

Engineering Task Force Update

to the

52nd Railroad Safety Advisory Committee Meeting

December 4th, 2014
Washington, DC



FRA – Office of Railroad Safety

12/5/2014



U.S. Department
of Transportation
**Federal Railroad
Administration**

Outline

- ETF Background and Tasks
- Review Passenger Equipment Regulatory Plan
- NPRM 2 Task Updates:
 - Tier III Safety Appliances
 - Tier III 229/ITM Task Group
- Future Meetings



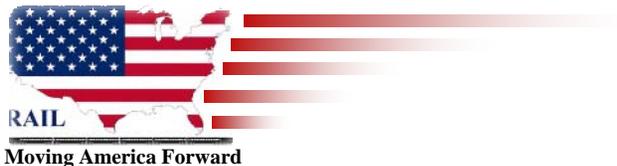
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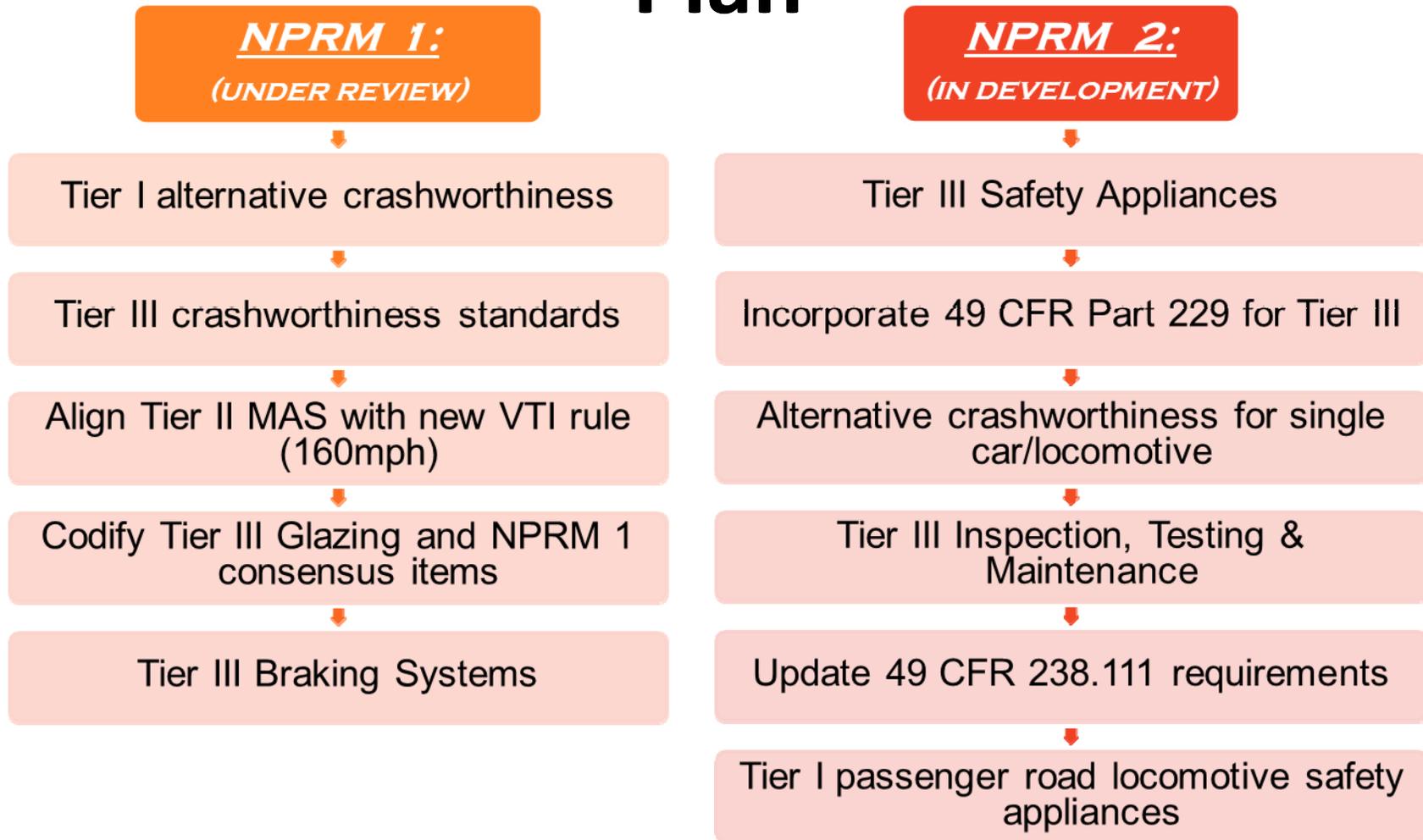


