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UNION PACIFIC RAILROAD

SYSTEM SPECIAL INSTRUCTIONS

Effective 0900 CDT Friday, June 01, 2018

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This document supersedes:
Union Pacific Railroad
System Special Instructions
Effective June 1, 2017

INTRO: Introduction to Special Instructions

INTRO: Introduction to Special Instructions

The General Code of Operating Rules, Air Brake and Train Handling Rules, and Safety Rules apply system wide unless modified by System Special Instructions. Timetable subdivision special instructions apply on the subdivision listed.

Observe all slower speed restrictions. Examples include subdivision speed restrictions, train consist speed restrictions, tons per operative brake restrictions and locomotive maximum speed etc.

When operating on any foreign railroad:

- Respect all restrictions listed in UPRR System Special Instructions Item 2-A (parts 1, 2, and 9 through 12), Item 2-B, Item 2-C, and Item 14.
- Respect the foreign railroad's requirements that are more restrictive.

Rule Updated Date

May 2, 2016

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ITEM 1: Time Comparison

Item 1: Time Comparison

Obtain Coordinated Universal Time (Greenwich Time) by calling:

- 8-544-4601
  or
- 8-976-1111

Use the following table to convert from Coordinated Universal Time:

FROM THE SECOND SUNDAY IN MARCH UNTIL THE FIRST SUNDAY IN NOVEMBER, CONVERT TO:	BY SUBTRACTING:	FROM THE FIRST SUNDAY IN NOVEMBER UNTIL THE SECOND SUNDAY IN MARCH, CONVERT TO:	BY SUBTRACTING:
Central Daylight Saving Time	5 hours	Central Standard Time	6 hours
Mountain Daylight Saving Time	6 hours	Mountain Standard Time	7 hours
Pacific Daylight Saving Time	7 hours	Pacific Standard Time	8 hours

Rule Updated Date

May 2, 2016

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ITEM 2: Speed Restrictions

Item 2-A: Maximum Speeds: General

Part	Description	MPH
1	Key Trains (including trains with one or more PIH/TIH cars) Key Trains - Crude Oil / Key Trains - High Hazard Flammable Train (Operating within a High Threat Urban Area)	50 40
2	Moving against the current of traffic:	
	• Passenger trains	59
	• All other trains	49
3	Through dual control switch turnouts not connected to a siding	30
4	Through other turnouts not connected to a siding	15
5	Sidings:	
	• Sidings identified with a "**!**" symbol and connected turnouts / not to exceed main track speed at that location	30
	• Other sidings and connected turnouts / not to exceed main track speed at that location	20
6	Tracks other than main tracks and sidings	10
7	Balloon tracks & Wye tracks, except those portions used as a main track or siding	5
8	Live rails of track scales	5
9	Designated locomotive servicing facilities and car repair facilities	5
10	Engines with cars	70
	• GE AC Locomotives	75
	• Engines UP 844, 949, 951, B963, 3985, 6936 and Amtrak and other passenger engines	82
	• SW-1500	50
11	A multiple-unit engine controlled from other than the leading unit	30
12	Engines running light	70

	• Eight locomotives or less may operate at passenger train speeds not to exceed	70
	• More than eight locomotives	45
	• When speed cannot be controlled using dynamic brake	45
	• When speed cannot be controlled using dynamic brake on descending grade over 1 percent	25
13	Military trains	
	• Loaded	50
	• Empty	60
	Exception: Military train that exceeds 60 cars (Does not Apply to military trains consisting entirely of intermodal equipment.)	45
14	Movements over piston type (Dowty) retarders	6

Rule Updated Date

October 3, 2018

General Order

Effective Date: October 3, 2018

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Item 2-B: Maximum Speeds: Cars

A. Use the train consist, when available, to identify the maximum train speed. It shows the maximum speed for each car and the maximum train speed, which is the lowest maximum speed of any car entrained. If a car that restricts the maximum train consist speed is set out at an unscheduled location, operate at the lowest maximum speed of cars left in the train.

B. The maximum speed for cars is shown on the train consist. When train consist is not available:

- The maximum speed is 60 MPH, unless the table shows a different speed.
  or
- If the equipment is 100% passenger car equipment, the train may operate at maximum passenger speed, unless otherwise restricted.

C. Use the speeds listed in the table as a backup summary:

- When a train consist is not available.
- When a pickup is made enroute without car speed information.
  or
- For foreign railroads operating on UPRR.

D. Refer to Item 2-C for MW and Mechanical equipment speeds.

Maximum Speeds Cars		
Part	**Description**	**MPH**
1	Loaded ordinary flat cars	50
	Exceptions:	
	(a) Flat cars loaded with auto frames; flat cars UP 904150-904167 loaded with locomotive traction motors	60
	(b) Cars in series TBCX 7471-7481, TBCX 76700-76707, and specially equipped flat cars carrying airplane and rocket equipment	70
2	Bulkhead flat cars:	
	• Loaded	50
	• Empty cars equipped with constant contact side bearings	50
	• Empty	40
3	Centerbeam flat cars:	
	• Loaded with plywood or lumber	60
	• Loaded with other commodities	50
	• Empty	50
4	Anode flat cars:	
	• Loaded	50
	• Empty cars equipped with constant contact side bearings	50
	• Empty	40
5	Heavy-Duty Flat Cars, 8 axles or more:	
	8 to 14 axles:	
	• Loaded or empty	45
	16 to 24 axles:	
	• Loaded	25
	• Empty	45
	36 axles:	
	• Loaded	15
	• Empty	25
6	TOFC or COFC flat cars or other intermodal equipment:	
	• Loaded	70
	• Empty	60
	Exceptions:	
	(a) Loaded multi-platform/unit/well cars	75
	(b) Empty well cars and empty articulated spine cars for carrying trailers and/or containers	70

	(c) Intermodal flat cars made from box cars in series SP 520583-520727, CP 520350-520386 and empty NS 157000-157849	50
	(d) Loaded intermodal flat cars made from box cars in series NS 157000-157849	60
	(e) Flat cars in series DRGW 4015-4071, DRGW 21502-21547, DRGW 21700-21759, SP 513153, SP 514004, SP 513153-515761, SP 518013-518180, SP 599702-599888, SSW 84894, and SSW 85401-85492:	
	• Loaded	50
	• Empty	45
7	Open-top hopper cars:	
	• Loaded	60
	• Loaded with coal	50
	• Empty	50
	• Loaded cars in series CTRN 601001 – 601600 and 602001 - 602920 unless train consist indicates a higher speed	40
	Exception:	
	Empty cars having constant contact side bearings or center plate extension pads	60
8	Gondola cars	50
	Exceptions:	
	(a) Empty car in series EJE 4000-4549, EJE 4800-4874, CR 607000-607480, UP 66800-67649, SP 337700-338099, MRL 38000-38071 and MRL 80511-81332 except if equipped with constant contact side bearings	40
	(b) Loaded cars in series UP 903084-903094; cars with initials UP, WP, MP or GONX loaded with aluminum ingots and empty gondolas having constant contact side bearings or center plate extension pads	60
	(c) Covered coil gondolas equipped with constant contact side bearings	70
9	Gondola or open-top hopper cars used to haul ore	50
10	Covered hopper cars in car series TGSX 443401-443700 and CGAX 9001-9505	50
11	Tank cars:	
	• Loaded	60
	• Empty	50
	Exception:	
	Loaded 4-axle tank cars with 125 ton trucks designed for maximum gross weight of 315,000 lbs	50
12	Multilevels	70
13	Mechanical reefers; cryogenic reefers with initials CRYX or JRSX	70
14	Cabooses	70
15	Business cars and AMTK 70000 and AMTK 71000 series	79
16	Cars in ANSX series 800420-800421, 800425-800427, 800430-800433, and 800440-800444	50

17	Roadrailer ™ cars	70

Rule Updated Date

November 20, 2017

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Item 2-C: Maximum Speeds: Maintenance of Way and Mechanical Equipment

The maximum speed for cars is 60 MPH unless the train consist shows a different speed. Use the speeds listed below as a backup summary, when a train consist is not available.

Maintenance of Way and Mechanical Equipment		
Part	**Description**	**MPH**
1	Continuous welded or jointed rail trains	
	• Loaded	40
	• Empty	50
	Loram rail train (loaded or empty)	50
2	Cars in series RGAX 25000-25049	40
3	MPX cars (excluding outfit cars and locomotive cranes), loaded or empty air dump cars, SPMW 7721-7799, RGAX 3900-3923, SPMW 4111-4147, 5101-5121, 5128-5191, 5202, 5218-5291, 5835, 6401-6438, and SSW 94500-94520	35
	Exception: Series Series MPX 27028-27060, 30000-30014 and 50001-50014	50
4	Outfit cars	40
	Exception: After mechanical department approval following inspection of cars	50
5	Four-axle scale test cars	50
	Two-axle scale test cars	30
6	Snow plows, or locomotive cranes on their own wheels; foreign line or privately-owned derricks, cranes or other similar equipment on their own wheels on revenue billing (unless further restricted on waybill or train consist); or company-owned cranes loaded on flat cars	30
	Exception: Cranes moved on flat cars in series MP 17000-17057 and MP 50064	50
7	Self-propelled cranes, pile drivers and similar equipment moving under its own power or TRT 909	30
8	Hy-rail equipped Holmes, Pettibone and similar type cranes, and hy-rail equipped wheel changers	25
9	Gondola or open top hoppers used to carry ballast	50
	Exception: Loaded UP 901710-901830, UP 919000-920216 & HZGX 7000-7700	60
10	Jordan spreaders (in all plowing operations with a MW Supervisor present):	
	• In snow plowing operations or traveling in either direction with wings retracted and locked	45

	• In snow plowing operations with wings extended	35
	• In other plowing operations	25
	• With one wing extended	15
	When moving in reverse direction, wings should be fully retracted. When there is no MW Supervisor present, be governed by Item 3.3 Jordan Spreader (entrained) rules.	
11	Engines handling ITW (in-track welder) work equipment, Loram rail train or TRT 909	50
12	Wrecking derrick consists are assigned to locations shown below. When operating derrick consists, the equipment having the lowest authorized speed restricts the maximum authorized speed for that consist.	
Assigned Location	**Consist Contains Equipment:**	**MPH**
Ogden	UP 905275, 905280, 908455	50
Green River	UP 903047, 909317, 906209, 904206, 904703	60
	UP 905269, 905273, 905274	50
Denver	RGAX 030, 3330	35
Hinkle	UP 903050, 909351, 906203, 904294, 904295, 909355	60
Salt Lake	UP 903046, 904200, 904239, 906200, 906208, 909307, 909308	60
Stockton	UP 909313, 904301	60
	WPMW 796, 797	50
	UP 900310, TPX 14181	40
Portola	UP 903045, 904232, 904300, 909320	60
	WPMW 376, 378	50
North Little Rock	MP 15427, 3646, 15082, 517, 2909, 4324, MPX 251	60
	MP 2155, 3160, 15090	50
Roseville	SPMW 7113, 7184, 7185, 7071, 7055	45
	SPMW 7072, 7077, 7078	35

Rule Updated Date

May 2, 2016

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Item 2-D: Maximum Speeds: Hot Weather

During periods of extreme heat, conditions exist that could affect track structure. When advised by track bulletin that a Level 1 or 2 Heat Restriction is in effect, restrict train speed within the limits of the track bulletin as shown in the tables below. In

addition, when the train is equipped with distributed power at the rear of the train, operate in synchronous mode or in independent mode with distributed power 1-3 throttle notches below the lead consist in power and 1-3 throttle positions above the lead consist in dynamic brake, except when cresting a grade or when specific train handling procedures are required by local instructions.

