



Safety Training Course “DGPTP”

DIRECTORS GUILD-PRODUCER TRAINING PLAN ASSISTANT DIRECTORS TRAINING PROGRAM

Presented by

**Contract Services Administration
Training Trust Fund**

As part of the

**Safety Pass Training Program for the
Motion Picture and Television Industry**

DGPTP

Third Edition

July 2017



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English:

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Safety Pass Training Program

The Entertainment Industry is committed to maintaining a safe and healthful working environment. To that end, all major studios have a safety representative on staff. In addition, all employers have a safety program in force. This Safety Pass Program has been designed to further promote safety and health and to prevent injuries, illnesses, and accidents on all productions, both on-lot and off-lot.

Studios and production companies may have more restrictive safety requirements than those mandated by local, state, or federal laws or regulations. They also may assign different duties or responsibilities to employees. Therefore, in addition to this Safety Pass training course, employees should refer to the safety manual and materials provided by their employers.

Employees must adhere to all safety rules and regulations. Failure of any employee to follow safety rules and regulations can lead to disciplinary action, up to and including discharge. However, no employee shall be discharged or otherwise disciplined for refusing to perform work that the individual reasonably believes is unsafe.

No safety training can comprehensively cover all possible unsafe work practices. Each production and its employees, therefore, should fully promote each employee's personal obligation to work safely in order to prevent accidents involving, and injuries to, the employee and to his/her fellow employees.

The Safety Pass Program derives from Federal and California Occupational Safety and Health Administration (OSHA) safety regulations. However, the material included in this workbook and its accompanying presentation should be used only as a general guideline. It is not intended as a legal interpretation of any federal, state, or local safety standard.

During the course of your employment, you may be acting as a supervisor or manager. In California, individuals with management authority and actual authority for the safety of a business practice could be convicted of a crime if they have actual knowledge of a serious concealed danger and fail to warn the affected employees and report the hazard. If a hazard exists, immediately notify the employer or studio safety department of the hazard and insure that potentially affected employees are informed of the danger and that steps are taken immediately to mitigate it.

Although the information contained in this training program has been compiled from sources believed to be reliable, the Alliance of Motion Picture and Television Producers, Contract Services Administration Trust Fund, Contract Services Administration Training Trust Fund, and the instructor make no guarantee nor warranty as to, and assume no responsibility for, the accuracy, sufficiency, or completeness of such information.

The Entertainment Industry is committed to maintaining a safe and healthful working environment.

Injury and Illness Prevention Program



This class is part of the employer's safety program.

Employers must provide workers a place of employment free from recognized hazards and must have a safety training program in place.

In the State of California, this program is known as an Injury and Illness Prevention Program (IIPP). One requirement of an IIPP is that every employee must be properly trained in safety.

The IIPP and Safety Pass training courses are part of the employer's safety program.

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Introduction

This Safety Pass Training program was created especially for DGA membership. It has been designed specifically for Unit Production Managers, Assistant Directors, Stage Managers, and Associate Directors. It was created with the thoughtful suggestions and participation of DGA membership, studio safety professionals, and the DGPTP trustees.

Your participation is an important acknowledgement of the role you play in keeping our industry and its people safe.

You, as a UPM, 1st AD, 2nd AD, Stage Manager, or Associate Director, represent the employer, and the IATSE and Basic Crafts members are your crew members.

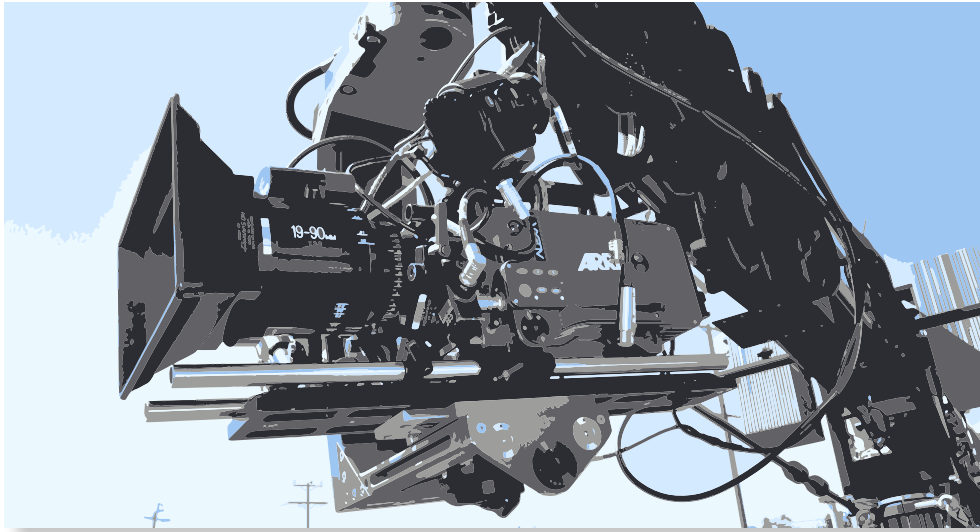
Please note that there are several instances where the term employee is used both in DGPTP language and in other documents contained in this book. The term *employee* is interchangeable with the term *crew member*.

It is recommended that the Safety Pass course *A-General Safety and IIPP* be taken before this DGPTP training. That course covers many general safety topics that will be helpful to DGA members, and is taken by all IATSE and Basic Crafts members.



Notes

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Scene 1

Commitment to Safety

The Alliance of Motion Picture and Television Producers and the entertainment industry's labor unions and guilds have a long-standing commitment to safety. The Safety Pass program has been instituted to standardize the safety training of industry workers. Approximately 40,000 individuals represented by the IATSE and the Basic Crafts unions participate in Safety Pass training in order to remain in compliance with the training requirements of the industry experience roster. Successful completion of Safety Pass training is now necessary for qualifications list placement for certain DGA-represented classifications as well.

AMPTP and industry labor unions and guilds have a strong commitment to safety.



Safety Law

Federal Safety Laws

The Federal Occupational Safety and Health Act, instituted in 1970, established the Occupational Safety and Health Administration (OSHA). It requires employers to maintain a workplace free from recognizable hazards that could cause injury or death to employees. This is known as the *General Duty Clause*.

The Occupational Safety and Health Act prevents employers from retaliating against employees who complain to their employer, OSHA, or other government agencies about unsafe or unhealthful working or environmental conditions. Penalties for violating the Safety and Health Act can be severe: up to \$12,675 for a single violation, and up to \$126,749 for repeat or willful violations. Federal law allows for states to have their own safety laws, as long as the state law is at least as effective in ensuring employee health and safety as the federal law.

California Safety Law

The California Occupational Safety and Health Act of 1973 established the California Occupational Safety and Health Administration (Cal/OSHA) and established some California safety laws that are more effective than federal safety laws. Therefore, California safety laws govern workplace safety in California. California law requires every employer to implement and maintain an Injury and Illness Prevention Program, better known as an IIPP.



This mandatory IIPP must be in writing, and it must meet the following eight requirements:

- Identify a person with authority and responsibility over safety issues
- Implement a system for enforcing employee compliance with safety regulations
- Implement a system for communicating safety information to employees through meetings, training, postings, etc.
- Have a system in place to identify and evaluate workplace hazards through regularly-scheduled inspections
- Include a procedure to investigate injuries or occupational illnesses
- Have methods to correct unsafe or unhealthy conditions
- Establish procedures for documenting safety compliance
- Provide safety training and instruction

Each employer's IIPP will be slightly different depending upon the way that the employer has chosen to implement the law. This means that your role in the safety program, and the duties you have under the safety program, will vary slightly from employer to employer.

California Corporate Criminal Liability Act of 1989

The California Corporate Criminal Liability Act of 1989 states that any corporation or person who is a manager is guilty of a public offense—punishable by imprisonment, fine, or both—if that corporation or person has actual knowledge of a serious concealed danger and **knowingly** fails to warn affected employees and notify the California Division of Occupational Safety and Health (or other agency with oversight) of the danger. The warning must be in writing¹, and if the danger creates an imminent risk of death or great bodily harm, the warning/notice must be immediate. It is important to note here that the term *manager* includes individuals who have direction and control over the affected employees. If the manager knows, or should know, of the hazard, and knowingly fails to warn employees of the danger, and if the danger is not readily apparent and creates a substantial probability of death, great bodily injury, or serious exposure, the manager's failure to warn the employees, notify Cal/OSHA², and correct the hazard could be a crime.

1. Consult the labor relations representative for your production/studio regarding policies and procedures for written warnings.
2. Consult the production safety representative or risk management professional for the production/studio policy and procedure regarding Cal/OSHA notifications.



The term manager includes individuals who have direction and control over the affected employees.



Notes

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Scene 2

Roles and Responsibilities

Responsibilities

What are your rights and responsibilities as a representative of the employer? You have the authority to act as a supervisor or manager, and so you have the authority to direct safety activities of crew members and to take prompt corrective measures to eliminate hazards on the set. How do these safety responsibilities apply to UPMs, Assistant Directors, Stage Managers, and Associate Directors?

No matter your position, you will share some common responsibilities.

- Understand and implement the IIPP and your duties under it.
- Communicate and troubleshoot safety issues to subordinates.
- Respond to accidents and emergencies.
- Deal with OSHA and other government agency inspections and investigations.
- Document safety trainings, meetings, and other health and safety conditions and circumstances, and submit at wrap.
- Prevent retaliation against crew members who report violations.

**IATSE and Basic
Crafts members
are your crew
members.**

As designated by the employer, the Producer, Unit Production Manager, or Stage Manager may act as the safety program director for the production, beginning with pre-production and continuing through post-production. The safety program director has the overall responsibility for the safety program administration and implementation and should confer with the production safety representative to address safety concerns and discipline when necessary. To ensure safety program consistency, the 1st AD, Associate Director, construction coordinator, transportation captain, special effects coordinator, stunt coordinator, and other department heads will be delegated safety responsibilities. The safety program director delegates on-set responsibilities to the 1st AD, 2nd AD, Associate Director, and/or Stage Manager. This may vary from employer to employer (Figure 2.1).



Figure 2.1. The employer may delegate safety responsibilities to the Producer, UPM, Stage Manager, 1st Assistant Director, or Associate Director. Check with each employer for their policy.

Safety-Related Terms

Following are questions that deal with some common, safety-related terms: What is *due diligence* or *reasonable care*? What is a *competent person*? What is a *qualified person*? Can responsibility be delegated? What do we do if studio and location policies or practices differ? What should be documented? What is a safe and healthful workplace? And, when have we satisfied our safety responsibilities? We will answer each of these questions briefly and then apply them to a typical production example.

The examples cited are for information and demonstration only, and do not represent legal advice. If legal questions arise, contact your production attorney.

Due Diligence. What is *due diligence*, *due care*, or *reasonable care*? Reasonable care, due diligence, and due care are fairly interchangeable. The terms are relative and depend on the circumstances. They all require a degree of care, precaution, and diligence as may be fairly and properly expected of a reasonable person, taking into account the nature of the activity. They all refer to giving attention to the matter at hand as required by the circumstances and using the care a person of ordinary prudence and reason would exercise under the same circumstances.

Competent Person. What is a *competent person*? A competent person, generally, is someone who, according to OSHA, is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees *and* who has authorization to take prompt corrective measures to eliminate those hazards. For example, a special effects coordinator would be considered a competent person in that field.

Qualified Person. What is a *qualified person*? According to OSHA, a qualified person means an operator, attendant, or other person designated by the employer who, by reason of training, experience, or instruction, has demonstrated the ability to safely perform the duties, and where required, is properly licensed in accordance with federal, state, or local laws and regulations. For example, a special effects licensed pyrotechnic operator would be considered a qualified person. By checking crew members' Safety Passcard for required training, you ensure that you have hired competent and/or qualified persons. There are instances you may have to go outside your crew to find the competent and/or qualified assistance you need.

Having and implementing an effective Injury and Illness Prevention Program will promote a safe and healthful workplace.

Delegation of Responsibility. Can you delegate responsibility? Yes. Because you are not expected to be a competent person in all areas, you must delegate some responsibilities to someone who is a competent or qualified person. As the employer's representative, you may be delegated responsibility to monitor the individuals to whom you have delegated responsibilities to ensure compliance.

When Policies Differ. What do you do if studio and location policies or practices differ? The prudent action to best protect yourself would be to follow the policy that provides the greater degree of protection to the crew members. Have a discussion with the studio safety representative or risk management professional if necessary.

Documentation. What should be documented? Documentation, when properly completed, is your best defense. Check crew members' Safety Passcards to assure they have the proper training for their jobs. All new training should be documented in some way to show who was trained, when, what the subject was, and with sufficient detail to enable reconstruction of the training information at a later date. Scheduled and periodic inspections should be documented. So should any discipline, including oral warnings³, and any injuries or illnesses. Consult with the production safety representative with regard to the completion of any required documentation. In most cases, your set medic will complete required insurance and/or worker's compensation documentation regarding injuries and illnesses. Safety meetings also should always be documented, as well as any unusual incidents or occurrences.



Figure 2.2. Check crew member's safety training to ensure they have the needed qualifications

3. You should consult with your Labor Relations Representative for the production/studio regarding policy and procedures regarding discipline, including oral warnings.

Safe and Healthful Workplace. What is a reasonably safe and healthful workplace? Many things contribute to a safe and healthful workplace. Make sure that crew members (Figure 2.2), are trained and experienced in the work that you ask them to do communicate the safety program and safety requirements to them, enforce the safety program, and discipline crew members who fail to follow it. OSHA requires documentation that demonstrates employees were disciplined.

Satisfying Your Safety Responsibilities. How do you know when you have satisfied your safety responsibilities?

Let's answer this question with a typical production scenario. You are shooting a scene in which two stunt persons portraying burglars will be blown across a room when they open a safe.

During the safety meeting, a crew member says, "I don't think this is safe because the explosion is too big, and the stuntmen will be hurt." What should you do?

