

**ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS**

SAFETY HEIRARCHY

Engineering Controls

Work Practices

Personal Protective Equipment (PPE)

SAFETY HEIRARCHY

Engineering Controls Example:

Three foot high parapet wall on building

Work Practice Examples:

**Working from bucket truck to
bolt steel instead of climbing steel**

Personal Protective Equipment

Safety Harness

QUESTION

WHAT **TWO WORD EXPRESSION**
PRECEDED THE TERM
“ACTIVITY HAZARD ANALYSIS”
THAT MEANS EXACTLY THE
SAME TYPE OF ACTION WE
TAKE TO AVOID ACCIDENTS



Only 2 words?

**ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS**

H.A IS PUTTING



SAFETY

FIRST!



ACCIDENT PREVENTION PROGRAM HAZARD ANALYSIS

ACCIDENT PREVENTION PROGRAM HAZARD ANALYSIS		
1. Contract No.:	2. Contractor:	3. Date:
4. Title:	5. Location:	6. Estimated Start Date:
7. PRINCIPAL STEPS	8. POTENTIAL HAZARDS	9. RECOMMENDED CONTROLS
10. EQUIPMENT TO BE USED	11. INSPECTION REQUIREMENTS	12. TRAINING REQUIREMENTS
13. Contractor (Signature & Date)		
14. Report discussed with contractor/superintendent on		15. Contracting Officer (Signature & Date) or Contracting Officer Representative

ACTIVITY HAZARD ANALYSIS (AHA)

REVIEW

EM 385-1-1 para 01.A.13b: Work will not begin until the AHA for the work activity has been accepted by the GDA and discussed with all engaged in the activity, including the contractor, subcontractor(s), and Government on-site representative at preparatory and initial control phase meetings.

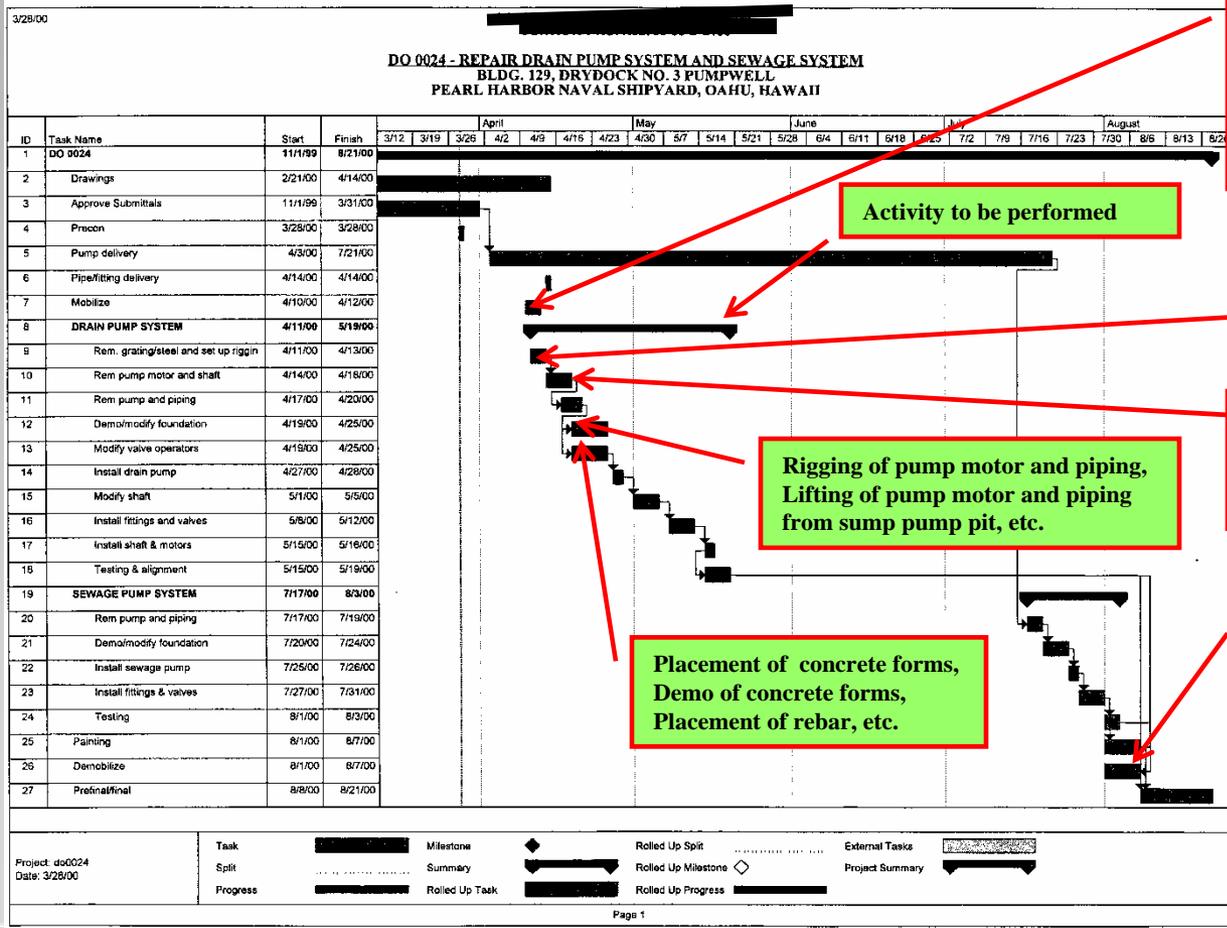
“Principle Steps” column identify “Sequences of Work” such as Mobilization, Fencing, Demolition, Asbestos Abatement, Electrical Distribution, etc. Contractor “Construction Schedule or Construction Progress Chart” is a good guide to identify “Sequences of Work” (See page 2).

