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*STATE OF ILLINOIS*

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*OFFICE OF THE AUDITOR GENERAL*

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*MANAGEMENT AUDIT*

*STATE FIRE MARSHAL'S FIRE INVESTIGATIONS*

*JUNE 1999*

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*WILLIAM G. HOLLAND*

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*AUDITOR GENERAL*

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OFFICE OF THE AUDITOR GENERAL  
WILLIAM G. HOLLAND

*To the Legislative Audit Commission, the Speaker and  
Minority Leader of the House of Representatives, the  
President and Minority Leader of the Senate, the members  
of the General Assembly, and the Governor:*

This is our report of the Management Audit of the State Fire Marshal's Fire Investigations.

The audit was conducted pursuant to House Resolution Number 486, which was adopted May 21, 1998. This audit was conducted in accordance with generally accepted government auditing standards and the audit standards promulgated by the Office of the Auditor General at 74 Ill. Adm. Code 420.310.

The audit report is transmitted in conformance with Section 3-14 of the Illinois State Auditing Act.

A handwritten signature in black ink, appearing to read "William G. Holland".

WILLIAM G. HOLLAND  
Auditor General

Springfield, Illinois  
June 1999

## REPORT DIGEST

Management Audit  
**STATE FIRE MARSHAL'S  
FIRE INVESTIGATIONS**

Released: June 1999



State of Illinois  
Office of the Auditor General

**WILLIAM G. HOLLAND**  
AUDITOR GENERAL

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## SYNOPSIS

House Resolution Number 486 directed the Auditor General's Office to conduct a management audit of the State Fire Marshal's role in fire investigations. The audit's objectives called for reviewing the timeliness of investigations, policy or protocol statements, and use of overtime compensation.

On December 15, 1997, the Office of the State Fire Marshal (OSFM) merged arson investigators into the Fire Prevention Division and established a protocol which specified OSFM's policy for responding to requests for arson investigators. These changes were intended to improve the accountability of investigators who work from home.

After the 1997 reorganization, controls over the arson investigation program were strengthened, case documentation improved, and the amount of overtime decreased. The audit noted that further improvement is needed and made seven recommendations which OSFM indicated it would begin implementing. The audit reported the following results:

- The published protocol stated investigators would respond immediately to fires involving a fatality while other fires would normally receive a response during daylight. This differs from the prior OSFM policy, and the policy of other states' fire marshals and Illinois' fire chiefs, of responding immediately or as soon as possible to most fires.
- While over 75 percent of fire chiefs surveyed were either highly or mostly satisfied with OSFM arson investigations, 30 percent said they were dissatisfied with OSFM's policy protocol.
- In fire cases we randomly sampled, OSFM's overall response was quicker before the protocol.
- Some investigation files sampled lacked complete documentation and reports were not reviewed by OSFM supervisors.
- Program supervisors were not certified arson investigators as they were before layoffs in 1995. Supervisors at two-thirds of other states' fire marshals and three-fourths of Illinois' fire chiefs who responded to our survey questionnaire were certified investigators.
- The number of investigations conducted annually by arson investigators varied significantly in fiscal year 1998 and ranged from 8 to 91 investigations.



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**REPORT CONCLUSIONS**

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On December 15, 1997, the Office of the State Fire Marshal (OSFM) merged arson investigators into the Fire Prevention Division and established a protocol which specified OSFM's policy for responding to requests for arson investigators. These changes were intended to improve the accountability of investigators who work from home. The results of the audit were as follows:

- The published protocol stated investigators would respond immediately to fires involving a fatality while other fires would normally receive a response during daylight. The prior OSFM policy was to investigate nearly all types of fires immediately. Most other states' fire marshals and Illinois' fire chiefs said in our survey their investigators respond immediately or as soon as possible to most fires.
  - In the fire cases we randomly sampled, OSFM overall response was quicker prior to the establishment of the protocol.
  - Controls over the arson investigation program were strengthened after the December 1997 reorganization and resulted in less overtime and cases being closed faster.

- Response was faster before the protocol.
  - Controls were strengthened after the 1997 reorganization but need further improvement.
  - Some investigation files lacked complete documentation.
  - OSFM arson division supervisors were not certified arson investigators as they were in 67% of other states' fire marshals.
  
- OSFM needs to improve controls further. The number of investigations conducted annually varied significantly by investigator from 8 to 91 investigations. Many fiscal year 1998 fire investigations sampled lacked physical evidence (37%), interviews (24%), or reports to police (18%), although there was improvement after the 1997 reorganization. Investigation reports were not reviewed by supervisors and the policy to have investigators review each others' reports was not complied with in almost half the cases sampled.
  
- The arson investigation program lacked adequate supervision after the division director and supervisors were laid off in May 1995 for budgetary reasons. The program was assigned supervisors after the 1997 reorganization but supervisors were not certified arson investigators as they were before the 1995 layoffs. Two-thirds of other states' fire marshals and three-fourths of Illinois' fire chiefs who responded to our survey questionnaire said their supervisors were certified investigators.
  
- The amount of accumulated compensatory time increased significantly from 104 hours on June 30, 1995 to 2,452 hours on December 15, 1997. After the reorganization, accumulated compensatory time declined to 2,189 hours on July 1, 1998.

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**FIRE MARSHAL'S ROLE**

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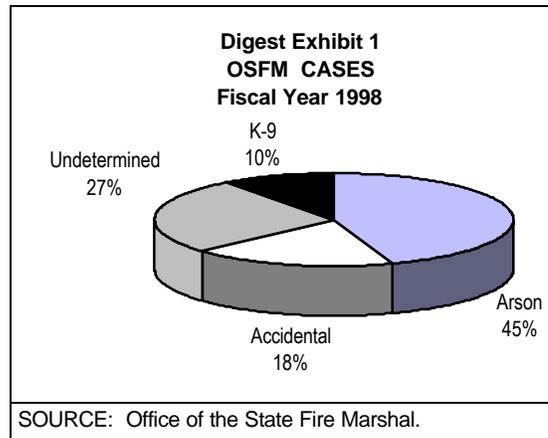
The mission of the Office of the State Fire Marshal is to reduce death, injury, and property loss from fires and other hazards. When requested, OSFM assists

the local fire service determine the origin and cause of fires, and may help apprehend suspected arsonists. This service is requested mainly by rural or volunteer fire departments who lack trained investigators.

The arson investigation program is governed by the Fire Investigation Act (425 ILCS 25/6) which places investigation responsibility on local fire chiefs but gives OSFM authority over such investigations if OSFM deems it necessary or expedient. OSFM has established a protocol as its criteria for determining if a fire investigation is necessary or expedient.

OSFM had 19 arson investigators in fiscal year 1998 who worked from their homes which was their duty station. They responded to 1,017 fire cases during fiscal year 1998 which were categorized as follows (see Digest Exhibit 1):

- 456 incendiary or arson (45%)
- 184 accidental (18%)
- 273 undetermined (27%)
- 104 requests for canine (K-9) only (10%)



Before May 1995, there was a separate division for arson investigation but due to a budget shortfall, the arson division director and all supervisor positions were eliminated. From May 1995 to December 1997, arson investigators reported directly to the agency's deputy chief executive officer and were organized in four regions: Chicago area, Northern, Central, and Southern areas of Illinois.

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>▪ Published protocol specified immediate response only for fatalities.</li> <li>▪ Protocol made suspicious fires, which are the primary responsibility of the arson unit, third priority.</li> </ul> | <p>In December 1997, the agency moved arson investigators into the Fire Prevention Division and reorganized it as the Fire Prevention and Arson Investigation Division. The Fire Prevention Division had three regions headed by a Regional Administrator (supervisor) and arson investigators began reporting to these three Regional Administrators. Agency officials said investigators were assigned to 18 geographic districts, instead of four regions, to improve control. (See report pages 2-7)</p> |
|---|--|

**PROTOCOL ESTABLISHED**

On December 15, 1997, the Office of the State Fire Marshal established a protocol which sets priorities for arson investigators to respond to fires. The protocol was published in an OSFM newsletter and has four codes which specify OSFM's response priorities for dispatching arson investigators (see Digest Exhibit 2).

- In our random sample, only 6 of 60 cases (10%) after the protocol fit the first priority; the remaining 90 percent fit the other three priority codes.
- Although the primary objective of the arson investigation program is to investigate suspicious fires, they were made the third priority. Also, most fires occur in the evening or at

Digest Exhibit 2 PROTOCOL December 15, 1997
<ul style="list-style-type: none"> <li>▪ Code 1 is for fatality and is stated to receive an immediate or quick response.</li> <li>▪ Code 2 is for injuries and is stated to receive a response during daylight.</li> <li>▪ Code 3 is for suspicious fires and is stated to receive a response during daylight.</li> <li>▪ Code 4 is for smaller fires, such as car or garage fires, and is stated to receive a response the next business day.</li> </ul>
SOURCE: Office of the State Fire Marshal.

Digest Exhibit 3 COMPARISON OF RESPONSE POLICIES Fiscal Year 1998				
Code	Type of Fire	OSFM Policy	Immediate or ASAP	
			Other States	Fire Chiefs
1	Fatality	Immediate	92%	90%
2	Injury/Major Economic Impact	Same or next day	73%	90%
3	Suspicious	Same or next day	73%	89%
4	Garage/Car/Barn	Next business day	63%	81%

SOURCE: OAG surveys of fire chiefs and other states fire marshals, and OSFM.

night. Most other states' fire marshals and Illinois' fire chiefs said in our survey questionnaire their investigators responded immediately to most fires, similar to OSFM's procedure before the protocol. See Digest Exhibit 3.

The protocol made two important changes. First, investigators can no longer be called directly but have to be requested through the Arson Hotline. Officials said this practice of being able to contact

investigators directly had resulted in a higher number of calls and accumulation of compensatory time. Second, suspicious fires are not required to be investigated immediately but may be investigated during daylight the same day or the next day. Previously, the written policy was that response to small fires could be delayed until daylight.

In February 1998, OSFM issued a clarification to the protocol which stated supervisors had authority to dispatch investigators at any time. Agency officials noted the clarification was reviewed and approved by the Illinois Fire Chiefs Association.

A quick response may permit investigators to talk with witnesses, take pictures of the fire scene, take pictures of people observing the fire, secure the fire scene, and collect physical evidence.

Although the arson investigation program assists local fire departments, their input was not obtained when the protocol was developed and almost one-third (30%) said in our survey they were dissatisfied with the protocol. When questioned about other aspects of the arson investigation program (i.e., overall satisfaction, adequacy of investigations, and timeliness), over 75 percent said they were satisfied. (See report pages 9–14)

- 75% of the fire chiefs were satisfied with investigations; 30% were dissatisfied with the protocol (response priorities).
- Investigators arrived within four hours of the fire in 51% of cases before the protocol vs. 42% after the protocol.
- Quick response helps investigators talk to witnesses, take pictures, secure fire scene, and collect evidence.

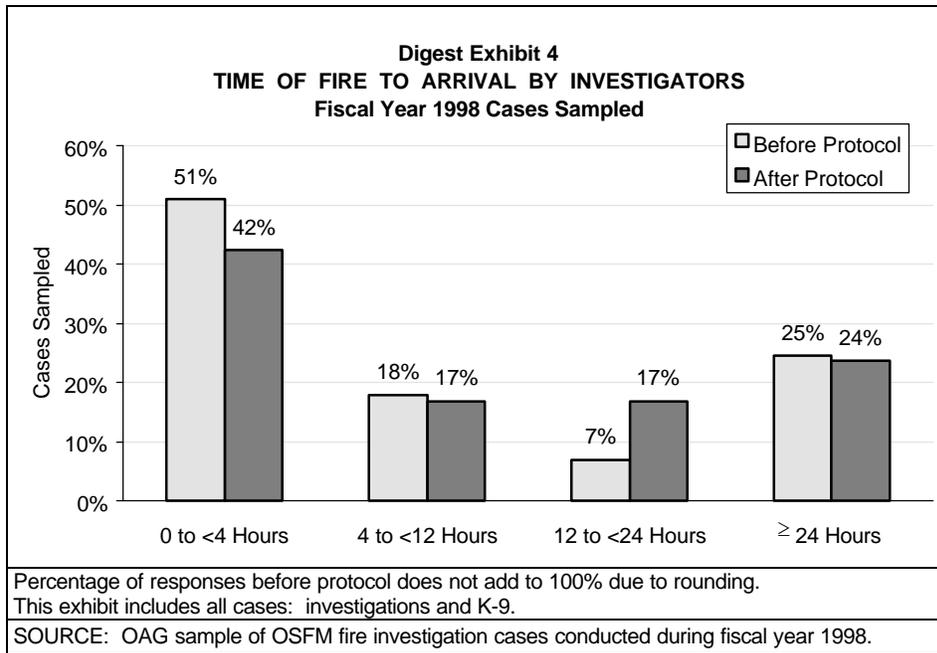
**RESPONSE TIME**

In our random sample of cases, OSFM investigators responded more quickly to fires before the new protocol. Investigators arrived within four hours of the fire in 51 percent of the cases sampled before the protocol as compared to 42 percent of the cases after the protocol (see Digest Exhibit 4). Calculations in one-hour increments also showed that response was quicker before the protocol.

- Median response time before the protocol was 3½ hours from the time of fire to the time investigators arrived, as compared to 5½ hours after the protocol.
- We also reviewed the response time after the agency was contacted. The time that OSFM was contacted to send investigators before the protocol was not documented. However, after the protocol, the median response time from the time the agency was contacted to the time investigators

arrived was faster during business hours: 1 hour 46 minutes for calls during business hours versus 4 hours 5 minutes for calls after business hours.

- Our sample showed that 9 of the 10 longest response times after the



protocol were for calls received after business hours, with the two longest response times (over 3½ days) being for calls received on a Friday.

Another factor associated with investigations was the number of days that elapsed to close an investigation case. After the protocol, cases were closed much sooner with median completion time being 3 days versus 14 days before the protocol in the cases sampled. (See report pages 15–17)

### CASELOAD AND OVERTIME

- Cases were closed faster: 3 days after protocol vs. 14 days before protocol.
- Annual caseload per investigator varied from 8 to 91 investigations in fiscal year 1998.
- Average number of investigations was less than 1 per week per investigator.

