

# Fatigue Management & Maximum Hours of Service

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Southwest Gas Corporation/Paiute Pipeline Company

PHMSA Control Room Management Implementation Workshop

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# Discussion Overview

2

- About Southwest Gas and Paiute Pipeline
- What the Rule states about Fatigue Mitigation
  - ▣ What we think it means
- Challenges faced by Southwest Gas, Paiute Pipeline and other AGA members
  - ▣ Thoughts & Ideas
- Conclusions

# About Southwest Gas Corporation

3

- 2,400 employees in Arizona, Nevada & California
- 1.8 million customers
- 937 miles transmission pipelines
- 29,900 miles distribution main
- 1.79 million services

# About Paiute Pipeline Company

4

- Wholly owned subsidiary of Southwest Gas
- FERC jurisdictional interstate natural gas pipeline providing transportation and storage service to northern Nevada and California
- 856 miles of pipeline from the ID-NV border to the NV-CA border
  - 4" to 24" pipe; 90 psig to 1,440 psig
  - Six compressor stations
  - LNG peak-shaving plant

# Two Control Rooms

5

## Southwest Gas

- ❑ Located in Las Vegas
- ❑ Provides gas control for Southwest Gas system (primarily distribution)
- ❑ One supervisor, six controllers
- ❑ 12-hour, semi-rotating shifts

## Paiute Pipeline

- ❑ Located in Carson City
- ❑ Provides gas control for Paiute Pipeline system (transmission)
- ❑ One supervisor, five gas controllers
- ❑ 8-hour, semi-rotating shifts

# Fatigue Management & the Rule

6

- **Must implement methods to reduce risk of controller fatigue that could inhibit ability to perform roles and responsibilities**
  - ▣ Shift lengths and schedule rotations provide sufficient off-duty time for 8 hrs of continuous sleep;
  - ▣ Educate/train controllers and supervisors 1) in fatigue mitigation strategies and how off-duty activities contribute to fatigue and 2) to recognize the effects of fatigue; and
  - ▣ Establish maximum limit on controller hours-of-service (emergency deviation allowed for safe operation of pipeline)

# Fatigue Management & the Rule

7

- Final Rule
  - Procedures developed by August 1, 2011
  - Implementation by February 1, 2013
- Notice of Proposed Rulemaking
  - Expedites implementation by 6 to 18 months

# Challenges to Sleep Requirement

8

- Can't supervise controller's off-duty habits
- Long commute times
  - How far must an operator go to ensure compliance?
  - Provide local accommodations, assist with relocation of controller's residence?
  - Should controllers be required to live within defined distance of work as a condition of employment?

# Challenges to Sleep Requirement

9

- Other Thoughts & Ideas:
  - Shift duration and rotations
    - Extended shifts due to infrequent, unusual circumstances could impact time-off
      - Exemptions due to emergency deviations for off-duty time (similar to maximum hours of service)?
  - Difficult to effectively staff for every scenario

# Recognizing & Mitigating Fatigue

10

- Education and Training
  - ▣ Program development
  - ▣ Resources: Internal and external training
    - Employee Assistance Programs
  - ▣ Methods: Train-the-trainer, classroom, CBT, WBT, staff meetings, bulletins, newsletters and other publications
  - ▣ Frequency: Initial & refresher – monthly, quarterly, annually, biennially?

# Recognizing & Mitigating Fatigue

11

- Recognizing the effects of fatigue
  - Based on training and observation
  - How do you monitor a lone controller on a night shift?
  - Self-identification and peer observations
  - If fatigue is apparent, what should you do?
    - Mitigation
    - Fitness for Duty - Relieving a controller from duty may be necessary, but can create a domino effect
    - Disciplinary action?

# Recognizing & Mitigating Fatigue

12

- Other Thoughts & Ideas
  - Work place mitigation
    - Ergonomic furniture, power naps, exercise equipment, special lighting and ventilation, user-friendly screens, limitations of requirements for multi-tasking, opportunities for stimulation (coffee, TV, radio, etc.)
  - Should controller report use of medications that may cause drowsiness?
  - Documentation beyond training?

# Maximum Limit on Hours-of-Service

13

- Acceptable limit on hours: Daron Moore to cover
- Adequate levels of staffing?
  - Hiring, training & qualifying controllers
- What's an Emergency Deviation?
  - Significant pipeline-related events requiring increased or extended controller staffing for safe pipeline operations
  - What about events impacting controllers?
    - Pandemics; natural disasters; severe weather; unscheduled absences due to illness/death?

# Conclusions

14

- Final Rule much more manageable than the original NPRM!
- Still has significant challenges for the operator:
  - ▣ Performance based: Good and Bad
    - Good: Operator has flexibility in developing plans based on its unique needs
    - Good: Industry guidance material available
    - Bad: Regulator's expectations unclear
    - No grandfather provision
    - Time will tell...audit history/rule interpretations

# Conclusions

15

- Need for new controllers must be identified, controllers hired, trained and qualified
  - Approximately 1 / 4 of operators will need to hire additional controllers
- CRM NPRM: Proposes to expedite implementation dates 6 to 18 months
  - Inadequate time to properly hire, train and qualify additional controllers
  - Risks associated with expediting implementation

**THANK YOU**