Within each identified “Sequences of Work” there may be other successive steps to complete that phase of work such as Removal of lockers, LOTO of electrical systems, Protecting members of the public, A/C ducting installation work, Use of crane to lift 5,000 lbs. A/C unit, Excavations deeper than 6 ft for utilities, etc.

ACTIVITY HAZARD ANALYSIS		
Activity:	Project No.:	
Activity: DEMOLITION	Project No. [REDACTED]	
Project: [REDACTED]	Date of Preparatory: 3/1/00	Analysis by/Date:
Location: Pearl Harbor, Hawaii	Estimate Start Date: 3/1/00	Reviewed By/Date:
DO# Task Order 005		
WR# 08973		
Principal Steps	Potential Hazards	Recommended Controls
DEMOLITION	Personal Protective Equipments	Ensure personnel have the use of hard hats, safety shoes, gloves & short sleeves t-shirts.
		Ensure personnel use gloves to protects hands from sharp edges.
		Wear face/dust masks as necessary.
	Electric Shock	Survey the work area and check utilities that needs to turn off.
		Each employee handling small tools will be instructed as to safe handling and its use.
		All plugs- in power tools to use GFCI.
	Faulty Equipment	Ensure equipment is maintained in good working order & properly used.
		Ensure that equipment is stopped and secured from movement before servicing or repaired.
		Check equipment daily before use.
	General Safety	Ensure that proper barricade materials and signs have been placed.
		Use proper barricade like tape to mark off limits areas.
		Supervisor and Foreman are to actively stop Non- construction personnel from entering the jobsite area without proper escort.
		Ensure proper caution signs posted.
		Ensure flying dust is controlled by mapping with wet map.
	Back- strains	Each employee should be instructed in safe lifting procedures.
		Objects weighing over 80# requires 2 people.
	Falling ,tripping and cuts	Ensure personnel practice proper housekeeping to prevent tripping & cutting.

ACTIVITY HAZARD ANALYSIS (AHA) REVIEW

The below are examples of major “Sequences of Work” or “Phases of Work” that could be identified on the AHAs as “Principle Steps” or successive steps to complete a sequence or phase of work.



Examples of Principle Steps from start to finish.

Within each Principle Step there may be other Successive Steps to complete the above Principle Steps.

The blocks on the right are examples of other Successive Steps.

Installation of perimeter fencing, Placement of field office trailer, Installation of fall protection anchors, Unloading heavy equipment at staging area, etc.

Installation of rigging components, Lifting of steel grating, Torch cutting on steel grating, etc.

LOTO pump motor, Removal of lead paint on bolts and piping, Unbolting pump motor from housing, etc.

Removal of project fencing, Removal of field office, Loading of heavy equipment, Clean up of staging area of debris, etc.

Rigging of pump motor and piping, Lifting of pump motor and piping from sump pump pit, etc.

Placement of concrete forms, Demo of concrete forms, Placement of rebar, etc.

