

# TerranearPMC Safety Share

## Week of January 9, 2017 – Oakland's Ghost Ship

On December 2, 2016, at approximately 11:20 p.m. PST a fire broke out in a warehouse in Oakland, California. This warehouse was known as *Ghost Ship* and functioned as an artist collective, called Satya Yuga. Even though the facility was designed and originally operated as a warehouse, it was converted into living quarters for musicians and artists. At the time of the fire, the warehouse was hosting a concert which was promoted by the house music record label *100% Silk*.

Around 50 people were present in the building at the time of the fire. A total of 36 people were killed in the fire, making the event the deadliest in the history of Oakland and deadliest building fire in the United States since The Station Nightclub fire in 2003, where a pyrotechnic display went awry during a music event that featured the band, Great White.

Burn patterns near the back wall of on the first floor of *Ghost Ship* led to initial reports indicating the "source of the fire may have been a refrigerator." Agents from the Federal Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) investigating the scene discounted the refrigerator as the source, but said they were looking at a number of electrical appliances, circuits and wiring in the building. Meanwhile, the creative director of the artist collective said that the collective had reported electrical problems to the building owner.

The fire began on the first floor and quickly spread while individuals on the second floor were unaware of the danger. Before all of the people on the second floor were able to escape down the stairs, smoke coming up the stairways trapped some of them. The individuals who were able to escape had to crawl along the floor to avoid the smoke filling the building. Once reaching the first floor, they had difficulty finding the front door due to the complicated layout of the warehouse. Some survivors were saved by a person who stood at the front door and kept shouting its location so those still in the building could navigate to safety.

Firefighters reached the warehouse about seven minutes after the fire was reported. It took five hours for 52 firefighters, using 14 pieces of equipment, to extinguish the blaze. Search and rescue personnel deployed Drone aircraft using thermal imaging that unsuccessfully searched for survivors after a roof collapse made entering the scene unsafe

While *SafetyShares* typically focus safety messages on occupational settings where OSHA has jurisdiction, the tragedy that happened at Ghost Ship falls outside of a workplace environment (even though persons were working on their art, they were self-employed and therefore, exempt from OSHA regulations). Nevertheless, this unfortunate event could have been prevented through proper inspections, means of egress and electrical installations as mandated by such codes established by the National Fire Protection Association (NFPA).

Currently, city officials are focusing on substandard electrical installations as the reason for the fire. For instance, since there were numerous occupants (about 20 persons lived in Ghost Ship), it is a plausible assumption that each resident required their own energy/electrical power. People familiar with the building described a tangle of extension cords powering living and work areas, propane tanks used to heat an improvised shower and exposed electrical wires covering a back staircase.



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Thus the practice of “daisy chaining” appears to be likely. Daisy Chaining is the practice of wiring multiple devices together in sequence or in a ring. A frequent scenario is having a series of power strips plugged into each other to form a single long line of strip. This can create a circuit overload, which, in turn, increases electrical resistance which results in heat. If there was improper electrical insulation or the electrical circuits were placed near combustibles or flammables, a fire would be a likely outcome.

As with so many tragedies, there is no single event or situation that can be attributed to this unfortunate event. The building appeared to be lacking in proper firefighting and detection systems, such as no automatic fire suppression system or audible smoke alarms. In addition the building was cluttered with furniture, art, and mannequins; most of which were wooden (i.e. combustible materials). There were two stairways, but neither led directly to an exit while the building's front stairway was a makeshift construction made of stacked wooden pallets. Therefore there was no proper means of egress.

Another important factor has to do with building inspections. It is not just common practice, but rather a regulatory requirement that municipalities inspect each business/facility in their jurisdiction to ensure fire prevention practices are available as well as detection systems are operational. This is typically performed by the local fire department (which is the case in Oakland). This includes checking automatic sprinkler systems (which saturate an area with water once heat from a fire is detected) and verifying each facility is storing equipment and materials according to the local fire codes. Such practices include keeping flammables, oxidizers and combustibles separated and verifying means of egress are kept clear so an immediate escape from the building – from all locations within the building - can be made. According to news sources, Oakland fire inspectors and firefighters never inspected the facility nor ever stepped foot inside and therefore were unaware of the conditions inside the Ghost Ship warehouse.

Can this tragedy be blamed on the shortcomings of the local fire department? Or perhaps is it the fault of the warehouse owner? What about the property manager? Or could it be the city of Oakland, which clearly dragged its feet in responding to years of complaints about code violations? Then again, what about the residence? Surely they had a responsibility to ensure their safety in the event of a disaster. Being artists, there must have been various flammable paints and solvents scattered about the facility. Add some candles to the scene and a potential for a fire was more than likely.

By examining all the possible causes it is more than reasonable to conclude that a disaster was waiting to happen. However, if but only one of these factors was controlled: proper means of egress, proper placement of flammables and combustibles, regularly scheduled fire inspections, adequate electrical wiring or even proper emergency response actions by the residents themselves (i.e. safety meetings so everyone understood how to exit the building quickly and possibly even discuss some safety/fire practices), this tragedy; one that cost the lives of at least 35 people, could have been prevented.

**All cruel people describe themselves as paragons of frankness.**

Tennessee Williams

