea to ban drivers from using cell phones when they're behind the wheel. And we've all seen someone driving too slow, or erratically or drifting into another lane only to pull along side and see the driver talking on the phone. Obviously this driver is inattentive, not paying attention to his driving.

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Communication and Situational Awareness

NORAC Rule 716 restricts cell phone use, and other wireless devices, to the purpose of company business. These devices include not only cell phones but Personal Digital Assistants (PDA), Blackberries, text messaging devices and computers with wireless (air) cards.

Why? It goes back to being attentive – not distracted. After all, railroaders are not any different than the general public. We all need to be vigilant about what is happening around us and maintaining alertness on the job.

In five recent cases investigated by the National Transportation Safety Board (NTSB) and the Federal Railroad Administration (FRA), the agencies determined that cell phones were a contributing factor in these accidents.

Metralink

Sept. 12, 2008	Chatsworth, CA	Head on Collision
26 Fatalities	100+ Injuries	

BNSF

May 28, 2002	Clarendon, TX	Head-on Collision
1 Fatality	3 injuries	
\$8 Million in Damages		

Union Pacific

May 27, 2006	San Antonio, TX	Head-on Collision
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BNSF

July 1, 2006	Marshall, TX	Rear-end Collision
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BNSF

December 2000	Location not given	
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“Conductor struck and killed by a passing train while dismounting from his train to give a roll-by inspection to a passing train. He was distracted by (his) cell phone use.”

So think about that driver on the highway on his cell phone and how distracted he is. Then apply that same thinking to someone walking along the switching lead or on a main track or running a locomotive.

What can happen when each of these people is distracted on his cell phone?

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Fitness For Duty

In addition to the earlier discussion on Drugs, Alcohol and medications, we'll now address other 'fitness for duty' issues.

- Review NORAC Rule Q and TTSI Q-1.
- T&E = always 10:00 hours rest and After 6 day=48hrs. rest
- Yardmasters who work the Oak Island Hump are covered by the same limitations.
 - These Yardmasters MUST account for 'turnover' time on their sign-in sheet.
 - They MUST also complete all fields on the sign-in sheet.
- Dispatchers and Operators work in 9 hour offices. That means that they can work 9 hours in 24, with 15 hours rest.

• **T&E Hours of Service Reporting**

Still having reporting issues with Relieved Responsibility and Off Duty Time.

Proper and accurate reporting of all times related to time on duty is an FRA requirement. This is the responsibility of each individual employee. In the past, people have been lax in keeping these records up to date and in answering 'flags' in the crew call system.

A new "crew call" system has been implemented on Conrail since 2008. As part of that system is a change in the programming regarding Hours of Service Certification Reporting. In this new process a member of the engine crew must tie up the engine crew. Similarly, a member of the train crew must tie up the train crew

The system will require that all information pertaining to Hours of Service reporting be completed during the 'tie-up' process. The system will not allow someone to complete the tie up and log off until the FRA reporting segment is done. The only exception will involve an employee who begins the 'tie-up' process after being on duty 11:45 or more. Then the "Quick Tie-Up" process will be used. The "Quick Tie-Up" does not allow FRA reporting at the end of that tour of duty. Instead, after taking the required rest period (10 hours) any Hours of Service data needed will be added at the end of the next tour of duty. Therefore, the employee will be required to complete all outstanding Hours of Service reporting.

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Fitness For Duty

- Proper Attire & Personal Protective Equipment (PPE)
 - Proper footwear - SR 2.7, especially 2.7.2, page 2-9.
 - Safety eyewear - SR 4.3.1, page 4-4

Highlighted Operating Rules & Instructions

A. Required Books

Employees must maintain and have with them while on duty a copy of the following:

1. The Operating Rules and Timetable, if their duties are affected by them.
2. The Safety Rules for their department.
3. The Hazardous Materials Instructions, if they are involved in the shipment of hazardous materials.
4. The Air Brake Instructions, if their duties are affected by them.

E. Prohibited Behavior

The following behaviors are prohibited.

1. While on duty or on company property: Gambling, fighting or participating in any illegal, immoral or unauthorized activity.
2. When required to perform service:
 - Sleeping or assuming the attitude of sleep.
 - Playing cards or other games.
 - Reading other than Company instructions.
 - Having magazines, newspapers, and other literature not related to one's duties visible in the operating cab of a train or other on-track equipment. Such personal items must be enclosed in the owner's personal luggage.
3. Solicitation of gratuities from patrons.
4. Unauthorized use of electronic devices.

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REFER TO NORAC RULE 716 WHICH IS THE NEW RULE ON
ELECTRONIC DEVICES

REFER TO NORAC 716.

REFER TO NORAC 716

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L. Protecting Company Affairs and Property

The divulging of the Company's business affairs to persons other than those authorized to receive such information is prohibited.

Company property must be protected. If Company property is endangered, employees must unite to protect it. Misplaced articles and freight found on Company equipment or property must be cared for and reported promptly.

It is prohibited to abuse, misuse, deface, or deliberately damage or destroy Company property, tools, or equipment.

Employees must keep switch keys in secure places, and must not allow unqualified or unauthorized persons to use or gain possession of these keys.

The unauthorized possession, removal, or disposal of any material from railroad property or property served by the railroad is prohibited.

Unauthorized persons must not be allowed on company property or equipment at any time.

S. Safety: Following the Safe Course

Safety is of first importance. These rules provide for a safe and efficient operation. In case of doubt, the safe course must be followed.

T. Reporting for Duty; On Call

Employees must report for duty at the required time.

Employees subject to call must not leave their usual calling place without notice to those required to call them.

Employees must not absent themselves from duty or leave their assignment or engage a substitute to perform their duties without permission of a designated officer.

Employees must give immediate written notice of change in residence or telephone number to a designated officer.

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80. Movement at Restricted Speed

Movements made at Restricted Speed must apply the following three requirements as the method of operation:

1. Control the movement to permit stopping within one half the range of vision short of:
 - a. Other trains or railroad equipment occupying or fouling the track,
 - b. Obstructions,
 - c. Switches not properly lined for movement,
 - d. Derails set in the derailing position,
 - e. Any signal requiring a stop.

