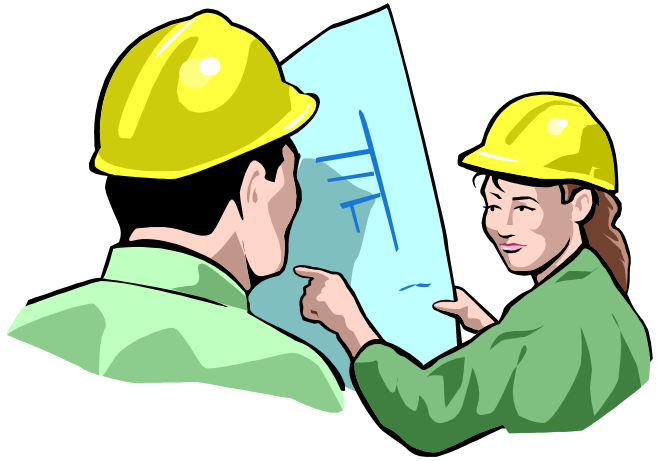

Occupational Safety & Health For Geodetic Engineers

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GE, CE, SE, EnP, RMP, REB,REA,MSSE

Overview

1. *OSH Definition*
2. *OSH Legislations*
3. *Administrative Organization*
4. *Safety Practices of GE*

OSH

- Occupational Safety and Health (OSH) is the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations.
- It calls for the the prevention of any impairment in the health and well-being of workers caused by their working conditions or work environment; OSH stands for the protection of workers from risks and hazards that could adversely affect their health and well-being and for their placement in an occupational environment adapted to his/ her physiological ability.
- Under the Philippine Constitution of 1987, OSH is a constitutional objective described as "just and humane terms and conditions of work".

OSH from an International Perspective

- In the U.S., the Occupational Safety and Health Act of 1970 created both the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA).
- OSHA, in the U.S. Department of Labor, is responsible for developing and enforcing workplace safety and health regulations.
- NIOSH, in the U.S. Department of Health and Human Services, is focused on research, information, education, and training in occupational safety and health.

OSH FROM AN INTERNATIONAL PERSPECTIVE

- The ILO - International Labour Organization estimates that 2.2 million work-related deaths occur annually.

ILO – International Labour Organization is the international organization responsible for drawing up and overseeing international labour standards. It is the only 'tripartite' United Nations agency that brings together representatives of governments, employers and workers to jointly shape policies and programmes promoting Decent Work for all.

- Philippines became a member of ILO in 1948.

OSH Legislations in the Phils.

- 1903 - Development of OSH in the Philippines
- 1908 - Employer's Liability Act (Act No.1874) was instituted requiring employers to compensate workers who were injured while performing their job
- 1908 - DOLE started as a small Bureau. It became a Department on Dec. 8, 1933
- 1936 – Commonwealth Act No. 104 was passed. The first legislation that directly enjoined mgt. to ensure the promotion of safety & health in the workplace. Called the First Industrial Safety Law
- 1959 – Safety Organization of the Phils., Inc. (SOPI) was organized.

OSH Legislations in the Phils.

- SOPI – Safety Organization of the Philippines is a non-profit, non-governmental, national public service organization dedicated to protecting life and promoting health.
- Members of SOPI include businesses, schools, public agencies, private groups, labor organizations and individuals. Founded in 1959, the primary focus of SOPI is preventing deaths and injuries that occur in workplace, homes, communities and roads.

1967 – Proclamation No. 115-A was issued declaring the year & every year thereafter as SAFETY & ACCIDENT PREVENTION YEAR.

November 17, 1966 by Pres. F.E. Marcos

January	-	General Orientation
February	-	Air Transportation
March	-	Fire Prevention
April	-	Vacation Hazards
May	-	Land Transportation
June	-	Sea Transportation
July	-	Schools
August	-	Farms
September	-	Heath and Sanitation
October	-	Industry & Commerce
November	-	Mines
December	-	Holiday Hazards & Homes

OSH Legislations in the Phils

- 1974 - PD 442 (Labor Code of the Phils) was passed.
- 1975 - Started the program on accreditation for safety training organization to conduct OSH training
- 1982 – Bureau of Labor Standards (BLS) was renamed Bureau of Working Conditions (BWC)
- 1988 – Occupational Safety and Health Center OSHC was inaugurated, created per EO 307 (first in Southeast Asia)
- 1989 - Major amendments of OSHS took place.
- 1999 - Assoc. of Safety Practitioners of the Phils.,Inc. (ASPPI) was organized.1st Gen. Assembly & Convention of DOLE Accredited Safety Professionals was held.