ETF Background

- Engineering Task Force Established by Passenger Safety Working Group, August 12, 2009
 - Developed Technical Criteria and Procedures for the Crashworthiness of Alternately-designed Tier I Equipment
- ETF Re-tasked by PSWG, July 28, 2010
 - May Address Any Type of Equipment
 - May Address Any Safety Features of the Equipment
- Development of next generation HSR trainset requirements (Tier III) is a major focus



ETF Passenger Equipment Regulatory Plan



Progress of NPRM 2 topics, to date...

IP – In Progress
P – Pending
S – Stalled
NS – Not started

- IP Tier III Safety Appliances
- IP Incorporate 49 CFR Part 229 for Tier III
- S Alternative crashworthiness for single car/locomotive
- IP Tier III Safe Operation Plan (Subpart J)
- P Tier III Inspection, Testing & Maintenance
- NS Update 49 CFR 238.111 requirements
- NS Tier I passenger trainset/locomotive safety appliances



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Objectives from November Meetings

1. Review Tier III safety appliance proposal (stage 1) and seek concurrence to develop strawman regulatory requirements
2. Present proposals for application of 49 CFR Part 229 to Tier III and seek ETF concurrence (agreement in principle)
3. Present proposal for Tier III Safe Operation Plan Requirements (proposed Subpart J)
4. Determine appropriate path forward for “single car/locomotive” alternative crashworthiness



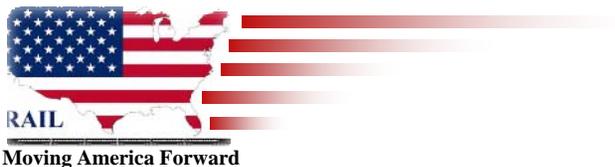
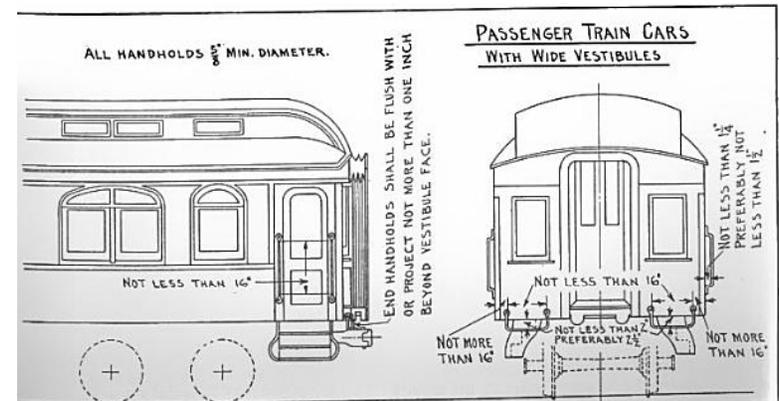
Tier III Safety Appliances

Task Status

A working committee was created to develop recommendations to ETF

The committee has divided the task into 4 major areas:

1. Application (Proposal 1)
2. Location & Size
3. Appliance Strength
4. Attachment Strength



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Tier III Safety Appliances

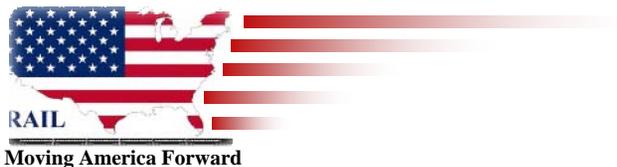
Proposal 1 (Application)

Tier III recommendations were developed by analyzing passenger car requirements from 49 CFR Part 231

Objectives:

1. Maintain the intent of the original requirements;
2. Establish whether the original application was still applicable;
3. Determine how best to achieve the intent in a HSR environment.

