

Key Performance Indicators

Short description

Key Performance Indicators (KPI) are tools that demonstrate and measure HSEQ performance. KPIs assist in the development of the Centennial HSEQ management system by measuring both past and ongoing HSEQ performance with the intent of establishing clear and obtainable benchmark target goals.

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1 Objective and area of application

The principal objective of the Centennial HSEQ management system is to prevent harm or degradation to personnel, property, the environment, and the integrity of our work product. Centennial utilizes key performance indicators (KPIs) as a method to measure and track past performance and future outcomes toward specific target HSEQ goals in order to maintain business continuity and reduce operational risk and harmful HSEQ exposures. Centennial's HSEQ management system relies on the evaluation of accurate, timely data and performance metrics to adequately evaluate the effectiveness of the HSEQ management system. KPIs are used as a means to collect data and communicate trends, which can then be used to indicate where further process or procedural improvements and resources are required.

KPIs intended to improve the Centennial HSEQ management system will:

- Collect information that is relevant for management decisions and actions
- Allow accurate and detailed comparisons of HSEQ metrics
- Allow qualitative or quantitative measurement
- Be consistent, accurate and reliable
- Present recommended procedural improvements/changes to Management

Centennial KPIs are measurable indicators that demonstrate progress towards a specified target. They enable Centennial leadership to assess progress towards the achievement of an outcome, objective, or goal within an agreed timeframe.

Centennial HSEQ KPIs should seek to answer such questions as:

- Where are we relative to our overall health and safety objectives?
- Where are we in controlling hazards and risks?
- How do we compare with others within our own industry?
- Are we improving over time?
- Is our HSEQ management system being effectively implemented?
- Is our management of HSEQ proportionate to our hazards and risks?
- Is an effective HSEQ management system in place across all parts of the organization?
- Is our culture supportive of our HSEQ objectives?

The previous questions should be asked not only at the executive level but also throughout various management and leadership levels across the organization. The goal is to provide a complete and accurate picture of the organization's HSEQ performance.

2 Superior and additional applicable documents

1000_GD_11_01_en_1.2 Group Principle on HSEQ

1000_GP_11_01_en_7.0 Group Policy on Health, Safety, Environment and Quality (HSEQ)

1000_SOP_11_01_en_2.0 SOP on HSEQ Management

1000_SOP_11_03_en_1.0 SOP on Leadership & Workers Involvement

1000_SOP_11_04_en_1.0 SOP on Health & Safety Standards of Work

1000_SOP_11_05_en_1.0 SOP on HSEQ Incidents & Accounting Rules

1000_SOP_11_06_en_1.0 SOP on Administration and use of the HSEQ management software
ACTIVE

This section of the HSEQ Manual applies to all Centennial employees and subcontractors who are performing work in Centennial facilities and project sites. There may be more stringent requirements than this section as defined by specific State, local or contract specific requirements. If there is a conflict between this section and other applicable regulations, the more stringent will apply.

3 Definitions

The following definitions of terms are important for an understanding of this section.

Term	Definition
Centennial	All Centennial employees, joint venture employees, subcontractors, and business partners
HSEQ	Health, Safety, Environment and Quality
Key performance indicators (KPI)	Performance measures that evaluate both past and future HSEQ performance by quantifying performance against organizational objectives.
PDCA	Plan, do, check, act process of continuous improvement.
Metrics	A unit of measurement used to quantify HSEQ performance.
Leading indicators	Active monitoring of the adequacy, development, implementation and deployment of the HSEQ management system and the activities to promote a positive HSEQ culture.
Lagging indicators	Reactive monitoring of adverse outcomes resulting in injuries, illness, loss, adverse environmental impact or degradation to the work product.
AHA	Activity Hazard Analysis
EMR	Experience Modification Rate
LTIF	Lost time injury frequency
ASR	Accident severity rate

LTCR	Lost time case rate
Warranty	Respective contractual limited remedial obligation solely for defects, which already existed at the time of transfer or risk.

4 Types of HSE key performance indicators

4.1 Leading indicators

Leading indicators allow Centennial to measure the effectiveness and applicability of HSEQ policies, procedures, and activities in achieving desired HSEQ outcomes. Leading indicators are designed to be used as a tool for risk avoidance and/or risk reduction by increasing awareness to the causes of HSEQ incidents and negative outcomes. These types of indicators are more predictive of future performance results and are viewed as proactive measurements of HSEQ performance. Centennial uses leading indicators to identify HSEQ priority areas of action that pose the greatest risk to the success of the organization. Once these priority areas are identified, the initiating events or root causes can be discovered, and appropriate preventative measures may be integrated into the process.

Leading indicators that have moved outside of the acceptable parameters established by Centennial HSEQ management will prompt corrective action according to the HSEQ management system PDCA process.

