# [1. MAKING ZERO ACCIDENTS A REALITY (RS160-1)](https://www.construction-institute.org/safety-plus-making-zero-accidents-a-reality)

**Report Summary:** Ten key topic areas that contribute to improved safety performance are listed below in the order of safety initiative priorities:

* Management commitment
* Stafﬁng for safety
* Pre-project and pre-task planning
* Safety education (orientation and specialized training)
* Worker involvement
* Evaluation and recognition and reward
* Subcontractor management
* Accident/incident investigation
* Drug and alcohol testing
* Contract type

Related CII research focuses on short duration projects, commonly referred to as shutdowns, turnarounds, or outages, to assess the unique characteristics of these projects, particularly the rapid buildup of the required workforce. In addition to the key topic areas listed above, additional factors that inﬂuence safety performance on short duration projects include:

* Transferring workers from other projects to perform the work
* Hiring workers a few weeks before the short duration project
* Shorter work weeks and project duration
* Smaller crews and/or lower worker-to-supervisor ratios
* Incentivized contracts

**Key Takeaways:**

## Ensure management commitment to safety.

## (Project Phase: Feasibility through Operate Facility)

* Communicate safety expectations and goals to all project stakeholders.
* Allocate resources and funding to support comprehensive safety programs.
* Lead by example, with visible and active participation in safety initiatives.
* Integrate safety into project planning, scheduling, and decision-making processes.
* Regularly review and assess safety performance, implementing improvements as needed.

## Implement a subcontractor safety-related management process.

## (Project Phase: Detailed Design and Procurement through Construction)

* Prequalify subcontractors based on safety performance.
* Set clear safety expectations in subcontractor agreements.
* Monitor subcontractor safety practices and compliance regularly.
* Provide necessary support and resources to subcontractors for safety initiatives.
* Implement sanctions for subcontractors that fail to meet safety standards.

## Hire workers a few weeks before a short-duration project (which may be due to shutdowns, turnarounds, or outages).

## (Project Phase: Detailed Design and Procurement through Construction)

* Conduct thorough safety orientation procedures immediately upon hiring.
* Ensure that workers understand project-specific hazards and safety protocols.
* Provide focused training regarding high-risk tasks that are relevant to the short-duration project.
* Emphasize the importance of adherence to safety guidelines despite the project's brevity.
* Monitor closely for compliance throughout the project duration.

## Select contract types that acknowledge the importance of safety.

## (Project Phase: Detailed Design and Procurement)

* Select contract types that incentivize safety performance.
* Incorporate safety clauses and requirements into contract agreements.
* Consider using performance-based contracts that tie payment to safety outcomes.
* Evaluate subcontractors' safety records before awarding contracts.
* Regularly review and update contract terms to align with safety goals.

1. **Ensure staff safety.**

**(Project Phase: Construction through Operate Facility)**

* Hire dedicated safety personnel at both the corporate and project levels.
* Provide adequate training and resources for safety staff.
* Ensure that safety representatives have the authority to enforce safety protocols.
* Implement a process for regular safety audits and compliance testing.
* Foster a culture of safety awareness among all staff members.

## Use contracts with safety incentives.

## (Project Phase: Detailed Design and Procurement through Operate Facility)

* Incorporate safety performance metrics into contract incentives.
* Offer financial rewards or bonuses for achieving safety goals.
* Provide recognition for subcontractors with exemplary safety records.
* Establish clear criteria for earning incentives that are tied to safety.
* Regularly monitor and evaluate safety performance to ensure compliance with incentivized contracts.

## Conduct pre-project and pre-task planning that incorporates safety concerns.

## (Project Phase: Construction through Operate Facility)

* Conduct pre-project hazard analyses to identify potential risks.
* Develop comprehensive safety plans for each project phase.
* Prioritize safety in pre-task planning meetings.
* Integrate safety considerations into overall project planning processes.
* Regularly review and update safety plans based on project progress and changing conditions.

## Provide safety education (orientation sessions and specialized training).

## (Project Phase: Construction through Operate Facility)

* Provide comprehensive safety orientation sessions for all workers.
* Offer specialized training regarding safety topics that are relevant and specific to the project.
* Ensure that all workers receive regular safety education updates.
* Utilize various training methods, such as in-house sessions and external resources.
* Assess the effectiveness of safety education programs through feedback and evaluations.

## (9) Encourage worker involvement.

## (Project Phase: Construction through Operate Facility)

* Establish channels for workers to report safety concerns and make suggestions.
* Encourage active participation of workers in safety meetings and toolbox talks.
* Implement systems for recognizing and rewarding proactive safety behaviors.
* Involve workers in pre-task safety planning and hazard identification.
* Foster a culture of ownership and accountability for safety among all workers.

## (10) Deploy safety performance evaluations, recognition, and rewards.

## (Project Phase: Construction through Operate Facility)

* Regularly evaluate safety performance against established metrics.
* Recognize and reward individuals and teams for exemplary safety practices.
* Provide feedback and constructive criticism to improve the safety culture.
* Implement incentive programs that are tied to safety achievements.
* Publicly acknowledge and celebrate safety milestones and accomplishments.

## (11) Establish an accident/incident investigation process.

## (Project Phase: Construction through Operate Facility)

* Establish a standardized process for accident and incident investigations.
* Ensure prompt and thorough investigations into all accidents and near misses.
* Involve relevant personnel, such as foremen, superintendents, and safety representatives, in the investigations.
* Document findings and implement corrective actions to prevent reoccurrence.
* Review investigation reports to identify trends and improve safety measures.

## (12) Implement drug and alcohol testing.

## (Project Phase: Construction through Operate Facility)

* Implement a comprehensive drug and alcohol testing policy for all workers.
* Conduct pre-employment screening for drug and alcohol use.
* Clearly define consequences for failing drug tests, including termination or rehabilitation.
* Provide treatment options for employees who are struggling with substance abuse.
* Regularly review and update the drug and alcohol testing program to ensure its effectiveness.

## (13) Plan ahead for projects with shorter work weeks and duration to maintain safety efforts.

## (Project Phase: Construction through Operate Facility)

* Implement rigorous safety measures for projects with compressed timelines.
* Conduct frequent safety inspections to mitigate possible negative effects caused by rushed work.
* Ensure that workers take adequate rest breaks to prevent fatigue-related accidents.
* Emphasize proper planning to maintain safety standards despite condensed schedules.
* Prioritize communication to address any safety concerns promptly.

## (14) Maintain safety protocols when the project requires smaller crews or worker-to-supervisor ratios.

## (Project Phase: Construction through Operate Facility)

* Increase supervision to maintain safety oversight.
* Provide additional training to supervisors regarding safety protocols.
* Implement clear communication channels between workers and supervisors.
* Ensure adequate resources for smaller crews to handle tasks efficiently.
* Regularly assess and adjust worker-to-supervisor ratios based on project needs and safety requirements.

## (15) Ensure the safety of workers who have transferred from other projects to perform the project work.

## (Project Phase: Construction through Commissioning and Start-Up)

* Ensure that transferred workers receive site-specific safety training and orientation.
* Verify that the training and qualifications of transferred workers match project requirements.
* Provide refresher training if necessary to align with project hazards.
* Monitor the adaptation of transferred workers to project-specific safety protocols.
* Encourage open communication between transferred workers and project management regarding safety concerns.