Recommendations were presented to ETF and approved in principle on November 13, 2014



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Tier III 229/ITM Task Group Update

Five (5) meetings held during 2014, to date

Work has been divided into two parts:

1. Determine appropriate application of Part 229 to Tier III
2. Develop requirements for Tier III Inspection, Testing and Maintenance (ITM)

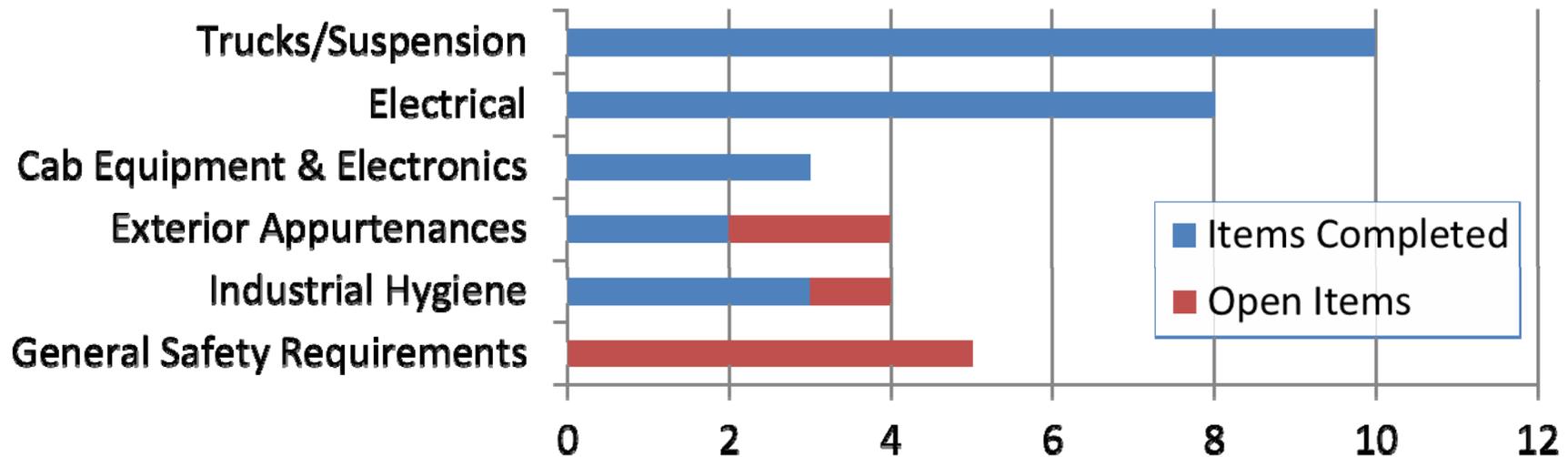
§229 Reference	Topic	Adopted for Tier III?	New §238	Status
Electrical System				
§229.77	Current collectors.	modified	238.7E1	closed
§229.79	Third rail shoes.	superseded	238.7E1	closed
§229.81	Emergency pole; shoe insulation.	superseded	238.7E1	closed
§229.83	Insulation or grounding of metal parts.	yes	238.7E2	closed
§229.85	High voltage markings: doors, cover plates, or barriers.	modified	238.7E3	closed
§229.87	Hand-operated switches.	modified	238.7E4	closed
§229.89	Jumpers; cable connections.	modified	238.7E5	closed
§229.91	Motors and generators.	superseded	238.7E6	closed
Internal Combustion Equipment				
§229.93	Safety cut-off device.	no		open
§229.95	Venting.	no	-	closed
§229.97	Grounding fuel tanks.	no	-	closed
§229.99	Safety hangers.	no	-	closed
§229.101	Engines.	no	-	closed
Steam Generators				
§229.103	Safe working pressure; factor of safety.	no		open
§229.105	Steam generator number.	no	-	closed
§229.107	Pressure gauge.	no	-	closed
§229.109	Safety valves.	no	-	closed

Example of 229-Tier III Cross-reference Table.



Tier III 229/ITM Task Group

Task Status



	General Safety Requirements	Industrial Hygiene	Exterior Appurtenances	Cab Equipment & Electronics	Electrical	Trucks/Suspension
■ Items Completed	0	3	2	3	8	10
■ Open Items	5	1	2	0	0	0



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Future Meetings

Upcoming Working Sessions:

- December 9th, 2014 – Tier III Safety Appliances
- January 6th, 2015 – ITM/229 Task Group
- January 21st, 2015 – ITM/229 Task Group
- January 22nd, 2015 – Single Car/Locomotive Alt. Crashworthiness
- January TBD, 2015 – Tier III Safety Appliances

Next full Task Force meeting scheduled for: **February 24-25, 2015**



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