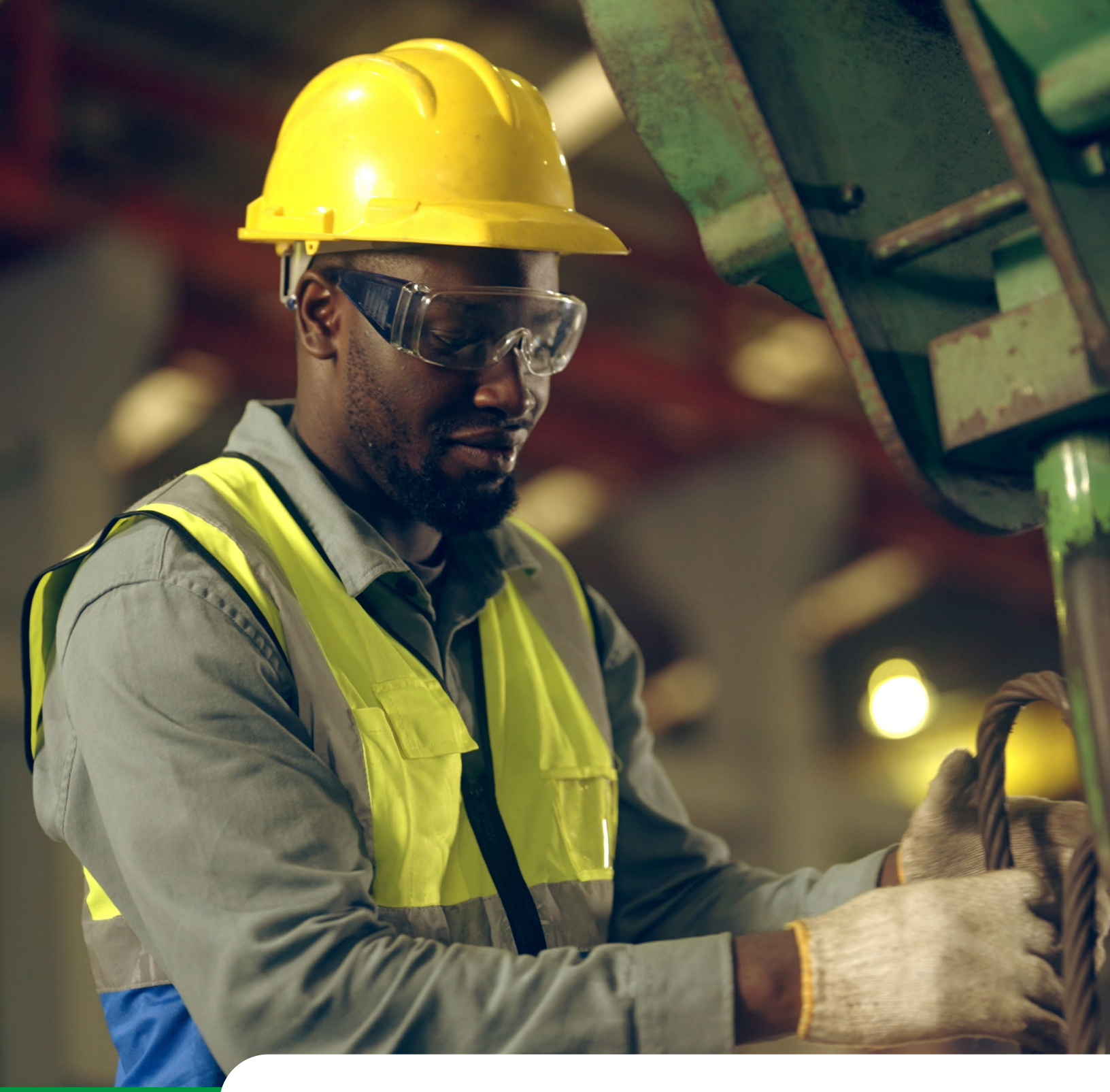

Serious Incident and Fatality (SIF) Prevention Model

TOOLS FOR STEP 4: ACT

Ensure Continuous Improvement

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Act Tool 1:
Assessment Protocol for Continuous Improvement

Guidance: Review your current assessment process for effectiveness. Ensure the following key components exist:

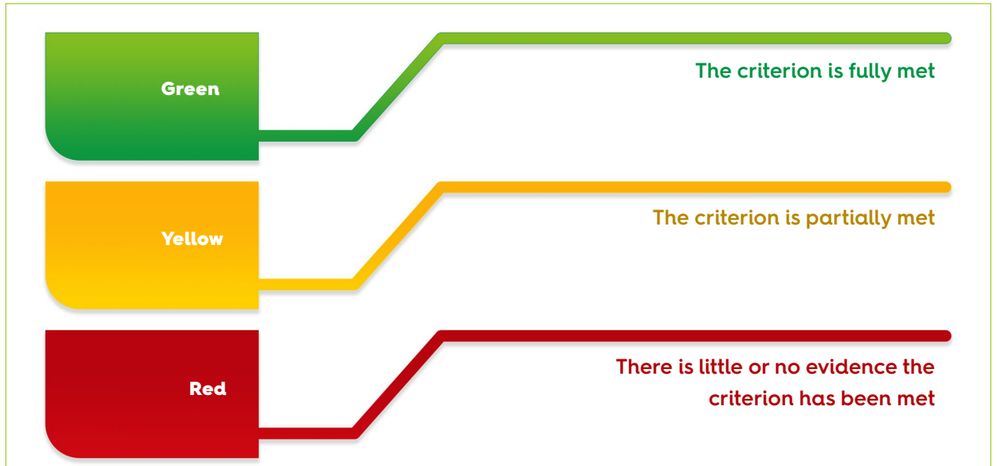
- Review of existing policies and written work procedures related to SIF prevention
- Review of training associated with SIF-related work tasks
- Job observations conducted and employee feedback collected
- Guidance around frequency and schedule of review, including key personnel to participate
- Process for tracking preventative and corrective actions to completion

Based on findings from assessments performed, reinforce strengths identified and prioritize common gaps to be addressed through corrective or preventative actions; track these actions to completion.

Assessment Protocol Categories:

- Safety and Health Operating Environment
- Leadership Commitment
- Worker Engagement
- Hazard Identification and Prioritization
- Hazard Abatement and Control
- Implementation and Operation
- Continuous Improvement

Each category includes multiple criteria essential for proper SIF risk identification and management. These criteria can be used to assess the status of the site or organization with that element. Each criterion under each element is straightforward and can be characterized as either:



Assessment results help identify strengths and gaps in a Safety Management System and assist in setting priorities for establishing improvement actions and allocating resources. The model is not intended to generate a total or average score for the site/organization. Its value lies in focusing on individual program components and highlighting specific issues that need attention.

Evaluate items marked red and yellow to identify their risk level. Address the criterion with SIF potential immediately. Identify and prioritize corrective actions for remaining red and yellow criteria, tracking all actions to completion improvement process.

1: Safety and Health Operating Environment: Organizational Culture

1.1 A culture exists that recognizes and promotes worker protection and the safety and health mission.

1.2 Leadership at all levels of the organization contribute to a positive safety and health culture.

1.3 Safety and health remain a core value even during labor shortages, production challenges, and business pressures.

2: Leadership Commitment

2.1 Leaders and managers at all levels of the organization continually demonstrate that safety and health are a core value and ensure that they are integrated into all aspects of the business.

2.2 There are visible metrics for safety and health at the corporate level, business unit, and individual site levels.

Resource Allocation for Safety and Health

2.3 The site and corporate safety and health groups are adequately staffed and funded.

2.4 Assets (people, money, time) are managed in a manner that supports an organization's safety and health programs, processes, objectives, and goals appropriate for the organization's risk profile.

2.5 Safety and health programs, resources and issues are adequately funded.

Accountability

2.6 Roles and responsibilities for safety and health are defined for all levels of the organization.

2.7 Safety and health roles are established in writing for all levels of management, workers, and contractors in the organization. This includes establishing the company and/or site representative responsible for overall safety and health in the organization.

3: Worker Engagement

3.1 The organization has demonstrated a process for worker engagement to ensure worker and management collaboration on safety and health issues.

3.2 Input from workers and frontline supervisors, is sought and they are encouraged to offer feedback for improving health and safety.

3.3 New, inexperienced, and transferred workers are prepared to address the safety and health aspects of their job.

3.4 A formal safety and health orientation program has been developed and includes all workers, contractors, and temporary workers and is provided prior to starting a new job assignment and after changes in procedures or processes.

4: Hazard Identification and Prioritization

4.1 Safety and Health hazards are identified.

4.2 Documented risk assessments are conducted to identify safety hazards in both routine and non-routine work.

4.3 All levels of management (frontline supervisors to top leadership), workers, and contractors are trained and expected to identify safety hazards.

4.4 Prior to the start of work and throughout work, safety hazards are reassessed to take into consideration current conditions and operational changes.

4.5 Input from frontline workers on how work is actually performed is collected and addressed for jobs and work activities with increased SIF risk.

