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Hazard Assessment Refresher

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Why Assess Workplace Hazards

Statistics:

5,147 workers died in 2017 (more than 14 per day)

Every 7 seconds a worker is injured on the job

Approximately 4.6 million per year

104 million production days lost in 2017

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- Source: Bureau of Labor Statistics

What is Hazard Assessment

A hazard assessment is **the process used to identify, assess, and control workplace hazards and the risks to worker health and safety**. ... Workers must be informed of the hazards they may encounter and the steps required to effectively control those hazards.

Why Assess Workplace Hazards

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Occupational Safety and Health Administration (OSHA)

General Duty Clause

Each employer

- ✓shall furnish to each of his employees' employment and a place of employment which are **free from recognized hazards** that are causing or are likely to cause death or serious physical harm to his employees;

Personal Protective Equipment Standard

- Standard Requires a certified hazard assessment for selection of PPE

Internal Audits

2019-20 Systemwide Health & Safety Audits:

- First time A&AS audited all 23 campuses for one topic
- **Auditors looked at hazard assessments.**
- 15 campuses had findings related to assessments.
- Assessments ranked in the 10 items with most findings.

NOTE: These audits came so soon after the State Audits and purchase of the RSS software that it was a challenge to fully implement the assessments by this point.

Health & Safety Policy

Highlights of the Updated Systemwide Policy:

- Establishes practices to enhance faculty, students, staff, and volunteer safety
- Provides a framework for EHS processes, assessments, accountability and reporting
- Places responsibilities on leadership, employees, faculty, students, and EHS\Includes hazard assessment requirements

Policy requirement for Auxiliaries? There seems to be lack of clarity regarding EHS oversight and consultation for Auxiliaries and there is an inconsistent approach.

Systemwide Response

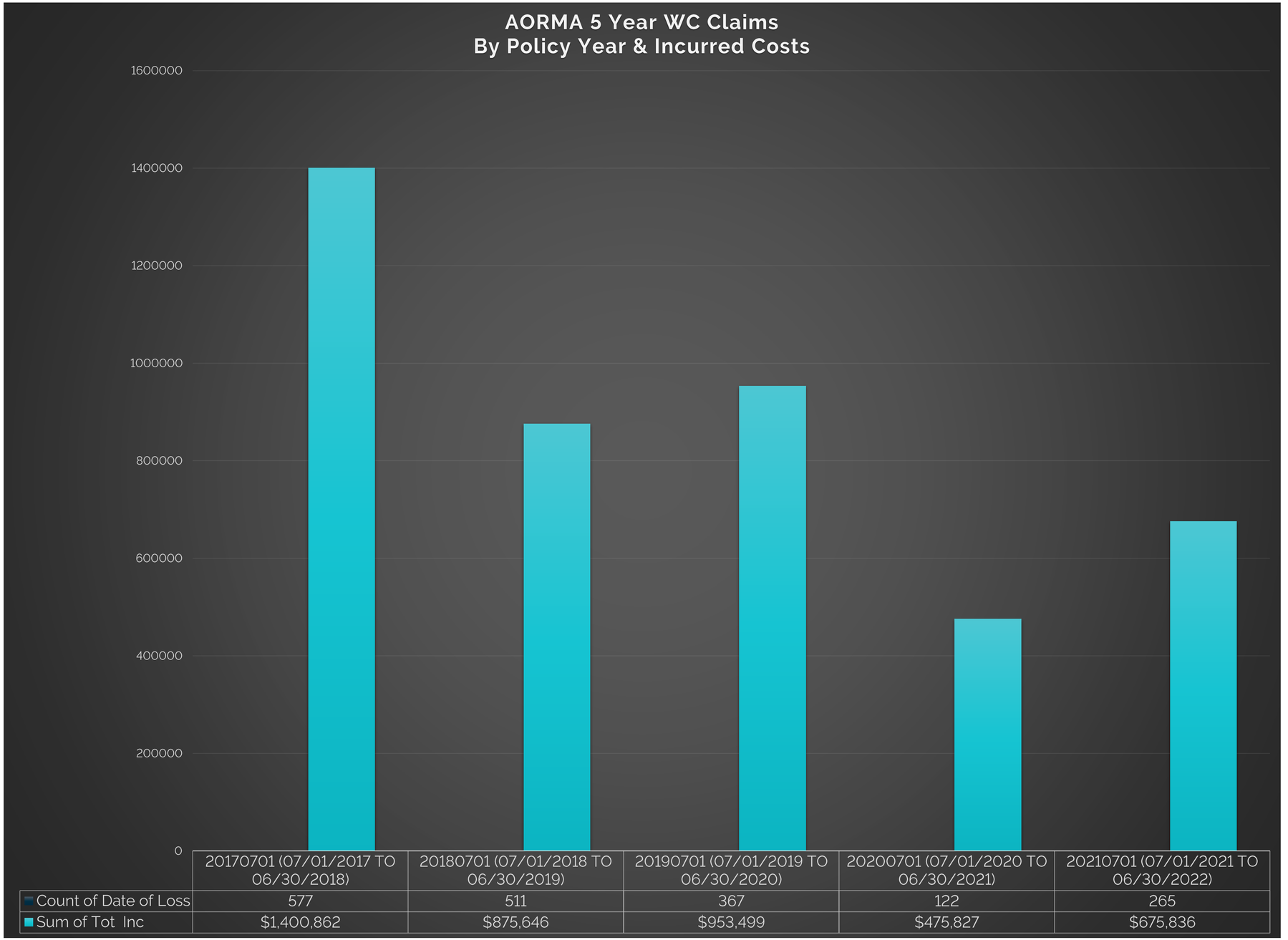
SRM Provides More Support and Oversight:

- A team developed a metrics template which asks for hazard assessment completion rate.
- SRM purchased RSS Software for assessments, inspections, and chemical inventories.
- A Systemwide team developed assessment and inspections.
- The vendor provides onsite support as well as a call center and quarterly update meetings.

Do Auxiliaries have access to RSS Software?

AORMA WC Losses

COVID Impact in 2019-22 Policy Years



	20170701 (07/01/2017 TO 06/30/2018)	20180701 (07/01/2018 TO 06/30/2019)	20190701 (07/01/2019 TO 06/30/2020)	20200701 (07/01/2020 TO 06/30/2021)	20210701 (07/01/2021 TO 06/30/2022)
Count of Date of Loss	577	511	367	122	265
Sum of Tot Inc	$1,400,862	$875,646	$953,499	$475,827	$675,836

Potential Impact to AORMA: Leading Measures

WC Claim Reduction: based on 5-year averages

10% Reduction	15% Reduction	25% Reduction
• 37 claims (3.1 less a month)	• 55 less claims (4.6 less per month)	• 92 less claims (7.7 less per month
• Average of $88,023 less incurred cost	• Average of $130,845 less incurred costs	• Average of $218,868 less incurred costs

Who is Accountable

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Alliant Insurance Services

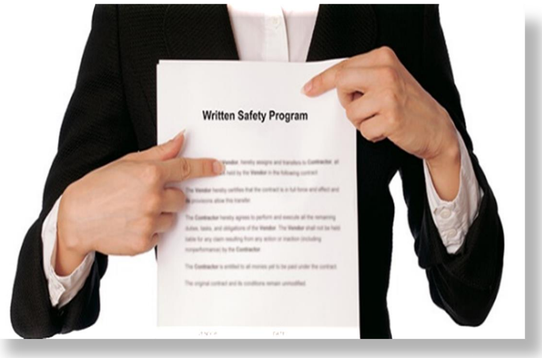
Outcomes = Value to the Operation

Applicable Safety Programs

- General Safety (IIPP CA)
- Industrial Truck (Scissor Lift)
- Lockout/Tagout
- Facility & Equipment Inspections

Staff Qualifications

- Electrician Apprenticeship
- Physical Qualifications (e.g. Job Description)



Required Training

- Scissor Lift Certification (Pending)
- Ladder Safety
- Energy Isolation Procedures
- PPE