Activity to be performed

EM385-1-1 para 01.A.13a: AHA will define the activities being performed and identify the sequences of work, the specific hazards anticipated, site conditions, equipment, materials and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level of risk.

ACTIVITY HAZARD ANALYSIS (AHA) REVIEW

List of questions that will help you identify most hazards:

- (a) Is there danger of striking against, being struck by, or otherwise making injurious contact with an object?
- (b) Can the employee slip or trip?
- (c) Can the employee be caught in, on or between objects?
- (d) Can the employee fall on the same level or to another?
- (e) Can the employee strain themselves by pushing, pulling or lifting?
- (f) Is there possibility of electrical, health or fire hazards?
- (g) Is there a possibility of employee coming in contact with a hazardous chemical or substance?

Past experiences and common sense will enable development of a useful list

“Potential Hazard” column lists potential or anticipated hazards for each “Sequences of Work” or “Phases of Work” identified from the “Principle Step” column.

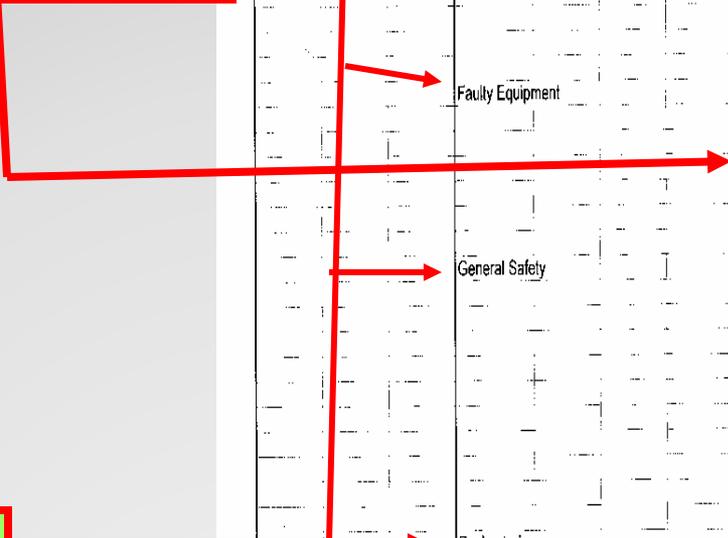
ACTIVITY HAZARD ANALYSIS		
Activity:	DEMOLITION	
Project:	[REDACTED]	Date of Preparatory: 3/1/00
Location:	Pearl Harbor, Hawaii	Analysis by/Date:
DO#	Task Order 005	Reviewed By/Date:
WR#	06973	Estimate Start Date: 3/1/00
Principal Steps	Potential Hazards	Recommended Controls
DEMOLITION	Personal Protective Equipments	Ensure personnel have the use of hard hats, safety shoes, gloves & short sleeves t-shirts. Ensure personnel use gloves to protects hands from sharp edges. Wear face/dust masks as necessary.
	Electric Shock	Survey the work area and check utilities that needs to turn off. Each employee handling small tools will be instructed as to safe handling and its use. All plugs- in power tools to use GFCI.
	Faulty Equipment	Ensure equipment is maintained in good working order & properly used. Ensure that equipment is stopped and secured from movement before servicing or repaired. Check equipment daily before use.
	General Safety	Ensure that proper barricade materials and signs have been placed. Use proper barricade like tape to mark off limits areas. Supervisor and Foreman are to actively stop Non- construction personnel from entering the jobsite area without proper escort. Ensure proper caution signs posted. Ensure flying dust is controlled by mapping with wet map.
	Back- strains	Each employee should be instructed in safe lifting procedures. Objects weighing over 80# requires 2 people.
	Falling ,tripping and cuts	Ensure personnel practice proper housekeeping to prevent tripping & cutting.

ACTIVITY HAZARD ANALYSIS (AHA) REVIEW

“Potential Hazard” column can have “General Safety” as a potential hazard to include minimal PPE dress for ROICC projects. “General Safety” should be identified for every phase of work.

