

## POST INCIDENT ANALYSIS

The Incident Commander or incident command team should analyze every incident informally to improve personnel, unit, and system performance. After every major incident, the Incident Commander **must** develop a post incident analysis (PIA) to determine strengths, weaknesses, and lessons learned about the incident operations. The post incident analysis should be fact-based, and not include unsubstantiated opinions. The PIA is forwarded to the Fire Administrator through the appropriate Chain of Command. A PIA must be completed for:

1. A building fire in which 3 or more rooms are severely damaged by fire, or where unusual extinguishing problems existed;
2. Any fire resulting in a fatality;
3. Any fire resulting in injury to firefighters serious enough to necessitate admission to a medical facility;
4. Any Hazardous Materials incident at the recommendation of the HazMat officer;
5. Any mass casualty incident involving 8 or more victims; and
6. At the Incident Commander's discretion, or at the direction of a senior officer.

The PIA is a critical component in determining the processes used during a major incident, and an educational tool for all MCFRS personnel. Valuable lessons are learned from observations of effective and efficient methods of mitigating a major incident. These includes all strategic decisions, operational issues, built-in fire protection devices, and anything else that assisted in mitigating the incident. MCFRS personnel also benefit from learning what has **not** proven to be effective or efficient.

The PIA requires the incident commander to closely evaluate all conditions, factors, and decisions made during a major incident. This detailed retrospective provides documentation that can be used as an educational tool. Each incident commander should use all available resources to completely and thoroughly describe the incident and the methods used to mitigate it.

PIA forms are attached for Structural Fires, Hazardous Materials Incidents, and Major Medical Incidents. Each form lists questions specific to that type of incident. Complete only the applicable portions, and for each answer, provide a detailed explanation. The more accurate the PIA, the greater the benefit for the entire service.

The attached Unit Fact Sheet is to be provided to unit officers, or in rare circumstances, to all personnel, to assist the incident commander in completing the PIA. A supply of these forms should be maintained at each station. The final form is an Incident Management System Work Sheet, which will allow the incident commander to detail assignments under each appropriate Division/Group or Branch.

The new PIA may also be used as a presentation format for a critique of any incident, for use either by the incident commander or a moderator.

**SECTION 1**  
**POST INCIDENT ANALYSIS**  
**STRUCTURAL FIRE**

I. Introduction

- a. Provide a general overview of the incident including an area diagram of the building, exposures, water supply, time of day, weather conditions, etc.
- b. Indicate unique circumstances/problems, etc.

II Building Structure/Site Layout

- a. Review type of structure
- b. What construction or design features contributed to the fire spread, or prevented fire spread, i.e. sprinklers, fire doors, etc.?
- c. Did the topography and/or type of fuel affect fire control efforts?
- d. Did fire alarm and/or suppression devices work properly?
- e. Did personnel or apparatus encounter any problems in gaining access?
- f. What is needed to correct these problems?

III Fire Code History

- a. Review relevant Fire Code requirements and history.

IV Communications

- a. Did dispatcher verbally provide all information available at the time of dispatch?
- b. Was the fire ground channel adequate?
- c. Were proper communications procedures followed?
- d. Were there problems communicating with Mutual Aid companies?
- e. Was the communication network controlled to reduce confusion?
- f. Did units, divisions/groups/branches and Montgomery communicate effectively?
- g. Was radio discipline effective?
- h. Did Incident Commander provide timely updates to Communications?

V Pre-emergency Planning

- a. Were pre-fire or other plans needed on the scene?
  - 1. Were they available?
  - 2. Should they be updated?

VI On Scene Operations

- a. What was the structural integrity of the building based on fire conditions on arrival, at 10 minutes, 20 minutes, 30 minutes, etc.
- b. Was Command identified and maintained throughout the incident?
- c. Was a Command Post established and readily identifiable? Flag, Green Light, or other?
- d. Size up decisions by command
- e. Was additional apparatus requested in a timely manner?
- f. Strategy/action plan
- g. Did personnel, units, and teams execute tactics effectively?
- h. Were any training needs identified? provide examples.
- i. Were Standard Operating Procedures used? Were they adequate? Do they need to be updated? If not used, why?
- j. What offensive/defensive decisions were made by command?
- k. How was risk analysis applied to the incident?
- l. Were the divisions/groups used appropriate to the incident's type and complexity?
- m. Was apparatus properly positioned? If not, why?
- n. Attack line selection and positioning
- o. Ventilation operations
- p. Salvage operations
- q. Night time and interior lighting operations
- r. Were Mutual Aid companies effective in operation?
- s. Was water supply adequate?

