Effective Process Safety Auditing Techniques

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Abstract

This paper discusses some of the effective auditing techniques operating companies and consultants have used to identify process safety issues and drive improvements in process safety.

From the development of the Second Edition of the CCPS Guidelines for Auditing Process Safety Management Systems, the subcommittee has identified a number of methods and example questions that can be used to audit specific process safety topics. The topics covered in the book include the elements of process safety as defined by CCPS’ Guidelines for Risk-Based Process Safety as well as other subjects such as EPA’s Risk Management Plan and PSM Applicability.

One example of an effective technique to audit Process Safety Culture is to attend a safety committee meeting, or better yet, a process safety committee meeting, if held during the period of the audit. Evaluating the tone of the discussions is one piece of information the auditor can use to determine the level of process safety culture at the site. Another piece of evidence comes from observation - if safety bulletin boards are covered with graffiti, there may be issues. As always, the auditor should be careful in making conclusions based on only one or two sources - interviews across the facility at all levels, along with record reviews (e.g., meeting minutes) are necessary to fully inform the auditor.

When auditing management of change, auditors usually review the change log and then evaluate whether the change process meets MOC requirements (company and regulatory requirements as well as those required by the facility’s own MOC procedure). It is important also to determine whether all changes have gone through the MOC process. One source of information is to interview employees. Work orders, daily logs, and action items from incident investigations and process hazard analyses should also be reviewed. The auditor looks for indicators of change - words like ‘new,’ ‘changed,’ ‘improved,’ ‘removed,’ ‘upgrade,’ and then works with site personnel to determine if these are changes or not. Finally, the auditor searches the MOC database to confirm if these changes were included.

A review of the auditing techniques included in this paper by audit managers and team leaders, and well as process safety managers, will provide opportunities to improve process safety auditing programs as well as more frequent management reviews.