



HEALTH AND SAFETY PROCEDURE 415 – FATIGUE RISK MANAGEMENT PLAN

1.0 **PURPOSE**

The purpose of this document is to establish the Westlake Plaquemine Fatigue Risk Management Plan (FRMP) and to minimize the occurrence of incidents in which the potential underlying cause (or significant contributing factor) is fatigue when Westlake employees or contractors are working in safety-sensitive positions.

2.0 **SCOPE**

This policy applies to operations technicians, maintenance technicians and lab technicians. The policy will be utilized for others making safety-sensitive decisions such as supervisors and engineers working during planned or unplanned interruption in the normal operation of the plant such as outage, unit shutdowns, operational response, etc. Contractors shall have a fatigue risk management system equivalent to the criteria outlined in the API Recommended Practice 755.

3.0 **DEFINITIONS**

Affected Employees – operations technicians, maintenance technicians and lab technicians.

Call-Out – summoning an employee to the work site to perform work that the employee was not scheduled to perform.

Extended Shifts – time an employee is assigned to work that extends outside their regularly scheduled shift hours.

Fatigue – reduced mental and physical functioning caused by sleep deprivation and/or being awake during normal sleep hours. This may result from extended work hours, insufficient opportunities for sleep, failure to use available sleep opportunities, or the effects of sleep disorders, medical conditions or pharmaceuticals, which reduce sleep or increase sleepiness.

Holdover - A periodic, occasional extended shift, where employees are at work beyond their regular shift to participate in training, safety meetings and the like. This does not include time needed for normal shift handoff.

Normal Operations - Operations that are not during outages.

Outages – Planned or unplanned interruption in the normal operations of a unit or plant, including mobilizing and de-mobilizing. Outages include, but are not limited to, such things as turnarounds, unit shutdowns, operational responses, etc.



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Work Sets –a group of consecutively worked shifts or days with a minimum of 36 hours off before starting another work set.

4.0 RESPONSIBILITIES

Site Manager: Ensure compliance with this procedure.

Unit/Department Manager: Ensure compliance in their unit/department. Manages abnormal and emergency conditions. Communicate expectations to affected employees of FRMP.

Supervisors: Implement this procedure. Ensure compliance with FRMP guidelines for work hours/day:

- Initiate exception process when guidelines are unable to be met.
- Ensure work hours and work days are accurate in the payroll system.
- Evaluate options to resolve exceptions to the hours of work guidelines through evaluations of work load and scheduling options.

Supervisors must be alert to signs of excessive fatigue in employees and contractors and shall have the responsibility and authority to take appropriate steps to ensure employees are alert enough to safely perform their work including notifying management of observed fatigue issues.

HSE: Train affected employees on this procedure. Review and revise procedure on a periodic basis. Maintain training records associated with fatigue risk. Provide guidance and support to the site when questions arise.

HR/Payroll: Track man-hours and generated reports to identify fatigue risk management trends and communicate exceptions to management.

Affected Employees:

- Inform supervision when a work schedule does not comply with the guidelines in this procedure.
- Be continuously aware of their level of fatigue. Notify supervision and follow recommended steps to counteract fatigue.
- Be alert to evidence that others in the work area may be fatigued and bring this concern to the attention of their supervisor.
- Use their time off to get appropriate sleep and maintain their alertness and fitness for duty.



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5.0 **PROCEDURE**

It is expected that employees use their time off to get appropriate sleep in order to maintain their alertness and fitness for duty. The goal of the following work schedules is to permit two consecutive 8-hour sleep periods after a work set.

Employees must follow the following shift schedule based on the hours being worked during the current work set. (i.e. A typical 10-hour employee is scheduled to work 12-hour shifts during a turnaround will follow the “12-Hour Shifts” guideline.)

5.1 **12-HOUR SHIFTS**

Normal Operations

- Work sets shall not exceed 7 consecutive day or night shifts
- There shall be a minimum of 36 hours off after a day shift work set
- There shall be a minimum of 48 hours off for any set containing 4 or more night shifts
- There shall be a minimum of 48 hours off after a total of 84 or more hours are worked in a set regardless of days or nights

Outages

- Work sets shall not exceed 14 consecutive day or night shifts
- There shall be a minimum of 36 hours off after a work set.

Extended Shifts

- Extended shifts (greater than 14 hours) shall occur only when necessary to avoid an unplanned open position or accomplish an unplanned safety critical task.
- For any individual working extended shifts between 14 – 16 hours, a minimum of 8 hours off shall be provided before the employee is allowed to return for the next shift.
- Individuals working extended shifts greater than 16 hours shall have a minimum of 10 hours off before the employee is allowed to return for the next shift.
- The extended hour shifts shall not exceed 18 hours except as provided under the abnormal or emergency operations provisions as set forth in this policy.
- No more than one (1) extended shift longer than 14 hours is permitted during any given work set.