The number of investigations conducted by OSFM investigators varied significantly in fiscal year 1998 and ranged from 8 to 91 investigations. The average caseload per investigator was under one investigation per week. The differences among investigators' caseloads indicates the agency needs to review and improve controls to reduce the disparity so that all investigators are utilized more equally and efficiently.

Total accumulated compensatory time grew from 104 hours on June 30, 1995 to 2,452 hours on December 15, 1997. After the reorganization, accumulated compensatory time declined to 2,189 hours on July 1, 1998.

In fiscal year 1998, arson investigators earned, used, and liquidated less compensatory time than during fiscal year 1997. Investigators earned 4,493

hours of compensatory time in fiscal year 1998 as compared to 7,352 hours in fiscal year 1997. They used 3,877 hours and liquidated 40 hours in fiscal year 1998. In fiscal year 1997, investigators used 5,471 hours and liquidated 916 hours. (See report pages 19–25)

**SUPERVISION**

Between May 1995 and December 15, 1997, there were no arson division supervisors or director; instead investigators reported directly to the agency’s second highest executive officer.

Supervisory personnel were assigned after December 15, 1997; however, none of the investigation reports sampled indicated their review. One reason cited by OSFM officials for not having supervisors review investigation reports was that these reports are subject to subpoena and cross-examination in a court. Also, the division’s supervisory personnel were not certified arson investigators. Before the layoffs in 1995, division supervisors and the director were certified arson investigators and one of the supervisors’ responsibilities in the position description was to review and evaluate “. . . staff’s arson reports for technical accuracy and completeness.”

- OSFM supervisors did not review investigation reports.
- Reports were reviewed by supervisors at 85% of other states’ fire marshals.
- Investigation manual was last revised 11 years ago.

The responsibility for reviewing reports was instead assigned to Arson Investigators II. In our sample, 56 of 120 case reports (47%) were not reviewed by Arson Investigators II. Furthermore, five investigations (4%) sampled did not have reports prepared (see Digest Exhibit 5).

<b>Digest Exhibit 5 CASE RECORDS BEFORE AND AFTER REORGANIZATION Fiscal Year 1998</b>			
	<b>Before</b>	<b>After</b>	<b>TOTAL</b>
No interviews conducted	35%	14%	24%
No physical evidence collected	40%	34%	37%
No law enforcement notified for fires whose cause was arson or was undetermined	26%	10%	18%
Case closed same day	23%	23%	23%
No case initiation form *	100%	38%	69%
No Fire Investigation Report *	0%	8%	4%
No report review by an Arson Investigator II * <sup>A</sup>	58%	35%	47%
*Includes K-9 cases for which these records were applicable. <sup>A</sup> OSFM policy was to have Arson Investigators II review investigation reports. (There were no documented reviews by supervisors.)			
SOURCE: OAG sample of 60 fire investigation cases before, and another 60 cases after, the reorganization.			

Approximately ten percent of the fire investigation reports sampled did not meet the level of completeness set forth in the arson investigation Operations Manual.

Most other states’ fire marshals (85%) and Illinois’ fire departments (68%) said their supervisors reviewed investigation reports, such as for procedural compliance, technical accuracy, investigative sufficiency, and completeness.

In our survey of other states’ fire marshals, 16 of 24 responding states (67%) said their supervisors were certified fire or arson investigators. In our survey of Illinois local fire chiefs, 110 of 146 responding fire chiefs (75%) said their supervisors were certified fire or arson investigators.

Another item that needs to be reviewed is the arson investigation Operations Manual. The manual was last revised more than a decade ago in 1988 and should be updated to make it current with statutes, methods, and procedures. (See report pages 31–38)

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### RECOMMENDATIONS

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The audit made seven recommendations to improve the management of the arson investigation program. The audit recommended that OSFM review the protocol priority codes, review the method of assigning cases, and update procedures. In addition, the audit recommended that the agency implement management controls to ensure that reports conform with agency standards and that reports are reviewed by a certified arson investigator who may be a Regional Administrator or a specialist. OSFM's response indicated the agency concurred with the recommendations and has begun implementing them. OSFM's responses are provided after each recommendation and the complete written response is reproduced in Appendix I.



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**WILLIAM G. HOLLAND**  
Auditor General

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## Chapter 1

# INTRODUCTION

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The House of Representatives adopted Resolution Number 486 directing the Auditor General's Office to conduct a management audit of the State Fire Marshal's role in fire investigations. The audit's objectives were to review the following (see Appendix A):

- Timeliness of the Fire Marshal's investigations
- Policy or protocol statements, and
- Use of overtime compensation.

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## REPORT CONCLUSIONS

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The mission of the Office of the State Fire Marshal (OSFM) is to reduce death, injury, and property loss from fires and other hazards. When requested, OSFM's 19 investigators assist the local fire service of Illinois to determine the origin and cause of fires, and may help apprehend suspected arsonists. This service is requested mainly by rural or volunteer fire departments who lack trained investigators. In fiscal year 1998, OSFM handled 1,017 cases.

On December 15, 1997, OSFM merged arson investigators into the Fire Prevention Division and established a protocol which specified OSFM's policy for responding to requests for arson investigators. These changes were intended to improve the accountability of investigators who work from home. The results of the audit were as follows:

- The published protocol stated there would be immediate response for fires involving a fatality while other fires would be sent investigators normally during daylight the same day or the next day. Prior to the protocol, OSFM's policy was to investigate nearly all types of fires immediately. Most other states' fire marshals and Illinois' fire chiefs said in our survey questionnaires their investigators respond immediately or as soon as possible to most fires.
- In the cases we randomly sampled, OSFM overall response was quicker prior to the establishment of the protocol. Before the protocol, investigators arrived within four hours of the fires we sampled in 51 percent of the cases as compared to 42 percent of the cases after the protocol.
- Controls over the arson investigation program were strengthened after the 1997 reorganization. Average compensatory time per case decreased from 6 hours before the protocol to 2½ hours after the protocol. Cases sampled were closed faster after the protocol with median completion time being 3 days rather than 14 the days before the protocol.

- OSFM needs to continue improving controls over the arson investigation program. The number of annual investigations conducted varied by investigator from 8 to 91 investigations. Our sample of investigations (arson, accidental, undetermined) showed that many did not collect physical evidence (37%), conduct interviews (24%), or report arson/undetermined fires (18%) to police as called for by the investigators' Operations Manual, although there was improvement after the 1997 reorganization which increased supervision. Investigation reports were not reviewed by OSFM supervisors and the policy to have investigators review each others reports was not complied with in approximately half of the investigations sampled.
- The arson investigation program lacked adequate supervision after the division director and supervisors were laid off in May 1995 for budgetary reasons. The program was assigned supervisors after the 1997 reorganization but supervisors were not certified arson investigators as they were before the 1995 layoffs. Two-thirds of other states' fire marshals and three-fourths of Illinois' fire chiefs who responded to our survey said their supervisors were certified investigators.
- The amount of accumulated compensatory time increased significantly from 104 hours on June 30, 1995 to 2,452 hours on December 15, 1997. After the reorganization, compensatory time declined to 2,189 hours on July 1, 1998. Additionally, compensatory time records for 14 investigators had discrepancies.

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## FIRE MARSHAL'S ROLE

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The mission of the Office of the State Fire Marshal is to reduce death, injury, and property loss of Illinois citizens from fires, explosions, and other hazards. It is a resource for citizens and for the fire service of Illinois that provides inspection, education, training, and reporting services, in addition to investigative services for fire departments.

Local fire departments call if they want OSFM to investigate a fire. Investigations include determining the origin and cause of fires and may include searching for suspected arsonists. The program is governed by the Fire Investigation Act (quoted below) which places investigation responsibility on local fire chiefs but gives OSFM authority over such investigations if OSFM deems it expedient or necessary. OSFM has established a protocol (shown later in Exhibit 2-1) with four response priority codes as its criteria for determining if a fire investigation by OSFM is expedient or necessary.

The chief of the fire department of every municipality in which a fire department is established and the fire chief of every legally organized fire protection district shall investigate the cause, origin and circumstances of every fire occurring in such municipality or fire protection district, or in any area or on any property which is furnished fire protection by the fire department of such municipality or fire protection district, by which property has been destroyed or damaged, and shall especially make investigation as to whether such fire was the result of carelessness or design. Such investigation shall be begun within two days, not including Sunday, of the occurrence of such fire, and the Office of the State Fire Marshal shall have the right to supervise and direct such investigation whenever it deems it expedient or necessary. [Emphasis added] (425 ILCS 25/6)

OSFM is especially a resource for volunteer fire departments and departments that do not have fire investigators. Most local fire departments in Illinois are staffed by volunteers or

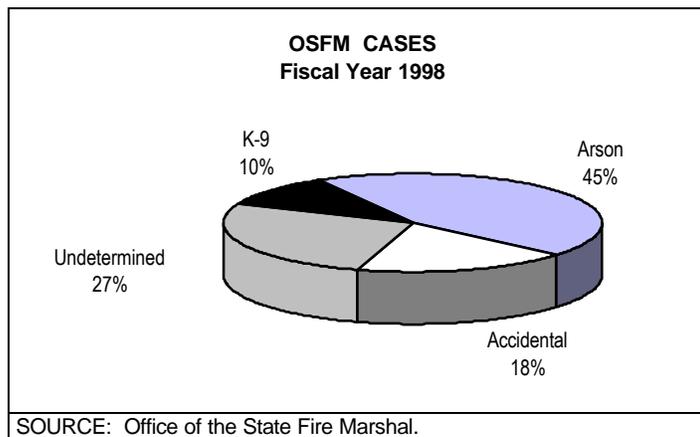
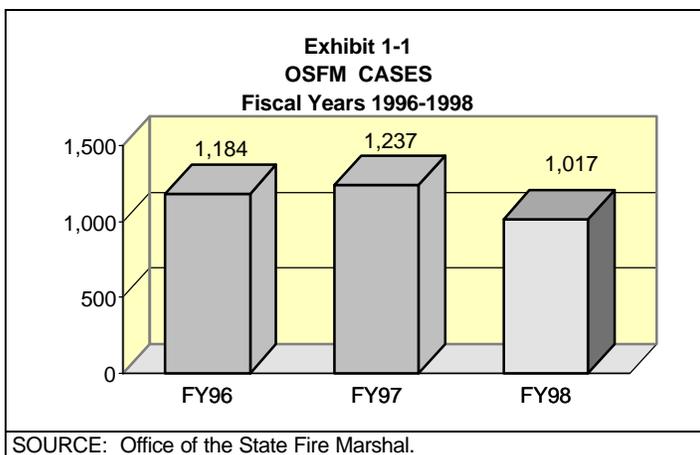
have too few fires to justify having trained investigators. The field of fire investigation is also advancing technologically which requires training that may be costly for small departments.

OSFM sponsors exams for becoming Certified Fire Investigators and Certified Arson Investigators. Fire investigators determine the origin and cause of fires. Arson investigators have the additional authority to identify and apprehend suspected arsonists.

As of June 30, 1998, OSFM had certified 421 arson investigators and 1,343 fire investigators in the State, such as at local fire departments or insurance companies; those numbers had increased to 431 arson investigators and 1,405 fire investigators by January 1999. In our survey of Illinois local fire chiefs, 82 of 585 respondents (14%) said they had arson investigators and 157 of 585 (27%) said they had fire investigators.

OSFM had 19 arson investigators in fiscal year 1998 who worked from their homes which was their duty station. They responded to 1,017 fires during fiscal year 1998 which were categorized as follows: 456 incendiary or arson (45%), 184 accidental (18%), 273 undetermined (27%), and the remaining 104 (10%) were canine (K-9) only; see Exhibit 1-1. In K-9 only cases, an investigator with K-9 was called to determine if an accelerant (e.g., gasoline, flammable liquid) was used but investigation of the origin and cause of the fire was done by local investigators.

In December 1997, the Illinois Emergency Management Agency (IEMA) was asked to establish a hotline to take calls 24-hours a day, seven days a week. IEMA contacts the OSFM Duty Officer – a supervisor given the duty for that week to dispatch investigators. IEMA completes a form for each request which has the time of call, city/county of fire, and notes (such as “suspected arson”), and forwards the information to the Duty Officer who telephones the caller to discuss a response. The investigator in whose district the fire occurred is assigned the fire investigation, unless he/she is unavailable (e.g., vacation, sick, compensatory time, another assignment, called-in unavailable).



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## REORGANIZATION OF PROGRAM

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During 1995 and 1997, the arson investigation program went through two reorganizations. Before May 1, 1995, there was a separate division for arson investigation. Due to a budget shortfall, 43 positions, or 25 percent of staff, were planned to be eliminated throughout the agency, including five positions from the arson division. Agency funding is provided in part by an assessment of up to one percent on fire risk premium receipts from insurance for “*gross fire, sprinkler leakage, riot, civil commotion, explosion and motor vehicle[s].*” (425 ILCS 25/12) The positions of the arson division director and all supervisors were eliminated. The State Fire Marshal said he did not cut investigators because it could affect services to local fire departments; instead he cut middle management.

From May 1, 1995 to December 14, 1997, arson investigators reported directly to the agency’s deputy chief executive officer and were organized in four regions: Chicago area, Northern, Central, and Southern areas of Illinois. On December 15, 1997, the agency moved arson investigators into the Fire Prevention Division and reorganized it as the Fire Prevention and Arson Investigation Division. The Fire Prevention Division had three regions each headed by a Regional Administrator (supervisor) and arson investigators began reporting to these Regional Administrators.

The Fire Prevention and Arson Investigation Division director said investigators were assigned to 18 geographic districts, rather than being assigned to one of four regions as previously, to improve control. Exhibit 1-2 shows the districts, the number of fires reported to OSFM, and the number of cases to which OSFM responded.

