



Amsys Energy, LLC

Fatigue Management Program

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1.0 Purpose

The Amsys Energy, LLC [Amsys Energy] Fatigue Management Program Manual and the Amsys Energy Fatigue Management contain management programs, work practices and processes (hereinafter referred to as the FM Program) that must be followed by all Amsys Energy employees and Subcontractors.

2.0 Scope

This procedure applies to all of Amsys Energy s projects and operations.

3.0 Polic

The guiding principles of fatigue management shall be incorporated into the normal management functions of Amsys Energy and include the following:

1. Employees must be in a fit state to undertake work.
2. Employees must be fit to complete work.
3. Employees must take minimum periods of rest to safely perform their work.

These principles will be managed by appropriately planning work tasks, including driving and other job related duties and processes such as the following:

1. Providing appropriate equipment to help reduce stress and fatigue
2. Scheduling regular medical checkups and monitoring health issues
3. Providing appropriate sleeping accommodations where required
4. Providing ongoing training and awareness of employee health and fatigue issues.

Fatigue is a state of mental and/or physical exhaustion that reduces a person s ability to perform work safely and effectively. Fatigue is the result of insufficient sleep. Managing fatigue is one component of the approach to employee well-being.

4.0 COMPANY MANAGEMENT

Amsys Energy accepts responsibility for implementing this fatigue management procedure.

5.0 Managers

Managers are responsible for implementing and maintaining this procedure and ensuring that all assets are made available for compliance with the procedure.

6.0 Employees

Employees are responsible for meeting the following items:

1. Employees must be in a fit state free from alcohol and drugs.
2. Employees must not chronically use over-the-counter drugs to increase mental alertness.
3. Employees are prohibited from taking any substance known to increase that employee's fatigue while on work hours, including fatigue that sets in after the effects of the drug wear off.
4. Employees shall report tiredness/fatigue to their supervisor, and supervisors shall take appropriate action to assist the employee.
5. Employees must report fatigue/tiredness and lack of mental acuity to their supervisor, and supervisors must take appropriate actions as necessary.
6. Employees need to be rested before beginning work.
7. Employees need to monitor their own performance and take regular periods of rest to avoid continuing work when tired.

7.0 FATIGUE

The first step in managing the hazard posed by fatigue is understanding how the hazard is created.

1. Eliminate factors that cause fatigue such as driving at night (which is a high-risk task).
2. Substitute safer practices, such as increasing the length of breaks in a shift.
3. Improve engineering controls (e.g., ventilation and heating) to increase alertness.
4. Set work-hour limitations when the use of heavy equipment or driving is included.
5. Use gloves for vibration work or better hearing protection over an 8-hour work period to reduce fatigue.

Knowing how an employee may respond to fatigue and how fatigue could impact them and their coworker's health and safety is never completely known.

7.1 SIGNS OF FATIGUE PHYSICAL MENTAL EMOTIONAL

Signs and symptoms of fatigue include the following:

1. Tiredness
2. Sleepiness, including falling asleep against your will ("micro" sleeps)
3. Irritability
4. Depression
5. Giddiness
6. Loss of appetite
7. Digestive problems
8. Increased susceptibility to illness

7.2 EFFECTS OF FATIGUE AND THEIR RELATIONSHIP TO WORK

Because fatigue cannot be “measured,” distinguishing between the effects of long working hours or lack of sleep to any changes in accident or injury rates can be difficult. However, studies report the effects of fatigue as:

1. Reduced decision-making ability.
2. Reduced ability to do complex planning.
3. Reduced communication skills.
4. Reduced productivity/performance.
5. Reduced attention and vigilance.
6. Reduced ability to handle stress on the job.
7. Reduced reaction time (both in speed and thought).
8. Loss of memory or the ability to recall details.
9. Failure to respond to changes in surroundings or information provided.
10. Unable to stay awake (e.g., falling asleep while operating machinery or driving a vehicle).
11. Increased tendency for risk-taking.
12. Increased forgetfulness.
13. Increased errors in judgment.
14. Increased sick time, absenteeism, and turnover rate.
15. Increased medical costs.
16. Increased accident rates.

