

FIRE DEPARTMENT

Critical Incident Review

Structure Fire

899 Island Park Dr.

Charleston Fire Department

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March 1, 2010

Summary

On March 1, 2011, Engine "A" was dispatched to a reported structure fire at 899 Island Park Dr. Upon arrival Engine "A" confirmed that it was a two-story commercial building with heavy fire showing from what was believed to be the Charlie/delta corner. Engine "A" failed to establish and or complete a water supply upon arrival. Crew of Engine "A" forced entry and advanced a 1 ½ hand line to second floor to make an initial fire attack. Several attempts were made by BC "A" to have crew of Engine "A" abandon interior operations; those attempts by radio were unsuccessful. Water supply operations were further delayed as Engine "B" laid in from hydrant to attack engine; hydrant was not initially supported. Due to the type of structure, amount of fire and unknown burn time, major collapse of structure was possible in the early minutes of first arriving units.

A critical incident review was requested by Chief Carr for this incident as major SOP violations were found at this incident.

Charleston Fire Department

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Findings and Recommendations

Finding

1. Upon the initial dispatch the on the duty battalion chief requested an Engine from North Charleston Fire Department and an Engine from Mt. Pleasant fire department. There were no further directives or orders given to CDC as to where mutual aid units would stage or what their initial response assignment would be. CDC did not advise the battalion chief if the neighboring agencies were responding and with what resources.

Recommendation

Upon request of additional resources outside of the initial alarm assignment, the incident commander should advise CDC of where additional units need to stage upon arrival on scene. CDC should advise the incident commander if the resources requested from mutual aid department are able to respond.

Finding

2. As first due units responded to the incident, there were flames visible from their station quarters. This building was a commercial structure with a truss roof that was heavily involved in fire. The first arriving engine failed to initiate and or establish a water supply prior to arriving on scene.

Recommendation

Company should operate within the Safe Structural Fire Fighting SOP 200.01 that was established on 11/1/09, as it pertains to section XIV commercial structure fire response.

Findings and Recommendations

Company officers should have knowledge of fire department Truss policy pertaining to structure fires and operate within those parameters as personal life safety is most important.

Finding

3. A complete scene size up was not given as per NIMS.

Recommendation

Officer of first arriving unit should communicate size up as per Section V of the Safe Structural Fire Fighting SOP established on 11/1/09.

Finding

4. There was inconsistent information to directly identify the geographical zones of the structure. Companies were not sure what side of the building was Alpha, Bravo, Charlie or Delta. The conflicting geographical zones caused confusion and created a delay in fire ground operations.

Recommendation

As per Section V of the Safe Structural Fire Fighting SOP established on 11/1/09, the first arriving company will give an initial size-up, beginning with the arrival side of the building. The address side of the building will be designated the Alpha side, unless otherwise designated by the I.C.

Finding

5. Interviews demonstrated that first arriving units were not familiar with street and hydrant locations as it pertained the fire location.

Recommendation

Companies must maintain familiarization of streets and hydrants in their primary response area. Officers must ensure that map books are updated monthly with streets and hydrant locations.

Findings and Recommendations

Finding

6. Statements and interviews concluded that all personnel did not have assigned portable radios prior to entering structure. It was also found that personnel with portable radios were not on the assigned incident channel.

Recommendation

All personnel need to ensure that all required PPE is worn, including issued radios as per Safe Structural Fire Fighting SOP established on 11/01/09. Personnel should also ensure that all radios are on assigned incident channel prior to entering the structure as per SOP 204.01 Radio Procedures, established 10/13/08.

Finding

7. When crews were needed to be removed from the structure immediately, the incident commander was unable to reach the officer of the crew via radio. The incident commander did not attempt to reach other members of the crew via radio. No evacuations tones were requested from dispatch center. There was also no air horn blasts ordered to provoke crews to rapidly exit the building.