Since, as the UPM, 1st AD, Stage Manager, or Associate Director, you are not a competent person when it comes to stunt safety, your response as part of your due diligence is to go to the competent persons of the crew to whom you have delegated that responsibility—in this case, the effects coordinator and the stunt coordinator. The effects coordinator, who is a competent person, turns to the licensed pyrotechnic technician on the crew, the qualified person, and asks him how big the explosion will be and how close he thinks it is safe for the stunt people to be. He answers, "It's a small explosion. The force is directed towards the back of the safe, so arms' length should be fine." Your competent and qualified people discuss a plan of action. If they agree, document it and move on.

If they disagree, have them keep talking until they reach an agreement, or get a third expert opinion from someone such as a fire safety officer, a studio safety representative, the production's risk manager, or the insurance company representative. Ensure supervisors and the affected crew are aware of the discussion and the outcome.

Have you satisfied your safety responsibilities? Because you have held a safety meeting, addressed safety concerns, reached consensus with the competent and qualified persons, documented the safety concerns, resolutions, and training, we can reasonably assume that you have exercised due diligence, you've provided a reasonably safe and healthful workplace, and therefore, you have satisfied your safety responsibilities.



Notes



Scene 3

Thinking Like a Safety Professional

Scene 2 was a brief overview of the laws and regulations that govern your role and discussed some useful safety-related concepts. In this scene, we will look at a practical way to assess the safety issues that may affect a production.



Figure 3.1. Every shot will have three basic elements—location, people, and equipment. Safety issues may arise where any two elements come together.

The Three Basic Elements

Every filming situation will present its own unique safety and health issues. Simplify this process by breaking the situation down into three basic elements:

- Location
- People
- Equipment

No matter what you are filming, these three elements will be present in every shot (Figure 3.1). Safety issues arise at the points where any two of these elements overlap.

Location

The first element to consider is the location. Consider all of the known facts of the location:

- Will weather, such as extreme heat, be a factor?
- Are there natural hazards, such as cliffs, caves, and water?
- Will there be man-made hazards like traffic and rooftops?
- Are there hazardous materials, like asbestos or chemicals, present at the location?
- Are there any existing hazardous activities occurring, such as in a working factory or oil refinery?
- Is there any unusual flora or fauna, such as poisonous plants or snakes?

People

Next, consider all the known facts of the cast and crew. For example:

- How many people will be on the set, and what will be their proximity to any potential hazards?
- How do you plan to communicate important safety information—safety meetings, call sheets, Safety Bulletins?
- How will you handle radio and telephone communications?
- Will anyone be asked to perform any duties that require special or site-specific training, such as lifting, rigging, or operating equipment?
- Have all personnel had the appropriate safety training?

Equipment

Finally, look at all the different types of equipment that will be needed for the sequence:

- What lighting equipment will be needed?
- Will there be special effects or stunts?
- What types of vehicles will be present, for example, boom lifts, scissor lifts?
- Will shelter be provided?
- Will personal protective equipment (PPE) be needed?
- Will there be a video village?
- Will a camera crane be used?





To begin finding potential safety issues, start by listing the known facts of each basic element—location, people, and equipment

Intersection of the Three Elements

Here is an example to further illustrate the idea of the three elements being present in any film shoot. Look at the facts surrounding a shot using an insert camera car towing a process trailer by listing all the known facts for each of the three elements—location, people, and equipment.

Known Facts—Location

Here's what is known about the location:

- It is in the desert.
- The temperatures are extreme.
- The road is a dry four-lane highway with a flat surface.
- The weather is clear and calm with intense sunlight.

Known Facts—People

Here's what is known about the people:

- In addition to the driver and actors, there are 13 people who will be involved in the shot—the 1st AD.
- The director, the script supervisor, three camera operators, three camera assistants, one sound technician, a director of photography, a gaffer, and a key grip.
- There will be standard insert camera car action; and the people will be close together on the camera car or in the chase vehicle.

Known Facts—Equipment

Here are the known facts regarding the equipment. There will be:

- A standard insert car with process trailer.
- Three cameras with accessories.
- A chase vehicle.

In reality, none of these elements exist apart from the others. As you bring them together, they will interact (Figure 3.2).

Wherever two things come together, look at the consequences of the interaction. If potentially unsafe conditions are created, actions is necessary to address them.



Figure 3.2. Examine the interaction of elements to help analyze safety issues that may arise during a shoot. Where issues overlap, extra precautions may be needed.

Interaction Between Elements

Location and People

Begin by bringing two elements together, for example, location and people. In this case, the location is in the desert beside a road, so some possible problems are that people will dehydrate, there will be traffic safety issues, and there may be rattlesnakes.

Possible solutions. To prevent dehydration, provide water, shade or shelter, and frequent rest periods for acclimatization. Refer to Safety Bulletin #35—*Safety Considerations for the Prevention of Heat Illness*.

To neutralize the effect of traffic on the crew, implement traffic control and ensure the appropriate crew members are wearing high-visibility vests.

To warn the crew of rattlesnakes, you may decide to attach Safety Bulletin #31—*Safety Awareness When Working Around Indigenous “Critters”* to the call sheet.

All these issues should be addressed in a safety meeting.



Whenever two things come together, look at the consequences of the interaction.

The interaction between the crew (people) and an insert car (equipment) is a common situation in this industry.

People and Equipment

Next, consider the interaction between people (the crew) and equipment (the insert camera car), a common issue in this industry. The first issue to consider is that the insert camera car has a gross vehicle weight rating set by the manufacturer. This will limit the number of people (generally nine, including the driver) and the amount of equipment that can be carried. Uneven loading of the insert car can cause balance and stability problems, which could result in members of the crew being ejected or the vehicle flipping over. The weight of people and equipment affects the braking and stopping capabilities of the vehicle. Gear can clutter the passenger area creating trip hazards and lessening the effectiveness of the guardrails.

Possible solutions. To neutralize the effect of overloading the insert car, the industry/manufacturer-approved passenger load must be enforced. Check with the manufacturer or operator for the proper passenger load and distribution. Carefully distribute the crew in a balanced fashion across the rig, and keep work areas around the crew clear of obstructions. Due to the effect of the insert car on the crew, we also know handrails, seat belts, and fall protection will probably be necessary and should be provided. So, have an insert camera car safety meeting and distribute Safety Bulletin #8—*Guidelines for Traditional Camera Cars*.

Equipment and Location

And finally, to complete the analysis of the insert camera car shoot, examine the interaction of the equipment and location. The impact of the interaction of equipment and location may be environmental or mechanical issues.

Possible solutions. The environmental issues can be resolved with adequate planning and spill clean-up supplies. The mechanical issues can be minimized with regular inspections of the insert car and running gear. Note: Document the inspections and the training.

Key Points

There are two important safety topics to discuss—insert camera cars and safety meetings.

Insert Camera Cars

Fall protection is essential on both insert cars and process trailers. Guardrails, harnesses, and seat belts may be appropriate. Make a habit of, and be known for, never carrying more people than necessary—it is not a joyride. Additional essential crew members can ride in a chase vehicle.

Do not ask the insert camera car driver to carry more passengers and/or equipment than the vehicle is rated for. You retain responsibility whatever the answer might be.

Never allow riders to sit on equipment that has been stacked up, which may make the guardrails ineffective. Make sure all people and equipment are properly secured. Adding a process trailer to an insert car does not increase maximum occupancy. Distribute people and equipment accordingly.

Safety Meetings

Safety meetings are an easy way to communicate and document important safety information regarding a new location, a new piece of equipment, safety instructions to a new crew member, or changes to the planned activities.

Safety meetings are especially important prior to stunts and special effects, when using specialized equipment, and when working with animal actors. The person directing the crucial action (for example, the stunt coordinator, special effects coordinator, aerial coordinator, or wrangler), should conduct the safety meeting. Everyone involved in this activity needs to be in attendance.

The appropriate safety bulletin can be an easy guide to help conduct a safety meeting. Be sure to include any site-specific information. The details of the safety meetings must be documented (most often in the production report), including the attendees, the presenter, the dates and time of the meeting, and what was discussed. Make sure the information you record is accurate, concise, and factual. Every safety meeting is site- and action-specific, and questions should be encouraged.

Safety meetings are an important method of communication—encourage questions



The Safety Matrix

By examining the effects of the three basic elements upon one another, you are beginning to think like a safety professional.

A simple tool to help conceptualize the interaction of the three basic elements on the safety of a production is the safety matrix (Figure 3.3). A blank copy of the safety matrix is included in Appendix B of this book.

Known Facts	Interactions	Solutions
<p>Location</p> 	<p>Location/People</p>	
<p>People</p> 	<p>People/Equipment</p>	
<p>Equipment</p> 	<p>Equipment/Location</p>	

Figure 3.3. Using the safety matrix helps identify where the elements of a production overlap.

Safety Matrix—Live Awards Show

Now let’s look at an example of how you would apply the use of a safety matrix to a live awards show.

To begin using the safety matrix, analyze the following scenario for a live awards show presentation at a venue with a stage and orchestra pit, an audience, performing talent, a conductor, and musicians. The crew will be using moving sets, lifts, fog machines, and lighting equipment.

The Elements

Analyzing the situation, the following elements will be present:

- A projection screen will lower about 10 ft. behind an artist, who is crossing downstage.
- An elevator lift drops the floor behind the screen creating an opening, while ground fog begins to float over and creep into the opening.
- Multiple artists in costume with props board the elevator lift.
- Additional artists are standing on stage on their marks as the elevator lift rises through the fog with the costumed actors and their props.
- Conductor and musicians are in the orchestra pit.

Known Facts

To begin, break down the known facts of the situation and list them in the safety matrix in the “Known Facts” column for each element.

Put the known facts about the location into the first square. They are the stage/venue, emergency exits, stage floor and orchestra pit.

Then, put the known facts about the people into the next square. There is an audience, performing talent, conductor, musicians, and large crew.

Finally, enter the known facts about the equipment in the bottom square. There are moving sets, lifts, special effects, and lighting (Figure 3.4).

Remember: wherever two things come together, look at the potential consequences of that interaction.

To do this systematically, use the safety matrix to see how any two elements interact.

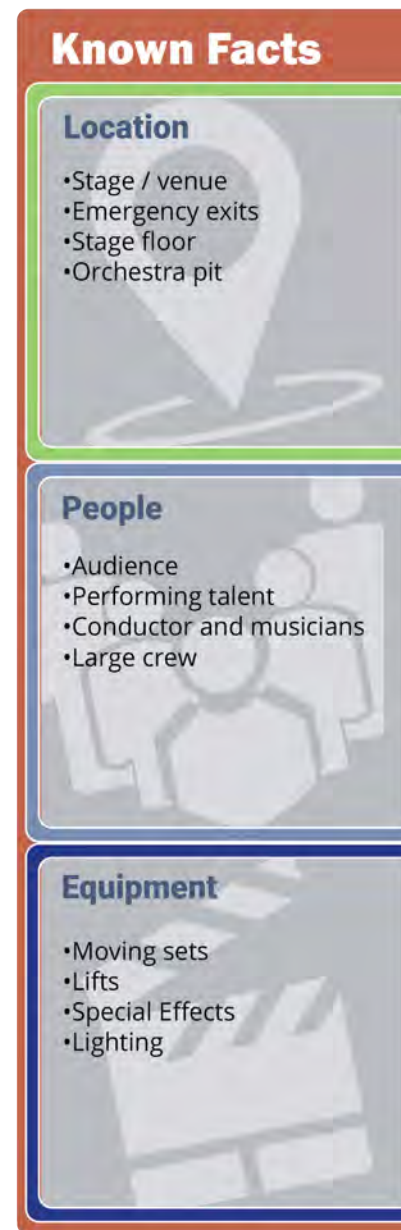


Figure 3.4. Begin the safety matrix with the known facts of each element.

Interactions and Solutions—Location and People

Examine the possible problems that can arise from the interaction of two of the elements, location and people. This information will go in the box indicated on the safety matrix (Figure 3.5).

Some of the potential problems that might arise from this interaction could be:

- Stage load
- Adequate exit doors and routes for the audience
- Potential fall hazards.

Add them to the matrix, and then consider solutions to address them.

Possible solutions: Review the engineering data for the maximum stage loading data. Obtain a fire permit for the live audience occupancy, and because special effects will be used, be sure a fire safety officer (FSO) is present. Provide handrails and fall protection, and give fall hazard awareness training to cast and crew.

Known Facts	Interactions	Solutions
<p>Location</p> <ul style="list-style-type: none"> •Stage / venue •Emergency exits •Stage floor •Orchestra pit 	<p>Location/People</p> <ul style="list-style-type: none"> •Stage load •Adequate egress for audience •Potential fall hazards 	<ul style="list-style-type: none"> •Review engineering data •Obtain fire permit •Have FSO present •Provide fall protection •Provide fall hazard awareness training

Figure 3.5. Continue using the matrix by filling in the interactions between the location and people, and the possible solutions to those interactions.

Interactions and Solutions—People and Equipment

Now, consider the interactions between the next two elements, people and equipment, to determine the potential hazards. In this example, the hazards could include:

- Noise exposure
- Moving set pieces
- Special effects, including exposure to atmospheric smokes and fogs
- Low back stage lighting

Add them to the matrix, and then consider solutions to address them.

Possible solutions: Evaluate the noise level. Have a run-through to familiarize cast and crew with the path of travel and the movement of set pieces. Minimize use of the fog effect, and provide appropriate task lighting and glow-in-the-dark tape markings.

Known Facts	Interactions	Solutions
<p>Location</p> <ul style="list-style-type: none"> • Stage / venue • Emergency exits • Stage floor • Orchestra pit 	<p>Location/People</p> <ul style="list-style-type: none"> • Stage load • Adequate egress for audience • Potential fall hazards 	<ul style="list-style-type: none"> • Review engineering data • Obtain fire permit • Have FSO present • Provide fall protection • Provide fall hazard awareness training
<p>People</p> <ul style="list-style-type: none"> • Audience • Performing talent • Conductor and musicians • Large crew 	<p>People/Equipment</p> <ul style="list-style-type: none"> • Noise exposure • Moving set pieces • Special effects • Low light 	<ul style="list-style-type: none"> • Noise evaluation • Run through • Minimize fog use • Provide task lighting and markings

Figure 3.6. Fill in the information for the interaction of people and equipment and the possible solutions.