Maximum Speeds: Hot Weather	
Level 1 Heat Restriction:	**Restriction MPH:**
Passenger trains, light engines, and freight trains averaging less than 90 tons per car/platform/unit/well (see Note below).	No Additional Restrictions
Freight trains averaging 90 tons or more per car/platform/unit/well in signaled territory (see Note below).	50

Level 2 Heat Restriction:	**Restriction**:
Chicago - All Metra trains. California - Metrolink, Pacific Surfliner, Capitol Corridor, Altamont Commuter Express(ACE), Caltrain and San Joaquin trains.	No Additional Restrictions
Passenger trains (except commuter trains listed above), light engines, and freight trains averaging less than 90 tons per car/platform/unit/well.	50
Freight trains averaging 90 tons or more per car/platform/unit/well.	40
Exceptions: When an exception to Item 2-D is shown on the subdivision page, the above restrictions do not apply to freight trains and the appropriate exception listed below applies instead.	
Exception 1: All freight trains operating on the subdivision while heat restriction bulletin is in effect	30
Exception 2: All freight trains operating on the subdivision while heat restriction bulletin is in effect	Restricted speed, not exceeding 10 MPH

Note: Each platform/unit/well of an intermodal car is to be considered as one car when calculating tons per car. When operating with an Energy Management System, allow the system to operate as designed.

Rule Updated Date

September 30, 2016

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Item 2-E: Maximum Speeds: Cold Weather

During periods of extreme cold, conditions exist that could affect track structure. When advised by track bulletin that a Cold Weather Restriction is in effect, restrict train speed within the limits of the track bulletin as shown in the table below.

Maximum Speeds: Cold Weather	
Cold Weather Restrictions	**Restriction MPH**

	Signaled Track	Non-Signaled Track
All Passenger trains, light engines, and freight trains averaging less than 90 tons per car/platform/unit/well.	No Restrictions	40
Freight trains averaging 90 tons or more per car/platform/unit/well.	40	40

Note: Each platform/unit/well of an intermodal car is to be considered as one car when calculating tons per car. When operating with an Energy Management System, allow the system to operate as designed.

Rule Updated Date

June 1, 2018

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Item 2-F: Maximum Speeds: Tons Per Operative Brake (TPOB)

Freight trains must not exceed the speed specified in the tables below. If a subdivision special instruction specifies a higher or lower TPOB speed, be governed by that speed.

When using the following tables, round your train's TPOB up to the next whole number. For example, 100.1 TPOB becomes 101 TPOB.

The TPOB as shown on the train graph will be used to determine the maximum speed of the train. If the train graph for TPOB is unavailable, or train consist is changed enroute and a new train graph is not provided, the TPOB of the train will be computed by dividing the train's tonnage by the total number of operative brakes in the train. There is 1 brake per conventional car (See **Table C** for other car types).

Table A applies to multi-platform/unit/well trains with less than 5 conventional cars.

Table B applies to all other freight trains.

Table C is used to determine the equivalent number of operative brakes for multi-platform/unit/well cars and for cars that are solid drawbar connected.

The following abbreviations are used in **Table A** and **Table B**:
MSS: Maximum Subdivision Speed NR: No Restriction

Table A –Multi-Platform/Unit/Well Trains with Less Than 5 Conventional Cars				
T P O B	**Total number of platforms/units/wells & other cars**			
	80 or less	**81 to 110**	**111 to 140**	**141 or more**
120 or less	NR	NR	NR	MSS minus 10 MPH
121 to 126	NR	NR	MSS minus 10 MPH	MSS minus 10 MPH

ITEM 4: Locomotive Information

Item 4: Locomotive Information

To determine Equivalent Powered Axles (EPA) and Equivalent Dynamic Brake Axles (EDBA) for a locomotive consist, use the EPA and EDBA numbers indicated on the train consist. The following table is to be used only when a train consist is not available or when a locomotive consist is changed.

Note: An Equivalent Axle is a locomotive's tractive effort or braking effort compared to one standard axle which has 10,000 lbs. tractive effort or 10,000 lbs. braking effort.

As used in these tables, the following abbreviations apply:
- CTE = Controlled Tractive Effort (limits locomotive to maximum of 110,000 lbs. tractive effort when equipped).
- PA = Powered Axles.
- EPA = Equivalent Powered Axles.
- EDBA = Equivalent Dynamic Brake Axles.
- FTE = Full Tractive Effort.
- TM c/o = Traction motor(s) cut out.
- Truck c/o = Truck cut out.

DC Locomotives					
Model	EPA	EDBA	Model	EPA	EDBA
B23-7	4.5	4.2*	GP40-2	5.0	3.9#
B30-7	5.0	4.2*	GP50	6.5	4.1*
B36-7	5.0	4.2	GP60	8.0	5.4
B39-8; B40-8	7.8	5.2	SD38-2	5.4	5.7*#
C40-8; C40-8W	7.8	5.2	SD40-2; SD40N; SD30Eco	7.1	5.9*#
C41-8; C41-8W	10.1	7.9	SD45	7.0	5.9
C44-9; C44-9W	11.5	7.9	SD50	9.2	6.1
ES40DC	10.1	7.9	SD59MX	7.1	8.1
ES44DC	11.5	7.9	SD60; SD60M	9.9	8.1**
SW1500	3.7	0.0	SD70/SD70M	10.4	8.6
MP15	4.0	0.0	SD75	10.3	8.6
GP9	4.0	3.0*#	DDA40X	10.3	8.0
GP15-1	3.9	0.0	E9	3.5	6.2
GP22; GP22Eco	5.1	0.0	SL1 (Slug)	4.0	0.0

GP38; GP38-2	4.5	4.0*#	S4B (Slug)	4.0	0.0
GP39-2	4.5	3.8	S3-2B (Slug)	4.0	0.0
GP40	4.5	4.0*#	S6-1 (Slug)	5.0	0.0

*May not be equipped with dynamic brakes.

May be equipped with standard range dynamic brakes.

** UP 2100, 2156, 2157, 2159-2168, 2170-2214 have 6.0 EDBA.

Note: Traction motor cut out switches.

- DC locomotive traction motors must not be cut out to meet EPA or EDBA limitations. Traction motors may be cut out only when they are defective. Locomotives may be isolated/shut down to meet EPA or EDBA limitations.
- AC Locomotive traction motors 1, 2 & 3 may be cut out to meet EPA or EDBA limitations, traction motors 4, 5 & 6 may only be cut out when defective.
- A tag must be placed on the lead unit and on the unit having the cut out traction motor stating that the traction motor has been cut out for the purpose of meeting equivalent axle restrictions. This is to ensure subsequent crews are aware that all dynamic brakes on that locomotive are inoperative.

AC Locomotives			
GE Model	**Total # of Traction Motor(s) Cut Out**	**EPA**	**EDBA**
C44AC; C44/60AC; C44ACCCA	None	12.1	9.8
	1	11.0	8.0
	2	8.0	6.0
	3	6.0	5.0
C44AC (CP)	None	12.1	7.8
	1	11.0	7.0
	2	8.0	5.0
	3	6.0	4.0
C6044AC	None	12.1	11.7
	1	11.0	10.0
	2	8.0	6.0
	3	6.0	6.0
C44ACCTE; C45ACCTE; C45AH; C44ACM; ES44AC** & ES44AH** When in a lead consist or in a remote consist operating in the Full Tractive Effort (FTE) mode	None	12.1	9.8
When in a remote consist operating in the Controlled Tractive Effort (CTE)		11.0*	9.8*
	1	11.0	8.0

mode*	2	8.0	6.0
	3	6.0	5.0
CW60AC	None	12.1	11.7
	1	12.0	10.0
	2	11.0	8.0
	3	8.0	6.0
****Foreign line ES44AC and ES44AH locomotives may not be CTE capable.**			
AC Locomotives			
EMD Model	**Truck Cut Out**	**EPA**	**EDBA**
SD70MAC	None	10.4	8.1
	#1	6.0	5.0
SD70ACe; SD70AH	None	12.0	10.5
*Operating in CTE mode.		11.0*	10.5*
	#1	7.0	6.0
	#2	7.0	0.0
SD80MAC	None	13.0	10.0
	#1	7.0	5.0
	#2	7.0	0.0
SD9043AC	None	11.6	9.6
	#1	7.0	5.0
	#2	7.0	0.0
SD9043AC (CP)	None	12.0	9.0
	#1	9.0	5.0
	#2	9.0	0.0
	Total # of Traction Motor(s) Cut Out	**EPA**	**EDBA**
SD70AHT4 (UP 3000 - UP 3099) *Operating in CTE mode.	None	12.0	10.5
		11.0*	10.5*
	1	12.0	8.8
	2	12.0	7.0
	3	9.0	5.2

Note:

On AC locomotives, dynamic brakes and wheel slip protection are still operative with either traction motors or a truck cut out. Therefore, cutting out axles or a truck on AC locomotives to meet equivalent axle limitations is not a non-complying condition.

If unable to determine the model of a locomotive or its EPA and EDBA, type =po in the MyUP search bar and select Go. In the tab that opens, enter the unit initials and number, then select submit.

Dynamic Brakes are designated in the report as follows:

A - AC
E - Extended Range (Flat)
F - Extended Range (Tapered)
N - Not Equipped
S - Standard Range (Flat) = #
T - Standard Range(Tapered) = #
X - Disconnected (No Dynamic Brake)
Z - AC with Dynamic Braking to 0 MPH

A unit in the locomotive consist that is not working or bad ordered will have the values in the EA PW and EA DB columns enclosed in parenthesis, e.g., "(12.1)", or displayed as dashes, "----", and will not be calculated in the locomotive totals.

