

# INCIDENT INVESTIGATION

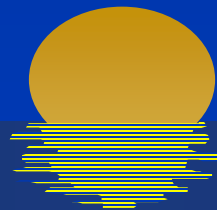


Ken Roberts, MS, CIH, CSP  
Environmental Services Officer  
Pima County Facilities Management

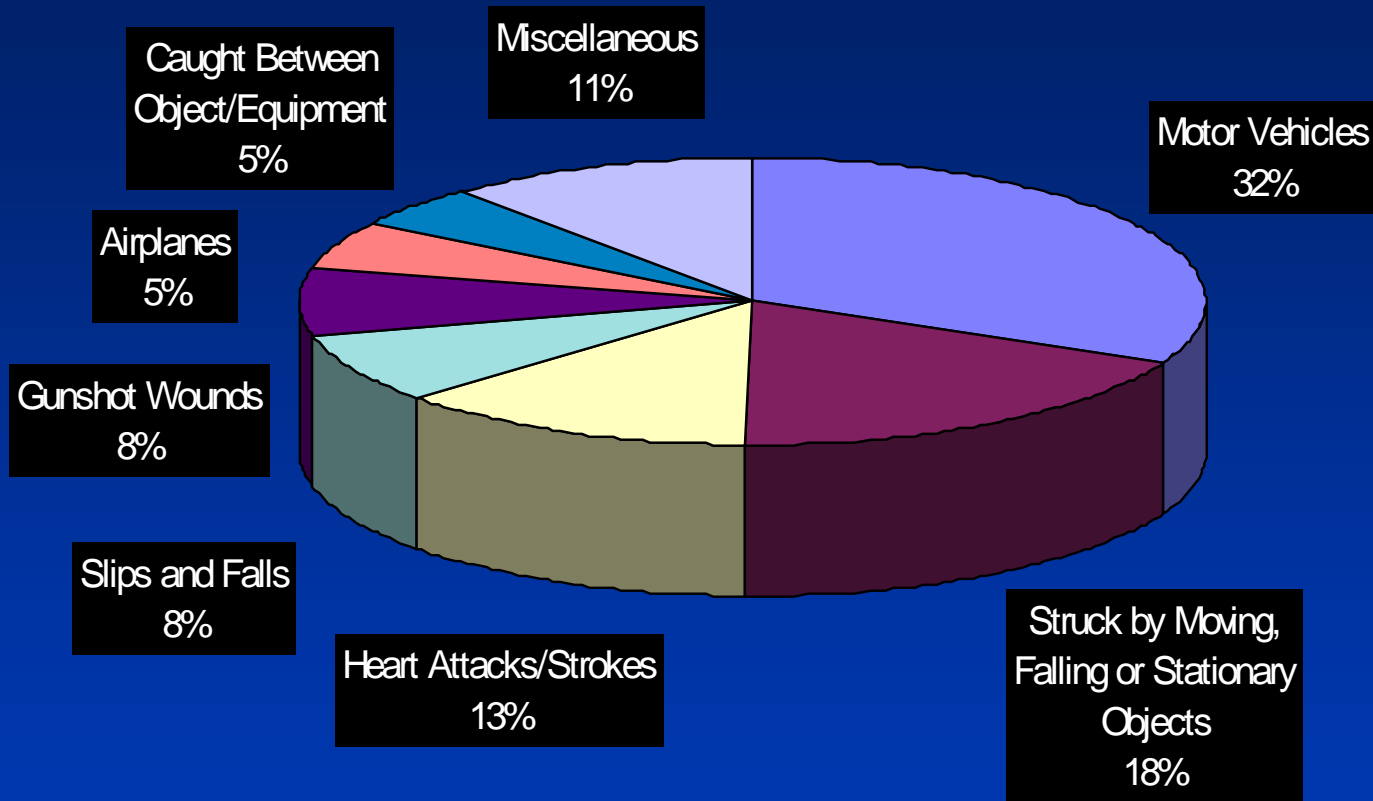
# What's your Favorite Hobby?



