

Dear Mike Flanigon,

Thank you for taking time to meet on February 9, 2012 to discuss the FRA programs and research related to fatigue management. As we were unable to fully discuss all the questions posed in your January 31, 2012 letter, I wanted to take this opportunity to provide additional information in response to those questions. For clarity, I have provided this information in line with the original questions.

1. What is the expected date for issuing the Fatigue Management Program guidance document that is referenced in your letter?
 - The Fatigue Management Program guidance is currently being finalized. We anticipate the document will be ready for distribution by mid-March in advance of the first meeting of the Rail Safety Advisory Committee (RSAC) Fatigue Working Group. The group will convene on March 27, 2012 to advise FRA on the development of the Fatigue Management regulation mandated as part of the Rail Safety Improvement Act of 2008.
2. What is the expected date that the Railroaders' Guide to Healthy Sleep website will go on line?
 - A website stakeholders meeting was held on January 24, 2012. At that time, stakeholders reviewed the current website and made final recommendations for revision. A final webinar is planned for early March to allow the stakeholders to view the final version of the website prior to its public launch. The website team plans to have the website ready to go on line to the public in early April with a demonstration and "soft launch" to be held at the March 27, 2012 RSAC Fatigue Working Group meeting.
3. Will the FRA require railroads to provide fatigue educational training to their employees?
 - Yes. Currently railroads providing passenger service are required as part of 49 CFR, part 228, subpart F, Substantive Hours of Service Requirements for Train Employees Engaged in Commuter or Intercity Rail Passenger Transportation to provide their train employees engaged in commuter or intercity rail passenger transportation with initial fatigue awareness training, and to provide refresher fatigue awareness training every three (3) years thereafter. The requirements for fatigue education for freight railroad employees will be discussed by the RSAC Fatigue Working Group.
4. If so, will railroads be able to refer their employees to the material provided in the website "Railroaders Guide to Healthy Sleep" to satisfy this requirement?
 - The website development team is working with railroad management and labor organizations to develop outreach materials to inform railroad employees about the website. Railroads and labor organizations will be able to refer their employees and members to the material provided in the "Railroaders Guide to Healthy Sleep" website. However, the website alone will not meet all the requirements for employee education and railroads providing passenger service are still required to develop a fatigue education program under 49 CFR, part 228, subpart F.
5. Will there be a requirement for recurrent training on fatigue?
 - Yes. Railroads providing passenger service are required as part of 49 CFR, part 228, subpart F to provide their train employees engaged in commuter or intercity rail passenger transportation with refresher fatigue awareness training every three (3) years after their initial fatigue training. The requirements for fatigue education for freight railroad employees will be developed as part of the RSAC Fatigue Working Group process.
6. What is the expected date of publication of information related to developing fatigue risk management systems that is referenced in your letter?