Rule Updated Date

June 1, 2018

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ITEM 5: Car Placement and Train Make-Up Restrictions

Item 5-A: Shipments of Excessive Height/Width

When train length and train make-up requirements permit, position dimensional loads, excess high wide shipments and unusual shipments (including those identified as high value on the consist) that require close attention as close to the engine as possible, but no closer than the sixth car from an occupied engine or caboose when train length permits. When positioning a shipment, each platform/unit/well of a multi-platform/unit/well car is to be considered as one car.

The following must be considered when placing excessive dimension loads, unusual shipments that require close attention or high value loads:

- **Train Make-Up requirements take precedence.**
- Equipment requiring handling on the rear end only.

Excessive Dimension Load

The following classes of equipment will be covered by instructions from a Manager Clearances and/or a track bulletin concerning movement:

- Excessive dimension load.
  or
- Other unusual shipments that require close attention.

An **"Excessive Dimension Load"** is any car or shipment that is more than 12 feet wide. Local managers must request Train Management to schedule the Excessive Dimension Load to a specific train. The request must be submitted sufficiently in advance of operation on specified train to allow protection to be created. When scheduled to a specific train, the train dispatcher will issue a Form C track bulletin:

- To the train that will handle the excessive dimension load.
- To trains operating in the State of California affected by meet/pass restrictions with the train handling the excessive dimension load.

If the conductor does not receive a track bulletin covering such shipments, notify the train dispatcher before moving the train.

When trains are rerouted or detoured, Train Management must ensure the modified schedule conforms to the protection notice

routing. If the modified schedule does not conform to protection notice routing, the Clearance Team (800-544-0541) in Customer Care and Support must approve the modified routing and any applicable restriction(s) issued. DB 5 and protection notice routing must match.

Dimensional Load

A **"Dimensional Load"** is any load with a width of 11 feet 0 inches to 12 feet 0 inches, inclusive, as shown on the train consist. If the consist includes a dimensional load, the conductor must conduct a job briefing with the train dispatcher before moving the train, reviewing all operating restrictions for their route.

The conductor must notify other crew members of the presence of both excessive dimension loads and dimensional loads before movement of the train.

Speed Restricted Areas
Trains handling dimensional or excessive dimension loads must not exceed 30 mph until load is beyond restricted area. Train dispatcher may authorize normal speed when other trains are not in the area to be met or passed. Restricted areas will be listed in subdivision special instructions.

Special Handling Guidelines for High Wide or High Value Loads
When there are High Wide or High Value Loads in the train that require close attention these shipments must:

- Be inspected by a Mechanical representative at time of interchange or release from an industry to ensure loads are properly braced and secured for safe damage-free transportation.
- Be positioned in a train in accordance with system and subdivision special instructions.
- Not remain in a consist during switching operations, except when necessary to properly position the car in train.
- Not be kicked or humped.
- Not have other cars kicked or humped against these loads.
- Have air brake system charged and used when spotting/pulling these loads.
- Be set to a special hold track designated to hold/process such loads at terminals.

Rule Updated Date

June 1, 2018

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Item 5-B: System Train Make-Up Requirements

Train consist information will govern train make-up requirements.

When train consist specifies train type different from train symbol, train will operate as the train type identified on train consist.
Example: QHONL 14 will operate as a bulk train.

TPA and trailing tonnage limits (including tonnage behind entrained helper) shown on train consist must not be exceeded. Tonnage handled by helper(s) must be deducted from total tonnage to determine trailing tonnage behind lead consist.

If an enroute locomotive failure causes the TPA listed on the train consist to be exceeded, train may continue provided maximum TPA for any train category on that route is not exceeded.

If the coupler limit is exceeded, one or a combination of the following may be necessary:

- Road power rearranged (Move units from the lead consist to the helper.)
- Add power to the helper.
- Add additional helper consist.
  or
- Reduce Tonnage.

In addition, the lead cars of a manifest train may be equipped with high strength couplers. If the first car behind locomotive is determined to have high strength couplers, the accumulated tonnage of that car and any consecutive cars equipped with high strength couplers may be added to the standard strength coupler limit, not to exceed the high strength limit.

High Strength Couplers

Each car is to be considered equipped with a standard type coupler unless it is known the car is equipped with high strength couplers. Coal cars, covered hopper cars and cars designed to carry TOFC vans and/or containers are equipped with high strength couplers.

If it is not known that a car is equipped with high strength couplers, it can be determined by looking at the coupler casting identification located on top of the coupler. A high strength coupler will have the letter "E", "EA" or "EX" as the last character of identification. Examples of high strength coupler identifications are E60HTE, SBE60CE, SBE60DE, EF512WEX.

If train consist is not available, contact yardmaster or other authority to determine maximum TPA and coupler limits allowed for route to be operated over.

Bulk Commodity Unit Trains

On territories where bulk TPA is higher than manifest TPA, bulk trains operating with one or more DC locomotive must not exceed TPA for manifest trains.

TPA requirements will not apply to loaded bulk commodity unit trains operating with less than 3 locomotives on the following service units and their respective subdivisions:

- North Platte
- Council Bluffs
- Chicago
- Twin Cities

1. Use the table below to determine general responsibility when a train does not meet train make-up requirements.

Train Make-Up Does NOT Meet the Train Make-Up Requirements				

	Notify Train Dispatcher	Notify yardmaster or proper authority	Speed is not to exceed 45 MPH	Correct Condition
Train was received from another railroad.	Yes	Yes, if applicable.	Yes	As directed by the train dispatcher or at the first scheduled work location.
Other trains (i.e. home terminal).	NA	Yes	NA	Train is not to leave terminal until condition corrected.
Placement error is discovered enroute.	Yes	NA	Yes	Correct condition at next available location.

Note: Trains (including trains received from another railroad) must meet train make-up requirements before entering code 'H' territory.

2. Maximum Train Length Restrictions

Maximum Train Length	
Length	**Description**
A. 8,500 feet	Behind head end consist to head end of DP remote consist.
B. 10,000 feet	Behind head end consist to head end of DP remote consist on manifest trains operating east of Denver, Cheyenne and El Paso.
C. 10,000 feet	Behind head end consist to EOT.
D. 10,000 feet	Trains consisting entirely of single well cars and/or multi well cars listed in Item 2-F, Table C 1, from behind head end consist to head end of DP remote consist.
E. 15,000 feet	Train with entrained EOT repeater. Distance between the repeater and the head or rear end of the train must not exceed 8,500 feet.
F. 18,000 feet	Train with entrained DP remote consists must not exceed 18,000 feet between rear of head end consist and head end of rear DP remote consist. Maximum distance between rear of any consist to the head end of the next remote consist must not exceed 6,000 feet. **Note:** If train has no rear DP remote consist, the 15,000 foot restriction applies.
G. 80 cars	Loaded trains containing 60 or more multilevel cars (Auto Racks) must not exceed a total of 80 cars, platforms, units or wells. Empty trains must not exceed 10,000 feet. Note: A Two Unit Articulated Autorack is considered two cars.

	Loaded or Empty Military Trains. Exception: Does not apply to military trains consisting entirely of intermodal equipment.

3. Maximum EPA/EDBA

Maximum EPA/EDBA						
Head End & Helper Consist EPA/EDBA Standard System Limits						
	Maximum EPA			**Maximum EDBA**		
Train Type	**Head end**	**Cut-in Helper**	**Rear Helper**	**Head end**	**Cut-in Helper**	**Rear Helper**
Intermodal Equipment, only	62	48	24	28	40	28
Manifest Trains	52*	48	24	28	40	28
Empty Bulk Commodity Unit Train (or Loaded with some empty cars)	52*	36	24	33	40	28
Loaded Bulk Commodity Unit Train (no empty cars in train)	52*	55	28	33	40	28

***** Limit head end EPA to 36 axles on ascending grades exceeding 1.9% on Bulk and Manifest trains.

Note: When EPA or EDBA limits are exceeded by less than one whole number, round down to the next whole number. Example: 48.4 EPA becomes 48 EPA.

4. Car Placement Restrictions

Note:
The addition of helper(s) may not be used to provide relief from the following car placement restrictions. Any placement errors will be indicated on the 'detailed' train consist. If no errors are indicated, the detailed train consist will govern train make-up and helper placement. Additional car placement restrictions are also listed in Item 5-C. Car definitions are located at the end of Item 5-B.

Car Placement Restrictions	
A. Trains Total Trailing Tonnage Exceeds 7,000 tons	Rear 1/4 of the train must not weigh more than 1/3 of the total weight (i.e. a 100 car train weighing 9000 tons must not have more than 3000 tons in the rear 25 cars. Round up other than whole numbers; a 102 car train weighing 9002 tons must not have more than 3001 tons in the rear 26 cars).

	Exception: This does not apply to: • Trains made up entirely of cars weighing a minimum of 45 tons each. • Solid loaded or solid empty unit bulk commodity trains. • Trains made up entirely of intermodal equipment.
B. Trains Total Trailing Tonnage Exceeds 5,500 tons but not more than 12,000 tons	Place cars listed below no closer than the 11th car/platform/unit/well behind the lead consist: • Car that is 80 feet or longer and weighs less than 45 tons. • Multi-platform/unit/well cars having one or more empty platforms, units or wells. • Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.
C. Trains Total Trailing Tonnage Exceeds 12,000 tons	Place cars listed below no closer than the 16th car/platform/unit/well behind the lead consist: • Conventional car weighing less than 45 tons. • Car that is 80 feet or longer and weighs less than 45 tons. • Multi-platform/unit/well cars having one or more empty platforms, units, or wells. • Intermodal flatcar 80 feet or longer in length loaded with a single trailer or container. This also applies to two unit, solid drawbar connected, twin flatcars (186 feet in total length) with a single trailer/container on either unit. • Two-unit solid drawbar-connected long cars (P2) if the total weight of the car is less than 120 tons. • Three and four-unit solid drawbar-connected multi-well cars (P3 / P4) with any well weighing less than 45 tons. • Autoracks weighing less than 60 tons, except when train consists entirely of autoracks. Note: A Two Unit Articulated Autorack is considered two cars.
D. Long Car/Short Car	Do not couple freight cars 80 feet or longer to any car 45 feet or shorter when weight behind the coupling would exceed 3000 tons. However, this **does not** apply to: • A locomotive crane 45 feet or shorter when coupled to a boom idler car 80 feet or longer. • A car listed in the train consist as 80 feet and the consist does not show a train placement error.
E. Rear End Only Equipment	Entrain equipment tagged, stenciled, billed or shown on the train consist as "Rear End Only" or "Rear Rider" as rear car of the train unless the mechanical department specifies that it must be the second car from the rear .