Required PPE

- Hard Hat
- Work boots
- Eye Protection
- Work Gloves

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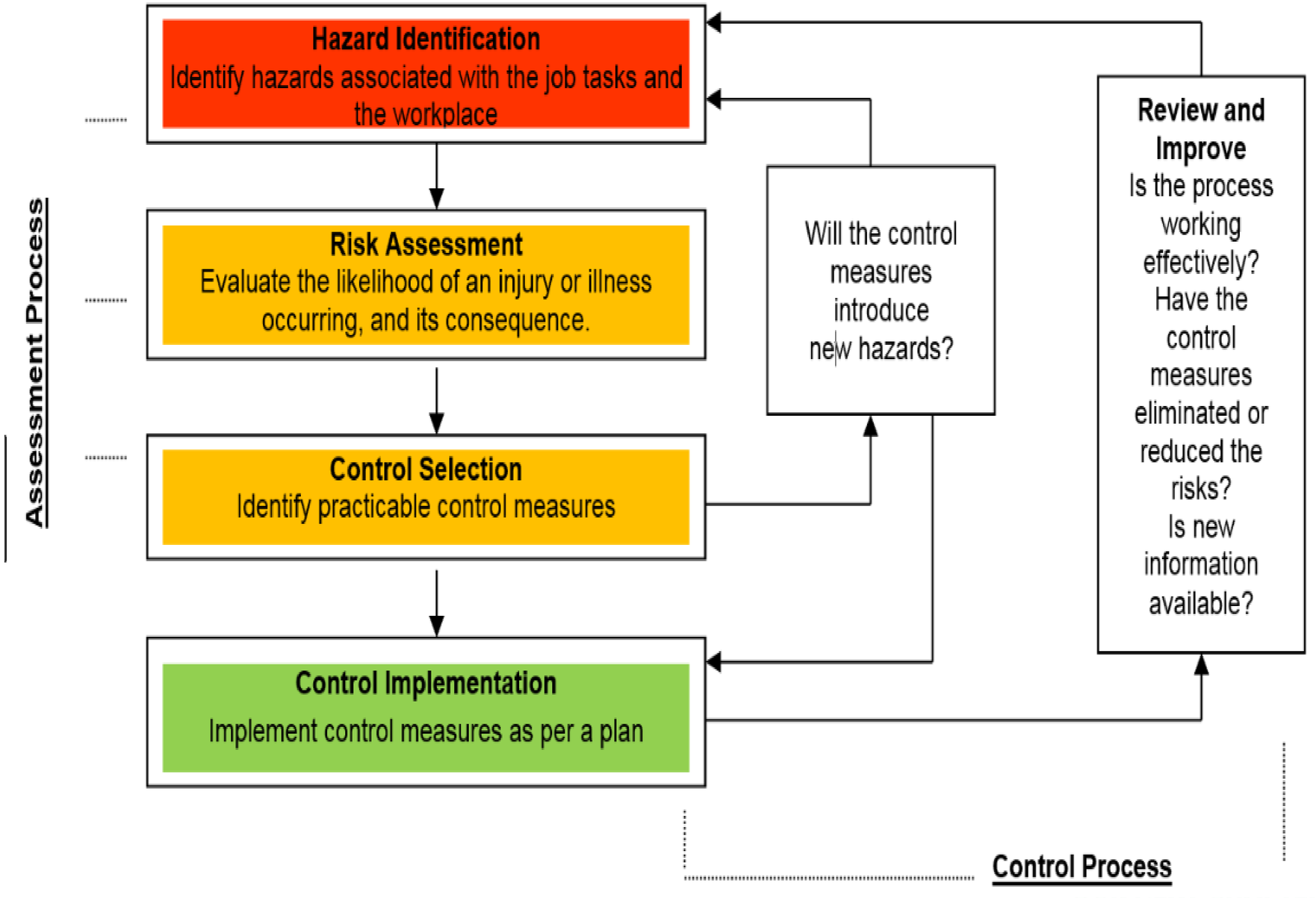
Approach to starting a Hazard Assessment project

- **From organization level down to tasks**

- Essentials
  1. Establish Team
  2. Define Approach/Scope
  3. Utilize Documentation
  4. Repeatable

