

Causal Analysis

General Cause	Specific Cause	Tools, Techniques, & Defenses
Training	<ul style="list-style-type: none"> • Training Content • Comprehension • Management Visibility • Training Delivery • Instructor Knowledge • Hands on Instruction & Coaching • Frequency / Duration 	<ul style="list-style-type: none"> • Safety Orientation • Regulatory Training (OSHA 10/30) • Mentoring & Coaching Program • Train the Trainer • Equipment Specific • Safety Leadership Training • Tool Box Topics
Communication	<ul style="list-style-type: none"> • Trend Awareness • Expectations & Consequences Unclear • Hazard & Risk Awareness • Critical Messages • Safety Promotions • Signage - Warning • Communication Between Groups 	<ul style="list-style-type: none"> • Awareness Information (i.e. Alerts) • Document Expectations • Weekly Safety Meetings • Daily Pre-job Briefs • Lessons Learned Process • Stand Downs • Turnover Documentation
Pre-Planning	<ul style="list-style-type: none"> • Risk Perception & Hazard Identification • Anticipating the Risk & Consequences • Work-planning & Critical Steps • "What If" Contingency Plans • Materials & Tools • Resources & Staffing • Deviations from the Plan 	<ul style="list-style-type: none"> • Job Safety Analysis & Risk Assessments • Pre-Job Briefs & SAFE DIALOGUES • Permits • Stage Tools & Materials • Schedule Resources • Site Specific Plan • Pre-Job Walk down
Procedures	<ul style="list-style-type: none"> • No Procedure • Incomplete Procedures • Compliance • No General Rules • Incomplete Rules • Monitoring & Enforcement • Leadership Example 	<ul style="list-style-type: none"> • Safety Manual • Training & Promotion • Disciplinary Action • Annual Self Assessment • Weekly Audits • Documented Rules • PPE Assessment
Management Commitment	<ul style="list-style-type: none"> • Management Visibility • Lead by Example • Work Monitoring • Performance Measures • Risk Perception & Hazard Recognition • Hazard Correction • Accountability 	<ul style="list-style-type: none"> • Pre-Job Brief Participation • Audit Participation • Training Attendance • Root Cause Participation • Strategic Improvement Planning • Performance Scorecard Accountability • Formal Follow Up Process
Employee Ownership	<ul style="list-style-type: none"> • Risk Perception & Hazard Recognition • Hazard Correction • Compliance with Rules • Responsibility & Accountability • Approaching Others • Participation in Program • Knowledge 	<ul style="list-style-type: none"> • Hazard Reporting & Correction Process • Safety Inspections & Audits • Questioning Attitude – Stop When Unsure • Self-Check - STAR • Pre-Job Briefs, SAFE DIALOGUES, Last Minute Risk Assessment • Disciplinary Action • Approaching Others Campaign
Organizational Interfaces	<ul style="list-style-type: none"> • Unclear Priorities & Consequences • Lack of Communication • Limited Information • Conflicting Goals • Alignment & Communication with Groups • Double Standard • Turnover 	<ul style="list-style-type: none"> • Documented Expectations • Pre-Job Briefs • Strategic Improvement Plan & Communication • Turnover Documentation • Alignment Meetings • Frequent Assessments • Follow Up Process
Work Practices	<ul style="list-style-type: none"> • Unsafe Speeds • Operate Equipment Incorrectly • Short Cuts • Compliance • Lack of Knowledge • Enforcement • Anticipating Errors and Risk 	<ul style="list-style-type: none"> • Job Safety Analysis • Pre-Job Briefs • Documented Audits • Disciplinary Action • Tool/Equipment Inspection • Specific Training • SAFE DIALOGUE, STAR, or Last-Minute Risk Assessment
Work Environment	<ul style="list-style-type: none"> • Poor Lighting • Cramped, Awkward, or At Heights • Stressful • Heat • Cold • Wet • Dusty 	<ul style="list-style-type: none"> • Job Safety Analysis • Pre-Job Briefs • Documented Compliance Audits • Work Area Inspections • 5S Audits • Climate Control • Proper PPE & Clothing
Worksite Analysis	<ul style="list-style-type: none"> • Audit & Injury Trending • Risk Perception & Hazard Recognition • Investigations • Corrective Action & Follow Up • Management Visibility & Participation • Training & Communication • Pre-job Planning 	<ul style="list-style-type: none"> • Job Safety Analysis • Pre-Job Briefs • Documented Audits • Work Area Inspections • Risk Perception & Hazard Identification Training • Root Cause Training • Corrective Action Follow Up Process