ACTIVITY HAZARD ANALYSIS		
Contract No. N62742-99D-2151		
Activity: DEMOLITION		
Project: Remove Wall Lockers	Date of Preparatory: 3/1/00	Analysis by/Date:
Location: Pearl Harbor, Hawaii	Estimate Start Date: 3/1/00	Reviewed By/Date:
DC#: Task Order 005		
WR#: 06973		
Principal Steps	Potential Hazards	Recommended Controls
DEMOLITION	Personal Protective Equipments	Ensure personnel have the use of hard hats, safety shoes, gloves & short sleeves t-shirts.
	[REDACTED]	Ensure personnel use gloves to protect hands from sharp edges.
	[REDACTED]	Wear face/dust masks as necessary.
	Electric Shock	Survey the work area and check utilities that needs to turn off. Each employee handling small tools will be instructed as to safe handling and its use. All plugs- in power tools to use GFCI.
	Faulty Equipment	Ensure equipment is maintained in good working order & properly used. Ensure that equipment is stopped and secured from movement before servicing or repaired. Check equipment daily before use.
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	Back- strains	Each employee should be instructed in safe lifting procedures. Objects weighing over 80# requires 2 people.
	Falling ,tripping and cuts	Ensure personnel practice proper housekeeping to prevent tripping & cutting.

Good examples of “Potential Hazards”



ACTIVITY HAZARD ANALYSIS (AHA) REVIEW

ACTIVITY HAZARD ANALYSIS		
Contract No. N62742-99D-2151		
Activity:	DEMOLITION	
Project:	Remove Wall Lockers	Date of Preparatory: 3/1/00
Location:	Pearl Harbor, Hawaii	Analysis by/Date:
DO#:	Task Order 005	Reviewed By/Date:
WR#:	06973	Estimate Start Date: 3/1/00
Principal Steps	Potential Hazards	Recommended Controls
DEMOLITION	Personal Protective Equipments	Ensure personnel have the use of hard hats, safety shoes, gloves & short sleeves t-shirts.
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	Back- strains	Each employee should be instructed in safe lifting procedures.
		Objects weighing over 80# requires 2 people.
	Falling ,tripping and cuts	Ensure personnel practice proper housekeeping to prevent tripping & cutting.

“Recommended Controls” column identify site specific control measures to be implemented to eliminate or reduce each hazard identified in the **“Potential Hazard”** column to an acceptable level.

To help you come up with ideas for the best solution ask the following:

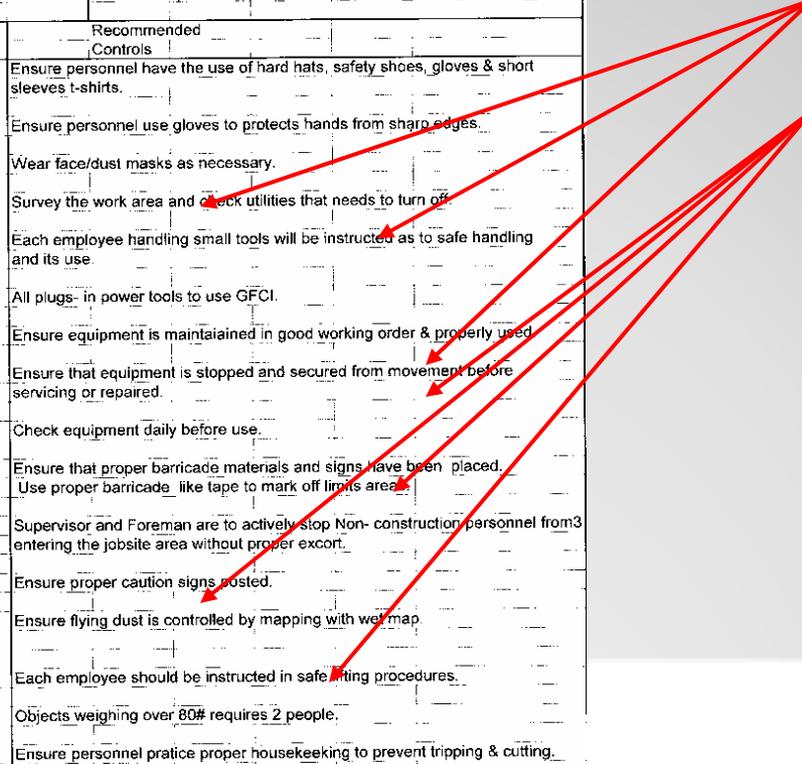
- (a) How can the conditions be changed to eliminate the hazard?
- (b) What can the employee do to prevent an accident or eliminate the hazard?

