RENNOVA CONSTRUCTION COMPANY
A Safety Engineering Project: An Integral Safety Program

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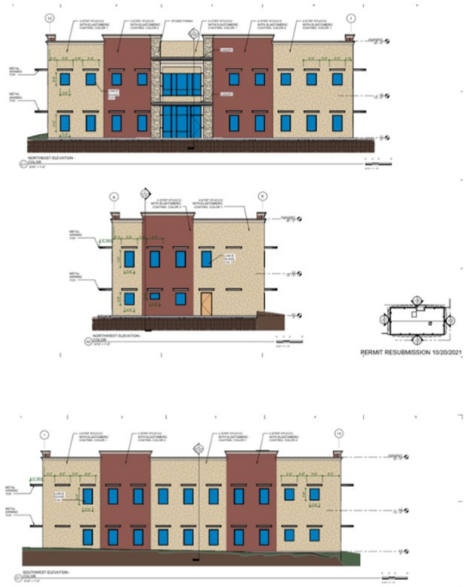
Rennova Construction Company: An overview

- Rennova Construction is a locally owned construction company at El Paso, Texas.
- It was founded on November 2020 by Alejandro Guzman and Aurea Hernandez Arriola.
- Rennova Construction provides residential and commercial construction services.
- Currently constructing their first big commercial project: an Artheritis Clinic at El Paso, Texas.

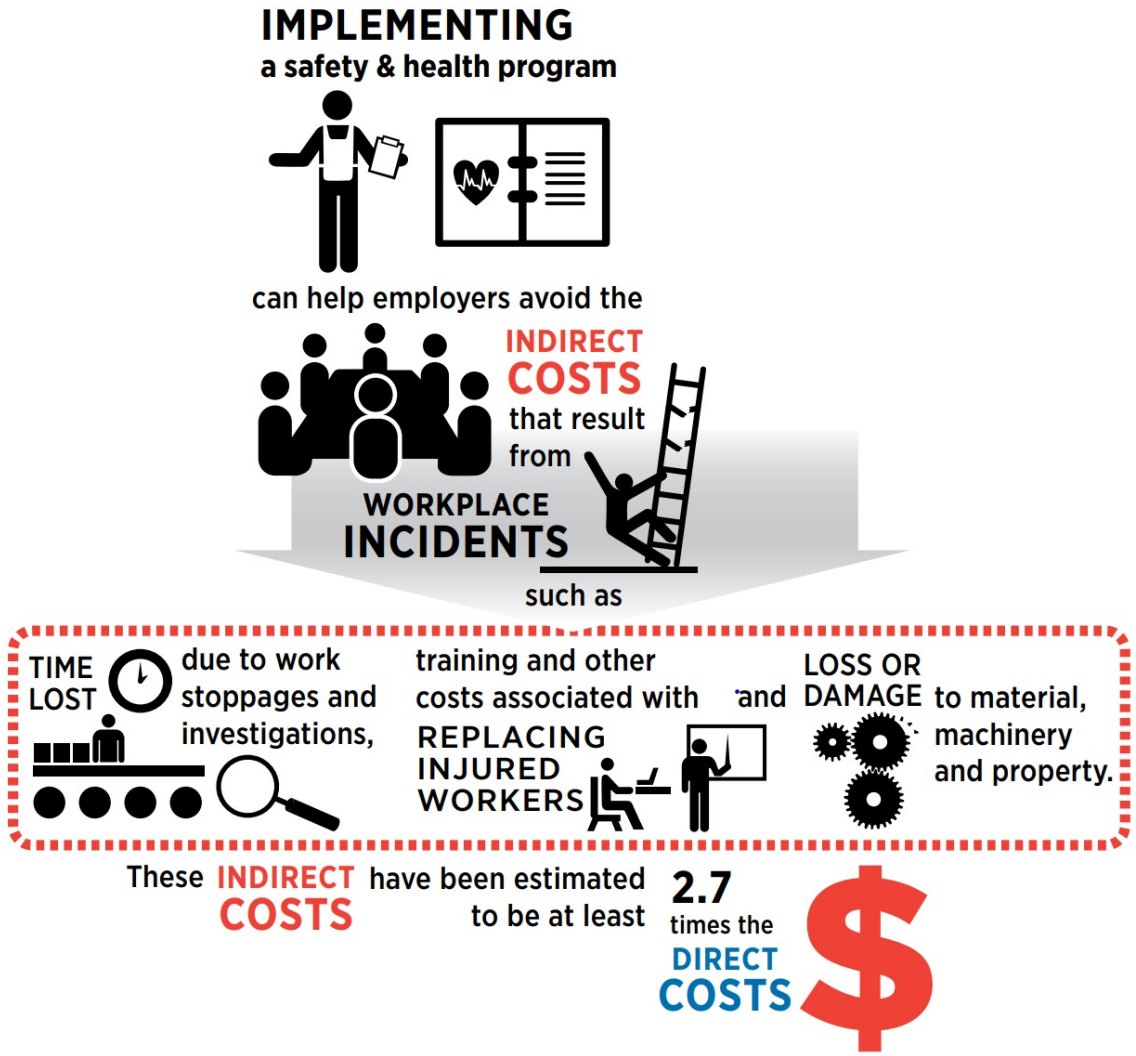


RENNOVA

Introduction

- Establishing a safety and health program at a job site is one of the most effective ways to protect the worker.
- Loosing workers to injury or illness, can cost a disruption and cost.
- The team focused on an OSHA recommended program.
- The recommended practices emphasize a proactive approach to managing occupational safety and health.
- The team focused on creating seven core elements of recommended practices by OSHA for construction.

