

TerranearPMC Safety Share

Week of December 5, 2011 – Leading and Lagging Indicators

How good is a company's safety program? Well, just look at the number of accidents, incidents and workplace illnesses incurred by its employees. Sounds reasonable? In the business of occupational safety and health (S&H), professionals can attest that by measuring the effectiveness of a safety program in this manner, then truly, an organization is not managing and preventing workplace accidents. By looking at the aftermath through numbers and statistics and comparing them to established criteria, without understanding the efforts made to attain S&H goals, then a serious incident could be just around the corner.

Today, many industries and indeed regulatory agencies still focus completely on common safety performance measures such as lost time injury frequency rate and number of lost days in an effort to measure safety performance. Unfortunately, such indicators just measure failure to control and give no indication of risk management effort, which may take time to come to fruition. Such outcome measures, when used to judge safety performance, are known as lagging indicators. In other words, lagging indicators are metrics that refer to past developments and effects/results, based on the history and outcomes of certain actions and processes. Therefore if an organization only looks at these lagging factors, they are in a continuous reactive mode, spending time correcting a process or piece of equipment after an unwanted event has already occurred.

Nevertheless, lagging indicators are still the metric used to benchmark an organizations' safety performance and thus remain the criterion for which the effectiveness of safety and health programs are judged. As an example, one only has to look at the OSHA log-forms (OSHA log 300 or its predecessor, log 200). All the information contained on these forms tells of the past years history incidents. And while these forms may provide important information, such as understanding where people or how people are getting injured, outside of truly obvious circumstances can an organization understand how to prevent future occurrences of a similar nature. For instance, if, through tabulating past accidents and incidents it is determined that there have been a number of finger/hand lacerations from using exacto-knives, then certain controls such as wearing gloves, proper training to use this knife or to use another type of knife, may be instituted and thus, help to prevent new occurrences. So while reviewing past occurrences may be helpful to prevent future incidents of a similar nature, some type of incident needed to occur before a hazard was even noticed so that a corrective action could be implemented. There must be another way to judge a safety and health program while still being proactive and thus prevent unwanted occurrences. This is where looking at *leading* indicators can become an effective tool.

A "leading indicator" is a metric that mainly refers to future developments and drivers/causes. Examples are: performing safety audits, noticing persons not wearing fall protection when working on elevated surfaces, workers using a metallic ladder to work on an electrical circuit, persons not wearing safety glasses, or noticing heavy equipment inspection checklists are not

being completed (properly) prior to use. While all these examples may not have resulted in any incident, if left uncorrected, we are setting ourselves up for an accident. It is during this time that by recognizing unsafe conditions, actions or equipment, that we can be proactive and prevent someone from getting hurt.

Yet how can we show that by being proactive and using leading indicators that we are truly being successful in accident/incident prevention? Many organizations have formal programs where a team of people or an established safety committee (where each person represents a specific craft or company group) visit various work locations on a regular basis (example: maybe one location per week) and identify potential hazardous conditions or leading indicators. All conditions that need to be corrected immediately are then corrected while all the observations are tabulated and to sort out the data, identifying potential trends. Another method is where employees can complete a simple form (anonymously) that identifies areas or processes that need corrective actions and place it in a designated location, where the forms are collected and information is tabulated and thus resulting in identifying trends or clusters of similar hazards. At this point, identified trends can be targeted so that potential hazards can be corrected before incident happens. Through the use of lagging indicators, an organization can usually obtain feedback to verify if their efforts are effective.

Once can see the advantages of using leading indicators as they assist an organization to see poor or unacceptable performance, and therefore modifications or changes can be made before injuries actually occur: Focus is on the process, not the end result. But there are also disadvantages to using these metrics. One major problem is that leading indicators are not absolute; meaning that observed poor/unacceptable conditions may not necessarily lead to an incident. Also leading indicators are mostly subjective as an organization can pick the wrong metrics and therefore not see where trouble spots are actually happening. And, of course, no single measure says it all; several measures are often necessary to have an effective proactive program.

So it seems that while both leading and lagging indicators have their advantages and disadvantages, it would now seem apparent that to have an effective loss prevention program, both of these metrics; leading and lagging indicators, need to be instituted. These are the tools that can help an organization look forward and anticipate unwanted events while verifying that their efforts were either effective or ineffective. If the latter condition is the case, then the organization needs to re-evaluate its accident prevention program to establish other leading indicators and thus ensure they are focusing on the factors that are truly influencing their accident/incident rate.

**THERE IS OFTEN LESS DANGER IN THE THINGS WE FEAR
THAN IN THE THINGS WE DESIRE.**

~John C. Collins