AND

2. Look out for broken rail and misaligned track.

AND

3. Do not exceed 20 MPH outside interlocking limits and 15 MPH within interlocking limits. This restriction applies to the entire movement, unless otherwise specified in the rule or instruction that requires Restricted Speed.

101. TRACK EQUIPMENT; FOULING POINTS

a. Handling Equipment

When handling cars, locomotives, or other on-track equipment precaution must be taken to prevent damage or fouling other tracks. Employees must confirm that there is sufficient room in the track to hold such equipment.

Before coupling to any equipment standing on a grade or near the ends of tracks, buildings, derails or highway crossings at grade, sufficient hand brakes must be applied on standing equipment to prevent it from rolling.

b. Fouling Point of Track

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The fouling point of a track is indicated by:

1. A yellow stripe painted on the inside and outside of head, web and base of both rails,
or
2. A sign displaying the letters "FP".
or
3. A fixed derail.

On tracks where the fouling point is not indicated or is not visible, the fouling point must be determined as follows:

1. Stand on the tie butt with your outside foot (the one that is closest to the adjacent track) at the edge of the tie, then extend your arm outward toward the adjacent track.
2. Move to a location where your extended arm is approximately 4 feet from the edge of the near running rail on the adjacent track.
3. From this location, identify a point one car length farther away from the point of convergence of these two tracks. This point can be considered "the fouling point" on that track, and cars must not be left beyond that point.

(NOTE; On Conrail, equipment must not be left on a track in a position such that a person riding on the side of passing equipment on an adjacent track cannot safely pass.)

c. Leaving Equipment in the Clear

Cars, locomotives, and other on-track equipment must not be left where they will foul a connecting track, except when the equipment is:

1. Standing on a main track fouling a siding track switch that is lined for the main track.
2. Standing on a siding fouling a main track switch that is lined for the siding.
3. Standing on a yard switching lead track fouling a yard track switch that is lined for the yard switching lead track.
4. On an industry track beyond the fouling point of the switch leading to the industry.

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104. HAND-OPERATED SWITCHES, CROSSOVER SWITCHES, AND FIXED DERAILS

a. Employee Responsibilities for Switches and Fixed Derails

Each employee who operates a hand-operated switch or fixed derail is responsible for its use, and must confirm switches and derails are in proper position before, during and after use. When operating or verifying the position of a hand-operated switch or fixed derail, employees must:

1. Be qualified on the operating rules relating to switch and fixed derail operation;
2. Conduct a job briefing before work is begun, each time a work plan is changed, and at completion of the work;
3. Visually confirm that switches and fixed derails are properly lined for the intended route, and that no equipment is fouling the switches;
4. Visually determine that switch points fit properly and the target, if so equipped, corresponds with the switch's or fixed derail's position;
5. After operating a switch and before making movements in either direction over the switch, ensure that the switch is secured from unintentional movement of the switch points by use of a hook, lock or latch, if so equipped;
6. Ensure that a switch or fixed derail is not operated while rolling and on-track maintenance-of-way equipment is fouling, standing on or moving over the switch or fixed derail;
7. After operating a switch or fixed derail, ensure that, when not in use, each switch or derail is in the proper position, and is locked, hooked, or latched, if so equipped.
8. Promptly report any switch, derail or securement device that is found to be defective or missing.

When trains are approaching and passing, employees must keep away from main track switches. If safe to do so, they should stand on the side of the track opposite the switch lever.

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**b. Normal Position of Main Track Hand-operated Switches;
Leaving Switches in Reverse Position**

A main track hand-operated switch is in normal position when lined for the main track, unless otherwise specified. The switch must be lined and locked in normal position when not in use except when:

1. A crew member of another train is in charge of the switch,
2. A switch tender is in charge of the switch,
3. A Roadway Worker is in charge of the switch,
4. The train crew is authorized by Form D line 13 to *“Leave the switch (or crossover switches) at _____ (location) _____ in reverse position.”*

Before issuing a Form D line 13 permitting a train crew to leave a switch in reverse position, the Dispatcher must:

1. Make a record of the switch left in reverse position. Where train sheets are used, this record must be made in red ink.
2. Where possible, apply blocking devices to interlocking or controlled point signals authorizing movement in the direction of the switch left in reverse position.

Open switches must be included in the Dispatcher’s transfer record.

The Dispatcher must not permit a movement in the direction of a switch left reversed until it has been issued a Form D line 13 stating:

“Switch (or crossover switches) at _____ (location) _____ in reverse position”,

or

“Switch (or crossover switches) at _____ (location) _____ in reverse position must be returned to normal position”,

Or

“Switch (or crossover switches) at _____ (location) _____ in reverse position may be left in reverse position.”

If a switch that is left in reverse position is not protected by signal indication, Form D line 2 authority must end at or short of the switch left reversed.

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When the switch is returned to normal position, the Dispatcher must be notified. The Dispatcher must make a record of the following information:

1. The number of the Form D which contained the instruction "Return to normal position."
2. The time the switch was returned to normal position.
3. The name of the employee who restored the switch to normal position.

Before a train or a train crew leaves the location where any hand-operated main track switch was operated, all crew members must verbally confirm the position of the switch.

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c. Movements Over Hand-Operated Switches

Equipment must not foul a track until all hand-operated switches and derails connected with the movement are properly lined. Where a designated employee is in charge of hand-operated switches, equipment must not foul such switches until receiving verbal permission or a hand signal to proceed. Where semi-automatic or spring switches are involved, such switches must not be fouled until the intended route is seen to be clear or the train has been granted movement authority.

Trains must not exceed 15 MPH when diverting through hand-operated switches, unless otherwise specified. When equipment has entered a track, the hand-operated switch to that track must not be operated until the equipment has passed the fouling point of the track.

d. Clearing a Main Track at a Hand-Operated Switch

When a train is required to report clear of a main track at a hand-operated switch:

1. A job briefing must be held between all crew members to confirm the position of the switch,
and
2. The report must not be made until switches and derails have been secured in normal position.