ADMINISTRATIVE ORGANIZATION FOR OSH

- The **DOLE** is the **lead agency** of the government in charge in the administration and enforcement of laws, policies, and programs on occupational safety and health.
  - **(Legal basis: Presidential Decree No. 442) LABOR CODE OF THE PHILIPPINES**

Republic of the Philippines
Department of Labor and Employment
Intramuros, Manila

DOLE Thrusts

- Promotion of employment and human resources development
- Maintenance of industrial peace
- ✓ Workers' protection and welfare

The Bureau of Working Conditions

- **Performs policy & program development, and advisory functions for the Department in the administration and enforcement of occupational safety and health.**

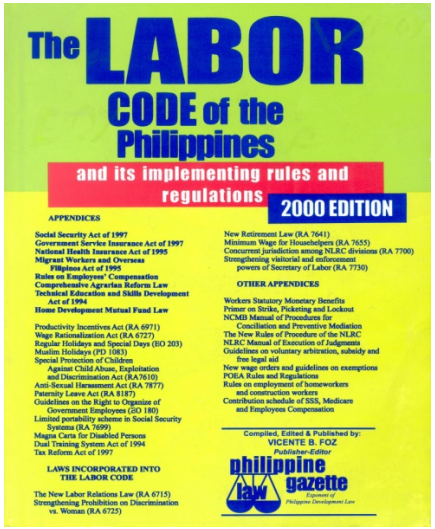
- **Exercises technical supervision over the labor inspectorate.**

- **Develops and prescribes standards, guidelines, measures, rules and regulations on OSH.**

- **Develops, recommends and implements training programs for DOLE field personnel and other accredited training organizations and institutions.**

OSH LEGISLATIONS

- Law : P.D. 442
- Title : Labor Code of the Philippines
- Year Passed : 1974
- Relevant Provisions : Book IV, Titles I & II
- Implementing Agency: DOLE
- Content: A consolidation of labor and social laws to afford full protection to labor, promote employment and human resources development and ensure industrial peace based on social justice.

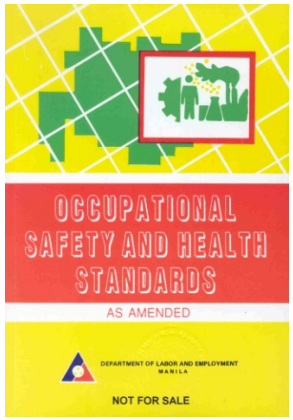


- **Book IV, Title I**
  - **Chapter I**
    - **Medical and Dental Services**
  - **Chapter II**
    - **Occupational Safety**

Legal Basis of the Occupational Safety and Health Standards

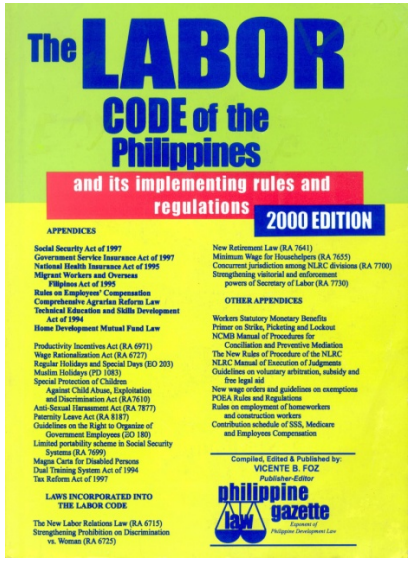
- **Article 162, Chapter II:**

  Safety and Health Standards:

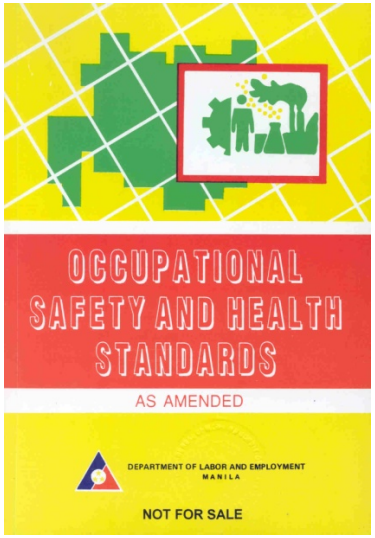


- The Secretary of Labor shall, by appropriate orders, set and enforce mandatory **Occupational Safety and Health Standards** to eliminate or reduce occupational safety and health hazards in all workplaces and institute new, and update existing programs to ensure safe and healthful working conditions in all places of employment.

