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Homeland Security

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Crew Endurance Management Newsletter

an information resource about the Crew Endurance Management System (CEMS) for its practitioners and those interested in learning more about it

Crew Endurance Resources

Welcome to the Crew Endurance Management Newsletter, where we continue to bring you the latest in sleep and endurance-related information to support your personal knowledge of Crew Endurance Management and implementation.

READER INTERFACE NOTE:
When reading on the Internet, the symbol to the right indicates a hyperlink for the subject matter indicated in blue, underlined text. Readers with printed copies can visit our website for more information:
http://www.uscg.mil/hq/g-m/cems/index.htm

Much of the information in this issue was originally printed in the National Sleep Foundation's weekly *Alert* – if you'd like to receive this information regularly, sign up with them here – it's free!

Please be sure to pass this information along to others so that they can register with us.

This Issue:

Risk Factor Spotlight: Family Stress and Isolation from Family

by LT Vivianne Louie

In our last issue, we discussed the Crew Endurance Risk Factor of *No Opportunity to Exercise*. In this issue, we will examine *Family Stress* and *Isolation from Family*, describing how these factors affect crew fatigue and how they can be countered. For a review of all 15 Crew Endurance Risk Factors, use the following link to the Decision Support Worksheet:
Crew Endurance Risk Factors

The Roots of Family Stress

Extended isolation from their families can cause both stress and depression for traveling spouses, making them vulnerable to fatigue on the job.

Family life places many responsibilities and emotional attachments on people. So how does it affect someone on the job? People's ties to their loved ones may cause them anxiety and depression if their work demands that they spend significant time away from the family. Stress over separation can be a powerful distraction from a job and reduce endurance.

Mariners may be away from home for weeks at a time when traveling. Crewmembers who work on vessels inevitably have to spend extended periods of time away from home, since their job fundamentally requires travel. A crewmember's family life can also affect endurance when various stressors come from the home, such as child or parent care, divorce, or financial worries. When family pressures distract personnel on vessels, the stress weakens the crewmembers' endurance, increasing the risk of human error that could lead to a vessel accident.

Loneliness, isolation, family conflict, and concern about family members are all types of family-related stressors that may harm vessel operators. Long work hours make these problems worse by keeping the operators away from home even longer. Many working parents experience unhappiness over prolonged isolation from their families and missing out raising of their children. The responsibilities associated with home life can easily heighten the stress level of a traveling spouse.

More problems can develop when the traveling spouse's absence creates stress for the rest of the fam

ily. Being gone a long time, the household can feel like a one-parent home and frustrate the stay-at-home spouse and children. It is difficult to involve the traveling spouse in family activities, and the family may feel upset and rejected when the traveling spouse returns home tired.

Isolation from the Family

When traveling spouses spend significant time away from their families, the dynamics change as the traveler comes and goes. Family stress increases with the frequency of the traveler's departures and arrivals. The family members become less certain of what their home life should be like when one spouse/parent is constantly away. The stress affects everyone in the household, and is a dangerous distraction to the traveling spouse whose job involves operating a vessel or other transportation mode.

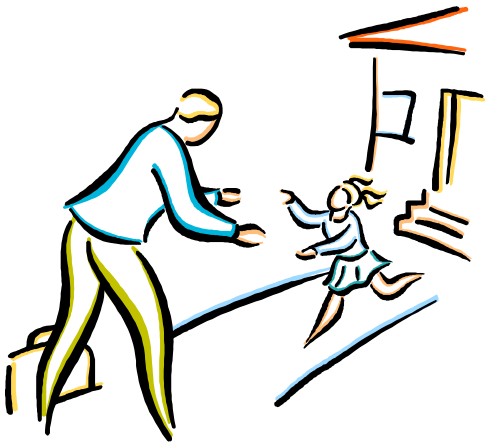
At the same time, long periods of isolation negatively affect the at-home spouse. The at-home spouse may become depressed because of loneliness, the burden of making household decisions alone, lack of support, and worry about the traveling spouse's safety. The negative effects on the at-home spouse can worsen the traveling spouse's stress.

