

	<b>ELECTRICAL EMERGENCIES INCIDENTS</b>	<b>2014revB</b>
	<b>AUTHORED BY:</b> Lt. Greg VanHeel	<b>FESSIONAL #:</b> 5A.4
	<b>APPROVED BY:</b> Fire Chief Mark Miller 	<b>EFFECTIVE DATE:</b> 9/28/2014  <b>REVISION DATE:</b> 9/28/2017

## Procedure:

### Size-Up Considerations

The size-up is one of the most critical components for the development of an incident action plan. The size-up essentially provides an evaluation of the situation confronted by the first arriving unit or member.

LFRA frequently responds to investigate and mitigate situations involving electrical equipment or electrical power lines. Many of these incidents involve a combination of Fire, EMS, Law Enforcement and Utility Company operations; therefore, a strong command presence is necessary. Officers on scene should be alert to the possibility of energized electrical lines and take appropriate steps to ensure the safety of personnel and bystanders.

The first arriving officer, unit or member shall consider the following questions when preparing for an “On Scene” radio report and ensuing Incident Action Plan:

- What has happened?
- What is happening now?
- What is likely to happen?

The first arriving officer, unit or member shall consider the following factors when preparing for an “On Scene” radio report while only committing to what can be seen from the cab.

### Description of Event

The first arriving officer, unit or member shall describe the nature of the event which may include fire, power lines down, damaged transformer and other features that help describe the conditions being faced by the first arriving officer, unit or member.

### **Establishment of Command**

The first arriving officer, unit or member shall assume and name command based on street address or location. The first arriving officer, unit or member can retain command or pass command to the battalion chief (if responding) when determined to be a working incident.

### **Action Taken**

The first arriving officer, unit or member shall complete a 360 and transmit that they will be conducting a 360 during the “On Scene” report. If the first arriving officer, unit or member recognizes that this cannot be accomplished upon arrival, the member shall transmit that a 360 cannot be completed or announce that a 360 was not completed during the “Follow Up” radio report.

If the first arriving officer, unit or member does not have obvious signs of a problem, they shall transmit that they will be investigating during the “On Scene” report.

### **Resource Needs**

The first arriving officer, unit or member may address any immediate resource needs based on current conditions or events. Some examples of immediate resource needs are as follows:

- Victim rescue
- Utility provider (City Water & Power Department or REA)
- Upgrade to 1<sup>st</sup> alarm
- Police needed for traffic control

### **“On Scene” Report**

As mentioned earlier, the “On Scene” report is a description of what the first arriving officer, unit or member encounters. LFRA has adopted and modified the Blue Card Certification program to establish a standard method of initiating command. Therefore, the following is an example of the standard method of transmitting an “On Scene” report:

*“200, Engine 5.... Engine 5 is on scene of a power line down and arcing on the ground. No structures are threatened. E5 will have ‘Main Street’ command. Have REA and PD respond to this location. I will be completing a 360.”*

### **Incident Action Plan (IAP) Considerations**

The development of the Incident Action Plan (IAP) is based on the conditions, actions and resources available to the incident commander. In reference to electrical emergencies, it is imperative that the first arriving unit or member understand the need for established strategies and tactics to be used at the incident as they relate to the Incident Priorities.

The development of the IAP begins with the initial dispatch information, but does not get communicated until after the first arriving officer, unit or member arrives on scene and completes their 360 and transmits their “Follow Up” report. The “Follow Up” report shall serve as the foundation of the IAP along with the Incident Priorities.

The first arriving officer, unit or member shall consider the following factors when preparing for a “Follow Up” radio report and developing the IAP:

#### **360 Complete**

The 360 shall be completed by the first arriving officer, unit or member if conditions and terrain permit. This also serves as a benchmark and indicates that an Incident Action Plan is about to follow.

#### **Location and Description of Electrical Emergency**

The first arriving officer, unit or member shall provide greater detail on the nature of the problem and relay that information to incoming units during the “Follow Up” report.

#### **Actions**

The actions of the first arriving officer, unit or member shall be described in simple terminology. This provides Dispatch a quick briefing on the course of action being taken by the first arriving officer, unit or member.

For example, the first arriving unit may state, "*E5 will be establishing a safety zone on Main Street between 3<sup>rd</sup> Street and 4<sup>th</sup> Street.*"

### Communication

If additional units have been requested by the incident commander, assignments should be given out to these units. The assigned units or members shall complete the communication loop upon arrival. If arriving units fail to complete the communication loop, the incident commander shall repeat any needed information for clarification or to confirm that the message has been received.

### "Follow Up" Report

The "Follow Up" report is a description of what the first arriving unit or member encounters upon completion of a 360. LFRA has adopted and modified the Blue Card Certification program to establish a standard method of initiating command. Therefore, the following is an example of the standard method of transmitting a "Follow Up" report:

*"200, E5... 360 complete. The power line is lying across a metal fence and E5 will be establishing a safety zone on Main Street between 3rd Street and 4th Street. E5 will be blocking 3<sup>rd</sup> Street. Have PD respond and block 4<sup>th</sup> Street. E5 will be awaiting the arrival of REA to turn off power."*

## Company Level Functions

### First Arriving Engine

The method for how an incident will unfold is often based on the actions and positioning of the first arriving engine. The responsibilities of the first arriving engine are often based on the decisions of the first arriving unit or member and the formulation of the IAP. The following are some of the responsibilities of the first arriving engine:

- Establish a Safety Zone

The Safety Zone should be large enough to exclude bystanders from potential electrocution hazard; request Law Enforcement assistance if necessary.

- For downed power lines, the Safety Zone should extend at least one full span length of wire in each direction beyond the downed wire because additional stresses may be placed on adjacent poles causing them to break and fall.
  - With a vehicle accident involving electrical equipment or wires, be aware that guard rails or fences may also be energized.
- Use CO<sub>2</sub> or dry chemical extinguishers to engage fire if life is in danger.
- Electrical fires are often best handled by simply shutting down the power source.
- If fire is involved, focus efforts on exposure protection.
- Do not assume that telephone and cable lines are not energized – they may be in contact with other energized wires.
- Vehicle accident with downed wires or pad transformers:
  - Shout to occupants to stay in the vehicle.
  - If it is imperative for occupants to leave the vehicle (i.e., vehicle is on fire), they must not touch the ground and the vehicle at the same time. Instruct the occupant to jump clear of the vehicle.
- Use of the Hot Stick
  - Designed to detect AC current (will not detect DC current from batteries or solar panels).
  - Will beep and flash near sources of AC current.
  - May be useful to confirm a wire is energized, but should NOT be trusted to show a wire is de-energized. Have the power company confirm this.
- LFRA personnel should not move power lines, pull electric meters, open electrical panels or open electrical vaults. These operations will strictly be done by the power company.

## Benchmarks

The following benchmarks are utilized with electrical emergencies to ensure that the incident priorities are being obtained as well as to determine that the appropriate actions are being completed for the incident:

### **360 Complete**

The 360 shall be completed by the first arriving officer or member if conditions and terrain permit.

### **Power Turned Off**

This benchmark shall be announced once the power company has verified that electrical power is off and secured.

## **Validation Summary:**

No additional validation testing requested given the practices outlined in this document have been in use for an extended time.

## **Revision History:**

Revision B-Updated by C. Pollema to reflect the current formatting. No change in content.

## **References:**

AC Hotstick Datasheet. 2002. Hotstick USA Incorporated.

Electric and Natural Gas Hazards and the First Responder. 2003. Wisconsin Energy.

Firefighter's Handbook, Third Edition. 2009. Delmar Publishing.