OSH LEGISLATIONS



Book IV, Title I – Medical, Dental and Occupational Safety



Occupational Safety and Health Standards, (OSHS)
*Rules and Regulations Implementing Art. 162, Title I, PD 442, Passed in 1978

Geodetic Engineers Safety

- No matter what career path you choose, the safety of you and your colleagues should always be your number one priority.
- Jobs that involve working outdoors and with heavy equipment are some of the most dangerous professions and thousands of people are injured every single year while on the job.
- Land surveying may be a seemingly safe job; however there are many hazardous situations that land surveyors find themselves in that may compromise their safety

Geodetic Engineers Safety

- Land surveyors are constantly on the move and working at different sites. In many cases they may be working on construction sites where there are obvious land surveyor safety issues.
- It is very important that Geodetic Engineers are aware of the potential hazards that surround them and take the correct precautions to limit them.

Geodetic Engineers Safety in Different Situations

Vehicles and Equipment

- All survey vans shall carry approved fire extinguishers and first aid kits, which shall be so placed in the vehicle as to be readily available.
- Each operator is responsible for the safe operation of their vehicle and must adhere to and obey all applicable Traffic Law and Regulations.
- The operator must have a valid driver's license required for the class of vehicle being driven. All individuals driving, riding in or operating vehicle must wear seat belts.

Geodetic Engineers Safety in Different Situations

Vehicles and Equipment

- All vehicles that are working or parked on the roadway should be of a color that is easily visible to the driving public and be equipped with rotating or flashing beacons.
- As daily routine, the team leader should ensure that survey vehicle is in proper working condition including but not limited to lights, brakes including emergency parking brake, fuel and all fluids, tires.
- It is the responsibility of all crew members to routinely check tools and other gear and inform the team leader of their condition.

Geodetic Engineers Safety in Different Situations

Vehicles and Equipment

- The total station instrument is one of the most expensive pieces of equipment used by survey crew. It should be treated with care. Under no circumstances it should be left unattended or else this might happened if left unattended.

Geodetic Engineers Safety in Different Situations

Underground Utilities (manhole)

- Surveyors are often tasked with measuring the depth of flow lines of sanitary manholes whether the manhole is a storm drain or sanitary sewer, use extreme caution.
- Most manholes are in traffic areas and require at least one worker, as a flagger with a sole responsibility of protecting the person attending the manhole.

Geodetic Engineers Safety in Different Situations

Underground Utilities (manhole)

- Equipment that must be used for opening manholes are:
  - Manhole hook
  - Pick - For sliding manhole covers off sideways
  - Crowbars – Only long crowbars that allows you to stand while sliding the manhole cover are acceptable
  - Wedge tools (shovel, crowbars, large screwdriver, hammer)

- Do not try to move a manhole cover with your hands. If you must use your hands be extremely careful.

Geodetic Engineers Safety in Different Situations

Underground Utilities (manhole)

- Always wear steel-toed safety boots when moving manhole covers. Never look away from a manhole cover when being moved, often they will slip roll or wobble enough to injure a foot or hand.
- To close a manhole, slide the cover back into place. Always test the cover by stepping on the sides of the cover when in place.
- Even though surveyors don't climb down in the manholes, potential harmful fumes can have an affect just by popping open the manhole and looking down inside. The atmosphere in a manhole presents many dangers to workers examples: explosives (gas or vapors and toxic gases.

Geodetic Engineers Safety in Different Situations

Wooded Areas

- **Clothing**: Surveyors should wear high safety boots with non-slip soles. The lace types are preferable because they afford more ankle support than loose pull-on types.
- Other cloth shoes shall not be worn, nor should boots with thin or worn out soles. They are easily penetrated by sharp stubs, nails or glass.
- Trousers should be without cuffs and short shall not be worn at any time during working hours.
- Lightweight clothing that is light in color is recommended for summer surveying work. When it is necessary to work in these areas, bright colored clothing should be worn to provide a safer environment

Geodetic Engineers Safety in Different Situations

Wooded Areas

- **Possible Hazards:**
- Bees and Wasps: Fortunately the nest of these insects are not difficult to see and avoid .There are usually a few flying around the entrance of the nest, so caution should be used when working in that area

Geodetic Engineers Safety in Different Situations

Wooded Areas

- **Possible Hazards:**
- Poison Ivy: This is the single most common cause of allergic reaction. Each year many of surveyors develop an allergic rash after contact with these poisonous plants.
- Redness and swelling occur often follows by blisters and severe itching. The best protection is to recognize the plant and avoid contact.