Fundamentals of Hazard Assessment



Step #1

Identify Hazards

Hazard Identification

- Identify the known or anticipated hazards
- Consider all facets of operation

Hazard Analysis

- Risk Factors: likelihood and consequences
- Risk Levels: use a matrix

Hazard Prioritization

- Prioritized based on rating levels
- Involvement of team

Hazard Control

- Identification of control techniques and plan
- Evaluation of planned controls

VIDEO

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AORMA
WC Losses

WC Claim Causes over past 5 Policy Years

- 4 of the Top 5 have been in the Top 5 every year
- Top 5 Causes = 79% of all claims
- Top 5 Causes = 77% of current total incurred costs
- Employees between **age of 18-26 = 58% of all claims**

Top 5 WC Claim Causes over past 5 Policy Years

1. Contact with injuries (655), $675,078 incurred costs
2. Lifting/Pulling/Strains (240), $971,805 incurred costs
3. Slip/Trip/Fall (198), $1,336,181 incurred costs
4. Cuts/Caught In (195), $180,561 incurred costs
5. Struck By (160), $215,774 incurred costs

General Categories of Hazards

Biological:

- bacteria, **viruses**, mold, insects, plants, birds, animals, and humans, etc.

Chemical:

- airborne gases, **vapors**, mists, **dust** and fumes as well as solids and **liquids**.
- routes of exposure include absorption (skin and eyes), ingestion and inhalation.

Ergonomic:

- include the interaction between people and machines (conditions relative to human performance and comfort such as lighting, seating, body position, **posture, lifting,** and **repetitive motion**).

Physical Hazards:

- physical surrounds (buildings, grounds, equipment, etc.), **noise, temperatures**, radiation, lighting, vibration, fire, **slip/falls, working from heights**.

Before you Start:

Key Information & Considerations

- Collect and review information about the hazards present or likely to be present in the workplace.
- Results of periodic workplace inspections of the workplace to identify new or recurring hazards.
- Review Claims, Accidents and Near Miss information
- Consider hazards associated with emergency or non-routine situations.
- Resources: expertise, **time**, operational knowledge

Good practice: take photo's or video work activities

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Hazard Assessment Scope & Documentation

- Define Your Approach
  - Scope of assessment
  - Decision making and prioritization
  - Form to use for documentation

Type of Hazard Present	Check Boxes that Apply	Describe Hazard Activities	Describe Controls (if any)
THERMAL (hot/cold)	☐ Working with cryogenic materials ☐ Operating equipment that creates generates heat that could come into contact with personnel ☐ Working on steam, refrigerant, high/low temperature systems etc. ☑ Working in temperature extremes (ex. steam, freezers, extended outdoors in summer or winter months) ☐ Other ☐ None present	High Temperature summer heat causing heat exhaustion and/or heat stroke. Vision damage from extended UV Sunburn from sun uv light.	Heat Illness Prevention Plan. Includes the provision of shade, hydration, proper work/rest breaks and employee training. Eye, head and face protection Alternate work shift to allow for work in cooler months or temperatures. Sunscreen

Hazard Assessment

Start Simple List Hazards

Examples: Convenience Store Clerk

- Assault (workplace violence, insider threat)
- Slips on walking surface (floor condition, shoes, materials)
- Lifting materials
- Contact with hazardous chemicals (ex. cleaning solvents)
- Contact with electrical energy (working in electrical panels)
- Contact with flammable materials
- Contact with sharp objects (ex. knives, box cutters)
- Contact with hazardous machinery
- Working at heights (ex. roofs or areas 6’ or move)
- Automobile accident or collision with public

Identifying hazards by Job Activities

Example: Facilities Dept.

- Job = Electrician
- Job Task: Lightbulb change

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Hazard Assessment

Documenting the hazards

Hazard Identification Checklist

INSTRUCTIONS:

Complete this form for your department by completing area. For the "type of hazard present" sections, check each box where the hazard is identified. Provide description of the hazard activities for each of the identified hazards.