Traveling spouses may feel guilty about leaving their families alone, knowing that their spouse and children feel lonely when they are gone. The traveler also may be unhappy to have lost the benefit of support by the spouse back home. Extended isolation from their families can cause both stress and depression for traveling spouses, making them vulnerable to fatigue on the job.

Consequences

Family-related stress can put operators in significant danger on the job. One study found that drivers who experienced stressful life events such as personal conflicts, financial difficulties, illness, or bereavement were five times more likely to cause fatal accidents than other drivers. This danger also applies to mariners.

The loss of a spouse by death or divorce is extremely stressful. It can contribute greatly to fatigue, and a grieving individual may experience decreased concentration, sleep deprivation, dehydration, mental fatigue, and memory loss. These effects will diminish alertness and performance.



The most dangerous type of stress is chronic psychological stress. Here, stress induced by interpersonal relationships, task design, management style or other factors creates a constant drain on crewmember energy levels. Physiological responses such as elevated pulse and blood pressure expend the operators' energy even during rest periods.

The hormone epinephrine, which is normally released during life threatening situations to provide extra energy for a person to protect himself or herself, can also be released during high stress. This situation creates a substantial energy drain on a person, reducing mental concentration and awareness. The person's energy cannot be restored until the stress level lessens, so it's important that crewmembers avoid chronically high stress. Overall, stress at home can adversely affect work performance, and work stresses can affect home life over the long term.

Ways to Fight Family-Related Fatigue

In general, operators of all types of vehicles perform their work most reliably and effectively when they have a stable marriage with a supportive spouse. A spouse's psychological support enables the crewmember to cope with the stress of the job, but extended isolation from the family can damage this support. Without a way to cope with work stresses,—such as poor working environment, lack of job satisfaction, lack of autonomy, etc.—the operator is prone to human error.

Crewmembers need to know how their families are to avoid undue worry and anxiety, which can lead to increased stress and diminished endurance. Finding ways to keep them in touch with home while they are on the job is helpful.

There are a number of measures which can combat operator fatigue caused by family stress and isolation from family. Companies can provide crewmembers with means of communicating with their families so as to reduce their depression and anxiety. Shipboard phone use and Internet e-mail access can easily boost crew morale and allow members to stay in touch with loved ones. Making time available for vessel operators to communicate with their families by cell phone can do the same.

Recommended Reading:

Dr. Melvyn Kinder and Dr. Connell Cowan, Husbands and Wives, Clarkson N. Potter, Inc., New York, 1989.

William Hendricks and Jim Cote, On the Road Again, Baker Book House Company, 1998.

Elizabeth M. Hoekstra, Keeping Your Family Close When Frequent Travel Pulls You Apart, Crossway Books, 1998.

Peter A. Hancock, University of Minnesota, and Paula A. Desmond, Texas Tech University (eds.), Stress, Workload and Fatigue, Lawrence Erlbaum Associates, New Jersey, 2001.

CEMS and the Maritime Industry

NTSB: Safety Culture Needed in Ferry Operations

(Originally from a Nov. 8, 2005 *NTSB Press Release*)

Ferry organizations require cultural changes that place safety as the top priority, according to the National Transportation Safety Board. NTSB Acting Chairman Mark V. Rosenker recently spoke to an industry audience on the necessity of aggressive safety management systems in ferry operations. His address at the MarineLog Ferries 2005 conference in Delray Beach, Florida, highlighted the idea that a safety culture is important in preventing vessel accidents and casualties.

Rosenker described a safety management system as "a structured, documented system developed to enhance the safe operation of vessels, to prevent human injury or loss of life, and to avoid damage to the environment." He noted that federal regulations require U.S.-flagged vessels in international waters to have such systems, but that the regulations do not apply to U.S. vessels operating in domestic waters.

