NAC **Executive Insights**

Developing and Using Effective Leading Indicators

Key Points

- Leading Indicators are an excellent tool to predict what is likely to happen.
- There is no "magic list" of leading indicators. Create indicators that make sense.
- Leaders can use leading indicators to get a pulse on their organization and safety culture.
- Leaders should review leading indicators with the same rigor that they do with financials.

Introduction

In the world of today's global businesses, what gets measured, gets done. If an organization desires to be world-class in safety and in business results, or if there is a desire to make large improvements in these areas, the leadership team MUST develop effective leading indicators and a process to manage them. Leading indicators a must quite simply because managers need to anticipate and to "see around corners," or the leadership team and its clients could miss critical opportunities.

What is a Leading Indicator?

Two types of indicators are found in business today: leading and lagging. Both measure something that has already happened. Leading indicators, however, are used to forecast the lagging indicators of the future, or in other words, see what is "most likely going to happen."

Failures, surprises, and fatalities occur because attention is not being paid to the many underlying root causes of incidents in today's complex world and workplace. Not using indicators, both leading and lagging, is like pilots flying a plane blindfolded.

Typical examples of lagging indicators are the number of days away from work, the safety recordable injury rate for the past month, dropped objects, quarterly financials, the number of new employees oriented in the past period, and many other categories classified as lagging.

Safety leading indicators are measurements in areas that underlie many of the root causes for injuries and incidents. The list of leading indicators is *endless*. There is no incorrect leading indicator. After the March 23, 2005, explosion at the BP Texas City refinery, which resulted in 15 deaths and 180 injuries, the U.S. Chemical Safety Board asked the Center for Chemical Process Safety (CCPS) for a list of agreed upon safety leading indicators. The CCPS provides an excellent list of leading indicators. The many companies involved, however, could not reach consensus on one list for several reasons, none which are related to this Executive Insight.

If one were looking for the "magic list" of safety leading indicators, some ideas can be gleaned from the list provided by the CCPS. To be truly effective, however, leadership in organizations needs to work with their safety teams and develop their own list that is tailored to that organization and safety culture. Developing an organization's safety leading indicators, specific to their business and location, is a critical aspect of getting organizational buy-in and continued commitment. Shown below are two examples of how a leader can keep the pulse on their organization and improve safety and business results by using leading indicators.

Examples of Using Leading Indicators

Case Study 1 — Improving Safety and Productivity by Understanding Workforce Distractions, Closed Shop, New York Metropolitan Area
One known cause of poor performance and injuries is simply being distracted. When project participants' minds are "on task and focused," their output is generally very good or excellent.

Knowing this, one project leadership team started conversations with various workers about what worried them. Every week at the staff meeting, a feedback discussion was held about the past week on this question and the staff ranked the overall distraction level as "red, orange, yellow, or green." Leadership graphed these measures over time and found that some of these worries they could do something about and some they could not. It provided insights, however, into what was bothering the workers.

Leadership also discovered that when the "red" level of distraction was noted, it became more likely that a serious incident would occur, and leadership need to spend "more time in the field." A general baseline of distraction was established, and distractions caused by events outside of the workplace and out of their control were documented. During this project, the 9/11 terror attack occurred.

One of the associated benefits of working on distractions was that it forced the project managers to engage a variety of workers every week. Sometimes the distraction could be immediately addressed. Over time, these conversations improved trust among all team members. Not only did safety improve, but productivity and financials improved. This project achieved outcomes beyond the original objectives.

This leading indicator effort involved four main rituals:
1. The decision/discussion to tackle distractions as a leading indicator.
2. The individual worker discussion with the supervisor or manager.
3. The project staff discussion and decision about which color to assign.
4. The posting of the entire historical trend chart at the gatehouse for all personnel to see.

Case Study 2 — Improving Safety and Productivity through Housekeeping, Merit Shop, Middle Atlantic Region

Another underlying tenet of a safe job is that the project site is orderly and neat. Material laydown is adequate, tripping hazards are minimized, holes or trenches have covers/signage, elevated floors have appropriate barricades, and equipment is in good repair.

Neatness can be measured in many ways. The workers know, however, that management cares about them when the management does not overlook housekeeping on their daily walk-arounds and discussions. It does cost time (and money) to keep "everything in its place," and leadership at all levels has a key role to play.

At this project site, a rental crane was scheduled for a big lift. The crane was immaculately clean. The oiler cleaned the crane continuously all day long and inspected everything as he cleaned. When asked about the attention to cleanliness, the crane operator said he saw it as both a safety and a job requirement. He pointed to a sign on the inside of the crane's cab door that read, "If you're too good to clean this crane, then you're too good to work for me! Signed: Mr. M." The big lift went off on a Sunday morning without a hitch.

On other aspects of the project, areas of high work volume were regularly rated as critical for housekeeping. All contractors were empowered to keep their work areas and neighboring areas orderly. Tripping hazards were identified and removed. Rather than measure and rate areas, all team members, from laborers to the boss, kept order and neatness in focus. The safety performance was rated above average at the project's conclusion. The primary ritual used in this case was the daily walk-arounds as the housekeeping driver. A secondary ritual was an explicit requirement of "above average housekeeping," which was in each contract's standard conditions.

As far as leading indicators, *any* measurement of site housekeeping or equipment condition can be converted into a leading indicator. The benefits are obvious. Having all personnel pay attention to standards in advance of a problem is an important aspect of incident prevention.

These two case studies may be considered normal and not unique by many readers. If true, that would be a great achievement.

Conclusion

One challenge in using safety leading indicators is to have the same discipline and management attention paid to the minutiae of what the leading indicators represent and have that level of attention be equivalent to that given to financials. If this were the standard, it would be much easier to prevent a serious injury or fatality rather than trying to improve the lagging indicators by telling everyone to work safely *after the fact*. It is also much cheaper.

For Further Reading – Safety Culture Series (Executive Insights)

- Introduction to the Safety Culture Series
- Safety Culture – Human Performance Principles
- Safety Culture – Worker Participation in the Safety Management System (SMS)
- Safety Culture – Demonstrating a Culture of Care and Support: The Leaders' Role
- Safety Culture – Drug and Alcohol Testing
- Safety Culture – Incident/Accident/Near-Miss Reporting and Investigations
- Safety Culture – Safety Training
- Safety Culture – Safe Work Practices
- Safety Culture – Management Commitment: All Safety Incidents Are Preventable
- Safety Culture – Subcontractor Involvement in the Safety Culture
- Safety Culture – Recognition and Reward
- Safety Culture – Job Safety Analysis
- Safety Culture – Leadership Involvement in Office and Site Visits
- Safety Culture — Improving Construction Profitability

About the Author

Deborah Grubbe was elected to the National Academy of Construction in 2013. She is owner and president of Operations and Safety Solutions, LLC, a global consultancy that works with various industries. She is a former member of the NASA Aerospace Safety Advisory Panel and worked on the U.S. Chemical Weapons Stockpile Demilitarization. She also serves on numerous advisory boards and is an emeritus member of the Center for Chemical Process Safety.