Note: Does not apply to trains consisting entirely of passenger equipment.	This also includes the following equipment: • Five unit solid drawbar cars (in series CN 677000-677139). • Gondola cars in series AMGX that are solid-drawbar connected. On the train consist, the symbol 2-P on AMGX cars indicates 2 units that are solid drawbar connected. Passenger cars with initials MTDX must be placed in a train immediately ahead of the rear car of the train. When placed in a train with a rear helper, comply with the following: • The helper must be placed immediately ahead of this equipment • The helper must be considered a rear helper in regard to restricted car limits. One rear rider car allowed per train except MW may have a maximum of 2 cars on rear of train.
F. Heavy–Duty Flat Cars with 8 axles or more	When gross weight of car exceeds 240 tons, at least one empty car must be positioned ahead of and behind the car unless waived by Customer Care and Support and Engineering.
G. Entrained Locomotive(s)	When locomotives are positioned in rear of a train, refer to Rule 31.7.1.
H. Shoving Platforms	Move shoving platforms (cabooses), only at the rear of the train. However, this requirement does not apply when handling less than 20 cars and not exceeding 2500 tons. Any helper must be placed ahead of this equipment.

5. The following train makeup restrictions apply west of North Platte, Denver and El Paso.

The tonnage behind the car must not exceed the listed tonnage.

Maximum Tonnage Behind Car		
Type of Car	**Maximum Tonnage**	
	Behind Car - 4500 Tons	**Behind Car - 5500 Tons**
A. Multiplatform Spine Car	One or more empty platforms	All platforms loaded
B. Multi-platform/well cars; Solid Drawbar Connected Multi-unit/well Cars; Single Unit Well Cars	One or more empty wells	
C. Two-unit Solid Drawbar Connected Long Car	One or more empty units	
D. Solid Drawbar Connected Multi-Well Car	Any well weighing less than 30 tons.	

6. Train Make-up and Helper Requirements

a. The following cars must not be entrained within any restricted car limits:

- Multi-platform/unit/well cars having one or more empty platforms, units or wells.
- Autoracks weighing less than 60 tons, except when train consists entirely of autoracks.
- Conventional car which weighs less than 45 tons. Does not apply to empty bulk commodity unit trains.
- Intermodal flatcar 80 feet or longer in length loaded with a single trailer or container. This also applies to two unit, solid drawbar connected, twin flatcars (186 feet in total length) with a single trailer/container on either unit.
- Car 45 feet or less coupled to a car 80 feet or longer regardless of weight (does not apply to multi-unit equipment unless individual units are 80 feet or longer).
- Two-unit solid drawbar-connected long cars (P2) if the total weight of the car is less than 120 tons.
- Three and four-unit solid drawbar-connected multi-well cars (P3 / P4) with any platform weighing less than 45 tons.
- Five-platform spine car with total car weight less than 175 tons.
- Three-platform spine car with total car weight less than 105 tons.

b. Restricted equipment above in part 'a' must be properly placed in the train. Use the tables below to determine proper placement. These restrictions are in addition to system train make-up requirements and car placement restrictions in Part 4.

Restricted Car Placement Behind Consist	
"L" Territories	
Tonnage behind lead locomotive consist and any entrained consist is:	**Place restricted equipment no closer behind lead or helper consist than the:**
5500 to 12000 tons	11th Car/Platform/Unit/Well
12001 tons and greater	16th Car/Platform/Unit/Well
'H' territories	
Tonnage behind lead locomotive consist and any entrained consist is:	**Place restricted equipment no closer behind lead or helper consist than the:**
3500 to 4000 tons	6th Car/Platform/Unit/Well
4001 to 4500 tons	11th Car/Platform/Unit/Well
4501 tons and greater	16th Car/Platform/Unit/Well

Restricted Car Placement Ahead of Consist	
Other than 'H' territories	
If cut-in helper EPA is:	**Place restricted equipment no closer ahead of helper than the:**

20 or Less	No Restriction
21 to 34	6th Car/Platform/Unit/Well
35 to 48	11th Car/Platform/Unit/Well
If rear helper EPA is:	**Place restricted equipment no closer ahead of helper than the:**
10 or Less	No Restriction
11 to 20	6th Car/Platform/Unit/Well Exception: Conventional car which weighs less than 45 tons does not apply.
21 to 24	11th Car/Platform/Unit/Well
"H" territories	
If cut-in helper EPA is:	**Place restricted equipment no closer ahead of helper than the:**
20 or Less	No Restriction
21 to 28	6th Car/Platform/Unit/Well
29 to 36	11th Car/Platform/Unit/Well
37 to 48	16th Car/Platform/Unit/Well
If rear helper EPA is:	**Place restricted equipment no closer ahead of helper than the:**
10 or Less	No Restriction
11 to 14	6th Car/Platform/Unit/Well Exception: Conventional car which weighs less than 45 tons does not apply.
15 to 19	11th Car/Platform/Unit/Well
20 to 24	16th Car/Platform/Unit/Well

Equipment Definitions:

Spine Car: Multi-platform articulated car.

Well Car: Multi-well articulated car, solid drawbar connected well car, or single well car.

Multi-unit Car: Multi-units permanently connected with solid drawbars. Units can be flat cars or wells.

Conventional: A car such as a gondola, hopper, intermodal flat car, box car, bulkhead flat car or single well car.

Rule Updated Date

October 3, 2018

General Order

Effective Date: October 3, 2018

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Item 5-C: Coupler Limits with Helper(s), Helper Placement, and Train Power Balance

Trains that exceed the coupler limits for a territory must have locomotive(s) placed within or behind the trailing tonnage to avoid exceeding the designated coupler limit. When helper(s) will be cut-in, it is necessary to determine the proper balance between the lead power and the helper(s) for safe train operations.

The maximum number of Distributed Power remote consists is four.

Example:

'A Consist (Head End) - B Consist - C Consist - D Consist - E Consist (Rear Remote)'

Follow these steps to determine the correct helper placement, power balance and trailing tonnage for helper consists:

Step 1: Determine Total EPA: Add the EPA of the lead consist and all helper power together. Use only the EPA that will actually be used on each locomotive:

EPA lead consist + EPA helper consist(s) = Total EPA

Step 2: Calculate the TPA: Divide the total tonnage of the train by the total EPA:

Total Train Tonnage ÷ Total EPA = TPA

Note: When calculating TPA, use the actual EPA number, do not round off. When the resulting TPA is not a whole number round up to the next whole number.

Step 3: Determine placement of a cut-in helper:

When a helper is used, locomotives should be arranged to reduce tonnage handled by a single consist (i.e., use a 2 x 2 configuration rather than 3 x 1 when possible). When practicable, helper should not be cut-in unless distance behind head end consist and head end of DP remote consist will exceed 8,500 feet.

To determine the tonnage the helper must be placed ahead of, use one of the following formulas, 3-A, 3-B or 3-C, as applicable. Place helper as close to the calculated position as possible.

A helper may be moved up to 5 cars/platforms/units/wells ahead of or behind the calculated position to comply with restricted car requirements in Item 5-B Part 6 'Train Make-up and Helper Requirements' or Form 8620 Hazardous Materials

Placement in Train requirements.

3-A: Single cut-in helper without rear helper:

TPA* x *½ helper EPA = tonnage to be placed behind cut-in helper

Exception:
Trains with cut-in helper of 24 EPA or less are not required to use placement formula provided the cut-in helper:

- Is located within the rear 50% of the train's trailing tonnage.
- Complies with restricted car requirements and hazardous materials placement requirements.
- Is located within 8,500 feet of the head end consist.

3-B: Single cut-in helper + rear helper:

(½ EPA cut-in helper + rear EPA)* x *TPA = tonnage to be placed behind cut-in helper

Exception:
Trains with cut-in helper of 24 EPA or less may be located at other than the calculated position provided the cut-in helper:

- Is located within the tonnage it is calculated to handle.
- Complies with restricted car and hazardous materials placement requirements.
- Complies with coupler limits.

To determine the tonnage range where the cut-in helper may be placed:

1) Determine calculated position of cut-in helper using the formula in step 3-B above.

(1/2 EPA cut-in helper + rear EPA) x TPA = tonnage to be placed behind cut-in helper

2) Determine tons cut-in helper may be moved ahead of or behind the calculated position:

½ EPA cut-in helper x TPA = Tons cut-in helper may be moved from calculated position

Example: 18,000 ton train is operating with lead consist of 36 EPA, single cut-in helper with 24 EPA and a rear helper with 24 EPA (total
EPA of train is 84 EPA). The TPA is 215 and, using the formula in step
3-B, the calculated position of the cut-in helper is ahead of 7,740 tons. ½ EPA of the cut-in helper is 12.

12 x 215 = 2,580 tons

Cut-in helper may be moved 2,580 tons ahead of or behind the calculated position.

3-C: Two or more cut-in helpers:

- **Without rear helper:**

  Start at the rear of the train and multiply the TPA by ½ the EPA of the first cut-in helper.

  TPA* x *½ helper EPA of first cut-in helper = tonnage to be placed behind first cut-in helper

- **With rear helper:**

  Start at the rear of the train and add ½ the EPA of the first cut-in helper to EPA of the rear helper.

  Multiply this figure by the TPA.

  (½ EPA of first cut-in helper + rear helper EPA)* x *TPA = tonnage to be placed behind first cut-in helper

For each additional cut-in helper the following applies. Add ½ the EPA of the next helper to the total EPA of all previous helper consists. Multiply this figure by the TPA.

(½ EPA of next helper to be cut-in + EPA of all previous helper consists)* x *TPA = tonnage to be placed behind the helper consist being cut-in

Step 4: Determine that trailing tonnage handled by each consist is less than the coupler limits, by using the formulas below.

- **Tonnage pulled by Lead Consist:**
  Multiply the EPA of lead consist by the TPA. This figure must be less than the coupler limit for the territory. Applies to trains with cut-in helper(s), (with or without rear helper), and trains with rear only help.