Recommendation

If the incident commander is unable to reach the officer of the crew, he/she should attempt to reach another member of the crew. When crews need to be immediately removed from a structure the incident commander should refer to SOP 204.02 Abandon Interior Operations which was established on 10/13/08. As per SOP 201.14 PAR when the incident commander is unable to reach a crew via radio after three attempts, mayday procedures should be followed as per SOP 207.26 established on 2/20/08.

Finding

8. First arriving engine company stretched 1 ½ hose to interior of commercial structure for fire attack.

Findings and Recommendations

Recommendation

Officer of first arriving unit should be familiar with the Safe Structural Fire Fighting SOP 200.01 Section XIV Commercial Structure Fire Assignment which indicates that all hand lines will have a minimum flow capacity of 250 GPM.

Finding

9. Statements and interviews concluded that the incident commander abandoned the command post after failed attempts to reach first arriving engine company via radio, in an attempt to make physical contact with crew.

Recommendation

Once command is established and location of command post is given, the incident commander should refrain from leaving his/her vehicle or confirmed command post location as per SOP Phase In, which was established on 8/17/09.

Finding

10. Interviews concluded that the Incident Commander entered the hot zone without appropriate PPE to evacuate personnel from the building, after 3 failed attempts to reach company via radio.

Recommendation

All personnel should operate within the parameters of SOP 201.12 Control Zones established 10/30/08 and SOP 107.03, Personal Protective Equipment established on 10/30/08.

Finding

11. Although RIT was assigned, interviews confirmed that crew integrity of RIT was not kept throughout the incident.

Findings and Recommendations

Recommendation

All personnel assigned to the Rapid Intervention Team should operate in accordance with SOP 207.24 RIT established on 10/30/08.

Finding

12. Interviews confirmed that thermal imaging camera was left on apparatus of first arriving unit.

Recommendation

The thermal imager is a vital tool in conducting fire ground operations. All personnel should carry required equipment as per Safe Structural Fire Fighting SOP 11/1/09

Finding

13. Review of radio transmissions confirmed that personnel or units not on scene questioned command about the amount of resources responding. Audio recordings also identified other verbal transmissions that were non-essential to the fire ground.

Recommendation

All radio traffic that is not vital to the fire ground operations should be avoided. Unnecessary communications will crowd the assigned fire ground channel and may cause vital information to be unheard by the Incident commander and other units operating on scene.

Finding

14. Audio Recordings identified numerous terminologies that are not used in the Charleston fire department, which caused confusion on the fire ground.

Recommendation

Only terminology familiar to members of the Charleston Fire Department may be used on an incident. All radio terminology used should coincide with all Charleston Fire Department SOP's.

Findings and Recommendations

Finding

15. Unit designators and prefixes should be used in order to limit any confusion on the fire ground between companies and incident commander.

Recommendation

It is critical that unit officers use the unit type every time a radio transmission is made. Also, when personnel are communicating via walkie, individual designators must be used along with unit prefixes (*Engine 103 Bravo*) as per SOP Phase In 8/17/09.

Finding

16. Audio recordings demonstrated that second arriving engine requested an assignment from the incident commander

Recommendation

Units responding on the first alarm assignment should be aware of their response assignment based on the order of dispatch or on scene arrival. Upon arriving on scene units should identify what assignment they will be completing as per Safe Structural Fire Fighting SOP 200.01

Finding

17. Upon arrival of first due Ladder Company, apparatus was not appropriately positioned for aerial device to be used.

Recommendation

Units arrived on scene and found heavy fire venting from second floor of a 2 story commercial building. Officer of first arriving Ladder Company should position aerial to where elevated master stream could effectively be used if necessary.

Findings and Recommendations

Finding

18. Interviews concluded that the Ladder Company was not able to operate in a manner to support fire attack operations by the engine company. Initial forcible entry was not conducted by Ladder Company as the first arriving Engine Company was preparing for an interior attack.

