Leading up to the 86th Academy Awards, which were held Sunday, March 2, the buzz was all about which films, actors, actresses, directors, and others in the movie industry would take home the coveted Oscar statuettes. With all eyes on Hollywood’s most visible stars, it can be easy to forget the behind-the-scenes workers who make these films possible—and those responsible for making sure that everyone working on movie sets goes home safe and healthy each day.

Margaret Buckalew, MPH, one of those safety professionals, has served as a production safety supervisor during the production of several feature films. The Synergist® interviewed Buckalew about her experience as a safety professional working in the film industry. Following is an edited transcript of the interview.

**HOW DID YOU GET STARTED WORKING ON MOVIES?**

I wouldn’t have the opportunity to work on movies if it weren’t for the Georgia Entertainment Industry Investment Act, which provides significant tax incentives to qualified productions. I think seven of the 10 largest movie production companies have already opened offices here in Atlanta. Now there are several major motion pictures in production here all the time.

It can be difficult to convince these companies to use safety professionals unless they’ve had a previous violation or something similar that has brought their attention to the fact that some of their work is high risk. The safety requirements that the movie industry has put in place in L.A. and throughout California aren’t in Georgia, so the type of training that’s required and typically assumed of film crews working on movies isn’t there.

**WHAT IS YOUR ROLE PRIOR TO THE START OF FILMING?**

One of the things I do for production companies is to visit all the locations where they’re going to be filming. Where electricians are checking to make sure that there’s proper electricity to service the set, including air conditioning, lighting, and video monitors, I’m making sure that there are no safety issues on location. We typically spend about three days going to each location to get a good idea of what will need to be done in terms of safety. During location scouting, I help to coordinate specific emergency action plans and trace out the evacuation route, the quickest route to the nearest hospital, and identify shelter-in-place locations. The largest part of my role is working with management to assist them with the development and administration of their health and safety programs.

**WHAT’S YOUR MAIN RESPONSIBILITY WHILE ON SET?**

I am a voice for anyone working on a movie set. Workers aren’t discouraged from reporting things, but no one is encouraged to halt filming or slow it down because of a safety incident. My job is making sure that the crew feels comfortable coming to me in confidence about anything they’re concerned about, and that they feel that I have enough support to get things fixed. In order to maintain the trust of cast and crew members, all reports must be kept in strict confidence. I also identify potential hazards and assist with remediation.

**WHAT IS THE SAFETY CULTURE LIKE IN THE FILM INDUSTRY?**

Overall, the movie industry in general has a pretty good safety culture. Out in L.A.,
they have something called the Safety Pass Program, which was established by the Motion Picture and Television Industry-Wide Labor-Management Safety Committee to address OSHA requirements for employee training and training documentation.

A Safety Pass looks like a passport book. Depending on what your role is in the movies—whether you’re a cook, a painter, a director—you have a different list of requirements for safety training. The Safety Pass Program helps limit the liability of production companies and ensures that workers have been properly trained in industry-wide general safety training.

**WHAT IS THE PROCESS FOR REPORTING HEALTH AND SAFETY CONCERNS ON SET?**

Just like any industry, there’s an established hierarchy that outlines how people who have concerns should report them. While working on a production, there’s typically a full-time medic on set for work-related injuries or illnesses. But any hazards or unsafe working conditions are supposed to be reported to the first AD (first assistant director), individual department heads, or the PM (production manager). All production companies have a 1-800 number in case people feel like their concerns are not being addressed on-set, which is not uncommon because of the sense of immediacy during filming.

There’s definitely an attitude of getting things done on set. Everybody’s on walkie-talkies; everybody is available at all times. For every minute production is delayed, you’ve got 100, 200, 300 people who are sitting and waiting for their part to happen. For a production company, the true worth of an IH is in their ability to anticipate potential safety issues and hopefully prevent problems from occurring in the first place. Once a health and safety concern has been discovered, forming the best solution quickly is ideal so production stays on schedule.

**WHAT ARE SOME OF THE CHALLENGES IN KEEPING WORKERS SAFE ON FILM SETS?**

The workers who work on movie sets are highly trained individuals—electricians and lighting people and background artists. Although they may only be contracted to work for the duration of a particular movie, they are considered employees. The exception comes when a movie is finished filming. Production companies will have day laborers come in to break down or “strike” the set, basically doing demolition. A lot of times, those workers don’t have the same type of background and training as the gaffers (electricians who are responsible for lighting), riggers (workers who set up lighting or scaffolding on set), and other people who normally work on movie sets.