Interactions and Solutions—Equipment and Location

The final factors to be considered are the interactions between equipment and location. Some possible issues could be:

- Stage load
- Potential floor openings
- Reduced visibility due to light and special effects, the
- Equipment positioning on stage
- Blocked exits

Possible solutions: Evaluate the positioning of equipment to balance the load, based on the engineering of the stage. Mark edges with glow-in-the-dark tape, minimize use of the fog effect, and keep paths clear from equipment obstructions.

Fill in this information on the matrix (Figure 3.7).



Pay special attention to areas that appear more than once in the completed safety matrix.

The Completed Safety Matrix

There are many more interactions, possible problems, and solutions that could be listed for this example. A few are discussed here to get started using the safety matrix. Some of the potential hazards and their solutions appear more than once. Pay special attention to these issues, as they may have compounded effects.

The safety matrix helps you understand the relationship of location, people, and equipment. Consider all of them for each shoot so that safety issues can be anticipated. Plan from the beginning to deal with them proactively.

Known Facts	Interactions	Solutions
<p>Location</p> <ul style="list-style-type: none"> •Stage / venue •Emergency exits •Stage floor •Orchestra pit 	<p>Location/People</p> <ul style="list-style-type: none"> •Stage load •Adequate egress for audience •Potential fall hazards 	<ul style="list-style-type: none"> •Review engineering data •Obtain fire permit •Have FSO present •Provide fall protection •Provide fall hazard awareness training
<p>People</p> <ul style="list-style-type: none"> •Audience •Performing talent •Conductor and musicians •Large crew 	<p>People/Equipment</p> <ul style="list-style-type: none"> •Noise exposure •Moving set pieces •Special effects •Low light 	<ul style="list-style-type: none"> •Noise evaluation •Run through •Minimize fog use •Provide task lighting and markings
<p>Equipment</p> <ul style="list-style-type: none"> •Moving sets •Lifts •Special Effects •Lighting 	<p>Equipment/Location</p> <ul style="list-style-type: none"> •Stage load •Potential floor openings •Reduced visibility •Position on stage •Blocked exits 	<ul style="list-style-type: none"> •Evaluate equipment to balance stage load •Mark with glow-in-the dark tape •Minimize use of fog •Keep paths clear

Figure 3.7. Complete the safety matrix by filling in the information about equipment and location.



Safety Matrix—Glacier Shoot

Here is another scenario to practice using the safety matrix to help uncover and resolve potential safety issues.

The Elements

For the next scenario, you will be filming a plane crash set on a distant location on a glacier. The only access is by helicopter. There is a fairly large cast and a good size crew, and the schedule has been set for an 18-day shoot on the mountain. Once again, let's break down our scenario into the three elements: location, people, and equipment.

Known Facts—Location

The known facts about the location, which can be entered into the matrix, are:

- Filming on a glacier at 12,000 ft. elevation
- Ice and snow conditions
- No roads to the top of the glacier
- Possibility of severe weather

Known Facts—People

The known facts about the people are:

- A large cast
- A good-size crew
- Riggers
- Stunt performers
- Special effects crew

Known Facts—Equipment

And the known facts about the equipment you'll be using are:

- Shelter and food
- First aid and safety supplies
- Communication equipment
- Normal production equipment
- The set—an airplane fuselage

Begin by entering the known facts (Figure 3.8) into the safety matrix.

Known Facts	Interactions	Solutions
<p>Location</p> <ul style="list-style-type: none"> • Glacier—12,000 ft. • Ice/snow conditions • No road to top • Severe weather 	<p>Location/People</p>	
<p>People</p> <ul style="list-style-type: none"> • Large cast • Good-sized crew • Riggers • Stunt performers • Special effects crew 	<p>People/Equipment</p>	
<p>Equipment</p> <ul style="list-style-type: none"> • Shelter/food • First aid/safety supplies • Communication equipment • Normal production equipment • Set—plane crash 	<p>Equipment/Location</p>	

Figure 3.8. Begin the breakdown by entering the known facts of the glacier shoot.

Interactions and Solutions—Location and People

Start by looking at the interaction between two of the elements, location and people, and plug those into the safety matrix (Figure 3.9).

Some of the potential hazards that arise from the interaction of the location and people are:

- Access and accountability
- Environmental damage and waste
- Possibility that people could cause an avalanche
- Personnel could be stranded at the top of the mountain in extreme weather
- Working in high altitudes

Possible solutions: First, an emergency plan is needed to cover the unique needs of the glacier location. Extra first aid, food, and supplies should be brought up the mountain in case the crew is stranded. You may want to implement the buddy system, assign a mountain coordinator, or hire an alpine rigging team to help your people navigate the glacier terrain. Provide the cast and crew with the signs and symptoms of altitude sickness, and provide time for acclimation.

Review the appropriate safety bulletins such as #34—*Guidelines for Working in Extreme Cold Temperature Conditions*.

Known Facts	Interactions	Solutions
<p>Location</p> <ul style="list-style-type: none"> • Glacier—12,000 ft. • Ice/snow conditions • No road to top • Severe weather 	<p>Location/People</p> <ul style="list-style-type: none"> • Access and accountability • Environmental impact • Avalanches • Stranding • Extreme weather • Altitude sickness 	<ul style="list-style-type: none"> • Emergency plan • Extra food/first aid/supplies • Buddy system • Assign mountain coordinator • Alpine rigging system • Safety bulletins

Figure 3.9. Once the interactions between location and people are identified, fill in the possible solutions.

Interactions and Solutions—People and Equipment

Now, use the safety matrix to examine the interaction between the next two elements, people and equipment (Figure 3.10).

The large crew and reliance on helicopters for transportation could result in overuse or overloading of the copters. Also, many people will be in close proximity to helicopter operations. People will be using unusual rigging equipment in unfamiliar situations, and fire fighting and rescue resources will be limited.

Possible solutions. Limit helicopter loading and operation to within manufacturer’s recommended guidelines and specifications, and make these known to the crew in a helicopter safety meeting, at which time you can also review AMPTP Safety Bulletin #3—*Guidelines Regarding the Use of Helicopters in Motion Picture Productions*. Specialized training for rigging and procedures must be provided. Emergency rescue, first aid supplies, and shelter and equipment sufficient for the large number of people will be needed.

Known Facts	Interactions	Solutions
<p>Location</p> <ul style="list-style-type: none"> •Glacier—12,000 ft. •Ice/snow conditions •No road to top •Severe weather 	<p>Location/People</p> <ul style="list-style-type: none"> •Access and accountability •Enviromental impact •Avalanches •Stranding •Extreme weather •Altitude sickness 	<ul style="list-style-type: none"> •Emergency plan •Extra food/first aid/supplies •Buddy system •Assign mountain coordinator •Alpine rigging system •Safety bulletins
<p>People</p> <ul style="list-style-type: none"> •Large cast •Good-sized crew •Riggers •Stunt performers •Special effects crew 	<p>People/Equipment</p> <ul style="list-style-type: none"> •Helicopters <ul style="list-style-type: none"> •Overuse •Overloading •Proximity •Unusual rigging needs •Limited firefighting and rescue 	<ul style="list-style-type: none"> •Helicopter safety meetings •Safety Bulletin #3 •Special rigging equipment •Emergency rescue/first aid •Shelter and equipment

Figure 3.10. Enter the interactions between people and equipment then fill in the possible solutions.



Incorporate the interaction of the three elements: location, people and equipment, and use the safety matrix when planning your next project.

Interactions and Solutions—Equipment and Location

Consider the final two elemental interactions in our matrix: equipment and location.

Some possible hazards could be:

- The use of helicopters should make you prepare for a fuel spill on the glacier.
- The sound of the helicopters and the weight of the production equipment could cause an avalanche.
- The mountain location could interfere with radio signals.
- Normally reliable equipment could be subject to failure due to the extreme cold.
- You will need the proper type of helicopter to get your crew, equipment, and set to the top of the mountain.

Possible solutions. Increase the maintenance on helicopters and other equipment to combat the effects of the cold conditions. Mountain capable two-way radios with repeaters and satellite capabilities will overcome communication problems. Have a flight plan and limit helicopter use. You may need special helicopters to transport the set and equipment. Establish a remote base camp, and bring environmental clean-up kits in case of a fuel spill.

The Completed Safety Matrix

You now have a completed safety matrix (Figure 3.11).

Again, there are many more interactions, possible problems, and solutions that could be listed for this example. Many additional examples probably occurred to you.

Known Facts	Interactions	Solutions
<p>Location</p> <ul style="list-style-type: none"> • Glacier—12,000 ft. • Ice/snow conditions • No road to top • Severe weather 	<p>Location/People</p> <ul style="list-style-type: none"> • Access and accountability • Environmental impact • Avalanches • Stranding • Extreme weather • Altitude sickness 	<ul style="list-style-type: none"> • Emergency plan • Extra food/first aid/supplies • Buddy system • Assign mountain coordinator • Alpine rigging system • Safety bulletins
<p>People</p> <ul style="list-style-type: none"> • Large cast • Good-sized crew • Riggers • Stunt performers • Special effects crew 	<p>People/Equipment</p> <ul style="list-style-type: none"> • Helicopters <ul style="list-style-type: none"> • Overuse • Overloading • Proximity • Unusual rigging needs • Limited firefighting and rescue 	<ul style="list-style-type: none"> • Helicopter safety meetings • Safety Bulletin #3 • Special rigging equipment • Emergency rescue/first aid • Shelter and equipment
<p>Equipment</p> <ul style="list-style-type: none"> • Shelter/food • First aid/safety supplies • Communication equipment • Normal production equipment • Set—plane crash 	<p>Equipment/Location</p> <ul style="list-style-type: none"> • Possibility of fuel spill • Trigger avalanche • Weak radio signal • Equipment failure • Transporting crew and equipment 	<ul style="list-style-type: none"> • Increase maintenance • Mountain capable radios • Flight plans • Special helicopter • Remote base camp • Environmental clean-up kits

Figure 3.11. Enter the interactions and possible solutions for the final interaction, between equipment and location.



Notes

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Scene 4

Location Awareness

Production safety starts with the initial search for locations. Conduct an assessment of all potential sites, including shooting locations, construction sites, base camps, catering and parking areas, and structures such as warehouses adapted to stages, for possible hazards that will need to be mitigated.



Evaluate each location for physical environmental, and life safety issues.

Potential Hazards

Some of the potential hazards that might be found at a location could include physical hazards, such as weakened structural integrity of a building, particularly one that is abandoned or run down, unsafe electrical systems, exposed wires, non-functioning plumbing, and missing guardrails.

Environmental hazards could include asbestos, lead-based paint, mold, standing water, or bird or rodent droppings. Check for chemical hazards such as materials used or stored at the location or abandoned or unmarked containers that may contain hazardous waste. All fire and life safety hazards must be mitigated, including missing, empty, or damaged fire extinguishers, non-functioning sprinkler systems, obstructed, unmarked, or locked emergency exits, and dry brush or tall grass in base camp or parking areas.

Evaluate possible construction hazards such as the potential to damage underground utilities when digging, staking, or driving a ground rod or working in a trench or confined space without proper protection. Street hazards could include working in traffic lanes without traffic control or using aerial lifts too close to energized power lines.

If the hazards cannot be mitigated, the area should be kept off-limits, or another location should be selected.

Safety Matrix—The Jail

Here is an example of a safety matrix that involves mitigating some location-based hazards.

In this scenario, the crew will be shooting a scene in which two inmates are fighting in their cell. The location is a former jail facility known to have asbestos in the boiler room, with limited access and egress, and poor ventilation. The crew will be using special-effects smoke and a camera crane.

To break down the elements of the shot, list them in the matrix, starting with the known facts about the location:

- Asbestos present
- Limited entries and exits
- Poor ventilation

Next, enter the known facts about the people:

- Stunt performers
- Extras
- Large crew

Finally, enter the known facts about the location:

- Special-effects fogger
- Camera crane



Remember, where two things come together, look at the consequences of that interaction.



Examine the Interactions Between Elements

Examining the interaction of location and people. To do this systematically, look at the safety matrix to see how any two elements interact.

Location and People

Some of the problems that arise may will be limited emergency exits, potential inhalation problems from the asbestos, and uncomfortable air.

Add them to the matrix, and then consider solutions to address the problems. Enter those solutions into the matrix (Figure 4.1).

For example, to keep the crew from disturbing the asbestos and causing an inhalation hazard, isolate those areas and warn crew members of the risks.

There are a limited number of emergency exits, therefore, the size of the crew may have to be limited and address the limited exits in the emergency plan. To mitigate the uncomfortable air quality, portable ventilation or air conditioning may be needed, but take caution not to disturb any asbestos.



When in doubt, get another opinion from the studio safety representative, risk manager, supervisor, insurance company representative, an asbestos expert, etc.

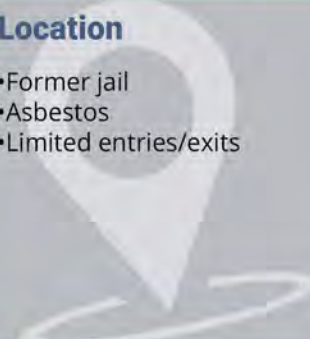
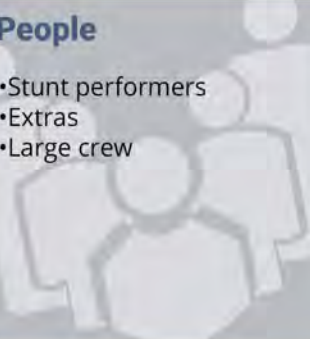

Known Facts	Interactions	Solutions
Location <ul style="list-style-type: none">•Former jail•Asbestos•Limited entries/exits 	Location/People <ul style="list-style-type: none">•Limited emergency exits•Potential inhalation problems•Uncomfortable air	<ul style="list-style-type: none">•Isolate asbestos and warn crew•Limit crew•Emergency plan•Portable AC•Additional opinion
People <ul style="list-style-type: none">•Stunt performers•Extras•Large crew 	People/Equipment	
Equipment <ul style="list-style-type: none">•Special effects fogger•Camera crane 	Equipment/Location	

Figure 4.1. Use the safety matrix to systematically evaluate the interactions of location and people.



People and Equipment

Next, consider the interaction of the people and equipment to determine any potential hazards that could result.

