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## **Question 2: Do you re-evaluate your unit operating procedures at regular intervals? How often? What principles/standards are these procedures reviewed against?**

**David Rapavi (HOVENSA)**

HOVENSA reviews and re-issues unit operating procedures in accordance with OSHA Standard 1910.119 paragraph (f)(3), which states “Operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology and equipment, and changes to facilities. The employer shall certify annually that these operating procedures are current and accurate.”

Unit operating procedures are updated throughout the year to reflect any changes from Management of Changes, PHAs, Incident Investigations, and recommendations from operating personnel and subject matter experts. All changes are communicated to the affected employees both at the time of implementation of the change and during procedure recertification.

Unit operating procedures are reviewed and recertified by Operations on an annual basis, and over the years we have used different types of recertification methods to assure our procedures are current and accurate. Some of the methods include reviews of the procedure by subject matter experts as part of their job responsibilities, reviews by training supervisors as part of new operator training, and our current method of reviews by the Operations shift team done during a job pre-task.

Before we execute a unit operating procedure, a job pre-task is done by the Operations shift team, which includes the operators and shift supervisor. During the job pre-task, all the steps of the procedure are reviewed and discussed, what-if scenarios are assessed, and concerns regarding the unit operating procedure are addressed. The supervisor completes a job pre-task form which includes list of attendees, topics discussed, potential reliability or safety problems and mitigation plan. Any procedural changes are redlined, and the redlined version is used to complete the work. After the work is completed, the redlined procedure is submitted by the supervisor to the PSM department which updates the procedure and applies a new revision number and date. All effected operators are then retested on the procedure.

For unit operating procedures that are not executed during the year, the procedures are recertified using the same job pre-task method by evenly distributing them over the operating shifts.

We have found the job pre-task method very effective in not only assuring that unit operating procedures reflect current operating practice, but it also facilitates training and understanding of our relatively inexperienced workforce with approximately 50% of the operating population having less than five years of experience.

Regarding hydrotreating units, the unit process engineer will have the catalyst vendor review catalyst activation and hot hydrogen strip procedures and incorporate all necessary changes by submitting a redlined copy to the PSM department before the job pre-task.

As a licensor, UOP evaluates operating procedure as part of our Schedule A work process. In other words, the frequency for review is much higher than a typical refiner's procedural review. UOP considers any significant changes to design configurations and any new catalyst considerations. This is followed by an update to the general procedures in the operating manual we provide to our licensees.

During the procedure review in the engineering stage, UOP focuses on the overall issues leaving the individual numbering/line references to the refiner. This provides a learning opportunity for the refiner's responsible parties (engineers, operators, management) by using the UOP general procedure and developing a procedure specific for the refiner. This insures that the systems of the new unit are understood and site specific considerations are included. The detailed unit specific procedures are reviewed onsite by the UOP startup staff for consistency between UOP's general procedures and the intent of the refiner's developed procedures. UOP startup staff also participate in any procedure revisions learned during startup.

In the event of loading a new catalyst into an existing unit, the same general procedural review is followed by UOP and the refiner is made aware of any changes they must make to insure successful catalyst activation to retain maximum activity.

For operating units, HAZOP reviews also provide a good prompt for updating procedures. HAZOP findings will guide some of the procedure modifications. Feedback from refiner's is that input from the process licensor is valuable.

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