**Exhibit 1-2  
REPORTED FIRES AND OSFM CASES BY COUNTY  
Fiscal Year 1998**

**NORTHERN**

**CENTRAL**

**SOUTHERN**

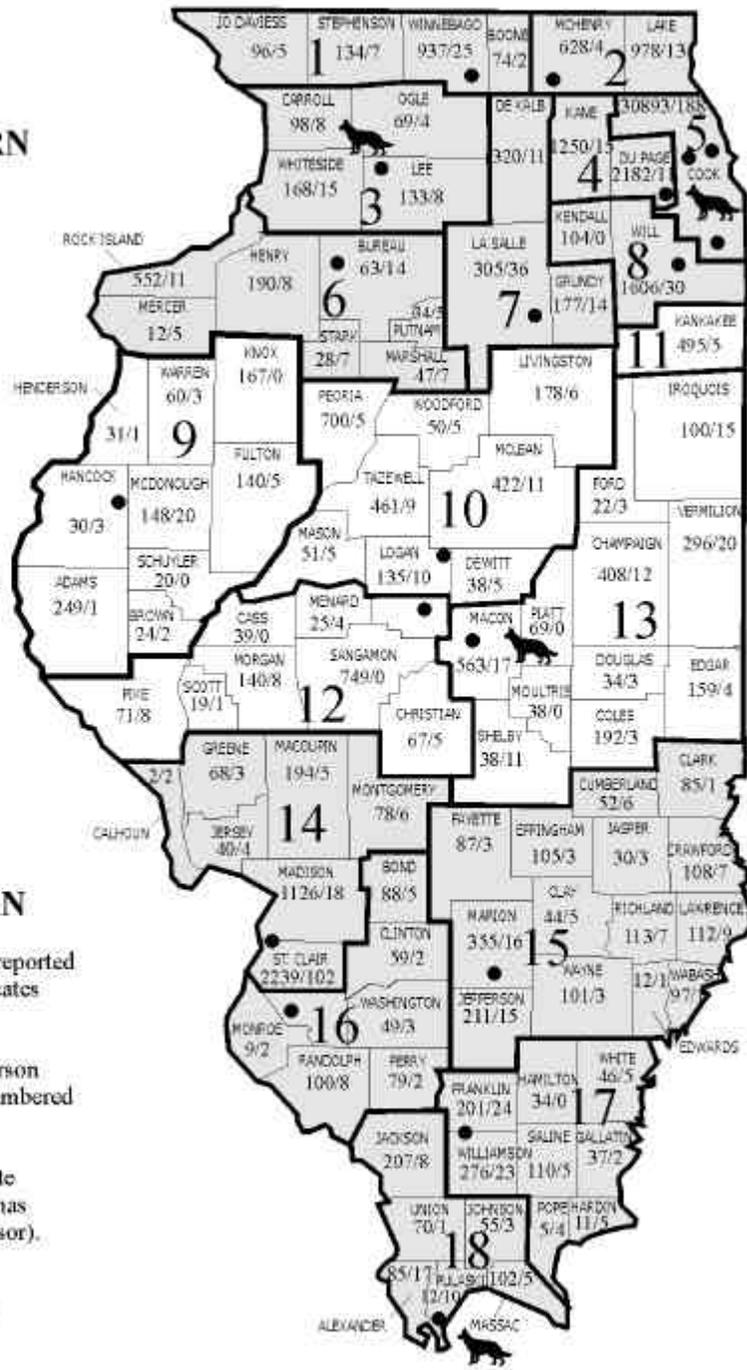
**Notes:**

1. First number indicates all reported fires. Second number indicates OSFM cases.
2. Large numbers show 18 arson investigator districts as numbered by OAG.
3. The 3 shaded areas indicate the regions. Each region has an administrator (supervisor).

● Investigator residence

 K-9 Unit

Source: OSFM Data



NOTE 1: This map shows all statewide fires reported to OSFM. **In less than two percent of reported fires during FY98 was OSFM assistance requested** – the smaller number in each county shows OSFM conducted 1,017 cases.  
 NOTE 2: The investigator assigned Kankakee County has a portion of Cook County as part of his district to comply with the contractual requirement that investigators “reside within their approved work county.”

Every third week, one of the Regional Administrators has been on call 24-hours a day, seven days a week, handling requests for arson investigators. Previously, each of the investigators took turns to serve for one week as Statewide Duty officer answering calls for arson investigators (see Exhibit 1-3).

Exhibit 1-3 ARSON INVESTIGATION PROGRAM – ORGANIZATION STRUCTURES 1995 – 1997				
Timeline	Supervision	Dispatch	Case Review	Overtime
Before May 1, 1995	<p><i>State Fire Marshal</i></p> <p>↓</p> <p><i>Deputy Director</i></p> <p>↓</p> <p><i>Arson Division Director</i></p> <p>↓</p> <p><i>Arson Division Supervisors</i></p> <p>↓</p> <p><i>Arson Investigators</i></p>	<ul style="list-style-type: none"> <li>▪ 4 Regions.</li> <li>▪ Central dispatch by investigator on duty.</li> <li>▪ Investigators could be called directly.</li> </ul>	Superiors (Arson Investigators III) reviewed reports and served as case managers.	Information unavailable.
May 1, 1995 to December 14, 1997	<p>Laid off Arson Division Director and supervisors due to budget shortfall</p> <p><i>State Fire Marshal</i></p> <p>↓</p> <p><i>Deputy Director</i></p> <p>↓</p> <p><i>Arson Investigators</i></p>	<ul style="list-style-type: none"> <li>▪ 4 Regions.</li> <li>▪ Central dispatch by investigator on duty or via direct calls to investigator. Policy was to assign investigators based on a rotation, but that policy was not followed.</li> <li>▪ No after-hour responses for small fires.</li> </ul>	Arson Investigators II reviewed the reports of Arson Investigators I while Arson Investigators II reviewed each others reports.	Policy limited overtime to 37½ hours per investigator, but the policy was not followed so overtime increased.
December 15, 1997	<p>Arson Investigators placed under Fire Prevention Division</p> <p><i>State Fire Marshal</i></p> <p>↓</p> <p><i>Deputy Director</i></p> <p>↓</p> <p><i>Fire Prevention and Arson Investigation Division Director</i></p> <p>↓</p> <p><i>Regional Administrators (Supervisors)</i></p> <p>↓</p> <p><i>Arson Investigators</i></p>	<ul style="list-style-type: none"> <li>▪ 3 Regions.</li> <li>▪ 18 Districts – all districts have 1 investigator, except Chicago has 2 investigators.</li> <li>▪ Central dispatch only by Regional Administrator (Duty Officer for the week).</li> <li>▪ After-hours response for certain fires (see Protocol).</li> <li>▪ Supervisor’s permission needed to work overtime.</li> <li>▪ Process:                             <ul style="list-style-type: none"> <li>–Morning call-in</li> <li>–Timesheets</li> <li>–Reports on mileage, credit card use, cell phone use, etc.</li> </ul> </li> </ul>	Approximately half the reports reviewed by Arson Investigators II.	Memorandum of Understanding signed by agency and union in March 1998 which allowed investigators to carry-over up to 240 hours of compensatory time. Overtime was reduced.

SOURCE: Data from the Office of the State Fire Marshal summarized and analyzed by the Office of the Auditor General.

The State Fire Marshal said he developed a new organizational structure and a protocol for responding to fires after trying other ways to ensure staff accountability. He said management has the right to know what arson investigators are doing with their time, especially since they work from home. He added that money was not the issue in the 1997 reorganization; rather the issue was management’s right to hold staff accountable and to maintain adequate control. The contract with the union also establishes management rights over agency operations (RC-29, Article III):

It is understood and agreed by the parties that the Employer possesses the sole right to operate its agencies so as to carry out the statutory mandate and goals assigned to the

agencies and that all management rights repose in the Employer. Except as modified or amended by this Agreement, management rights include, but are not limited to:

1. The right to utilize personnel, methods and means in the most appropriate and efficient manner possible;
2. The right to manage and direct the employees of the various agencies;
3. The right to transfer, assign or retain employees in positions within the agency;
4. The right to suspend, discharge or take other appropriate disciplinary action against employees for just cause;
5. The right to determine the size and composition of the work force and to layoff employees as provided in Article XIV of this Agreement;
6. The right to determine the mission of the agency and the methods and means necessary to fulfill that mission including the contracting out for or the transfer, alteration, curtailment or discontinuance of any goals or services.

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### SCOPE AND METHODOLOGY

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This audit was conducted in accordance with generally accepted government auditing standards and the audit standards promulgated by the Office of the Auditor General at 74 Ill. Adm. Code 420.310.

The audit's objectives are specified in House Resolution Number 486, which calls for a management audit of the State Fire Marshal's role in fire investigations. Fiscal year 1998 was the time period we primarily audited. We gathered information by using the following methods:

- Reviewed applicable statutes and administrative rules and tested for compliance.
- Examined policies, procedures, and processes pertaining to fire investigations at the Office of the State Fire Marshal, and when available at Illinois local fire departments.
- Interviewed officials at OSFM and other agencies named in Exhibit 1-4.
- Tested management controls at OSFM.
- Randomly selected a sample of 120 fire investigation cases conducted (initiated) in fiscal year 1998 (see methodology in Appendix B). We reviewed 60 fire investigation cases before the protocol became effective December 15, 1997, and another 60 fire investigation cases after the protocol. We reviewed investigations to determine OSFM's response time, completeness of documentation (e.g., evidence gathered,

<b>Exhibit 1-4 ORGANIZATIONS CONTACTED</b>
<p><u>State and Federal Agencies</u></p> <ul style="list-style-type: none"> <li>▪ U.S. Bureau of Alcohol, Tobacco and Firearms</li> <li>▪ Illinois Department of Central Management Services</li> <li>▪ Illinois Fire Advisory Commission</li> <li>▪ Illinois Emergency Management Agency</li> <li>▪ Illinois State Police</li> <li>▪ Office of the State Fire Marshal (OSFM)</li> <li>▪ State's Attorney – Adams County</li> <li>▪ State's Attorney – St. Clair County</li> <li>▪ State's Attorney – Warren County</li> <li>▪ University of Illinois – Illinois Fire Service Institute</li> <li>▪ University of Illinois – Police Training Institute</li> </ul> <p><u>Associations</u></p> <ul style="list-style-type: none"> <li>▪ Illinois Association of Fire Protection Districts</li> <li>▪ Illinois Federation of Public Employees (union)</li> <li>▪ Illinois Fire Chiefs Association</li> <li>▪ International Association of Arson Investigators</li> <li>▪ International Association of Arson Investigators – Illinois Chapter</li> </ul> <p><u>Others</u></p> <ul style="list-style-type: none"> <li>▪ Champaign Fire Department</li> <li>▪ OSFM arson investigators</li> <li>▪ Springfield Fire Department</li> <li>▪ Other states' fire marshals (27 survey responses)</li> <li>▪ Local fire chiefs in Illinois (347 survey responses)</li> </ul>

- interviews conducted, determination of cause, completeness of report), and evidence of supervisory review.
- Surveyed the other 49 states' fire marshals; 28 responded but 1 state said it did not conduct investigations.
  - Surveyed the 1,239 local fire chiefs in Illinois. A total of 585 fire chiefs responded; however, 238 fire chiefs indicated that they did not use OSFM investigators and did not have fire or arson investigators. The remaining 347 fire chiefs answered one, or both, sections of the survey: the first section asked if they used OSFM investigators in fiscal year 1998 and the second section asked if they had fire or arson investigators. A total of 269 fire chiefs said they used OSFM investigators and 182 fire chiefs said they had their own investigators. Some respondents did not answer all questions.

This management audit examined the arson investigation program, including goals, operations, and outputs. We used criteria in statutes, policies, and procedures, in addition to prudent business practices. We also made comparisons with other states' fire marshals and Illinois' local fire departments.

The Office of the Auditor General (OAG) performs a financial and compliance audit of the Office of the State Fire Marshal biennially. We reviewed the relevant findings in the audits for the two years ended June 30, 1996 and June 30, 1998. We relied upon our compliance auditors' review of general information systems' controls during the audit for fiscal years 1997–1998.

The remaining chapters of this report concern the protocol, timeliness of response, use of overtime compensation by the arson investigation program, and other related issues.

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## Chapter 2

# PROTOCOL AND RESPONSE

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The protocol established by the Office of the State Fire Marshal in December 1997 specifies an immediate response by arson investigators only for fires involving a fatality (first priority). Fires involving injuries or causing major economic impact were assigned second priority with planned response normally being during daylight. Although the primary responsibility of the arson investigation program is to investigate suspicious fires, suspicious fires were made third priority with response planned for daylight; also, most fires occur in the evening or at night. Most other states' fire marshals and Illinois' fire chiefs said in our survey questionnaire that their investigators responded immediately or as soon as possible to most fires, similar to OSFM's procedure before the protocol.

In cases we sampled, OSFM's overall response was quicker prior to the establishment of the protocol. Before the protocol, investigators arrived within four hours of the fires we sampled in 51 percent of the cases as compared to 42 percent of the cases after the protocol.

The protocol indicated that more of the responses would be during daylight hours. Our sample showed that OSFM responded more quickly to fires during business hours: median response from the time the agency was contacted to the time investigators arrived at the fire scene was 1 hour 46 minutes during business hours versus 4 hours 5 minutes after business hours, for cases sampled. Before the protocol, the time of request for an investigator was not documented; therefore, we could not compare response times from the time the agency was called to the time investigators arrived.

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### PROTOCOL ESTABLISHED

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On December 15, 1997, the Office of the State Fire Marshal established a protocol which sets guidelines and priorities for arson investigators to respond to fires. The protocol has four codes which specify OSFM's response priorities for dispatching arson investigators. Code 1 is for fires involving a fatality and is stated to receive an immediate or quick response. Code 2 is for injuries and Code 3 is for suspicious fires and they are stated to receive a response during daylight hours. Code 4 is for smaller fires, such as car or garage fires, and is stated to receive a response the next business day (see Exhibit 2-1). Previously, the written policy was that response to small fires could be delayed until daylight.

In our sample, 54 of 60 cases (90%) after the protocol did not fit the first priority which specifies an immediate response. OSFM officials said if a fire chief insisted, an investigator would be dispatched regardless of the type of fire. However, the protocol that was published in an OSFM newsletter informed fire chiefs that only fatalities were entitled to an immediate response.

