Fatigue Risk Management Systems for Personnel in the Refining and Petrochemical Industries

Background

As a result of the investigation of the U.S. Chemical and Hazard Investigation Board (CSB) of the BP Texas City refinery incident in 2005, CSB issued several recommendations including developing “fatigue prevention guidelines for the refining and petrochemical industries that, at a minimum, limit hours and days of work and address shift work.”

Purpose

This recommended practice provides guidance to all stakeholders (e.g., employees, managers, supervisors) on understanding, recognizing and managing fatigue in the workplace. Owners and operators should establish policies and procedures to meet the purpose of this recommended practice.

This recommended practice was developed for refineries, petrochemical and chemical operations, natural gas liquefaction plants, and other facilities such as those covered by the OSHA Process Safety Management Standard, 29 CFR 1910.119. This document is intended to apply to a workforce that is commuting daily to a job location.

RP 755 applies to all employees working night shifts, rotating shifts, extended hours/days or call outs involved in process safety sensitive actions. It should also be considered for others making process safety-sensitive decisions. On-site contractors involved in process safety sensitive actions shall have fatigue risk management systems equivalent to the criteria outlined in this document.

Fatigue Risk Management System (FRMS) Approach

It has been well documented that excess workplace fatigue can be a risk to safe operations. In the past, it was thought that simply placing limits on the Hours of Service would adequately address the risk of fatigue. However, over the last several years, a broad international consensus has emerged that the better way manage fatigue risk is through a comprehensive fatigue risk management system (FRMS) that is integrated with other safety management systems as necessary. RP 755 is based on the FRMS approach.

The FRMS should be based on sound science and recognize operational issues, and includes consultation with key stakeholders in the development and implementation of the local application of the FRMS. The FRMS should also include a process to review and enhance the FRMS, as needed, with a goal of continuous improvement.
The development of the FRMS should address the following subjects which are discussed in RP 755:

- Positions in a facility covered by the FRMS
- Roles and responsibilities of those covered by the FRMS
- Staff – Workload balance assessments
- Safety Promotion: Training, Education and Communication
- Work environment
- Individual risk assessment and mitigation
- Incident/near miss investigations
- Hours of service guidelines
- Call-outs
- Exception process
- Periodic review of the FRMS to achieve continuous improvement

**Hours of Service Guidelines**

RP 755 provides guidance on the number of consecutive days that can be worked before a minimum amount of time off is required. The guidance applies to 8, 10 and 12 hour shifts and addresses normal operations, outages and extended shifts.

If you have questions regarding API RP 755, please contact Ron Chittim, API, at Chittim@api.org or 202-682-8176.

**API Standards Program**

API’s standards program is accredited by the American National Standards Institute. API follows a formal, comprehensive and rigorous approach to the development of industry standards and recommended practices. These documents are reviewed at a minimum of every five years and may be updated more frequently when new information and data become available. RP 755 is expected to be published by the end of March and can be accessed at: www.api.org/standards

March 2010