  EPA of lead consist* x *TPA = tonnage pulled by lead consist
  (Must be less than coupler limit)

- **Tonnage pulled behind cut-in helper:**

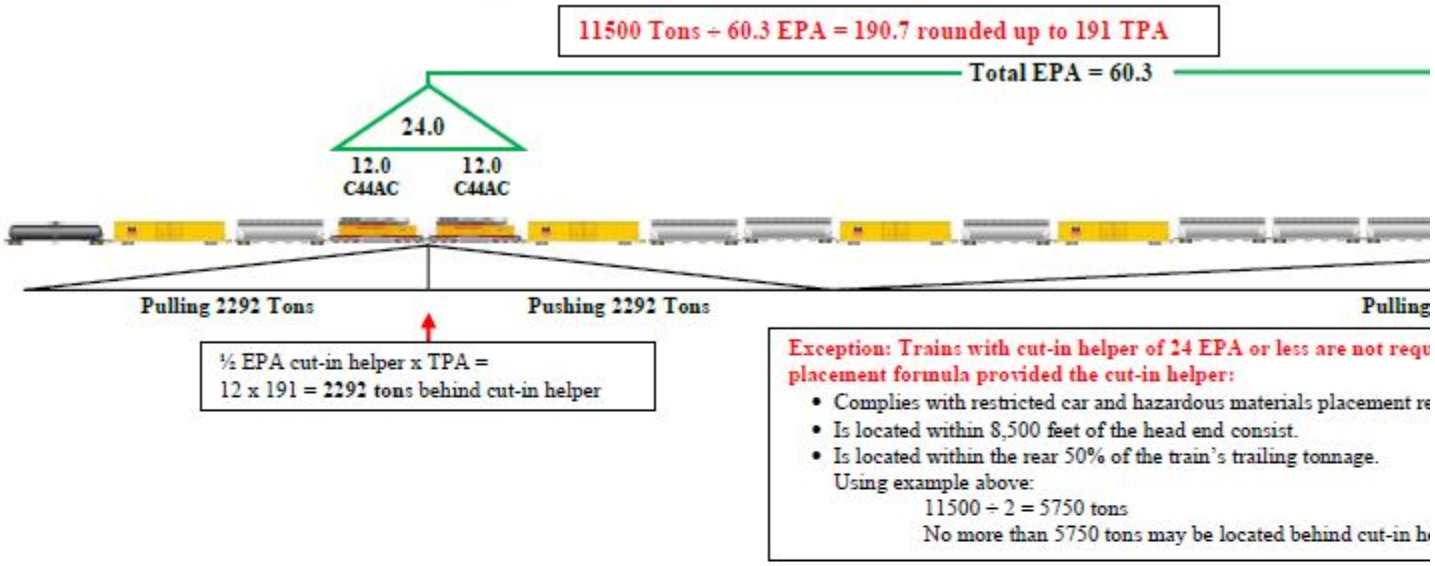
  Multiply ½ the EPA of the helper by the TPA. This number must be less than the coupler limit for the territory.

  ½ EPA of helper* x *TPA = tonnage pulled by helper consist
  (Must be less than coupler limit)

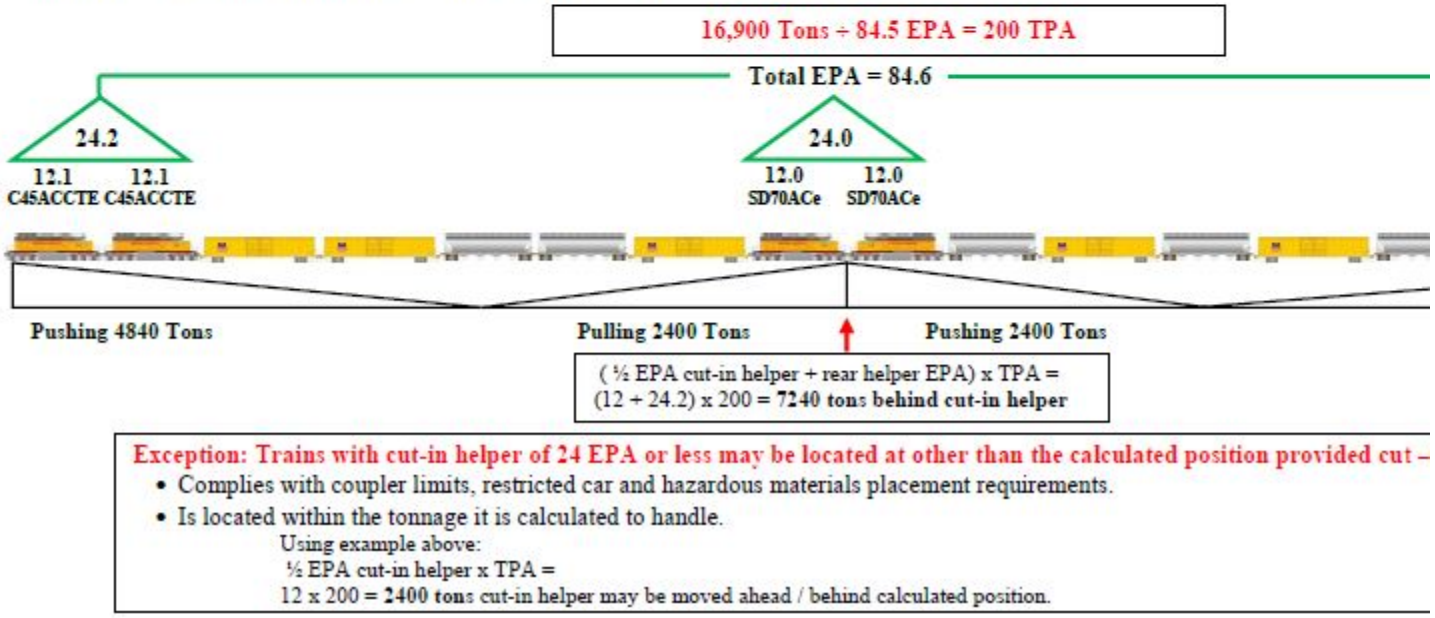
See following page for examples of trains with two or more cut-in helpers.

Example: Item 5-C, Step 3-C: Two or more cut-in helpers - Without rear helper

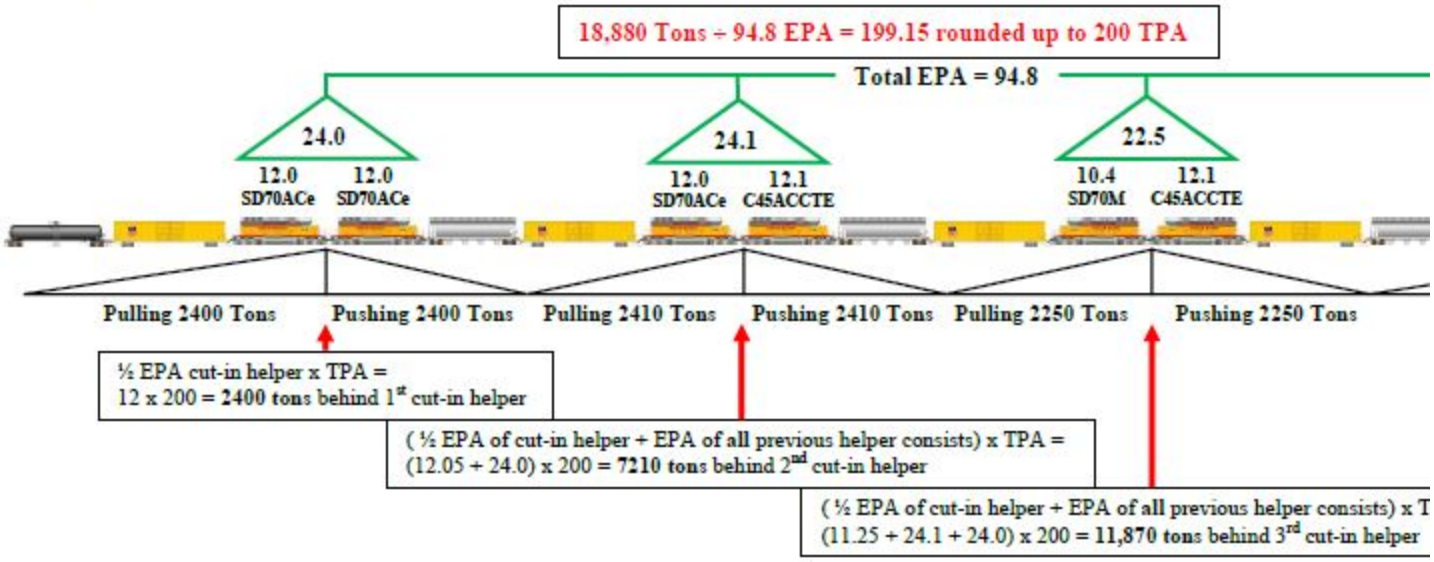
Example: **Item 5-C, Step 3-A: Single cut-in helper without rear helper**



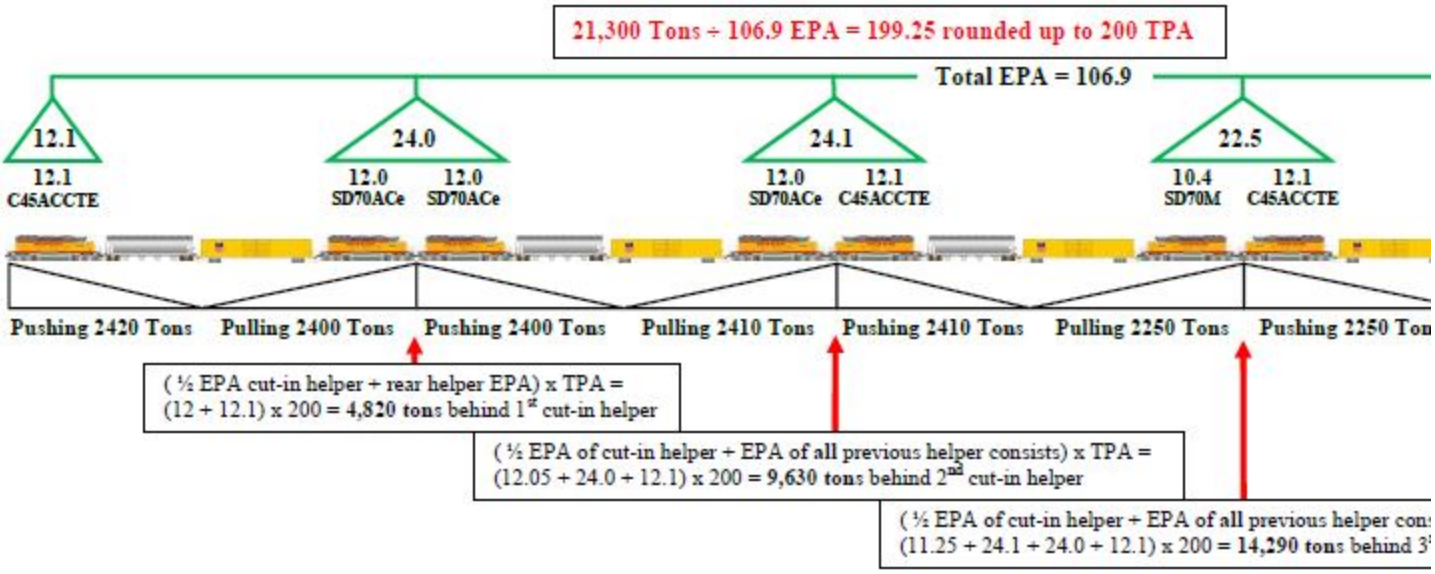
Example: **Item 5-C, Step 3-B: Single cut-in helper + rear helper**



Example: **Item 5-C, Step 3-C: Two or more cut-in helpers - Without rear helper**



Example: **Item 5-C, Step 3-C: Two or more cut-in helpers - With rear helper**



Rule Updated Date

June 1, 2018

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ITEM 6: Maximum Gross Weight Limitations

Item 6: Maximum Gross Weight Limitations

Maximum gross weight restrictions are shown in Timetable Item SI-12 for Subdivisions or SI-11 for Industrial Leads. They will indicate a maximum gross weight for a four-axle car with a coupled length of 53 feet 1 inch or longer and two letter restrictions (A through G and N through T).