Because there is a special effects fogger around a large crew, poor air quality may result. Operation of the camera crane around a large number of people could result in mechanical injuries.

Then, look at the possible solutions to the safety issues revealed by the matrix.

To remedy the poor air quality, bring in additional ventilation. Make sure the crane operator has had proper training, conduct a crane safety meeting, and distribute Safety Bulletin #25—*Camera Cranes*.

Equipment and Location

The final interaction to be considered is the interaction between equipment and location.

The positioning of the crane with a large crew and limited access will most likely create blocked exits. The special effects fogger will add to poor air quality and could create poor visibility.

So, what are some solutions to these new problems? Limit the use of the special effects fog, limit the number of crew in the cell area, ventilate the smoke between takes, and take extra care to keep the exits clear. Enter these in the proper places to complete the safety matrix (Figure 4.2)

Again, there are many more interactions, possible problems, and solutions that could be listed for this example. We've given you a few here. Some of the potential hazards and their solutions appear more than once in the safety matrix. Pay special attention to these issues, as they may have compounded effects.


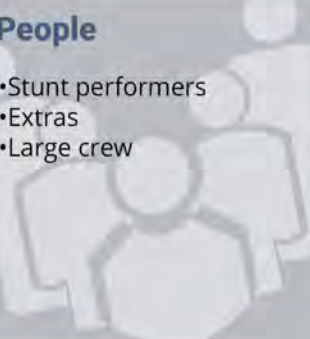

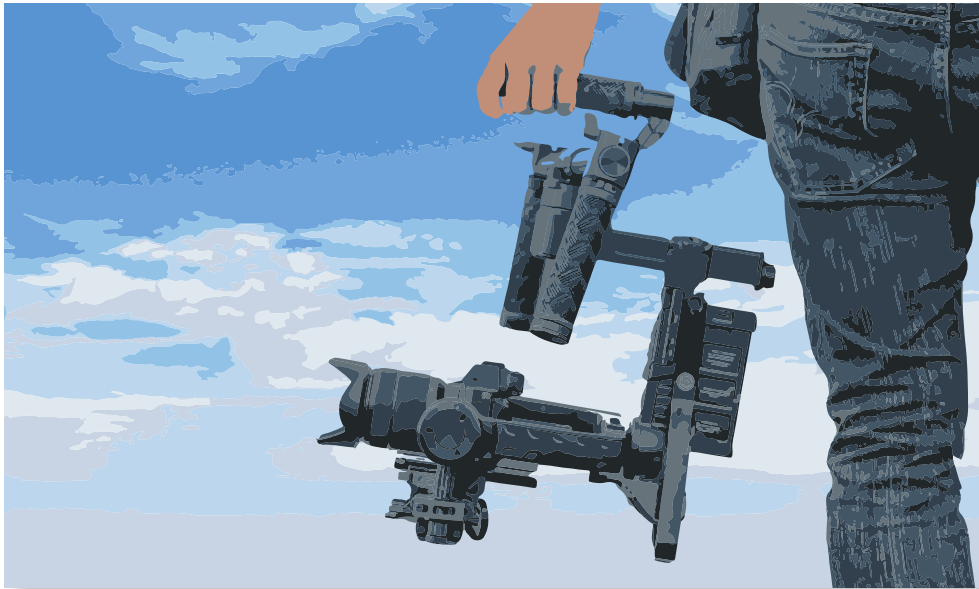
Known Facts	Interactions	Solutions
 <p>Location</p> <ul style="list-style-type: none"> •Former jail •Asbestos •Limited entries/exits 	<p>Location/People</p> <ul style="list-style-type: none"> •Limited emergency exits •Potential inhalation problems •Uncomfortable air 	<ul style="list-style-type: none"> •Isolate asbestos and warn crew •Limit crew •Emergency plan •Portable AC •Additional opinion
 <p>People</p> <ul style="list-style-type: none"> •Stunt performers •Extras •Large crew 	<p>People/Equipment</p> <ul style="list-style-type: none"> •Poor air quality •Experienced operator •Mechanical injuries 	<ul style="list-style-type: none"> •Additional ventilation •Trained operator •Crane safety meeting
 <p>Equipment</p> <ul style="list-style-type: none"> •Special effects fogger •Camera crane 	<p>Equipment/Location</p> <ul style="list-style-type: none"> •Blocked exits •Poor air quality •Poor visibility 	<ul style="list-style-type: none"> •Limit fog use •Limit crew in cell area •Ventilate smoke •Keep exits clear

Figure 4.2. The completed safety matrix helps to analyze many safety issues that might arise during a location shoot.



Notes

A large, empty rectangular box with a thin grey border, intended for taking notes.



Scene 5

Other Safety Guidelines

The previous scenes discussed how to break down safety issues using the safety matrix, which brought up some important safety considerations such as weight limits for stage floors and vehicles, blocked exits, and poor air quality.

This scene discusses other important safety reminders to consider.

Safety Meetings—On, Off, and Pre-Production

It is imperative that **pre-production** safety meetings take place. Each production is unique and has different technical requirements and creative set-ups for shooting. These factors call for specific planning and communication in pre-production and throughout the duration of the production.

In **on-production** situations, safety meetings are required to make all personnel involved aware of the apparent and potential hazards in the day's work. In **off-production** situations, the construction coordinator and/or department head should conduct safety meetings to address pertinent safety issues, use of specialized equipment, or unusual construction activities or rigging.

Emergency Plan

For each location, it is important to have a written emergency plan in place, which addresses possible medical emergencies, fire, or severe weather change. This information should be communicated to crew members during safety meetings. A team member is the designated contact to ensure that emergency procedures are executed.

In addition, everyone should know:

- Whom to notify in the event of an emergency
- The production notification chain of command
- The exact location, address, cross street, and any landmarks for each location, which will ensure emergency services can locate the appropriate response location in the event there is an emergency
- Other information necessary to ensure crew members stay safe in case of an emergency

Note: Consult with the studio safety representative or risk management professional regarding the Cal/OSHA §3220 requirements for an emergency action plan.

Heat Illness

Heat illness can happen any time you are working in a hot environment, and may result in serious injury or, in extreme cases, death. Heat illness prevention and training is an important aspect of the safety program anywhere you are working. Cal/OSHA, in particular, has put a strong emphasis on employers providing a written Heat Illness Prevention Plan, which accompanies the IIPP.

Supervisor Responsibilities—Heat Illness

Supervisors must closely observe employees for signs or symptoms of heat illness during the first 14 days of employment in high-heat areas or during any heat wave. Ensure that crew members are trained on the heat illness prevention plan, how to identify heat illness, and the employer's procedures regarding heat illness whenever there is a risk of heat exposure.

Supervisors should maintain effective communication with the crew at all times and observe employees for alertness and signs or symptoms of heat illness, such as:

- Fatigue, irritability, poor concentration
- Seizures, muscle cramps, loss of coordination
- Lack of sweating or excessive sweating
- Fainting, dizziness, confusion
- Headache, nausea, vomiting
- Altered behavior

Supervisors should know the emergency response procedures to follow when a worker exhibits these signs and symptoms. All crew members should know the address, building, stage number, or mile marker to help direct medical personnel to the location. This information is often included with the call sheet or location map.

When the temperature is greater than 80°F, the employer or supervisor must:

- Activate the plan
- Provide adequate shade or cooling areas
- Provide plenty of water for each crew member
- Be able to recognize the signs of heat illness.

Heat checklist. Regardless of location, the Heat Safety Supervisor's Daily Checklist should be used as a guide to help fulfill the requirements for heat illness prevention. In California, the employer's written Heat Illness Prevention Plan must be available at the work site upon request (see Appendix M).



Remember, heat illness is already setting in when you begin to feel thirsty.

Supervisors are responsible for following the employer's plan and fulfilling the requirements of the checklist. They should ensure employees are trained before working outdoors in the heat and that employees know and follow the company Heat Illness Prevention Plan. Supervisors should also monitor the weather at the site either online at www.weather.gov or by checking the on-site thermometer. Keep water accessible, and remind workers to drink plenty of it.

Always respond to heat illness without delay and follow company procedures for providing first aid and emergency services. See Safety Bulletin #35—*Safety Considerations for the Prevention of Heat Illness* or the OSHA fact sheet in Appendix L of this course book.

Severe Weather

Pre planning for inclement and severe weather should be included in each production's emergency plan, and be part of the daily safety meeting.

The emergency plan should include:

- A method of communicating with cast and crew
- A protocol for communicating the conditions and circumstances
- Routes of evacuation
- Designated meeting areas
- A method to track head counts
- Procedures for equipment shutdown, stowage, and/or removal

Severe weather includes situations such as tornadoes, hurricanes, and lightning.

See Safety Bulletin #38—*Guidelines for Inclement or Severe Weather* for more details.



Figure 5.2. Severe weather includes situations such as tornadoes, hurricanes, and lightning.

(Photo courtesy of NOAA Photo Library NOAA Central Library OAR-ERL National Severe Storms Laboratory.)

Lightning

Lightning may strike several miles from an associated thunderstorm and may strike even when no clouds or rain is present (Figure 5.2).

In the event of lightning, seek shelter in a sturdy building or a hardtop automobile or truck with the windows rolled up. If those are not available, shelter in a wooded area with thick, small trees. Avoid isolated trees, open areas, and high ground. Keep clear of tall objects, towers, aerial lifts, camera booms, scaffolding, fences, or other metal equipment. Avoid contact with any body of water. Avoid using telephones, cellular phones, electrical equipment, or appliances.

Where appropriate, shut down generators in accordance with the established plan.

When needed, move to the pre-determined evacuation area. Do not attempt to return until all-clear signal has been given by a regulatory authority and/or production management, or 30 minutes after the last thunder clap is heard.

The 30-30 Rule. The use of a lightning detector or meter is highly recommended. If one is not available, it is possible to estimate the distance of lightning by the thunder.

When lightning is seen, count the seconds until thunder is heard, and then divide the seconds counted by five to estimate the approximate distance in miles.

Using the 30-30 rule, the first 30 means if you count to 30 seconds or less (from lightning to thunder), the lightning is within six miles of your location and you are in potential danger and should seek shelter. The second 30 means you should wait 30 minutes from the last thunderclap to establish an “all-clear.”

Do not wait until thunder or lightning is within 30 seconds to turn off generators or bring down aerial lifts as you may not have enough time to do this safely.



Count the seconds between lightning and the thunder clap, and then divide the seconds by five to estimate the approximate distance in miles.

Check with local aviation authorities, the UAS pilot, and production safety for information regarding UAS operation.

Unmanned Aircraft Systems

The use of unmanned aircraft systems (UAS), which are often called drones, in national airspace is regulated by the Federal Aviation Administration (FAA) when filming outdoors (Figure 5.3). Individual jurisdictions (states, counties, and cities) may have their own requirements regarding UAS operations. Safety Bulletin #36—*Recommended Guidelines for Safely Working Around Unmanned Aircraft Systems (UAS)* has information regarding the safe use of drones.

Before beginning work with a UAS, consult with the appropriate people, which may include the FAA or, if working internationally, the local aviation authority, the UAS pilot, and your production safety representative. Check with the safety department for studio policies regarding UAS, whether for indoor or outdoor use.



Figure 5.3. There are many requirements by the FAA for outdoor use of drones. Check with production safety for details regarding specific the location being filmed.

Some guidelines for safe operations:

- The pilot-in-command has the final authority over the UAS
- Follow FAA regulations
- Follow guidelines in Safety Bulletin #36
- Conduct a safety meeting before filming
- Establish an exclusion zone and prevent unauthorized or unintentional entry
- Notify personnel of the intended use of the UAS
- Consult with the vendor or visit FAA.gov for information on restrictions for such things as weight, speed, hours of operation, visibility, distance, etc.

High-Visibility Clothing

A supervisor is responsible for ensuring that the crew is complying with federal, state, and local laws requiring personnel to wear reflective, high-visibility clothing when working on active public roadways (Figure 5.4). Safety clothing may be required at other locations such as railroads, subways, construction sites, airports, docks. Other conditions may require hi-vis clothing such as when working at night, under variable weather conditions, or when visibility is reduced.

Refer to Safety Bulletin #21—*Guidelines for Appropriate Clothing and Personal Protective Equipment* for more details.

It is important to know that a production and the individual can be fined and the production can lose the filming permit for noncompliance. Check with the department head or studio safety representative for details.



Figure 5.4. High-visibility clothing is required when work is performed on or near active roadways.

High-visibility clothing is required for work on or near an active roadway.



Shipping Hazardous Substances

Shipping hazardous substances is highly regulated.

Regulations. It is illegal to ship or carry hazardous materials on commercial airlines, buses, or trains unless doing so is permitted by the applicable regulations and items are packed, labeled, and shipped in strict compliance with requirements.

Transportation of hazardous materials, which includes the transportation of hazardous waste is regulated by the Department of Transportation (DOT), as well as the FAA, and the International Air Transport Association (IATA). Penalties for violating the federal hazardous material transportation law can reach as high as \$75,000 for each violation, and much higher if there is a severe injury to any person or substantial destruction of property.

Examples of items with special shipping requirements include:

- Batteries of all types, including lithium ion
- Aerosol sprays such as lubricants, hair sprays, shaving gel, adhesives, etc.
- Compressed gases, including canned air
- Paint
- Dry ice
- Lighters and matches
- Guns and ammunition, including blanks
- Flammable liquids and solids
- Explosives
- Poisonous materials
- Hazardous waste

Carriers. Major carriers such as Fed Ex and UPS ship some hazardous substances. Each carrier imposes their own restrictions on what they transport and how. Some items can be shipped by ground, but not by air. Carriers have qualified personnel on staff who are certified to ship hazardous materials properly.

These restrictions also apply to items shipped in personal luggage.

**Before shipping,
check with a
Studio Safety
Representative
for guidelines and
assistance.**

Batteries. Due to growing concerns over air safety, regulations for shipping rechargeable lithium-ion batteries have become significantly stricter than they were in the past. In most cases, spare batteries are only permitted to be shipped as Class 9 hazardous goods. This means that they have to be packed, labeled, and documented by a trained agent who is certified in shipping hazardous goods. Check with studio safety for guidance and assistance.