ACTIVITY HAZARD ANALYSIS (AHA) REVIEW

Your recommended controls measures are to be site specific and should provide sufficient information to personnel on how to eliminate or reduce anticipated hazards for each phase of work. General statements such as Provide adequate fall protection, Proper shoring techniques will be followed, LOTO procedures will be implemented, etc. are not site specific recommend controls measures and will not be accepted. Site specific plans such as Fall Protection, Confined Space, LOTO, Critical Lift, etc. can be attached to the AHAs as a supplement to the AHAs.

ACTIVITY HAZARD ANALYSIS		
Contract No. N62742-99D-2151		
Activity:	DEMOLITION	
Project:	Remove Wall Lockers	Date of Preparation: [REDACTED]
Location:	Pearl Harbor, Hawaii	Analysis by/Date: [REDACTED]
DO#	Task Order 005	Reviewed By/Date: [REDACTED]
WR#	[REDACTED]	Estimate Start Date: 3/1/00
Principal Steps	Potential Hazards	Recommended Controls
DEMOLITION	Personal Protective Equipments	Ensure personnel have the use of hard hats, safety shoes, gloves & short sleeves t-shirts. Ensure personnel use gloves to protects hands from sharp edges. Wear face/dust masks as necessary.
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	Back- strains	Each employee should be instructed in safe lifting procedures.
	Falling ,tripping and cuts	Objects weighing over 80# requires 2 people. Ensure personnel practice proper housekeeping to prevent tripping & cutting.

General statements that are not acceptable.



HAZARD ANALYSIS

EVERY CONSTRUCTION, REPAIR
OR ALTERATION PROJECT HAS
HAZARDS!!!

AHA IS IDENTIFYING THE
HAZARDS....

DETERMINING WHAT TO DO TO
OVERCOME THE HAZARDS



ACCIDENT PREVENTION PROGRAM HAZARD ANALYSIS

A HA can be used to evaluate and identify all substances, agents, and environments that present a hazard and the recommendations for control measures. Physical controls should be considered first (work practices), and in cases where not possible, then PPE may be used.

Yea I Remember!

1st Engineering Controls

2nd Work Practices (physical controls)

3rd PPE



ACCIDENT PREVENTION PROGRAM HAZARD ANALYSIS

**REQUIRED
AS PART OF
QUALITY CONTROL
PREPARATORY/INITIAL
INSPECTION**



CONTRACTOR QC DUTIES

**AS PART OF THEIR QUALITY
CONTROL RESPONSIBILITIES
CONTRACTOR QC PERSONNEL
SHALL CONDUCT & DOCUMENT
DAILY SAFETY INSPECTIONS**

01.A.12 b & SPECS. 013526

**DOES THE
PRIME CONTRACTOR
SUBMIT HIS A.H.A
WITH THE ACCIDENT
PREVENTION PLAN?**



**I SAW
SOMETHING
IN THE APP??**



ACCIDENT PREVENTION PLAN

COE MANUAL APPENDIX “A”



Requires contractor to list the phases of work and Hazardous activities requiring **ACTIVITY HAZARD ANALYSIS**

Appendix “A” Paragraph 2-f.



**ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS**

**WHEN DOES THE
CONTRACTOR
SUBMIT THE**

H.A.?

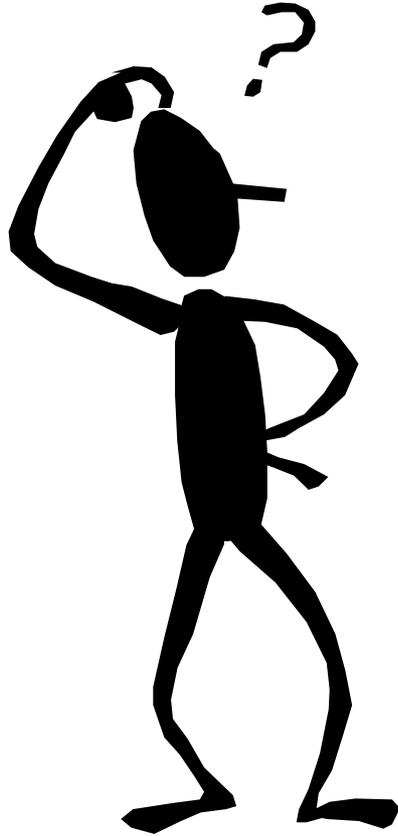


ACCIDENT PREVENTION PROGRAM HAZARD ANALYSIS

Submit the HA for the Preparatory Phase. before each phase of work and at initial phase meeting. Submit subsequent AHA for each major phase of work prior to start of that phase. **NO WORK WILL START UNTIL THE AHA HAS BEEN ACCEPTED BY THE DESIGNATED GOVERNMENT REPRESENTATIVE. format subsequent as amendments to the Accident Prevention specifications section 013526**



**ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS**



Who would
normally
develop
the
H.A.?