This may change, however, because Congress has mandated that the U.S. Coast Guard devise safety management regulations for domestic towing vessels. Marine vessel accidents may result in deaths, injuries, damage costs, lawsuits, lost revenues, and distrust among people who use transportation services.

To avoid such accidents, Rosenker said, all industries using marine vessels should have safety measures in mind. All individuals involved with decision-making when it comes to marine vessels should act according to a comprehensive system designed to ensure safety.

Read the full press release here 

CEMS Cited at NTSB "Most Wanted List" Meeting

by Jonathan Kelly

The National Transportation Safety Board held a public meeting on Nov. 15 to discuss its "Most Wanted List" of safety improvements, a collection of recommendations to improve transportation safety. During the hearing, NTSB noted the work of the U.S. Coast Guard to reduce marine operator fatigue by developing and promoting the voluntary fatigue management program, the Crew Endurance Management System (CEMS).

"Even though there has not been substantive change in regulations yet, this Crew Endurance Management System seems to be making a difference in the marine area," said Dr. Jana Price, a witness on the panel of NTSB staff.

NTSB recommends that transportation agencies establish scientifically-based regulations to limit the hours of service for modal operators and provide sufficient time for operators to rest. The board also recommends more research into circadian body rhythms to learn how to reduce crew fatigue.

Limitations on hours of service for vehicle operators in the marine, aviation, and pipeline areas was the focus of NTSB for a while, but projects like CEMS provide further research into other methods of reducing fatigue.

"Another tack has been taken, which is fatigue management," said Dr. Vernon S. Ellingstad, another NTSB staff member. "But we were very narrowly focused on that part of fatigue [hours of service], and I think most administrations disagreed with it."

Through the Most Wanted List, NTSB calls on federal agencies to adopt measures to improve transportation safety in areas where it is deemed inadequate. NTSB first added its recommendations for service hour regulations and fatigue research in 1999. The Department of Transportation first made these recommendations in 1989, and NTSB attached them to the List after seeing insufficient progress.

"I think we want the Most Wanted List to affect change and not get entrenched," said NTSB Member Debbie Hersman. "I think that there is a lot of value in this List, but it loses its value over time and we become like a broken record."

The board unanimously voted to keep its recommendations for combating operator fatigue on the Most Wanted List. For the marine area, the board assigned the yellow color designation, signifying slow-moving but acceptable progress.

- Read the Most Wanted List here 
- See press release on the public meeting 
- See information on NTSB board meetings 

CEMS and Your Health

Six Reasons Not to Lose Sleep

(Originally from the Dec. 20, 2005 *MedicalNewsService.com*)

Chronic sleep loss can contribute to health problems such as weight gain, high blood pressure, and decreased power of the body's immune system, according to a report from the Harvard Women's Health Watch.

The Harvard Women's Health Watch lists six reasons **why sleep is too important to downgrade:**

1) Sleep helps the brain to commit new information to memory.

2) Chronic sleep deprivation can cause weight gain by affecting how the body processes and stores carbohydrates and increases appetite hormones.

3) Lack of sleep can make falling asleep during the daytime more likely, which may cause falls and mistakes such as medical errors, air traffic mishaps, and road accidents.

4) Sleep loss may cause irritability, impatience, inability to concentrate, and moodiness.

5) Serious sleep disorders may be linked to cardiovascular health problems such as hypertension, increased stress hormone levels, and irregular heartbeat.

6) Sleep deprivation alters the functions of the body's immune system.

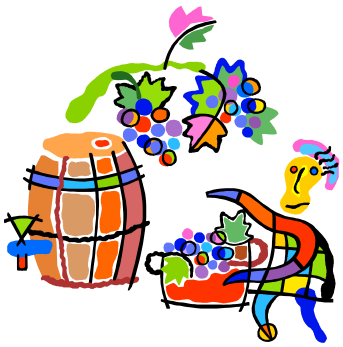
The article is available here: Six Reasons Not to Scrimp on Sleep

Physicians in the Vineyard?