Recommendation

First arriving officer must clearly identify and communicate initial strategy and tactics; this will reduce confusion among additional arriving units as to what specific tasks are to be accomplished.

Finding

19. Statements and interviews concluded that initial fire ground strategies and tactics were not clearly identified. There was confusion among first arriving units in reference to operating offensively or defensively.

Recommendation

First arriving officers must clearly identify initial plan of actions to reduce confusion of strategies and tactics as per Safe Structural Fire Fighting SOP 200.01

Finding

20. Initial water supply was not completed, as hydrant was not initially supported by second arriving engine company, which crew performed a forward lay to supply attack engine. The officer of the second arriving engine later advised the pump operator to disconnect supply hose from attack engine and proceed to support the hydrant. An order was also given advising the supply engine not to use the humat valve.

Recommendation

The first arriving engine company must establish a water supply, that is to be completed by the second arriving engine company as per Safe Structural Fire Fighting SOP 200.01 Commercial Structural Fire Assignment 11/1/09. The humat valve if available should always be used to support the hydrant as this allows for water supply to be maximized.

Findings and Recommendations

Finding

21. Interviews and audio transmissions concluded that both pump operators from the attack engine and the supply engine were not very knowledgeable in Charleston fire department pump operation procedures. The pump operator of the attack engine repeatedly requested an increase in pressure on the supply line which was not necessary. The pump operator of the supply engine continued to dangerously increase the supply line pressure well above department standard operating procedures in excessive of 200 psi. The supply engine also experienced a complete loss of water pressure. Risk of mechanical damage to engine pumps was also possible as driver operator identified loud noises coming from pump housing.

Recommendation

All pump operators need to maintain competency in practical applications of pump operations and maintain knowledge of pump operation pressures listed in department SOP. Training division needs to ensure that updated driver operator program is delivered to all current drivers and periodic performance evaluation is conducted.

Finding

22. Radio transmissions identified that the first PAR was not initiated in excess of thirty minutes of fire ground operations. No PAR was initiated after major collapse of the structure. While conducting PAR all personnel were not accounted for before moving on to next company.

Recommendation

It is the responsibility of the incident commander to initiate a PAR on the scene of emergency incidents as per SOP 201.14 PAR established 10/27/08. The incident commander should refer to the command sheet as a guide for initiating first PAR at 20 minutes into fire ground operations, unless one is warranted earlier in the incident. Company Officers must all ensure that an accurate PAR is given when requested from the incident commander.

Finding

23. Crews were operating within the apparent collapse zone upon defensive operations.

Findings and Recommendations

Recommendation

Use of portable master streams should be considered in order to limit the amount of personnel operating in the collapse zone. Officers of crews should consider using pre-pipe deluge guns on apparatus and portable master streams.

Finding

24. Commercial structure fires pose many unknown hazards. The incident commander did not request a pre incident survey of the building to assist in knowledge of this particular building, which was a medical facility.

Recommendation

Incident commanders should consider using Pre-incident surveys to identify demographics of building and possible hazards to fire fighters operating on the fire ground. Building representatives who respond to scene as emergency key holders should be requested to report to command post, as they may be able to provide the Incident commander with valuable information to support suppression tactics and enhance safety to all personnel operating on the fire ground.

Finding

25. Collapse zones were not clearly identified by the incident commander or safety officer in order to keep personnel away from those areas.

Recommendation

The incident commander should ensure that control zones are established as per SOP 201.12 Control Zones 10/30/08. Once control zones are established it is the responsibility of the on scene safety officer and company officers to maintain these safety zones.

Finding

26. Audio recordings and interviews identified that the incident commander was operating well outside of his span of control.

Findings and Recommendations

Recommendation

Based on size and complexity of incident, the incident commander should consider assigning a chief officer to the role of operations officer or assign section supervisors. This will allow personnel to operate within the span of control as per NIMS ICS.

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