

Combating Control Room Fatigue

Pipeline workers work in environments where sustained attention is essential. Factors such as rotating 12-hour shifts, overnight work, irregular sleep schedules, periods of low activity followed by high-consequence events, and the body's natural circadian rhythm can contribute to fatigue, even for well-rested and experienced individuals. Fatigue countermeasures are practical strategies designed to help maintain alertness and mental performance throughout a shift. Recognizing when it's time to use one isn't a sign that something is wrong, but rather, it demonstrates proactive management of one of the most predictable human factors in pipeline operations - fatigue.

If you asked a room full of Controllers, "What's your favorite way to fight fatigue?" you'd likely receive just as many answers as there are coffee mugs on the console. Some swear by movement, while others reach for caffeine or rely on conversation with teammates. The good news is that most Controllers already have a personal fatigue mitigation toolbox. The challenge lies in remembering to use the right tools at the right times.

Our 2025 PPG benchmarks from human factors research involving over 2,200 Controllers from across North American hazardous liquids and natural gas control rooms, plants, and refineries, show that the most frequently utilized fatigue countermeasures are:

- ▶ **Talking with coworkers** (79%) - Many controllers rely on their teammates. A quick conversation, discussing a developing situation, or simply checking in with one another can help break up mental monotony while reinforcing shared situation awareness.
- ▶ **Getting a drink with caffeine** (74%) - Caffeine is one of the most popular countermeasures, and for good reason. Caffeine can improve alertness when used strategically. But caffeine can also have a dark side. A steady stream of coffee at 4:00 a.m. can't replace quality sleep, and too much caffeine late in a shift may make it even harder to sleep before the next one.
- ▶ **Getting a snack** (63%) - Heavy meals can leave you feeling sluggish, while healthy snacks help to support steady energy throughout a long shift.
- ▶ **Going for a walk inside or outside** (55%) - Standing up, stretching, taking a short walk, or simply changing positions can help wake both the body and the mind.
- ▶ **Browsing the internet** (49%) - When used appropriately during periods of low workload and when permissible, can help restore alertness by providing mental stimulation.

- ▶ **Getting a drink without caffeine** (48%) - Staying hydrated supports alertness, concentration, and overall cognitive performance.
- ▶ **Watching television** (37%) - Brief exposure to engaging, non-distracting programming can provide mental stimulation during periods of low workload.
- ▶ **Listening to music** (29%) or **Reading** (22%) - Background music and short periods of reading can help reduce monotony and promote alertness during quiet periods, provided the activity does not interfere with monitoring responsibilities.
- ▶ **Exercising** (27%) - Stretching or light physical activity can improve alertness and circulation, while reducing the effects of prolonged sitting and mental fatigue.

In addition to these strategies, Controllers report that making simple adjustments to their work environment can help improve alertness. Changing the position of their sit-to-stand desk, adjusting lighting levels in the room, or modifying the temperature in the room (or at their console) are also effective countermeasures.

One of the most underrated countermeasures for managing fatigue is recognizing it early. It's much easier to recover from feeling a little tired than to wait until you've missed a critical alarm after dozing off. No single strategy works every time or for everyone. In fact, most Controllers use a combination of strategies throughout the shift, ones that work for them, adjusting as workload, time of day, and alertness levels change. The goal isn't to just stay awake, but to remain mentally sharp enough to make sound decisions when they matter most.

Know what fatigue countermeasures are available to you before you need them and then be sure to use them!