Sleep Debt May Affect Young Doctors Like Alcohol

(Originally from a Sept. 6, 2005 University of Michigan Health System Press Release)

A recent study published in the *Journal of the American Medical Association* suggests that sleep deprivation may hinder the performance of young medical practitioners as though they had consumed too much alcohol.



Long hours and overnight shifts are part of the doctors' trade, and these work demands can take a toll on the ability of physicians to do their jobs. As we discussed in previous issues, insufficient sleep duration and changing schedules are prime risk factors for reduced endurance.

Researchers from the University of Michigan Health System studied a focus group of 34 medical residents from Brown University Medical School. The young pediatrics displayed impairments in vigilance, attention, and driving skills on standardized tests after they had been on duty overnight and worked a month of 90-hour weeks. These symptoms of weakened endurance proved similar to results of residents consuming three to four alcoholic drinks after a month of 44-hour weeks with no overnight duties.

The researchers concluded that the experiment's results are strong evidence that sleep deprivation among medical residents impairs their ability to perform, though they acknowledged that the study did not test for performance on specific medical tasks.

Read about it here:
University of Michigan Health System Press Release

Sleep May Help to Fight Obesity

(Originally from the Oct. 18, 2005 *NSF Alert*)

A new study indicates that sleep may be effective in fighting obesity, finding links between two current population trends: increasing body mass index (BMI) and decreasing average sleep time. Researchers at Columbia University analyzed a government health survey to determine whether there is a relationship between sleep duration and BMI.

The researchers examined more than 9,500 participants of the 1982-84, 1987, and 1992 Epidemiologic Follow-Up Studies of the first National Health and Nutrition Examination Survey. The Columbia study found that persons aged 32-49 who slept less than seven hours when first interviewed had a higher BMI and were more likely to be obese than persons who reported sleeping less than seven hours. The researchers did not observe this pattern in older subjects, however.

Even though a casual relationship between obesity and sleep deprivation has not yet been found, genetic studies with animals and small-scale experiments with human subjects suggest links between the two. Sleep deprivation might lead to obesity by compromising the body's sensitivity to insulin, the hormone affecting metabolism, muscle tone, and the storage and release of fat. Lost sleep could also cause obesity by increasing the growth hormone ghrelin (which affects appetite and energy level) and decreasing the protein hormone leptin (which regulates appetite and metabolism).

The researchers hope that their findings encourage people to practice healthier sleep hygiene.

More resources:

- Read the full article
- Read about the Royal Route to Obesity
- See stories on obesity and sleep here and here

CEMS and Your Health

Is "Silent" Heartburn Behind Sleep Deprivation?

(Originally from the Nov. 22, 2005 *NSF Alert*)

Do you have trouble sleeping at night and have no idea why? Unexplained sleep problems may be caused by a condition that disrupts sleep without alerting the sleeper to the reason. This condition is a reflux that is not strong enough to trigger heartburn symptoms, but it may cause a person to awaken from sleep frequently.

William C. Orr, PhD, and his fellow colleagues recently presented findings from a study at the 70th annual Scientific Meeting of the American College of Gastroenterology. The study shows that gastroesophageal reflux (GER) may silently disturb sleep without producing symptoms of heartburn. The study surveyed 81 patients who experienced sleep difficulties at least three nights a week and showed that 26% of the patients had acid reflux after undergoing polysomnographic tests.

Of the 26% of sampled patients suffering from reflux, 94% of the reflux episodes awakened the individual from sleep. The study indicates that people who have trouble sleeping and don't know why should be evaluated for GER. They can then find out whether heartburn is behind their unexplained sleeplessness.