**THE
CONTRACTOR
WHO WILL
ACTUALLY
BE DOING
THE WORK**

ACCIDENT PREVENTION PROGRAM HAZARD ANALYSIS

As a minimum, define activity being preformed, sequence of work, potential hazards, control measures to eliminate or reduce each hazard to an acceptable level, inspection & training & equipment needed. Name the **competent person for the phase of the work. Proof of their competency/qualification must be submitted to the GDA for acceptance prior to the start of that activity.**

COE Page 8 & 9, Figure 1-2

**Safety Resource Manual: Section “A”,
Pages 26 & 27 Sample HA & extra copies**



WHAT IS AN ACCEPTABLE H.A?

CLASS DISCUSSION OF SAMPLE HA



Construct new masonry wall that is 8 foot high and 20 foot long.

See sample on page 26

**ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS**

Prime Contractor: ABC Construction

Superintendent : Joe Can Do

Masonry Sub-Contractor: Masonry Inc.

Forman for Sub-Contractor: I. KnowItAll

Materials: All Materials on site

Equipment: On site ready to perform work

Electric Mortar Mixer

Forklift on Site

Scaffolding on Site

**Personnel All Prime and Masonry sub-
contractor personnel on site**



**ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS**

1. Contract No.:	2. Contractor:	3. Date:
4. Title:	5. Location:	6. Estimated Start Date:
7. PRINCIPAL STEPS	8. POTENTIAL HAZARDS	9. RECOMMENDED CONTROLS
10. EQUIPMENT TO BE USED	11. INSPECTION REQUIREMENTS	12. TRAINING REQUIREMENTS
13. Contractor (Signature & Date)		
14. Report discussed with contractor/superintendent on		15. Contracting Officer (Signature & Date) or Contracting Officer Representative

HA PRACTICE

CONSTRUCT AN 8' HIGH x 20' LONG MASONRY WALL

PPE (STANDARD)

ADDITIONAL PPE?? (Block Cutter)

SCAFFOLDING

EQUIPMENT/QUALS/TRAINING

MSDS INFORMATION (Mortar)

DESIGNATED **COMPETENT PERSON**

MORTAR MIXER GFCI

BLOCK SAW GFCI

TRAINING DOCUMENTATION

LIMITED ACCESS ZONE??



QUESTION?



Once the HA has been completed and accepted by the Government the project work can start.

Is it necessary to do another HA for this same phase of work on this same project?



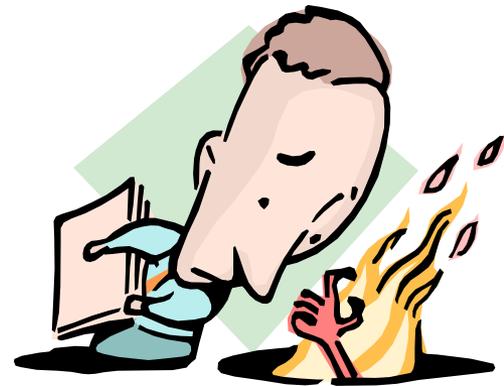
HAZARD ANALYSIS

PRIOR TO START OF ANY NEW PHASE OR TYPE OF WORK PRESENTING HAZARDS NOT PREVIOUSLY EXPERIENCED

A NEW/DIFFERENT WORK CREW OR SUB-CONTRACTOR ARE EMPLOYED.



Under what circumstances should a contractors work operations be stopped?





IMMINENT DANGER !!!!!

