

Air Brake Regulatory Modernization

August 29, 2019



**ASSOCIATION OF
AMERICAN RAILROADS**



What's the Challenge?

- Air brake technology has improved significantly since 2001 without complimentary regulatory changes
- Growth in rail traffic and competition with alternative modes necessitates a more fluid network
- Rail customers and the general public would benefit by modern regulations that allow efficient movement of rail freight



Air Brake Modernization Vision

- Increase time off-air to 24 hours, and to 48 hours with notice to FRA
- Eliminate rail car set-out and pick-up restrictions to better serve customers
- Increase mileage limitations on current airbrake tests



Current Off-Air Challenges

Community

- Diesel Fumes
- Locomotive noise and vibration
- “Current regulations make it impractical to stop locomotive idling”

Railroad

- High cost of fuel
- Employee exposure to risk
- Need to increase railroad efficiencies and reduce congestion



Off-Air Limitation

Intent of current regulations = mitigate risk of train moving due to air leaking out of the air brake system

Advancements have virtually eliminated air leakage:

- Component design and material quality advancements
- Robust processes to manage air quality



Harmonization with Canada

- Canadian regulations allow equipment to be off-air for 24 hours or up to 48 hours with notification to Transport Canada
- Similar operating environment
- The same locomotives and cars cross the border and operate freely
- Data comparison between U.S. and Canadian operations shows no safety concern related to increased time off-air



What are the Benefits?

Changing the time allowed off-air from 4 hours to 24 hours will:

- Reduce redundant brake tests:
 - \$37 million annually (100,000 tests/year)
- Reduce locomotive idling:
 - \$15 million annually (300,000 hours/year)
- Reduce air compressor costs:
 - \$1million annually
- Reduce employee risk exposure (e.g., slips, trips and fall walking on ballast)



Preview: Set-out/Pick-up Restrictions

- Trains cannot set-out or pick-up more than one car or one solid block of cars en route without completing an additional Class I brake test
- In the 2001 rule, FRA stated if cars were permitted to be moved in and out of a train at will, determining when and where a Class IA brake test must be performed on the train would be impossible.



Preview: Set-out/Pick-up Restrictions

- AAR proposed electronic air brake slip system (“eABS”) solves the issue identified by FRA in 2001
- With eABS, a railroad can see, at the car level:
 - When the rail car was last inspected
 - Who inspected the rail car
 - Where the rail car was last inspected
 - How many miles it has remaining until its next scheduled inspection



Preview: Increased Mileage

- Our proposal would increase the mileage limitations to 1,500 miles for a rail car with an eABS record inspected by a qualified person
- Our proposal would increase the mileage limitations to 2,500 miles for a rail car with an eABS record inspected by a qualified mechanical inspector
- There is not a statistical difference in accident rate for trains that are inspected by a qualified person or a qualified mechanical inspector



eABS



Train inspection conducted by QMI or QP



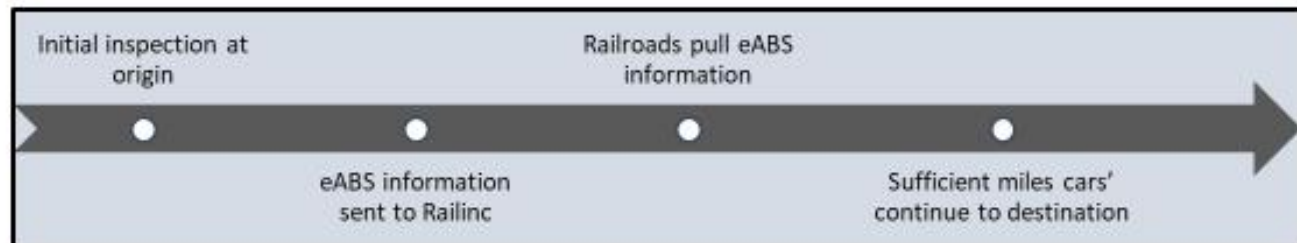
Train inspection information entered into eABS system through secure login information



eABS data is stored in Railinc's secure data repository. Records cannot be altered and contain security credential identification information