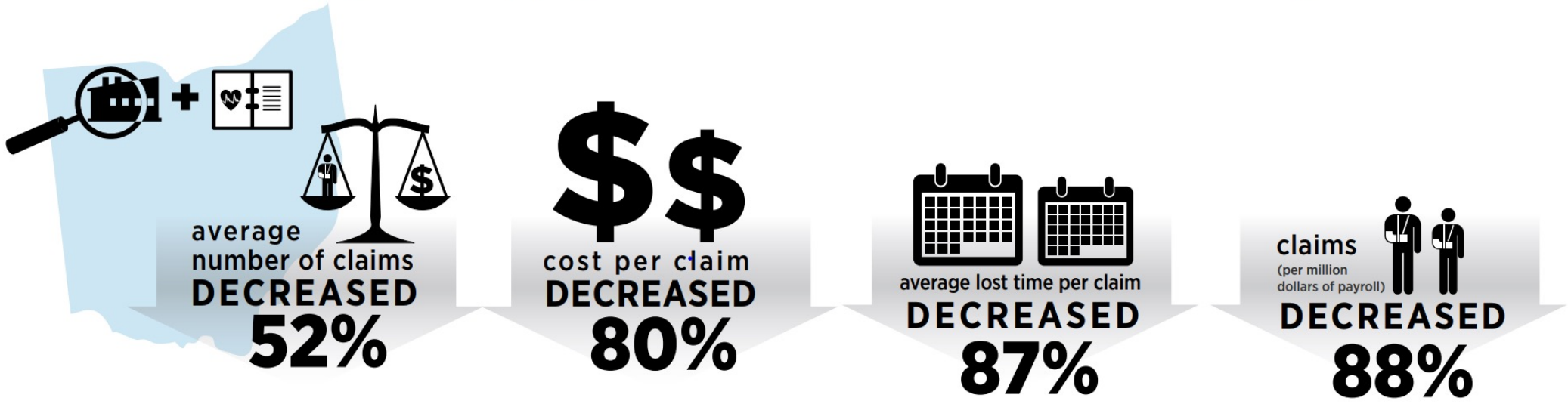
Benefits:



Source: Leigh, J.P. (2011), Economic Burden of Occupational Injury and Illness in the United States. Milbank Quarterly, 89:728-772.[2]

Benefits:

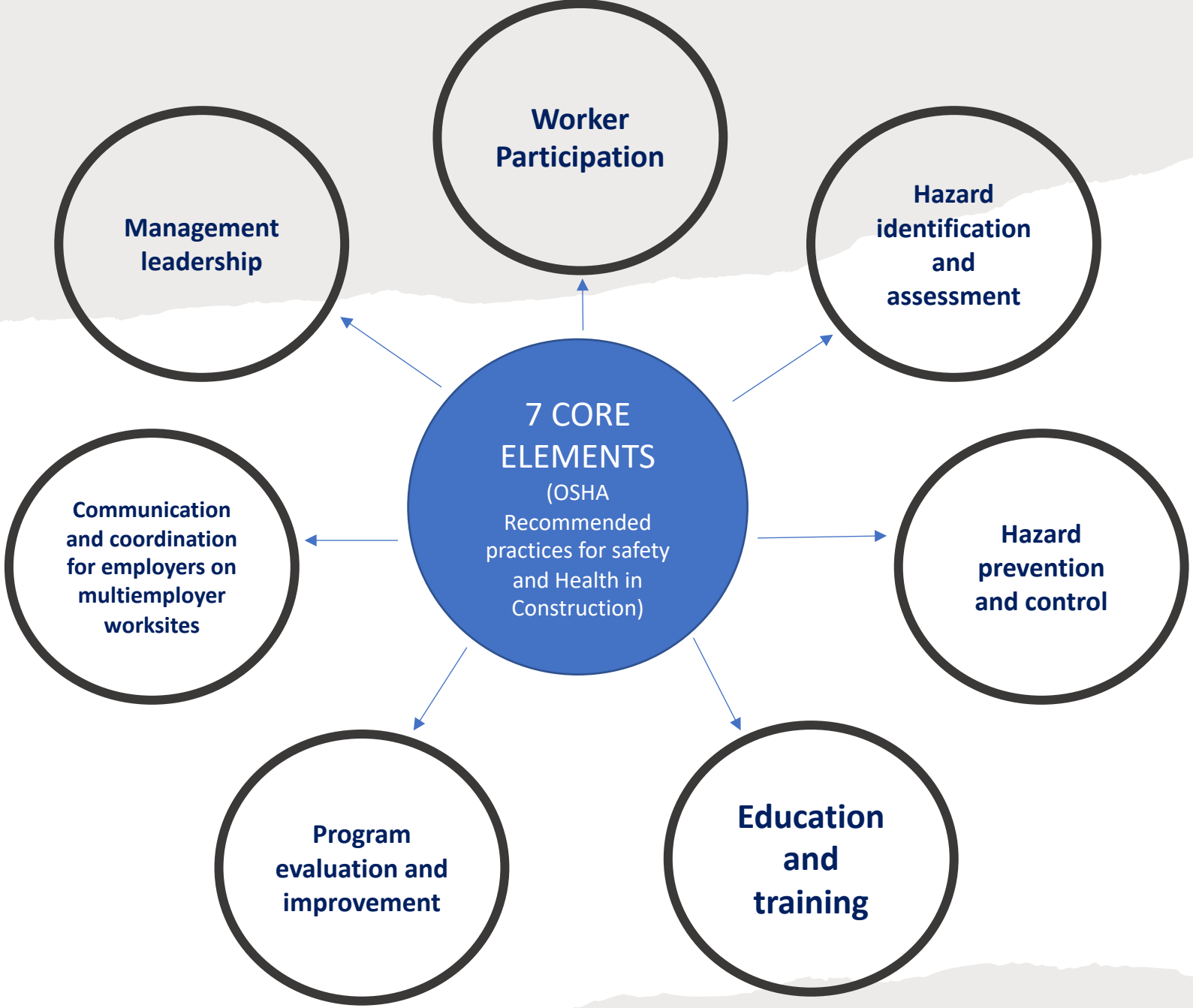
A study of small employers in Ohio found that workers' compensation claims fell dramatically after working with OSHA's SHARP program to adopt programs similar to those described in these recommended practices.



