

### 3.1.6.1 Post-Incident Analysis



YOUR ORGANIZATION  
STANDARD OPERATING PROCEDURES/GUIDELINES

**TITLE:** Post-Incident Analysis

**SECTION/TOPIC:** Post-Incident Operations

**NUMBER:** 3.1.6.1

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**PREPARED BY:**

**APPROVED BY:**

X

Preparer

X

Approver

These SOPs/SOGs are based on FEMA guidelines FA-197

#### 1.0 POLICY REFERENCE

CFR	
NFPA	
NIMS	

#### 2.0 PURPOSE

This standard operating procedure/guideline addresses methods for identifying lessons learned and potential corrective actions following response to an emergency incident: incidents to be reviewed/analyzed, participants and roles, format for gathering information, format for conducting analyses, standardized action plan, mechanism for reporting results.

#### 3.0 SCOPE

This SOP/SOG pertains to all personnel in this organization.

#### 4.0 DEFINITIONS

These definitions are pertinent to this SOP/SOG.

#### 5.0 PROCEDURES/GUIDELINES & INFORMATION

##### 5.1 Methods for identifying Lessons Learned:

Post-incident critiques of major and significant incidents provides an opportunity to review the effectiveness of actions and procedures in their application during actual incidents. It is also an opportunity to review the overall quality of the services provided to the customers at the incident. This review is extremely valuable in improving procedures and incident operations. Formal departmental critiques will be conducted at the discretion of the Tactical Services Chief.

#### Critique Sector--Implementation

An incident Critique Sector may be utilized at major incidents. This sector will be implemented automatically by the Training Academy officer responding to the incident. Command must be notified of the Critique Sector's establishment. In the absence of an Training Academy officer, the Tactical Services chief or the Incident Commander will designate a fire officer to implement this Sector.

A critique "team" may also be implemented as part of the Critique Sector at greater alarms, or other significant incidents at the request of Command, to prepare and conduct a critique. Command must be notified of the Critique Sector's establishment. The Tactical Services Chief, or his/her designee, will select team members and make critique assignments.

#### Critique--Sector Responsibilities

The responsibilities of the Critique Sector will be:

- \* Produce a drawing of the incident layout and other details needed for a critique. This includes a drawing of the building or incident site with appropriate dimensions, apparatus placement, size and positions of hose lines and master streams, accountability locations, etc.
- \* Provide descriptive notes of observations related to actions and effectiveness of companies and sectors, unique problems, etc.
- \* Coordinate and ensure the photography/videography of the incident by the fire department personnel.
- \* Complete/Coordinate any other request of the Incident Commander, or operations officer as related to critique preparation.

#### Post-Incident Preparation

Post incident preparation for a critique will begin immediately following a major incident. The shift commander or battalion chief will determine the need for a critique and initiate the post-incident preparation once the incident is identified as one which will be critiqued. The Tactical Services Section will assist in gathering information and coordination of the critique.

#### Determining Critique Levels

The incident may qualify for one of five levels of critique. The Assistant Chief of Operations, or designee, will determine the level at which the incident will be critiqued. The Tactical Services Section will coordinate and/or conduct the critique.

1. Individual--Conducted within the individual company by the company officer. May include other companies. Usually self initiated by the company officer. No documentation of the

critique required.

2. Company Level--Post-incident critique conducted on site, prior to departing the scene. Initiated by Command or battalion chief. Informal and brief.
3. Battalion Level--Initiated and organized by the battalion chief. Scheduled assembly of the necessary companies as soon as possible after the incident. Structured critique format. Battalion chief completes critique analysis form and forwards to the Tactical Services Section.
4. Operations Level--Conducted within the battalion by the battalion chief or Shift Commander. This may be a first alarm or multiple-alarm incident, or other significant incident whose site operations were uncomplicated, and generally did not involve a large response of fire department resource or outside agencies. A standard critique packet will be utilized to prepare for and conduct the critique. A critique summary will be completed. All critique materials and documents will be forwarded to the Tactical Services Section for filing.
5. Department Level--Utilized for critiquing large-scale or complex incidents that involved a large response of fire department resources and several outside agencies or incidents that were unusual or tactically significant occurrences. A chief officer will be selected to prepare and conduct the critique. A team may be assigned to assist also. A standard critique packet will be utilized to prepare for and conduct the critique. A critique summary will be completed. All critique materials and documents will be forwarded to the Tactical Services Section. The Tactical Services Section will be responsible for coordinating the date and location of department level critiques and making Bucksip and other notifications.