Whale Shark with Snorkeler



# Leading Causes of Workplace Deaths



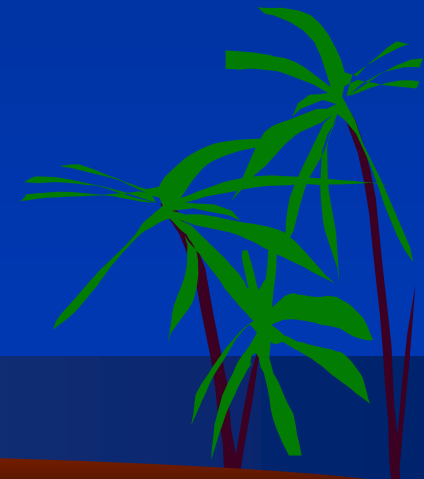
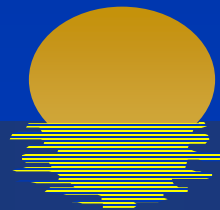
# The Aim of the Investigation

- | EXONERATE INDIVIDUALS OR MANAGEMENT
- | SATISFY INSURANCE REQUIREMENTS
- | DEFEND A POSITION FOR LEGAL ARGUMENT
- | OR, TO ASSIGN BLAME



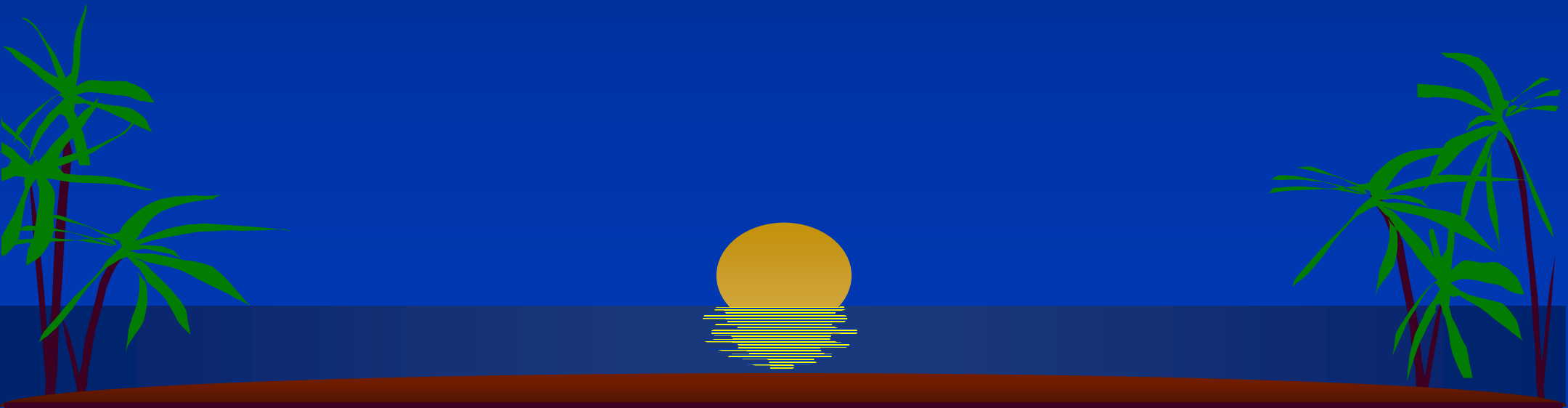
# The Aim of the Investigation

THE KEY RESULT SHOULD BE TO  
PREVENT A RECURRENCE OF THE  
SAME ACCIDENT



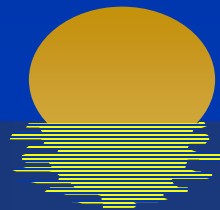
# THE ACCIDENT

WHAT IS AN ACCIDENT?