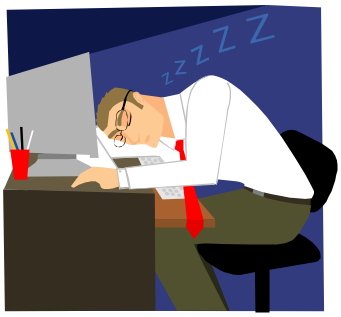
Gastroesophageal reflux disease (GERD) is a chronic illness involving a backflow of acid from the stomach into the esophagus. Patients with GERD tend to experience an increased severity of certain symptoms while sleeping or attempting to sleep. These symptoms include heartburn, coughing and choking.

More Resources:

- Read the abstract
- Get the whole story
- Read about gastroesophageal reflux disease in the Sleeptionary

Lost Sleep Harms the Body

(Originally from the Oct. 9, 2005 *Washington Post*)



The *Washington Post* recently reported that many current studies show considerable evidence that inadequate sleep causes harm to the human body. Evidence suggests that lack of sleep or erratic sleeping hours can increase the risk of illnesses such as cancer, heart disease, diabetes, and obesity. One study suggests that obesity can be driven in part when insufficient sleep disrupts hormones that regulate appetite.. Some physiologic studies show evidence that a sleep deficit may increase the production of stress hormones and drive blood pressure up, thus heightening the risk of a heart attack or stroke. Furthermore, sleep deprivation tends to create elevated levels of substances in the blood, indicating higher inflammation that can make the body more vulnerable to heart disease, stroke, cancer and diabetes.

Researchers also found that people who work late at night may be especially prone to breast and colon cancer. This is because exposure to harmful light at night reduces levels of the hormone melatonin, which is believed to defend the body from cancer by affecting levels of other hormones like estrogen.

More Resources:

- Read the article
- Read this abstract of a sleep study
- Read discussion on sleep loss

Brain Centers May Disconnect During Sleep

(Originally from the Oct. 5, 2005 *NSF Alert*)

How does sleep regenerate human energy and alertness for a new day? Scientists at the University of Wisconsin-Madison may find answers to this question through a new study into brain activity during sleep. The study uses paddle-like devices to create magnetic fields over participants' heads. These paddles produce electrical impulses designed to stimulate brain activity.

When a person is awake, brain signals in the cerebral cortex, which controls perception and thought, travel freely. During sleep, the study shows that brain centers shut down and do not communicate with each other—brain signals do not appear to travel at all. The study notes that consciousness diminishes during slow wave sleep and generalized seizures, even though levels of neural activity are about the same or higher than during wakefulness.

The researchers hope that their study may lead to a better understanding of consciousness and brain activity during sleep.

More Resources:

- Read the abstract
- Learn more about how sleep works with the Cycles of Sleeping and Waking

CEMS and Your Health

Insomnia Prevalent in both Canada and the United States

(Originally from the Nov. 22, 2005 *NSF Alert*)

A study based on the 2002 Canadian Community Health Survey (CCHS) shows that insomnia is common among Canadians. According to the study, an estimated 3.3 million Canadians aged 15 or older have trouble falling asleep and remaining asleep. The findings report that 18% of these individuals get less than five hours of sleep at night. By contrast, only 2% of individuals who did not experience insomnia reported getting less than five hours of sleep per night.

The findings also revealed strong associations between insomnia and a number of factors. Chronic pain was one factor that the study found linked to insomnia, with more than one-fifth of individuals with arthritis, asthma, back problems or diabetes reporting sleep difficulties. Meanwhile, only 12% of individuals who did not have these conditions complained of insomnia. The evidence also pointed to chronic stress as a factor; 23% of individuals who said that their days were "extremely" stressful reported insomnia.

Findings revealed strong associations between insomnia and a number of factors.

The study identified shift work as a risk factor for sleeplessness when the researchers observed that individuals with work shifts reported higher rates of insomnia. Finally, obesity appeared as a risk factor since respondents whose body mass index was greater than 35 and could be categorized as obese experienced higher rates of insomnia.

The frequency of insomnia cases seemed to increase with age. About 10% of the sampled individuals aged 15 to 24 reported insomnia, while almost 20% of people aged 75 or older complained of it.