This critique will require greater coordination, investigation, and preparation. It will be conducted at a selected location to accommodate a large attendance.

#### Critique Preparation Packet

Since a major incident affects all divisions and sections of the department in one degree or another, the operations and department level critique will review the total incident response rather than just simply the site operations aspects of the incident. A thorough critique of major incidents may require the assistance of several divisions or sections. Therefore, the following Divisions and Sections will be asked to submit at least the following information/materials. Turnaround for submitting the information to the Tactical Services chief will be ten (10) calendar days.

#### Urban Services--Code Enforcement Section

- \* Submit a summary of the building fire inspections history and history of fire code violations, including a list or a summary of the number and types of Certificates of Occupancy's that have been issued and any building alterations or other modifications that have been made.
- \* Ensure and provide site photography, including aerials as needed.
- \* Provide slide/photograph processing and duplicating (10 working-day turnaround).

#### Resource Management---Responsibilities

- \* Provide summary of incident observations and response.
- \* Provide a summary of Resource Management's response (who responded and on-scene actions).
- \* Provide a summary of any sector or Section responsibilities assumed and their effectiveness (i.e., Rehab sector, water supply, Logistics Section etc.).
- \* Submit a summary determination as to whether the building met the current fire code, and if not, what requirements were needed to meet the code. Also indicate any code requirements that the fire building is required to meet as an existing building/fire code.
- \* Provide a summary analysis of the building, describing the type of structure, type of roof structure, etc., and the affect of fire on the structure and systems.

#### Urban Services--Investigations Section

- \* Provide a summary report identifying the point of origin, type of ignition (i.e., accidental electrical, suspicious flammable liquids, etc.).
- \* Provide a brief description of type and route of fire spread. Specifically, if the building did not collapse, identify locations within the structure that were compromised and near collapse, or presented other hazards to firefighters.
- \* Provide building value and loss figures.
- \* Provide a summary of the fire protection and detection systems in the building and the effectiveness of those systems during the fire.
- \* Provide a list of fire protection and detection systems, or building designs, that were not provided, that would have reduced life loss, injury, or would have reduced property loss (this list shall not be restricted to current code required features).
- \* Provide information as to whether the fire may have been related to other fires.
- \* Provide a follow-up report by the critique date on additional information (releasable) on the investigation.
- \* Provide releasable photographs or slides and/or video taken by investigators that may be helpful to the critique process.

#### Training Academy--Responsibilities

- \* Responds to major incidents for training needs, evaluation, and establish the critique sector.
- \* Provide site drawings of incident layout, apparatus positioning, attack line placement, accountability locations, etc.
- \* Provide a summary description of equipment or apparatus performance, repairs, refueling, etc. Corporate Communications--Responsibilities
- \* Provide incident video.
- \* Provide collection of appropriate news media video, photographs, etc.
- \* Provide editing/production of critique video.
- \* Provide graphic slide or transparency production.

#### Dispatch and Deployment--Responsibilities

- \* Provide audio tapes (2 copies) of the phone reports, dispatch, and tactical channel

operations through to the report of fire control. Forward to Tactical Services.

- \* Provide incident history printout. Forward to Tactical Services.
- \* Conduct an in-house critique of dispatch and alarm activities during the incident.
- \* Provide a summary of Dispatch and Deployment critique and incident activities, identifying such items as call-back of personnel, equipment or activity problems, number of other incidents dispatched, etc., and any lessons learned from the in-house critique. Forward to Tactical Services.