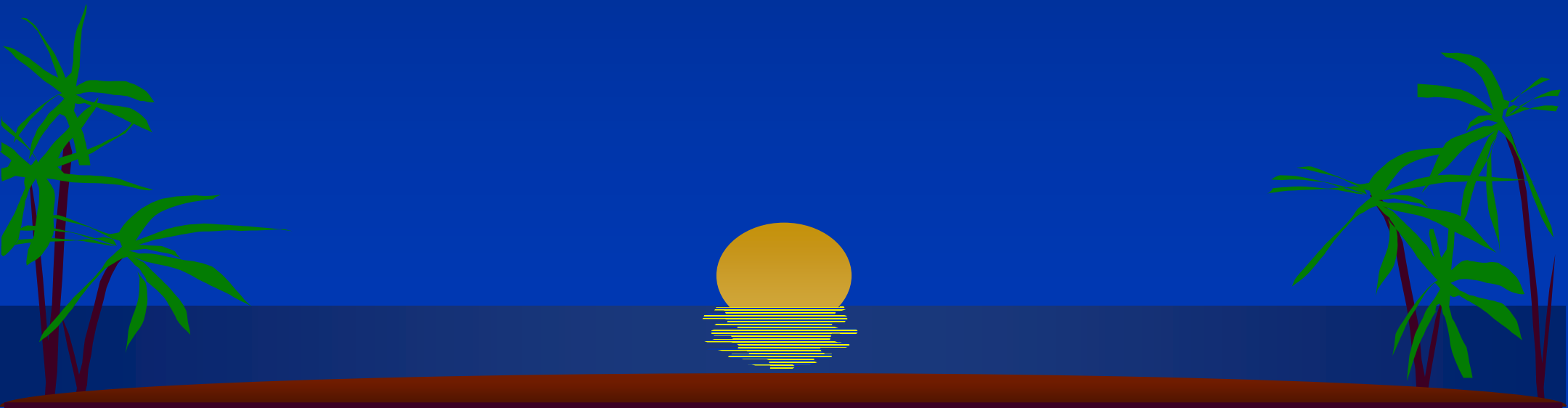
# THE ACCIDENT

AN UNPLANNED AND UNWELCOMED  
EVENT WHICH INTERRUPTS  
NORMAL ACTIVITY.



# THE ACCIDENT

THREE BASIC TYPES OF ACCIDENTS

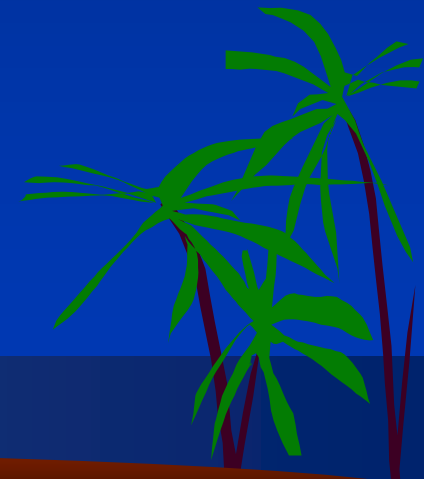
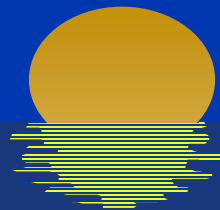




# THE ACCIDENT

MINOR ACCIDENTS:

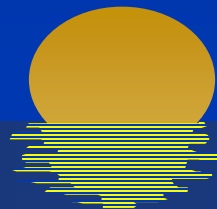
SUCH AS PAPER CUTS TO FINGERS  
OR DROPPING A BOX OF  
MATERIALS



# THE ACCIDENT

MORE SERIOUS ACCIDENTS THAT  
CAUSE INJURY OR DAMAGE TO  
EQUIPMENT OR PROPERTY:

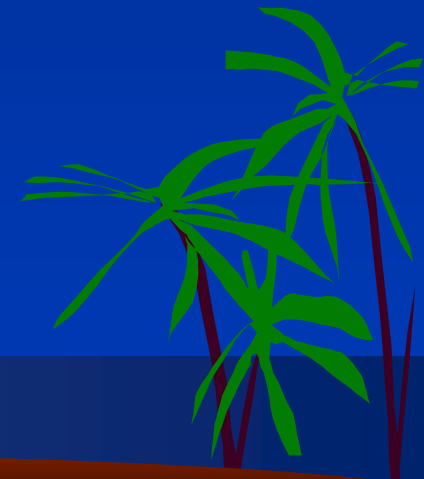
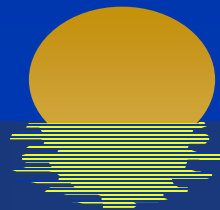
SUCH AS A FORKLIFT DROPPING A  
LOAD OR SOMEONE FALLING OFF A  
LADDER



# THE ACCIDENT

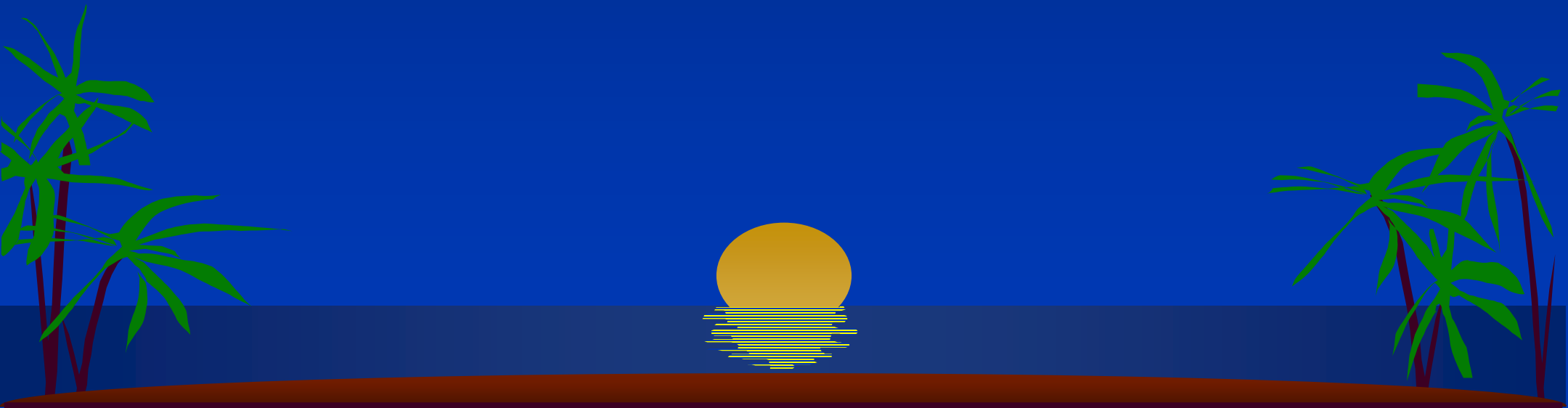
ACCIDENTS THAT OCCUR OVER AN  
EXTENDED TIME FRAME:

SUCH AS HEARING LOSS OR AN  
ILLNESS RESULTING FROM  
EXPOSURE TO CHEMICALS



# THE ACCIDENT

ACCIDENTS HAVE TWO THINGS IN  
COMMON



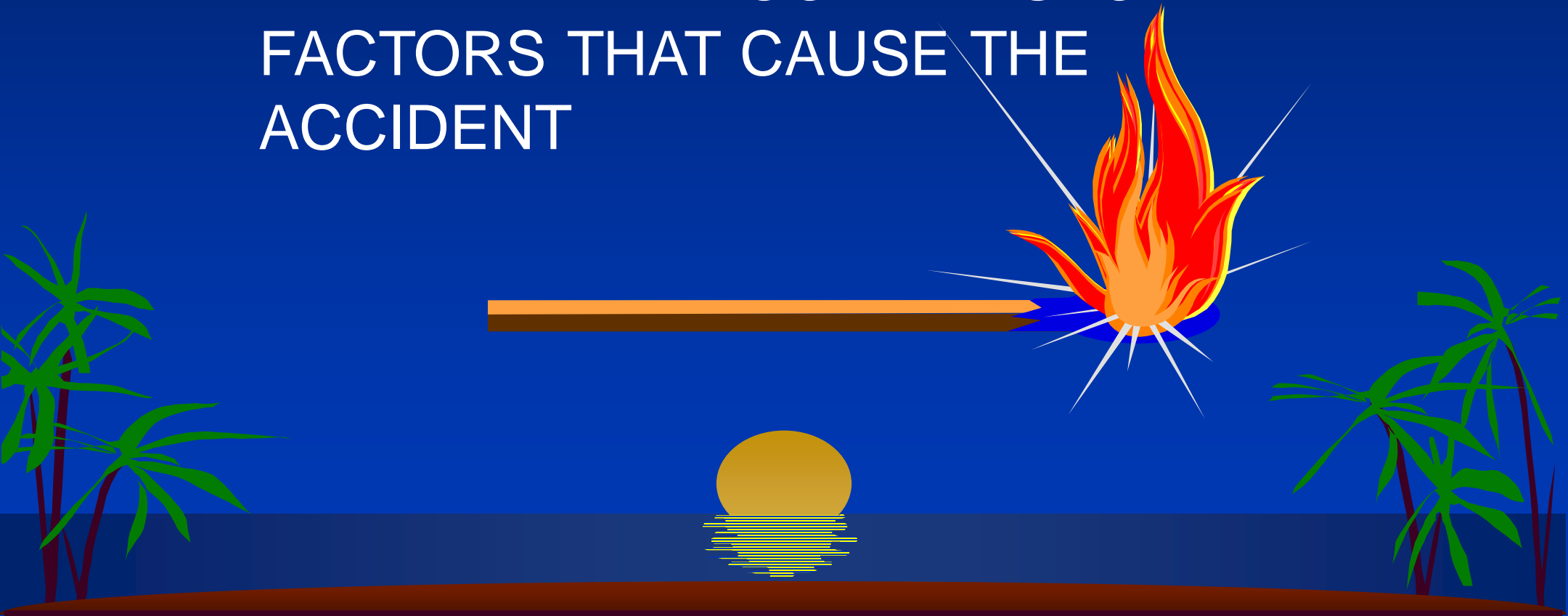
# THE ACCIDENT

THEY ALL HAVE OUTCOMES FROM  
THE ACCIDENT



# THE ACCIDENT

THEY ALL HAVE CONTRIBUTORY  
FACTORS THAT CAUSE THE  
ACCIDENT



# OUTCOMES OF ACCIDENTS

## I NEGATIVE ASPECTS

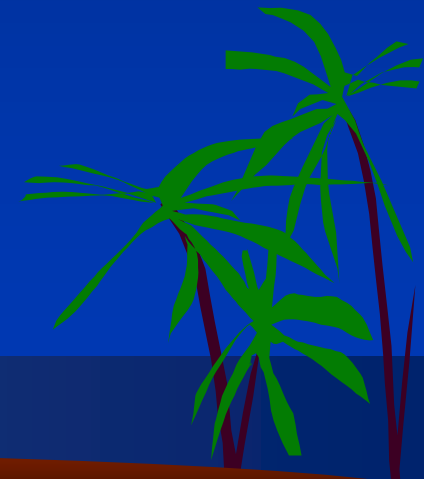
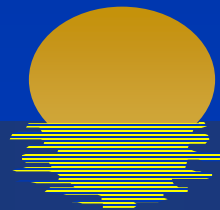
- DEATH & INJURY
- DISEASE
- DAMAGE TO EQUIPMENT & PROPERTY
- LITIGATION COSTS
- LOST PRODUCTIVITY



# OUTCOMES OF ACCIDENTS

## I POSITIVE ASPECTS

- ACCIDENT INVESTIGATION
