On-the-Job Training Standards For Locomotive Engineer Trainees

February 12, 2019

Foreword

The OJT tasks identified below assumes a continuous and ongoing positive conversation between the designated instructor / qualified person and trainee. It means enough opportunity for conversational feedback before, during, and after any task is undertaken. The purpose of this conversation is to ensure learning transfer occurs. Depending on task complexity and learner skill level, most adults gain mastery of new skills through practice and repetition. OJT standards provide the basis for measuring mastery of new skills in a fair and objective manner. It is understood that many of the tasks below are presented in a manner that may suggest non-complying conditions must be present for the trainee to demonstrate proficiency. That is not the case and it is for this reason that a positive conversation between teacher and learner is encouraged throughout the OJT process.

Please also note that there is no obligation under 49 CFR Part 243 for employers to train safety-related railroad employees on skills they will never apply in connection with their duties. For example, if an employee will not be required to perform duties in passenger service, no training on those tasks is required.

On-the-Job Training Roles and Responsibilities – Example Template

- 1. The **designated instructor** serves as the overall coordinator of the specific OJT program and is primarily responsible for:
 - Acting as the principal point of contact for the process, and ensuring the process is properly implemented.
 - Ensuring that all trainees and qualified persons involved in the OJT process have received hard copies of the OJT program or electronic copies of the checklist.
 - Providing guidance to both the trainee and qualified person in the process once they have received the OJT program.
 - Ensuring that trainees have access to all the supporting publications listed in this OJT program.
 - Ensuring the trainee has successfully completed all safety-related tasks to become a qualified member of an occupational category or subcategory.
- 2. The qualified person (sometimes referred to as a peer trainer) may serve as the mentor/coach for trainees. The qualified person must be qualified and has a duty to communicate with the trainees to ensure OJT is properly administered throughout the process. The qualified person will also provide daily briefings at the beginning and end of each day regarding the specific tasks focused on during that day. The trainee may perform OJT under the direct onsite observation of any qualified person, provided the qualified person has been advised of the circumstances and is capable of intervening if an unsafe act or noncompliance with Federal railroad safety laws, regulations, or orders is observed. However, the trainee must demonstrate OJT proficiency to the satisfaction of the designated instructor to become a qualified member of an occupational category or subcategory. A designated instructor and qualified person can be the same person.
- 3. The **trainee** (new hire) has the responsibility to pay close attention to the qualified person providing OJT, and to take advantage of the knowledge and experience he or she has to offer. Tracking progress of the OJT is essential and is the trainee's responsibility. Trainees should be aware of, and abide by, the following:
 - The designated instructor and/or qualified person will provide practical information and advice on the requirements and responsibilities of assigned duties.
 - Trainees are responsible for completing any narrative and self-study assignments outside the scope of this OJT program. Additional assignments are an integral part of the training experience and must be completed before being deemed qualified by the employer.
 - To gain the maximum benefit from the OJT experience, trainees should:
 - o Remain alert and involved in the training activities.
 - o Ask questions and learn from feedback.
 - o Take notes and apply previous lessons.
 - Complete all required assignments.

- o Become familiar with and comply with FRA regulations, railroad safety rules, and other procedures mandated as a condition of employment by the employer.
- o Develop and maintain a learning attitude.
- The OJT experience is designed to be much more than following a qualified person around and watching what he or she does. Trainees must take an active role in the OJT and thoroughly engage in the various job tasks outlined in this OJT program.
- Expect the qualified person to say, "Here, you give it a try." Remember, while progressing through the OJT program, trainees can learn skills, to develop knowledge, and to adopt work habits and routines that will last throughout a railroad career.
- Tracking and documenting OJT progress is an essential process step.

Guidelines for On-the-Job Training Program Coordination and Administration

In most cases, the first week or so of employment will involve administrative details and an overall orientation. Although it is understood that a trainee's duties may overlap with other organizational requirements, each day of OJT should focus on one of the major duties of the OJT program to the extent possible. Once the tasks have been selected, there should be both an initial briefing on the tasks to be completed at the beginning and end of each day.

- The purpose of the debriefing is to go through the day's activities, and to focus on each of the tasks associated with the task selected.
- There is no required sequential order for completing the OJT associated with any task, and no attempt is made to prioritize any tasks. Although OJT should be focused on a task, it is anticipated that the task standards will be accomplished based on available training opportunities.

Important Note: Although OJT is a critical aspect of 49 CFR Part 243, FRA will consider, on a case by case basis, alternate approaches to OJT in lieu of the traditional approach (*see 49 CFR § 243.5- On-the-job training*). For example, some employers or training organizations may have access to state of the art indoor/outdoor training facilities that permit students to practice tasks that require neuromuscular coordination to learn in a controlled environment with minimal or no risk of personal injury. Other approaches may include; classroom practical exercises, role play, lab simulation, virtual reality (VR), and other emerging technologies. While FRA does encourage alternate approaches to OJT to lessen the risk of personal injury exposure to students, enough detail must be included in the submission and satisfy the regulatory requirements of 49 CFR § 243.101(d) (1-3).

