

# ***ALERTNESS GUIDE...***

## **Environmental & Operational Improvements**

***Guide Objective:*** Use discussion topics to identify environmental and operational areas that can be addressed to reduce fatigue and improve quality of life both on the job and at home.

### ***Discussion:***

#### ***ENVIRONMENTAL IMPROVEMENTS***

Environmental improvements must be made to work and rest areas to address changes needed in order to reduce or eliminate risk factors that increase fatigue and lower endurance.

### ***Environmental Improvements...***

### **Live-On Vessels**

The areas evaluated should include, but not be limited to, the galley, common areas, bunkrooms, hallways, stairways, bathrooms and outside the vessel.

#### **❖ Lighting recommendations\*:**

- Bunkrooms – Bright and dim intensities of lighting.
  - Room darkening shades or other type of darkening material.
  - Bunk lights will suffice for dim light.
  - 1,000 Lux of artificial white light when waking up to go on watch.
- Galley – If the backwatch is in the galley in the morning, and not able to get to bed prior to sun-up, covering the windows and lowering the intensity of the lights, dim light or not all of the overhead lights, will help them get quality sleep when they go to bed.
  - Keeping wrap around sunglasses with UV protection on until going to bed if there is no way to keep sunlight out until the backwatch goes to bed.
- Hallways / Stairways – If there are windows in the hallways, and the daylight coming in affects the bunkrooms (i.e. - light under the doors), consider tinting or covering those windows. Remember, safety is a priority – make sure there is enough light so safety isn't compromised.
  - Red plastic coverings over the fluorescent bulbs or over the fixture.
- Bathrooms – Curtains or shades may be adequate to keep bright light from affecting the backwatch prior to them getting to bed or if they get up to go into the bathroom during their time off.
  - Using only the dim lights or night lights prior to going to bed or if going into the bathroom then going back to bed.

- ❖ **Noise abatement:**
  - **Solid core doors at the top & bottom of stairways.**
  - **Additional door to create buffer between bunkroom door & engine room door.**
  - **Hydraulic door closers.**
  - **Weather stripping around cabinets or doors that rattle.**
  - **Sound insulating baffles over bunkroom door louvers.**
  - **White noise machines or fans to mask louder noises.**
  - **Sound absorbing material on steps inside vessel.**
  - **Earplugs while sleeping (if not against company policy). Take into consideration the crewmembers ability to hear the General Alarm.**
- ❖ **Vibration**
  - **If vibration is identified as being a mechanical issue it may have to be addressed when the vessel goes to the shipyard.**
  - **Anti-vibration mats & flooring.**
  - **Mounts to absorb vibration.**
- ❖ **Temperature**
  - **Room temperature between 65 – 68 degrees improves sleep.**
  - **Air conditioning, fans, heaters in bunkrooms.**
  - **Individual thermostat controls.**
  - **Insulate around windows & doorways.**
  - **If bunkrooms or common areas are over the engine room insulation can be placed on the ceiling in the engine room.**
- ❖ **Additional environmental changes:**
  - **Air filters & air purifiers.**
  - **Seal leaks from exhaust smoke.**
  - **Quality of mattresses, pillows & bedding.**

## *Operational Improvements...*

## **Live-On Vessels**

### **Operational Improvements for live-on vessels:**

- ❖ **Courtesy recommendations:**
  - **Pilot house personnel actively avoiding rapid changes in throttle settings when possible.**
  - **Avoid slamming doors and talking on cell phones near berthing areas.**
  - **Lower TV/radio volume.**
  - **Deck work when it's near sleeping areas of the vessel – throwing rigging, dropping manhole covers, chipping & grinding.**
  - **Check alarms close to watch change, if possible, to not disturb quality sleep times.**
  - **Identify berthing areas as Quiet Zones with a placard.**
  - **Identify other means of calling individuals if the PA system can be heard throughout the vessel.**
  - **Recommendations for showering, meals while on watch.**
  - **Recommendations for on-watch rest periods.**

## *Environmental Improvements...*

### Dinner Bucket Boats

The following recommendations are for crewmembers working on vessels but leaving the vessel after their shift ends. Note that some companies have quarters where their crewmembers stay when they get off the boat during their hitch. These quarters should follow the same environmental recommendations as for vessels and home.

### Shore Tankerman

The following recommendations are for shore tankerman that leave the job site when they are finished their job. Their unique situation is that there is usually no set schedule for them and this can result in challenges with their work environment, travel time and time at home.

## *Environmental Improvements...*

### Dinner Bucket Boats & Shore Tankerman

- ❖ **Lighting if working nights and getting off watch or finishing a job in the morning\*:**
  - If driving home in the morning wear wrap around sunglasses with UV protection if its sun-up.
  - Bright and dim light capabilities at home in your bedroom, kitchen and bathroom.
  - Room darkening shades or the capability of darkening your bedroom.
- ❖ **Noise abatement at home:**
  - White noise machine or fan in the bedroom.
  - Earplugs.
  - Carpet on the floors and drapes will absorb some of the noise.
- ❖ **Temperature at home:**
  - Room temperature between 65 – 68 degrees improves sleep.
  - Air conditioning, fans, heaters.
  - Insulate around windows & doorways.
- ❖ **Additional environmental changes for dinner bucket boats & at home:**
  - Air filters & air purifiers.
  - Quality of mattresses, pillows & bedding.
- ❖ **Additional environmental changes for shore tankerman:**
  - Improvements for on the barges –
    - ❖ Umbrella or tarp for shade
    - ❖ Chair
    - ❖ Cooler
    - ❖ Wrap around sunglasses with UV protection
    - ❖ Availability to bright light at night
    - ❖ Lighter uniforms in summer
    - ❖ Heat or cold packs to use in summer and winter

## *Operational Improvements...*

### **Dinner Bucket Boats & Shore Tankerman**

- ❖ **Courtesy recommendations at home:**
  - **Courtesy recommendations for quiet areas.**
  - **Address phone interruptions or knocks at the door while sleeping during the day.**
- ❖ **Additional operational recommendations:**
  - **Evaluate time management during time at home to ensure adequate sleep.**
  - **Sleep on the front end of your time off so you won't get caught short of time and not get adequate sleep before your next job.**

\* See **Light Management Alertness Guide** for more information.

#### *Summary:*

Each company, operation, vessel and employee is unique and will need to address their individual circumstances to improve their environmental and operational risks that they identify. These changes need to be monitored to continually improve the maritime industry for all employees whether they live on a vessel, leave the vessel after each shift or work shoreside.

#### **Resources for additional information on Environmental Improvements:**

**Crew Endurance Management Practices -**

**[A Guide For Maritime Operators](#)**

**[A Guide For Maritime Operations ADDENDUM](#)**

These manuals are available for downloading on the Crew Endurance Management System section of the USCG Human Element & Ship Design Division Web Site:

<http://www.uscg.mil/hq/cg5/cg5211/>