<b>Exhibit 2-1</b> <b>PROTOCOL</b> <b>December 15, 1997</b>			
<p>"During the past four years, arson cases investigated by OSFM have increased each year, along with the number of arrests. To effectively serve the needs of the Illinois fire departments, the agency is issuing revised protocols for requesting assistance. These are as follows:</p>			
<p><b>Code 1 (Top Priority)</b>            Fatality: <i>Immediate or quick</i> response in the event of a civilian or firefighter fatality.            [Emphasis added.]</p>	<p><b>Code 2</b>            Injuries: Fires involving injuries at nursing homes, day care centers, public facilities, etc. will get prompt assistance, and may be <i>same day or next day</i> when the fire has cooled to where agents or canine units are able to safely conduct an investigation (normally during <i>daylight</i> hours).             Fires with major economic impact: Fires at major factories, businesses or commercial centers where significant numbers of workers may be displaced due to a fire, will receive <i>same-day service or next-day</i> service. Investigators will normally work during <i>daylight</i> conditions.            [Emphasis added.]</p>	<p><b>Code 3</b>            Suspicious fires: If there are indications of arson (multiple origins of fire, gas explosions, fire used to cover up another crime, etc.), then state investigators will respond during <i>daylight</i> hours, possibly the <i>same day or next day</i>, depending on the time of the fire.            [Emphasis added.]</p>	<p><b>Code 4</b>            Garage, barn or car fires, etc.: If single fires such as these occur, the state will dispatch an investigator, upon request, during the <i>next business day</i> (Monday-Friday during the hours of 8:30 a.m. - 4:30 p.m.). For example, if a fire occurs in a barn on a Friday night, the state investigator will normally respond on Monday morning.            [Emphasis added.]</p>
<p>Fire departments should use the Arson Hotline (800) 252-2947, 24 hours a day to request OSFM assistance. Please do not call investigators at their homes so that all cases can be handled by the next available investigator. Requests for state investigators should be made by the fire chief, assistant chief or officer in charge of the scene. A fire prevention inspector or supervisor may be the first agency representative on the scene to assess the situation and determine which specialists may be needed (arson investigator, boiler inspector, petroleum &amp; chemical safety specialist or other agency personnel).</p>			
<p><b>All fire or incident scenes should be secured by the fire department until request for agency response is completed."</b></p>			
<p>SOURCE: Office of the State Fire Marshal.</p>			

The protocol made two important changes. First, investigators can no longer be called directly but have to be requested through the Arson Hotline. Prior to the enactment of the protocol, fire chiefs and police could contact investigators directly and decide whether and when to investigate the fire. In our random sample of cases before the protocol, 38 percent (23 of 60 cases) of the requests were made directly to investigators. OSFM officials said this practice had resulted in little accountability and control over arson investigators' activities, and one result was a higher number of calls and accumulation of compensatory time (discussed in Chapter 3).

Second, suspicious fires are not required to be investigated immediately but may be investigated during daylight hours the same day or the next day. OSFM officials said the protocol is intended to give priority to fires causing deaths, injuries, and major economic loss. When asked why suspicious fires were made the third priority, OSFM's written response stated that the ". . . fire service mission is to protect lives and property, [therefore] the priority and the protocol is based on people first." While the mission of the fire service may be to protect lives, the primary responsibility of the arson investigation program is to investigate arson. The arson investigation Operations Manual states this objective in the chapter on Enforcement:

The primary responsibility of this Division will be the investigation of offenses defined in subsection 1-4-a, b, and c; however, this does not preclude this Division from the investigation of other offenses when arson is suspected or included.

The subsections under 1-4 contain definitions, including the definition of arson:

A person commits arson when, by means of fire or explosive, he knowingly: (1) Damages any real property, or any personal property having a value of \$150 or more, of another without his consent; or (2) With intent to defraud an insurer, damages any property or any personal property having a value of \$150 or more. . . .

In February 1998, OSFM issued a "Clarification of Protocol for requesting Arson Investigators." It stated that *"The Chief may be asked if they can have a response delayed . . . however, the Chief or designee should discuss special needs, requirements or other contributing factors with the supervisor who has the authority to dispatch investigators at any time."* Agency officials noted the clarification was reviewed and approved by the Illinois Fire Chiefs Association. OSFM's response in Appendix I has a copy of the clarification statement.

**Other States' and Fire Chiefs' Response Policy**

In our survey questionnaire, other states' fire marshals said their investigators responded immediately or as soon as possible to nearly all types of fires, similar to OSFM's policy before the protocol. Likewise, most Illinois local fire chiefs who had fire or arson investigators said in our survey they responded right away to most fires (see Exhibit 2-2).

Local fire chiefs indicated that a quick response was needed because it was difficult to

Exhibit 2-2 COMPARISON OF RESPONSE POLICIES Fiscal Year 1998				
Protocol		OSFM	Immediate or ASAP	
Code	Type of Fire	Response Policy	Other States	Fire Chiefs
1	Fatality	Immediate	92%	90%
2	Injury/Major Economic Impact	Same or next day	73%	90%
3	Suspicious	Same or next day	73%	89%
4	Garage/Car/Barn	Next business day	63%	81%

SOURCE: OAG surveys of fire chiefs and other state fire marshals, and OSFM.

secure the fire scene with volunteers or it would require the local authorities to pay for securing the scene. They said an unsecured scene could affect prosecutions. State's Attorneys confirmed that preserving a crime scene improves the strength of prosecution cases.

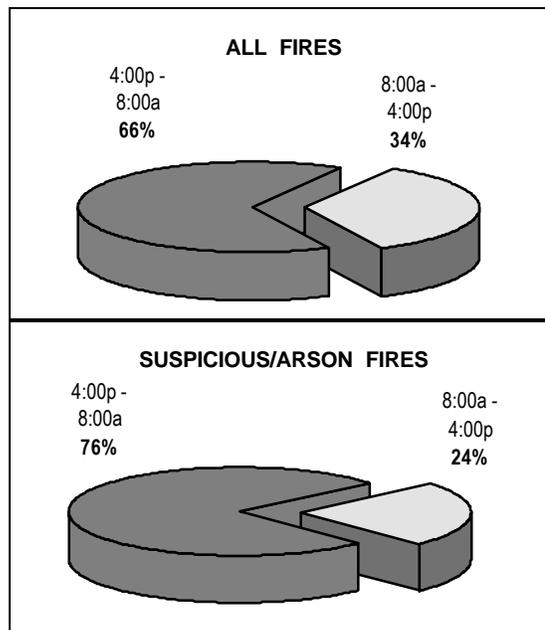
**Times of Fires**

The protocol indicates that most fires would receive a response during daylight. However, based on data provided by OSFM, two-thirds (66%) of all fires occurred outside of business hours, as did three-fourths (76%) of the arson or suspicious fires. Fiscal year

1998 data available at the end of fieldwork in late 1998 showed there were at least 47,955 fires in the State (see list of fires by county in Appendix E). Of these, 3,989 were reported as arson and 4,670 were reported as suspicious fires (see Exhibit 2-3).

Exhibit 2-3 TIMES OF FIRES Fiscal Year 1998				
TIME OF FIRE	ALL FIRES*	PERCENT		
12:01a 4:00a	5,964	12%	*Does not include data for Rockford from January to June 1998 or for Chicago from April to June 1998. Some other fires may also not be reported as discussed later.	
4:01a 8:00a	4,032	8%		
8:01a noon	6,302	13%		
12:01p 4:00p	10,216	21%		
4:01p 8:00p	11,605	24%		
8:01p midnight	9,836	21%		
<b>Total</b>	<b>47,955</b>	<b>100%**</b>	**Does not add to 100% due to rounding.	
TIME OF FIRE	ARSON FIRES	SUSPICIOUS FIRES	SUB-TOTAL	PERCENT
12:01a 4:00a	617	1,137	1,754	20%
4:01a 8:00a	291	510	801	9%
8:01a noon	411	341	752	9%
12:01p 4:00p	772	535	1,307	15%
4:01p 8:00p	917	861	1,778	21%
8:01p midnight	981	1,286	2,267	26%
<b>Total</b>	<b>3,989</b>	<b>4,670</b>	<b>8,659</b>	<b>100%</b>

SOURCE: OSFM data summarized by OAG.



**Practitioners’ Suggested Response Time**

We interviewed professionals in the field of fire investigations to determine when investigators should respond. We interviewed fire chiefs, Bureau of Alcohol, Tobacco, and Firearms (ATF) investigators, local fire department investigators, University of Illinois Fire Service Institute personnel, and states’ attorneys. We also surveyed other states’ fire marshals and Illinois’ local fire chiefs. They said that an immediate response is needed for most fires to have legal entry and to be able to obtain complete and accurate information. Some of their responses are listed below.

- United States Supreme Court decisions indicate that investigators can only enter a fire scene for a reasonable period of time after the fire without a warrant or permission. If incriminating evidence is found at a scene that was left unsecured, the defense can challenge the evidence.
- Daylight conditions are not necessary for investigations and ideally investigators should arrive at the fire scene while the fire is still being suppressed. Upon arrival, investigators can talk to witnesses, take pictures of the fire scene, take pictures of people observing the fire, secure the fire scene, and collect physical evidence.
- The National Fire Protection Association [Publication 921] “Guide for Fire and Explosion Investigations,” 1998 edition, indicates investigators should respond promptly. It suggests conducting interviews and gathering evidence before the scene is altered or disturbed, as well as other suggestions noted below.

- . . . the interview should generally be conducted as soon as possible after the fire or explosion incident. A timely interview will ensure an accurate recollection of the incident by the witness. (Section number 7–4.3)
  - Taking photographs during or as soon as possible after a fire is important when recording the fire scene, as the scene may become altered, disturbed, or even destroyed. (Section number 8–2.1)
  - . . . the entire fire scene should be considered physical evidence and should be protected and preserved. (Section number 9–3)
  - Excessive overhaul of the fire scene prior to the documentation and analysis of fire patterns can affect the investigation. (Section number 9–3.4.2.2)
  - Moving, and particularly removing, contents and furnishings or other evidences at the fire scene should be avoided until the documentation, reconstruction and analysis is completed [by the investigator]. (Section number 9–3.4.2.3)
- 
- Investigators arriving early may talk to firefighters, residents, and witnesses while they can be located and have a fresh memory of the fire scene. Talking to the first firefighters on the scene is valuable because they may have seen the location where the fire started and may be able to provide details that help identify the cause of the fire – such as the color and intensity of flames which can indicate what was burning. Clues, such as multiple locations where the fire originated, can indicate the fire was intentionally set and was arson.
  - Many fire departments in the State are staffed by volunteer firefighters. If investigators do not arrive on the scene immediately, volunteer firefighters may have returned to their regular jobs.
  - In winters, water used to extinguish fires can freeze and make investigating more difficult.
  - Canines can sniff accelerants on individuals; however, with the passage of time people can change clothes and shower which may make it more difficult to detect the accelerants.
  - A quick response can help apprehend suspected arsonists who have been known to be at fire scenes. The possibility of their presence is one reason that pictures are taken of people watching fires. Another reason for taking pictures is to identify witnesses.

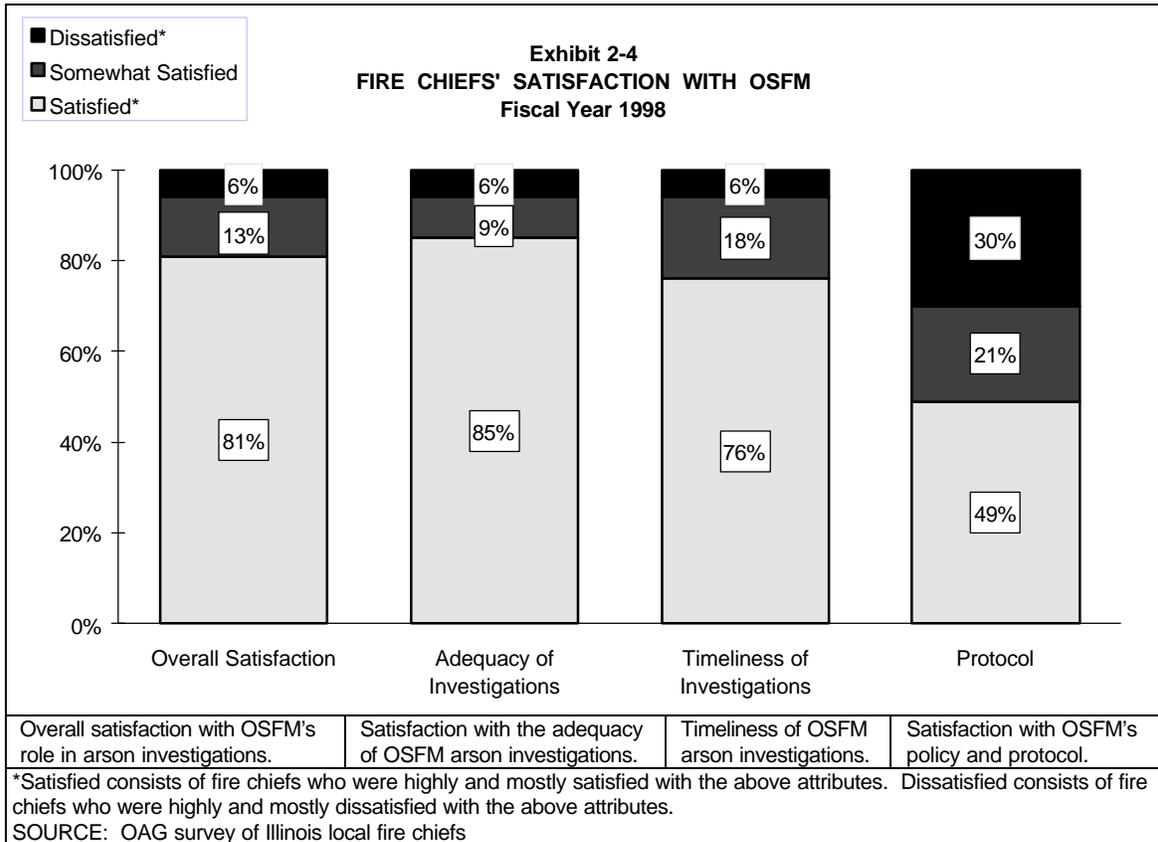
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### LEVEL OF SATISFACTION WITH PROTOCOL

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The arson investigation program assists local fire departments in determining the origin and cause of fires, especially if they do not have investigators or a K-9 (dog trained in detecting accelerants). When the protocol was developed, local fire departments' input was not obtained and almost one-third (30%) of the fire chiefs in our survey were

dissatisfied with the protocol (see Exhibit 2-4). When questioned about other aspects of the arson investigation program (i.e., overall satisfaction, adequacy of investigations, and timeliness), more than three-fourths of the fire chiefs said they were satisfied and only six percent said they were dissatisfied. A total of 184 fire chiefs submitted written comments to our survey questionnaire and approximately half expressed some concerns about the protocol.