Part 240 Subpart B: Component Elements of the Certification Process		
<u>Performance</u> Tasks	<u>Conditions</u> Tools, Equipment, Documents, Practice	<u>Standards</u> Time, Completeness, or Accuracy
Train handling practices, demonstrate proper throttle modulation	Given an opportunity to operate a locomotive or simulator (type 1 or 2), on at least two separate occasions, to the satisfaction of a qualified person or designated instructor, the trainee will conduct a comprehensive job safety briefing, and:	Demonstrate the ability to use proper throttle and dynamic brake modulation with at least 90% degree of accuracy as follows: Use appropriately to start, slow, and stop train Reduce throttle on descending grades Appropriate use of dynamic brakes Appropriate waiting time before engaging dynamic brakes Proper use to control slack action in train
Train handling practices demonstrate proper use of air brakes	Given an opportunity to operate a locomotive or simulator (type 1 or 2), on at least two separate occasions, to the satisfaction of a qualified person or designated instructor, the trainee will conduct a comprehensive job safety briefing, and:	Demonstrate the ability to use proper air brake procedures with at least 90% degree of accuracy as follows: Use appropriately to slow and stop train Appropriate use of dynamic brakes Proper use to control slack action in train Actuate independent brake when necessary
Train Handling, Switching in Yards and Industry tracks conventional and/or Remote-Control Locomotive (RCL)	Given an opportunity to operate a locomotive on at least two separate occasions, to the satisfaction of a qualified person or designated instructor, the trainee will conduct a comprehensive job safety briefing, and:	Demonstrate the ability to use train handling techniques necessary to safety perform switching operations in yard and industry tracks with at least 100% degree of accuracy as follows: Test RCL pull back protection (when applicable) Establish and release Remote Control Zone (RCZ) Operate within an RCZ Coordination with other train movements within an RCZ Starting/Stopping/Coupling cars without using the train's air brakes (independent) under the most demanding operational conditions Stopping/Coupling cars using the train's air brakes (automatic) under the most demanding operational conditions Cutting off cars in motion Spotting cars (industrial switching)

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Demonstrate an understanding of the general requirements for all train brake systems	Given an opportunity to read 49 CFR Part 232, Part 238, relevant railroad air brake train handling and/or operating rules, one oral briefing by the designated instructor or qualified person, the trainee will conduct a comprehensive job safety briefing, and:	 Explain in enough detail, with 100% degree of accuracy; □ The minimum number of operative air brakes in a freight or passenger train at any given time. □ The number of operative air brakes required on freight or passenger trains receiving a Class I brake test.
Demonstrate an understanding of the general requirements for all train brake systems regarding the securement of unattended equipment	Given an opportunity to read 49 CFR Parts 232 & relevant railroad air brake train handling and/or operating rules, and at least one oral briefing by the designated instructor or qualified person, the trainee will conduct a comprehensive job safety briefing, and:	 Explain in enough detail, with 100% degree of accuracy; □ The purpose of venting air from brake pipe at a rate not to exceed a service rate and leaving the angle cock in the open position on the first unit of equipment left unattended. □ Number of handbrakes required to be applied on unattended freight or passenger cars. □ Number of handbrakes required to be applied on unattended locomotives in the lead consist of a train □ Number of handbrakes required to be applied on an unattended locomotive consist outside a yard □ Number of handbrakes required to be applied on an unattended locomotive consist in a yard □ Requirements for securing the controlling locomotive cab and/or reverser on unattended train standing on a main train or siding outside a yard with any loaded tank car containing a poisonous inhalation hazard, and/or a combination of twenty (20) or more loaded tank cars, or loaded intermodal portable tanks with hazardous materials
Demonstrate an	Given an opportunity to operate a	Demonstrate the ability to perform the following air brake tests with 100%

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understanding of the requirements for performing air brake tests from the cab of a locomotive or cab car	locomotive or simulator (type 1 or 2), to read 49 CFR Parts 232 & 238, relevant railroad air brake train handling and/or operating rules, on at least two separate occasions, to the satisfaction of a qualified person or designated instructor, the trainee will conduct a comprehensive job safety briefing, and:	degree of accuracy as follows: □ Class I □ Class IA □ Class III □ Running (passenger only) □ Standing Locomotive Brake Test Note: Complete the following steps for each test above when applicable: □ Brake pipe pressure within 15 psi at which train will be operated, but not less than 75 PSI at rear of train. (If passenger at the air pressure train will operate, but not less than 90 psi) □ Brake pipe service reduction of 20 psi. (freight) □ After waiting 45-60 seconds (freight), maintaining feature (if equipped) cut-out and brake pipe leakage does not exceed 5 psi. □ If used, air flow does not exceed 60 CFM. (freight) □ Communicating signal system known to be operating as intended (passenger) □ Emergency brake application and deadman pedal or other emergency control devices function as intended (passenger)
Demonstrate train	Given an opportunity to operate a	Demonstrate their knowledge of the physical characteristics of the territory