Maximum gross weight for cars shorter than 53 feet 1 inch, articulated intermodal cars, six-axle cars, or eight-axle cars can be obtained from the Car Weight Restriction Table by referencing the car length, axle count, and letter restriction.

The gross weight of a four-axle car may not exceed the most restrictive case of either:

- maximum gross weight based on journal size or other mechanical considerations, or
- maximum gross weight for subdivision (SI-12) or industrial lead (SI-11), or
- maximum gross weight for car length and letter restriction from the Car Weight Restriction Table.

  Examples:

  SI-12 for Subdivision XXX states '143 Tons, Restrictions C and R.'

  - For a four axle car 53'-1' long, the table indicates 158 Tons (row 11, column C). However, the car weight is restricted to 143 Tons by SI-12 maximum gross weight.
  - For a four axle car 41'-11' long, the table indicates 139 Tons (row 4, column C). The car weight is restricted to 139 Tons.
  - For an eight-axle car 74'-10' long, the table indicates 190 Tons (row 19, column R). The car weight is restricted to 190 Tons.

1. **Cars Exceeding Authorized Weights**
   Cars that do not meet the specified weight limits and cars having more than eight axles are not permitted without specific authority of the Clearance Team (800-544-0541) in the National Customer Service Center.
   Note: Any load in excess of timetable weight restrictions that has a Protection Notice (Track Bulletin) covering movement through the area may be moved as cleared by the notice. Train Management can determine if a Protection Notice has been issued.

2. **Six-Axle Locomotives**
   Do not operate six-axle locomotives on subdivisions or industrial leads where the maximum gross weight limitation is less than 120 Tons.

3. **Cranes and Pile Drivers**
   Do not operate relief outfit cranes, locomotive cranes, cranes, or pile drivers on subdivisions or industrial leads where the maximum gross weight limitation is less than 132 Tons.

4. **Multiplatform Cars**
   Multiplatform cars are identified on the TCS train consist as either 'articulated' or 'solid drawbar connected.' Weights and lengths are given for each individual platform.

   To determine maximum allowable gross weight

   - For a solid drawbar connected car, treat each platform as a separate car and refer to the SI-11 or SI-12 restriction and the Car Weight Restriction Table.
   - For an articulated car, refer to row 12 of the Car Weight Restriction Table. The maximum weight shown applies to the sum of the weights of any two adjacent platforms in the same car.

5. **Modifications**
   Changes to maximum gross weight restrictions in Timetable Items SI-11 and SI-12 must be submitted to the appropriate Rules Manager and approved by the Senior Manager Structures Design.

Car Weight Restriction Table

4-Axle and Intermodal Cars

Maximum Weight of Car (Tons) Based on Car Restrictions A-G.
Applicable to either single car or multiple car movements.
If weight in this table exceeds weight listed in Timetable SI-11 or SI-12, lesser weight in SI-11 or SI-12 controls.
Car lengths per UMLER reporting rules, with fractional inches rounded to the higher inch. For example, 48'-8½" => 48'-9".
NP denotes that the car may not be moved without specific authority of the Clearance Team.
*For articulated intermodal cars, weight shown is the sum of the weights of any two adjacent platforms in the same car.

				3.67 T/ft	3.41 T/ft	3.32 T/ft	3.13 T/ft	3.04 T/ft	2.97 T/ft	2.75 T/ft
Row	**No. Axles**	**Range of Car Lengths**		A	B	C	D	E	F	G
1	4	less than or equal	to 34'-11"	NP	NP	NP	NP	NP	NP	NP
2	4	35'-0"	to 38'-10"	129	119	116	109	106	104	96
3	4	38'-11"	to 41'-10"	143	133	129	122	118	115	107
4	4	41'-11"	to 43'-0"	154	143	139	131	128	124	115
5	4	43'-1"	to 45'-8"	158	147	143	135	131	128	118
6	4	45'-9"	to 46'-11"	158	156	152	143	139	136	126
7	4	47'-0"	to 48'-8"	158	158	156	147	143	139	129
8	4	48'-9"	to 50'-0"	158	158	158	152	148	145	134
9	4	50'-1"	to 50'-11"	158	158	158	157	152	149	138
10	4	51'-0"	to 53'-0"	158	158	158	158	155	151	140
11	4	53'-1"	or greater	158	158	158	158	158	158	146
12	Varies	Articulated Intermodal	158T or 143T Route	158*	158*	158*	158*	158*	158*	146*
			134T Route	134*	134*	134*	134*	134*	134*	124*

6-Axle and 8-Axle Cars

Maximum Weight of Car (Tons) Based on Car Restrictions N-T.
Applicable to either single car or multiple car movements.
Car lengths per UMLER reporting rules, with fractional inches rounded to the higher inch. For example, 61'-1½" => 61'-2".
NP denotes that the car may not be moved without specific authority of the Clearance Team.

Row	**No. Axles**	**Range of Car Lengths**		N	O	P	Q	R	S	T
13	6	less than or equal	to 61'-1"	NP	NP	NP	NP	NP	NP	NP
16	6	61'-2"	or greater	188	188	180	171	171	160	NP
17	8	less than or equal	to 64'-0"	NP	NP	NP	NP	NP	NP	NP
18	8	64'-1"	to 73'-3"	209	200	186	190	180	178	NP
19	8	73'-4"	to 84'-9"	222	212	193	201	190	189	NP
21	8	84'-10"	or greater	228	218	196	207	195	194	NP

Rule Updated Date

June 1, 2018

ITEM 7: Employee Information

Item 7-A: Reference Documents

Employees must provide themselves with their own copy of the following and have them available for reference:

- This UPRR System Special Instructions document, which supersedes all previous System Special Instructions.
- Current applicable area timetable(s) for territories upon which operating.
  - Chicago Area Timetable #5, effective 0900C on 10/13/2014.
  - Council Bluffs Area Timetable #5, effective 0900C on 11/14/2016.
  - Dallas/Ft. Worth Area Timetable #5, effective 0900C on 09/28/2015.
  - Denver Area Timetable #5, effective 0900C on 09/28/2015.
  - Houston Area Timetable #6, effective 0900C on 01/26/2015.
  - Iowa Area Timetable #5, effective 0900C on 11/14/2016.
  - Kansas City Area Timetable #4, effective 0900C on 2/28/2011.
  - Livonia Area Timetable #1, effective 0900C on 01/26/2015.
  - Los Angeles Area Timetable #5, effective 0900C on 10/28/2013.
  - North Little Rock Area Timetable #6, effective 0900C on 11/14/2016.
  - North Platte Area Timetable #5, effective 0900C on 12/11/2017.
  - Portland Area Timetable #6, effective 0900C on 10/13/2014.
  - Roseville Area Timetable #7, effective 0900C on 12/11/2017.
  - Salina Area Timetable #5, effective 0900C on 12/16/2013.
  - Salt Lake City Area Timetable #5, effective 0900C on 12/07/2015.
  - San Antonio Area Timetable #5, effective 0900C on 03/25/2013.
  - St. Louis Area Timetable #5, effective 0900C on 05/27/2013.
  - Sunset Area Timetable #4, effective 0900C on 04/14/2014.
  - Twin Cities Area Timetable #5, effective 0900C on 11/14/2016.
- Subdivision general order for each subdivision operating on. There is one general order in effect for each subdivision.
- Current system general orders.

Note: There are 10 system general orders in effect at any given time that employees are required to have. System general orders are categorized as follows:

SSI 1 – 3 (1 Time Comparison; 2 Speed Restrictions and 3 Trains Handling - Company Equipment)

SSI 4 - 5-C (4 Locomotive Information and 5 Car Placement and Train Make-up Restrictions)

SSI 6 - 9 (6 Maximum Gross Weight Limitations; 7 Employee Information; 8 Heavy and Mountain Grade Operations and 9 Use of Engine Horns)

SSI 10 - 10-B (10-A General Code of Operating Rules; and 10-B Positive Train Control (PTC) Operations)

SSI 10-C - 10-D (10-C Air Brake & Train Handling Rules and 10-D Maintenance of Way Rules)

SSI 10-E - 10-G (10-E Safety Rules; 10-F Inspecting, Welding and Grinding of Rail and Track Components and 10-G Chief Engineer Instruction Bulletins)

SSI 10-H - 10-M (10-H Hazardous Materials Instructions; 10-I Programs & Policies; 10-J Commuter Train Operations; 10-K Main Track Switches; 10-L Additional Equipment Securement Requirements; and 10-M Mechanical Department.)

SSI 11 - 17 (11 Moveable Point Frogs; 12 Track Breach Protection; 13 Train Defect Detectors; 14 Operating With Foreign Railroads; 15 Work Orders; 16 Tornado Watch and Warning Instructions and 17 Accessing General Orders and Bulletins Electronically)

SSI 18 – 22 (18 Distant Signals; 19 Block and Interlocking Signals; 20 Automatic Cab Signals; 21 Slide Warning Indicator and 22 Roadway Signs)

SSI 23 – 24 (23 Security Alert Instructions and 24 California Proposition 65 Warning)

- All rule books must contain the current rules and the latest revised chapters/pages in the proper page sequence. The required rule chapters for each employee work group are listed below. All employees must have a current copy of and comply with the rules corresponding to one of these work groups. If you have responsibilities that require rules in addition to those listed for your work group, contact your supervisor.

  Transportation (TE&Y)
  1-18, Glossary, Index; 30-39, Glossary; 70-83; Glossary, Index.

  Engineering and Communications
  1-9, 14 & 15, Glossary, Index; 40-57, Glossary, Index; 70-83; Glossary, Index; Electrical Safety Rules.

  Mechanical
  1-9, 14-18, Glossary, Index; 30-39, Glossary; 42; 70-83; Glossary, Index; Electrical Safety Rules.

  Clerical/General Office
  1-5, Glossary, Index; 70-83; Glossary, Index.

  Managers and Train Dispatchers
  All chapters.

  Current version:
  - Chapters 1 through 17, effective 04/2015.
  - Chapters 20 through 27 effective 08/2008.
  - Chapters 30 through 39, effective 05/02/16.
  - Chapters 40 through 57, effective 05/02/16.
  - Chapters 70 through 83, effective 06/01/17.
- Instructions for Handling Hazardous Materials, Form 8620, effective June 1, 2017. Required for all employees examined on the General Code of Operating Rules. Conductors who transport hazardous materials must also have a copy of the current Emergency Response Guidebook (ERG) (2016) readily accessible while on duty.

