# Why Bother with Crew Endurance Management?

### Q: Isn't Crew Endurance Management the same as fatigue management?

**A:** Fatigue management is about minimizing physical fatigue; CEM is about optimizing overall endurance. While fatigue management tends to focus fairly narrowly on such variables as work schedules, CEM considers the full gamut of environmental, organizational, physiological, and psychological factors that can affect crew stamina and alertness.

### Q: My crewmembers and managers are already overworked. Will CEM be an additional burden to add to their list?

**A:** Initially, crewmembers undergo training and orientation, and, in most cases, adapt to a few new policies and procedures. The ultimate effect of these initial changes, however, is a significant diminishment of overall burden rather than an addition. The same is true of managers, who, after assuming the major responsibility for implementing a CEM program, can enjoy the benefits of their labors through significantly safer, more efficient operations.

### Q: How do crewmembers feel about CEM?

**A:** At first there can be some resistance, normal to any change, especially if crewmembers have not been given proper education and sufficient reason for buy in. In the end, however, not only do they buy in to the program, they also become advocates. Here is a typical response: "Because I'm not as tired, I make less mistakes and feel a whole lot better at work. Before they started doing the program, I'd have to sleep for four days to feel normal again after my rotation."

### Q: What about managers? Do they like CEM?

**A:** Managers end up with fewer worries about efficiency and safety, not to mention morale problems.

*For more information please contact the USCG*


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# *Crew Endurance Management Program*

# The Basics of the CEM Program

## What is CEM?

Crew Endurance Management (CEM) is a systematized program of proven practices for optimizing crewmember productivity and safety. CEM practices involve using specific assessment techniques to identify endurance factors in particular operations; using light-management techniques to adapt crewmembers to varying work and watch schedules; and using a host of practical techniques to control such operational risk factors as stress, temperature extremes, caffeine use, and Over-the-Counter (OTC) drug use.

## How can CEM help?

CEM is a scientifically based means of improving performance, safety, and morale in all maritime operations. CEM requires little in the way of additional expense but much in the way of commitment and buy-in.

## What is involved in using the program?

Commitment first; systematic use of the prepackaged training, evaluation, and deployment materials second. Because the CEM program is designed for any maritime operation, there is little need for tailoring the program to particular venues (towing operations vs. deep-draft operations, for example). The most important part of any implementation is forming a working group that represents *all* interested parties, including crewmembers, to be responsible for the entire implementation process.

## Benefits of Using CEM

- Enhanced productivity
- Increased safety on vessels
- Better mariner health and well being
- Increased morale

# CEM Program Tools

From the initial stages of buy-in through the final stages of deployment, the USCG will provide your company with all the materials necessary to implement a successful CEM program in your operations, as well as specific technical and educational support as needed.

## Train-the-Trainer Workshops

The USCG will provide workshops for training the people in your company who will be responsible for training other company personnel in the concepts and practices of CEM.

## The Crew Endurance Management Guide

This comprehensive guide will soon be available. It introduces Crew Endurance Management and its key concepts; provides a real-world example of a successful implementation; provides techniques for managing crewmember energy and performance levels; addresses the operational risk factors that affect crewmember energy and performance levels; describes procedures for implementing a CEM program; and provides a variety of supplementary materials.

## Computer-Based Training and Education

In addition to the guide, a package of computer-based training (CBT) materials is nearing the end of its development. Your internal CEM trainers will find it easy to train other personnel in your company through the use of CBT.

## The Decision-Support System

This tool is specifically developed to help design optimal work and watch schedules for particular operations. Available early 2003.

# Responses to CEM

"After 30 days on, I still feel rested and comfortable with riding extra days if I choose."

***—Mate, M/V HUGH C. BLASKE***

"As a cook I work with all the crew members on both watches. I do see improvements in attention to diet, and personal choices about caffeine, nutrition, and hydration. The crew appears more rested. This is of particular note in the difference later in their trip."

***—Cook, M/V HUGH C. BLASKE***

"All you have to do is plant the seed. Our new hires fall right into CEM practices. That's all they know and they seem more comfortable beginning their new career aboard the boats."

***—Mate, M/V LARRY STRAIN***

"This is not a perfect method. We are dealing with real people on our crew. The adjustments come in percentages. I like to hear when a crew member truly realizes they really are improving their lifestyle on and off the vessel."

***—Captain M/V HUGH C. BLASKE***

"TSAC believes that the Crew Endurance Management System (CEMS) is the right approach for addressing and managing endurance and alertness issues in the 24-hour a day environment of towing vessel operations. TSAC also recommends that for CEMS to be effective, it must be implemented across the towing industry."

***—Towing Safety Advisory Committee (TSAC) resolution, September 13, 2002***