In non-signaled DCS territory, before leaving a location where a hand-operated main track switch is used to clear the main track:

1. The employee releasing the track authority must advise the Dispatcher of the position of the switch, and that the switch is locked;
2. The Dispatcher must repeat the reported switch position information;
3. The employee releasing the track authority must confirm to the Dispatcher that the information is correct.

A roadway worker who has been given permission to occupy out-of-service or working limits by a Roadway Worker in Charge must report to that employee the position of any hand-operated switches that were operated, prior to clearing the out-of-service or working limits.

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e. Hand-Operated Crossover Switches

Both switches of a hand-operated crossover must be properly lined before equipment begins a crossover movement, and the movement must be completed before either switch is restored to normal position.

Hand-operated crossover switches are in corresponding position when both switches are lined for movement over the crossover, or both switches are lined for movement on the straight track. The switches of a crossover must be in corresponding position before either crossover switch is used, except when one crew is using both tracks connected by the crossover. Crossover switches must be left in corresponding position after use, except when:

1. Used to provide blue signal protection; or
2. Used for inaccessible track protection for roadway workers; or
3. Maintenance, testing or inspection of crossover switches is being performed in automatic block system (ABS) territory; or
4. One crew is using both tracks connected by the crossover during continuous switching operations.

f. Hand-Operated Derails

Employees must be familiar with the location of derails. Movements must not be made over a derail in the derailing position.

The normal position of fixed derails is in the derailing position, except:

1. Where specified by special instruction,
2. Where fixed derails are used for blue signal protection, occupied camp car protection, or Roadway Worker protection, they must be applied in the derailing position only when their use is required.

Employees operating or verifying the position of a fixed derail must:

1. Determine that the target, if equipped, corresponds with the derail's position.
2. Determine that the derail is secured by:
 - (i) Placing the throw lever in the latch stand, if so equipped;
 - (ii) Placing the lock or hook in the hasp, if so equipped; and
 - (iii) Testing such latches, locks or hooks; and
4. Ensure that when not in use, derails are locked, hooked, or latched in the normal position, if so equipped.

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g. Dual Control Switches

Dual control switches must not be hand-operated until permission is obtained from the Dispatcher or Operator.

Dual control switches must be operated as follows:

1. Remove switch lock from both the “Selector” and “Hand Throw” levers.
2. Throw “Selector” lever to hand-operation position.
3. Operate “Hand Throw” lever until mechanism engages and switch points move with the lever, then operate switch to desired position. This procedure must be followed, even if switch was originally in desired position.
4. Do not move “Selector” lever from hand-operation position until entire movement has passed over switch.
5. Place “Hand Throw” and “Selector” levers in positions designated by the Dispatcher or Operator and secure with switch locks.

h. Switch Targets: Banner Indications

Where switch targets are used, a green or white banner indicates normal position of the switch, and a red or yellow banner indicates reverse position.

116. OPERATING TRAIN FROM OTHER THAN LEADING END

When the Engineer operates a train from other than the leading end of the movement, a crew member or other qualified employee must provide point protection to ensure the movement is made safely. The person providing point protection must:

1. Be qualified on the physical characteristics of the territory involved.
2. Be positioned on the leading end (point) of the movement, or in advance of the leading end of the movement.

(NOTE: On Conrail, the requirements of this provision do not apply to movements where equipment is intentionally shoved or pushed to permit equipment to roll without power attached during flat switching or humping.)

3. Observe conditions ahead and take prompt action to properly control the movement.

In lieu of being positioned as specified in item 2 above, the person providing point protection may determine the track is clear with the aid

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of monitored cameras or other technological means, provided those procedures ensure an equivalent level of protection to that of direct visual observation and the person has been trained on the use of such devices.

Except during the performance of roadway maintenance activity being performed in accordance with the operating rules specific to roadway workers, the following requirements apply to all movements that are controlled from other than the leading end:

1. All employees participating in the movement must be briefed before the movement commences by the employee who will direct the movement. The job briefing must include the distance to be traveled, the means of communication to be used to direct the movement, each individual's responsibilities during the movement, and how point protection will be provided.
2. The employee directing the movement must promptly communicate signals and instructions necessary to safely control the movement. Hand signal, communicating signal or radio communication must be maintained with the Engineer. If signals from the crew member cannot be received by the Engineer, the movement must be stopped immediately.
3. The crew member stationed on the leading end must be prepared to operate the engine whistle or horn, if available, as well as the emergency brake valve, should conditions require. The train must not exceed 30 MPH.
4. The employee directing the movement must not engage in any task unrelated to the oversight of the movement.
5. Point protection shall be provided by a crewmember or other qualified employee by visually determining that:
 - (a) The portion of the track to be used is clear of obstructions and is unoccupied by rolling equipment, on-track maintenance-of-way equipment, and conflicting on-track movements;
 - (b) Switches and fixed derails are properly lined for the movement;
 - (c) The portion of the track to be used for the movement has sufficient room to contain the equipment.
 - (d) Public highway-rail grade crossings, private highway-rail grade crossings outside a yard, and yard access crossings are protected as follows:
 - (i) Crossing gates are in the fully lowered position, and are not known to be malfunctioning; or
 - (ii) A designated and qualified employee is stationed at the crossing and has the ability to communicate with trains; or

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(iii) At highway and private crossings equipped only with flashing lights or X-bucks, when it is clearly seen that no traffic is approaching or stopped at the crossing and the leading end of the movement over the crossing does not exceed 15 miles per hour.

6. Movements approaching pedestrian crossings within passenger stations and others outside a yard must be prepared to stop and not pass over the pedestrian crossing until it is determined the crossing is clear of pedestrian traffic. Movement shall not exceed 15 MPH until the entire pedestrian crossing is occupied.