#### Safety--Responsibilities

- \* Provide a summary of incident observations of safety related issues.
- \* Provide a summary of firefighter injury history, patient follow-ups.
- \* Provide a list of recommended corrective actions.

#### Emergency Medical Services Section--Responsibilities

If the incident involves multiple patients:

- \* Provide a summary of the EMS sections response and incident evaluation.
- \* Provide a summary on patient distribution by hospital, number of patients to each, triage category at site, hospital priorities, etc.
- \* Provide a summary of triage tagging effectiveness & accuracy based on patient follow-up.
- \* Provide follow-up report summary on patient injuries, expected outcomes, etc.
- \* Provide lessons learned from any in-house critiques of EMS operations.

#### Special Operations Section--Responsibilities

If the incident involves a response of special operations resources:

- \* Provide a summary of Special Operations Section response and evaluation by section officer.
- \* Provide a summary of site operations/actions by special operations units.
- \* Provide a summary of hazardous materials present, their hazards to fire fighters, and suggested incident management and procedures.
- \* Provide copies of DOT Guidelines and other related literature and reference material for product(s) involved.
- \* Provide a summary of cleanup operations.
- \* Provide lessons learned from any in-house critiques of Special Operations incident activity.

#### Battalion Chief's--Responsibilities

- \* Initiate Critique Process
- \* Provide a summary of observations, problems, actions, and activities encountered.
- \* Provide a summary of responsibilities and activities and their effectiveness from each sector.
- \* Complete an incident analysis form (# ) and submit it to the Tactical Services chief where appropriate.
- \* Provide recommendations as appropriate.
- \* Provide photographs/slides/video taken by Field Incident Technicians.

#### Field Incident Technician Responsibilities

- \* The Field Incident Technician of the Incident Commander, or designated critique officer, is responsible for the following.
- \* Assist Battalion Chief/Shift Commander in preparing critiques.
- \* Immediately collect all slide film, including film shot by other FIT's, for rush processing.
- \* Immediately provide all video tape, including video from other FIT's.
- \* Immediately send out CAD critique questions using the Battalion/Shift Commander CAD Terminal.  
Questions should be sent to all companies involved and returned to the Battalion/Shift Commander printer.

#### Field Incident Technician Responsibilities

- \* Initiate the mailing, through department mail of the critique packet request for critique information to the appropriate identified sector officers, and designated divisions and sections. This material should be returned to the sending battalion or Shift Commanders office.
- \* Collect all tactical worksheets and other drawings.
- \* Coordinate, with the Incident Commander, a drawing of the organization chart, using the diagram in the critique packet.

#### Shift Commander's--Responsibilities

- \* Initiate/support Critique Process
- \* Provide a summary of observations, problems, actions, activities encountered.
- \* Complete an incident analysis form and submit it to the Tactical Services chief where appropriate.
- \* Provides recommendations as appropriate.

#### Tactical Services Section - Responsibilities

- \* Responds to incident for incident evaluation and analysis.
- \* Initiates critique process once critique level is determined.
- \* Field Incident Technician distributes/collects critique packet information requests to/from Divisions and Sections.
- \* Collects critique materials (i.e., slides, information requests, etc.).
- \* Meets with Shift Commander and Incident Commander to review incident and prepare critique materials.
- \* Provides selected critique officer with critique packet and materials.
- \* Battalion Chief/Shift Commander coordinates critique presentation notifications with affected shift commanders, as needed.
- \* Coordinates time and location of critique.
- \* Assists as needed with critique preparation/presentation.
- \* Collects post-critique materials, lessons learned.
- \* Coordinates the final drawing of site layouts, etc.

- \* Prepares critique review training package.
- \* Publishes results of critique lessons learned for company review and entry into Volume 8.
- \* Maintains file of all critique materials and lessons learned.
- \* Initiates changes in procedures, plans, equipment, etc.