Examples of leading indicators are:

- Number of jobsite inspections/audits completed
- Number of HSEQ deficiencies identified at each jobsite and company-wide
- Percentage of jobsite inspection findings abated on time
- Number of repeat HSEQ deficiencies at each jobsite and company-wide
- Percentage of projects with project pre-planning communication and collaboration between operations and safety for upcoming projects
- Number of projects with complete and accurate AHAs reviewed by effected personnel
- Percentage of projects tracking HSEQ deficiencies to resolution
- Percentage of employee HSEQ training completed vs. expected
- Number of high-risk tasks with correlating task specific plans (e.g. fall protection, trenching, energized electrical work, confined space etc.)

4.2 Lagging indicators

Lagging or outcome indicators are historically, the most commonly used KPI to measure HSEQ performance. Lagging indicators measure the result of an HSEQ incident after potential incident or negative outcome has occurred or manifested itself. Strictly using lagging performance indicators does not accurately portray whether a management system is performing adequately or as designed.

Examples of lagging indicators are:

- Lost Time Injury Frequency (LTIF)
- Accident Severity Rate (ASR)
- Lost Time Case Rate (LTCR)
- Fatalities
- First aid cases
- Near miss cases
- Warranty issues
- Regulatory inspections or citations
- EMR

5 Quality key performance indicators

Quality KPIs are designed to enable the measurement of quality performance. Objective data collection will allow Centennial to establish benchmarks for quality improvement regarding the fulfillment of defined quality specifications concerning services provided as well as focusing on continuous process improvement of the overall Centennial HSEQ management system.

Examples of quality indicators are:

- Amount of rework required
- Number of Punchlist items being captured
- Customer satisfaction and feedback
- Customer churn rate and repeat work
- Warranty cost

5.1 Warranty cost

A Quality KPI that Centennial utilizes is the tracking and review of warranty costs. Warranty costs resulting from legal or contractual obligations for which Centennial is responsible include:

- All costs which are the results of services to the customer and cannot be passed back to suppliers or subcontractors
- Lost earnings or failure to attain target or performance values, contractual penalties, liquidated damages from missed deadlines, shortfall of agreed upon availability or HSEQ citations or violations
- Reduction of revenue due to unsatisfactory performance and non-fulfillment of contractual requirements or supplementary services which were performed instead
- Warranty costs which cannot be passed back to the subcontractor

6 Trend analysis

The Centennial HSEQ trend analysis process strives to identify unsafe behaviors, hazardous conditions, negative environmental impacts, and quality defects by tracking, investigating, and analyzing such occurrences to determine common characteristics and root causes to prevent a recurrence of negative outcomes. This trend analysis process is designed and implemented to

collect useful data, identify patterns or trends, and present the data in an easy to understand format for the purpose of HSEQ process improvement.

Centennial trend analysis includes the following:

- Tracking and monitoring workplace injuries, illnesses, environmental events and quality defects on an on-going basis
- Grouping HSEQ incidents by nature, event or exposure, source, etc.
- Identifying any equipment, materials, or environmental factors that may be commonly involved in HSEQ incidents
- Identifying possible solutions and suggesting improvements to reduce or prevent the likelihood of future HSEQ incidents
- Examine history of safety and health data
- Review satisfaction survey and warranty information
- Define/measure normal, desirable, and undesirable performance
- Inform leadership about performance issues in the workplace

6.1 Trend analysis process

Collecting accurate information for conducting timely trend analysis and preparing corrective or process improvement recommendations is a key element of the Centennial HSEQ management system. HSEQ trend analysis information is used for assessing the effectiveness of risk controls and for identifying issues that need further study, intervention and HSEQ leadership promotion. This data enables Centennial HSEQ management to support leadership in ways that enhance the HSEQ management system, improve the overall program, and create positive change.

The Centennial trend analysis process includes the following:

- Identify data that will be collected during trend analysis
- Identify those responsible to collect and analyze the data
- Collect data
- Analyze data to identify consistent findings
- Identify/evaluate options to address areas of concern
- Recommend actions and implement them
- Monitor progress and report results

7 Amendment history

Date	Version	Revised content
12.30.2013	1.0	Initial Preparation
01.01.2018	2.0	Updates to Paragraph 2 Superior Documents (add the Group Policy and Global Standards), Paragraph 5 Quality key performance indicators (removal of Abakus), Paragraph 5.1 Customer satisfaction survey (rating scale) and Appendix 1 (logo)
04.01.2021	2.1	Updates to Paragraph 2 Superior Documents and Appendix 1 Customer Satisfaction Survey
06.01.2026	2.2	Updates to Paragraph 2 Superior Documents, Paragraph 5 Quality KPIs and the removal of Appendix 1

8 Appendix

There are no appendices to this section.