- Track Welding Rules and Procedures for Inspecting, Welding, and Grinding of Rail and Track Components, effective 05/02/2016 required for track supervisors, section foremen, and track welders, grinders, and slotters.
- Electrical Safety Rules, effective July 1, 2010,
  Required for Maintenance Operations, Engineering & Communications.
- Chief Engineer Instruction Bulletins effective 05/02/2016 required for all examined Engineering Department employees and Transportation Department managers.
- UPRR photo identification card (National Badge) must be in each employee's possession. Each National Badge expires after 6 years. If your National Badge is expired, contact your manager to get a new photo taken as soon as possible. The National Badge must be kept current whether the employee has a certification or not. A National Badge will not be required to be in their possession if the employee has a photo on their FRA certificate.
- A valid "FRA Certificate" card, if applicable, regardless of the type of service the employee is called to perform, must be in the employee's possession while on duty. Each FRA Certificate must have your photo on it to be valid. If you are issued an FRA certificate with no photo, contact your manager to get a new photo taken as soon as possible. Within 10 days after taking photo notify EC&L at 544-CERT. Restrictions listed on certificate must be complied with as required. Certified employees who wear contact lenses must have a pair of corrective glasses available while on duty.
- A valid TWIC card is required for all employees who are assigned to work in port locations and must be in the employee's possession while on duty. A new or renewed TWIC card will be valid for 5 years. Union Pacific will reimburse the actual expense of the TWIC card when it is required to perform duties. To be reimbursed, employees must submit the request as a non service timeslip claiming class of time "9X-TWIC reimbursement" and fax the receipt to (402)271-5427 or 8-271-5427. Once the new TWIC card is received, employees must notify their manager of the new expiration date.

Electronic Versions

Access and use of approved electronic media must be restricted in accordance with Rule 2.21 Electronic Devices.

Employees may utilize electronic media (Laptop, Tablet, Smartphone etc.) to access the approved electronic versions from the UP Website or ERT Mobile App in lieu of printed copies. Follow these instructions to download rules or documents specified in SSI Item 7-A from the employee website:

1. Select **Departments**.
2. Under **Operating**, select **Operations Support**.
3. Under **Rules**, select **UP Rule Book**.
4. Follow instructions for desired download.

Also refer to **Item 17** for additional electronic files and instructions.

Employees must be able to access the electronic versions in a timely manner. This does not relieve employees from having the most current required revisions. Electronic versions must be capable of displaying information as intended, and Timetables and Form 8620 must be displayed in color.

When using electronic devices, the UPRR General Code version applies only when operating on UPRR trackage. UPRR crews operating on foreign lines must use the BASIC General Code of Operating Rules.

Rule Updated Date

June 1, 2018

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Item 7-B: Qualifications of Certified Employees

A. Locomotive Engineers

Qualification is determined by a Designated Supervisor of Locomotive Engineers (DSLE) before the locomotive engineer is allowed to operate without direct on-board supervision. Depending on individual case-by-case circumstances, a DSLE may provide notice of qualification after a ride, face-to-face discussion, telephone conversation, or electronic notification with the locomotive engineer. However, if the locomotive engineer disagrees with the decision that he or she is qualified, a DSLE must ride with the locomotive engineer before qualification. The ride must be of sufficient duration over the most demanding portion of the territory to ensure proficiency.

1. Initial Familiarization

Prior to being qualified on a main track territory upon which the employee has never operated in the capacity of a locomotive engineer, he or she must make familiarization trips over the entire territory. The average number of familiarization trips necessary for qualification will be determined jointly by the Senior Manager of Road Operations and DSLE responsible for that location. The average number of trips necessary is based on qualifying the typical locomotive engineer. Prior experience will be taken into account in determining the number of required trips. Certain non-mainline territories, i.e. industrial leads, have such generic and undemanding characteristics that familiarization with similar or more challenging territories may be used in-lieu of trip(s).

2. Maintaining Locomotive Engineer Proficiency

An engineer who has not worked any road trips in the past 12 months on territories in which the locomotive engineer was previously qualified must notify his/her DSLE.

When CMS calls an engineer to work a road trip for skills proficiency, a DSLE or a qualified engineer familiar with the territory will accompany the engineer. To the extent practicable, the DSLE will conduct an annual monitored ride during the trip pursuant to the FRA engineer certification requirements for engineers who do not normally work road trips.

3. Route Familiarization

Route familiarization is required in order to perform service as a certified locomotive engineer without the assistance of a pilot. After initial qualification on a specific route by completing the required familiarization plan specified by the DSLE, route familiarization is maintained by observing the route when performing service in any capacity (engineer or trainman) every 12 months. Other methods of maintaining route familiarization may also be specified by a DSLE.

Locomotive engineers are responsible for maintaining territory familiarization on the routes in their respective seniority districts.

Exception: Route familiarization as outlined above on the heavy and/or mountain grades of subdivisions listed in the following table, in any capacity, is required every 5 months.

In addition to the twelve month requirements, engineers subject to call on the following territories who have not worked both directions in the past five months must notify their manager. When notified, the manager will discuss the familiarization requirements to determine if familiarization trips are needed. An engineer who has not worked **both** directions during the

preceding six months must notify CMS and their manager of this fact. Unless otherwise instructed by the DSLE assigned to the territory in question, the engineer is prohibited from operating the train unless accompanied by a DSLE or a qualified engineer familiar with the territory.

Subdivision	Between	Subdivision	Between
Los Angeles	Yermo and W. Riverside	Montana	Monida and Waco, Apex and Silver Bow
Cima	Cima and Kelso	Greeley	Lasalle and Cheyenne
Caliente	Crestline and Las Vegas	Green River	Grand Junction and Helper
Huntington	LaGrande and Huntington	Provo	Helper and Salt Lake
LaGrande	LaGrande and Hinkle	Lakeside	Ogden and Alazon
Canyon	Portola and Oroville	Evanston	Wahsatch and Echo
Brooklyn	Eugene and Oakridge	Tennessee Pass	Minturn and Dotsero
Valley	Dunsmuir and Redding	Laramie	Sherman and Cheyenne
Cascade	Oakridge and Klamath Falls	Colorado Springs	Denver and Colorado Springs
Black Butte	Klamath Falls and Dunsmuir	Mojave	Bakersfield and West Colton
Roseville	Roseville and Sparks	Yuma	West Colton and Indio
Moffat Tunnel	Denver and Tabernash Bond and Crater	SCRRA	Palmdale and Burbank Jct
Craig	Phippsburg and Craig	Coast	San Luis Obispo and Santa Margarita

4. Cut back engineers and engineers recalled to engine service or hostling positions

a. Many promoted engineers retain seniority rights as brakemen and/or conductors. Due to changes in work force requirements, some of these engineers may be cut back to brakeman or conductor assignments. When this occurs, these individuals may be permitted to operate the locomotive under the provisions of Rule 1.47 B. l. if:

- Such activity does not interfere with their assigned duties.
- They have the consent of the working engineer of the crew.

Locations are not limited to territories where the employee was previously qualified. Only an engineer holding a valid Form 20106, Union Pacific Railroad FRA Certificate, is allowed to operate a locomotive or train. Seniority restrictions placed on an employee while an engineer remain in effect. A disqualified engineer must not operate a locomotive.

b. Cut back brakemen or conductors who have not worked as a locomotive engineer within the past 6 months must notify their DSLE and CMS of this fact. The DSLE may require the employee to make trips over a subdivision to maintain proficiency as an engineer.

c. During the first 12 months following completion of the engineer training program, an employee who has not worked any road trips as an engineer in the past 30 days, if called to work as a road engineer, must not accept the call unless so instructed by the DSLE. The DSLE will also determine what, if any, additional familiarization trips or training may be needed following any period in cut back or furloughed status within that 12 month period.

B. Remote Control Operators (RCO)

1. Qualification

Qualification is determined by a Designated Supervisor of Remote Control Operations (DSRCO) before the RCO is allowed to operate without direct supervision. Depending on individual case-by-case circumstances, a DSRCO may provide notice of qualification after a ride, face-to-face discussion, telephone conversation, or electronic notification with the RCO. However, if RCO disagrees with the decision that he or she is qualified, a DSRCO must ride with the RCO before qualification.

2. RCO position not worked in the previous 6 months

A Remote Control Operator who has not worked as a RCO in the previous 6 months must notify a service unit manager:

- Before being placed on a board that requires the employee to work a RCO position.
- If called to work a RCO position.

Employees must also inform the manager if their skill as an RCO has not been evaluated in the past 12 months. The manager will determine if the employee needs familiarization after a discussion with the employee.

3. Remote Control Operators on selected jobs

The service unit will list jobs that require additional training and familiarization. Additional air brake and train/track dynamics training may be required for these jobs. The RCO is responsible for notifying a manager before placing them self on a position or when forced to an RCO assignment. The lead DSRCO will determine what, if any, training and familiarization is required. Remote control operators must not exceed the limits of their qualification and must inform the manager of limits, if requested to exceed qualification.

C. Conductors

1. Initial Certification

Train service employees hired after December 1, 2012, must pass all proficiency, knowledge, and territory familiarization training and testing required by law and the Company's Conductor Certification Program to work as a certified, fully qualified conductor.

2. Territory Familiarization on Main Track

Conductors are responsible for maintaining territory familiarization on the routes in their respective seniority districts.

Each person who is called to perform service as a certified conductor must meet the territory familiarization requirements on the pertinent segment(s) of main track where they work. Route familiarization is maintained by observing the route when performing service in any capacity (engineer or trainman). Training trip(s) may be required if territory familiarization has expired and can include the use of technology and/or job aids. Employees must pass a territorial examination covering the operating conditions of main track territory where they have never operated, and for territory not traversed for a period of twenty-four (24) months or longer prior to working over that territory. Conductors must notify CMS and their assigned manager if they do not meet these territorial familiarization requirements prior to protecting service.

Exception: A pilot is not required if a conductor is working on a section of track with an average grade of less than 1% over 3 continuous miles, and any one of the following applies:

- The maximum distance the locomotive or train will be operated does not exceed one mile.
- The maximum authorized speed for any operation on the track does not exceed 20 miles per hour.

- Operations are conducted under operating rules that require every locomotive or train to proceed at a speed that permits stopping within one-half the range of vision of the locomotive engineer.

3. Territory familiarization on other than main track

If a conductor has never worked on a segment of track or has not been over that track for a period of twenty-four (24) months or longer, the conductor will be:

- Accompanied by a qualified employee who meets the territorial requirements where practicable.
- Provided an appropriate job aid or
- Receive a detailed job briefing from an employee familiar with the territory.