Source: Ohio Bureau of Workers' Compensation (2011), Ohio 21(d) SHARP Program Performance Assessment.

Requirements

SYSTEM REQUIREMENTS
The system shall follow the OSHA recommended safety construction program.
The system shall always seek safety for their employees.
The system shall make it easy for individuals to follow safety guidelines.
The system shall be prepared for any potential hazard at the workplace.
The system shall identify and prevent hazards to avoid incidents.
The system shall be updated of any OSHA regulation changes.
The system shall promote a safety environment to their employees.


Worker Participation
Management leadership
Hazard identification and assessment
7 CORE ELEMENTS
(OSHA Recommended practices for safety and Health in Construction)
Communication and coordination for employers on multiemployer worksites
Hazard prevention and control
Program evaluation and improvement
Education and training

Core Elements: Actions

Management Leadership

- Communicate their commitment to a safety program.
- Define program goals
- Allocate resources.
- Expect performance.

Worker Participation

- Encourage workers to participate in the program, and report safety and health concerns
- Give workers access to safety and health information and involve workers in all aspects of the program
- Remove barriers to participation

Hazard Identification and Assesment

- Collect existing information about job site hazards.
- Inspect the job site for safety hazards.
- Identify health hazards
- Conduct incident investigations
- Identify hazards associated with emergency and nonroutine situations
- Characterize the nature of identified hazards, identify interim control measures, and prioritize the hazards for control.

Core Elements: Actions

Hazard Prevention and Control

- Identify control options
- Develop and update a hazard control plan
- Select controls to protect workers during nonroutine tasks and emergencies
- Implement selected controls on the job site
- Follow up to confirm that controls are effective

Education and Training

- Provide program awareness training
- Train employers, managers, and supervisors on their roles in the program
- Train workers on their specific roles in the safety and health program

Program Evaluation and Improvement

- Monitor performance and progress.
- Verify that the program is implemented and is operating
- Correct program shortcomings and identify opportunities to improve

Communication and Coordination for Employees and Multiemployer Worksites

- Establish effective communication
- Establish effective coordination

Management Leadership: Safety Policy Statement

Safety Policy Statement- Rennova Construction Company

Rennova Construction Policy: It is the policy of Rennova Construction to ensure a safe and healthful workplace for all its employees. Rennova Construction will employ an effective accident and illness prevention program that involves all its employees in the effort to eliminate workplace hazards.

Management: Management is accountable for preventing workplace incidents, injuries, and illnesses. Management will provide top-level support of safety program initiatives. Management will consider all employee suggestions for achieving a safer, healthier workplace. Management also will keep informed about workplace safety and health hazards, and it will regularly review the company safety and health program for any future improvement.

Supervision: Supervisors and Safety Engineers are responsible for supervising and training workers in safe work practices. Supervisors must enforce Rennova's safety rules and work to eliminate hazardous conditions. Supervisors shall lead safety efforts by example.

Safety Committee: The safety committee includes employer and employee representatives who are responsible for recommending safety and health improvements in the workplace. The committee is also responsible for identifying hazards and unsafe work practices, removing obstacles to incident prevention, and helping Rennova evaluate the accident and illness prevention program.

Employees: All employees are expected and encouraged to participate in safety and health program activities including the following: reporting hazards, unsafe work practices and accidents immediately to their supervisors or a safety committee representative; wearing required personal protective equipment (PPE); and participating in and supporting safety committee activities.

SIGNED BY: _____

SENIOR MANAGEMENT

Costs	Benefits
Cost of PPE.	Lower Worker Compensation costs, lower risk of injury.
Cost of training and certifications.	Higher level or worker motivation.
Cost to make workplace safe.	Lower Worker Compensation costs, Lower risk of injury.
Cost to maintain safety personnel on sight.	Lower risk of injury, increases efficiency.

Management Leadership: Cost Benefit Analysis

- A Cost-Benefit Analysis (CBA) is recommended to Rennova's management to help them analyze the true cost of accidents prevention, and the benefits that come with accidents prevention.

Management Leadership: Recommendations to Follow

- Communicate the policy to all workers.
- Reinforce management commitment by considering safety and health in all business decisions.
- Set an example by following the same safety and health procedures.
- Conduct weekly toolbox talk on safety and health.
- Review safety and health indicators and open a "to do" list.

Worker Participation: Employee Safety Suggestion survey

EMPLOYEE SAFETY SUGGESTION

This form is for employees who wish to provide a safety suggestion or report an unsafe practice in the workplace.