**HOW DOES THE FAST-PACED NATURE OF FILMING MAKE IT DIFFICULT TO PROTECT WORKERS?**

Production companies plan as much as they can before they start shooting the movie, but they can’t plan for everything. During shooting, more often than not, either the director or the artistic director will say, “I’d like this shot from this location.” A lot of times that means, “I need this guy to get up on the roof and shoot it from there,” or “I need those guys to rig lighting up there because we need more lights coming in from this area.” Often, lighting technicians may feel like they can’t respond with “I don’t have fall protection” or “I haven’t been trained on this” because everybody’s going to stand around and look at them like, “Are you kidding?”

Those types of situations can come up from time to time, and you just have to do the best you can to work through them to keep everyone safe.

**WHAT ARE SOME OF THE OTHER POTENTIAL HAZARDS FOR LIGHTING TECHNICIANS?**

The crew members responsible for lighting often work on boom lifts, known as “condors” or cranes. There’s a big fall restraint need there. They’ll have lights up there, and those guys have to get in position and then stay there for the duration of filming. If there’s theatrical fog or smoke being used in the scene, a lot of times it drifts right up to the worker who’s stuck in a condor for 10 hours.

Another big concern for lighting guys working at height is storms. They need to be able to measure wind speed to make sure that they won’t get blown over, and they also need to have lightning detectors up there. Most studios will provide anemometers and lightning detectors or strongly recommend that production management purchase them. When production companies film here in Georgia, especially for the tax incentive, they’re expected to employ a certain number of local staff or crew members who may not have gear like this as standard issue.

**Production companies plan as much as they can before they start shooting the movie, but they can’t plan for everything.**

**HOW DO PRODUCTION COMPANIES ENSURE SAFETY DURING STUNTS AND THE USE OF SPECIAL EFFECTS?**

I’m typically always on set for explosions, detonations, and large special effects. Pre-planning, including risk and hazard assessments and rehearsals, has occurred long before the day a stunt is scheduled to be filmed. On the day that they’re filming a stunt, they’ll go over the detailed safety briefing for the stunt: what’s going to happen, who’s going to be involved, any potential hazards, emergency procedures, and locations of emergency medical facilities in...
Because something goes wrong. Leading up to stunts, there has to be adequate rehearsal time for the stunt people. They’ll generally have one last safety briefing and dry run before they actually film a stunt to make sure that everyone understands what’s going to happen and what the risks are.

At the end of the film, if any stunts or special effects used guns or explosives, you have to make sure that all fireworks, explosives, and ammunition have either been used, returned—if they can be returned—or have been tested.

**ARE COSTUMES AND MAKEUP AN OCCUPATIONAL HEALTH AND SAFETY CONCERN?**
The added body burden of costumes and makeup can prevent the body from shedding heat. When actors are in costume all the time, even when they sweat, it’s not adequately cooling the body down. In those instances, we have to take typical heat stress prevention measures: having the actors spend 25 percent of the time in shade and making at least a liter of water available at all times. On one set I worked on, the gentleman who was playing an alien had to wear two-foot platforms and had this extremely tight rubber costume. When he put the mask on he couldn’t see out of it, so he had to have two people walk him from the dressing room to set and back over really unstable terrain because we were shooting in a rural area, downhill.

**DO YOU EVER ENCOUNTER SAFETY ISSUES RELATED TO BYSTANDERS?**
There’s a real emphasis right now in the movie industry to make sure to take care of background performers and bystanders. When they’re ready to shoot something, they clear all the unnecessary personnel and bystanders off the set. But given the popularity of reality TV especially, filming isn’t necessarily confined inside a studio. More and more often, the luxury of having a closed set may not be an option.

There are designated people working on movies who are responsible for keeping people a safe distance away from filming. Obviously you don’t want people in the scene if they’re not supposed to be, but it can be difficult in public places. People feel like they have the right to that public sidewalk even though the production company may have secured a permit to shut down that street a month earlier. And at times it’s still difficult to keep non-essential personnel off the set of locations.

But typically people understand that it’s in their best interests to stay away and not get hurt. At the same time, people are enthralled with movie stars and want to see what’s going on. I’ve seen all types of bystanders. Some people will camp out in their yard in lounge chairs because they really want to see an actor walk across a set.

**WHAT’S ONE OF THE MOST UNUSUAL SITUATIONS YOU’VE ENCOUNTERED WHILE ON SET?**
During the production of one movie, someone ended up calling the Atlanta Fire Department because they were concerned that the cabling the electricians were using in a scene with a lot of slime posed an electrocution hazard. The fire department showed up and the firefighters walked through the set with the gentleman who was managing the stages. The fire department verified that the cables all had adequate connections, were not set in standing water or slime, and did not pose an electrocution hazard. But what really concerned them was the number of car batteries on the set. The funny thing was that the car batteries were all props; they weren’t real.