Distracting Activities

The distraction created by electronic devices can result in accidents. Use of these devices is on the rise and is contributing to an increased number of accidents. Distracting activities can include texting, talking on the phone, wearing headphones, talking to a companion, or listening to music.

Distracted walking can result in injury. Some of these injuries result from walking into other people, poles, or traffic, falling into ditches, holes, or pits, tripping, or falling down steps.

To help minimize accidents and injuries caused by distractions:

- Eliminate distractions as much as possible.
- Follow studio policy.
- Follow all laws and regulations.
- Maintain awareness of the surroundings.

Safety and Health Awareness

Workplace cleanliness, focusing on sanitation, can help prevent the spread of illness, cold, and flu. Flu viruses are spread mainly from person to person through coughing, sneezing, or touching contaminated surfaces. You may infect yourself by touching contaminated surfaces and then touching your eyes, nose, or mouth. People infected with influenza may infect others, either before symptoms develop or after they become sick.

To protect yourself and others:

- Wash your hands often with soap and water or an alcohol-based hand cleaner, especially important after you cough, sneeze, or use the bathroom.
- Always wash your hands prior to entering the crafts service or catering areas.



Conclusion

There are four important points to remember.

1. OSHA and Cal/OSHA make your employer liable for safety.

It doesn't matter which employer you work for, they are still liable. However, YOU are responsible for safety as a representative of the employer—a supervisor—and you may be held personally liable if you ignore or don't take the responsibility seriously.

2. You don't have to know it all.

You can count on competent and qualified workers to help you meet your responsibility. Thousands of industry workers have already been trained—in fact most IATSE and Basic Crafts employees in California were fully trained within the first two years of the inception of the Safety Pass program. Ask to see their Safety Passcard.

3. You have help.

The major studios that are part of AMPTP have safety professionals available to talk through unique situations with you and bring in specialized experts, if needed. This course book also has examples of forms, postings, plans, etc., for you to adapt to each situation. You can download them from the OSHA and Contract Services websites.

4. You can access training.

Successful completion the DGPTP Safety Pass training enables you to take other Safety Pass courses offered by Contract Services. DGA members are allowed to pre-register for courses, observe and participate in class discussion and “hands on” training, and obtain a Safety Passcard for that course.



Reminders

- When it comes to safety, be proactive, not reactive.
- Try to anticipate safety issues, using tools such as the safety matrix—when two things overlap, look at the interface.
- Remember, extreme situations require extreme precautions.
- When two experts differ, get a third qualified opinion.



Stipend Payment

Please note that you are entitled to a stipend payment for attending this course. In order to receive this payment:

1. Go to www.trainingplan.org
2. Download the **DGPTP Stipend Acknowledgement Form**
3. Follow the directions and mail it to the address listed on the form

Important Safety Resources and Information

Always seek guidance from the production's Studio Safety Representative or the Risk Management Professional.



CONTRACT SERVICES WEBSITE

www.csatf.org



STUDIO SAFETY HOTLINES

For a comprehensive, current list of Studio Safety Hotline numbers, go to

www.csatf.org/studio_safety_hotlines.pdf



SAFETY PASS COURSE INFORMATION

For a list of Safety Pass course descriptions, go to

www.csatf.org/sppdesc.pdf



STUDIO SAFETY BULLETINS, GENERAL CODE OF SAFE PRACTICES AND SAFETY AND HEALTH AWARENESS SHEETS

For a complete list and downloadable PDFs regarding these subjects, go to

www.csatf.org/bulletintro.shtml

www.csatf.org/pdf/GenCodeoSafePractices.pdf



HEAT SAFETY CHECKLIST

The OSHA Heat Safety Supervisor's Daily Checklist and other heat illness documents are in this booklet for your review.



SAFETY MATRIX		
Known Facts	Interactions	Solutions
LOCATION	LOCATION / PEOPLE	
PEOPLE	PEOPLE/EQUIPMENT	
EQUIPMENT	EQUIPMENT/LOCATION	

Appendix C

The Law

All states have laws governing the safety of employees. While this safety program has been designed to meet the requirements of the California Labor Code, it is intended for use by all productions located in and out of California.

Injury and Illness Prevention Program (IIPP)—In California, every employer is required by law to provide a safe and healthful workplace for employees. Labor Code § 6401.7 and Title 8 of the California Code of Regulations, § 3203, require every California employer to have, in writing, an effective Injury and Illness Prevention Program, which must be available to all employees. (A copy of your productions Safety Manual should be kept in the production office and with the 1st AD at all times. It should be made available to any employee who wishes to see it.)

Corporate Criminal Liability Act of 1989 – (Penal Code § 387) In 1989, California enacted a law under which work site managers may be imprisoned up to three years and/or fined up to \$25,000 for knowingly failing to disclose a serious concealed danger that poses potential harm to an employee under their direction and control at the time of the violation.

As a supervisor, DO NOT ask an employee to perform an act you know to be unsafe or to complete a job task for which the employee has not had proper training.

Protect yourself, your employees, and your co-workers

Following the Safety Program will help minimize accidents, injuries and illnesses.

Appendix D

List of Safety Bulletins

Introduction

This publication contains SAFETY BULLETINS which were researched, written, and distributed by the Industry Wide Labor-Management Safety Committee for use by the motion picture and television industry. The Industry Wide Labor-Management Safety Committee is composed of Guild, Union, and Management representatives active in industry safety and health programs.

These SAFETY BULLETINS are guidelines recommended by the Safety Committee. They are not binding laws or regulations. State, federal, and/or local regulations, where applicable, override these guidelines. Modifications in these guidelines should be made, as circumstances warrant, to ensure the safety of the cast and crew.

The Committee and these Safety Bulletins are representative of the commitment of both Labor and Management to safe practices in the motion picture and television industry. The members of the Committee and all those who contributed to its work have devoted a great deal of time and effort to these guidelines because of the importance of safety to our industry.

All industry personnel have legal and moral responsibility for safety on the set or wherever they may be working. These Safety Bulletins may be reproduced and attached to Call Sheets or otherwise distributed to affected employees.

Safety Bulletins are written or revised to meet new standards or situations. Your questions or suggestions are invited. Safety is something in which we all have a share.

Contact:

INDUSTRY WIDE LABOR-MANAGEMENT SAFETY COMMITTEE
2800 WINONA AVENUE
BURBANK, CALIFORNIA 91504
(818) 565-1656
www.csatf.org

The following documents are taken from the CSATTF website www.csatf.org. For the most current information, please check this site often.

SAFETY BULLETINS		
NO.	DESCRIPTION	DATE RELEASED
1	Recommendations for Safety with Firearms and Use of “Blank Ammunition”	Revised 04/16/03
2	Special Use of “Live Ammunition”	Issued 04/16/03
3	Guidelines Regarding the Use of Helicopters in Motion Picture Productions	Issued 08/15/01
3A	Addendum “A” External Loads – Helicopter	Issued 08/15/01
4	Stunts	Revised 01/26/05
5	Safety Awareness	Issued 06/19/02
6	Animal Handling Rules for the Motion Picture Industry	Revised 01/21/98
7	Recommendations for Diving Operations	Revised 08/29/07
8	Guidelines for Traditional Camera Cars	Revised 07/19/06
8A	Addendum “A” – Process Trailer/Towed Vehicle	Revised 08/28/12
8B	Addendum “B” – Camera Boom Vehicles	Revised 08/28/12
8C	Addendum “C” – Power Line Distance Requirements	Revised 08/28/12
9	Safety Guidelines for Multiple Dressing Room Units	Revised 10/03/95
10	Guidelines Regarding the Use of Artificially Created Smokes, Fogs and Lighting Effects	Revised 10/20/99
11	Guidelines Regarding the Use of Fixed-Wing Aircraft in Motion Picture Productions	Issued 08/15/01
11A	Addendum “A” – External Load Guidelines	Issued 08/15/01
12	Guidelines for the Use of Exotic Venomous Reptiles	Revised 09/19/95
13	Gasoline Operated Equipment	Revised 10/04/95
14	Parachuting and Skydiving	Revised 01/06/06
15	Guidelines for Boating/Watercraft Safety for Film Crews	Revised 08/20/13
16	Recommended Guidelines for Safety with Pyrotechnic Special Effects	Revised 05/22/09
17	Water Hazards	Revised 08/20/13
18	Guidelines for Safe Use of Stunt Air Bags, Boxes or Other Freefall Catch Systems	Revised 04/17/13
19	Recommended Guidelines for the Use of Open Flame on Production	Revised 09/18/09
20	Guidelines for Use of Motorcycles	Revised 02/23/96
21	Guidelines for Appropriate Clothing and Personal Protective Equipment	Revised 06/05/09
22	Guidelines for the Use of Elevating Work Platforms (Scissor Lifts) and Aerial Extensible Boom Platforms	Revised 10/26/04

(Continued)



SAFETY BULLETINS		
NO.	DESCRIPTION	DATE RELEASED
22A	Addendum "A" – Power Line Distance Requirements	Revised 07/15/11
23	Guidelines for Working with Portable Power Distribution Systems and Other Electrical Equipment	Revised 08/20/13
23A	Addendum "A" – Power Line Distance Requirements	Revised 07/15/11
23B	Addendum "B" – Basic Electrical Safety Precautions for Motion Picture and Television Off Studio Lot Location Productions	Issued 08/01/00
23C	Addendum "C" – Working With 480 Volt Systems	Revised 08/20/13
23D	Addendum "D" – Common Motion-Picture and Television Tasks and Associated Personal Protective Equipment	Revised 10/10/11
23E	Addendum "E" – Guidelines for Meeting National Electrical Code (NEC) Grounding Requirements for Portable Generators Supplying Portable Equipment in the Motion Picture and Television Industry	Issued 04/04/13
24	California OSHA Safety Requirements for Handling of Blood and Other Potentially Infectious Materials	Revised 03/23/00
25	Camera Cranes	Issued 12/16/98
25A	Addendum "A" – Power Line Distance Requirements	Revised 07/15/11
26	Preparing Urban Exterior Locations for Filming	Issued 09/20/00
27	Poisonous Plants	Issued 02/21/01
28	Guidelines for Railroad Safety	Revised 04/17/13
29	Guidelines for Safe Use of Hot Air Balloons	Issued 08/15/01
29A	Addendum "A" – External Load Guidelines for Safe Use of Hot Air Balloons	Issued 08/15/01
30	Recommended Guidelines For Safely Working with Edged, Piercing and Projecting Props	Revised 05/01/17
31	Safety Awareness When Working Around Indigenous "Critters"	Issued 11/06/01
32	Food Handling Guidelines for Production	Under Review
32A	Addendum "A" – Los Angeles County Approved Film Production Food Services	Revised 09/01/13
33	Special Safety Considerations when Employing Infant Actors (15 days to Six Months Old)	Revised 01/22/97
34	Guidelines for Working in Extreme Cold Temperature Conditions	Revised 01/05/16
34A	Addendum "A" – Wind Chill Chart	
35	Safety Considerations for the Prevention of Heat Illness	Revised 10/17/07
36	Recommended Guidelines for Safely Working Around Unmanned Aircraft Systems (UAS)	Revised 10/09/15
36A	Addendum "A" – Unmanned Aircraft Systems (UAS) Exemption Summary	Issued 10/09/15
37	Vehicle Restraint Systems – Seat Belts & Harnesses	Revised 12/19/02

(Continued)

SAFETY BULLETINS

NO.	DESCRIPTION	DATE RELEASED
38	Guidelines for Inclement or Severe Weather	Revised 07/27/09
39	Safety Guidelines for Using Foam(ed) Plastics in Set and Prop Construction	Issued 01/18/06
40	Guidelines for Non-Camera Utility Vehicles	Issued 10/17/07
41	Recommended Guidelines for Safely Working On and Around Gimbals	Issued 08/07/12
42	Guidelines for Alternative Driving Systems	Issued 06/16/15

PROCEDURAL GUIDELINES

NO.	DESCRIPTION	DATE RELEASED
1	Special Procedures for Minors Performing Physical Activities	Issued 05/17/06

INFORMATIONAL DATA

	DESCRIPTION	DATE RELEASED
•	General Code of Safe Practices for Production	Revised 10/17/02
•	Safety & Health Awareness Sheet – Extended or Successive Takes	Issued 05/21/10
•	Safety & Health Awareness Sheet – Guidelines for Handling Freshly Painted or Printed Backdrops and Other Graphic Arts	Issued 01/06/06
•	Safety & Health Awareness Sheet – Photographic Dust Effects	Issued 05/25/05
•	Safety & Health Awareness Sheet – Guidelines for Reducing the Spread of Influenza-Like Illness	Issued 09/18/09
•	Studio Safety Hotlines	Revised 04/29/17

Safety Bulletins are recommended guidelines only. Consult all applicable rules and regulations.
Safety Bulletins may be viewed or downloaded from the website www.csatf.org

Revised: May 1, 2017

Appendix E

General Code of Safe Practices for Production

This **“General Code of Safe Practices”** incorporates information from safety bulletins that have been developed and issued by the Industry-Wide Labor Management Safety Committee over the past 20 years. Many of these guidelines are simply common sense; others have evolved from Federal, State and/or Local laws and regulations.

These laws require every employer to have and post a general set of Code of Safe Practices at each job site.

This document is not intended to take the place of the Safety Bulletins. You should also refer to the Safety Bulletins (index attached), which address concerns specific to your work environment.

By following these guidelines, Safety Bulletins, laws, regulations and company policy and procedures, serious accidents and injuries can be prevented.

Working conditions may change from day to day, particularly on location. To prevent accidents, you need to be aware of your work environment and the equipment being used. Pay special attention to call sheets as they may contain important safety information for the next day’s shoot. **Safety Meetings** will be conducted as necessary to brief you on potentially hazardous set conditions. (Additional information on **“Safety Awareness”** and “Safety Meetings” may be found in **Bulletin #5**)

If you have any questions or concerns, or notice anything you believe could be hazardous and/or unsafe to the cast and crew, please talk to your supervisor, unit production manager, producer, union representative or studio safety representative and/or call the studio safety hotline anonymously. You will not be disciplined or discharged for bringing attention to safety concerns.