Description of unsafe practice or condition:

_____
_____
_____
_____
_____

Location:

_____

Employee's suggestion for improving safety:

_____
_____
_____
_____

Has this matter been reported to a manager?

- ☐ Yes
- ☐ No

For administration use only:

Date of the unsafe practice: _____

Date of correction or other completing action: _____

Verified by: _____

Description of abatement action: _____

Worker Participation:

- Encourage workers by offering rewards

EMPLOYEE HAZARD PREVENTION FORM

Location: _____

Supervisor: _____

Date: _____

Identification of Safety or Health Hazard

_____
_____
_____
_____
_____

Suggestion for Abatement of the Safety and Health Hazard

_____
_____
_____
_____

For administration use only

Investigated by: _____

Action taken:

_____
_____
_____
_____

Date action was reported to the employee: _____

Comments:

_____
_____
_____
_____

Worker Participation:

Worker Participation: Near-misses hazard report

NEAR-MISS REPORT FORM

This form should be completed by any employee who witnesses a near-miss incident.

Location: _____ Time: _____ Date: _____

Check appropriate box

STOP WORK AND REPORT ☐	USE CAUTION AND REPORT ☐	CONTINUE AND REPORT ☐

- ☐ Unsafe act
- ☐ Unsafe condition
- ☐ Unsafe equipment
- ☐ Unsafe use of equipment

Description of Near Miss

_____

_____

_____

_____

_____

_____

_____

Reported by (optional)

Name: _____ Signature: _____

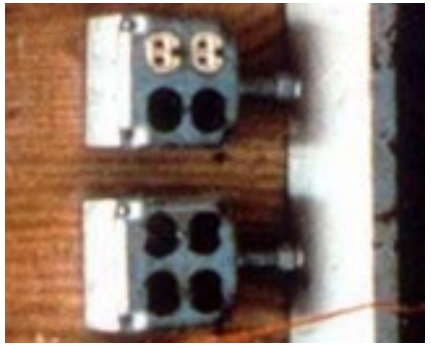
Hazard Identification and Assessment:

Goal:

Rennova employers, managers, supervisors and subcontractors would be able to identify workplace hazards and evaluate risks; in order to prevent, reduce, and eliminate hazardous injuries.

Hazards most frequent causes.

Electrical Incidents

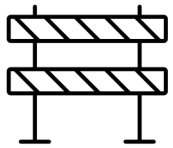


Falls

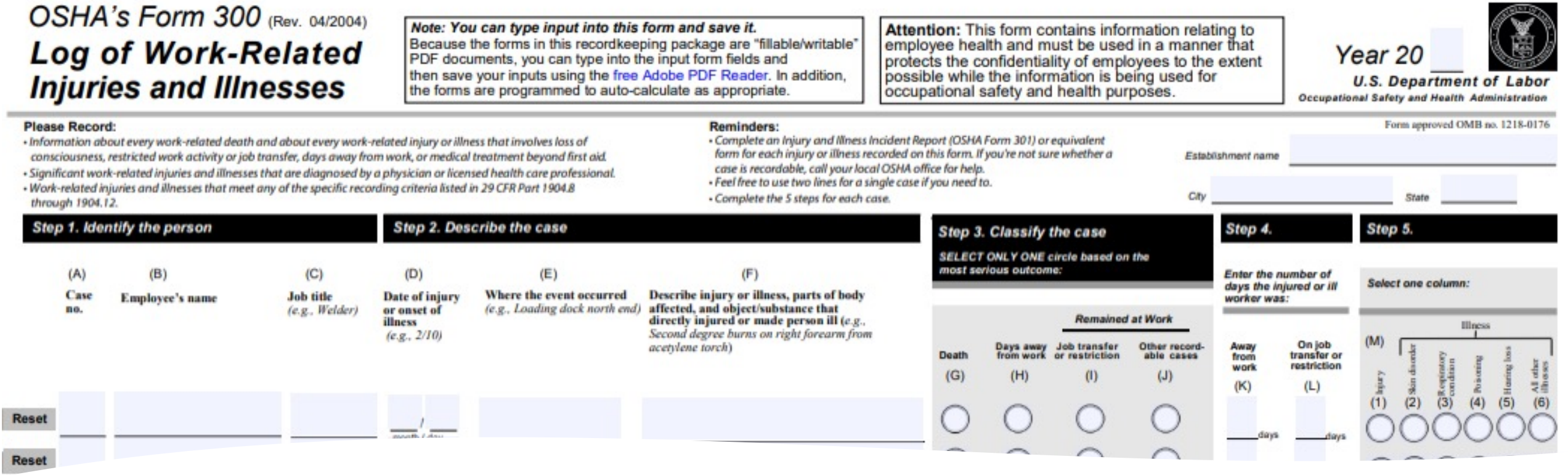
Struck-By

Trenching and excavation.