VII Staging

- a. Location adequacy
- b. Site Access

VIII Support Functions

- a. Was a Rehab group established?
- b. Were fire/rescue personnel provided with food and drinks?
- c. Was adequate shelter provided for fire/rescue personnel?
- d. Were crews relieved by fresh crews regularly and frequently?
- e. Were there any equipment or apparatus failures? Did these failures have a detrimental effect on the incident outcome?
- f. Were functions with outside agencies properly coordinated? (i.e. Red Cross, Power company, Gas Company)

IX Safety Group

- a. Was a standby team established? if not, why?
- b. Were any fire/rescue personnel injured?
- c. Were all safety SOPs and regulations enforced?
- d. If there was a Safety Dispatch, were they used for Safety, Accountability or RIC? If not, why?

- e. What actions are necessary to change or update current safety and health programs to improve the welfare of members?

X Accountability

- a. Were actions taken to ensure accurate personnel accountability?
- b. Was the status of units, Divisions/Groups/Branches and support personnel maintained?
- c. Did personnel provide adequate feedback?
- d. Was the incident continuously controlled and monitored?

XI Investigations

- a. Was the fire's origin and cause determined?
- b. What factors contributed to the fire's spread?

XII Lessons Learned

- a. Were specific training needs identified?
- b. Recommended improvements

XIII Overall Analysis of Incident

-Good? Bad? Why?

Critique

If post incident analysis indicates that a positive learning experience would result, or where it may be necessary to complete the analysis of an incident, a critique may be held at the discretion of the Incident Commander or their superior.

## SECTION 2

### POST INCIDENT ANALYSIS HAZARDOUS MATERIALS

#### I. Introduction

- a. General overview of incident
- b. Unique circumstances/problem, etc.

#### II Site Review

- a. Type of structure and post incident structure analysis as appropriate, or site layout review (either diagram site, or attach aerial photographs if available).
- b. Storage/Interior-Exterior
- c. Type of container/transport involved
- d. Roadway location, access, drainage
- e. Storm drains, and sewer systems
- f. Weather conditions

#### III Fire Code History

- a. Review code, laws, regulations and deficiencies
- b. Review file history on building alternatives, inspections, citations, etc.
- c. Review file on spill history

#### IV Communications

- a. Did the dispatcher provide all information available at the time of dispatch?
- b. Was the fire ground channel adequate?
- c. Were the proper communications procedures followed?
- d. Were there problems communicating with Mutual Aid companies?
- e. Was the communication network controlled to reduce confusion?
- f. Did units, Divisions/groups/branches and Montgomery communicate effectively?
- g. Was radio discipline effective?
- h. Did Incident Commander provide timely updates to Communications?

#### V On Scene Operation

- a. Structural/container integrity, based on arrival conditions, at 10 minutes, 20 minutes, 30 minutes, etc.
- b. Spill/release conditions at 10 minutes, 20 minutes, 30 minutes, etc.
- c. Size-up decisions by command
- d. Strategy/plan-Action Plan; Site Safety plan
- e. Offensive/defensive decisions by command
- f. Risk Analysis

- g. Sector operations
- h. Apparatus positioning
- i. Ventilation operations
- j. Initial actions by first responder
- k. Initial action by HazMat units
- l. Did HazMat establish all necessary sub-sectors?
- m. Evacuation process
- n. Mutual Aid

VI Staging Operations

- a. Location Adequacy
- b. Site Access
- c. Additional resources staged and available?