Each company is required to name the person responsible for safety on the production as outlined in their Injury and Illness Prevention Program (IIPP).

A production company or studio may have additional or specific guidelines as part of their IIPP. You should refer to the IIPP and Safety Manual of the employer for whom you are employed.

1. GENERAL RULES

Familiarize yourself with emergency procedures for each location. You are responsible for knowing how to react in an emergency situation. Contact your supervisor if you do not know emergency procedures.

At a minimum, a four-foot perimeter should be kept clear around the interior of the stage walls. Make sure all exit doors are unobstructed, unlocked and capable of being opened from the inside.

Good housekeeping should be maintained at all times. Walkways and work areas are to be kept clear of materials, trash, equipment and debris.

All decorative set materials should be flame retardant or made of non-combustible materials if such materials will be exposed to hot lamps, fire effects or other ignition sources.

Obey all “No Smoking” signs. Observe designated smoking areas and *always* extinguish cigarettes in the appropriate containers (butt cans).

Fire equipment (hydrants, extinguishers, sprinklers, hoses, etc.) must be accessible at all times.

Always be aware of personnel working above and below you. All overhead equipment fixtures and props should be properly secured.

All cables should be neatly routed. Cables in walkways and traffic areas should be covered with mats and/or cable crossovers.

Pranks and other types of horseplay are unacceptable. Distracting crewmembers could result in accidents and injuries.

Report accidents immediately to your leadman, foreman, supervisor, and/or medical personnel. Follow instructions given to you when referred for medical treatment for any injury and retain documentation. **All injuries must be reported on the date of occurrence.**

Wear appropriate clothing and any required personal protective equipment (PPE). A shirt and proper footwear should be worn at all times. Safety glasses or hearing protection must be worn when operating equipment or performing work where eye or ear damage could potentially occur.

Medication which might interfere with your alertness or ability to perform your work should be used only under a doctor's direction. If you feel that any medication is impairing your work, please discuss this with your supervisor. Do not work while under the influence of illegal drugs or alcoholic beverages. Don't put yourself or your fellow workers at risk.

Attend all on-production, off-production and/or individual department **Safety Meetings**.

If involved in any stunt, special effect, aviation sequence, water sequence or other potentially hazardous or unusual activities, attend any additional **Safety Meetings** held for that activity.

Be aware of general location safety concerns, including extreme temperature conditions, physical surroundings, indigenous critters and nasty plants.

Additional information can be found in Industry Safety Bulletins #17, #21, #26, #27, #31, #34, #34A and #35.

2. LIFTING AND MOVING OBJECTS

Lifting loads improperly can cause back injuries.

Make sure you get the appropriate assistance when lifting or moving heavy or awkward objects. Avoid lifting such objects whenever possible by using carts, dollies and other mechanical devices or **GET ADEQUATE HELP**.

Before lifting any load, check for slivers, jagged edges, burrs, rough or slippery surfaces and protruding nails.

Check your intended path for obstructions.

3. COMMON FALL RISKS

Fall Protection:

Use appropriate fall protection equipment whenever you are working greater than 30 inches (general use/California) or 6 feet (during construction) above the floor, ground or other working area, when standard guardrails or other equivalent protection is not available.

Unprotected work areas such as platforms, sets, walkways, cliffs, floor openings, shafts and rooftops (when approaching within 6 feet of the roof's edge) require the use of approved fall protection measures.

These measures include but are not limited to guardrails, barriers, safety net systems, a written fall protection plan, and/or the use of personal fall arrest, fall restraint, or work positioning systems.

Fall arrest equipment is always required when working in the permanent grid and truss system (perms) outside the catwalks and handrails.

DO NOT use fall protection equipment without proper training and instruction. Only use appropriate anchorage points.

Temporary stair railings and guardrails are required around elevated surfaces, pits, holes or other unprotected openings.

Ensure proper lighting in such areas and post signs as necessary.

Scaffolds:

Only use scaffolds with the appropriate guardrails, mid rails and toe boards. **DO NOT** remove guardrails; contact the scaffold “**competent person**” if they need to be removed to perform special work. **REPORT** any missing guardrails at once.

DO NOT climb across braces.

Ladders:

Inspect all ladders before each use for broken or missing rungs, steps, split side rails or other defects.

NEVER place ladders in doorways unless protected by barricades or guards.

NEVER stand on the top two rungs of a ladder.

USE only approved ladders or steps.

Check the labels for compliance.

ALWAYS USE both hands while climbing.

4. CHEMICALS AND FLAMMABLE MATERIALS

Store all flammable liquids in approved safety containers or cabinets. Paint, chemicals, and other materials should not accumulate on stage floors, under platforms or in other work areas.

You should know and follow proper handling and storage procedures for all combustible or flammable materials.

Ensure that there is proper ventilation and wear appropriate personal protective equipment (PPE).

A **Material Safety Data Sheet** (MSDS) shall be obtained from the manufacturer or distributor and a copy of the MSDS must be kept on file for all chemicals and substances being used and/or stored.

5. HAND TOOLS AND RELATED EQUIPMENT

Use the right tool for the job. Do Not use tools or equipment for which you have not been properly trained and qualified. See your supervisor if you are unfamiliar with the equipment, have any questions or feel that you need additional training.

Ensure that all equipment is in proper working order and that all protective guards are in place and used.

Do Not attempt to alter, modify, displace, or remove any existing safety equipment. Saw guards, safety switches and other safety mechanisms are installed for your protection. Tag (“**Do Not Use**”) and report any damaged or malfunctioning equipment.

Wear appropriate personal protective equipment (PPE) and be aware of flying debris.

Additional information can be found in Industry Safety Bulletin #21.

6. FILMING EQUIPMENT & VEHICLES

(Including Booms, Camera & Insert Cars, Cranes, Process Trailers, Tow Dollies, Camera Dollies, Elevated Platforms, Fixed Wing Aircraft, Boats, Cars, Helicopters, Motorcycles, Trains)

Ratchet straps and/or ropes are the preferred method of securing loads and/or equipment. If using “bungees,” “rubber snubbers” or other elastic-type devices, ensure they are not frayed, worn, damaged, cracked or have damaged or bent hooking devices. Uncontrolled release can cause severe injuries to unprotected body parts, particularly to the face or eyes.

Use the proper equipment for the job; be aware of load and rider capacities. **Never allow more than 9 people (including the driver) on an insert car.**

Operators and passengers of all vehicles should always use personal protective equipment (PPE).

Obtain training from a qualified instructor prior to operating aerial lift platforms, scissor lifts, forklifts or rough

terrain variable-reach forklifts. OSHA requires the operators of such equipment to wear approved personal protective equipment (PPE).

Be particularly cautious when driving, walking or traveling; proceed slowly and watch for sudden movements of objects or individuals.

Be especially careful when working around helicopters or on runways. Remain at least 50 feet away from helicopters or other aircraft unless directed by the Aerial Coordinator and/or Pilot in Command or ground safety contact.

Under no circumstances should you approach the helicopter or aircraft without permission from the ground safety contact or the Pilot in Command.

Whether the rotors are turning or not, always approach and leave the helicopter from the front. **NEVER WALK NEAR OR AROUND THE TAIL ROTOR OF A HELICOPTER.**

The use of aircraft, boats, trains or cars may require special permits and/or operator certifications. All vehicles, including their peripheral safety equipment (i.e., harnesses, belts, roll-cage, fuel cells, etc.), must undergo thorough safety inspection and testing on a daily basis by qualified experienced personnel.

Additional information can be found in Industry Safety Bulletins #3, #3A, #8, #8A, #8B, #8C, #11, #11A, #15, #20, #22, #28, #29, #29A, #36 and #37.

7. ELECTRICAL SAFETY

POWER LINES: California Code of Regulation, Title 8, Section 2946, **Overhead Clearances, must** be observed and maintained at all times (applicable regulations are set forth in Addendum #8C, #22A and #25A of the Industry Safety Bulletins). This applies to ladders, scaffolds, booms, forklifts, aerial lifts, scissor lifts, cranes, rigging, sets, truss work, backdrops and other equipment that could come in contact with power lines.

To prevent electrocutions and injury resulting from contact between overhead power lines and conductive tools, materials, or scaffolds, OSHA recommends that employees be informed that most overhead, high voltage power lines are not insulated and, when in doubt, employees should assume that power lines are not insulated.

Employers should notify the utility company when work must be performed under and/or near overhead power lines where clearances cannot be maintained. In such situations, utility companies should de-energize the power lines or temporarily move or cover them with insulating hoses or blankets before any work is initiated.

Properly maintain all electrical equipment and wiring; no live parts should be exposed. Use equipment only for its intended purpose. Be particularly careful around water, especially when filming in rain scenes.

All A.C. (alternating current) electrical systems shall be grounded.

Keep electric panels accessible at all times. There should be no obstructions or storage within three feet (3') of a panel.

Remember that lights placed too closely to props, sets and other materials may pose a fire risk and, therefore, make sure that lights are placed far enough away to alleviate risk.

Only qualified persons with the appropriate technical knowledge should perform electrical work.

Additional information can be found in Industry Safety Bulletins #8, #8A, #22, #22A, #23, #23A and 25.

8. WATER HAZARDS

If working on or near water, an employee should make the Production Company aware if he or she has a fear of working around water or cannot swim.

All cast and crewmembers working on or near water should wear life vests or other water safety gear when appropriate.

When using watercraft, be aware of load and rider capacity limits. Only required personnel should be on watercraft; all others should remain on land.

Safety lines, nets, watch safety personnel and/or divers should be used when filming in rivers or other bodies of

water where potentially hazardous conditions could exist (*e.g.*, swift currents, thick underwater plant life, or rocks).

Know as much as you can about the body of water you're working on or in, including its natural hazards and animal life. The Production Company, Location Manager or the Safety Coordinator should have all relevant information.

If personnel are going to enter the water, when appropriate, samples of the water should be taken and analyzed for any potential environmental concerns and/or health hazards.

Additional information can be found in Industry Safety Bulletins #7, #15 and #17.

9. STUNTS & SPECIAL EFFECTS

All stunts and special effects should be reviewed by all participants prior to execution to help ensure that they are performed in the safest manner possible.

Before filming a stunt or special effect, the involved parties should all perform an on-site dry run or walk-through. A safety meeting should be held and documented.

Special effects involving pyrotechnics, explosives and/or fire must be noted in advance on the call sheet. Properly licensed individuals must perform all such effects. The necessary permits must be obtained and the appropriate regulatory agencies notified. Explosives must be stored and disposed of properly.

Appropriate personal protection equipment (PPE) and/or other safety equipment must be provided to the cast and crew as needed. There must be a planned escape route and each person involved should personally check all escape routes. Only persons authorized by the special effects and/or stunt coordinator shall be allowed in the area.

Radios, cell phones, pagers, personal data assistants (PDAs), transmitting equipment or remote control equipment should not be used around pyrotechnic or other explosive devices.

Additional information can be found in Industry Safety Bulletins #1, #2, #3A, #4, #11A, #14, #16, #18, #20, #29A, #30 and #37.

10. ARTIFICIALLY CREATED SMOKES, FOGS & DUST EFFECTS

Be aware that the use of atmosphere smoke has become highly regulated and limited by a variety of regulatory agencies. Contact the Safety Coordinator or Studio Safety Representative for guidelines and regulations.

Additional information can be found in Industry Safety Bulletin #10 and the Photographic Dust Awareness Sheet.

11. FIREARMS & OTHER WEAPONS

Treat all weapons as though they are loaded and/or ready to use. Do not play with weapons and **never** point one at anyone, including yourself. Follow the directions of the Property Master and/or Weapons Handler regarding all weapons.

The use of firearms and other weapons may require special permits and/or operator certifications. Anyone that will be using a weapon shall know all the operating features and safety devices. All weapons must undergo thorough safety inspection, testing and cleaning on a daily basis by qualified personnel.

Anyone handling a weapon shall receive the proper training and know all operating features and safety devices.

If firearms and other weapons are used in filming, the Property Master and/or Weapons Handler must meet with cast and crew and inform them of the safety precautions in effect and answer any questions.

Additional information can be found in Industry Safety Bulletins #1, #2, #16 and #30.

12. ANIMALS

Animals are unpredictable. If animals are used in filming, the Animal Handler should meet with cast and crew and inform them of the safety procedures in effect and answer any questions. Safety meetings should be held when appropriate.

Do not feed, pet or play with any animal without the permission and direct supervision of its trainer. **Defer to the animal trainers at all times.**

When working with exotic animals, the set should be closed and notices posted to that effect, including a note on the call sheet.

Additional information can be found in Industry Safety Bulletins #6, #12 and #31.

13. ENVIRONMENTAL CONCERNS

All hazardous waste generated by the company, including paint, must be disposed of properly. Proper documentation and permits for the transportation and disposal of such waste is required by law.

Be aware of hazards associated with lead paint and asbestos. If encountered, **do not disturb** and immediately report to your supervisor or safety representative.

Be aware of biological hazards such as human or animal waste, mold, fungus, bacteria, body fluids, blood borne pathogens, used needles (sharps), vermin, insects and other potentially infectious materials.

Employees shall not enter confined spaces (manholes, underground vaults, chambers, silos, etc.) until the oxygen and gas levels have been checked and confirmed to be within acceptable levels.

Certain situations may require permits and/or licenses, for example, when the production will be using artificial smoke, large dust effects, creating excessive noise or when working around endangered plant or animal life. Please be sure to comply with all applicable statutes and/or regulations.

Additional information can be found in Industry Safety Bulletins #17, #24 and #26.

NOTE:

Additional information regarding “job specific” safe practices and guidelines relating to special equipment should be reviewed as necessary. Contact the production company Safety Coordinator, Studio Safety Representative, supervisor or your union representative for additional information.

Appendix F

Procedure Guidelines

INDUSTRY WIDE LABOR-MANAGEMENT SAFETY COMMITTEE

SPECIAL PROCEDURES FOR MINORS PERFORMING PHYSICAL ACTIVITIES

This document addresses special procedures for minors performing physical activities in motion picture and television production. Under California law, a minor is an individual who is under eighteen (18) years of age who is required to attend school under the applicable provisions of the California Education Code (Cal. Fam. Code §6500).