Hazard Identification and Assessment: Recommendations



ELECTRICAL	Yes	No	N/A	Date Recorded
Are all plugs insulated or dead front type?				
Are extensions cords in good condition?				
Are all electrical receptables of grounded type?				
Is electrical equipment approved for all locations (Incl. wet/damp locations)?				
Are disconnecting switches and circuit breakers labeled?				
FALLS				
If ladder used, do you have the correct ladder for the job?				
Is the ground level for safe footing?				
Do all workers have harnesses				
Is the scaffold fully planked with quality planks?				
Has the scaffold been inspected before use?				
STRUCK-BY				
Are all working areas and walkways level and free from trip hazard or obstruction of material?				
Are all people near to working area wearing appropriate PPE? (For ex. Vest and helmet)				
Are barriers or fences around the base to prevent people from being struck?				
Are all holes and opening securely guard railed, clearly marked covers to prevent falls?				
TRENCHING AND EXCAVATION				
Excavations, adjacent areas, and protective systems inspected before the start of work?				
Surface encumbrances remove or supported?				
Walkways and bridges over excavations four feet or more in depth are equipped with standard guardrails?				
Employees stans away from vehicles while being loaded, or unloaded?				
Spoil pile is required to be at least 2 feet from the edge of the trench to prevent it from falling into trench?				



OSHA's Form 300 (Rev. 04/2004)

Log of Work-Related Injuries and Illnesses

Note: You can type input into this form and save it.
Because the forms in this recordkeeping package are "fillable/writable" PDF documents, you can type into the input form fields and then save your inputs using the free Adobe PDF Reader. In addition, the forms are programmed to auto-calculate as appropriate.

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20 ___

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

Please Record:
- *Information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid.*
- *Significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional.*
- *Work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12.*

Reminders:
- *Complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.*
- *Feel free to use two lines for a single case if you need to.*
- *Complete the 5 steps for each case.*

Establishment name

City State

Step 1. Identify the person

(A) Case no. | (B) Employee's name | (C) Job title *(e.g., Welder)*

Step 2. Describe the case

(D) Date of injury or onset of illness *(e.g., 2/10)* | (E) Where the event occurred *(e.g., Loading dock north end)* | (F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill *(e.g., Second degree burns on right forearm from acetylene torch)*

Reset

Reset

Step 3. Classify the case

SELECT ONLY ONE circle based on the most serious outcome:

Death (G)	Days away from work (H)	Remained at Work: Job transfer or restriction (I)	Remained at Work: Other record-able cases (J)
○	○	○	○

Step 4.

Enter the number of days the injured or ill worker was:

Away from work (K)	On job transfer or restriction (L)
____ days	____ days

Step 5.

Select one column:

(M) Illness: Injury (1)	Skin disorder (2)	Respiratory condition (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)
○	○	○	○	○	○

Hazard Identification and Assessment: OSHA FORM 300

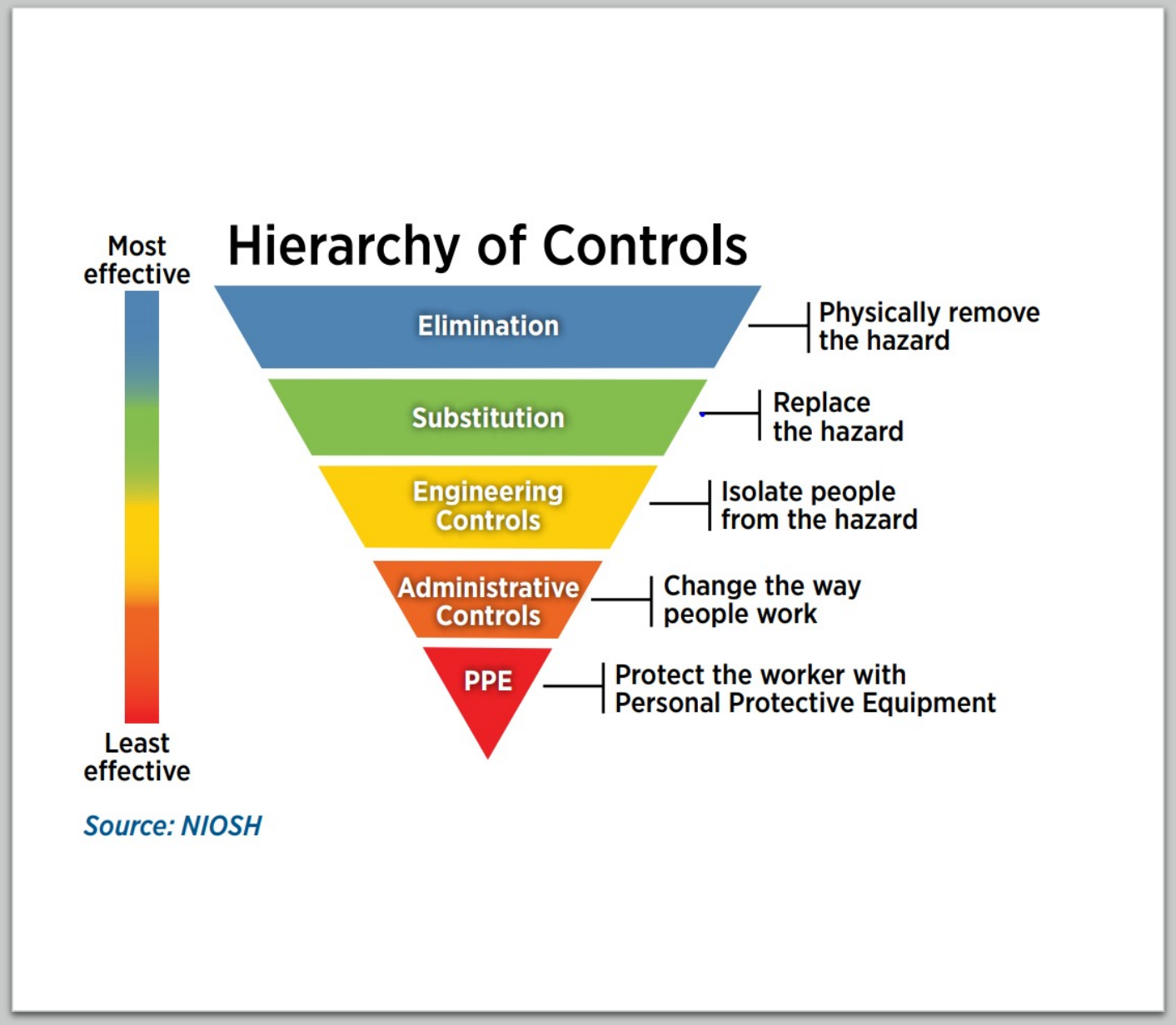
- When is an injury or illness considered work-related?
- Which work-related injuries and illnesses should you record?
- What is medical treatment?
- How do you decide if the case involved restricted work?
- How do you count the number of days of restricted work activity or the number of days away from work?
- Classifying illnesses

