

## Fatigue Monitoring Wearables



### What's the Risk?

Fatigue is increasingly being considered both a safety and wellness concern by employers. An estimated 13% of workplace injuries can be attributed to fatigue, along with a variety of other adverse effects, including:

- Reduced mental cognition, decision-making, and reaction time
- Reduced productivity and performance
- On-the-job sleepiness or drowsiness
- An increased risk of negative health outcomes

Fatigue is a chronic and widespread issue nationwide. Long hours, extended or irregular shift work, and stressful or physically demanding work have all been shown to contribute to poor sleep quality and fatigue.

In the utility sector, it is not uncommon for employees to work multiple consecutive extended shifts (12-16 hours), especially during major storm response operations.



### Impacts

In 2020, Exelon began a series of voluntary pilot tests with *Readi*, a fatigue management information system that uses wearables to measure sleep patterns and predict who might experience fatigue on duty, and at what time. Supervisors and leadership then receive daily insights enabling safer operational decisions.

Feedback from trial participants was largely positive. Employees expressed a better understanding of their own sleep patterns and the impact of fatigue on their performance and overall quality-of-life. Upper management also reported viewing *Readi* as a promising technology, likely to improve safety by reducing near misses, human performance errors and safety-critical events.



### Lessons Learned

Technology pilots at Exelon progress through multiple iterative stages. Starting with a small-scale pilot allows the company to explore and resolve barriers to adoption. Prior to the trial, Exelon worked closely with representing labor unions to develop data privacy guidelines and set limits on who can access data and how the information will be used.

As they continue testing *Readi*, Exelon hopes to promote a shared understanding of what it means to be fatigued, to improve daily operational decisions with fatigue data, and to quantify the physiological and cognitive decline associated with longer shifts to improve decision-making and labor standards industry-wide.

## Employer



### Exelon

Exelon is a Fortune 100 energy company and the leading competitive energy provider in the United States. Exelon serves an estimated 10 million customers across the U.S. and Canada and employs approximately 33,400 people nationwide.

## Technology



### Fatigue Science

Founded in 2006 and headquartered in Vancouver, Canada, Fatigue Science is a leading provider of predictive fatigue analytics and human performance insights. *Readi*, their *360° Fatigue Management Information System* delivers historical, real-time and forecasted insights into workplace fatigue.