Procedures:

1. Prior to rehearsal or filming, the production company should perform an initial review of the physical activity, including but not limited to:
 - a. the age, height, weight and maturity of the minor,
 - b. the physical fitness, coordination, expertise in the planned activity, and film experience of the minor,
 - c. the amount of additional information and movement the minor will be asked to consider (e.g., camera positions, acting, looking over shoulder, waving arms, etc.),
 - d. how wardrobe or props will affect the actions and/or vision of the minor,
 - e. the amount of rehearsal and preparation time which has been provided,
 - f. the appropriate amount of protective gear or equipment necessary to safely perform the activity,
 - g. the area around the minor during the activity, and
 - h. any other factors affecting the minor.
2. Prior to rehearsal or filming the physical activity, key production personnel, such as the Director, First Assistant Director, Stunt Coordinator and safety professional, should confer with the minor, minor's parent/legal guardian and Studio Teacher to review and discuss the activity.
3. Rehearsals and filming of the physical activity should take place with the Assistant Director, Stunt Coordinator, Studio Teacher, and parent/legal guardian present. If the situation warrants, a person qualified to administer medical assistance on an emergency basis must be present or readily available at the rehearsal and filming of the activity.
4. If any aspect of the activity changes, a new discussion and/or meeting should be held and a new rehearsal should be considered.
5. The production shall consider any reasonable request for additional equipment from the minor, parent/legal guardian, or Studio Teacher.
6. If a consensus regarding the physical activity is not established, the minor, the minor's parent or guardian, the Studio Teacher, the Stunt Coordinator, the First Assistant Director, or the safety professional may request a re-evaluation of the activity in its entirety. If, after the Studio Teacher, parent, Stunt Coordinator, First Assistant Director and/or the safety professional agree on the planned activity, but the minor expresses apprehension about performing the planned activity, he/she may refuse to do it.
7. The Studio Safety Hotline is available to all persons to anonymously report any concerns they have regarding the activity.

Note: All production personnel working with minors are urged to review the "Blue Book," entitled "The Employment of Minors in the Entertainment Industry," published by the Studio Teachers, Local 884, IATSE. Reference should also be made to the extensive federal and state labor laws and to any applicable collective bargaining agreements which govern the employment of child actors.

Procedural Guidelines are recommended guidelines only. Consult all applicable rules and regulations.
Procedural Guidelines may be viewed or downloaded from the website www.csatf.org

Issued: May 17, 2006
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Appendix G

Extended or Successive Takes

INDUSTRY WIDE LABOR-MANAGEMENT SAFETY COMMITTEE

SAFETY & HEALTH AWARENESS SHEET

EXTENDED OR SUCCESSIVE TAKES

INTRODUCTION

Advances in technology have enabled filmmakers to extend the length of individual takes (including continual resets) and the number of successive takes. In these circumstances, cast and crew may be required to support a weighted load (e.g., hand held sound boom, hand held camera, props, etc.) or maintain an awkward or still position for longer durations. Therefore, consideration should be given to the length of a take and the number of successive takes.

This Awareness Sheet has been developed to provide guidance for safety concerns caused by extended and successive takes. The objective is to increase awareness to enable the producer, director, cast and crew to communicate about and address these concerns before they become problems.

POTENTIAL HEALTH EFFECTS AND SAFETY CONCERNS

Maintaining an awkward position or supporting a weighted load for extended lengths of time can lead to various ailments ranging from body discomfort to muscle fatigue. Resulting safety concerns, such as dropping equipment, and trips and falls may also occur, potentially causing injury to the individual and to others.

Each production is unique and requires different technical and creative set-ups for shooting takes. In addition, each person's physical capabilities are different. These factors call for specific planning and communication in pre-production and throughout the duration of the production.

RECOMMENDED ACTIONS

- At the earliest stages of pre-production, conduct discussions with all affected department heads regarding the possibility of extended and/or successive takes.
- Evaluate when and where equipment and/or personnel options can be utilized to provide relief during the production.
- Special consideration should be given when equipment and/or personnel options are limited or unavailable.
- Throughout production, keep the lines of communication open and free-flowing between all cast, crew, and production management.
- In addition to the actions suggested, a review of available equipment options that provide support for weighted loads and relief to affected personnel should be included in pre-production meetings.

EQUIPMENT OPTIONS

A wide variety of equipment options are available for consideration during production and can include, but are not limited to:

- Dolly-mounted microphone boom
- Wireless microphone

- Camera dolly
- Tripod
- Stand
- Powered assist device

PERSONNEL OPTIONS

Some personnel options to consider:

- Rotation of operators
- Provide adequate rest intervals
- Spotters assigned to operators
- Encourage warm-up and stretching exercises

SUMMARY

Employees experiencing muscle fatigue or discomfort due to extended or successive takes are encouraged to communicate their situation to appropriate safety personnel and/or production management in a timely manner. Production management is encouraged to consider all options, including the above-outlined equipment and personnel options, to address these concerns.

Appendix H

Guidelines for Reducing the Spread of Influenza-Like Illness

INDUSTRY WIDE LABOR-MANAGEMENT SAFETY COMMITTEE

SAFETY & HEALTH AWARENESS SHEET

GUIDELINES FOR REDUCING THE SPREAD OF INFLUENZA-LIKE ILLNESS

INTRODUCTION

There are a wide variety of seasonal influenza and flu-like illnesses that can impact the workplace. Seasonal and novel influenza H1N1, previously referred to as “swine flu,” are among the most widely known. This Safety & Health Awareness Sheet has been developed to educate personnel on signs, symptoms and preventative measures to avoid catching or spreading the flu.

SYMPTOMS

In general, symptoms of seasonal influenza or novel influenza H1N1 can include the following:

Fever > than 100°F	Chills
Cough	Headache
Sore throat	Fatigue
Runny or stuffy nose	Body aches
Decreased appetite	Diarrhea
Nausea/vomiting	

Symptoms of novel influenza H1N1 may disproportionately affect young people age 25 and below, whereas the seasonal flu affects those age 65 years and older

Like seasonal flu, novel influenza H1N1 may worsen underlying chronic medical conditions. People at higher risk of serious complications from seasonal or novel influenza H1N1 include:

- Children younger than 5 years old
- Pregnant women
- People of any age with chronic medical conditions, such as asthma, diabetes, or heart disease
- People with weakened immune systems

If you are at higher risk contact your healthcare provider regarding possible preventative measures (e.g., antivirals, vaccines, etc.).

ACTIONS

How is influenza spread?

Flu viruses are spread mainly from person to person through coughing, sneezing or touching. You may infect yourself by touching contaminated surfaces and then touching your eyes, nose or mouth.

People infected with influenza may infect others before symptoms develop and after becoming sick.

Take these steps to protect yourself and others:

- Wash your hands often with soap and water or an alcohol-based hand cleaner. This is especially important after you cough, sneeze or use the bathroom. Always wash your hands prior to entering the crafts service/catering areas!

Additionally:

- Avoid touching your eyes, nose or mouth.
- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after use.
- Cough or sneeze into your upper sleeve if you do not have a tissue.
- Avoid close contact with people exhibiting signs of influenza.
- If you are sick with a flu-like illness, the Centers for Disease Control (CDC) recommends that you stay home for at least 24 hours after your fever is gone (without the use of fever-reducing medicine).
- Sanitize your hands before touching crafts service equipment, including inside ice chests, the handles of serving utensils or other commonly shared surface.
- Regularly sanitize commonly touched surfaces (i.e., door handles, phones, tools, handrails, etc.) with alcohol or bleach solutions.

WHEN TO GET MEDICAL HELP

If you are at risk of serious complications and you become ill with any of the symptoms below, you should contact your health-care provider immediately.

See emergency medical care if you experience any of the following symptoms:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting
- Flu-like symptoms improve, but then return with fever and worsening cough
- Decreased urination

ADDITIONAL INFORMATION

<http://www.flu.gov>

<http://www.cdc.gov/flu/>

<http://www.who.int/en/>

<http://www.hhs.gov>

PROTECT YOURSELF BY WASHING YOUR HANDS FREQUENTLY!

PROTECT YOUR CO-WORKERS BY COVERING YOUR COUGH!

Appendix I

Guidelines Regarding Extended Work Days

Theatrical and television productions are budgeted for specific hours of production. There is a cost deterrence, which encourages the production to be on budget and on time.

When an extended workday is necessary, the need for the same should be identified as far in advance as possible so that appropriate planning may occur.

The following guidelines set forth common sense measures, which should be considered when extended workdays are necessitated:

1. Sleep deprivation, which may be caused by factors other than an extended workday, should be identified by the employee. The American Automobile Association (AAA) cautions drivers as to the following danger signs:
 - Trouble focusing, keeping your eyes open or your head up
 - Yawning or rubbing your eyes repeatedly
 - Daydreaming and wandering thoughts
 - Drifting from your lane, tailgating and missing signs or exits
 - Feeling restless, irritable or aggressive
 - Turning up the radio or rolling down the window
 - Slower reaction time, poor judgment
2. AAA warns that drivers experiencing any of these danger signs could fall asleep at any time. AAA recommends three basic solutions - sleep, exercise, and caffeine. The AAA urges drivers who are too drowsy to drive safely to pull off the road to a safe area, lock the doors and take a nap - even 20 minutes will help. Upon waking, the driver should get some exercise and consume caffeine for an extra boost. Always wear your seatbelt.
3. Any employee who believes he/she is too tired to drive safely should notify an authorized representative of the Producer before leaving the set. In that event, the producer will endeavor to find alternative means of transportation or provide a rest area or hotel room. Such request may be made without any fear of reprisal and will not affect any future employment opportunities.
4. When the production company anticipates an extended work day, the employees should be encouraged to carpool.
5. When extended workdays are necessary, appropriate beverages and easy to metabolize food should be available.

The following pages are from the OSHA website. Please check back frequently to www.osha.org for current materials. Always check with your Safety or Risk Management representative for your productions requirements.

OSHA[®] FactSheet

Injury and Illness Prevention Programs

Injury and Illness Prevention Programs are proactive processes that can substantially reduce the number and severity of workplace injuries and illnesses and can alleviate the associated financial burdens on U.S. workplaces. These systematic programs allow employers and workers to collaborate on an ongoing basis to find and fix workplace hazards before workers are hurt or become ill. This Fact Sheet describes some common program elements and how to implement them.

Injury and Illness Prevention Programs are an effective tool for reducing occupational injuries, illnesses and fatalities. Many workplaces have already adopted such approaches, for example, as part of OSHA's Voluntary Protection Programs (VPP) and Safety and Health Achievement Recognition Program (SHARP) for small employers. Not only do these workplaces experience significant decreases in workplace injuries, but they often report a transformed workplace culture that can lead to higher productivity and quality, reduced turnover, reduced costs and greater worker satisfaction.

Thirty-four states and many nations around the world already require or encourage employers to implement similar programs. Based on the positive experience of these employers, OSHA believes that Injury and Illness Prevention Programs can provide the foundation for breakthrough changes in the way employers and their workers identify and control hazards, leading to a significantly improved workplace health and safety environment. Adoption of an Injury and Illness Prevention Program will result in workers suffering fewer injuries, illnesses and fatalities. In addition, employers will improve their compliance with existing standards and experience the financial benefits of a safer and healthier workplace.

Injury and Illness Prevention Programs should include the systematic identification, evaluation and prevention or control of general workplace hazards and the hazards of specific jobs and tasks.

The major elements of an effective program include:

Management Leadership

- Establish clear safety and health goals for the program and define the actions needed to achieve those goals.
- Designate one or more individuals with overall responsibility for implementing and maintaining the program.
- Provide sufficient resources to ensure effective program implementation.

Worker Participation

- Consult with workers in developing and implementing the program and involve them in updating and evaluating the program.
- Include workers in workplace inspections and incident investigations.
- Encourage workers to report concerns, such as hazards, injuries, illnesses and near misses.
- Protect the rights of workers who participate in the program.

Hazard Identification and Assessment

- Identify, assess and document workplace hazards by soliciting input from workers, inspecting the workplace and reviewing available information on hazards.
- Investigate injuries and illnesses to identify hazards that may have caused them.
- Inform workers of the hazards in the workplace.

Hazard Prevention and Control

- Establish and implement a plan to prioritize and control hazards identified in the workplace.
- Provide interim controls to protect workers from any hazards that cannot be controlled immediately.
- Verify that all control measures are implemented and are effective.
- Discuss the hazard control plan with affected workers.

Education and Training

- Provide education and training to workers in a language and vocabulary they can understand to ensure that they know:
 - Procedures for reporting injuries, illnesses and safety and health concerns.
 - How to recognize hazards.
 - Ways to eliminate, control or reduce hazards.
 - Elements of the program.
 - How to participate in the program.
- Conduct refresher education and training programs periodically.

Program Evaluation and Improvement

- Conduct a periodic review of the program to determine if it has been implemented as designed and is making progress towards achieving its goals.
- Modify the program, as necessary, to correct deficiencies.
- Continuously look for ways to improve the program.

For more information, visit the Injury and Illness Prevention Program page on OSHA's website at: www.osha.gov/dsg/topics/safetyhealth.

Twenty-seven states operate their own occupational safety and health programs approved by OSHA. States enforce similar standards that may have different or additional requirements. A list of state plans is available at www.osha.gov/dcsp/osp.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For assistance, contact us. We can help. It's confidential.



U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)

DSG FS-3665 06/2013

SAFETY AND HEALTH PROTECTION ON THE JOB

State of California
Department of Industrial Relations



California law provides job safety and health protection for workers under the Cal/OSHA program. This poster explains the basic requirements and procedures for compliance with the state's job safety and health laws and regulations. The law requires that this poster be displayed. (Failure to do so could result in a penalty of up to \$7,000.)

WHAT AN EMPLOYER MUST DO:

All employers must provide work and workplaces that are safe and healthful. In other words, as an employer, you must follow state laws governing job safety and health. Failure to do so can result in a threat to the life or health of workers, and substantial monetary penalties.

You must display this poster so everyone on the job can be aware of basic rights and responsibilities.

You must have a written and effective injury and illness prevention program for your employees to follow.

You must be aware of hazards your employees face on the job and keep records showing that each employee has been trained in the hazards unique to each job assignment.