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handling skills and knowledge of physical characteristics NOTE: in accordance with §§ 240.125 and 240.127	locomotive or simulator (type 1 or 2), on at least two separate occasions, to the satisfaction of a qualified person or designated instructor, the trainee will conduct a comprehensive job safety briefing, and:	over which they will operate with a 90% degree of accuracy including the following that apply: Wayside Signals Highway crossings at grade Railroad crossings at grade Pedestrian crossings at grade Crossovers Control points Passenger Stations Wayside detectors Curves & Topography Tunnels & Bridges Close clearances Interlockings Sidings, location and length Track speeds Remote control locomotive zones Quiet zones Method of operation Joint operations Temporal separation
Apply Federal Regulations when conducting daily	Given an opportunity to read 49 CFR Part 229, §§ 231.29 and 231.30, or	Find, on three separate inspections, at least 95% of any non-complying conditions noted by the designated instructor or qualified person. Non-

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locomotive inspections	relevant railroad rules inspect five locomotive consists, the trainee will conduct a comprehensive job safety briefing, and:	complying conditions may include, but are not limited to, the following: Overdue locomotive inspection record (blue card) Inoperative Headlights Inoperative Auxiliary lights Insufficient cab lighting Insufficient gauge lights Inoperable train horn Inoperable bell Inoperable or defective alerter Unsanitary toilet compartment Windshield distorting view of right-of-way Broken hand rail, hand hold, or step Oil (slipping hazard) on running boards Excessive piston travel Brake shoe worn Obvious wheel defects (break, cracked, shelled, flat spots) Insecure brake rigging Multiple Unit cable properly stowed Inoperable sanders Inoperable uncoupling lever or coupler
Configuring Locomotives for Multiple Unit Operation	Given an opportunity to read § 229.13 or relevant railroad operating rules, the trainee will, on two separate occasions, to the satisfaction of the designated instructor or qualified person, conduct a comprehensive job safety briefing, and:	 Demonstrate their ability with 100% accuracy, to perform the following: □ Connect all required hoses and cables between locomotives □ Set all locomotive cab switches, air brake valves, and cut-out handles in the appropriate positions for trailing or lead configuration. □ Test to ensure all functions of the system in use respond to control from the cab of the controlling locomotive.
Apply Federal Regulations	Given an opportunity to read § 229.15	Conduct tests, determine compliance and achieve 100 percent accuracy on

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when inspecting Remote Control (RCL) Locomotives. NOTE: this task is in addition to the required daily locomotive inspection	or relevant railroad operating rules and to inspect three remote control locomotive consists, the trainee will to the satisfaction of the designated instructor or qualified person, conduct a comprehensive job safety briefing, and:	three occasions by verifying functionality of: Automatic notification of operator incapacitated feature in one-person operation. Locomotive control unit to respond to Operator Control Unit (OCU) in primary command. Secondary OCU functions man-down features remain active, e.g. bell, horn, and emergency brake application. OCU initiates full service application of locomotive and train brakes and drops tractive effort when signal from RCL to OCU is interrupted in excess of five seconds. On/Off OCU switch if so equipped. Off shall cause full service application of locomotive train brakes and elimination of tractive effort. Distinct and unambiguous audible or visual warning device indicating when locomotive is under active remote-control operation. Full service application of locomotive and train brakes and elimination of locomotive tractive when main reservoir pressure drops below 90 psi. RCL initiates emergency application of locomotive and train brakes when
		☐ Full service application of locomotive and train brakes and elimination of locomotive tractive when main reservoir pressure drops below 90 psi.

