

CRM Implementation Workshop Fatigue and Max Hours

Nov. 17, 2010
Houston, TX

CRM Overall Review

- ◉ Detailed Review of CRM Regs
 - Final Rule - issued 12/3/9
 - Final Rule correction - issued 2/3/10
 - NPRM Accelerate sections of above CRM Reg timing - 9/17/10
- ◉ Conclusion from Public Representative
 - PHMSA has done a very good job of listening and compromising
 - Reasonable
 - Rational
 - Not perfect, but moves the bar substantially forward
- ◉ Support Rule and Accelerated Timing
 - They are called Control Rooms for a reason!

Fatigue & Max Hours

● To Cover One 24/7 Control Room position

- Need $7 \times 24/40$ hr wk = 4.2 workers
- Covering with 4 or 5 people?
- 8 hour vs 12 hour shifts?

● Over focused on Cost Reduction?

- Working with 4!
- Getting the “Do More with Less Speech”
- Control room staff reduction
 - Very unique skills - not an area to overly cost reduce

Fatigue & Max Hours

- ⊙ Fatigue risks different for pipeline controllers vs refinery/chemical/LNG/nuclear plant operators
- ⊙ Over focus on staffing reduction can mean greater risks of pipeline controller fatigue
 - Longer hours
 - Vacation / sick time coverage
 - Training needs
 - More consecutive work shifts
- ⊙ Great advances in computer technology, but...
 - Is computer working for you or you working for computer?
 - Seeing too many misapplications of technology
 - This isn't word processing!

Fatigue & Max Hours

- ◎ To avoid shorting Controller staffing
 - Need to define maximum work hours and minimum sleep periods
 - Watch drive to Controller minimum staff
 - CRM Rule places staffing responsibility on the pipeline management team
- ◎ Major Contributors to Fatigue
 - Poor staffing/manning practices
 - Poor SCADA Design/Presentation

Fatigue & Max Hours

- ◎ Support Report by Circadian Tech – Provided
 - Apply common sense
 - Avoid Controller overload by computer
 - Excessive consecutive shifts
 - Heed Report's various warnings
 - Avoid known staffing shortages
 - Understand rotating shift impact
 - Importance of eight hours of continuous sleep

Fatigue & Max Hours

- ◎ Controller Staffing overtime parameter
 - Highly auditable after event
 - Can be major issue, but simple to regulate
- ◎ Fatigue not an excuse for poor equipment design/installation/SCADA presentation
 - Needs to be addressed not overworked