Hazard Prevention and Control- Identify and Select Control Options.

Employers should select the controls that are the most feasible, effective and permanent.

Select controls according to a hierarchy that emphasizes engineering solutions (including elimination or substitution) first, followed by safe work practices, administrative controls, and finally PPE.

Use a combination of control options when no single method fully protects workers.



Most Frequent Hazards Recommendations for Control:

- Electrical Hazards: Rennova construction should only use equipment approved to meet OSHA standards. [29 CFR 1926.403(a)] and manufacturer's instruction [29 CFR 1926.403(b)(2)].
- Falls: Rennova construction should have guardrail systems, safety net systems, personal fall arrest systems and fall prevention systems.
- Struck-By: do not exceed a vehicle’s rated load or lift capacity, do not carry personnel unless there is a safety place to ride, use traffic signs, barricades, or flaggers when construction takes place and workers must be visible in all levels of light.
- Excavation: Ensure that there is a safe way to enter and exit, then ensure trenches have cave-in protection. Keeping materials away from the edge of the trench and, never enter a trench unless it has been thoroughly inspected by a competent person.

Hazard Prevention and Control- Job Hazard Analysis

Hazard Identification Assesment and Hazard Control

Location: Medical Office for Dr. Chabra; 2600 N. Oregon St, El Paso Tx. 79907 **Date:** 03/25/202

Created by: Mireya Jimenez, Karlos Campos, Nelia Faz

Revised by:

Task : Excavating and taking off rubble

	Action	Hazard	Hazard Control	Picture
1	Only one location used for entrance and exit	When unloading material to construction area, trucks usually block the only entrance and exit location, making it harder to get out in case of an emergency	Suggestion to subcontractor to create an alternative entrance, to increase the material flow process and dicrease the chances of risks.	
2	No adequate pedastrian entrance	Since everyting is dirt road still, big bumps of dirt are distributed along the construction area	Get rid of unnecesary dirt dumps to clear the area and wear appropiate PPE (Steel toe shoes)	
3	Worker not following PPE safety guideliness	Need of PPE even though the worker is inside heavy machinery equipment	Appropiate training.	

Hazard Prevention and Control-Personal Protective and Life Saving Equipment.

Personal Protective and Life Saving Equipment

ITEM	YES	NO
Head protection: Are protective helmets (hard hats) worn at all times where there is a possible danger of head injury from impact, falling or flying objects, or electrical shock and burns? 1926.100		
Hearing protection: Are ear protection devices provided and used wherever it is not feasible to reduce noise levels or where a deviation to exposures levels specified in Table D-2, Permissible noise exposure in 1926.52 exist? 1926.101		
Eye and Face protection: Are employees provided with and use eye and face protection when machines or operations present potential eye or face injury from physical, chemical, or radiation agents? 1926.102 *Note: See Table E-1*		
Foot protection: Is the employer requiring the wearing of appropriate personal protective equipment by employees in all operations where there is an exposure or potential exposure to hazardous conditions such as falling or rolling objects, objects piercing the sole, or electrical hazards? 1926.28 (a), 1926.96, 1910.136(a) & (b)		
Selection, Issuance, Use and Care of Respirators: Are employers provided with and use appropriate respiratory protective devices in emergencies or when controls required by Subpart D of this part either fail or are inadequate to prevent harmful exposure? 1910.134(a)(1)		
Working over or near Water: Are employees working over or near water provided with and use U.S. Coast Guard-approved life jacket or buoyant work vests and are ring buoys with at least 90 feet of line and at least one lifesaving skiff provided? 1926.106		

Hazard Prevention and Control Hazard Prevention and Control- Recommendations

Follow up to confirm that controls are effective by doing the following:

1. Conduct regular inspections to confirm that engineering controls are operating as designed.

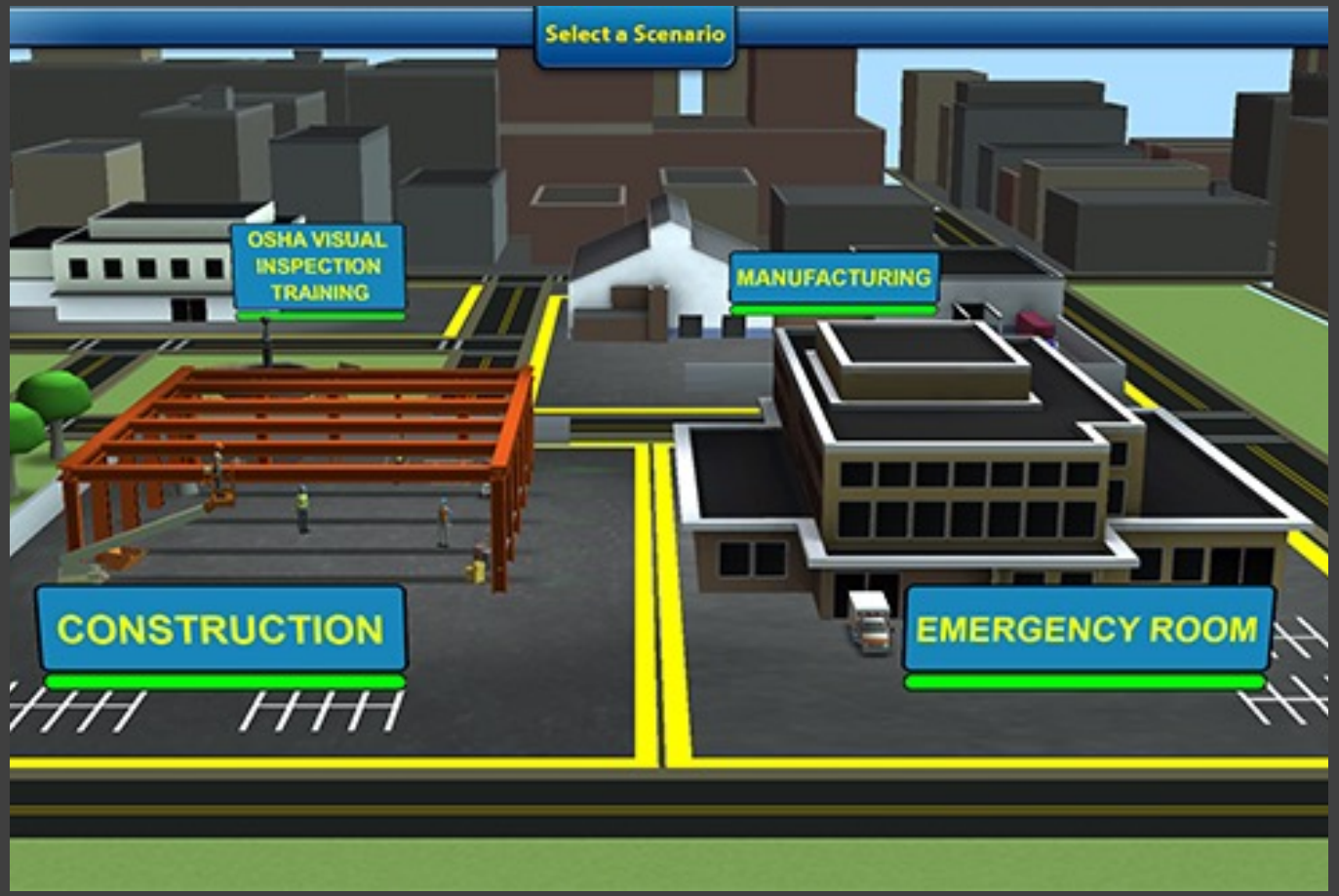
2.Confirm that work practices, administrative controls. and PPE use policies are being followed.

3. Conduct routine preventive maintenance of equipment and controls to help prevent incidents due to equipment failure.

Education and Training:

- **OSHA 30-hour Construction Safety Course**
  - 100% online and accessible 24/7
  - Topics: general worksite safety, avoiding common hazards, understanding workers' rights, employer responsibilities and more.
  - OSHA 30 card from the U.S. Department of Labor (DOL)

  OSHA Outreach 10-hour Construction Course
  - designed for entry-level workers in construction, demolition, building development and other fields in the construction industry.
  - It covers safety and health hazards workers may face on construction work sites, placing special emphasis on hazard identification, avoidance, control and prevention.
  - covers specific OSHA regulations and requirements as they apply to the Construction Industry.
- **OSHA 3071**
  - This booklet is for employers, foremen, and supervisors
  - Recognize workplace hazards so they can report them to managers.
  - It explains what a job hazard analysis is and offers guidelines to help you conduct your own step-by-step analysis.



Education and Training:

OSHA's Hazard Identification training tool

Program Evaluation and Improvement: Monitor Performance and Progress

- Tracking leading indicators:
- Level of worker participation in program activities.
- Number of employee safety suggestions.
- Number of hazards, near misses and first aid cases reported.
- Amount of time take to respond reports.
- Number of workers who have completed required safety and health training.
- Worker opinion about program effectiveness obtained safety opinion survey.

How do we do this?

Analyse tracking leading indicators once every three months.

Program Evaluation and Improvement: Checklist for the Construction Industry Administrative/OSHA Requirements