#### Critique Officer--Responsibilities (Selected Chief officer)

- \* Review CAD - L.O.C. information on building.
- \* Determines if building is in CAD, if information is complete and accurate; makes appropriate updates.
- \* Obtains a hard-copy printout of CAD L.O.C. history for critique. \* Reviews collected critique materials.
- \* Prepares critique presentation materials.
- \* Works with the Tactical Services Chief and Shift Commander in preparing and conducting critique.
- \* Conducts the critique.
- \* Provides Tactical Services Chief with lessons learned.
- \* Prepares a critique summary with lessons learned.
- \* Returns all critique materials to Tactical Services Chief.

#### Critique Package--Collected Materials

Once all requested summaries and other materials are returned to the Tactical Services Chief, they will be forwarded to the selected critique officer as a critique package.

#### Critique Presentation Scheduling

All Divisions, Sections, and Command officers from other departments will be notified of a departmentlevel critique via a Buckslip/e-mail notification. The Tactical Services Section will initiate the notice.

Shift Commanders will coordinate the scheduling of selected companies and personnel to the critique in their affected districts.

For operations-level critiques, the affected Shift Commander and battalion chief will be responsible for coordinating the scheduling and attendance of selected personnel and companies.

#### Critique Presentation Format

In order to provide consistency in the critique process, the critique officer should follow the standard format when conducting the critique. Modifications and additions in the format are permitted.

#### Incident Critique Summary

Following the critique, the Critique Officer is responsible for completing the critique summary. This is a two-three page written summary of the event and lessons learned. The written summary, plus a drawing of the incident site, must be completed. This summary is used for training purposes and a

final copy will be issued to Volume 8 (see page 16 for summary outline). All data, and other materials used to prepare for and conduct the critique must be forwarded to the Tactical Services Section within 10 days of the critique.

#### Company-Officer Critique Review

Company-level critique review will be presented to all company officers on a regular basis throughout the year. The objective of the critique review is to provide the follow-up training of lessons learned to all company and Command officers of the department.

The Tactical Services Section will prepare the Critique Review Training Packet. The training packet will include video, slide, transparency, and other materials emphasizing lessons learned. The Tactical Services Chief, or his designee, will conduct the critique review at quarterly company officer meeting.



CAD Questionnaire

CRITIQUE QUESTIONS—FIRES

Please respond to the following critique questions and send your responses to (List the Battalion/District printer code). There is no need to rewrite the question, just use the corresponding number for your response. Respond by the end of today's shift. Thank you for your help.

The questions are for the:

Incident # \_\_\_\_\_

Address

1. Describe the conditions of the emergency upon your arrival.
2. Describe your actions or assignments.
  - A. If you laid a supply line, from where to where?
  - B. If you used an attack line, what was it's original size?  
If it changed in size, what size was used after the change?
  - C. Where were your attack lines (streams) deployed?
3. If you were a sector officer, identify the sector and describe the objectives of your sector.
4. Identify and describe any unique problems you may have encountered.
5. Describe any events or actions at this emergency that assisted you in accomplishing your objectives or tasks.
6. Describe any events or actions at this emergency that may have hindered you in accomplishing your objectives or tasks.
7. Did you encounter any SAFETY problems? If so, identify.
8. Did you experience any equipment failures? List/Describe failures.
9. What would you do differently the next time?
10. Any recommended changes in plan, procedures, training, or equipment as a result of this incident?

## CRITIQUE PRESENTATION FORMAT--STRUCTURAL FIRES

- Critique should be limited to a maximum of 1 to 1-1/2 hours in duration if possible.
- Conflict should be moderated by the Critique Officer so that the critique remains a productive learning experience.
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### I. Introduction

- a. General introduction on the incident
- b. Unique circumstances/problems, etc.
- c. Review Tactical Preplan information

### II. Building Structure/Site Layout

- a. Review type of structure, and post-incident structure analysis, or incident site layout.

### III. Review Fire Code History

- a. Review code requirements, deficiencies etc., as applicable.
- b. Review file history on building alterations, inspections, etc.

### IV. Dispatch and Response

- a. Play tapes of reporting, dispatch, on scene reports
- b. Analyze dispatch, on scene reports
- c. Was dispatch appropriate for nature of reports?