- The Fatigue Management Program guidance is currently being finalized. We anticipate the document will be ready for distribution by mid-March in advance of the first meeting of the RSAC Fatigue Working Group. The group will convene on March 27, 2012 to advise FRA on the development of the Fatigue Management regulation mandated as part of the Rail Safety Improvement Act of 2008. Additionally, once a Fatigue Management rule has been promulgated a user guide similar to the Fatigue Risk Mitigation guidance developed to accompany 49 CFR, part 228, subpart F, Substantive Hours of Service Requirements for Train Employees Engaged in Commuter or Intercity Rail Passenger Transportation will be developed and distributed.
7. What is the expected date of publication of information to the passenger rail industry regarding fatigue mitigation strategies and the development of FMPs that is referenced in your letter?
 - The Fatigue Risk Mitigation white paper was distributed to passenger railroads, rail organizations, and labor unions on February 14, 2012. A copy of the document is enclosed.
 8. Does the FRA currently have plans to evaluate the effectiveness of biomathematical models in the railroad industry (i.e., their effectiveness in reducing fatigue-related incidents or accidents)? If so, please describe.
 - The use of biomathematical models in the railroad industry is relatively new. It is a requirement under 49 CFR, part 228, subpart F for railroads providing passenger service to evaluate their schedules for fatigue risk using an approved biomathematical model of fatigue. Although there is currently no requirement for railroads to evaluate their freight service schedules using a biomathematical model of fatigue some railroads have independently been using biomathematical fatigue models to analyze freight schedules. As the passenger service requirement is new and the freight railroad effort is independent and voluntary, there currently is not enough data available for an evaluation of the efficacy of biomathematical models in the railroad industry. FRA will revisit evaluation plans once data is available.
 9. Please describe any feedback the FRA has received from the railroads regarding the use of the biomathematical models.
 - A petition for reconsideration of 49 CFR, part 228, subpart F was received that requested the established fatigue threshold for the Fatigue Audit InterDyne (FAID) model be changed from 72 to 90. For various reasons, this request was denied. A copy of FRA's response that denies the petition for reconsideration is enclosed. Use of biomathematical models is still new in the rail industry and at this time FRA has not received any additional feedback about their use.
 10. Please provide an estimate (%) of railroads who are currently using biomathematical models.
 - All railroads providing passenger service are required to use an FRA approved biomathematical fatigue model under 49 CFR, part 228, subpart F. Many freight railroads are also using biomathematical models of fatigue but because their use in freight railroads is independent and voluntary we don't have an estimate of how many freight railroads are currently using these models.
 11. For railroads that chose not to use biomathematical models (i.e., FAST), how will the FRA evaluate a railroad's strategy for developing schedules that consider operator fatigue?
 - All railroads providing passenger service are required under 49 CFR, part 228, subpart F to use an FRA approved biomathematical model of fatigue to analyze their schedules. Freight railroads do not have a biomathematical fatigue modeling requirement under their hours of

service law. Strategies for developing schedules that consider operator fatigue for both passenger and freight operations will be explored by the RSAC Fatigue Working Group as part of the creation of Fatigue Management Plans.

12. What are FRA's plans on providing training on the use of biomathematical fatigue models?
 - FRA currently does not have plans to provide training on the use of biomathematical fatigue models. Both FAST and FAID have basic training and technical support available as part of the software purchase. Additionally, both companies offer more advanced training and technical support as an add-on option to the base software purchase price.
13. If the FRA is currently providing training to railroads on the use of biomathematical models, does this training include any possible limitations of these models?
 - This is not applicable as FRA is currently not providing training on the use of biomathematical models to the railroads. However, the Fatigue Risk Mitigation white paper does outline some of the limitations of biomathematical models.
14. If available, would you please provide the NTSB with the written portion of this training?
 - This is not applicable as FRA is currently not providing training on the use of biomathematical models to the railroads.
15. What is the status of the development of locomotive alert regulations out of the NPRM that was issued January 12, 2011 with a comment period that closed March 14, 2011?
 - FRA is currently reviewing comments received regarding the NPRM for Locomotive Safety Standards. Michael Masci can provide further information on the status. His contact information is: Michael Masci, Trial Attorney, Office of Chief Counsel, FRA, 1200 New Jersey Avenue, SE., Washington, DC (telephone 202-493-6037).
16. What is the status of the regulation on medical fitness for duty of safety critical railroad personnel?
 - The medical fitness for duty of safety critical railroad personnel standards have changed from a regulation to recommendations due to the high cost to the railroads of a regulation. The Medical Standards RSAC Working Group will reconvene at least once (date to be determined) at which point these recommendations will be finalized. Obstructive Sleep Apnea (OSA) has been removed from these recommendations as it will be addressed as part of the Fatigue Management regulation.

In addition to the copies of the Fatigue Risk Mitigation white paper and FRA's response to the petition to request reconsideration of 49 CFR, part 228, subpart F, Substantive Hours of Service Requirements for Train Employees Engaged in Commuter or Intercity Rail Passenger Transportation a comprehensive list of FRA's fatigue publications has also been included for your review.

As evidenced above, there is a great deal of fatigue-related activity that centers around the newly formed RSAC Fatigue Working Group as they help shape the Fatigue Management regulation. Efforts from the working group may lead to a change in deliverables or due dates. Please do not hesitate to contact me for information on new activities or revised delivery dates. The first meeting of the RSAC Fatigue Working Group will be March 27, 2012 (Washington, DC area, specific location TBD), I would like to extend an invitation to you to attend that or any future meeting of the Fatigue Working Group as your schedule permits.

Regards,
Ron Hynes