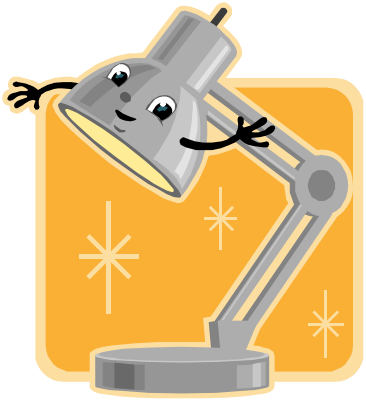
In their discussion of the Canadian population study, the National Sleep Foundation noted that insomnia is also prevalent among Americans. NSF cited their 2005 *Sleep in America* poll, which indicated that 54% of respondents experienced at least one symptom of insomnia a few nights a week in the past year.

More Resources:

- Read the article
- Check out the Health Reports journal published by Statistics Canada
- Take a look at the USA Today article on cognitive behavioral therapy for insomnia
- Learn about insomnia from NSF's Sleeptionary

Let There Be Light: Hormone Research Shows Benefits of Light Therapy

As we first discussed in Volume 1, Issue 2, light management is an integral component of the CEMS program. This technique uses light to shift crewmembers' circadian rhythms so that they will have more energy and alertness to work at night when their body clocks would normally direct them to sleep. The light inhibits the production of the hormone melatonin, which is produced during dark periods. Bright light therapy has been applied to disorders such as jet lag syndrome and shift work sleep disorder.



Recent research reported in *Cell Metabolism* helps to explain why light therapy is so effective in treating sleep disorders. The research reveals that light generates increased gene activity in the adrenal gland by affecting the suprachiasmatic nucleus (SCN) in the brain. The SCN is the seat of the body's circadian clock that regulates the 24-hour cycle of biological processes. When gene changes take place due to the light-induced SCN, there is a massive surge of glucocorticoid hormones in the blood and brain. These hormones have great influence on the timing of circadian rhythms in peripheral organs of the body.

When the researchers exposed the adrenal gland to light, the SCN sparked the genetic activity and hormone surge. When the researchers removed the SCN from the experiment, however, the light had no effect on the adrenal gland. This experiment indicates that the light's effect on the gland is closely linked to the body's circadian clock.

Therefore, the study concluded, light-induced secretion of glucocorticoids may play a key role in physiological changes in the body and brain. This also provides insight into how light therapy can influence the body's circadian rhythms and combat sleep disorders.

For more information on this study:

- See this summary article from EurekaAlert.org
- Read the abstract from *Cell Metabolism*
- Read the supplemental data

CEMS in Other Transportation

Train Crash Linked to Operator Fatigue

(Originally from a Nov. 29, 2005 NTSB Press Release)

An ongoing investigation of a Graniteville, South Carolina, railway accident in January involving two Norfolk Southern trains found that operator fatigue played a major role in the crash. The conductor, the brakeman, and the engineer of the first train had labored beyond their twelve-hour work limit when the accident took place. The three men had parked their train for the night when another Norfolk Southern train crashed into them.

The three operators of the parked train apparently believed that they had moved a switch which would keep their train on the right track, but they may have forgotten to do so in their rush to finish their work day within the twelve-hour limit. Don Hahs, President of the Brotherhood of Locomotive Engineers and Trainmen, reported that fatigue played a significant role in the crash.

The railway collision killed nine people, injured 250, and forced 5,400 to evacuate. The crash also ruptured a tank car and released chlorine gas into the air. It was the deadliest freight rail accident in the United States since the late 1970s.

The National Transportation Safety Board concluded in its factual report on the investigation, "A small number of particular human errors account for an inordinate number of human-factor-caused accidents."

The Federal Railroad Administration reported that misaligned switches are one of the leading causes of train wrecks, with 751 accidents occurring between January 2001 and December 2003 in which switches were not aligned properly. In 74 cases, the accident occurred because the switch was not locked.

