Sub Corp.

303 Higuera Garrett Street

San Luis Obispo, CA 93401

Date of Loss: 12/26/2015

Pursuant to a Letter of Agreement, I was requested by Mr. Richard Ferris to conduct a Case Review regarding a fire incident that had occurred at his place of business located at the above address. It should be duly noted that the fire had occurred on 12/26/2015 and I was limited to a fire scene that had been completely overhauled and altered in various locations throughout the structure. However, I was provided two (2) fire investigation reports as well as photographs, video footage, and testimonial evidence from Mr. Ferris.

Mr. Ferris requested that my Case Review consists of two (2) main components those being a review of the fire investigation conducted by the local fire authority having jurisdiction and analysis of the firefighting tactics and strategy used to suppress the fire.

For the purpose of this Case Review, I referred to NFPA (National Fire Protection Association) 921 which is the Guide for Fire & Explosion Investigations.

Fire Investigation entities normally follow this Guide as a common practice in an effort to complete a thorough investigation as to the Origin & Cause of the fire. NFPA 921- Chapter 4.1- Nature of Fire Investigations states the following: “A fire or explosion investigation is a complex endeavor involving skill, technology, knowledge, and science. The compilation of factual data, as well as an analysis of those facts, should be accomplished objectively and truthfully. The basic method of the fire investigation should rely on the use of a systematic approach and attention to all relevant details. The use of the systematic approach often will uncover new factual data for analysis, which may require previous conclusions to be reevaluated. With few exceptions, the proper methodology for a fire or explosion investigation is to <u>first determine and establish the origin(s), then</u>

investigate the cause; circumstances, conditions, or agencies that brought the ignition source, fuel, and oxidant together."

NFPA 921- Chapter 4.2- Chapter4.2- Systematic Approach states the following: "The systematic approach recommended is that of the scientific method, which is used in the physical sciences. This method provides for the organizational and analytical process desirable and necessary in a successful fire investigation."

The Use of the Scientific Method is as follows:

Recognize the need (identify the problem)--- Define the Problem---Collect Data----

Analyze the data---Develop a hypothesis (inductive reasoning)---Test the

Hypothesis (deductive reasoning)---Select final hypothesis.

My Case Review consisted of surveying the fire scene and reviewing materials in the form of photographs, video footage and reports that Mr. Ferris provided me.

In my opinion based on all the evidence presented to me and due to my past experience and training in the Fire & Arson Investigations arena, I was able to conclude that this fire was most probably Incendiary (Arson.)

Physical evidence in the form of irregular burn patterns located in the west side interior (window box) area indicated that an ignitable liquid was dispensed on the raised wood constructed platform. I observed two (2) burn patterns on the described wood platform in the window box area. Both burn patterns were approximately 24" inches in diameter in the form of an irregular circle. Each burn pattern was approximately 8' feet apart.

The heat and intensity in the early stages of the fire as presented in video footage indicate that an ignitable liquid was used to accelerate the fire.

NFPA 921- Chapter 5.9.1- states the following regarding Fire Spread in a Compartment: "The heat release rate of a fire is generally a function of the amount and type of fuel that is involved at any given time and the ventilation conditions. An increase in the heat release rate can occur through flame spread on an individual fuel package, through the ignition of additional fuels or by

changes in ventilation. As the fire grows in size, it increases the potential for fire spread to other compartments or areas within the building. Flame spread is the movement of flames on an individual fuel package (i.e., sofa or combustible wall), and fire spread is described as the ignition of additional fuel packages that can spread the fire throughout a compartment or building."

In my opinion, I believe an ignitable liquid was used which caused significant flame spread upward and outward causing combustible materials to ignite at a fast rate.

After a thorough review of the exhibits that Mr. Ferris forwarded to me for examination and my in-person visual inspection of the described structure, I was unable to conclude any additional points of origin as displayed in Mr. Ferris' exhibits. The video footage of Firefighters ventilating various portions of the roof show no evidence there were additional sources of ignition subsequent to Points of Origin #1 and #2 located in the described window box. The flames protruding upward towards the Firefighters depicted in various exhibits are common once a successful ventilation operation takes place because smoke and hot gases are pushing upward and will display intense flame lengths past the vent hole(s.) Also, intense fire and heat can breach roofing materials (i.e., lumber, roof coverings, etc.) without ventilation being conducted by Firefighters. A common term for this occurrence is called, "self- venting."

Another element supporting that this fire is an incendiary fire is the fact that the Reporting Party (alleged off-duty Firefighter) who alerted "The Sub" employees was never identified and/ or interviewed. This individual appears out of nowhere and informs everyone to get out of the building, but never clearly states why they needed to evacuate, activates the fire alarm and departs the area without talking to any Law Enforcement or Fire Official. Even if Officials were busy a reasonable person would mostly likely leave his contact information so that he could be contacted by Investigators at a later date and time.

It has been documented that the Local Fire Authority having jurisdiction did not conduct an interior examination of the structure, due to safety concerns. This practice is not uncommon. The Local Fire Authority having jurisdiction establishes

Standard Operating Procedures for conducting Fire Investigations within their jurisdiction.

"The Sub Fire"- Firefighting Tactics and Strategy

The following opinion is solely based on materials provided to me from Mr. Ferris coupled with my past experience and training as an Fire Ground Incident Commander.