VII HazMat Operations

- a. Product Identified/when?
- b. Product hazards identified-fire, explosive and health
- c. Entry and Hazard Zone operations
- d. Clean-up process
- e. Weather monitoring
- f. Decontamination measures/process
- g. Research Data used?
- h. Instrumentation measures/practice

VIII Agency Coordination

- a. List and review outside agency response and their legal and/or operational responsibilities
- b. Review agency coordination and use during incident

IX Support Functions

- a. Was a Rehab group established?
- b. Were fire/rescue personnel provided with food and drinks?
- c. Was adequate shelter provided for fire/rescue personnel?
- d. Were crews relieved by fresh crews regularly and frequently?
- e. Were there any equipment or apparatus failures?
- f. Were functions with outside agencies properly coordinated? (i.e. Red Cross, Power company, Gas Company)

X Safety Group

- a. Was a standby team established? if not, why?
- b. Were any fire/rescue personnel injured?
- c. Were all safety SOPs and regulations enforced?
- d. If there was a Safety Dispatch, were they used for Safety, Accountability or RIC?

- e. What actions are necessary to change or update current safety and health programs to improve the welfare of members?

XI Accountability

- a. Were actions taken to ensure accurate personnel accountability?
- b. Was the status of units, Divisions/Groups/Branches, and support personnel maintained?
- c. Did personnel provide adequate feedback?
- d. Was the incident continuously controlled and monitored?

XII Investigations

- a. What was the origin and cause of fire/hazard spread?
- b. What factors contributed to fire spread?

XIII Lessons Learned

- a. What specific training needs were identified?
- b. What improvements are recommended?

XIV Overall Analysis of Incident

-Good? Bad? Why?

Critique

If post incident analysis indicates that a positive learning experience would result, or where it may be necessary to complete the analysis of an incident, a critique may be held at the discretion of the Incident Commander or their superior.

## SECTION 3

### POST INCIDENT ANALYSIS MAJOR MEDICAL INCIDENT

#### I Introduction

- a. Provide a general overview of the incident.
- b. Identify unique circumstances/problems, etc.

#### II On Scene Operations

- a. What was the situation on arrival, 10 minutes, 20 minutes, 30 minutes, etc.
- b. Size-up
  - 1. Early call for assistance
  - 2. Action plan
- c. Plan of action/strategy
- d. Command Operations
- e. Division/Group Operations
  - 1. Extrication, treatment, transportation, staging
- f. Scene arrangement/layout. Identify positions of Groups/Divisions, apparatus positions, lighting, ambulance/medic unit access/egress, loading points, obstacles, barriers, etc.
- g. Involvement/use of outside agencies:
  - 1. Police
  - 2. Hospitals. Indicate status at time of incident, i.e. yellow, red, etc.
  - 3. Helicopters
  - 4. Medical Examiner
  - 5. Mutual Aid companies

#### III Communications

- a. Dispatch, on-scene reports
- b. ECC operations
  - 1. Hospital Notifications,
  - 2. Problems encountered
- c. Did Incident Commander provide ECC with timely updates of incident status?
- d. Transportation Group Communications/coordination

#### IV Support Functions

- a. Safety
- b. Logistics – Equipment/Supplies
- c. Rehab

#### V Staging Operations

- a. Location adequacy
- b. Site Access

VI Triage/Patient Outcomes

- a. Was triage instituted early in incident?
- b. Accuracy of Triage Decisions

VII Lessons Learned

- a. Were any specific training needs identified?
- b. Recommended improvements

VIII Overall Analysis of Incident

-Good? Bad? Why?

Critique

If post incident analysis indicates that a positive learning experience would result, or where it may be necessary to complete the analysis of an incident, a critique may be held at the discretion of the Incident Commander or their superior.

**POST INCIDENT ANALYSIS  
UNIT FACT SHEET**

Unit ID: \_\_\_\_\_

Officer In Charge: \_\_\_\_\_

Incident Address: \_\_\_\_\_

Time of Arrival: \_\_\_\_\_

Nature of Incident:

Describe the situation upon arrival:

Describe SOP used or assignments given and/or actions taken in chronological order:

PIA forms: disk 11/29/01

Obstacles Encountered: Provide explanation			
Coordination		Communication	Ineffective Equip. Use
Equipment Failure		Inadequate Personnel	Too Many Personnel
Safety		Staff Support	Other (Please Specify)