(Note; In the application of this rule on Conrail,

1. All Remote Control movements are considered as shoving movements, except when the Remote Control Operator (RCO) is riding the leading end of the leading locomotive and in a position to visually determine the conditions in the direction of movement. In addition, when the controlling locomotive is on the leading end of the movement operating in an activated Remote Control Zone (RCZ), point protection is not required.

A Remote Control Zone must not be considered active until a conditioning run has been made to confirm that all switches are properly lined for the intended movement. Where transponders are used to limit the travel of a Remote Control Locomotive, the locomotive and transponder must be tested together to insure that the system functions as intended.

2. Movements of multiple unit lite locomotives must be afforded point protection on all movements when the Engineer is operating from other than the leading end. This applies whether or not the locomotives are connected for multiple unit (MU) operation.)

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135. Protection by Stop Signs When an In-Service Track Is Obstructed for Maintenance

Requires Form D, Line 5

- ABS, DCS, CSS and Interlocking rules are in effect
- Working Limits, the protected area, is indicated by STOP Signs (and Resume Speed Signs)
- Approach to Working Limits by Approach Sign

We usually see this in effect through the Dispatcher's Daily Bulletin.

"MP 25.24 TO MP 29.5 RULE 135 No.2 TRACK
"MON., DEC 17 TO WED., DEC 19 8:00 AM TO 5:00 PM
"CONTACT S789 FOR PERMISSION THROUGH THE WORKING LIMITS."

- A train must not enter the Working Limits until permission has been received from the employee in charge.
 - Conrail does not use Working Limits Speed Limit Signs.
- 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.
- This requirement does not relieve employees operating within the Working Limits from complying with interlocking signal indications.
- for a train to divert into the Working Limits, Dispatcher must confirm with the Engineer that the train has permission to enter the Working Limits. (from the Foreman or Employee In Charge)

Focus = sections 135 c through 135 e

136. Emergency Stops: Protection

a. Radio Transmission

When a train is moving and emergency application of the brakes occurs, crew members must immediately protect adjacent tracks by initiating an emergency radio transmission, in the manner of the following example:

*"Emergency, Emergency, Emergency.
Train TV-24 engine 6605 is in emergency
moving east on No. 2 track at MP 78."*

Following the emergency transmission, the Dispatcher must be notified.

b. Flag Protection

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After the train has stopped, crew members must immediately provide flag protection in both directions on all main tracks and controlled sidings, including those of a foreign railroad. This protection must follow the guidelines of Rule 130, paragraph (b), "Flag Protection against Trains on Adjacent Tracks," and will be maintained until:

1. It is known that tracks are not obstructed.
- OR
2. Full protection has been provided by the Dispatcher or Operator.

The entire train must be examined before movement resumes to ensure that no cars have derailed, no load has shifted, and no other condition exists that may endanger train movements. Results of this inspection must be reported promptly to the Dispatcher or Operator.

c. Other Train Movements

All trains receiving information that a train is in emergency on an adjacent track will be governed as follows:

1. A train that is operating in the same direction as the train reported in emergency must operate at Restricted Speed from 1 mile before the reported location until reaching the head end of that train.
2. A train that is operating in the opposite direction of the train reported in emergency must operate at Restricted Speed from the head end of the train in emergency to a point 1 mile beyond the rear end of that train.

d. Responsibilities of Dispatcher or Operator

Until the Dispatcher or Operator knows that there is no obstruction on adjacent tracks, they must not permit trains to enter the block on adjacent tracks without first notifying them of the situation. This notification must include the direction, track, location, and identity of the train in emergency.

e. Passenger Trains and Lite Engines with no Indication of Hazardous Conditions

Lite engines and trains consisting entirely of passenger carrying cars are relieved of the requirements of parts "a" and "b" of this rule when the crew can immediately determine that their train is not fouling adjacent tracks. The crew must promptly notify the Dispatcher or Operator of the reason for their stop, and the fact that they are not fouling adjacent tracks.

Before proceeding, the crew must examine their entire train to ensure that no condition exists that may endanger train movements, and must report the results of this inspection to the Dispatcher or Operator.

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716. Use of Electronic Devices

An employee shall not use an electronic device if that use would interfere with the employee's or another employee's performance of safety-related duties.

No individual in the controlling locomotive cab or control compartment of a train or track car shall use an electronic device if that use would interfere with an

employee's or another employee's performance of safety-related duties.

No individual in the controlling locomotive cab or control compartment of a train or track car shall use an electronic device if that use would interfere with an employee's performance of safety-related duties.

a. Personal Electronic Devices

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

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

(a) For All Employees:

- (1) To respond to or coordinate an emergency situation involving the operation of the railroad or to respond to an emergency encountered while on-duty;
- (2) To perform duties directly related to the operation of the railroad when radio communication fails; or
- (3) To perform duties directly related to the operation of the railroad when the railroad is not required by Federal regulation to provide a working radio.

When the railroad is not required by Federal regulation to provide a working radio, an employee may use a personal electronic device for assigned duties after a safety briefing, provided all employees responsible for the movement of the train or track car agree that it is safe to do so.

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

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

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

b. Railroad-Supplied Electronic Devices

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

1. Authorized Business Purposes: Subject to the Restrictions below, the following are authorized business purposes for railroad-supplied electronic devices by an employee who is not controlling a moving train or track car:

(a) Emergencies: Use is authorized for voice communication to respond to or coordinate an emergency situation involving the operation of the railroad or to

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respond to an emergency encountered while on-duty.

(b) Assigned Tasks Directly Related to Duties: Use is authorized for revenue related functions, delay reporting, mechanical defect troubleshooting and reporting, roadway maintenance work, passenger service requests, and numerical calculations.

(c) Radio Communication Failure: Use is authorized for voice communication:

(1) To perform duties directly related to the operation of the train or track car when radio communication has failed; or

(2) To perform duties directly related to the operation of the railroad when the railroad is not required by Federal regulation to provide a working radio.