Railroads pull eABS information to view mileage since last brake test





eABS: Example

Inspection Equipment						
Station: A630 - MERIDIAN			Train: 456 - NEW ORLEANS-CHATTANOOGA			
H-R	Equipment	Inspection Description	Event Timestamp	Inspection Station	Mileage Until Inspection is Due	Inspector List
4	GBRX 705032	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
5	GBRX 705039	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
6	FINX 050219	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
7	NS 210261	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
8	NS 210243	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
9	NS 210373	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
10	Nw 190557	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
11	Nw 190792	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
12	NS 197036	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
13	SQU 062377	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
14	NS 210258	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
15	NS 210478	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
16	Nw 190867	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
17	PINX 001021	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
18	PINX 462670	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
19	DAKX 395740	CLASS1 MECHANICAL - ORIGIN	08:52 PM 01/10	NEW ORLEANS LA	800	Inspector 1, Inspector 2
20	SHQX 051441	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
21	HKRX 600030	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
22	SOXX 121934	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
23	SOXX 121936	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
24	TILX 640731	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
25	NOKL 600014	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
26	NS 120715	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
27	TILX 307400	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
28	TILX 307366	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
29	TILX 307309	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4
30	UTLX 957633	CLASS1 MECHANICAL - PICKUP	09:34 AM 01/11	MERIDIAN MS	1000	Inspector 3, Inspector 4

☐ Display All Inspections

[Detail](#) [Export to Excel](#) [Close](#)



eABS: Example

Task Master (ALABAMA): Mech Inspection [55]

ALABAMA

Mech Inspecti...

Inbound [6]
Outbound [49]

Equipment

Search

Controlling Station ▲

- Controlling Station : BIRMINGHAM (791) (5 items)
- Controlling Station : CHATTANOOGA (240A) (11 items)
- Controlling Station : KNOX SEVIER YARD (123A) (10 items)
- Controlling Station : MEMPHIS (547A) (7 items)
- Controlling Station : MERIDIAN (A630) (4 items)
- Controlling Station : NEW ORLEANS (A826) (7 items)

Track ID	Station	Sent to Taskmaster	# Cars	# Rep	# BO	Comments	Delete
EY14	NEW ORLEANS(A826)	2/4/2019 3:45:08 PM	7	0	0	456	X

Mechanical Received		Inspection Type	Inspection Begin		Mechanical Released	
Time	Date		Time	Date	Time	Date
8:00 PM	02/04/2019	(ORIGIN) A-6 & OUTBOUND INSPECTION	8:10 PM	02/04/2019	9:00 PM	02/04/2019

		Air Brake Test Start		Air Brake Test End	
Type	PSI/CFM	Time	Date	Time	Date
YARD PLANT	2	8:20 PM	02/04/2019	8:52 PM	02/04/2019

	Equipment	Air Brake Inspectors	Mech. Inspec. Inspectors	Repaired	Bad Order	Delete
4	GBRX 705032	INSPECTOR 1, INSPECTOR 2	INSPECTOR 1, INSPECTOR 2	☐	☐	X
5	GBRX 705039	INSPECTOR 1, INSPECTOR 2	INSPECTOR 1, INSPECTOR 2	☐	☐	X
6	FINX 050219	INSPECTOR 1, INSPECTOR 2	INSPECTOR 1, INSPECTOR 2	☐	☐	X
7	NS 210261	INSPECTOR 1, INSPECTOR 2	INSPECTOR 1, INSPECTOR 2	☐	☐	X
8	NS 021043	INSPECTOR 1, INSPECTOR 2	INSPECTOR 1, INSPECTOR 2	☐	☐	X
9	NS 210373	INSPECTOR 1, INSPECTOR 2	INSPECTOR 1, INSPECTOR 2	☐	☐	X
10	NW 190557	INSPECTOR 1, INSPECTOR 2	INSPECTOR 1, INSPECTOR 2	☐	☐	X

Refresh

Save Close

Billing [182]
Scans [101]
Transfer of Liability
ICHD
Revenue Switch [306]
Lease Track [955]
Mech Inspection [55]
Exception Queue [171]



eABS Benefits

- Reduced train stops (Pick-Ups/Set-Outs):
 - \$57 million annually (140,00 events/year eligible)
- Reduced intermediate brake tests:
 - \$24-\$35 million annually (45,000 tests/year)
- Reduced employee risk exposure
 - Sprains and strains from handbrake use
 - Sprains and strains from getting on/off cars
 - Slips, trips and falls walking on ballast
- Improved customer service and network velocity



Air Brake Modernization

All three proposed changes work together to improve safety, system velocity, fuel efficiency, and the cost efficiency of the rail network

Total savings from all three changes:

Approximately \$140 million annually