

# Bridge & Structures Section

## Rail & Infrastructure Integrity Division

# Bridge & Structures

- Who we are
- Where we're located
- What we do
- FRA Bridge Safety Standards Overview

# Bridge & Structures

- David Killingbeck, PE – Chief Engineer – Structures; Washington, DC
- Roger Boraas, PE – Structural Engineer; Denver, CO
- Mark Brinck – Bridge Safety Specialist; Harrisburg, PA
- Carmi Guyette – Bridge Safety Specialist; Glenville, PA

# Bridge & Structures

- Steve Krause – Bridge Safety Specialist;  
St. John, IN
- Bruce Roper – Bridge Safety Specialist;  
Garfield, WA
- Terry Shelton – Bridge Safety Specialist;  
Athens, AL

# Bridge Section Duties

- Enforce FRA Bridge Safety Standards
  - 49 CFR Part 237
  - Determine if BMPs and policies comply
  - Assess track owner's BMP compliance
  - Sound engineering practices followed
- Site assessments to validate structural integrity; We do Not inspect!
- Maintain BWS compliance manual

# Bridge Section Duties

- Assist regions on bridge or bridge worker related accident investigations
- Provide expert advice relative to structures management, inspection, and maintenance
- Investigate bridge complaints
  - Public
  - Elected officials / representatives

# Bridge Safety Standards – Part 237

- Performance & Prescriptive standard
  - Most track owners with gage of two feet or more
- Infrastructure Management
  - What do you have?
  - What is the condition?
  - What is the capacity?
  - How do you prevent overload?
  - How do you protect following unusual event?
  - What are your QA/QC (audit) procedures?

# Bridge Safety Standards – Part 237

- Inventory
  - Unique ID
  - Location
  - Configuration
  - Type of construction (steel, concrete, timber, etc.)
  - # of spans
  - Span lengths
  - Other info necessary to manage bridge safety

# Bridge Safety Standards – Part 237

- Condition
  - Personnel qualifications: RBE, RBI, RBS
  - Inspection frequency
    - Minimum = annually
  - Procedures (level of effort)
  - Report review / analysis
- Bridge inspection program
  - Inspector safety
  - Types of inspections
  - Defect level definitions
  - Documentation method
  - Structure type
  - Component nomenclature
  - Numbering / ID protocol

# Bridge Safety Standards – Part 237

- Capacity
  - Obtain / maintain bridge plans & records
  - Instructions to operating personnel
    - Maximum weight
    - Minimum car length or axle spacing
    - Dimensions (height & width)
  - Procedure to enforce
  - 5 years to determine safe load capacity

# Bridge Safety Standards – Part 237

- Special Inspections (post-event)
  - Natural or accidental
  - Flood
  - Fire
  - Earthquake
  - Derailment
  - Vehicular or vessel Impact
- Special Inspections (underwater / scour)

# Bridge Safety Standards – Part 237

- Repairs and Modifications
  - Design by Railroad Bridge Engineer
    - Modification of capacity or stresses
    - Specify conditions for live loads
  - Work supervised by Railroad Bridge Supervisor
    - Following RBE's plans and specifications

# Bridge Safety Standards – Part 237

- Internal Audit
  - Report review – schedule & procedure
  - Report validity (field sampling)
  - Inventory data
  - Movement restrictions (weight & dimensions)
  - Program effectiveness

# Part 212 – State Safety Participation

- Track
- Signal & Train Control
- Motive Power & Equipment
- Operating Practices
- Hazardous Materials
- Highway-Rail Grade Crossing
- **Bridge Safety Standards are NOT included**

# Questions?

# Information

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Bridge Safety Standards Final Rule

<http://www.fra.dot.gov/eLib/details/L03212>

BSS Compliance Manual

<http://www.fra.dot.gov/eLib/details/L04471>