Obstructive Sleep Apnea: Medical Qualification Update
Federal Railroad Administration

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OSA: Medical Qualification Update

November 15, 2001 – Railway accident in Clarkston, Michigan
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November 15, 2001 – Railway accident in Clarkston, Michigan

- CN/IC train 243 was operating northward on a proceed signal on the single main track about 30 mph when the trains collided.

- CN/IC train 533 had been operating in a southward direction through the siding and was traveling at 13 mph

- Signal 14LC at the turnout for the siding displayed a stop indication, but train 533 did not stop before proceeding onto the mainline track – train 533 struck train 243.
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November 15, 2001 – Railway accident in Clarkston, Michigan
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November 15, 2001 – Railway accident in Clarkston, Michigan

• Train 243 - 2 crewmembers fatally injured
• Train 533 - 2 crewmembers sustained serious injuries.
• Damaged track & equipment - valued at about $1.4 million.

• NTSB determined the probable cause of the accident was the train 533 crewmember’s fatigue, which was primarily due to:

  ✓ the locomotive engineer’s untreated OSA, and

  ✓ the conductor’s insufficiently treated OSA.
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**FRA’s Fitness requirements** (minimum federal safety standards):

- **Hearing and vision** -
  - Locomotive engineers - 49 CFR part 240
  - Conductors - 49 CFR part 242

“This part does not restrict a railroad from adopting and enforcing additional or more stringent requirements not inconsistent with this part.”

- **Railroad’s Medical Examiner** (Contracted or employed by RR)
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• To alert the railroad community, and especially those employees occupying safety-sensitive positions, to the danger associated with degradation of performance resulting from sleep disorders that are undiagnosed or not successfully treated.

• This advisory contained suggested measures that railroads and employees should utilize to prevent work-related errors and on-the-job accidents as a result of sleep disorders.
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FRA recommended: Railroads and representatives of employees, working together, take the following actions to promote the fitness of employees in safety-sensitive positions:

(1) Establish training & educational programs about fatigue and sleep disorders ..... 

(2) Ensure that employees' medical examinations include assessment and screening for possible sleep disorders and other associated medical conditions
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(3) Develop and implement rules that request employees in safety-sensitive positions to voluntarily report any sleep disorder that could incapacitate, or seriously impair, their performance.

(4) When a railroad becomes aware that an employee in a safety-sensitive position has an incapacitating or performance-impairing medical condition related to sleep, the railroad prohibits that employee from performing any safety-sensitive duties until that medical condition appropriately responds to treatment.
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(5) Implement policies, procedures, and any necessary agreements to—

(a) Promote self-reporting of sleep-related medical conditions by protecting the medical confidentiality of that information and protecting the employment relationship, provided that the employee complies with the recommended course of treatment;

(b) Encourage employees with diagnosed sleep disorders to participate in recommended evaluation and treatment; and

(c) Establish dispute resolution mechanisms that rapidly resolve any issues regarding the current fitness of employees who have reported sleep-related medical conditions and have cooperated in evaluation and prescribed treatment.
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Since Safety Advisory 2004-04 was issued:
Progress in Mitigating Risk

• 49 USC CHAPTER 211 — HOURS OF SERVICE (as amended by the Rail Safety Improvement Act of 2008, PL 110–432, signed 10/16/2008)

• 49 CFR Part 228 - Hours of Service of Railroad Employees; Substantive Regulations for Train Employees Providing Commuter and Intercity Rail Passenger Transportation; Conforming Amendments to Recordkeeping Requirements

• Technological advances & related regulations

• RSAC Medical Standards (Guidelines) Task

• Other Initiatives (e.g., FRA Website: Railroaders Guide To Healthy Sleep)
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Since Safety Advisory 2004-04 was issued:

**Progress in Mitigating Risk**

**Hours of Service for Railroad Employees**

(49 CFR 228, Subpart F, effective 10/16/2011)

- Maximum on-duty periods and minimum off-duty periods for passenger train employees.
- **Fatigue mitigation plans:** RR must develop & carry out plans to mitigate fatigue risks before safety may be compromised.
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Alerter  (49 CFR 238.5 Passenger Equipment Safety Standards)

Alerter means a device or system installed in the locomotive cab to promote continuous, active locomotive engineer attentiveness by monitoring select locomotive engineer-induced control activities.