D. Recertification (All Classes of Services)

Employees requiring recertification packets are to print the necessary forms from the Certification area of the TE&Y portal. Instructions on printing the documents for TE&Y employees are issued in service unit superintendent's bulletin.

150 days prior to the certification expiration date an item will be available on the "Certification" link of the TE&Y portal allowing the packet to be printed using a local printer. The packet will only be available for employees who are certified and must complete required documents for recertification. Employees are required to follow the instructions contained in the packet and complete all required forms as well as follow the instructions for obtaining hearing and/or vision exams. All required items must be completed promptly, but not less than **60 days in advance of the certificate expiration date.** All certified (licensed) employees must be re-certified (licensed) every three years. FRA Certificates will expire on the employee's birthday, every third year, after initial certification. If the re-certification information is not available on the TE&Y portal, contact the licensing group at 402-544-2378.

Note: If you are unable to print the necessary forms, please consult your immediate supervisor for assistance. A separate UP photo ID will not be required if the employee has a photo on their FRA certificate.

All certified employees must maintain a valid, unexpired certificate. Failure to do so may result in an interruption in service. It is the individual employee's responsibility to ensure that certification does not expire.

It is the individual employee's responsibility to ensure availability to perform service by maintaining valid certification(s). Employees must carry an unexpired FRA Certificate for freight and/or passenger service while on duty.

Employees who are certified for multiple TE&Y classes of service will be issued one certificate listing each class of service the employee is qualified to perform. In order to maintain multiple classes of service, employees will be required to satisfy all proficiency testing and regulatory recertification requirements on a periodic basis (i.e., hearing, vision, motor vehicle, certification ride, etc.). Multiple certificates will all have the same expiration date.

Recertification is required within three years of the expiration date listed on the employee's FRA Certificate. Employees will have access to recertification instructions via the certification link in TE&Y portal 150 days prior to the expiration date on his/her license. If the re-certification item is not available on the TE&Y portal, contact the licensing group at 402-544-2378. **All requirements must be completed promptly, but no less than 60 days prior to the expiration of the certification.**

E. Familiarization and Pilot Authorization

All certified TE&Y employees who bid, place, or are forced to a new assignment must contact a manager to arrange for completion of any necessary company or regulatory familiarization requirements prior to working the new assignment if :

1. They have never worked the territory
   or
2. Their territory familiarization or territory exam for that assignment has expired.

The TE&Y employee must contact a service unit manager to authorize the use of a qualified pilot in advance of call or reporting for the assignment. Failure to comply with these instructions may subject the employee to discipline.

Rule Updated Date

June 1, 2018

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ITEM 8: Heavy and Mountain Grade Operations

Item 8: Heavy and Mountain Grade Operations

1. Descending Grade Requirements

Cresting the Summit "CG"

When freight trains (leading locomotive) and light locomotive consists crest the summit of grades listed below as "CG", speed must be at least 5 MPH below the maximum authorized speed.

Descending Grades

When operating freight trains or light locomotive consists on descending grades between locations listed below as 1% or 2%, if train speed reaches 5 MPH above maximum authorized speed:,

- Stop movement immediately, using an emergency brake application.
- When operating light locomotives consists, actuate and fully apply independent brake.
- After stopping, apply hand brakes as required to prevent movement.
- Do not move the train until authorized by a Designated Supervisor of Locomotive Engineers.

Refer to Rule 34.2.10 Emergency Brake Applications.

2. Two-Way EOT Requirements

The following restrictions are applicable to those grades listed below:

1% Trains departing from a designated crew change location for that train, if entering territory listed in the following table, must be equipped with an operable 2-way end-of-train telemetry device (rear-end unit and head-end unit) or equivalent device. However, the following trains do not require a 2-way EOT or equivalent device to operate on these grades:

- Passenger trains.
- Local trains not exceeding 4000 trailing tons, operating within a single designated crew district, and not operating over a section of track indicated as 2%.
- Work trains not exceeding 4000 trailing tons and not operating over a section of track indicated as 2%.

Refer to rule 32.9.1 for further information.

2% Trains operating on the following grades listed below must be equipped with an operable 2-way end-of-train telemetry device (rear-end unit and head-end unit) or equivalent device. However, passenger trains do not require a 2-way EOT or equivalent device. Refer to Rule 32.9 End of Train Telemetry System for further information.

Note: For 1% and 2% grades also refer to rule 32.9.1.

Subdivision/Industrial Lead	Location (Applies for movements in both directions between/at the points unless specified otherwise.)	Applicability Code
Altoona	St. Paul and Hammond	1%
Bend	BNSF MP 102.5	CG
Bingham	Robbe and Midvale	2%
Bingham Ind. Lead	Leadmine and Welby	CG
Black Butte	Azalea, MP 331.5, Southward	CG
	Grass Lake, MP 367.7, Southward	CG
	Azalea and Dunsmuir	2%
	Klamath Falls and Azalea	1%
Caliente	Crestline and Las Vegas	1%
Canyon	Portola and Oroville	1%
Carrizozo	Vaughn and Alamagordo	1%
Cascade	Cascade Summit, MP 537.5, Northward	CG
	Cascade Summit to Oakridge	1%
Cedar City	Cedar City , Eastward	CG
Chevron Industrial Lead	MP 8.00 and Chevron	1%
Cima	Cima, MP 253.8, Westward	CG
	Cima and Kelso	2%
	Las Vegas and Arden	1%
Clifton	Clifton and Guthrie	2%
Coast	Cuesta, MP 235.7, Westward	CG
	MP 236.6, Eastward	CG
	San Luis Obispo and Santa Margarita	2%
	San Luis Obispo and King City	1%
Colorado Springs	Palmer Lake, MP 50.0, Southward	CG
	Sedalia and Colorado Springs	1%
Comstock	Iron Mountain, MP 13.0, Eastward	CG
	Iron Mountain and Iron Springs	2%
Condon	MP 8.00, Northward	CG

Cumberland Ind. Lead	MP 9.4 Northward	CG
De Soto	Piedmont and De Soto	1%
Dry Valley	MP 25.0 Southward	CG
Elkol Industrial Lead	MP 2.4 Northward	CG
Evanston	Wahsatch, MP 928.0, Westward, Track 1	CG
	Wahsatch and Ogden	1%
Falls City	Atchison and Nebraska City	1%
Gay	Gay, MP 14.5 Westward	CG
	Gay and Nine Mile	1%
Glenwood Springs	Bond and Grand Jct.	1%
Gila	Estrella and Bosque	1%
Greeley	Cheyenne and Greeley	1%
Green River	Grand Jct. and Helper	1%
Huntington	Encina, MP 352.0, Both directions	CG
	Telocaset, MP 312.5, Westward	CG
	Pleasant Valley and Pritchard Creek	2%
	Pleasant Valley and Durkee	1%
La Grande	Kamela, MP 271.3, Both directions	CG
	Kamela and Hilgard	2%
	Kamela and Huron	2%
	Minthorn and Hilgard	1%
Lakeside	MP 645.40, Eastward	CG
	MP 616.3, Westward	CG
	Lucian and Wells	1%
Laramie	Bufford, CP W536, Eastward, Tracks 1 & 2	CG
	Hermosa, CP W547, Westward, Track 3	CG
	Sherman and Wycon	1%
	Hermosa and Red Buttes	1%
Limon	Sharon Springs and Mesa	1%
Livonia	W. Bridge JCT and E. Bridge Jct.	1%
Lone Pine	Cantil and Searles	1%
Lordsburg	PFE Yard and Lordsburg	1%
Los Angeles	Silverwood, BNSF MP 56.6, Westward	CG
	Summit and San Bernadino	2%
	Riverside Jct. and Barstow	1%

Lufkin	Appleby and Tenaha	1%
Modoc	Ambrose and Canby	CG
	Ambrose and Canby	2%
Moffat Tunnel	MP 50.1, Eastward	CG
	MP 57.0, Westward	CG
	MP 138.5, Eastward	CG
	MP 154.0, Westward	CG
	East Portal and Rocky	2%
	Winter Park and Fraiser	2%
	Crater and Bond	2%
	Denver and Bond	1%
Mojave	MP 359.5, Northward	CG
	Cameron, MP 371.5, Southward	CG
	Hiland, MP 463.8, Southward	CG
	Through Silverwood connector track Southward, MP 464.7	CG
	Hiland and West Colton	2%
	Cable Xover and Mojave	2%
	Colton and Bakersfield	1%
Montana	Monida MP 264.0	CG
	Apex MP 340.25	CG
	Humphrey and Dubois	2%
	Apex and Navy	2%
	Feeley and Silver Bow	2%
	Idaho Falls and Silver Bow	1%
Nampa	Ticeska, MP 358.0, Westward	CG
	Reverse, MP 391.5, Eastward	CG
	Mt. Home and Bliss	1%
Oak Creek Industrial Lead		2%
Oakland	Tracy and Altamont	1%
Peoria	Pottstown and Pioneer	1%
Pocatello	At Kemmerer	1%
Powder River	S. Morrill and E. Caballo Jct.	1%
Provo	MP 638.2, Eastward	CG
	MP 651.8, Westward	CG

	MP 673.3, Westward	CG
	Kyune and Helper	2%
	Summit and Castilla	2%
	Helper and Springville	1%
Roseville	MP 136.5, Westward, Track 1	CG
	MP 191.0, Westward, Tracks 1 & 2	CG
	MP192.0, Eastward	CG
	Norden and Loomis MP 114.0	2%
	Norden and Truckee	2%
	Sparks and Roseville	1%
Sanderson	Maxon and Altuda	1%
SCRRA Trackage	Vincent 61.8	CG
	Vincent and Palmdale	2%
	Vincent and Paris	2%
	Burbank Jct. and Palmdale	1%
Sedalia	Dow and Smithton	1%
	Rock Creek Jct. and Pleasant Hill	1%
Shafter	Wendover and Wells	1%
Sharon Springs	Brookville and Sharon Springs	1%
Spokane	Shiloh and Eastport	1%
Stauffer Industrial Lead	Stauffer and Big Island	1%
Sunnyside	Sunnyside and Banning	2%
Tennessee Pass	MP 281.8, Westward	CG
	MP 290.3, Westward	CG
	Tennessee Pass and Minturn	2%
Toyah	Sweetwater and Sierra Blanca	1%
Valentine	Alpine and Marfa	1%
	Sierra Blanca and McNary	1%
Valley	Dunsmuir and Redding	1%
Wallace	Spokane and Eastport	1%
Yoder	Yoder and Egbert	1%
Yuma	Beaumont, MP 561.4, Westward	CG
	MP 566.2, Eastward	CG
	Beaumont and Garnet	2%
	Beaumont and MP 545.1	1%