5: Hazard Abatement and Control

Control of Safety and Health Hazards

5.1 A process is in place to control or eliminate safety and health hazards

5.2 Safety and health controls are put in place and follow the hierarchy of controls in the following priority: elimination, substitution, engineering controls, administrative and PPE.

5.3 Safety and health controls and related corrective or preventative actions are implemented in a timely manner.

5.4 Safety and health controls are verified to be effective, working as intended and have not created any unintended consequences.

5.5 Critical controls for high-severity hazards or work processes are formally documented and integrated into work instructions.

5.6 Safety and health control measures are routinely monitored and assessed for effectiveness and degradation.

REMARKS:

5.7 Controls for SIF hazards must be implemented as a top priority. If permanent controls cannot be implemented immediately, interim controls must be put into place until the permanent controls are installed.

REMARKS:

5.8 Multiple layers of defenses and human error-proofing strategies should be considered for all work tasks with SIF potential.

REMARKS:

6: Implementation and Control

Document Control

6.1 There is a periodic review of written safety and health programs and procedures to verify that they are effective and functioning.

REMARKS:

Systematic Safety and Health Training

6.2 A safety and health training plan exists to identify all training needs related to SIF prevention, including regulations, company requirements, policy, etc.

Communication Systems

6.3 Workers, management, and contractors receive timely feedback on safety and health concerns, recommendations, and feedback.

Work Execution Management

6.4 There is a process for developing safety work procedures and supporting tools, such as a Job Safety Analysis (JSA) or Job Hazard Analysis (JHA), field-level risk assessments, etc.

6.5 A process is in place to identify high-risk routine and nonroutine work based on the presence of hazards that could result in serious or fatal outcomes.

Inspection and Maintenance

6.6 Equipment is inspected and maintained, consistent with consensus standards and manufacturers' recommendations.

REMARKS:

Management of Change (MoC)

6.7 A systematic process exists to determine when a formal MoC review is conducted. Examples include, but are not limited to: new equipment or changes to equipment and processes, new technology, significant changes in organizational structure, new chemicals or changes in the volume of chemicals, etc.

REMARKS:

Third-party Management

6.8 Work exposures of all third-party employees, which include contractors, temporary workers, part-time employees, visitors, and/or suppliers, are evaluated to determine needed training, oversight, PPE, and other controls.

REMARKS:

Emergency Response Planning

6.9 Based on a hazard assessment associated with identified emergency scenarios the company has developed an emergency response plan that addresses the most likely emergency situation such as chemical, fire, and other hazards associated with the nature of work.

REMARKS:

7: Continuous Improvement

Reporting, Metrics, and Analysis

7.1 The organization encourages reporting and has established systems for employees to report near-misses, work-related injuries/illnesses, and hazards associated with their work.

Incident Learning

7.2 Corrective and preventative actions (CAPAs) are developed to address issues identified during the incident review process.

Organizational Learning

7.3 Policies, procedures, and work practices are improved based on the safety and health lessons learned and are communicated throughout the organization.

Audit Policy and Execution

7.4 Assessments (self, corporate, or third party) are conducted as part of the continuous improvement process and go beyond compliance with a focus on effective practices.

Priority and Closure of Findings

7.5 **Findings from assessment reports, incident reviews, safety and health observations and suggestions, and other sources are prioritized and addressed using formal action planning and tracking of corrective and preventative actions.**

7.6 **Safety and health CAPAs are closed in a timely fashion and documented.**

Act Tool 2:
Consider a Variety of Metrics and Key Performance Indicators

Guidance: To promote continuous improvement, consider using a mix of traditional improvement-based metrics and **leading indicators** to measure safety performance and impact of SIF prevention strategy efforts. **Examples include, but are not limited to:**

- **Severity based leading metrics** (aSIF, pSIF, SIF Risk, controlled / uncontrolled). **It is recommended that companies consider less reliance on these traditional, lagging indicators.**
- **Employee Engagement and Satisfaction** (Surveys; Turnover Rates)
- **Productivity Metrics** (Output; Efficiency)
- **Leadership and Management Effectiveness** (Leadership Assessments; Successful Management of Change (MoC) Events, etc.)
- **Learning and Development** (Training Completion Rates; Competency Assessments, etc.)
- **Risk Perception and Reporting** (Near-miss Reporting; Perception Surveys; Enhanced Incident Investigation Processes)
- **Organizational Culture** (Culture Assessments)
- **Financial Metrics** (Cost of Incidents; ROI of Safety Initiatives)

Notes and Observations:

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For more information visit nsc.org/sif

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