When the railroad is not required by Federal regulation to provide a working radio, an employee may use a railroad-supplied electronic device for assigned duties after a safety briefing, provided all employees responsible for the movement of the train or track car agree that it is safe to do so.

(d) Supplemental Reference Materials: The use of digital and display functions of an electronic device is authorized as a supplemental means to refer to a railroad rule, special instruction, timetable, or other directive.

(e) Documentation of a Safety Hazard: Use is authorized for still photograph documentation of a safety hazard or a violation of a rail safety law, regulation, order, or standard provided the device is turned off immediately after the documentation has been made, unless its use is otherwise permitted.

2. Restrictions

(a) Use in Locomotive Cab or Control Compartment

(1) Use of a railroad-supplied electronic device for an authorized business purpose by an employee controlling the movement of a train or track car is prohibited:

i. When the train or track car is moving,

ii. When any employee is assisting in the preparation of the equipment for movement, or

iii. When any train crew member is on the ground, or riding rolling equipment during a switching operation.

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(Rule 716 Continued)

(2) An employee, other than the employee operating the controls of a moving train or track car, may use a railroad-supplied electronic device in the controlling locomotive cab or control compartment of a train or track car for an authorized business purpose after a safety briefing, provided all employees in the controlling locomotive cab or control compartment agree that it is safe to do so. Any other use in the controlling locomotive cab or control compartment is prohibited.

(3) When use of an electronic device is authorized, audible ringers or alerts must be turned off and devices set to vibrate, if possible.

(b) Use in Body of Train or Trailing Locomotive: An employee may use a railroad-supplied electronic device for an authorized business purpose while on duty within the body of a passenger train, in a trailing locomotive, or in a railroad business car. Such use must not interfere with any safety related duties.

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

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

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

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

c. Deadheading Employees

Deadheading employees are prohibited from using electronic devices within the controlling locomotive cab or control compartment of a train or track car.

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

d. Supervisors

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

e. Penalties

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

128ctronic device if that use would interfere with an employee's performance of safety-related duties.

a. Personal Electronic Devices

1. Prohibited: The unauthorized use of a personal electronic device to perform any function when required to perform service is prohibited. When use is not

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authorized, personal electronic devices must be turned off and stored out of sight, along with any earpieces, headphones or other similar peripheral devices.

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

(a) For All Employees:

(1) To respond to or coordinate an emergency situation involving the operation of the railroad or to respond to an emergency encountered while on-duty;

(2) To perform duties directly related to the operation of the railroad when radio communication fails; or

(3) To perform duties directly related to the operation of the railroad when the railroad is not required by Federal regulation to provide a working radio.

When the railroad is not required by Federal regulation to provide a working radio, an employee may use a personal electronic device for assigned duties after a safety briefing, provided all employees responsible for the movement of the train or track car agree that it is safe to do so.

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

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

(1) The train is stopped;

(2) No member of the crew is riding rolling equipment during a switching operation;

(3) No member of the crew is on the ground;

(4) No employee is assisting in the preparation of the equipment for movement, and

(5) The engineer and conductor perform a safety briefing to confirm that it is safe to do so and other crew members are informed.

b. Railroad-Supplied Electronic Devices

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

1. Authorized Business Purposes: Subject to the Restrictions below, the following are authorized business purposes for railroad-supplied electronic devices by an employee who is not controlling a moving train or track car:

(a) Emergencies: Use is authorized for voice communication to respond to or coordinate an emergency situation involving the operation of the railroad or to respond to an emergency encountered while on-duty.

(b) Assigned Tasks Directly Related to Duties: Use is authorized for revenue related functions, delay reporting, mechanical defect troubleshooting and reporting, roadway maintenance work, passenger service requests, and numerical calculations.

(c) Radio Communication Failure: Use is authorized for voice communication:

(1) To perform duties directly related to the operation of the train or track car when radio communication has failed; or

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(d) Supplemental Reference Materials: The use of digital and display functions of an electronic device is authorized as a supplemental means to refer to a railroad rule, special instruction, timetable, or other directive.

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(a) Use in Locomotive Cab or Control Compartment

(1) Use of a railroad-supplied electronic device for an authorized business purpose by an employee controlling the movement of a train or track car is prohibited:

- i. When the train or track car is moving,
- ii. When any employee is assisting in the preparation of the equipment for movement, or
- iii. When any train crew member is on the ground, or riding rolling equipment during a switching operation.

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(Rule 716 Continued)

(2) An employee, other than the employee operating the controls of a moving train or track car, may use a railroad-supplied electronic device in the controlling locomotive cab or control compartment of a train or track car for an authorized business purpose after a safety briefing, provided all employees in the controlling locomotive cab or control compartment agree that it is safe to do so. Any other use in the controlling locomotive cab or control compartment is prohibited.

(3) When use of an electronic device is authorized, audible ringers or alerts must be turned off and devices set to vibrate, if possible.

(b) Use in Body of Train or Trailing Locomotive: An employee may use a railroad-supplied electronic device for an authorized business purpose while on duty within the body of a passenger train, in a trailing locomotive, or in a railroad business car. Such use must not interfere with any safety related duties.

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

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

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

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

c. Deadheading Employees

Deadheading employees are prohibited from using electronic devices within the controlling locomotive cab or control compartment of a train or track car. Employees in deadhead status located outside the controlling locomotive cab or

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control compartment of a train or track car may use an electronic device only when such use does not interfere with any employee's personal safety or performance of safety-related duties.

d. Supervisors

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

e. Penalties

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

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705. Radio Transmission and Reception Procedures

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

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

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

Employees must ensure that radio contact with the proper persons has been made and must not take action until certain that all conversation with them has been heard, understood and acknowledged.

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

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

709. Prohibited Transmissions

Employees shall not knowingly transmit:

1. Any false distress communication.

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2. Any unnecessary, irrelevant, or unidentified communication.
3. Any obscene, indecent, or profane remark.

710. Radio Identification in the Yard

When positive identification is achieved in connection with switching, classification, and similar operations wholly within a yard, fixed and mobile units may use short identification after the initial transmission and acknowledgement. Short identification must include engine or unit number, such as "Back up 8271" or "Go ahead 8271."