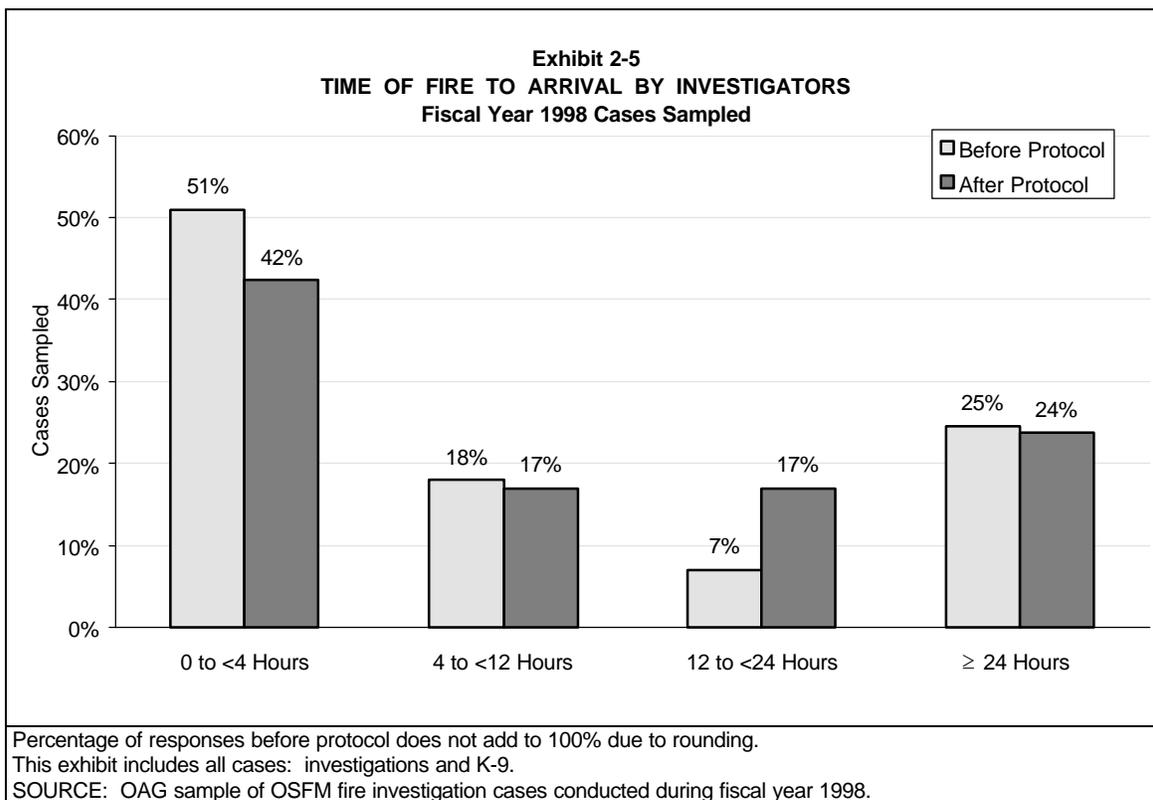
One way to have obtained fire chiefs input would have been through the Fire Advisory Commission which is established by statute (20 ILCS 2905/3) to advise the Office of the State Fire Marshal. OSFM officials said there was no direct involvement by the Commission in changes made to the arson investigation program in 1997.

### FIRE MARSHAL'S RESPONSE TIME

In order to determine the timeliness of OSFM's response, we reviewed the time that elapsed between the fire and arrival by investigators and found the response time was quicker before the protocol in most cases. As shown in Exhibit 2-5, OSFM investigators arrived within four hours of the fire in 51 percent of the cases sampled before the protocol as compared to 42 percent of the cases after the protocol. Response time calculated in one-

hour increments also shows that response was quicker in the first hours before the protocol rather than after the protocol.

The median response time before the protocol was 3½ hours from the time of fire to the time investigators arrived, as compared to 5½ hours after the protocol. There was no documentation of the specific time that OSFM was called and requested to send investigators before the protocol.



Another factor associated with investigations was the number of days that elapsed to close the investigation case. In the cases sampled, OSFM closed cases much sooner after the protocol with median completion time being 3 days as compared to 14 days before the protocol.

The protocol suggests more responses will be during daylight hours. Investigators arrived between 6:00 a.m. and 7:00 p.m. for 50 of 59 (85%) cases sampled after the protocol (time data was unavailable for one investigation).

Another way we measured the timeliness of response was to review the time it took to respond after the agency was contacted. In our sample of cases after the protocol, the median response time from when the agency was contacted to the time investigators arrived was 1 hour 46 minutes for calls during business hours versus 4 hours 5 minutes for calls after business hours. Exhibit 2-6 shows that 9 of the 10 longest response times were for calls received after business hours, with the two longest response times (over 3½ days) being for calls received on a Friday.

Exhibit 2-6 LONGEST RESPONSE TIMES AFTER PROTOCOL Fiscal Year 1998						
	Code <sup>C</sup>	Request Time	OSFM Arrival	Time Elapsed		
1. Business Hours <sup>A</sup>	3	Friday 11:34 a.m.	Tuesday 10:35 a.m.	<b>3 days 23 hours</b>		
2. After Business Hours	3	Friday 7:09 p.m.	Tuesday 9:30 a.m.	<b>3 days 14 hours</b>		
3. After Business Hours	3	Sunday 11:55 p.m.	Wednesday 9:00 a.m.	<b>2 days 9 hours</b>		
4. After Business Hours	2	Saturday 1:22 p.m.	Monday 9:45 a.m.	<b>1 day 20 hours</b>		
5. After Business Hours <sup>B</sup>	1	Wednesday 4:40 p.m.	Friday 10:30 a.m.	<b>1 day 18 hours</b>		
6. After Business Hours	3	Wednesday 11:57 p.m.	Friday 11:10 a.m.	<b>1 day 11 hours</b>		
7. After Business Hours	3	Sunday 2:16 a.m.	Monday 9:45 a.m.	<b>1 day 7 hours</b>		
8. After Business Hours	3	Sunday 4:24 a.m.	Monday 10:00 a.m.	<b>1 day 6 hours</b>		
9. After Business Hours	3	Sunday 7:55 a.m.	Monday 9:30 a.m.	<b>1 day 2 hours</b>		
10. After Business Hours <sup>B</sup>	3 <sup>D</sup>	Sunday 8:54 a.m.	Monday 10:10 a.m.	<b>1 day 1 hour</b>		

NOTES: Response time measured from the time OSFM was called to the time the investigator arrived.  
Excludes 5 of 60 sampled cases for which required time information was unavailable.  
<sup>A</sup> Business hours are 8:30 a.m. to 4:30 p.m. Monday-Friday.  
<sup>B</sup> More than 50 hours had elapsed from the time of fire to the time OSFM was called.  
<sup>C</sup> Since the agency does not assign a priority code to each fire, this is OAG's interpretation of OSFM protocol priority codes.  
<sup>D</sup> The protocol does not explicitly state what code this case would be: a K-9 requested more than two days later to a fire that resulted in a fatality. The request for a K-9 indicates it was a suspicious fire and, therefore, we labeled it a Code 3.  
SOURCE: OSFM data summarized and analyzed by OAG.

**Effect of Protocol**

In our survey questionnaire, 209 fire chiefs said the protocol had no effect on arrests and 203 fire chiefs said the protocol had no effect on prosecutions. Twenty fire chiefs said the protocol had decreased arrests and 24 fire chiefs said the protocol had decreased prosecutions. Nine fire chiefs said the protocol had increased arrests and five said the protocol had increased prosecutions (see Exhibit 2-7).

Exhibit 2-7 EFFECT OF PROTOCOL Fiscal Year 1998		
	Arrests	Prosecutions
Increase	9	5
No Effect	209	203
Decrease	20	24
No Response	31	37
<b>TOTAL</b>	<b>269</b>	<b>269</b>
CHANGES DUE TO PROTOCOL		
More Requests For Investigators	2	
No Change	185	
Less Requests For Investigators	59	
Other Changes	36	
<b>TOTAL</b>	<b>282*</b>	
*Exceeds 269 because some fire chiefs said they took multiple actions. SOURCE: OAG survey of Illinois fire chiefs.		

In calendar year 1998, the number of arrests was lower (89 arrests) than in calendar years 1997 (148 arrests) and 1996 (153 arrests). OSFM officials said the reduction was due to more stringent criteria which now requires the investigator to be involved in making the arrest.

Regarding our survey question on whether changes were made due to the protocol, 185 fire chiefs said they made no changes, 59 fire chiefs said they made fewer requests for arson investigators, and 2 fire chiefs said they made more requests. Some fire chiefs said they had begun making other changes due to the protocol, such as forming in-house arson investigation units, pooling resources in the region, and using insurance company investigators.

**Conclusion**

The protocol established by the Office of the State Fire Marshal has response priorities that differ from those of other states and Illinois local fire departments. The new policy also differs from what practitioners suggested should be the response priorities, namely immediate response with the exception of small fires. OSFM changed its policy which used to be similar to other states and local fire departments, and the change increased the time it took for arson investigators to arrive at fire scenes to investigate the cause of fires.

Some local fire departments, who are users of the arson investigation program, expressed reservations about the protocol. One reason they stated for their reservations was that it increased local cost since they had to keep the fire scene secure to protect evidence until the investigators arrived; this also kept residents from entering their homes or businesses. OSFM officials indicated they are reviewing the arson investigation program and are considering changes to their response times.

<b>PROTOCOL RESPONSE POLICY</b>	
<b>RECOMMENDATION NUMBER</b>  <b>1</b>	<i>The Office of the State Fire Marshal should review the priority codes of its protocol to ensure the protocol allows responding to fires promptly.</i>
<b>FIRE MARSHAL'S RESPONSE</b>	<p>This matter has been resolved by assigning arson investigators to serve as duty agents on a rotating basis to speak directly to fire or police departments requesting assistance on the agency's arson hotline. The duty agents have the authority to dispatch personnel immediately, 24 hours a day, 7 days a week.</p> <p>The protocol clarification (dated February 1998) as referred to in the report clearly states in the second sentence, "The supervisor has the authority to dispatch investigators anytime necessary, 24 hours a day, 7 days a week." It further states in the same paragraph that, "...the supervisor who has the authority to dispatch investigators at any time." The agency and divisional policies for providing prompt response to requests for arson investigators has essentially remained unchanged over many years. The clarification to the protocols was issued February 1998 and was with the review and approval of the Illinois Fire Chiefs Association.</p> <p>However, there was some question and confusion and consequently, information provided to the fire chiefs executive board and at the May 17, 1999, conference, the clear and</p>
<i>Continued next page ▼</i>	
<i>Continued from previous page</i>	<p>unmistakable statement was made that arson investigators are available 24 hours a day, 7 days a week to provide assistance anywhere in the state. The readers must also consider the high satisfaction rate of the agency, by Illinois fire chiefs, as a result of the auditors survey. The audit survey found overall satisfaction with the agency 81 percent; adequacy of investigations 85 percent; and timeliness of investigations 76 percent.</p>

	<p>Dissatisfaction with the agency's handling of arson investigations was only 6 percent. The only survey question that revealed greater dissatisfaction had to do with the agency's policy and protocols for sending arson investigators.</p>
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## Chapter 3

# CASELOAD AND OVERTIME

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The Office of the State Fire Marshal strengthened controls over the arson investigation program following the December 15, 1997 reorganization. Compensatory time earned was reduced 39 percent from 7,352 hours in fiscal year 1997 to 4,493 hours in fiscal year 1998. Average compensatory time per case decreased from approximately 6 hours before the protocol to 2½ hours after the protocol. Compensatory time liquidated declined to \$833 in fiscal year 1998 from \$20,016 in fiscal year 1997.

The number of investigations conducted annually by arson investigators varied between 8 and 91 investigations during fiscal year 1998. When K-9 cases are included, the caseload varied between 8 and 143 cases. The average number of investigations, excluding K-9, was under one case per week per investigator.

The amount of accumulated compensatory time increased significantly from 104 hours on June 30, 1995 to 2,452 hours on December 15, 1997. After the reorganization, compensatory time declined to 2,189 hours on July 1, 1998. There were also discrepancies in OSFM's compensatory time records for 14 investigators.

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### NUMBER OF CASES

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The number of cases handled by arson investigators declined during fiscal year 1998 after the protocol was implemented. Before the protocol during the first part of the fiscal year (July 1, 1997 – December 14, 1997), OSFM handled 526 cases. After the protocol during the remaining 6½ months of fiscal year 1998, OSFM handled 491 cases. During the comparable time periods in the previous fiscal year, the number of cases was 612 for July 1, 1996 – December 14, 1996 and 625 for December 15, 1996 to June 30, 1997.