Once the checklist is completed, return to XYZ

Department & Location (address/building)	
Section or Shop	
Job Functions & Job Titles at location	

Type of Hazard Present	Check Boxes that Apply	Describe Hazard Activities	Describe Controls (if any)
IMPACT / STRUCK BY			
Type of Hazard Present	**Check Boxes that Apply**	**Describe Hazard Activities**	**Describe Controls (if any)**
ELECTRICAL	☑ Working with or around energized lines or equipment ☐ Working with or near exposed electrical conductors, electrical switch gear, high voltage ☑ Conducting equipment maintenance ☐ Other ☐ None present		
RADIATION (Ionizing & Non)	☐ Working with or around radioisotopes ☐ Working with or around X-ray equipment ☐ Exposure to electric arc or gas welding, torches ☐ Working with or around lasers ☐ Working with or around UV radiation ☐ Other ☐ None present		

Step #2

Assess & Prioritize

Hazard Identification

- Identify the known or anticipated hazards
- Consider all facets of operation

Hazard Analysis

- Risk Factors: likelihood and consequences
- Risk Levels: use a matrix

Hazard Prioritization

- Prioritized based on rating levels
- Involvement of team

Hazard Control

- Identification of control techniques and plan
- Evaluation of planned controls

Risk Assessment Matrix

Risk = Probability of exposure to hazard X Severity of hazard exposure

			Probability				
			Frequent	Likely	Occasional	Seldom	Unlikely
			A	B	C	D	E
Severity	Catastrophic	1	20	19	15	13	9
	Critical	2	18	17	14	10	6
	Moderate	3	16	12	11	7	5
	Negligible	4	8	4	3	2	1
			Risk Levels				

Risk Assessment Matrix

What is Assessment of Electrician changing light bulb?

- Changed weekly
- Using ladder
- Working with live electrical systems

			Probability				
			Frequent	Likely	Occasional	Seldom	Unlikely
			A	B	C	D	E
Severity	Catastrophic	1	20	19	15	13	9
	Critical	2	18	17	14	10	6
	Moderate	3	16	12	11	7	5
	Negligible	4	8	4	3	2	1
			Risk Levels				