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5.2 10-HOUR SHIFTS

Normal Operations

- Work sets shall not exceed 9 consecutive day or night shifts
- There shall be a minimum of 36 hours off after a day shift work set
- There shall be a minimum of 48 hours off for any set containing 4 or more night shifts
- There shall be a minimum of 48 hours off after a total of 84 or more hours are worked in a set regardless of days or nights

Outages

- Work sets shall not exceed 14 consecutive calendar days
- There shall be a minimum of 36 hours off after a work set

Extended Shifts

- Extended shifts (greater than 14 hours) shall occur only when necessary to avoid an unplanned open position or accomplish an unplanned safety critical task
- For any individual working extended shifts between 12 – 16 hours, a minimum of 8 hours off shall be provided before the employee is allowed to return for the next shift.
- Extended shifts shall not exceed 16 hours
- No more than one (1) extended shift longer than 14 hours shall occur in any given work set, or no more than 2 extended 12-hour shifts shall occur in any given work set.

5.3 8-HOUR SHIFTS

Normal Operations

- Work sets shall not exceed 10 consecutive day or night shifts
- There shall be a minimum of 36 hours off after a day shift work set
- There shall be a minimum of 48 hours off for any set containing 4 or more night shifts
- There shall be a minimum of 48 hours off after a total of 84 or more hours are worked in a set regardless of days or nights

Outages

- Work sets must not exceed 19 consecutive calendar days
- There shall be a minimum of 36 hours off after any given work set



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Extended Shifts

- Extended shifts (greater than 14 hours) shall occur only when necessary to avoid an unplanned open position or accomplish an unplanned safety critical task
- For any individual working between 10 – 16 hours, a minimum of 8 hours off shall be provided before the employee is allowed to return for the next shift. Extended shifts shall not exceed 16 hours
- No more than 2 non-consecutive extended shifts greater than 14 hours shall occur in any given work set, or no more than 2 extended shifts of 12 hours or greater shall occur in a work set.

5.5 Exceptions

If parameters of this procedure are expected to be exceeded or an extended shift is needed, the exception process must be utilized. The exception process requires the immediate supervisor of the employee working the extended shift to converse with the employee. The supervisor must evaluate the employee for signs of excessive fatigue and take appropriate steps to ensure the employee is alert enough to safely perform their work. If the employee is deemed fit to perform their work safely, the reason for the exception must be documented on the employee's time log.

5.6 Abnormal or Emergency Operations

Emergencies such as, but not limited to, severe inclement weather (Hurricanes) or other potential work stoppages may alter work schedules in requiring employees to stay on premises 24/7 in order to maintain certain operations and appropriate safety sensitive shutdown operations. In these events adequate sleeping arrangements and rest periods will be provided to ensure fatigue compliance requirements are satisfied. The above provisional process would be implemented on an as-needed basis depending on the nature of the emergency.

5.6 Compliance Monitoring

Time tracking methods, currently in place, will be utilized to monitor and manage worker schedules to the above hours/days of service limits. These time tracking methods will serve as a guide anytime overtime or out of schedule work is required.

Salaried-Exempt employees do not log their time, therefore, must ensure their schedule is in compliance with this procedure by managing their hours worked in combination with their immediate supervisor.



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5.7 Contractor FRMS Management

Contractors shall have a fatigue risk management system equivalent to the criteria outlined in the API Recommended Practice 755.

6.0 TRAINING

Training will be conducted for the purposes of educating employees on the causes, risks, and potential consequences of fatigue. This education will acquaint all employees with the basic principles of sleep, sleep disorders, alertness, and fatigue physiology so that they can make informed decisions, which will help them reduce the fatigue risk for themselves, their co-workers, and the people they may supervise.

Training will be conducted initially and on a periodic basis as deemed necessary by HSE or Site Management.

7.0 RECORD KEEPING

Training records will be maintained in by the HSE Department. Fatigue data will be maintained by HR/Payroll.

8.0 PROCEDURE REVIEW

This procedure will be reviewed every 5 years.

9.0 REFERENCES

API RP 755, Fatigue Risk Management Systems for Personnel in the Refining and Petrochemical Industries, First Edition, April 2010, and the current Collective Bargaining Agreement (CBA) serve as reference and guidance documents for this plan.

10.0 APPENDICES

Appendix A – Hours of Service Guideline Table

REVISION HISTORY

Rev	Changes	Approved	Date
0	<i>Procedure established</i>	H. Garner	02/01/2020



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Appendix A – Hours of Service Guideline Table

Operational Situation	12-Hour Shift	10-Hour Shift	8-Hour Shift
Maximum consecutive shifts (Day or Night) in a work set			
Normal Operations	7 Shifts	9 Shifts	10 Shifts
Outages	14 Shifts	14 Shifts	19 Shifts
Minimum time off after a work set			
Normal Operations	36 Hours	36 Hours	36 Hours
a) Work set of 4 or more night shifts	48 Hours	48 Hours	48 Hours
b) After 84 hours <u>or more</u> regardless of day or night	48 Hours	48 Hours	48 Hours
Outages	36 Hours	36 Hours	36 Hours
Extended Shifts			
Maximum extended shift work hours	16 Hours	16 Hours	16 Hours
Minimum time off after an extended shift	8 Hours	8 Hours	8 Hours
Maximum # of extended shifts (>14 hours) per work set	1 Shift	1 Shift	2 Shifts*
Maximum # of extended shifts (>12 hours) per work set	NA	-----or----- 2 Shifts	-----or----- 2 Shifts

*Cannot be consecutive shifts.