OSFM did not keep complete records on when investigators were requested but not dispatched. Since the protocol, the Illinois Emergency Management Agency (IEMA) has answered the hotline for requesting investigators and has recorded the time of calls on a request form. These records showed that OSFM did not respond to 27 requests in 6½ months between mid-December 1997 and June 30, 1998; we did not include in these 27 some calls for minor fires, such as garbage fires. These 27 requests included the following:

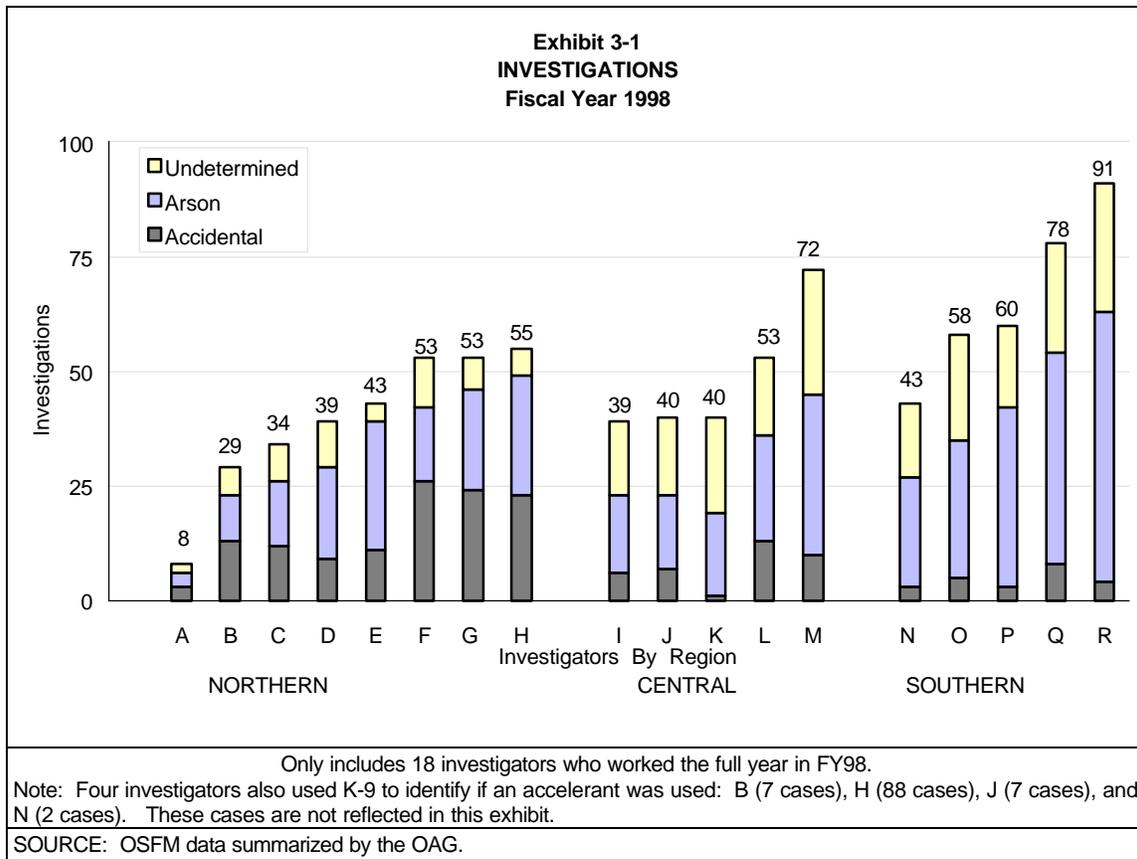
- 23 for which there was no record that the agency responded.
- 4 which were canceled (e.g., because investigators would not be dispatched immediately, such as to a Friday evening fire at an automobile dealership that damaged several vehicles).

All requests for assistance should be documented completely. Summarized information on non-response can help management determine if important requests are being denied. Agency officials said investigators responded to all calls except when no investigator was available (e.g., vacation, sick, compensatory time, another assignment, called in unavailable) or the fire chief requested investigators from outside the district.

### INVESTIGATORS' CASELOAD

The caseload of arson investigators varied from as low as 8 cases to as high as 143 cases during fiscal year 1998. This included 104 cases where a canine (K-9) was used to identify the presence of accelerants at fire scenes, but did not require a fire investigation (e.g., determining the origin and cause) by the OSFM investigator; the investigation may have been conducted by a local investigator.

After excluding K-9 cases, the number of annual fire investigations conducted by individual investigators varied from 8 to 91 investigations. The average number of investigations per investigator was under one per week. Exhibit 3-1 shows the number of investigations for each investigator. It excludes K-9 cases which did not involve investigations to avoid possible statistical distortions because one investigator had 88 K-9 cases.



After the December 15, 1997 reorganization and protocol, 11 of 18 investigators who worked the full fiscal year conducted fewer investigations, 6 investigators conducted more

investigations, and 1 investigator conducted the same number of investigations; the numbers remained the same when K-9 cases were added.

The goal of the December 1997 reorganization was to improve controls and make investigators more accountable. Investigators were placed in districts and assignment of cases was centralized.

One outcome of strengthened controls should be more equal caseloads. In order to determine if the reorganization, protocol, and the subsequent new controls resulted in a more equal distribution of investigations, we reviewed the number of investigations conducted by each investigator before and after the protocol.

Exhibit 3-2 shows that the caseloads were not equalized by the reorganization. Significant caseload variations remained. Prior to the protocol, 14 investigators' caseloads were within 10 investigations (plus or minus) of the average for investigations; after the protocol only 12 investigators' caseloads were within 10 investigations (plus or minus) of the average. Agency officials noted that some fire chiefs did not want certain investigators to do their investigations.

Exhibit 3-2 CASES PER INVESTIGATOR				
Investigator	All Cases Before Protocol	All Cases After Protocol	Investigations Before Protocol	Investigations After Protocol
<b>Northern</b>				
A	4	4	4	4
B	19	17	17	12
C	18	16	18	16
D	34	5	34	5
E	24	19	24	19
F	27	26	27	26
G	26	27	26	27
H	73	70	30	25
<b>Central</b>				
I	25	14	25	14
J	19	28	15	25
K	14	26	14	26
L	30	23	30	23
M	43	29	43	29
<b>Southern</b>				
N	27	18	25	18
O	18	40	18	40
P	27	33	27	33
Q	29	49	29	49
R	50	41	50	41
	<b>507</b>	<b>485</b>	<b>456</b>	<b>432</b>
Average number of investigations:				
<ul style="list-style-type: none"> <li>• Before the protocol was 25.</li> <li>• After the protocol was 24.</li> </ul>				
NOTE: Investigations does not include K-9 cases.				
SOURCE: OSFM data summarized and analyzed by OAG.				

**Other States**

Our survey of other states showed several methods being used to base investigators and to assign investigations (see Appendix F).

- 8 of 27 other states' fire marshals said their investigators worked from home, similar to Illinois. The remaining 19 states' investigators worked from a regional or a central office.
- 14 of 27 states said the primary criteria used to assign cases was geographic region; another 6 states used geographic region plus supervisor selection. The remaining 7 states used other criteria to make assignments, such expertise or availability.
- 20 of 27 other states' fire marshals said they had a day shift, while 6 states had investigators on call 24 hours; 1 state had investigators on call working 171 hours

during a 28 day cycle (which equals 43 hours per week). See Appendix G for other states’ responses to our survey.

In Illinois, 97 of 182 local fire chiefs who had fire or arson investigators said their investigators worked 24 hours and were off 48 hours (see Appendix F). Another 71 fire chiefs had investigators working a day shift. The remaining 47 fire chiefs had investigators working other shifts (e.g., on-call as needed, volunteer, etc.). It should be noted that these numbers include fire chiefs who said their investigators used more than one of the above work schedules. OSFM officials said they were considering alternative work schedules for investigators.

**Conclusion**

The differences between investigators’ caseloads indicates the agency needs to review and improve controls to reduce the disparity in work loads so that all investigators are utilized more equally and efficiently. This may include changing the method of assigning cases, changing district boundaries, or having multiple investigators in a region who work on a rotation. Since some investigators are being called less often than others, the agency should conduct a review to determine the reason.

<b>CASE ASSIGNMENTS</b>	
<b>RECOMMENDATION NUMBER</b>  <b>2</b>	<p><i>The Office of the State Fire Marshal should review the method of assigning cases to reduce the disparity in arson investigators’ caseloads to make work responsibilities more equal. Also, all requests for investigators should be documented, including any reasons for not dispatching investigators.</i></p>
<b>FIRE MARSHAL’S RESPONSE</b>	<p>The agency is involved in productive and ongoing labor-management meetings with the arson investigators union and the assignment of cases and geographic boundaries is an issue that will be discussed and resolved. With regard to documenting requests for arson investigators, this is being accomplished as IEMA answers the arson hotline and records and documents all calls. They also connect the caller directly with a duty agent who is an arson investigator who can answer technical questions and has the authority to dispatch the nearest available investigator 24 hours a day, 7 days a week. The mid-level administrators who will be hired to meet the findings and recommendations of the report will be assigned these specific duties, among others, to monitor these areas.</p>

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**OVERTIME POLICY**

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OSFM had established a written policy in 1995 which limited the amount of compensatory time that could be retained by an investigator to 37½ hours, but that policy was not followed; neither was the policy to assign investigators based on a rotation. Agency officials stated that some parts of the policy were not implemented and added that the Department of Central Management Services said it contradicted the Fair Labor Standards Act.

Total accumulated compensatory time grew from 104 hours on June 30, 1995 to 2,452 hours on December 15, 1997 and only two investigators had less than the 37½ hours of compensatory time that could be accumulated. The policies were established in a July 3, 1995 Policies and Procedures memo which stated:

Compensatory time should be kept to a minimum . . . After 37.5 hours are reached, agents must take a work day or days off from comp. time balances immediately following the case to which comp. time was earned. All compensatory time must be used and expended by June 30 of each year.

When a request for an arson investigator is determined by the duty agent to warrant a page and the dispatching of an agent, the person being assigned the call shall be taken in order from the rotation list. This is to prevent a few people having to take all of the calls while others avoid it. [Emphasis added]

Agency officials said the 1995 policy was intended to minimize the accumulation of compensatory time. They said that investigators did not have to take compensatory time even after they worked all night – although they could be sleeping since they are at home – and could not be forced to use accumulated compensatory time. They noted that extra overtime time used to occur because investigators were able to determine when to respond, for example after business hours for insignificant fires. They said that some investigators have sat for weeks without a call and then have gotten a call after business hours and earned compensatory time.

OSFM signed a Memorandum of Understanding with the union on March 18, 1998 which allows investigators to carry 240 hours of compensatory time.

The other states reported two primary methods to compensate overtime earned by investigators, namely pay or compensatory time. Twelve states (44%) provided a choice of pay or compensatory time, 6 states paid overtime (22%), 5 states provided compensatory time (19%), 3 states (11%) provided other forms of compensation, and 1 state (4%) provided no compensation. States that provided compensatory time required supervisory approval to use the compensatory time.

In Illinois, 109 of 182 (60%) local fire chiefs said they paid overtime while 25 fire chiefs (14%) provided a choice between pay or compensatory time. No compensation was provided by 23 fire chiefs (13%) for working overtime. The remaining 25 fire chiefs (14%) provided only compensatory time. Supervisory approval was required by 45 of the 48 (94%) fire departments that provided compensatory time (2 of the 50 fire chiefs did not specify who authorized compensatory time).

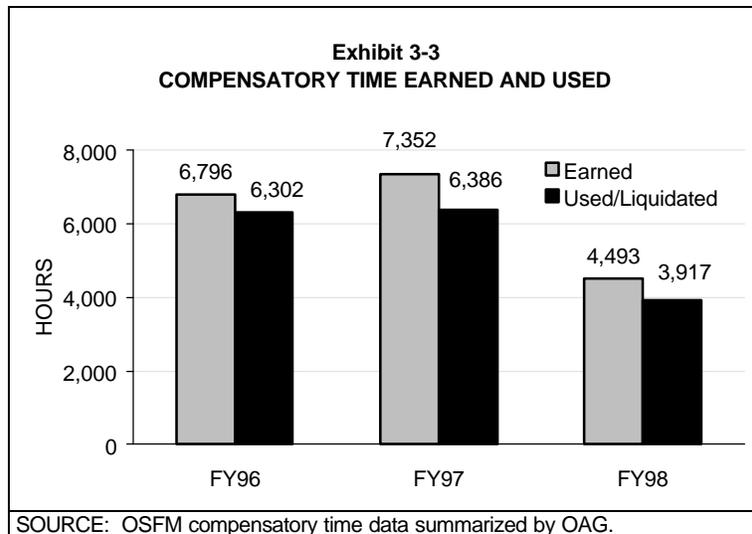
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#### OVERTIME COMPENSATION

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In fiscal year 1998, arson investigators earned, used, and liquidated less compensatory time hours than during fiscal year 1997 (see Exhibit 3-3). Investigators earned 4,493 hours of compensatory time in fiscal year 1998 as compared to 7,352 hours in fiscal year 1997. In fiscal year 1996, they earned 6,796 hours of compensatory time.

Investigators used 3,877 hours and liquidated 40 hours in fiscal year 1998 (total 3,917 hours). In fiscal year 1997 they used 5,471 hours and liquidated 916 hours (total 6,386 hours; does not add due to rounding). Accumulated compensatory time increased slightly from 1,605 hours on July 1, 1997 to 2,189 hours on July 1, 1998, although this may have been due to a March 1998 Memorandum of Understanding that allowed each investigator to accumulate 240 hours of compensatory time.



In fiscal year 1998, only one arson investigator who left the agency liquidated compensatory time worth \$833. In fiscal year 1997, five investigators liquidated \$20,016 of compensatory time: \$860, \$1,287, \$1,516, \$1,746, and \$14,607. In fiscal year 1996, two investigators liquidated \$236 worth of compensatory time.

Average compensatory time per case decreased from 6 hours 7 minutes during July 1–December 14, 1997 to 2 hours 36 minutes during December 15–June 30, 1998. Before the protocol, 526 cases were conducted and they incurred 3,216 hours of compensatory time; after the protocol 491 cases were conducted and they incurred 1,278 hours of compensatory time.

Under procedures implemented with the protocol, investigators must get prior approval from their supervisor to work overtime. The agency's arson investigators said they were no longer getting needed overtime approved which affected their investigations although they provided no documentation. OSFM also kept no documentation of when overtime requested by investigators was not authorized by supervisors; such documentation can help agency management determine that overtime necessary for investigations is not being inappropriately denied.

Agency officials also stated the union contract allows investigators to be "not available" outside normal work hours without any penalties. They have begun keeping a log of available investigators on weekends and provided it to us for November 1998 through January 1999 which listed two-thirds of the investigators as being unavailable on weekends.

### Discrepancies in Compensatory Time Records

In order to determine the affect on overtime after supervisors were laid off in May 1995, we reviewed overtime from June 30, 1995 to June 30, 1998. OSFM records on 14 arson investigators' compensatory time contained discrepancies. They included errors in spreadsheets, in amounts carried over from year to year, and in data entered when the agency switched to the Central Time and Attendance System (also used by some other State agencies) on January 1, 1998.