Detailed Assessment

Example: Electrician changing light bulb

- Hazards:
  - Electricity
  - Fall
  - Strains
  - Cuts
  - Struck by
  - Burns

- Rated 19
  - Moderate to high frequency
  - Potentially catastrophic injury

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Step #3

Control the Hazard

Hazard Identification

- Identify the known or anticipated hazards
- Consider all facets of operation

Hazard Analysis

- Risk Factors: likelihood and consequences
- Risk Levels: use a matrix

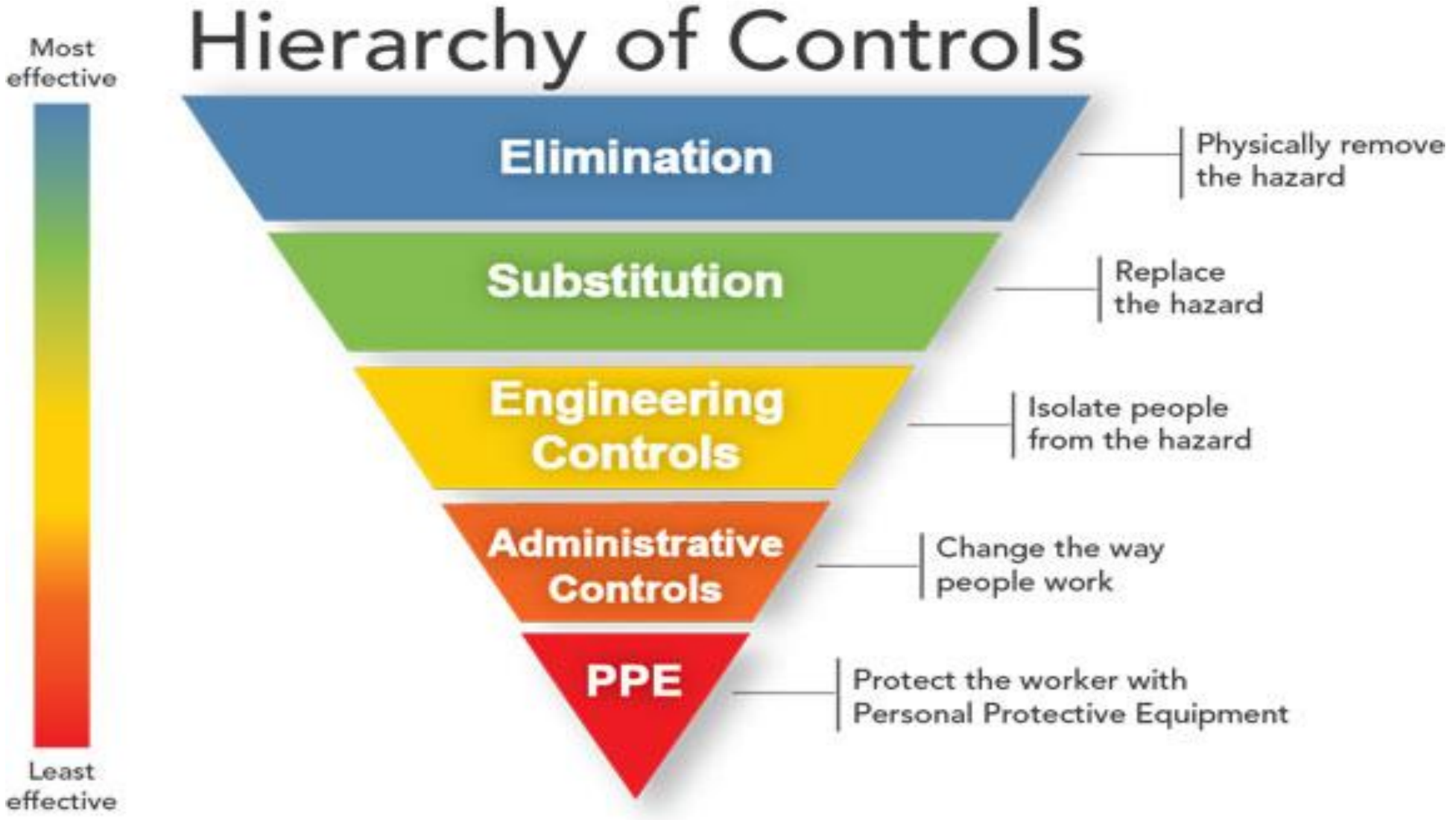
Hazard Prioritization

- Prioritized based on rating levels
- Involvement of team

Hazard Control

- Identification of control techniques and plan
- Evaluation of planned controls

Hazards Control Approach



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Identify Controls – Identify & Improvement

Hazard or Event	Hierarchy of Control	Control
Contact with electrical energy Current Controls	Eliminate	None
	Engineering	Facility wiring installed and maintained in accordance with National Electrical Code or stricter.
	Administrative	Training on electrical safety. Mentoring by experienced staff
	PPE	Leather Gloves, safety glasses
Contact with electrical energy Additional Controls to Implement	Eliminate	Outsource to electrical contractors
	Substitute	Utilize scissor lift to replace ladder
	Engineering	
	Administrative	Control of hazardous energy (de-energize) plan. Procedures for working with electricity, and necessary equipment (ex. locks) - LOTO. Completion of Job Safety Analysis (JSA). Training on use of scissor lift
	PPE	Full face protection, Head Protection (as necessary), close-toed/protective footwear

Identify PPE – required to be documented

PPE HAZARD ASSESSMENT CERTIFICATE

HAND HAZARDS: Hand injury can be caused by: work with chemicals or acids, exposure to cut or abrasion hazards (for example, during demolition, renovation, woodworking, or food service preparation), work with very hot or cold objects or materials, and exposure to sharps.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical Exposure ☐		
High Heat/Cold ☐		
UV/IR Radiation ☐		
Electrical Shock ☐		
Puncture ☐		
Cuts/Abrasion ☐		
Other:		

BODY HAZARDS: Injury of the body (torso, arms, or legs) can occur during: exposure to chemicals, acids, or other hazardous materials; abrasive blasting; welding, cutting, or brazing; chipping, sanding, or grinding; use of chainsaws or similar equipment; and work around electrical arcs.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical Exposure ☐		
High Heat/Cold ☐		
Impact/Compression ☐		
Electrical Arc ☐		
Cuts/Abrasion ☐		
Other:		

FALL HAZARDS: Personnel may be exposed to fall hazards when performing work on a surface with an unprotected side or edge that is 4 feet or more above a lower level, or 10 feet or more on scaffolds. Fall protection may also be required when using vehicle man lifts, elevated platforms, tree trimming, performing work on poles, roofs, or fixed ladders.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Fall hazard ☐		