NTSB issued safety recommendations on December 12 to address these problems. One of these recommendations requires that railroads install an automatically activated device that can easily draw the attention of employees charged with operating the switch. The device would clearly indicate the status of the switch in both daylight and darkness.

More Resources:

- Read the press release here
- Read the Virginian-Pilot's account of the accident and investigation
- Check out NTSB recommendations on railroads

NTSB Acting Chairman Urges Effort to Reduce Driving Distractions

(Originally from a Jan. 6, 2006 NTSB Press Release)

Mark V. Rosenker, Acting Chairman of the National Transportation Safety Board, recently called for the electronics industry to help reduce deaths and injuries caused by distracted drivers on the nation's roads.

Speaking at the International Consumer Electronics Show in Las Vegas, NV, Rosenker cited recent NTSB road accident investigations and noted that the driving environment has grown more complex and challenging. He suggested that the electronics industry cooperate with government agencies and academia to develop technologies that can improve safety in the driving environment.

Rosenker particularly focused on the need to reduce distractions for vulnerable drivers, such as young people who are only beginning to learn how to drive. He noted that NTSB has recommended that teen drivers who operate under graduated drivers licensing programs not be allowed to use wireless communication devices while driving.

Rosenker emphasized that NTSB does not want to prevent all people from using cell phones or other electronic devices. He stressed that the board's purpose was to encourage safe, responsible use of these devices among all drivers, while protecting novice drivers.

The Acting Chairman stated that the answer to driver distraction over the long term lies in "addressing human factors in all phases of product design, development and deployment." He urged research to answer questions about the driving task and human information processing so that new ways can be found to make the driving environment safer.

More Resources:

- Read the press release here
- Check out the National Sleep Foundation's report that one in ten people admit falling asleep at the wheel at least twice a month

CEMS and Accident Prevention

Orade Collision Report Highlights Fatigue

Germany's Department of Marine Services (AOMS) and the United Kingdom's Marine Accident Investigation Branch (MAIB) came out with a report on a cargo vessel collision that took place on March 1, 2005, at the confluence of the Rivers Ouse and Trent in England. The investigative report describes how the general cargo vessel *Orade* collided with the Apex Light tower while moving along the River Ouse. The document highlights human fatigue as a factor in the accident and illustrates the risks of crew fatigue.

Evidence of fatigue on the part of the *Orade*'s master could be found in his working hours. The master's paperwork on his hours indicates that he regularly worked 12-hour days. During his latest tour of duty onboard the *Orade*, the master worked a watch schedule of 6 hours on and 6 hours off, maintaining the 6-12 watch. The master's normal duties included those of engineer, watchkeeper, and lookout.

His paper trail indicates a much more rigid work/rest pattern than is generally seen in hours of work forms. It is unknown how often or how long the master might have been required to attend the engine room or receive port officials outside of his normal working hours.

Mandatory fatigue rules in Regulation VIII/1 of STCW 95 provide that all persons assigned duty as officer in charge of a watch or seafarer on watch "shall be provided with a minimum of 10 hours' rest in any 24 hour-period." The hours can be divided into "no more than two periods, one of which shall be at least six hours in length." The minimum 10 hours of rest may be reduced to "not less than 6 consecutive hours, provided that any such reduction shall not extend beyond two days and not less than 70 hours of rest are provided each seven-day period."

Similar rules in International Labour Organisation 180 dictate that "minimum hours of rest shall not be less than: (i) 10 hours in any 24-hour period, and (ii) 77 hours in any seven-day period."

The master's records indicate that his routine met the minimum hours of rest required by STCW 95 and ILO 180, but they probably do not accurately represent his workload. It's important to remember that the master had other duties on board which could not be carried out during bridge watchkeeping. The report determines that the master worked in a punishing watchkeeping routine without a substantial break for 5 ½ months.

