Control Room Management Workshop

Fatigue Mitigation Panel
November 17, 2010

192.631(d) & 195.446(d)

- Each operator **must** implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities the operator has defined:

192.631(d) & 195.446(d)

- (1) Establish shift lengths and schedule rotations that provide controllers off-duty time **sufficient to achieve eight hours of continuous sleep**;

  Expectation that operators would account for commute times

  While operators are not expected to directly account for controller(s) off-duty activities, education related to off-duty activities is a required element

192.631(d) & 195.446(d)

- (2) Educate controllers and supervisors in fatigue mitigation strategies and how off-duty activities contribute to fatigue;
- (3) Train controllers and supervisors to recognize the effects of fatigue; and

Don't expect operators to eliminate fatigue, but expect them to effectively manage it

Safety Culture is key to effectively putting education and training to practice

192.631(d) & 195.446(d)

- (4) Establish a maximum limit on controller hours-of-service, which may provide for an emergency deviation from the maximum limit if necessary for the safe operation of a pipeline facility.

Operators should maintain records to demonstrate HOS limits are appropriate, effective, and being followed

Fatigue Management

- For each of the elements, particularly (1) and (4), “litmus tests” via quantifiable metrics would be a benefit to all
- Perhaps more important to establishing the litmus tests is understanding why they work and if/how they may be impacted by any change
- Various factors such as overtime, call-out practices, etc could affect the fatigue level of controllers, even those on a traditional 8 hour shift

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- An operator must document the hours-of-service (HOS) limit(s) that were established, and have justification to demonstrate the chosen HOS limit does not pose an elevated risk of fatigue.
- Both the HOS limits and any provision(s) for emergency deviation should have a scientific basis that take into account circadian rhythm effects, type of shift(s) used, shift length effects, the need for rest, and other factors highlighted by relevant research.
- The operator's historical shift practices is not a scientific basis, unless appropriately verified by an expert
- Consortium-based programs can be sufficient, but only if the operator does not deviate from the program without additional expert verification

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- An operator is responsible for factoring into the controller maximum HOS limit all time that an individual is working for them, regardless of the activity, as that could have an impact on controller fatigue and inhibit a controller's ability to safely carry out their roles and responsibilities as a controller.
- While operators is not expected to directly account for controller(s) off-duty activities, education related to off-duty activities is a required element

Panelists

- Steve Lerman (API/AOPL)
- Jeff Maples (Southwest Gas, AGA)
- Daron Moore (El Paso Corporation, INGAA)
- Rick Kuprewicz (Accufacts, Public)
- John Erickson (APGA)
- Jay Miller (Miller Ergonomics, PHMSA)

Ground Rules

- Please hold your questions until after all of the presenters have finished.
- Please address your questions either to a specific member of the panel or to the panel at large.