Geodetic Engineers Safety in Different Situations

Wooded Areas

- **Possible Hazards:**
- Poison Ivy:
- If you need to be in the area of plants you should wear long pants, long sleeves, boots and gloves. Barrier skin creams such as lotion containing Benoquatum (Ivy Block) offer some protection before contact with this poisonous plants

Geodetic Engineers Safety in Different Situations

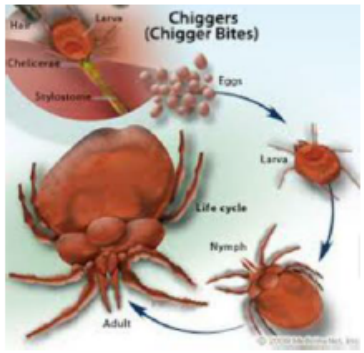
Animal bites

- Dogs, Chiggers, Spiders, Ticks and Snakes

Angry dog

Allergy

Poison Ivy



Chiggers

Geodetic Engineers Safety in Different Situations

Railroads

- Under no circumstances is work to be performed on property of active rail roads until permission has been obtained from appropriate railway authorities. Avoid any use of the color red “Red means immediate danger “and “STOP” to a train operator.
- Surveyors must not wear red clothing or use red markers, flagging, or lights when working near rails.

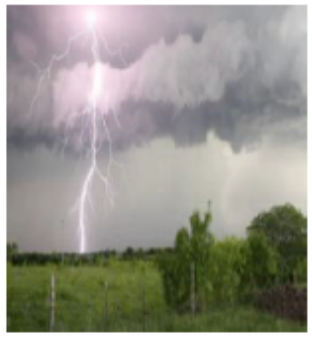
Geodetic Engineers Safety in Different Situations

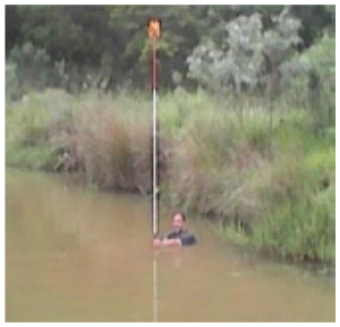
- Field engineers and surveyors must not leave instrument or other equipment unattended, on or near tracks and must not park vehicle within 15 feet of the tracks and do not leave protruding stakes or any holes within 15 feet of the centerline of the tracks.
- Always be alert around rail roads. Be wary of shorting metal rods against electric cables.

Geodetic Engineers Safety in Different Situations

Weather

- Extreme hot and cold are always dangerous situations. A surveyor needs to always be prepared for these situations with proper clothing and hydration.
- Lightning, Hot weather (heat stroke, heat exhaustion, heat cramps, skin cancer), cold weather (hypothermia) and frostbite.






Geodetic Engineers Safety in Different Situations

Work at height

- Engineers and surveyors need to be assessing whether any of their work activities might place them at risk of falling a distance likely to cause personal injury and plan their work accordingly. The regulations make it very clear that anyone involved in working at height must comply with requirements to organize and plan how such work is to be carried out, avoid risks from working at height, and where working at height cannot be avoided, select appropriate equipment.

Geodetic Engineers Safety in Different Situations

People and live substations

- People can become a danger to field engineers and surveyors as well. By hijacking their cars, stealing their working equipment and personal belongs e.g cell phone, watches, earings etc.
- Geodetic engineers sometimes survey at substations, and they must make sure that there is a standby who is assisting when carrying out their work. Wear safety boots with no metal, do not use metal rods, if use, be careful make sure that the correct height is maintained or electricity will jump through your rod , no working in rain .

Geodetic Engineers Safety in Different Situations

Construction site and heavy equipment

- Construction work presents the most dangerous industry in terms of injury.
- Though land surveyors aren't necessarily classed as construction workers, they do their jobs in similarly hazardous situations .
- When land surveyors are called out to construction sites, they should be briefed on that site's safety procedure.

