

# Equipment deficiencies: How well are they being managed?

## Part 2 of 2

As introduced in part one, a key element of a successful mechanical integrity (MI) program is the equipment deficiency process that ensures deficient equipment conditions are identified in a timely manner and appropriately managed until they are corrected.

Part two discusses the common struggles related to managing deficiencies and how involving appropriate levels of management can provide practical solutions to address these struggles.

The Center for Chemical Process Safety MI book, "Guidelines for Mechanical Integrity Systems," outlines that a facility's equipment deficiency process should address the following issues:

- Identifying deficient conditions: This element was addressed in part one.
- Ensuring proper responses to deficient conditions are developed and implemented: Most deficiencies involve two types of responses. The first response relates to the actions needed to safely manage any immediate dangerous conditions. The second response relates to managing the deficiency by addressing the actions to correct the deficient condition and includes management's

evaluation of continued operation if the deficiency cannot be immediately corrected.

- Communicating equipment deficiencies to affected personnel: The communication process for equipment deficiencies should address (1) alerting affected personnel about immediate dangers and notifying emergency responders (if necessary), (2) communicating deficient conditions to those responsible for correcting the condition, (3) notifying decision makers responsible for evaluating continued operation, and (4) communicating any temporary operations and repairs to affected personnel.

- Ensuring timely correction of deficient conditions: An important aspect of the equipment deficiency process is ensuring that deficiencies are corrected in a timely manner and equipment restored in order for normal operations to proceed. Ideally, correction of deficient conditions occurs immediately after identification, however, some conditions will require temporary operations or repairs. The equipment deficiency process is established to help ensure that any temporary actions are managed and implemented as designed.

Many activities are familiar and have

procedures and policies in place (e.g., alarm bypass management and pipe clamp procedures). These procedures provide a process for managing specific types of deficiencies. However, many facilities lack an overall procedure to address management of a broader range of equipment deficiencies. One approach may be to manage those deficiencies that require temporary actions as a temporary management of change.

Another shortcoming of equipment deficiency processes is not thoroughly vetting the deficiencies. At many facilities, the current deficiency process uses the work order system to review, approve and prioritize deficiencies. While the work order process is part of an equipment deficiency process, it typically does not include a management review that is often warranted for major deficiencies.

Most work order processes include a prioritization process, which provides an effective means for ensuring that equipment deficiencies are properly corrected in a timely manner. However, in reviewing many such systems, it has been observed that these systems are often ineffective in ensuring that equipment deficiencies receive the urgency

warranted and are managed as a priority and corrected in a timely manner.

These shortcomings point out that many facilities need to provide an additional review, approval and tracking process for equipment deficiencies. One approach to make this a manageable system is to establish guidelines for determining which deficient conditions can be reviewed, approved, communicated and tracked via the work order process and which conditions need to be communicated and vetted by different levels of management.

Based on the information above, you need to determine how well the equipment deficiency process is operating at your facility. If your process needs improvement in any of these areas, then perhaps the suggestions in this two-part feature will provide you with some ideas for sustainable improvements.

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