If an exchange of communications continues without substantial interruption, positive identification must be repeated every 15 minutes.

711. Radio Communication Instead of Hand Signals

Employees must take the following actions when radio communication is used instead of hand signals to control a shoving, backing or pushing movement:

1. The employee directing the movement must specify a distance to be traveled. The distance specified must not exceed the distance known to be clear.
2. The movement must stop in one-half the specified distance, unless additional instructions are received.
3. The names of fixed signals affecting the movement must be communicated to the Engineer.

If the instructions are not understood or radio contact is not maintained, the movement must be stopped immediately. If the means of communication is changed, no movement may be made until all crew members have been notified.

940. Conductors and Trainmen: Receiving Instructions

Conductors and Trainmen report to and receive their instructions from the Superintendent or other designated officer. They must obey the instructions of Transportation Supervisors, Dispatchers, Operators, Yardmasters, and Station Masters within their jurisdiction, and from officers of other departments on

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matters pertaining to those departments. Conductors must be qualified on the physical characteristics of the territory over which they are to operate.

941. Conductors: Authority and Responsibilities

Conductors have general charge of the train to which they are assigned, and all persons employed thereon are subject to their instructions. They are responsible for all of the following:

1. The prompt movement of their train.
2. The safety and care of their train and the passengers and commodities carried.
3. The vigilance, conduct and proper performance of duty of the persons employed thereon.
4. The observance and enforcement of all rules and instructions.

Whenever necessary, Conductors must instruct crew members concerning the proper performance of their duties.

Conductors must report all delays on the prescribed form.

950. Receiving Instructions; Governing Instructions

Engine Service Employees report to and receive instructions from the Superintendent or other designated officer. They will be governed by current mechanical, electrical, and air brake instructions pertaining to the safety, inspection, preparation and operation of trains and engines. Engineers must be qualified on the physical characteristics of the territory over which they are to operate.

951. Executing Instructions

Engine Service Employees must obey the instructions of Transportation Supervisors, Dispatchers, Operators, Yardmasters, and Station Masters within their jurisdiction. They must also obey the instructions of the Conductor in charge of their train as to the general management of the train. Exceptions to carrying out instructions may be made only if the instructions would endanger safety or commit a violation of the rules.

980. Receiving Instructions

Yardmasters report to and receive their instructions from the Superintendent or other designated officer.

File Name: 2012 T&E BOR Instructor's Manual

Revised: January 3, 2012

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981. Authority and Responsibilities

Unless otherwise specified, Yardmasters within assigned territory have charge of the yards, employees, movement of trains, and distribution and movement of cars therein, except on main tracks and controlled sidings. When practical, they must see that:

1. Employees are in condition for the proper discharge of duty.
2. Crews report for duty with the prescribed number of employees at the appointed times.
3. Trains are properly made up and dispatched at the times prescribed.
4. Shipping Papers are furnished together with any instructions concerning restricted cars or shipments to Conductors for the movement of cars in their trains.

982. Responsibilities

Yardmasters are responsible for the careful handling of cars and for the compliance with Safety and Operating Rules by employees within their jurisdiction.

Brake Tests and Train Inspection

Purpose of this module is to:

- Review the contents of NS-1, the Norfolk Southern Rules for Equipment Operation and Handling which we use. ~~ing NS-1~~
- Refresh employees on air brake test procedures and requirements.
- Briefly review changes made to this manual by Norfolk Southern. Distribute as hand out Conrail Division Notice No. 6- 30

From the 3-Part Video

Transportation Department – Hazardous Materials Handling

Show the following segments: Title 5 and Title 6

As explanation, the following rule numbers have changed since this video was developed:

Intermediate Inspection Test (Class II Brake Test)

was A-13 is now A-9

Train Line Continuity Test (Class III Brake Test)

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was A-14 is now A-10

Transfer Train Brake Test

was A-16-2 is now A-11-2

NOTE: The following material is provided as a back up in case there would be a technical malfunction with the DVD or its player. All relevant materials are covered in the video.

Brake Tests and Train Inspection

This module will take about a half hour. We're going to refresh the brake test requirements we reviewed last year and the year before.

- Have employees open books to the Air Brakes section.
- ~~1, 2000 The NS will distribute a new edition in the coming weeks. That book will incorporate changes from the new FRA train brake rules that we discussed last year. Your supervisor will distribute copies as soon as they are available.~~
- Turn to the very first page after the title page.
 - Very important warning - that federal regulations prohibit tampering with safety devices on trains. It states that any person who tampers with a device, or operates or permits a train to be operated with a tampered device, is subject to civil penalties, and discipline up to and including dismissal.
- Now, turn to the table of contents on page i. Note that the manual covers not only air brakes, but also other topics affecting the movement of trains.

Brake Tests and Train Inspection

- Pages 1 through ~~15~~19 cover air brakes & tests.
- Pages ~~16~~19 through ~~28~~34 deals with end of train devices.
- Page 35 is important as it deals with calibrating hand held air gauges.
- Pages ~~32~~37 through ~~37~~44 cover handling, inspecting and moving cars.
- Pages ~~38~~45 through ~~91~~99 cover various topics about locomotives and trains. Let's take a minute to read the various topics.
- Pages ~~92~~99 through 102 cover Norfolk Southern equipment, including RoadRailers and NS locomotive identification.
- Pages 102 through ~~101~~ through the end of the book has various appendix diagrams and forms.

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~~R~~We covered all of those topics last year. ~~only~~ ules For Brake Tests and Train Inspections

Next, we are going to discuss the ~~new~~ requirements for air brake tests that were introduced ~~last year~~ in 2004. These are changes that were made to comply with new Federal Railroad Administration (FRA) regulations. FRA updated the regulations to recognize technical changes in freight cars and locomotives that have been made in the past few years and to insure that procedures are consistent on all railroads in this country.

We are going to discuss four types of tests.