NOISE HAZARDS: Personnel may be exposed to noise hazards when working in mechanical rooms; machining; grinding; sanding; cage washing; dish washing; working around pneumatic equipment, grounds equipment, generators, chillers, motors, saws, jackhammers, or similar equipment.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Noise hazard ☐		

RESPIRATORY HAZARDS: Personnel may be exposed to respiratory hazards that require the use of respirators: during emergency response, when using certain chemicals outside of a chemical fume hood; when working with hazardous powders; when entering fume hood plenums, when working with animals; when applying paints or chemicals in confined spaces; when welding, cutting, or brazing on certain metals; and when disturbing asbestos, lead, silica, or other particulate hazards.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical exposure ☐		
Particulate exposure ☐		
Other:		

I certify that the above hazard assessment was performed to the best of my knowledge and ability, based on the hazards present on this date.

_____ (signature)

After Implementing Additional Controls – what is score

Hazard	Hazard Score	Risk Level
Assault (workplace violence, insider threat)	**13**	
Electrical shock and fall	**12**	
Movement of Materials (ex. stocking, unloading)	**16**	
Automobile accident	**15**	
Animal in store	**5**	

Consider how you want to prioritize risk scores and actions to take.
For example:
16-20 = Priority A
11-15 = Priority B
6-10 = Priority C
<6 = Priority D

Evaluation of Controls

- Risk changes regularly – monitoring helps provide assurance of an effective risk assessment and management program.

- Are Controls Effective (working as planned)?
  - # of times used properly vs. # of times observed
  - Did control effectively manage risk
  - Has risk changed and different control is needed
  - Are new controls available that may reduce risk
  - Incident / accident investigations

Resources to Assist with Hazard Assessment

RSS Assess

RSS is a suite of EHS management apps we use which was developed by the University of California.

Highlights of the RSS Assess Form:

- Categories for hazards: impact, heat, chemical, etc.
- Activity: handling chemicals, radiation, machinery, etc.
- Hazard detail: irritating mist, splash hazard, etc.
- PPE type: respiratory protection, eyewear, gloves, etc.
- Limitation: notes for user to further protect them

Note: The assessment is a good first step to set the stage for other activities like inspections and chemical inventories.

RSS Assess

RSS Assess Metrics:

We compare each campus to the CSU average for:

- “Fully Acknowledged” - % of certified assessment that have been fully acknowledged by each lab worker
- “Acknowledged” - % of required acknowledgements recorded

Campuses need to ensure all labs complete an assessment or are surveyed to see if they are warranted.

Campus EHS Overview

Overview of Typical EHS Responsibilities:

- Occupational safety
- Environmental health/environmental protection
- Fire and life safety
- Chemical hygiene and lab safety/radiation safety
- Industrial hygiene
- Hazardous materials
- Ergonomics
- Food safety and sanitation

Collaboration with EHS

Forming a relationship with campus EHS:

- Systemwide expectations
- When MUST your Auxiliary work with Campus EHS
- Areas of Collaboration:
  - labs;
  - offsite activities, sites, and facilities;
  - special events;
  - ergonomics (WC claim, complaint or injury, eval needed)
- Resources available

Actions to Take

1. Discuss with Management
2. Identify a “Lead” to coordinate effort
3. Establish a hazard assessment plan
   - Roll-out plan (by department)
   - Timelines, Owners, Measures
4. Engage Campus EHS / Alliant Risk Control
5. Train Supervisors/Managers
6. Provide updates to Management
7. Track results

How can Alliant Risk Control Consulting Assist

1. Provide Supervisors with Hazard Assessment Fundamentals Training session

2. Provide resources
   - Fact Sheets (many topics)
   - Targeted Training: ex. Kitchen Safety Basics
   - Assessment of safety program

3. Provide WC Trend Analysis and service consulting

WHO IS MY ALLIANT RISK CONTROL RESOURCE?

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	Long Beach	San Diego	San Jose	Sacramento
	Los Angeles	San Marcos		San Luis Obispo
				Sonoma
				Stanislaus

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Thank you