- CHANGE TO SAFETY PROGRAMS





# CONTRIBUTING FACTORS

| ENVIRONMENTAL

| DESIGN

| SYSTEMS & PROCEDURES

| HUMAN BEHAVIOUR



# CONTRIBUTING FACTORS

## I ENVIRONMENTAL

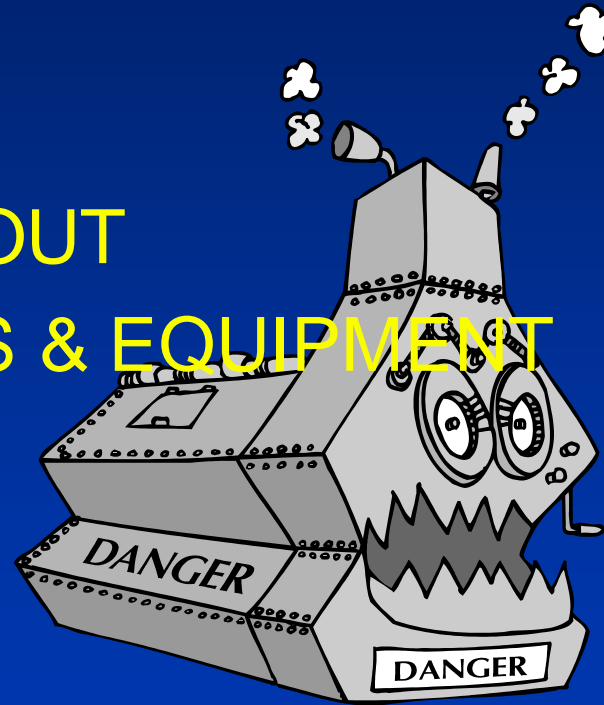
- NOISE
- VAPORS, FUMES, DUST
- LIGHT
- HEAT
- CRITTERS



# CONTRIBUTING FACTORS

## I DESIGN

- WORKPLACE LAYOUT
- DESIGN OF TOOLS & EQUIPMENT



# CONTRIBUTING FACTORS

## I SYSTEMS & PROCEDURES

- LACK OF SYSTEMS & PROCEDURES
- INAPPROPRIATE SYSTEMS & PROCEDURES

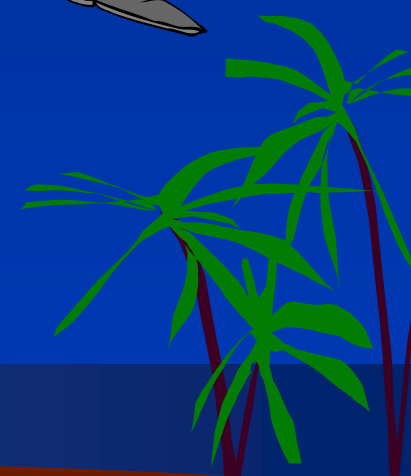
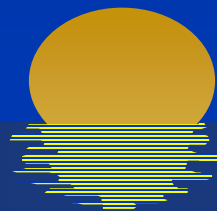
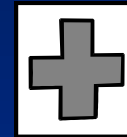