When I am finished discussing each type of test, I will also cover the detailed steps you must follow for that type of test.

Either way, you MUST discuss the detailed steps, which are at the end of this tab in "Background Information for Instructors".]

Class I (Initial Terminal) Test (A-6, page 2-7)

This is the ~~new~~ name for what we ~~always~~ also called the Initial Terminal Test. The procedures are still basically the same.

- This test is required whenever a train is first made up. It is the most frequent test, especially on road trains.
- The Power Brake Law requires that this test and inspection be made when a train is made up at its initial terminal. This test is done to be sure that all brakes function properly.
- There must be 100% operative brakes leaving the terminal and leakage must be less than limits. The test may be conducted using either the brake pipe leakage method or the air flow method.

Brake Tests and Train Inspection

- In either case, both sides of the train must be walked to assure that all brakes apply.
- Check must also be made that all brakes release. If a roll-by inspection is done to check the release, train speed must not exceed 10MPH.

The Class 1 Test can be conducted using either of two methods.

- Air Flow Method – Used when a locomotive has an Air Flow Indicator and 26-L (or 30A-CDW) brake valve and train is equipped with telemetry device.
- Brake Pipe Leakage Test – Used when a locomotive/train does not have all of the above.

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STEP BY STEP PROCEDURE

- Air hoses must be properly coupled between cars
- Angle cocks properly positioned
- Retaining valves properly positioned
- Train air brake system must be charged to the pressure at which the train will operate. (Usually 90 psi for road trains)
- Pressure at the rear of train must be within 15 PSI of the regulating valve setting, but not less than 75 PSI, as indicated by a gauge or end of train device at the rear of the train.
- Brakes on each car must apply in response to a 20 PSI brake pipe reduction and remain applied until release has been initiated from the controlling locomotive.
- Piston travel must be correct
 - Seven (7) to Nine (9) inches on body mounted brake cylinders
 - Truck mounted brakes must have piston travel adequate to provide brake shoe clearance
 - All other brake rigging designs must have piston travel according to limits on badge plate, stencil, sticker or decal.
- Brake rigging does not bind or foul
- When brakes are being released and before proceeding, it must be known that pressure is being restored at the rear of the train.

Brake Tests and Train Inspection

- Engineer must be notified that Class I brake test was satisfactorily performed. (If he did not participate) A written (or electronic) record of the information must be retained in the cab of the locomotive until the train reaches its final destination.

Air Flow Method Test (AFM) (A-6-1, page 5)

- Observe air flow indicator and note that indicator is at or below 60 CFM.
- Engineer will make a 20 PSI brake pipe service reduction after receiving proper signal. (Do NOT cutout brake valve.) Employees assisting will observe cars for proper application of brakes.
- Engineer will then release brakes on proper signal.
- Train may proceed on indication that brakes have released, air pressure is increasing and air flow is decreasing.

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Brake Pipe Leakage Test (A-6-2, page 6)

- Engineer will make a 20 PSI brake pipe service reduction after receiving proper signal.
- After the brake pipe exhaust stops blowing, brake valve must be lapped or cut out.
- Allow one (1) minute to permit pressure equalization.
- During second minute, observe brake pipe gauge and note that leakage does not exceed 5 PSI during that minute.
- When leakage test has been completed, brake valve cut out must remain cut out during inspection of the application.
- When inspection has been completed,
- Move cut out cock to IN position
- Release brakes

Class II Test (Intermediate Inspection) (A-9, page 7)

This test applies to a train that is not at its initial terminal. It applies when the train was given a Class I test at origin and is adding cars en route.

The purpose of this test is to ensure that the brakes on the cars being added apply and release and they do not compromise the integrity of the train's brake system.

- If cars that are added to a train have not previously been given a Class I Test, they must receive a Class II Test. They must be given a Class I

Brake Tests and Train Inspection

- Test at the next forward location where facilities are available to conduct the Class I Test.
- Also, if the cars had been given a Class I Test but were "off air" for more than 4 hours, they must receive a Class II Test.

NOTE: Anytime cars are off air for more than FOUR hours, they must receive a Class I Brake Test.

Like the Class I Brake Test, during the Class II Brake Test all brakes must apply and remain applied until released. Also, both sides of these cars being added must be inspected. And a brake pipe leakage or air flow method test must be performed after the cars have been added to the train.

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In all but the Class I Test, the FRA allows the use of an end of train device or rear end gauge to determine that the brakes apply and release on the rear car of the train.

STEP BY STEP PROCEDURE

- Air hoses must be properly coupled between cars
- Angle cocks properly positioned
- Retaining valves properly positioned
- Train air brake system must be charged to the pressure at which the train will operate. (Usually 90 psi for road trains)
- Pressure at the rear of train must be within 15 PSI of the regulating valve setting, but not less than 75 PSI, as indicated by a gauge or end of train device at the rear of the train.
- Brakes on each car added to the train and on the rear car must be inspected to ensure that they apply in response to a 20 PSI brake pipe reduction and remain applied until release has been initiated from the controlling locomotive.
- Air Flow does not exceed 60 CFM or Brake Pipe Leakage does not exceed 5 PSI per minute.
- Brake rigging does not bind or foul
- When brakes are being released and before proceeding, it must be known that pressure is being restored at the rear of the train.

NOTE: The end of train device or rear end gauge can be used to determine that the brakes apply and release on the rear car of the train.

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Brake Tests and Train Inspection

Class III Test (Train Line Continuity Inspection)

(A-10, page 9)

This is the test we ~~used~~ also call the a Road Test. It is simply a check to see that the brakes apply and release properly. It is performed on a train that has already received a Class I Test.

- The purpose of a Class III Brake Test is to ensure the integrity of the train line when minor changes in the train occur.
- Basically, a Class III Brake Test ensures that the train brake pipe is properly delivering air to the rear of the train. This inspection is to be performed whenever the continuity of the brake system is broken or interrupted.
- For example, if the locomotive is detached for a short time, then coupled back to the train within 4 hours, then a Class III Brake Test is to be performed before the train departs.