You must correct any hazardous condition that you know may result in serious injury to employees. Failure to do so could result in criminal charges, monetary penalties, and even incarceration.

You must notify the nearest Cal/OSHA office of any serious injury or illness, or fatality occurring on the job. Be sure to do this immediately after calling for emergency help to assist the injured employee. Failure to report a serious injury or illness, or fatality within 8 hours can result in a minimum civil penalty of \$5,000.

WHAT AN EMPLOYER MUST NEVER DO:

Never permit an employee to do work that violates Cal/OSHA law.

Never permit an employee to be exposed to harmful substances without providing adequate protection.

Never allow an untrained employee to perform hazardous work.

EMPLOYEES HAVE CERTAIN RIGHTS IN WORKPLACE SAFETY & HEALTH:

As an employee, you (or someone acting for you) have the right to file a complaint and request an inspection of your workplace if conditions there are unsafe or unhealthful. This is done by contacting the local district office of the Division of Occupational Safety and Health (see list of offices). Your name is not revealed by Cal/OSHA, unless you request otherwise.

You also have the right to bring unsafe or unhealthful conditions to the attention of the Cal/OSHA investigator making an inspection of your workplace. Upon request, Cal/OSHA will withhold the names of employees who submit or make statements during an inspection or investigation.

Any employee has the right to refuse to perform work that would violate a Cal/OSHA or any occupational safety or health standard or order where such violation would create a real and apparent hazard to the employee or other employees.

You may not be fired or punished in any way for filing a complaint about unsafe or unhealthful working conditions, or using any other right given to you by Cal/OSHA law. If you feel that you have been fired or punished for exercising your rights, you may file a complaint about this type of discrimination by contacting the nearest office of the Department of Industrial Relations, Division of Labor Standards Enforcement (State Labor Commissioner) or the San Francisco office of the U.S. Department of Labor, Occupational Safety and Health Administration. (Employees of state or local government agencies may only file these complaints with the State Labor Commissioner.) Consult your local telephone directory for the office nearest you.

EMPLOYEES ALSO HAVE RESPONSIBILITIES:

To keep the workplace and your coworkers safe, you should tell your employer about any hazard that could result in an injury or illness to people on the job.

While working, you must always obey state job safety and health laws.

HELP IS AVAILABLE:

To learn more about job safety rules, you may contact the Cal/OSHA Consultation Service for free information, required forms and publications. You can also contact a local district office of the Division of Occupational Safety and Health. If you prefer, you may retain a competent private consultant, or ask your workers' compensation insurance carrier for guidance in obtaining information.

SPECIAL RULES APPLY IN WORK AROUND HAZARDOUS SUBSTANCES:

Employers who use any substance listed as a hazardous substance in Section 339 of Title 8 of the California Code of Regulations, or subject to the Hazard Communications Standard (T8 CCR Section 5194), must provide employees with information on the contents on Safety Data Sheets (SDS), or equivalent information about the substance that trains employees to use the substance safely.

Employers shall make available on a timely and reasonable basis a Safety Data Sheet on each hazardous substance in the workplace upon request of an employee, an employee collective bargaining representative, or an employee's physician.

Employees have the right to see and copy their medical records and records of exposure to potentially toxic materials or harmful physical agents.

Employers must allow access by employees or their representatives to accurate records of employee exposures to potentially toxic materials or harmful physical agents, and notify employees of any exposures in concentration or levels exceeding the exposure limits allowed by Cal/OSHA standards.

Any employee has the right to observe monitoring or measuring of employee exposure to hazards conducted pursuant to Cal/OSHA regulations.

WHEN CAL/OSHA COMES TO THE WORKPLACE:

A trained Cal/OSHA safety engineer or industrial hygienist may periodically visit the workplace to make sure your company is obeying job safety and health laws.

An inspection will also be conducted when a legitimate complaint is filed by an employee with the Division of Occupational Safety and Health.

Cal/OSHA also goes to the workplace to investigate a serious injury or fatality.

When an inspection begins, the Cal/OSHA investigator will show official identification from the Division of Occupational Safety and Health.

The employer, or someone the employer chooses, will be given an opportunity to accompany the investigator during the inspection. A representative of the employees will be given the same opportunity. Where there is no authorized employee representative, the investigator will talk to a reasonable number of employees about safety and health conditions at the workplace.

VIOLATIONS, CITATIONS & PENALTIES:

If the investigation shows that the employer has violated a safety and health standard or order, then the Division of Occupational Safety and Health issues a citation. Each citation specifies a date by which the violation must be abated. A notice, which carries no monetary penalty, may be issued in lieu of a citation for certain non-serious violations.

Citations carry penalties of up to \$7,000 for each regulatory or general violation and up to \$25,000 for each serious violation. Additional penalties of up to \$7,000 per day for regulatory or general violations and up to \$15,000 per day for serious violations may be proposed for each failure to correct a violation by the abatement date shown on the citation. A penalty of not less than \$5,000 nor more than \$70,000 may be assessed an employer who willfully violates any occupational safety and health standard or order. The maximum civil penalty that can be assessed for each repeat violation is \$70,000. A willful violation that causes death or permanent impairment of the body of any employee results, upon conviction, in a fine of not more than \$250,000, or imprisonment up to three years, or both and if the employer is a corporation or limited liability company the fine may not exceed \$1.5 million.

The law provides that employers may appeal citations within 15 working days of receipt to the Occupational Safety and Health Appeals Board.

An employer who receives a citation, Order to Take Special Action, or Special Order must post it prominently at or near the place of the violation for three working days, or until the unsafe condition is corrected, whichever is longer, to warn employees of danger that may exist there. Any employee may protest the time allowed for correction of the violation to the Division of Occupational Safety and Health or the Occupational Safety and Health Appeals Board.

Call the FREE Worker Information Hotline - 1-866-924-9757

OFFICES OF THE DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

HEADQUARTERS: 1515 Clay Street, Ste. 1901, Oakland, CA 94612 — Telephone (510) 286-7000

OSHA[®] FactSheet

Protecting Workers from the Effects of Heat

At times, workers may be required to work in hot environments for long periods. When the human body is unable to maintain a normal temperature, heat illnesses can occur and may result in death. It is also important to consider that hot work environments may exist indoors. This fact sheet provides information to employers on measures they should take to prevent worker illnesses and death caused by heat stress.

What is Heat Illness?

The following are illnesses that may result from exposure to heat in the workplace.

Heat Stroke is the most serious heat-related health problem. Heat stroke occurs when the body's temperature regulating system fails and

Occupational Factors that May Contribute to Heat Illness

- High temperature and humidity
- Low fluid consumption
- Direct sun exposure (with no shade) or extreme heat
- Limited air movement (no breeze or wind)
- Physical exertion
- Use of bulky protective clothing and equipment

body temperature rises to critical levels (greater than 104°F). **This is a medical emergency that may result in death!** The signs of heat stroke are confusion, loss of consciousness, and seizures. Workers experiencing heat stroke have a very high body temperature and may stop sweating. If a worker shows

signs of possible heat stroke, **get medical help immediately**, and call 911. Until medical help arrives, move the worker to a shady, cool area and remove as much clothing as possible. Wet the worker with cool water and circulate the air to speed cooling. Place cold wet cloths, wet towels or ice all over the body or soak the worker's clothing with cold water.

Heat Exhaustion is the next most serious heat-related health problem. The signs and symptoms of heat exhaustion are headache, nausea, dizziness, weakness, irritability, confusion, thirst, heavy sweating and a body temperature greater than 100.4°F. Workers with heat exhaustion should be removed from the hot area and given liquids to drink.

Cool the worker with cold compresses to the head, neck, and face or have the worker wash his or her head, face and neck with cold water. Encourage frequent sips of cool water. Workers with signs or symptoms of heat exhaustion should be taken to a clinic or emergency room for medical evaluation and treatment. Make sure that someone stays with the worker until help arrives. If symptoms worsen, call 911 and get help immediately.

Heat Cramps are muscle pains usually caused by the loss of body salts and fluid during sweating. Workers with heat cramps should replace fluid loss by drinking water and/or carbohydrate-electrolyte replacement liquids (e.g., sports drinks) every 15 to 20 minutes.

Heat Rash is the most common problem in hot work environments. Heat rash is caused by sweating and looks like a red cluster of pimples or small blisters. Heat rash may appear on the neck, upper chest, groin, under the breasts and elbow creases. The best treatment for heat rash is to provide a cooler, less humid work environment. The rash area should be kept dry. Powder may be applied to increase comfort. Ointments and creams should **not** be used on a heat rash. Anything that makes the skin warm or moist may make the rash worse.

Prevention Made Simple: Program Elements

Heat Illness Prevention Program key elements include:

- A Person Designated to Oversee the Heat Illness Prevention Program
- Hazard Identification
- Water. Rest. Shade Message
- Acclimatization
- Modified Work Schedules
- Training
- Monitoring for Signs and Symptoms
- Emergency Planning and Response

Designate a Person to Oversee the Heat Stress Program

Identify someone trained in the hazards, physiological responses to heat, and controls. This person can develop, implement and manage the program.

Hazard Identification

Hazard identification involves recognizing heat hazards and the risk of heat illness due to high temperature, humidity, sun and other thermal exposures, work demands, clothing or PPE and personal risk factors.

Identification tools include: OSHA's Heat [Smartphone App](#); a Wet Bulb Globe Thermometer (WBGT) which is a measure of heat stress in direct sunlight that takes into account temperature, humidity, wind speed, sun and cloud cover; and the National Weather Service [Heat Index](#). Exposure to full sun can increase heat index values up to 15°F.

Water, Rest, Shade

Ensure that cool drinking water is available and easily accessible. (Note: Certain beverages, such as caffeine and alcohol can lead to dehydration.)

Encourage workers to drink a liter of water over one hour, which is about one cup every fifteen minutes.

Provide or ensure that fully shaded or air-conditioned areas are available for resting and cooling down.

Acclimatization

Acclimatization is a physical change that allows the body to build tolerance to working in the heat. It occurs by gradually increasing workloads and exposure and taking frequent breaks for water and rest in the shade. Full acclimatization may take up to 14 days or longer depending on factors relating to the individual, such as increased risk of heat illness due to certain medications or medical conditions, or the environment.

New workers and those returning from a prolonged absence should begin with 20% of the workload on the first day, increasing incrementally by no more than 20% each subsequent day.

During a rapid change leading to excessively hot weather or conditions such as a heat wave, even experienced workers should begin on the first day of work in excessive heat with 50% of the normal workload and time spent in the hot environment, 60% on the second day, 80% on day three, and 100% on the fourth day.

Modified Work Schedules

Altering work schedules may reduce workers' exposure to heat. For instance:

- Reschedule all non-essential outdoor work for days with a reduced heat index.
- Schedule the more physically demanding work during the cooler times of day;
- Schedule less physically demanding work during warmer times of the day;
- Rotate workers and split shifts, and/or add extra workers.
- Work/Rest cycles, using established industry guidelines.
- Stop work if essential control methods are inadequate or unavailable when the risk of heat illness is very high.

Keep in mind that very early starting times may result in increased fatigue. Also, early morning hours tend to have higher humidity levels.

Training

Provide training in a language and manner workers understand, including information on health effects of heat, the symptoms of heat illness, how and when to respond to symptoms, and how to prevent heat illness.

Monitoring for Heat Illness Symptoms

Establish a system to monitor and report the signs and symptoms listed on the previous page to improve early detection and action. Using a buddy system will assist supervisors when watching for signs of heat illness.

Emergency Planning and Response

Have an emergency plan in place and communicate it to supervisors and workers. Emergency plan considerations include:

- What to do when someone is showing signs of heat illness. This can make the difference between life and death.
- How to contact emergency help.
- How long it will take for emergency help to arrive and training workers on appropriate first-aid measures until help arrives.
- Consider seeking advice from a healthcare professional in preparing a plan.

Engineering Controls Specific to Indoor Workplaces

Indoor workplaces may be cooled by using air conditioning or increased ventilation, assuming that cooler air is available from the outside. Other methods to reduce indoor temperature include: providing reflective shields to redirect radiant heat, insulating hot surfaces, and decreasing water vapor pressure, e.g., by sealing steam leaks and keeping floors dry. The use of fans to increase the air speed over the worker will improve heat exchange between the skin surface and the air, unless the air temperature is higher than the skin temperature. However, increasing air speeds above 300 ft. per min. may actually have a warming effect. Industrial hygiene personnel can assess the degree of heat stress caused by the work environment and make recommendations for reducing heat exposure.

Additional information

For more information on this and other issues affecting workers or heat stress, visit: www.osha.gov/heat; www.cdc.gov/niosh/topics/heatstress; and www.noaa.gov/features/earthhobs_0508/heat.html.

Workers have the right to working conditions that do not pose a risk of serious harm, to receive information and training about workplace hazards and how to prevent them, and to file a complaint with OSHA to inspect their workplace without fear of retaliation.

For more information about workers' rights, see OSHA's workers page at www.osha.gov/workers.html.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For assistance, contact us. We can help. It's confidential.



www.osha.gov (800) 321-OSHA (6742)



U.S. Department of Labor

DTSEM FS-3743 08/2014

Heat Safety Supervisor's Daily Checklist

WATER

- Is there plenty of fresh, cool drinking water located as close as possible to the workers?
- Is there a plan for refilling water coolers throughout the day?

SHADE AND REST

- Is a shade structure available at all times (regardless of the weather) for workers to rest and cool down?
- Is the shade structure up and ready when the weather forecast is 80°F or higher?
- Do you have a plan in place for checking the weather forecast?

TRAINING

- Have workers been trained to recognize and prevent heat illness BEFORE they start working outdoors?
- Can workers identify symptoms of heat illness?
- Is there a special plan in place to allow workers to get used to the heat?

EMERGENCY PLAN

- Does everyone know who to notify if there is an emergency?
- Can workers explain their location if they need to call an ambulance?
- Does everyone know who will provide first aid?

WORKER REMINDERS

Have workers been reminded to:

- Drink water frequently?
- Rest in the shade for at least 5 minutes as needed?
- Look out for one another and immediately report any symptoms?

The work can't get done without them.



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