As the report notes, the master's 6-on 6-off routine over 5 ½ months can be considered contrary to the guidance offered in STCW 95. The non-mandatory guidance in Section B includes a note that the "frequency and length of leave periods, and the granting of compensatory leave, are material factors in preventing fatigue from building up over a period of time." Since fatigue builds up over time, it can be said that the master should have had more leave time to rebuild endurance. According to the report, his 6-on 6-off routine would have continued for 9 months.

The report recommends appropriate working hours regimes for UK pilots and that employers ensure that all hours of work forms accurately reflect employee workloads.

Read the full report on the investigation of the Orade collision

CEMS and Your Health

Behavioral Therapy May be Good Treatment for Older Adults With Insomnia

(Originally from the Jan. 3, 2006 *NSF Alert*)

A new study shows evidence that behavioral therapies are helpful in treating insomnia for older adults. This study was published in the January 2006 issue of the *Health Psychology* journal. Michael Irwin, MD, of UCLA, and his fellow researchers examined 23 random and controlled clinical research trials of more than 500 subjects.

According to the experiment's findings, behavioral therapies such as cognitive behavioral therapy (CBT), relaxation therapy, and modifications in sleep behavior significantly benefit insomnia sufferers. The most common complaint among older adults with insomnia—frequent nighttime awakenings—was markedly improved by behavioral therapy.

The results echo a 2005 NIH report indicating that CBT is an effective treatment for chronic insomnia and may yield long-term benefits for patients. But both studies recommend further scientific investigation into insomnia treatments. Irwin's review states that only eight studies on individuals over age 55 produced statistically significant results.

For more information:

- Read the article
- Take a look at the NIH's State-of-the-Science on Chronic Insomnia
- Check out NSF's article on CBT for insomnia
- Learn about sleeping and aging

CEMS Training Update and Upcoming Sessions

Coaches Training

Crew Endurance Coaches Training continues to expand via our certified Crew Endurance Expert network. There are currently 500 trained coaches in the commercial maritime industry. Please check our website for the most current training information and updates.

April 5-6, 2006: *Gretna, LA* **(Maritime Compliance International)** **Contact: Kevin Gilheany** **training@marcomint.com** **504.319.3229**	April 6-7, 2006: *Houston, TX* **(Kirby Corporation)** **Contact: Kelly Parker** **kelly.parker@kirbycorp.com** **713.435.1775**
May 11-12, 2006: *Houston, TX* **(Kirby Corporation)** **Contact: Kelly Parker** **kelly.parker@kirbycorp.com** **713.435.1775**	June 1-2, 2006: *Houston, TX* **(Kirby Corporation)** **Contact: Kelly Parker** **kelly.parker@kirbycorp.com** **713.435.1775**
July 13-14, 2006: *Baton Rouge, LA* **(Kirby Corporation)** **Contact: Kelly Parker** **kelly.parker@kirbycorp.com** **713.435.1775**	August 3-4, 2006: *Baton Rouge, LA* **(Kirby Corpoation)** **Contact: Kelly Parker** **kelly.parker@kirbycorp.com** **713.435.1775**

Crew Endurance Resources Online

The **Coast Guard CEMS Website** continues to be updated with additional CEM information and resources. Thoughts and suggestions are always welcome regarding content and information. Please forward them to: **fldr-G-PSE@comdt.uscg.mil** or call us at 202-267-2997.

Crew Endurance Management Newsletter

an information resource about the Crew Endurance Management System (CEMS) for its practitioners and those interested in learning more about it

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Diana Forbes

Website:
http://www.uscg.mil/hq/g-m/cems/index.htm

Membership Info:
http://www.uscg.mil/hq/g-m/cems/register.htm

E-mail:
fldr-G-PSE@comdt.uscg.mil

Experts Training

Our next Experts Training is scheduled for

April 3-5, 2006

Houston, TX

Another Experts Training will be held in Fall 2006

Seattle, WA

Please contact LT Vivianne Louie (202.267.0173) if interested.