

Know Your Limits, Part 1

The heavy cloud of fatigue weighs on each one of us at some time or another. Pipeliners who work rotating shifts are more vulnerable to fatigue than the average employee. Why is this such a big deal? We are all human, and our natural physiology sets limits on our bodies. When we are fatigued, we may be less aware, less alert, and less responsive. In the role of a pipeliner, this can be very dangerous. When an accident or injury occurs as a result of pipeline operations, the investigation that follows will certainly consider whether fatigue was a contributing factor.

Pipeliners have a great deal of personal responsibility in managing and mitigating fatigue for themselves, but pipeline companies also bear some responsibility in ensuring adequate fatigue risk mitigation policies and practices are in place and are enforced. For example, PHMSA requires that companies establish maximum limit on Controller hours-of-service. Most of our control room clients utilize schedules that are non-traditional. Controllers do not work 8-5 schedules, five days a week. Some Controllers work a



standard DuPont schedule, some work rotating 7on/7off, some work fixed shift schedules (all days or all nights for an extended period of time), and still others work some combination of these.

In PHMSA's frequently asked questions (FAQs), they recommend that reasonable limits on Controller hours-of-service during normal conditions be no more than sixty-five duty hours in any sliding 7-day period, and no more than fourteen duty hours in any 24-hour period (including shift hand-over time). Between shifts, Controllers must also be provided with sufficient off-duty time so that they can achieve eight hours of continuous sleep. Further, PHMSA advises that at least thirty-five continuous hours of off-duty time should be provided when a Controller has met any of the following limits:

- Seven consecutive day or night shifts
- Reached sixty-five duty hours in a sliding 7-day period
- Seven 8-hour shifts, six 10-hour shifts, or five 12-hour shifts in any sliding 7-day period
- 65 duty hours in any sliding 7-day period;

Learn more about acceptable exceptions to the hours-of-service rules on PHMSA's website:

https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/technical-resources/pipeline/control-room-management/60636/faqscontrol-room-management20180726_1.docx

Some companies use fatigue modeling to illustrate and predict the times during a shift when fatigue levels may be higher. Fatigue modeling aims to provide quantitative information on the likely fatigue risk associated with a given pattern of work or sleep. The goal of fatigue modeling is to help manage the risks of fatigue related to errors by identifying when a Controller will be most susceptible to fatigue.

Companies have the responsibility to plan the work schedule and hours-of-service for shift-workers. Next month, we'll consider the Controller's responsibility for making wise choices with off-duty time.