STEP BY STEP PROCEDURE

- Train air brake system must be charged to the pressure at which the train will operate. (Usually 90 psi for road trains)
- Pressure at the rear of train must not be less than 60 PSI, as indicated by an accurate gauge or end of train device at the rear of the train.
- Brakes on the rear car must apply in response to a 20 PSI brake pipe reduction and remain applied until release has been initiated from the controlling locomotive.
- When release is initiated, the brakes on the rear car must be inspected to verify the release.
- Brake rigging does not bind or foul
- Before proceeding, it must be known that pressure is being restored at the rear of the train.

NOTE: The end of train device or rear end gauge can be used to determine that the brakes apply and release on the rear car of the train.

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Brake Tests and Train Inspection

Transfer Train Brake Test

(A-11-2, page 11)

This rule applies to the majority of brake tests conducted on Conrail trains. It pertains to a train that travels no more than 20 miles from origin to destination. Cars picked up en route by this train require a Class I Test if they will go beyond 20 miles from the train's origin. They should get this test at the next terminal.

STEP BY STEP PROCEDURE

- Brake system is charged to at least 60 PSI at the rear, as shown on your rear end gauge or end of train device.
- Then a 15-psi brake pipe reduction is made
- Train is inspected to see that brakes apply on each car and remain applied until a release is initiated.

Other Air Brake Issues

Defects en route

1. If the brakes on a car or locomotive become inoperative en route, they may be taken to the **nearest** repair point where necessary repairs can be made. Notice that we said the nearest, not the next point. This is an FRA requirement that may require that the car be set out for another train to bring to the terminal you just left.
2. A **defect card or tag** must be placed on **both sides** of the defective car or locomotive, as well as in the cab if the defect is on the locomotive.
3. This tag must remain on the equipment until it is repaired.

Important note: During a **Transfer Test** if brakes on a car fail to apply or remain applied, Federal regulations permit movement of the car to the nearest location where repairs can be made.

- Car must be properly tagged on **both sides** of the car.
- Car cannot be moved in a train if this would cause the percent of operative brakes to fall below 85%.
- Car must NOT be positioned so that two cars with inoperative brakes are in succession.
- All crew members must be advised of the condition.

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Brake Tests and Train Inspection

Hand Brakes on Locomotives

All hand brakes on **all** locomotives in a consist must be fully applied on trains or locomotives left unattended.

Even if you go in the yard office to get a cup of coffee, you must set handbrakes on every locomotive. FRA levied a fine against Conrail because an engineer did not set a handbrake on a single unit locomotive.

Reference Rules

TTSI 109-3 Securing Cars and Locomotives – Hand Brake

Page 102

Simply read the entire Special Instruction

The following NS-1 Air Brake Rules are used in conjunction with TTSI 109-3.

NS-1

Page 38

C-102 Securing a Car or Cut of Cars

Reference as information the procedure detailed in this instruction.

and

Pages 67 & 68

L-236 Securing Locomotives

Reference as information the procedure detailed in this instruction.

Two-Way End of Train Telemetry

1. The two-way end of train telemetry device (head unit and rear unit) must be tested at the initial terminal.
2. If someone other than a member of the train crew conducted the test, the locomotive engineer must be notified that a successful test was performed. He can be notified by any means: in writing, in person, or over the radio.
3. A written record must be kept in the locomotive cab.

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Brake Tests and Train Inspection

Piston Travel (As noted in Class I Brake Test discussions)

1. Piston travel must be inspected on each car while the brakes are applied.
2. Piston travel must be within 7 to 9 inches on 'standard' body mounted cylinders.

For cars with other brake arrangements, look for the badge plate, stencil or decal on the side of the car

Hazardous Materials

- Transportation Department – Hazardous Materials Handling
PowerPoint

Conductors certification powerpoint

Conductor Paperwork

Conductor Paperwork & Customer Service & Industry Paperwork

(NOTE: A member of the Customer Service Group will attempt to be available for this session in or near Mount Laurel. If no one is available the instructor should convey the following message.)

The message is simple. If you move a car, document the move.

Whether it is a move

- From the serving yard to the industry
- Industry back to the serving yard or class yard
- From one track or spot to another track or spot inside the customer's facility

The implications if you don't;

- We don't know where the car is
 - This is important from an asset management stand point
 - This is VERY important from a SECURITY stand point, especially when you consider Hazardous Material shipments.

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- We (and our parent roads) don't get paid for services provided
 - Especially with the intra-plant moves
- We look bad to the customer
- We look bad to the parent roads
- Your crew looks bad to our own management.

Document - Document – Document

The instruction is the same whether we use paper (Detroit & South Jersey) or OBWO (North Jersey).

As we discussed previously, documentation is a very important facet of meeting FRA regulations as well.

TTSI 941-1

Conductors must accurately and legibly complete all required data on industry work order and wheel report documents. They must promptly forward this data to the appropriate customer operations center reporting location.

GO OVER TEST POWERPOINT

SAFETY & SOFA

SAFETY

- Review Critical Rules (Timetable page ii)

SOFA

- Latest materials from FRA are furnished as part of your handout materials.
- These are provided as Handout material only. You may lead discussion if time permits.

Especially emphasize SOFA findings that most fatalities and dismemberments occur during December and January. Advise everyone to stay focused on their work and their surroundings.

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Wrap Up, Evaluation, Local Issues

Examination

- Will include additional Engineer & RCO Recertification Questions
- Yardmasters will be given same exam as T&E.

CT-1515 and Disposition of Paperwork

At end of each class

- Complete and provide a CT-1515 for each employee who passes the exam.
- Send Crew Management list of employees to Crew Dispatcher via FAX to

At completion of week of training

- Send "Book of Rules Employee Sign-In Form" and all student exam score sheets to

L J Sarandrea.
Manager, Operating Rules & Regulatory Compliance
Consolidated Rail Corporation

These may be sent by Railroad Mail or US Postal Service.

Adjourn