# CONTRIBUTING FACTORS

## I HUMAN BEHAVIOUR

- COMMON TO ALL ACCIDENTS
- NOT LIMITED TO THE PERSON INVOLVED IN THE ACCIDENT

ADMITTING



# WHO SHOULD INVESTIGATE

I DEPENDENT ON SEVERITY OF THE ACCIDENT

– INVESTIGATION TEAM

- u INDIVIDUALS INVOLVED
- u SUPERVISOR
- u SAFETY SUPERVISOR
- u UPPER MANAGEMENT
- u OUTSIDE CONSULTANTS



# INVESTIGATION STRATEGY

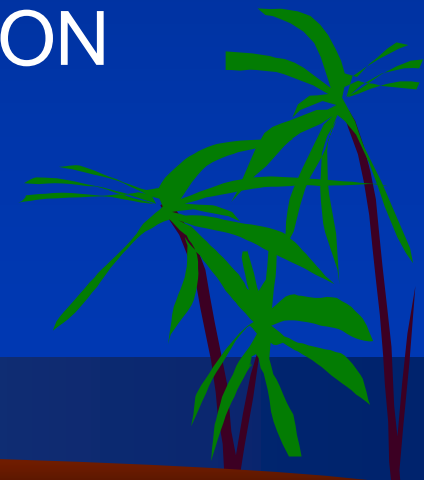
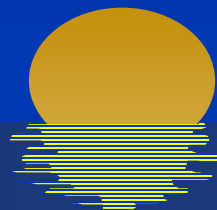
- | GATHER INFORMATION & ESTABLISH FACTS
- | ISOLATE ESSENTIAL CONTRIBUTORY FACTORS
- | DETERMINE CORRECTIVE ACTIONS
- | IMPLEMENT CORRECTIVE ACTIONS



# INVESTIGATION STRATEGY

## I FACT GATHERING

- BE IMPARTIAL & OBJECTIVE
- COMPILE PROCEDURES & RULES FOR THE AREA
- GATHER MAINTENANCE RECORDS ON EQUIPMENT INVOLVED

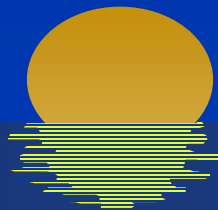




# INVESTIGATION STRATEGY

## I FACT GATHERING (CONTINUED)

- ISOLATE ACCIDENT SCENE
- PHOTOS & DIAGRAMS
- DO NOT DISCARD OR DESTROY ANYTHING

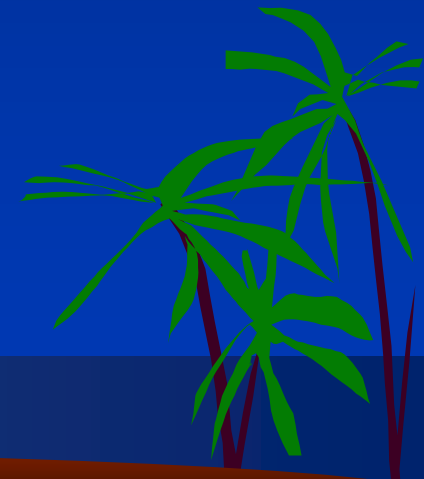
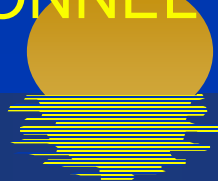


# INVESTIGATION STRATEGY

## I FACT GATHERING (CONTINUED)

- TIME IS OF THE ESSENCE
- OBTAIN INFORMATION

- u INJURED
- u WITNESSES
- u SUPERVISORS
- u OTHER PERSONNEL



# INVESTIGATION STRATEGY

## I FACT GATHERING (CONTINUED)

### – INTERVIEWS (SEPARATELY)

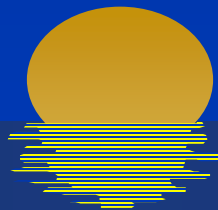
- u WHAT WERE YOU DOING?
- u HOW DO YOU THINK THE ACCIDENT OCCURRED?
- u HOW WERE YOU TRAINED FOR THE JOB?
- u WHAT IS THE SAFETY PROCEDURE FOR THIS JOB?