During this period, the total amount of discrepancies equaled 466 hours: 243 extra compensatory hours and 223 insufficient compensatory hours. The range of errors was from negative 62½ hours for one investigator to an extra 169 hours for another investigator. Agency officials were unable to explain the discrepancies and said:

. . . the reason for the differences in the hours reported used on the monthly summary of hours for each investigator and the comptime reports is not known. It could be due to an oversight, an adjustment made after a closing date, or comptime was shown to be used on an activity sheet, but later changed to vacation or personal leave to avoid losing it by the end of the calendar year (as was common practice before the merger of the two divisions).

For three investigators we were able to determine the errors were due to a wrong formula in the spreadsheet used by the agency to track overtime hours. In addition, time records indicated that one investigator who left the agency was paid for 11½ hours more than he was entitled. Although agency officials said compensatory time records were checked, the number of discrepancies indicates supervisory reviews were inadequate.

#### **Time Codes**

During fiscal year 1998, the time codes used by arson investigators were revised more than once (see Exhibit 3-4). Additional time keeping changes were made in fiscal year 1999 at the end of audit fieldwork.

Furthermore, investigators charged time to codes that were not on the list that OSFM provided to us: State Fair details, K-9 Demos, home office, public relations, and teaching. Some of these were listed on a form attached to an April 12, 1998 memo from the division director to investigators. It stated: "**Activity Not Otherwise Documented Form** - this form is to be used whenever there is an activity performed that is not otherwise documented on a previously established form. This form must be completely filled out and is self-explanatory."

Only arson investigators were required to keep activity time records. Arson field staff operate from their residences as their home offices. Supervisors (Regional Administrators) were not required to keep activity time records.

The changes in time codes during fiscal year 1998 were not always communicated to investigators in writing with descriptions of each code. Two memoranda in late fiscal year 1998 which had some guidance were the April 12, 1998 memo referenced above and a June 4, 1998 memo from the division’s administrative assistant which said to use the revised timekeeping form. The lack of complete written guidance may have contributed to some misunderstandings on when the various time codes should have been used.

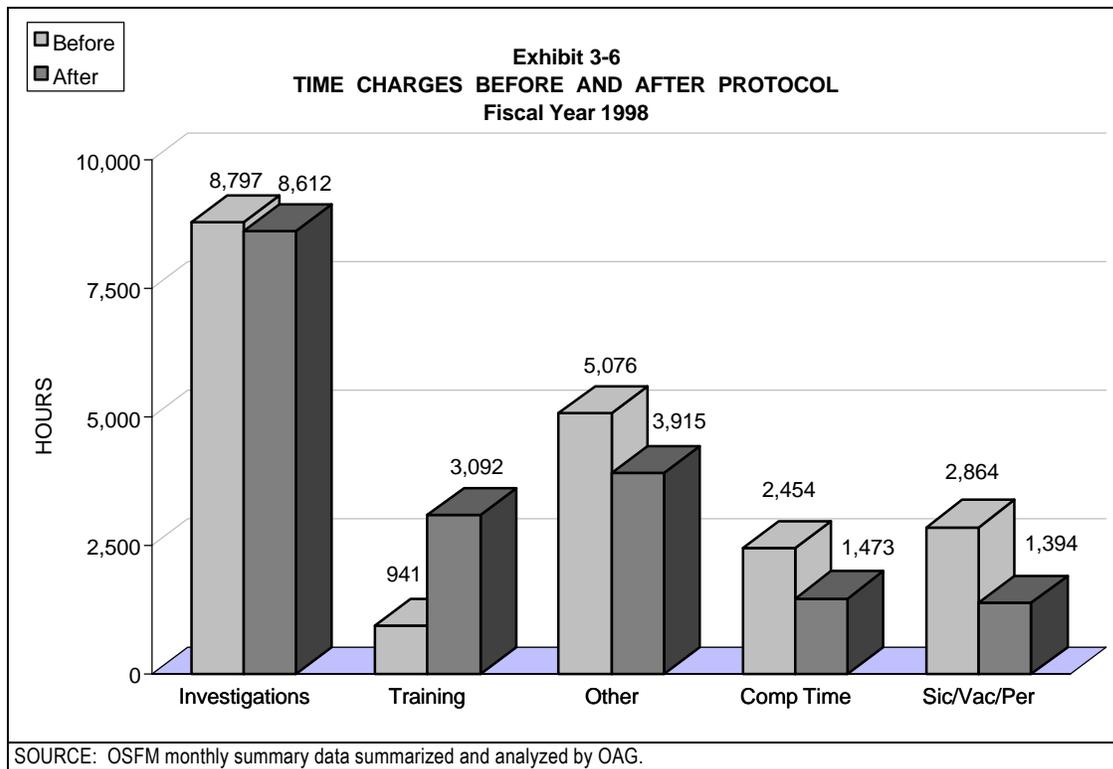
- Some investigators’ time charged to cases changed significantly. Of the 18 investigators who worked during the entire fiscal year, 11 charged more hours per case after the protocol, including one who charged five times more hours per case. Conversely, three investigators charged approximately half as many hours per case after the protocol. The average number of hours charged per case increased slightly from 16 hours 42 minutes before the protocol to 17 hours 30 minutes after the protocol (see Exhibit 3-5).

<b>Exhibit 3-4 TIME CODES Fiscal Year 1998</b>
<u>Before the December 15, 1997 reorganization</u>
<ul style="list-style-type: none"> <li>▪ Meetings – Seminars</li> <li>▪ Hearings/Court Time</li> <li>▪ Total Investigative Time</li> <li>▪ Administrative Duties</li> <li>▪ Formal/Informal Training</li> <li>▪ Vehicle Service</li> </ul>
<u>December 16, 1997 through January 19, 1998</u>
<ul style="list-style-type: none"> <li>▪ Fire Investigation (initial fire scene investigation)</li> <li>▪ Interview</li> <li>▪ Court Time</li> <li>▪ Training/School</li> <li>▪ Regular Travel (travel to and from destination)</li> <li>▪ Report Preparation</li> </ul>
<u>January 20, 1998 to May 31, 1998</u>
<ul style="list-style-type: none"> <li>▪ Fire Investigation (initial fire scene investigation)</li> <li>▪ Interview</li> <li>▪ Legal Time (replaced court time)</li> <li>▪ Training/School</li> <li>▪ Regular Travel (travel to and from destination)</li> <li>▪ Report Preparation</li> </ul>
<u>June 1, 1998 to June 30, 1998 (and through at least December 28, 1998)</u>
<ul style="list-style-type: none"> <li>▪ Fire Investigation (initial fire scene investigation)</li> <li>▪ Follow Up (court time, depositions, interviews, etc.)</li> <li>▪ Report Preparation</li> <li>▪ FSI Training (monthly training sessions, studying material and K-9 training)</li> <li>▪ All activities for which there is not a standardized report</li> <li>▪ Work Mileage</li> <li>▪ Travel (travel to and from destination)</li> </ul>
SOURCE: Office of the State Fire Marshal.

HOURS CHARGED TO THE INVESTIGATION CODE								
Fiscal Year 1998								
Investigator	Caseload Before Protocol	Hours Before Protocol*	Average Hours Per Case Before Protocol	Caseload After Protocol	Hours After Protocol	Average Hours Per Case After Protocol	Change In Average Hours Per Case*	
<b>NORTHERN</b>								
A	4	166 hours	41 hours 30 minutes	4	61 hours 30 minutes	15 hours 24 minutes	26 hours 6 minutes	-63%
B	19	210 hours 30 minutes	11 hours 6 minutes	17	253 hours 45 minutes	14 hours 54 minutes	3 hours 48 minutes	35%
C	18	401 hours 30 minutes	22 hours 18 minutes	16	361 hours	22 hours 36 minutes	18 minutes	1%
D	34	338 hours 30 minutes	10 hours	5	315 hours 33 minutes	63 hours 6 minutes	53 hours 12 minutes	534%
E	24	197 hours 30 minutes	8 hours 12 minutes	19	496 hours 45 minutes	26 hours 6 minutes	17 hours 54 minutes	218%
F	27	452 hours	16 hours 42 minutes	26	734 hours 15 minutes	28 hours 12 minutes	11 hours 30 minutes	69%
G	26	678 hours	26 hours 6 minutes	27	671 hours 15 minutes	24 hours 54 minutes	1 hour 12 minutes	-5%
H	73	797 hours	10 hours 54 minutes	70	586 hours 45 minutes	8 hours 24 minutes	2 hours 30 minutes	-23%
<b>CENTRAL</b>								
I	25	595 hours	23 hours 48 minutes	14	427 hours	30 hours 30 minutes	6 hours 42 minutes	28%
J	19	544 hours 30 minutes	28 hours 42 minutes	28	413 hours 15 minutes	14 hours 48 minutes	13 hours 54 minutes	-48%
K	14	681 hours	48 hours 36 minutes	26	506 hours 30 minutes	19 hours 30 minutes	29 hours 12 minutes	-60%
L	30	509 hours	17 hours	23	373 hours	16 hours 12 minutes	42 minutes	-4%
M	43	724 hours 45 minutes	16 hours 54 minutes	29	575 hours 30 minutes	19 hours 48 minutes	3 hours	18%
<b>SOUTHERN</b>								
N	27	399 hours 15 minutes	14 hours 48 minutes	18	328 hours 15 minutes	18 hours 12 minutes	3 hours 24 minutes	23%
O	18	412 hours	22 hours 54 minutes	40	647 hours 15 minutes	16 hours 12 minutes	6 hours 42 minutes	-29%
P	27	299 hours 30 minutes	11 hours 6 minutes	33	636 hours 30 minutes	19 hours 18 minutes	8 hours 12 minutes	74%
Q	29	209 hours	7 hours 12 minutes	49	449 hours	9 hours 12 minutes	2 hours	27%
R	50	631 hours 30 minutes	12 hours 36 minutes	41	714 hours	17 hours 24 minutes	4 hours 48 minutes	38%
<b>Sub-Total</b>	<b>507</b>	<b>8,246 hours 30 minutes</b>	<b>16 hours 18 minutes</b>	<b>485</b>	<b>8,551 hours 3 minutes</b>	<b>17 hours 36 minutes</b>	<b>Not Applicable</b>	
S <sup>A</sup>	1	77 hours	77 hours	6	60 hours 30 minutes	10 hours 6 minutes	66 hours 54 minutes	-87%
T <sup>B</sup>	18	473 hours 30 minutes	26 hours 18 minutes	0	0 hours	0	Not Applicable	N/A
<b>TOTAL</b>	<b>526</b>	<b>8,797 hours</b>	<b>16 hours 42 minutes</b>	<b>491</b>	<b>8,611 hours 33 minutes</b>	<b>17 hours 30 minutes</b>	Not Applicable	N/A
NOTE: Hours include time charged to investigations, K-9 cases, follow-up, and reporting.								
* Percent calculated by using Average Hours Per Case after protocol divided by Average Hours Per Case before protocol.								
A = Became OSFM investigator later in fiscal year 1998.								
B = Separated from agency during fiscal year 1998.								
SOURCE: OSFM data summarized and analyzed by the OAG.								

- Before the protocol, only formal training was reported as training. Afterwards, staff meetings and reviewing educational materials at home were also reported as training. Investigators' time charged to training, which was under 80 hours for all investigators

before the protocol, exceeded 80 hours for 15 investigators after the protocol. Time charged to training reached as high as 458 hours for one investigator who had only 40 hours before the protocol. Another investigator who had only 12 hours before the protocol charged 260 hours after the protocol. Training was the only category for which hours charged increased: 3,092 hours vs. 941 hours (see Exhibit 3-6).



- Time charged to other time codes decreased from 5,076 hours to 3,915 hours. The other time codes included time charged to meetings (before protocol), administrative duties, home office, vehicle services, State Fair exhibits, K-9 Demos, teaching, travel (after protocol), etc. The decrease in time charged to other codes was significant for some investigators. One investigator who had charged the most hours before the protocol to other time codes, 540 hours, charged only 86 hours after the protocol; instead, this investigator charged the most hours to training after the protocol (458 hours) and had the highest percent increase (534%) for hours charged per case.

All division employees should be required to keep time records. Complete and accurate records of how employees use their time is important in determining that employees are spending an appropriate amount of time on the activities that are the agency's priorities, and in identifying if they have downtime. A complete list of authorized time codes with a written description of each code would help ensure the consistency and accuracy of employees time charges.

<b>TIME USAGE</b>	
<p><b>RECOMMENDATION NUMBER</b></p> <p style="font-size: 2em;"><b>3</b></p>	<p><i>The Office of the State Fire Marshal should maintain complete time records. OSFM should:</i></p> <ul style="list-style-type: none"> <li>▪ <i>Keep records on when overtime requested by investigators was not authorized and the reason for not authorizing overtime.</i></li> <li>▪ <i>Ensure that investigators' compensatory time records are accurately recorded.</i></li> <li>▪ <i>Communicate in writing all the time codes that division employees may use, describe when each code should be used, and monitor employees' time charges.</i></li> <li>▪ <i>Require all arson division employees to keep accurate time records.</i></li> </ul>
<p><b>FIRE MARSHAL'S RESPONSE</b></p>	<p>Time records are governed by CMS guidelines and will be adhered to by the agency. The new mid-level administrators will be given the specific responsibility for monitoring schedules and timekeeping on a daily basis. All overtime must already be approved in advance by a supervisor, and may also be approved by the duty agents who dispatch investigators to fire scenes. The time codes in question have to do with division report forms which are being reviewed and will be modified when labor and management come to agreement which is anticipated in the near future. All employees are required to keep accurate time records. However, administrators will be expected to closely review them for each pay period.</p>



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## Chapter 4

# INVESTIGATOR SUPERVISION

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The administration of the arson investigation program can be improved in several areas. Our sample of investigations (arson, accidental, undetermined) showed that many did not collect physical evidence (37%), conduct interviews (24%), or report arson/ undetermined fires (18%) to police as called for by the investigators' Operations Manual, although there was improvement after the 1997 reorganization which increased supervision.

Reports that concluded a fire was arson or accidental were not reviewed by OSFM supervisors. Over two-thirds of the other states' fire marshals and Illinois' fire chiefs who responded to our survey questionnaire said their supervisors reviewed their investigation reports.