7.3 STRATEGIES TO MINIMIZE FATIGUE AT WORK

Managers can use the following strategies to minimize fatigue:

1. Train employees and supervisors to recognize the causes and symptoms of fatigue, which is likely the best and most reasonable control that can be taught—ensure that employees understand they need to sleep.
2. Complete critical work and/or high-risk work when an employee is expected to be most alert (e.g., between 9 a.m. to 1 p.m.).
3. Enlist additional employees to manage the hazard posed by fatigue.

Appendix A provides additional information regarding causes of fatigue and methods that employees can use at home and work to minimize and manage fatigue.

8.0 WORK-HOUR LIMITATIONS

Amsys Energy has set the following work-hour limitations and will control job-rotation schedules to control fatigue, allow for sufficient sleep, and increase mental fitness.

1. Every employee shall have necessary work breaks to avoid fatigue. These scheduled breaks will apply to both driving and on-site hours. The following breaks shall be given at a minimum:
 - a. 15 minutes each 2½ hours
 - b. 30 minutes after 5 hours
 - c. 30 minutes after 10 hours.
2. No employees shall work more than the following:
 - a. 12 hours per day, if operating vehicles or heavy equipment
 - b. 24 days continuous.
3. Unfamiliar or irregular work should be avoided if fatigued.
4. Employees driving shall not accrue more than 14 hours of total work and drive time within the same day.

9.0 TRAINING

Amsys Energy will provide initial and annual training on how to recognize fatigue, control fatigue through appropriate work and personal habits, and report fatigue to supervision. A record of individual fatigue training and competency will be maintained.

10.0 EQUIPMENT AND EVALUATION

Amsys Energy will provide equipment such as anti-fatigue mats for standing, lift-assist devices for repetitive lifting, other devices as deemed appropriate, and ergonomic friendly equipment and chairs for workers to sit periodically. Periodic rest breaks for personnel will be provided.

11.0 Analysis of Work Tasks

11.01 Work tasks to control fatigue will be analyzed by Amsys Energy. and evaluated periodically.

11.02 Chairs will be provided for workers to sit periodically and will provide periodic rest breaks for personnel.

11.03 Employees must report fatigue/tiredness and lack of mental acuity to supervisors as well as supervisory personnel to ensure safety critical decisions and take appropriate actions to prevent loss.

APPENDIX A

CAUSES OF FATIGUE AND SUGGESTED METHODS TO MINIMIZE FATIGUE

A.1 CAUSES OF FATIGUE

Many causes contribute to fatigue. Work-related factors may include long work hours, long hours of physical or mental activity, insufficient breaks between shifts, inadequate rest, excessive stress, or a combination of these factors. A sleep disorder may also cause fatigue. Employees should ask their doctor or health professional for more information. Conditions of a sleep disorder include the following:

1. Insomnia

People who suffer from insomnia often complain that they cannot fall asleep or cannot stay asleep for an entire night. They may frequently wake up during the night, wake up too early, not be able to fall asleep at night, or have difficulty getting back to sleep if woken. Regardless of the reason, they do not feel rested. Insomnia can be both short term (in response to a stressful event or change in environment) or long term.

2. Sleep Apnea

Most cases of sleep apnea are caused by a condition called “Obstructive Sleep Apnea.” Sleep apnea is a breathing disorder in which brief interruptions (lasting a minimum of 10 seconds) occur in breathing during sleep. This condition is caused by a narrowing (or collapse) of the throat or upper airway during sleep. This narrowing restricts or prevents breathing while you are sleeping (air cannot flow into or out of your nose and mouth even though your body continues to try to breathe). With sleep apnea, sleep is frequently interrupted; thus, your sleep is unrestful. People often complain of early morning headaches and excessive daytime sleepiness. Symptoms of sleep apnea include the following:

1. Chronic, loud snoring
2. Gasping or choking while sleeping
3. Excessive daytime sleepiness
4. Personality changes or difficulties in thinking.

3. Restless Legs Syndrome

With restless legs syndrome, people report sensations of creeping, crawling, pulling, or tingling that cause an irresistible urge to move their legs. This phenomenon usually happens when a person is trying to fall asleep; thus, sleep is difficult. Movements may also occur during sleep and partially wake the person (even though they might not “notice”) and disrupt sleep patterns.

4. Narcolepsy

Narcolepsy is a rare condition associated with sudden sleep “attacks” where a person will have an uncontrollable urge to sleep many times in 1 day.

