

Preparing An Effective

Safe Plan of Action

*An introduction to the Safe
Plan of Action (SPA)
Process*



SPA Principles

- A job can be analyzed for hazards in a systematic way
- A specific job can be separated into a series of relatively simple steps
- Hazards associated with each step
- can be identified
- Solutions can be developed to control each hazard

SPA Purpose

- Effective SPA's help the worker recognize and control hazards and exposures in the workplace.

How might the employee's perception of a "hazard" differ from that of the employer or supervisor?



Activity

Why is a SPA more effective than walk-around inspections in reducing accidents in the workplace?



SPA Process

SPA Step 1

- **Step One - Break the job down into steps**

SPA Step 1 (cont'd)

- Job means “task”
(Changing a tire not “auto mechanic”)
- “key” steps
- too much detail becomes cumbersome
- not enough detail becomes useless

Breaking Down the Job

- Avoid making the breakdown so detailed that an unnecessarily large number of steps results.
- Avoid making the job breakdown so general that basic steps are not recorded.

Key Steps TOO MUCH Changing a Flat Tire

- Pull off road
- Put car in “park”
- Set brake
- Activate emergency flashers
- Open door
- Get out of car
- Walk to trunk
- Put key in lock
- Open trunk
- Remove jack
- Remove Spare tire

Key Steps NOT ENOUGH

Changing a Flat Tire

- Park car
- take off flat tire
- put on spare tire
- drive away

Key Job Steps JUST RIGHT

Changing a Flat tire

- Park car, set brake
- remove jack & tire from trunk
- loosen lug nuts
- jack up car
- remove tire
- set new tire
- jack down car
- Tighten lug nuts
- store tire & jack

SPA Step 2

- **Step Two - Describe the hazards in each step of the task.**

One of the primary purposes of the SPA is to make the job safer.

The information gathered in this step will be valuable in helping to eliminate and/or reduce hazards associated with the job, and improve the system weaknesses that produced them.

Hazards (examples)

- Parking car
 - Struck by traffic
- Removing tire & jack
 - Back Strain
 - Bang head on trunk
- Loosen lug nuts
 - Back/arm strain
 - Slip & fall

Identifying types of hazards

- Acceleration: When we speed up or slow down too quickly
- Toxic: Toxic to skin and internal organs.
- Radiation: **Non-ionizing** - burns, **ionizing** - destroys tissue.

Identifying types of hazards

- Ergonomics: Eight risk factors
 - 1. **High Frequency;**
 - 2. **High Duration;**
 - 3. **High Force;**
 - 4. **Posture;**
 - 5. **Point of Operation;**
 - 6. **Mechanical Pressure;**
 - 7. **Vibration;**
 - 8. **Environmental Exposure.**

Identifying types of hazards

- Pressure: Increased pressure in hydraulic and pneumatic systems.
- Mechanical: Pinch points, sharp points and edges, weight, rotating parts, stability, ejected parts and materials, impact.
- Flammability/Fire: In order for combustion to take place, the fuel and oxidizer must be present in gaseous form.

Identifying types of hazards

- Biological: Primarily airborne and blood borne viruses.
- Violence In The Workplace: Any violent act that occurs in the workplace and creates a hostile work environment that affects employees' physical or psychological well-being.

Identifying types of hazards

- Explosives: Explosions result in large amounts of gas, heat, noise, light and over-pressure.
- Electrical Contact: Inadequate insulation, broken electrical lines or equipment, lightning strike, static discharge etc.
- Chemical Reactions: Chemical reactions can be violent, can cause explosions, dispersion of materials and emission of heat.

Accident Types

- **Struck-by:**
 - A person is forcefully struck by an object. The force of contact is provided by the object.
- **Struck-against:**
 - A person forcefully strikes an object. The person provides the force or energy.
- **Contact-by:**
 - Contact by a substance or material that, by its very nature, is harmful and causes injury.

Accident Types

- **Contact-with:**

- A person comes in contact with a harmful substance or material. The person initiates the contact.

- **Caught-on:**

- A person or part of his/her clothing or equipment is caught on an object that is either moving or stationary. This may cause the person to lose his/her balance and fall, be pulled into a machine, or suffer some other harm.

- **Caught-in:**

- A person or part of him/her is trapped, or otherwise caught in an opening or enclosure.

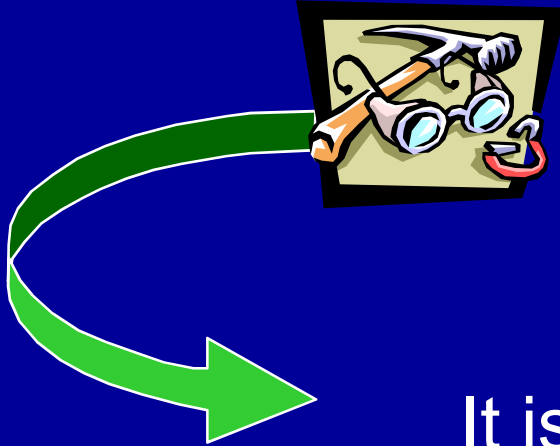
Accident Types

- **Caught-between:**
 - A person is crushed, pinched or otherwise caught between a moving and a stationary object, or between two moving objects.
- **Fall-to-surface:**
 - A person slips or trips and falls to the surface he/she is standing or walking on.
- **Fall-to-below:**
 - A person slips or trips and falls to a level below the one he/she was walking or standing on.

Accident Types

- **Over-exertion:**
 - A person over-extends or strains himself/herself while performing work.
- **Bodily reaction:**
 - Caused solely from stress imposed by free movement of the body or assumption of a strained or unnatural body position. A leading source of injury.
- **Over-exposure:**
 - Over a period of time, a person is exposed to harmful energy (noise, heat), lack of energy (cold), or substances (toxic chemicals/atmospheres).

SPA Step 3



Step Three – Safe Plan of Action.

It is now time to
identify the desired
control measures for
each hazard.

The Hierarchy of Controls

- **Engineering controls.**
- **Administrative controls.**
- **Personal Protective Equipment (PPE).**

Engineering Controls

- Consist of substitution, isolation, ventilation, and equipment modification.
- These controls focus on the source of the hazard, unlike other types of controls that generally focus on the employee exposed to the hazard.
- The basic concept behind engineering controls is that, to the extent feasible, the work environment and the job itself should be designed to eliminate hazards or reduce exposure to hazards

Administrative Controls

- Administrative controls may result in a reduction of exposure through such methods as changing work habits, improving sanitation and hygiene practices, or making other changes in the way the employee performs the job.

Personal Protective Equipment

- When exposure to hazards cannot be engineered completely out of normal operations or maintenance work, and when safe work practices and administrative controls cannot provide sufficient additional protection from exposure, personal protective clothing and/or equipment may be required.

SPA Step 4

- **Step Four - Perform job
(and evaluate performance)**

When Is a SPA Revised?

- When the job changes
- When conditions change
- When personnel change

*Any
Questions*