- If a monitored activity is not detected within a predetermined time, a sequence of audible and visual alarms is activated so as to progressively prompt a response by the locomotive engineer.
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Since Safety Advisory 2004-04 was issued:

Progress in Mitigating Risk - Technology

“Rail Safety Improvement Act of 2008” requires certain freight and passenger railroads, by 2015, to deploy Positive Train Control on their main lines (defined as 5 MGT traffic annually) over which,

✓ Intercity rail passenger transportation or commuter rail passenger transportation is regularly provided

✓ Poison or toxic-by-inhalation hazardous materials are transported

✓ Such other tracks as the Secretary may prescribe by regulation or order.

Positive Train Control - 49 CFR Parts 229, 234, 235, and 236
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Positive Train Control: PTC

Progress in Mitigating Risk - Technology

GPS

Locomotive & Onboard Systems

Dispatch Center

Wayside Servers

Control Signals

Track Transponders

Wayside Interface Units
Since Safety Advisory 2004-04 was issued: Positive Train Control

**Risk Mitigation Benefits**: Prevents Train To Train Collision, Over Speed Derailments, Incursions Into Established Work Zones, and Movement of a Train Through Switch Left in a Wrong Position

**Limitations** – Will Not Prevent All Possible Accidents

- Only Work Where Installed - Implementation by 2015
- Low Speed Collisions From Permissive Block Operation
- Shoving Accidents In Reverse
- Track Or Train Defect Derailments
- Grade Crossing Collisions
- Track Incursion Collisions
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Since Safety Advisory 2004-04 was issued:
Progress in Mitigating Risk – RSAC Task

Railroad Safety Advisory Committee (RSAC) Task

“Medical Standards (Guidelines) for Safety-Critical Personnel”
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Railroad Safety Advisory Committee (RSAC):

- Consists of voting representatives drawn from member organizations representing large and small railroads, rail labor organizations, state associations, rail passenger representatives with suppliers and other interested parties participating as non-voting associate or advisory partners.

- Collaborative consensus model - Seeks to develop and provide the FRA with informed advice and recommendations (safety solutions and regulatory options) concerning specific tasks assigned to it by FRA. The advice and recommendations are solely advisory in nature.
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FULL RSAC COMMITTEE

Accepts, rejects, recommends modifications to tasks offered by FRA, appoints and assigns tasks to working groups, approves or rejects WG recommendations

WORKING GROUPS

“WG”

Develops recommendations on one or more specific tasks assigned to RSAC

TASK FORCES

“TF”

Develops data and recommended actions with respect to elements of tasks assigned to working groups

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Since Safety Advisory 2004-04 was issued:

Progress in Mitigating Risk – RSAC Task

Examples of information considered:

1. Foreign Railway medical standards and guidelines.
2. Other modal medical standards and guidelines (e.g., FMCSA & FAA) & USCG
3. Medical literature and medical expert panel opinions and recommendations cited by foreign railroads, other DOT modes, and the USCG.
4. Evolving relevant literature and informed expert opinions from medical qualification experts, fatigue experts, engineers and scientists who are knowledgeable with respect to application of medicine and science.
5. Data & opinions from railroad Community (Operational experts and other stakeholders)
6. Mitigating effects of technology & other impacting regulations
7. Benefits, costs & burdens
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Examples of challenging issues:

• OSA Screening

• Medical qualification criteria and protocols for locomotive engineers and conductors diagnosed with OSA

• Cost-benefit analysis, accident data, risk

• Fair and cost-effective safety strategy
Thank you.