# INVESTIGATION STRATEGY

## I FACT GATHERING (CONTINUED)

- OBTAIN FACTS NOT OPINIONS
- MAKE IT CLEAR THE OBJECT OF THE INVESTIGATION IS TO AVOID RECURRENCE, NOT TO APPORTION BLAME

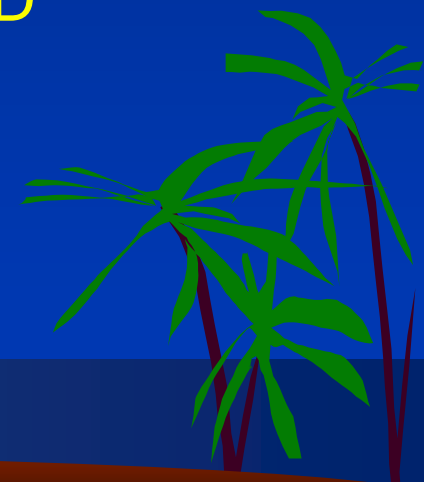
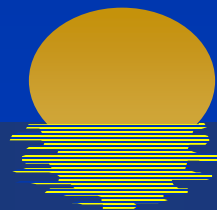


# INVESTIGATION STRATEGY

- | ISOLATE ESSENTIAL  
CONTRIBUTORY FACTORS

- INVESTIGATION TEAM

- u EVALUATES ALL FACTORS CONCERNED

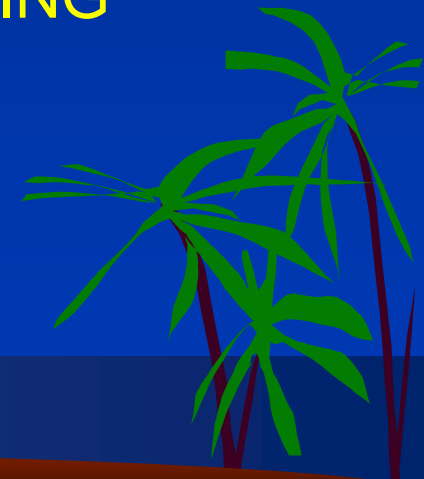
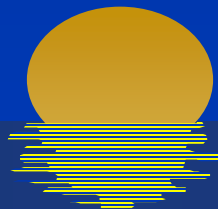


# INVESTIGATION STRATEGY

- | ISOLATE ESSENTIAL  
CONTRIBUTORY FACTORS

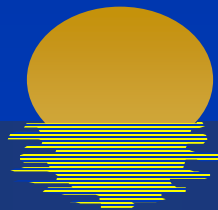
- INVESTIGATION TEAM

- u ISOLATES THE KEY FACTOR(S) BY ASKING  
THE FOLLOWING QUESTION....



# INVESTIGATION STRATEGY

WOULD THE ACCIDENT HAVE  
HAPPENED IF THIS PARTICULAR  
FACTOR WAS NOT PRESENT?

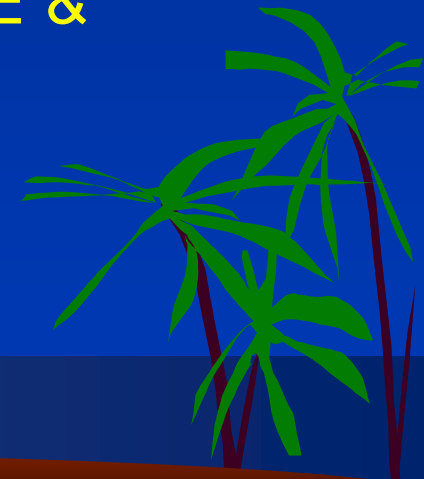
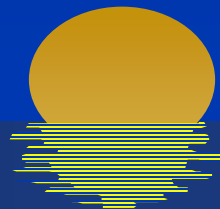


# INVESTIGATION STRATEGY

## I DETERMINE CORRECTIVE ACTIONS

### – INVESTIGATION TEAM

- u INTERPRETS & DRAWS CONCLUSION
- u DISTINCTION BETWEEN INTERMEDIATE & UNDERLYING CAUSES



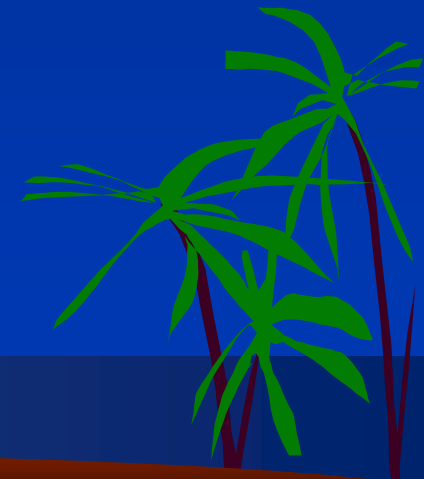
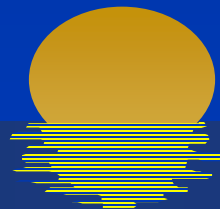