### V. Site Operations

- a. Analyze structural integrity of building based fire conditions on arrival, at 10 minutes, at 20 minutes, at 30 minutes
- b. Review/analyze size-up decisions by Command
- c. Review/analyze strategy/action plan
- d. Review/analyze offensive/defensive decisions by Command
- e. Review risk analysis applied to the incident
- f. Review/analyze sector operations
- g. Review/apparatus positioning
- h. Review attack line selection/positioning, etc.
- i. Review ventilation operations
- j. Review loss control operations
- k. Review night time and interior lighting operations

### VI. Rescue Sector

- a. Review/analyze Sector activities
- b. Review apparatus positioning
- c. Review hoseline selection

- d. Review search plan
- e. Review rescue plan
- f. Discuss problems encountered

VII. Staging

- a. Early Level II
- b. Location adequacy
- c. Communications
- d. Site Access

VIII. Communications

- a. Review dispatch and deployment functions during incident
- b. Review/analyze the communication process
- c. Did Command receive adequate, accurate and timely information?
- d. Did Command effectively communicate his/her plan, objectives and other information to sectors/companies?
- e. Did sectors effectively communicate plans, objectives and other information to companies?

IX. Support Functions

- a. Review rehab operations
- b. Review equipment/apparatus failures, repairs
- c. Review water supply

X. Safety Sector

- a. Discuss safety aspects of incident
- b. Review injuries, causes, etc.
- c. Review corrective actions

XI. Accountability

- a. Discuss fireground accountability
- b. Determine if accountability was accurate
- c. Were accountability locations easily identified
- d. Have Accountability officers describe accountability operations, problems
- e. Discuss, Review Accountability Sector operations
- f. Accountability Benchmarks

XII. Investigations

- a. Review cause, point of origin, fire spread
- b. Update on investigation

**PRESENTATION  
CRITIQUE FORMAT--MAJOR MEDICAL**

- Critique should be limited to a maximum of 1 to 1-1/2 hours in duration if possible.
- Conflict should be moderated by the Critique Officer so that the critique remains a productive learning experience.

**I. Introduction**

- A. General Introduction
- B. Unique circumstances, problems, etc.

**II. Scene Operations**

- A. Unique Problems
- B. Situation on arrival, 10 minutes, 20 minutes, 30 minutes
- C. Size-up
  - 1. Early call for assistance
  - 2. Updates/progress reports
  - 3. Action plan updates/progress reports
- D. Plan of action/strategy
- E. Command Operations
- F. Sector Operations
  - 1. Scene safety, extrication, treatment, transportation, staging, occupant services, AR vans
- G. Scene arrangement/layout
  - 1. Sectors, apparatus positions, lighting, rescue access, loading points, obstacles, barriers
- H. Outside Agencies
  - 1. Private Ambulance
  - 2. Hospitals
  - 3. Police
  - 4. City Transit
  - 5. Medical Examiner
  - 6. Airport

**III. Communications**

- A. Dispatch, On-scene reports
- B. Dispatch and Deployment Operations
  - 1. Notifying hospitals, outside agencies
  - 2. Progress Reports
  - 3. Problems encountered
- C. Transportation Sector Communications/Coordination

#### **IV. Support Functions**

- A. Safety Sector
- B. Rehab Sector
- C. Resource Management - Equipment/Supplies

#### **V. Staging Operations**

- A. Early Level II?
- B. Rescues
- C. Fire Apparatus
- D. Other agencies

#### **VI. Triage/Patient Outcomes**

- A. Accuracy of Triage Decisions
- B. Appropriate Treatment & Packaging

#### **VII. Conclusion**

- A. Patient Follow-ups/Outcome
- B. Department Medical Physician - Review/Input
- C. Lessons Learned
- D. At-A-Boy's

## CRITIQUE PRESENTATION FORMAT--HAZARDOUS MATERIALS

- Critique should be limited to a maximum of 1 to 1-1/2 hours.
- Conflict should be moderated by the Critique Officer so that the critique remains a productive learning experience.