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Control a shoving, backing, or pushing movement to a successful coupling or stopping at a specified spot using a radio.	Given a radio, a locomotive with a cut of cars, an engineer, and an employee directing the move will conduct a job briefing in accordance with CFR Part 218.99, Part 220.49, and any applicable operating rules. On three separate occasions, to the satisfaction of the designated instructor or qualified person, the trainee will conduct a comprehensive job safety briefing, and:	Demonstrate the ability to control a shoving, backing, or pushing movement using only radio communications. This task must be achieved with 100 percent accuracy and include the following: □ Engineer must understand by whom the movement will be directed □ Engineer must understand how point protection will be provided □ Engineer must understand what method of communication will be used to control the movement □ Movement will not begin until employee directing move specifies the distance of the movement. □ The movement shall stop in ½ the remaining distance unless additional instructions are received.
Demonstrate an understanding regarding the radio transmission of mandatory directives.	Given an opportunity to read 49 CFR Part 220.61, and to be a member of a train or engine crew, on 3 separate occasions, to the satisfaction of the designated instructor or qualified person, the trainee will conduct a comprehensive job safety briefing, and:	 Demonstrate the following with 100% accuracy and include the following: □ The steps required by a train dispatcher or operator before a mandatory directive can be transmitted. □ What information the receiving employee is required to provide before mandatory directive is transmitted. □ How the receiving employee shall copy the mandatory directive. □ Demonstrate the conversation between the person giving and the person receiving the mandatory directive after it is copied. □ Demonstrate how to distribute copies of the mandatory directive to other train crew members.
Demonstrate an understanding of FRA definitions pertaining to handling equipment, switches, and fixed derails.	Given an opportunity to read § 218.93, the trainee will, to the satisfaction of the designated instructor or qualified person:	Explain the definition of the following, achieving an accuracy of 100%: Clearance point Crossover Switch, including correspondence Fouling Hand operated switch Track is clear Remote Control Zone

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Read and understand work instructions and prepare good faith challenge.	Given an opportunity to read § 218.97 or any applicable railroad rules, demonstrate to the satisfaction of the designated instructor or qualified person the ability to:	Explain the procedures of initiating a good faith challenge, and achieve an accuracy of 90%
Demonstrate an understanding of the requirements when shoving or pushing equipment.	Given a radio, a locomotive with a cut of cars, after reading § 218.99 or any applicable railroad rules, on three separate occasions, to the satisfaction of a qualified person or designated instructor, the trainee will conduct a comprehensive job safety briefing, and:	Demonstrate the ability to conduct shoving or pushing movement with achieving 100% accuracy the following, if applicable: □ Provide instructions necessary to control the movement □ Provide point protection □ Visually determine track is clear □ Comply with the conditions required for shove lights □ Comply with additional remote control movement instructions. NOTE: The above items must be accomplished without participating in any other unrelated tasks
Demonstrate an understanding of the remote-control locomotive operations when shoving or pushing equipment	After reading § 218.99 (c, d, and e) or any applicable railroad rules, demonstrate to the satisfaction of the designated instructor or qualified person, the trainee will:	Explain the exceptions to providing point protection with 100% accuracy, as follows: Visual inspection of track, Active remote-control zone Proper use of shove light system Signal governing movement is more favorable than restricting Movement does not exceed train's length The track is under the exclusive and continuous control of a yardmaster or other qualified employee

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Demonstrate the exceptions to leaving rolling and on-track maintenance-of-way equipment in the clear	After reading § 218.101 or any applicable railroad rules, demonstrate to the satisfaction of the designated instructor or qualified person, the trainee will:	Explain, with 100% accuracy, the exceptions for leaving equipment fouling adjacent tracks as follows: On the main track On a siding On an industrial track On a yard switching lead
Demonstrate proper use of hand-operated switches, including crossover switches	Given a locomotive with a cut of cars, and an engineer the trainee will, after reading §218.103 or any applicable railroad rules, on three separate occasions, will conduct a comprehensive job safety briefing and demonstrate to the satisfaction of the designated instructor or qualified person, the trainee will:	Demonstrate with an accuracy of 100%, their ability to: □ Visually determine that switches are properly lined for the intended route and that no equipment is fouling the switches □ Visually determine that the points fit properly and the target, if so equipped, corresponds with the switch's position □ 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
Demonstrate an understanding of the general requirements of when to use a locomotive horn	Given an opportunity to read § 222.21, or relevant railroad rules, to the satisfaction of the designated instructor or qualified person, the trainee will conduct a comprehensive job safety briefing, and:	Demonstrate with accuracy of 100%, use of the train horn when approaching a highway grade crossing as follows: □ Locomotive horn must be sounded at least 15 seconds, but not more than 20 seconds before locomotive enters highway grade crossing □ Locomotive horn signal to be used is two long, one short, one long blasts □ Trains operating more than 60 mph must not begin sounding the horn more than ¼ mile in advance of the nearest public highway-rail grade crossing.
Demonstrate knowledge of sounding the locomotive horn during an emergency or other situation.	Given an opportunity to read § 222.23, or relevant railroad rules, to the satisfaction of the designated instructor or qualified person, the trainee will:	Explain circumstances with an accuracy of 100%, when locomotive horn may be sounded in a quiet zone

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Demonstrate sounding locomotive horn when Roadway Workers are present.	Given an opportunity to operate a locomotive or simulator (type 1 or 2), and read § 214.339 and relevant railroad operating rules on at least two separate occasions, to the satisfaction of a qualified person or designated instructor, the trainee will conduct a comprehensive job safety briefing, and:	Demonstrate, with 100% accuracy, sounding locomotive horn and bell, when approaching roadway workers on or about the tracks