It should be duly noted that Fire Ground Incident Commanders have an incredible amount of responsibility ensuring the safety of the Firefighters they are commanding as well as saving lives and property.

All Incident Commanders may manage an emergency incident a little different than their counterparts, because no two fires are the same. Incident Command management styles vary, but normally follow the same tactics and strategy principles for suppressing fire incidents as prescribed by their Department SOPs. Incident Commanders have to make tactical decisions based on "Risk vs Gain." For example, if an Incident Commander determines not to take an interior fire attack approach, because of safety concerns for his Firefighters he has that option not to conduct an interior fire attack. He may have based his decision as to whether there are lives at risk or not. Normally, if there are victims inside a burning structure the appropriate steps are taken to conduct "search and rescue" operations coupled with an interior fire attack. Also, an additional back-up hose line may be introduced into the equation to ensure the safety of the Firefighters who are conducting "search and rescue."

After careful, review of "The Sub" photographs and video footage depicting firefighting tactics and strategy there were several observations that "on the face" are in need of explanation.

1. Engine 4 is documented via video footage laying a supply line and firefighters are seen spraying water directly into the west window at the

fire. This method possibly caused the fire to be pushed back into the structure igniting other combustibles in the immediate area.

2. Engine 3 is documented via footage to have taken a position at the southeast portion of the structure, but it appears that no hose lines were advanced into any of the entrances on the southeast or east sides of the structure. The large roll up garage style door or pedestrian doors may have been a possible safe area to advance hose lines through the structure and extinguish the fire in the west side window box were of the bulk of the fire was observed.
3. Engine 4 personnel also could have advanced a hose line through the west side door south of the fire and extinguished the fire from the interior.
4. Both tactical methods in #2 and #3 would be considered an "aggressive interior fire attack," however none of the above actions were taken which could have safely suppressed the fire in a minimal amount of time based on the exhibits presented to me.
5. In regards to Roof Ventilation Operations there are issues that cause concern when and where to ventilate. The purpose of ventilating a roof is to allow hot gases and smoke to escape from within the interior of the structure allowing Firefighters to gain more visibility when conducting interior fire attack. There was no interior fire attack that I observed in the materials presented to me for my review. Normally, roof ventilation operations and interior fire attack are conducted simultaneously which in most incidents has the best results for fire extinguishment. This did not take place according to the exhibits presented. The materials provided to me show that numerous vent holes had been cut on the roof of the structure. This tactic was taken by the Firefighters who were most likely trying to get above the "seat" of the fire so that an interior attack could take place but didn't.
6. After reviewing the Fire Incident Reports submitted by key personnel (Fire Captains and Chief Officers), I saw nothing noting that a Rapid Intervention Team (R.I.T.) or Rapid Intervention Crew (R.I.C.) was specifically designated to this fire incident. I do not understand why there was no R.I.T. or R.I.C. assigned considering there were roof operations taking place and the

possibility of Firefighters entering the structure to conduct a primary search coupled with an interior fire attack. It should be noted that an employee of the "Sub" was unaccounted for and if Fire Personnel were aware of him missing an attempt to should have been made to conduct a primary search of the structure.

Conclusion:

The exhibits that Mr. Ferris presented to me for review gave me insight into what had taken place at the "Sub" fire from an investigative and fire tactics and strategy perspective.

In my professional opinion a complete and thorough fire/arson investigation did not take place. There are many components to this investigation that need to take place for the investigation to be complete. They are as follows:

1. Reclassifying the fire from "Undetermined" to "Incendiary/ Arson."
2. Identifying the alleged off duty Firefighter who was the original Reporting Party of the fire incident. If located this individual should be interviewed extensively.
3. An attempt should be made to identify this individual by accessing media outlets (electronic/ print media) and/ or internal Governmental Agency transmittals.
4. Law Enforcement should compose a composite drawing of the alleged off-duty Firefighter.

Additional components that should have taken place but did not occur and now are forever lost are as follows:

1. No physical evidence was collected at the fire scene with the exception of photographs, video footage, and testimonial evidence.
2. No fire debris samples were collected throughout the structure for forensic analysis detecting ignitable liquids.

3. No Electrical Engineer was summoned to the fire scene to rule in or eliminate an electrical malfunction as a cause for the fire.
4. No Mechanical Engineer was summoned to the fire scene to rule in or eliminate any mechanical malfunction as a cause for the fire.
5. No extensive canvass of the surrounding business and/or neighborhood was conducted to locate potential witnesses.
6. No extensive canvass of any surveillance footage was conducted of the surrounding business and/or neighborhood.
7. No Accelerant Detection K9 was summoned to the fire scene to detect any possible ignitable liquids.

Firefighting Tactics and Strategy:

Without personally interviewing the key Fire Suppression personnel involved in this fire incident, it is difficult for me to place blame on anyone as for the outcome of the fire extinguishment. There are some concerns as to the fire tactics and strategy used to suppress this fire when fire companies first arrived on scene. After reviewing the exhibits it appears there were options that could have been exercised to suppress this fire in a safe and expeditious manner, but did not take place.

Recommendation:

This Fire Investigation should be completed due to the fact this is a high dollar loss structure fire. Also, there is a possibly that an Arsonist is still at large.

Document prepared by:

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