# INVESTIGATION STRATEGY

## I DETERMINE CORRECTIVE ACTIONS

### – INVESTIGATION TEAM

- u RECOMMENDATIONS BASED ON KEY CONTRIBUTORY FACTORS AND UNDERLYING CAUSES

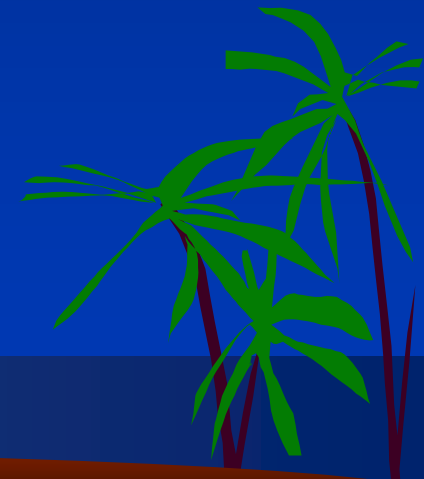
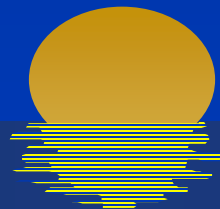


# INVESTIGATION STRATEGY

## I IMPLEMENT CORRECTIVE ACTIONS

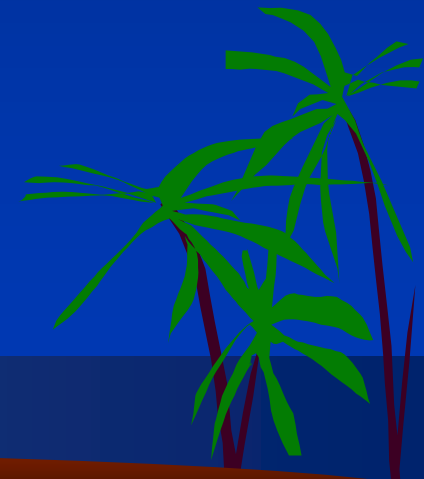
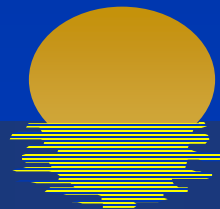
### – INVESTIGATION TEAM

- u RECOMMENDATION(S) MUST BE COMMUNICATED CLEARLY
- u STRICT TIME TABLE ESTABLISHED
- u FOLLOW UP CONDUCTED



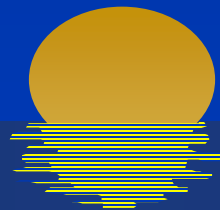
# BENEFITS OF ACCIDENT INVESTIGATION

- | PREVENTING RECURRENCE
- | IDENTIFYING OUT-MODED PROCEDURES
- | IMPROVEMENTS TO WORK ENVIRONMENT



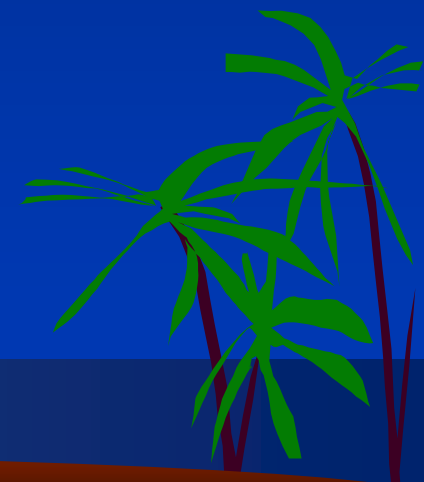
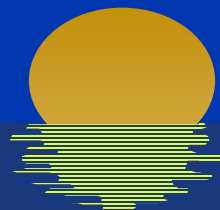
# BENEFITS OF ACCIDENT INVESTIGATION

- | INCREASED PRODUCTIVITY
- | IMPROVEMENT OF OPERATIONAL & SAFETY PROCEDURES
- | RAISES SAFETY AWARENESS LEVEL



# BENEFITS OF ACCIDENT INVESTIGATION

WHEN AN ORGANIZATION REACTS SWIFTLY AND POSITIVELY TO ACCIDENTS AND INJURIES, ITS ACTIONS REAFFIRM ITS COMMITMENT TO THE SAFETY AND WELL-BEING OF ITS EMPLOYEES



Are we to leave our children a country  
ridden with accidents and their  
corresponding burden of human and  
economic loss?

Or . . . can we prove that as Americans, we  
can progress, both technically and  
morally, to provide our citizens with a life  
and work style worthy of the sufferings,  
sacrifices and expectations of our  
founding fathers?

Raymond J. Colvin, Sr.

NYU.....1959



**SAFETY  
FIRST**

**THE SAFE WAY IS  
THE BEST WAY**