While the situation was humorous, it really highlights the need for training—not just for safety people and others working on a set, but for the firefighters who may respond to an incident on a movie set.

In California, they have fire safety officer training for all firefighters who work in Culver City, L.A., and the Manhattan Beach area—centers for movie sets and studios—they can familiarize themselves with what they may encounter on a movie set. Then if they get called in, they have the ability to protect themselves as well as anybody else. It would be especially helpful if they had that training here in Georgia and in other places where film production is really skyrocketing because the firefighters have a limited idea of what to look for on set.

The true worth of an IH, for a production company, is in their ability to anticipate potential safety issues and formulate solutions which prevent these problems from occurring for production.

Props on movie sets can look really dangerous, but the truth of the matter is it’s just plastic or cardboard. The appearance of sets can be deceiving as well. For example, if you see something in a movie that looks like a cave or boulders, it’s typically all foam-set construction. Two-part polyurethane foam and Styrofoam are really common materials for constructing sets, and they present a high potential risk for fire, especially when they’re carved and shaped with hot wires. Depending on the size and structure of the set, the foam and the underlying wood frame may need to be treated to make them flame retardant.
WHAT ARE THE OPPORTUNITIES FOR IHS AND SAFETY PROFESSIONALS IN THE MOVIE INDUSTRY?

If a production company is scouting out a location for filming, they may have an immediate need for a consulting IH. For example, if they’re looking to shoot in an old building, they may want to see if it has asbestos or lead-based paint inside. Just remember that movies aren’t going to wait very long for a proposal. IH consultants have to meet their needs quickly; otherwise, they’ll find what they need elsewhere. The true worth of an IH, for a production company, is in their ability to anticipate potential safety issues and formulate solutions which prevent these problems from occurring for production.

Buckalew is currently a senior associate with Environmental Resources Management (ERM), a provider of environmental, health, safety, risk, and social consulting services in Atlanta, Ga.

She is a member and past president of the Georgia Local Section of AIHA. She is a member of the AIHA Emergency Preparedness and Response Task Force and contributed to the Incident Safety and Health Management Handbook (AIHA, 2008). Previously, she chaired the AIHA Incident Preparedness and Response Working Group.

Buckalew can be reached at Margaret.Buckalew@erm.com.

LEARN THE LINGO

Every industry has its own lingo and the film industry is no exception. It’s important for industrial hygienists and safety professionals to communicate effectively with workers on movie and television sets, and it helps to be familiar with common industry terms. Following is a list of personnel found on movie sets, including their titles and descriptions of their responsibilities.

These definitions were compiled from “Filming in California: The Fire Protection Handbook,” a publication of the Office of the State Fire Marshal Motion Picture & Entertainment Unit, which acts as a liaison between the California fire service and the motion picture and television industry. To learn more about the program, visit http://bit.ly/osfm_mpe. The full handbook is available at http://bit.ly/filminginca.

Assistant Director (AD)
The person in charge of the set and everything that happens on it. Works as an intermediary between the director and the cast and crew. Responsible for the daily operations of the production.

Director
The person with the overall responsibility for all creative aspects of the production. This person holds ultimate control on the set.

Electrician
Technician responsible for connecting lights to power supplies. Works for the gaffer who is the chief electrician.

First Assistant Director (First AD)
See Assistant Director.

Fire Safety Officer (FSO)
A sworn fire official responsible for the enforcement of and compliance with fire protection laws and regulations on a filming set.

Gaffer
Chief electrician who is responsible for all set lighting and power.

Grip
A crew member whose responsibility is the placement of the camera, the setting of diffusion between the lights and the set, and the removal of parts of the set to accommodate camera position.

Location Manager
This individual is responsible for scouting, selecting, and finalizing the best location for the script. The location manager is also responsible for obtaining the required filming permits.

Rigger
Crew member responsible for the construction of scaffolding (rigging) on a set and the placement of lights on the rigging. This includes the use of cables, mechanical devices, and safety equipment for flying performers through the air.

Special Effects Coordinator
The licensed special effects operator in charge of the set.

Stunt Coordinator
An experienced stunt performer responsible for the choreography, setup, and execution of stunts.

Unit Production Manager (UPM)
The executive in charge of all financial, administrative, and physical details of the production.

Transportation Captain
Coordinates vehicle movement, parking of trucks, cast and crew cars, stunt cars, and car carriers. Reports to the UPM or First AD. All drivers report to the transportation captain.