5. Other Situations

Substances such as nicotine, caffeine, and alcohol can affect sleep quality. Caffeine can remain in the body for approximately 3–7 hours and may affect sleep. Alcohol may shorten the time to fall asleep, but sleep is disrupted later in the night. Nicotine also can disrupt sleep and reduce the total sleep time. Other substances such as over-the-counter medications or prescriptions may also affect sleep. For example, long-acting benzodiazepines (drugs used to relieve anxiety or insomnia) may contribute to daytime sleepiness.

A.2 TIPS TO MINIMIZE AND MANAGE FATIGUE

Sleeping Habits

Although varied, studies say that on average people need at least 7½–8½ hours of sleep every day. Studies have reported that most night employees receive approximately 5–7 hours less sleep per week than day-shift employees. (You can accumulate a sleep “debt” but not a surplus.)

People follow an “internal” or “biological clock” cycle of sleep, wakefulness, and alertness. Although these circadian rhythms are influenced by external clues such as the sun setting and rising, the brain sets your pattern. Most cycles are 23–25 hours long with natural dips or periods when you feel tired or less alert—even for those who are well-rested.

If you suspect you may have a medical condition that interferes with your sleep, go to your doctor and have any concerns investigated. Methods for getting a good night’s sleep varies from person to person.

General suggestions include the following:

1. Go to bed and get up at the same time every day.
2. Exercise regularly.
3. Eat at regular intervals and consume a balanced diet of fruits, vegetables, whole grains, healthy fats, and protein.
4. Use your bed primarily just for sleeping (e.g., do not watch television, read, or work in bed).
5. If you are not sleepy, do not try to go to bed. Get up and read or do something quiet instead.
6. Avoid caffeine, tobacco, or alcohol—especially before bedtime.
7. Turn off the telephone ringer and answering machine speaker.
8. Ask family members to be respectful if one person is sleeping. Family members can use headphones for the TV and radio if necessary.
9. Make the room as dark and quiet as possible. Use heavy, dark curtains, blinds, or a sleeping eye mask. Soundproof the room where possible or use ear plugs.
10. Because most people sleep better when the room is cool, consider using an air conditioner or fan in the summer months.

Eating Habits

Good eating habits can help a person’s sleep quality, and suggested recommendations include the following:

1. Establish Regular Eating Times

Our bodies need energy, provided by food, to perform our daily activities. Scheduling meals at regular times is important to function at our best. If you tend to skip meals or eat at irregular times, you may experience fatigue, food cravings, or increased eating at the next meal. Aim to

have at least three meals a day, including a variety of foods from the five U.S. Department of Agriculture (USDA) food groups.

2. Snack Ideas for Your Work Break(s)

Snacks between meals is a great way to keep nourished and provide the energy needed to complete our work shifts. During breaks, opt for healthy snacks that include combinations from a variety of foods from the five USDA food groups, such as the following:

1. Crackers and cheese
2. Social tea cookies and milk
3. Yogurt and a small low-fat muffin
4. Celery sticks with peanut butter
5. Baby carrots with low-fat cream cheese dip
6. Cut up fresh fruit mixed with plain yogurt

3. Check Your Caffeine Intake

Excessive intake of caffeine can cause insomnia, headaches, irritability, and nervousness. Foods that contain caffeine are not recommended for consumption 5 hours before sleeping. Common caffeine sources include the following:

1. Coffee
2. Tea
3. Iced tea
4. Cola drinks
5. Chocolate
6. Headache relievers

Alternatives choices include the following:

1. Decaffeinated coffee or tea
2. Non-cola beverages
3. Water

Driving Habits

If possible, do not drive if you are tired but if you must drive while tired, the following tips are suggested:

1. Keep the vehicle well ventilated.
2. Avoid caffeine or other drugs to keep you awake (you will feel very tired when they wear off).
3. Listen to the radio (especially “talk” radio).
4. Eat lightly and avoid heavy fatty foods.
5. Stop often (about every 2 hours); take a walk and get some fresh air.
6. Change drivers if you are traveling with others.

Workplace Conditions

The following factors increase fatigue at the workplace:

1. Dim lighting
2. Limited visual acuity (i.e., adverse weather conditions)
3. High temperatures
4. High noise
5. Tasks that must be sustained for long periods of time
6. Work tasks that are long, repetitive, paced, difficult, boring, and monotonous.

Workplaces can provide environments that have good lighting, comfortable temperatures, and reasonable noise levels. Work tasks should provide a variety of interest and change throughout the shift.