### I. INTRODUCTION

- A. General introduction on incident
- B. Unique circumstances/problem, etc.
- C. Review Tactical Preplan information

### II. SITE REVIEW

- A. Review type of structure and post incident structure analysis as appropriate, or site layout review
- B. Review storage/Interior – Exterior
- C. Review type of container/transport involved
- D. Review roadway location, access, drainage
- E. Review storm drains and sewer systems
- F. Review 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. DISPATCH AND RESPONSE

- A. Play tapes of reporting, dispatch, on scene reports
- B. Analyze dispatch, on scene reports
- C. Dispatch adequate for nature of reports?

### V. SITE OPERATIONS

- A. Analyze structural/container integrity, based on arrival conditions, at 10 minutes, at 20 minutes, at 30 minutes, etc.
- B. Analyze the spill/release conditions at 10 mins, 20 mins, 30 mins, etc.
- C. Review/analyze size-up decisions by Command
- D. Review/analyze strategy/plan
- E. Review/analyze offensive/defensive decisions by Command
- F. Discuss risk analysis
- G. Review/analyze sector operations
- H. Review apparatus positioning
- I. Review ventilation operations
- J. Initial action by first responder

- K. Initial action by HIRT units
- L. Did HAZ MAT sector establish all necessary sub-sectors?
- M. Review/analyze evacuation process

#### VI. STAGING

- A. Early Level II
- B. Location adequacy
- C. Communications
- D. Site Access

#### VII. HAZ MAT OPERATIONS

- A. Review product identity process
- B. Review product fire, explosive, and health risk
- C. Review product containment and control measures
- D. Review entry and Hazard zone operations
- E. Review clean-up process
- F. Review weather monitoring
- G. Review decontamination measures/practices
- H. Review research data used
- I. Review instrumentation measures/practices

#### VIII. AGENCY COORDINATION

- A. Review outside agency response
- B. Review agency coordination and usage at incident

#### IX. COMMUNICATIONS

- A. Review/analyze the communication process
- B. Did Command receive adequate, accurate and timely information?
- C. Did Command effectively communicate his/her plan, objectives and other information to sectors/companies?
- D. Did sectors effectively communicate plans, objectives and other information to companies?
- E. Did Command request appropriate information from Haz sector to develop a plan of action?

#### X. SUPPORT FUNCTIONS

- A. Review Dispatch & Deployment functions during incident
- B. Rehab operations
- C. Equipment/apparatus failures, repairs
- D. Water supply

#### XI. SAFETY SECTOR

- A. Discuss safety aspects of incident
- B. Review injuries, causes, etc.

- C. Review corrective actions
- D. Haz Mat sector officer function

XII. INVESTIGATIONS

- A. Review cause, point of origin, fire spread
- B. Update on investigation



### CRITIQUE SUMMARY

ADDRESS OF INCIDENT  
NUMBER OF ALARMS  
DATE  
INCIDENT NUMBER AND TIME

#### RESPONSE

Time - type of alarm - companies dispatched (list time, alarms, companies)

#### UNIQUE PROBLEMS

(List any unique problems)

#### ON-SCENE ACTIONS

Describe in brief summary of 2-3 paragraphs, the actions, tactics and plan of on-scene companies and Command.

#### LESSONS LEARNED

List lessons learned. Reference MP's where appropriate. Emphasize the positive. Present negatives in a positive manner.

#### INCIDENT ORGANIZATION CHART

Provide a Command organizational chart.

#### FIRE GROUND DRAWING

Attach an 8 x 11 drawing of the fire ground reflecting apparatus positioning, and hose line placement.

#### Example

An example of a completed critique summary will be included in critique packet supplied by the Tactical Services Section.

**5.2 Potential Corrective Actions following Response to an Emergency Incident:**

**5.3 Incidents to be Reviewed/Analyzed:**

**5.4 Participants and Roles:**

**5.5 Format for gathering Information:**

**5.6 Format for conducting Analyses:**

**5.7 Standardized Action Plan:**

**5.8 Mechanism for Reporting Results:**