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ScheduleSoft **FATIGUE & RISK MANAGEMENT**

Worker fatigue in process safety sensitive positions has been identified as a risk to safe operations throughout the refining and petrochemical industry. In order to help reduce this risk, the American National Standards Institute (ANSI) and the American Petroleum Institute (API) developed fatigue prevention guidelines (ANSI/API RP 755) for personnel involved in process safety sensitive positions. RP 755 applies to all employees working night shifts, rotating shifts, extended hours, and those subject to call-outs.

Although not presently mandated, forward-looking refineries and petrochemical plants have committed to these guidelines or a similar company-specific approach that meets their unique needs. A proactive approach allows these organizations to anticipate when their workers are potentially exposed to an "at risk" situation. To facilitate managing these situations, ScheduleSoft developed the industry's most flexible and powerful scheduling and fatigue management solution.

ScheduleSoft FATIGUE MANAGER™

Avoiding Fatigue

While fatigue can affect anyone that is impacted by sleep deprivation, it can be mitigated with a workforce scheduling solution that automates the scheduling rules and requirements necessary to support fatigue management guidelines. ScheduleSoft Fatigue Manager is a fully integrated component of the ScheduleSoft workforce scheduling solution. It allows customers to configure prescriptive scheduling rules to ensure the workforce remains adequately rested and helps identify employees who are at risk of being 'fatigued' based on RP 755 guidelines or any conditions your organization defines. The system will ensure compliance with these rules during the automatic generation of both straight time and overtime schedules, and impose these constraints on the inevitable manual adjustments that need to be made to schedules in "real-time".

ScheduleSoft tracks and defines rest periods, work set limits, allowable consecutive scheduled days and hours, and a host of other complex rules governing fatigue management. The system dynamically adjusts these periods and limits based on the existing operating conditions and can recalculate acceptable limits if an "abnormal" condition is declared - looking both forward and backward in the schedule. These conditions and associated rules can be imposed at the plant or refinery level, on a specific area, crew, group, or individual.

These capabilities allow for identifying employees who may be able to work an additional straight time shift, but not an overtime shift due to fatigue risk rules in effect at the time. All schedule changes are logged in the system and any violations of these company defined "constraints" are tracked and fully auditable.

Maintaining Qualifications

Maintaining skills and qualifications is critical for both productivity and safety. Most facilities use job rotation as way to ensure continued familiarity and practical knowledge of jobs and skills. ScheduleSoft's industry leading schedule generation technology incorporates qualification management directly into the automated scheduling process.

ScheduleSoft Fatigue Manager supports job and crew rotation to ensure employees maintain skills required to perform jobs in their assigned work areas. It also tracks skills and qualifications to help identify training needs or rotation requirements that would keep employees better qualified. With Fatigue Manager, the process of generating schedules can be used as a way of ensuring proper maintenance of qualifications. These rules are configurable and can accommodate various requirements such as one mandatory shift every 90 days, or a minimum of two consecutive days in a position every 120 days.

A SCHEDULING
APPLICATION THAT
SUPPORTS THE
AUTOMATION OF
RP 755 GUIDELINES
IS A CRITICAL
COMPONENT
OF ANY
COMPREHENSIVE
FRMS APPROACH.



ScheduleSoft Fatigue Manager supports and automates the scheduling rules and requirements related to:

- work set limits;
- mandatory rest periods (including overnight sleep opportunities vs. regular rest periods);
- skills and qualifications;
- employee preferences;
- job rotations of unlimited complexity and rotating period;
- overtime equalization and crew leveling;
- 8, 10, 12 hour or varying shifts and re-qualification of employees to different shift lengths;
- shift patterns including extended shifts and holdovers;
- scheduling for planned “abnormal operations” like turnarounds or unanticipated emergency management situations;
- special assignments / non-shift work schedules.

ScheduleSoft Fatigue Manager:

- allows scheduling for operations, products, and maintenance workforces;
- automates schedules that honor fatigue management and job rotation work rules;
- manages complex shift patterns and job rotations;
- reduces labor agreement violations & grievances;
- provides employees access to manage their schedules and preferences;
- tracks, logs, audits, and reports on exceptions or deviations from the work rules.

BENEFITS

- Does not allow scheduling of an employee if it would cause them to exceed acceptable number of work hours or overtime.
- Protects the health and safety of employees by helping maintain qualifications
- Supports target parameters like percentage of overtime, number of extended or open shifts and exceptions.
- Provides employees access to their schedules and allows them to indicate scheduling preferences.
- Scheduling rules and constraints are user configurable and can be easily changed if parameters of FRMS change.