IMMINENT DANGER DEFINITION

Immediately dangerous to life or health
(IDLH –respiratory hazard):

an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere

Immediately dangerous to life or health
(IDLH-confined space):

any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or would interfere with an individual's ability to escape unaided from a permit space

IMMINENT DANGER DEFINITION

A condition or practice exists in any place of employment (our jobs) which could reasonably be **expected** to cause **death** or **serious physical harm** immediately or before the imminence of such danger can be eliminated through the enforcement procedures (ie: Administrative Procedures)

Ref: OSHA 1903.13 Imminent Danger Situations



ACTION

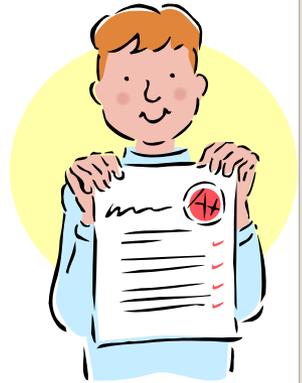
The observation of ANY IMMINENT DANGER situation---the work and/or situation should immediately stop... the imminent danger eliminated then resolution action can be worked out after employees/situation are no longer in jeopardy (“A” Pgs 17-20)



SUMMARY



Prime Contractor submit APP listing phases of work and qualifications of personnel, QC does document safety



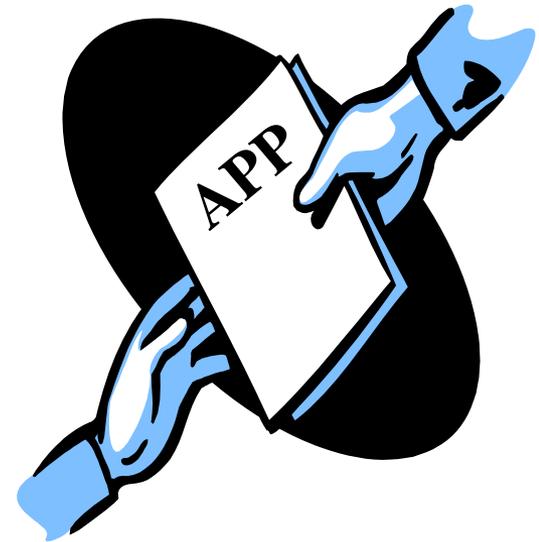
HA submitted before work starts to be accepted by GDA



Imminent danger requires ACTION!

SAFETY QUESTION

**WHEN SHOULD A CONTRACTOR
SUBMIT HIS ACCIDENT PREVENTION
PLAN?**



SAFETY QUESTION

**WHO USUALLY IS RESPONSIBLE
FOR COMPLETING THE HA?
WHY?**



**We can't start
work until you
finish the HA!**



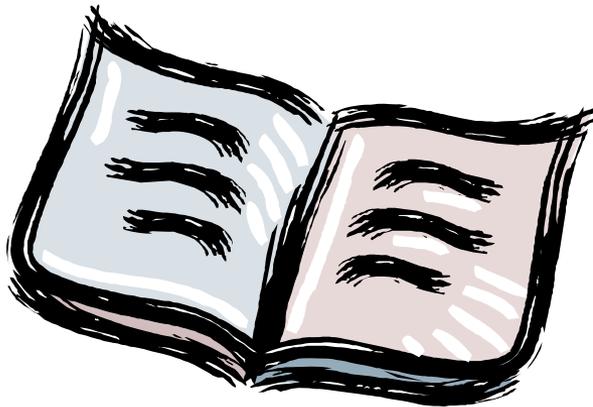
SAFETY QUESTION

WHAT OTHER DUTIES DOES THE CONTRACTOR QUALITY CONTROL PERSON HAVE BESIDES QUALITY CONTROL?



SAFETY QUESTION

WHAT IS THE NAME OF THE DOCUMENT THAT MUST BE COMPLETED AND ACCEPTED BY THE GOVERNMENT REPRESENTATIVE BEFORE ANY PHASE OF WORK IS STARTED?



SAFETY QUESTION

Once an HA has been developed, work environments and hazards involved in the work identified, what control measures should be taken to reduce the hazard.

- a. Chemical and mechanical controls, then environmental controls**
- b. Engineering and administrative controls, then PPE**
- c. Physical and environment controls, then PPE**
- d. Environmental and Engineering controls, then mechanical controls**

SAFETY QUESTION

**WHEN YOU ARE VISITING
A JOB SITE. HOW CAN YOU
KNOW WHAT PHASES OF
WORK ARE IN PROGRESS?**

**Why are you
on your knees??**

**I am praying
for a break
from this class**



HINT: See 01.A.06d

FINAL QUESTION: WHAT TIME IS IT?



Who
Knows?