RENNOVA

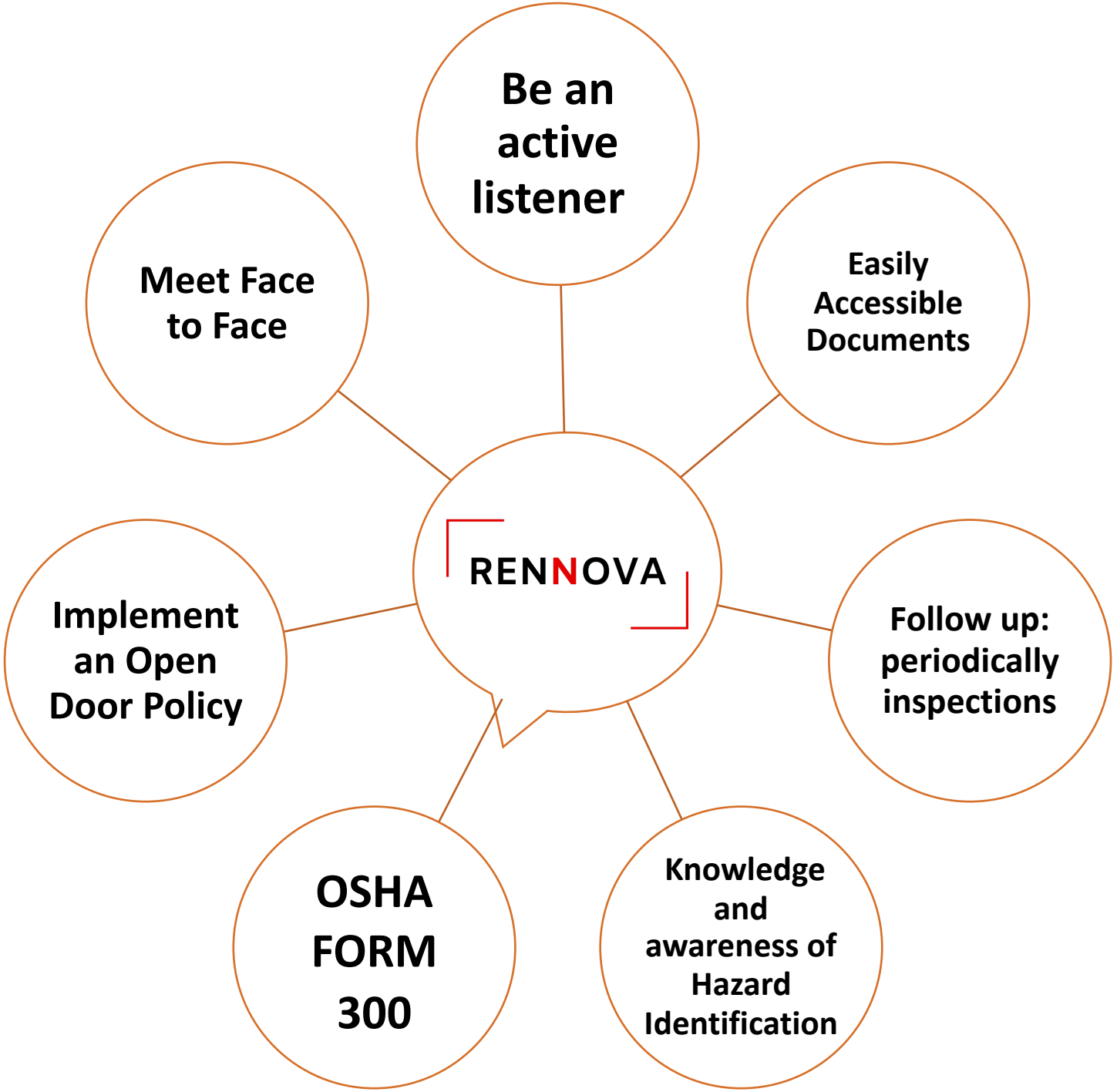
ITEM	YES	NO
OSHA Form 300: Are occupational deaths, injuries and illnesses recorded and reported as required? (Article I, Subarticle III, Section 302)		
OSHA Form 300A: Is the annual summary portion of the OSHA 300 completed by February 1? Is the summary posted from February 1 through April 30? (Article I, Subarticle III, Section 305)		
OSHA Form 301 or other records with same information as OSHA Form 301: Is a supplementary individual record of each occupational injury and illness completed within 7 calendar days after a case occurs? (Article I, Subarticle III, Section 304)		
Is the S.C. Department of Labor, Licensing and Regulation (LLR) poster SCLD-5-SH "Safety and Health Protection on the Job" posted in a conspicuous place? (Article I, Subarticle V, Section 502A)		
Is SC OSHA notified within eight hours of any employment fatality or accident which results in in-patient hospitalization of three or more employees? (Article I, Subarticle III, Section 308)		

Communication and Coordination for Employers on Multiemployer Worksites:

Effective communication and coordination among such employers means that before coming on site they must be aware of:

- Types of hazards that may be present on site.
- Procedure or measures needed to avoid or control exposure to hazards
- How to contact the host employer to report an injury.
- What to do in case of an emergency.

How to construct an effective communication in the workplace?



Communication and Coordination for Employers on Multiemployer Worksites: Coordination

"Host employers, contractors, and staffing agencies should identify and work out any concerns and conflicts that could impact safety or health."

Host employers:

- Contracts and bid documents.
- Identify issues and include procedures on how to resolve any conflict before work starts.

Host employers coordinate with contractors and staffing agencies:

- Ensure that staffing agency workers are adequately trained and equipped.
- All workers at the site should have the same protection and consistent safety information

Host employers and staffing agencies:

- Work together to deal with unexpected staffing needs.
- Availability to deal with "day-to-day" coordination issues..

Recommendations and Conclusion:

Periodically conduct inspections to prove that engineering controls are being properly followed
Be constantly checking for updates to OSHA Regulations.
Having an efficient communication among employees and supervisors of the company is crucially important.
Efficient training on how to identify hazards, makes a large impact on the elimination, reduction, and prevention of incidents and injuries.
All employees, supervisor, subcontractors must be fully educated and trained of the "Rennova: Safety program"