Geodetic Engineers Safety in Different Situations

Construction site and heavy equipment

- It is the geodetic engineers and surveyors duty to wear appropriate safety gear such as hard hats , eye and ear protection.
- Surveyors sometimes have to survey around bulldozers, excavators, and dump trucks, on big constructions sites. The equipment operators don't always keep a sharp eye out for surveyors setting stakes. The surveyors have to keep their eyes peeled and be aware of their surroundings .

Geodetic Engineers Safety in Different Situations

First Aid

- All survey vehicles should be equipped with stocked first aid kits. Although some form of first aid should be administered immediately, in the case of injury other than minor wounds, cuts, sprains or abrasions, emergency medical service should be obtained. All survey personnel receive CPR and first aid training and re-certification at regular intervals.

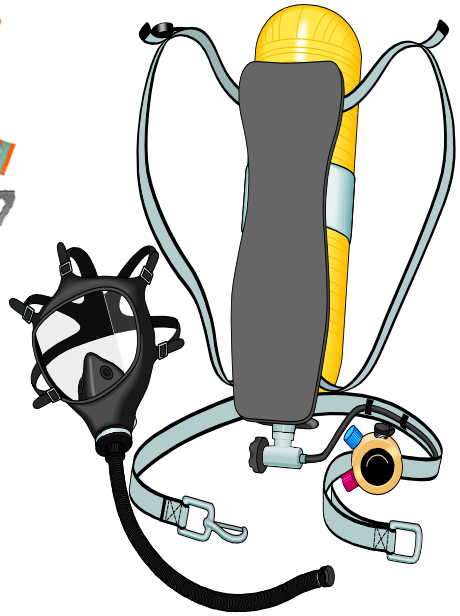
Geodetic Engineers Safety in Different Situations

PPE

- Personal protective equipment (PPE)
- Used when engineering or administrative control measures are not feasible or adequate.
- “Last resort” type of protection or control.
- Merely set up a barrier between the worker and the hazard, therefore the hazard is not eliminated.

COMMON PPE

- Safety hat/helmet/hard hat
- Safety shoes
- Safety eyeglasses
- Gloves
- Ear plug, ear muff
- Leggings
- Respirators or masks
- Wristlets
- Laboratory gown
- Finger tape



THE 5S OF GOOD HOUSEKEEPING

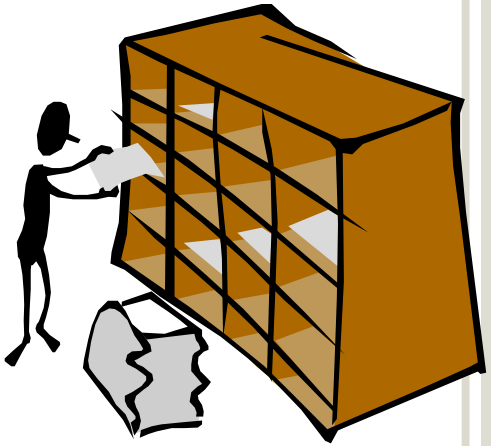
Seiri (**Sort**/eliminate)

Seiton (**Systematize**/organize)

Seiso (**Sweep**/clean/polish)

Seiketsu (**Sanitize**/standardize)

Shitsuke (**Self-discipline**/training)



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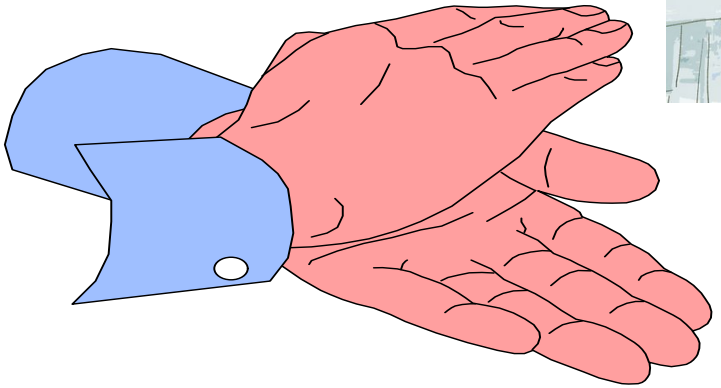

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