Also, the policy to have investigators review each others' reports was not complied with in 47 percent of the cases sampled; another 4 percent of the cases sampled did not have reports prepared. In addition, approximately 10 percent of the Fire Investigation Reports did not meet the agency's standards for completeness.

Arson investigation program supervisors were not certified arson investigators after the 1997 reorganization as they were before the 1995 layoffs. Two-thirds of other states' fire marshals and three-fourths of Illinois' fire chiefs who responded to our survey said their supervisors were certified investigators.

Although some arson investigators' work was not considered to be satisfactory by the agency and the fire chiefs, OSFM's fiscal year 1998 annual performance evaluations did not indicate problems with investigators' work.

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## SUPERVISORY REVIEW

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Between May 1995 and December 15, 1997, OSFM did not have any arson division supervisors or a director; instead investigators reported directly to the agency's second highest executive officer. The responsibility for reviewing reports was assigned to Arson Investigators II. An OSFM July 3, 1995 policy and procedures memo stated that *"Case reports prepared by the Arson Investigators Is shall be submitted to the applicable Arson Investigator II within 10 working days of the case for review and approval. The case reports of the Arson Investigator IIs shall be submitted to their counterparts within the same time frame."*

Our random sample showed that 56 of 120 case reports (47%) were not reviewed by Arson Investigators II. Furthermore, 5 of the 120 investigations sampled (4%) did not have reports prepared; all 5 were after the 1997 reorganization.

- 35 of 60 (58%) investigations conducted before the reorganization (July 1 to December 14, 1997) were not signed as reviewed by Arson Investigators II although required by agency policy (see Appendix C).
- 21 of 60 investigations (35%) sampled after the reorganization were not signed as reviewed by Arson Investigators II (see Appendix D).

Agency officials noted no changes were being made to reports due to reviews by Arson Investigators II. They added that reviewing reports became a matter for discussion with the union; the last report reviewed by an Investigator II in our sample was in late April 1998.

Our sample showed none of the investigation reports prepared by Arson Investigators I and II were signed or otherwise marked by Regional Administrators (supervisors) or the division director to indicate their review. However, the division director said he reviewed reports where the cause of the fire was undetermined to try and help identify their cause and created an Undetermined Cause Fact Sheet after the December 1997 reorganization to draw attention to these cases. The supervisors said they just read investigation reports.

One reason cited by OSFM officials for not having supervisors review investigation reports was that these reports are subject to subpoena and cross-examination in a court. Officials said that all personnel who sign the report can be tied up in court even though they are seldom asked questions. Also, the division’s supervisory personnel were not certified arson investigators. Before the layoffs in 1995, division supervisors and the division director were certified arson investigators with technical responsibilities, and one of the supervisors’ responsibilities in the position description was to review and evaluate “. . . staff’s arson reports for technical accuracy and completeness.”

Most supervisors working for other states’ fire marshals and Illinois’ fire departments reviewed all investigation reports, such as for procedural compliance, technical accuracy, investigative sufficiency, and completeness. Respondents to our survey said the following (see Exhibit 4-1):

- 23 of 27 (85%) fire marshals in other states said their reports were reviewed by a supervisor while 2 more states (7%) said their reports were reviewed by another person. Only 2 states (7%) said their reports were not reviewed.
- 121 of 178 responding fire chiefs (68%) said the reports were reviewed by a supervisor while 16 (9%) said the reports were reviewed by another person. Less than one quarter, 41 (23%), said reports were not reviewed. Four respondents did not answer this question.

Reviewer	States	Illinois Fire Chiefs
Supervisor	23	121
Another Person	2	16
Not Reviewed	2	41
No Response	0	4
<b>RESPONDENTS</b>	<b>27</b>	<b>182</b>
SOURCE: OAG surveys of other states’ fire marshals and Illinois’ local fire chiefs.		

The Chicago Fire Commissioner wrote in response to our survey questionnaire that his department reviewed all fire investigation reports. “All reports are carefully reviewed by the Supervising Fire Marshal, Commanding Fire Marshal, Assistant Commanding Fire Marshal,

*and in major cases, by the Deputy Fire Commissioner of the Bureau of Support Services . . . . Reports are scrutinized for grammar, technical accuracy, physical evidentiary collection and security procedures, investigative completeness, and several other report writing protocols associated with interviews, photos, sketches, etc.”*

**CASE RECORDS**

We randomly sampled 120 of 1,017 fire cases that OSFM conducted (initiated) during fiscal year 1998. Our sample showed no documentation in the case file that physical evidence was collected or that interviews were conducted during many investigations, while other investigations had incomplete documentation (see Exhibit 4-2).

At the beginning of a case, investigators are required to submit a case initiation form which has the particulars on the fire, including the time of fire, time of call received by the investigator, and the time of response by the investigator. None of the 60 cases sampled before the protocol had a Case File Initiation Report in the case file. After the protocol, 23 of 60 cases (38%) did not have a Case Initiation Form; of the 37 cases that had a Case Initiation Form 16 were not signed. The Operations Manual states that:

Exhibit 4-2 CASE RECORDS BEFORE AND AFTER REORGANIZATION Fiscal Year 1998			
	Before	After	TOTAL
No interviews conducted	35%	14%	24%
No physical evidence collected	40%	34%	37%
No law enforcement notified for fires whose cause was arson or was undetermined	26%	10%	18%
Case closed same day	23%	23%	23%
No case initiation form *	100%	38%	69%
No Fire Investigation Report *	0%	8%	4%
No report review by an Arson Investigator II * <sup>A</sup>	58%	35%	47%
*Includes K-9 cases for which these records were applicable. <sup>A</sup> OSFM policy was to have Arson Investigators II review investigation reports. (There were no documented reviews by supervisors.)			
SOURCE: OAG sample of 60 fire investigation cases before, and another 60 cases after, the reorganization.			

**CASE FILE INITIATION REPORT – DAI-4**

- (a) This form will be completed to initiate every case file in the Division.
- (b) This form will be completed by the Case Agent [arson investigator] and forwarded within twenty-four (24) hours of being assigned the case to the area commander [supervisor] for approval.

Our sample indicated that not all investigations had physical or testimonial evidence collected although there is much guidance on evidence in the Operations Manual. The manual specifies investigators’ responsibilities in collecting evidence in the chapter on Enforcement:

- 1-5 (2). The activities undertaken by the Special Agent [arson investigator] responding to the scene include:
  - (b) Arranging for collection and preservation of evidence; photography; scene sketches; and interviewing of witnesses, victim(s) and suspects(s). . . .

The manual has other sections also that provide guidance on evidence, such as in the chapter on Operations: “6-4 (d). *Strict adherence to proper collection, marking, dating and logging technique in accordance with guidelines as set forth in OPS-8-3(a) is most essential so that the chain of evidence is maintained and the court cases may be properly prosecuted.*” There is guidance throughout the manual on evidence handling and writing interviews, for example, in the chapter on Division Report Procedures: “4-F. *Next, summarize any*

*information relayed to you by the victim, witnesses and any other person that you interview. The account given to you by each person should be included in separate paragraphs, with the name of the person beginning the paragraph.”*

In some cases, when the fire was determined to be arson, the case file did not show that police were contacted by investigators, even though the standard Fire Investigation Report form had a question on whether police were notified. The Operations Manual states in the chapter on Enforcement:

(3) Unless extenuating circumstances prevail, local authorities should also be contacted prior to initiation of investigative or enforcement action within their jurisdiction.  
[Emphasis added]

Investigators are supposed to submit a “Fire Investigation Report” within 10 days after starting the investigation. In our sample, more than half of the reports were either not prepared, not reviewed, or lacked the level of detail required by the agency.

The following examples from our sample help illustrate these issues discussed above on evidence and reporting:

- Fire department requested an investigator for a fire that extensively damaged a residence. OSFM did not contact the investigator for 8 hours and the investigator did not arrive for two days. There was no documentation in case file that interviews were conducted or police were involved. Fire cause could not be determined and the case was closed the same day. OSFM’s required Fire Investigation Report was not in the case file. (After the protocol; OAG case # 145)
- Fire department requested an investigator for a fire to a vacant building that injured a firefighter. OSFM contacted the investigator right away but the investigator did not arrive until the morning. Fire was determined to be arson but the case was closed the same day without any documentation of interviews, the Fire Investigation Report was very brief, and the report was not reviewed by another OSFM investigator although required by agency policy. (After the protocol; OAG case # 339)
- Fire department requested an investigator two days after a fire extensively damaged a commercial structure. Investigator could not determine the cause of the fire due to extensive damage. There was no documentation in the case file that interviews were conducted or physical evidence was collected, and the case was closed the same day. Report was not signed by the investigator and was not reviewed by another OSFM investigator although required by agency policy. (Before the protocol; OAG case # 264)
- Fire department requested an investigator who did not respond to investigate a vehicle fire for four days. The cause of the fire was determined to be arson but there was no documentation in case file that investigator collected physical evidence, or conducted interviews. The case was open for 209 days. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy. (Before the protocol; OAG case # 32)

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## REPORTS

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Approximately 10 percent of the fire investigation reports sampled did not meet the level of completeness set forth in the arson investigation Operations Manual. The manual specifies investigators' responsibilities in writing reports in the chapter on Enforcement: "1-5 (2). *The activities undertaken by the Special Agent [arson investigator] responding to the scene include. . . (c) Compiling a thorough and accurate report of the investigation which reflects the extent of the Special Agent's involvement and to identify other agency participation in the activity or investigation.*" The manual emphasizes the importance of well written reports in many sections of the chapter on Division Report Procedures, including:

2-2 (b) (1) . . . reports must eliminate any possibility of erroneous conclusions, or interpretations.

(b) (5) The ability of an agent will be judged in part by the quality of their reports. A poorly-written report may create the impression that the investigation was poorly conducted. Many officials will base their opinion of a Special Agent's abilities on written communications.

(c) (1) All material facts and evidence should be reported in such a manner that they speak for themselves and require little or no explanation of their significance . . . (c) (2) Reports are the basis for administrative and legal actions of the utmost importance; therefore, accuracy in every particular detail is essential. Facts must be reported with exactness.

Some investigators' reports in our random sample could be described as being more brief than persuasive. These reports just stated the factor that investigators considered to be the cause of the fire rather than providing enough details to convince the reader that the factor attributed to be the cause of the fire was in fact the cause. Detailed information may be in investigators' personal files which are not kept by the Office of the State Fire Marshal. However, agency officials said that when arson investigators leave employment, as one did during the audit period, they keep their personal files.

The contents of fire investigation reports are important because they may conclude that a fire was set deliberately and that may lead to the arrest and prosecution of individuals. The manual states in the chapter on Division Report Procedures:

2-2 (a) . . . the agent's job is not finished until the jury returns a verdict. In a criminal case, a report ultimately serves as the basis for the preparation and presentation of the case for trial.

(b) (3) The report provides a basis for action and the prosecutor will base his case to a great extent upon facts and evidence cited in the written report.

In addition, the State Records Act requires that agencies keep complete records, including records that protect the legal rights of the State:

The head of each agency shall cause to be made and preserved records containing adequate and proper documentation of the organization, functions, policies, decisions, procedures, and essential transactions of the agency designed to furnish information to protect the legal and financial rights of the state and of persons directly affected by the agency's activities. [Emphasis added] (5 ILCS 160/8)

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## SUPERVISOR CERTIFICATION

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During the audit period, the arson supervisors were not certified by OSFM as arson or fire investigators. The three supervisors were former firefighters, although one had worked as an OSFM arson investigator until 1982 before joining the OSFM Fire Prevention Division. The division director was a former firefighter and Deputy District chief of the Chicago fire department.

In our survey of other states' fire marshals, 16 of 24 responding states (67%) said their supervisors were certified fire or arson investigators while 8 states (33%) said they were not certified investigators; 3 states did not answer this question.

In our survey, 110 of 146 responding fire chiefs (75%) said their supervisors were certified fire or arson investigators while 36 fire chiefs (25%) said they were not certified; 36 did not respond.

Prior to the 1995 budget cut and layoffs, arson division supervisors (Arson Investigators III) were certified arson investigators, as was the division director. After the December 1997 reorganization, supervisors and the director were not certified arson investigators. The change occurred because of budgetary reasons, not because of an assessment, evaluation, or study that showed that superiors did not need technical arson investigation training.

Before the 1995 layoffs, arson supervisors were titled Arson Investigators III. Between 1995 and 1997, the arson division had no formal supervisory position. After the December 1997 reorganization, the supervisors were titled Regional Administrators. In terms of organizational hierarchy, the Regional Administrators were at the same supervisory level as Arson Investigators III.

To determine the responsibilities of the supervisory level, we reviewed the descriptions of these positions. The position description of Regional Administrators, who came from the Fire Prevention Division, was not revised to specify any duties regarding their new responsibilities over arson investigators. The duties of arson division supervisors, however, were specified in the earlier Class Specifications for Arson Investigators III which stated under "Desirable Requirements" that this supervisory position needs technical arson investigation skills: *"Requires three years of professional law enforcement investigative experience and/or professional fire investigative experience. Requires evidence of successful completion of an approved course of arson investigation and an approved law enforcement course for arson investigators which includes firearms training."* The "Illustrative Examples of Work" further indicate that the supervisory position is a technical position:

- Advises staff in the techniques and processes of obtaining and preparing statements, exhibits, reports and other pertinent information suitable for use as evidence in a court of law.
- Reviews and evaluates staff's arson reports for technical accuracy and completeness; prepares program reports and correspondence relating to arson investigations.
- Provides assistance to the prosecuting attorney in preparing arson cases; testifies as an expert arson witness in a court of law . . . .

Although arson investigators were placed under the Fire Prevention Division, their supervisors' position description did not contain any specific responsibilities relating to the arson division. OSFM revised the Department of Central Management Services position description to become effective December 1997. Question 16 of this position description asked for a *"Complete, Current and Accurate Statement of Position Duties and Responsibilities."* The form filed by OSFM said its purpose was to add subordinates, namely Arson Investigators I and II, to the list of existing subordinates (e.g., Fire Prevention Inspectors II): *"Clarify to show change in subordinates; duties remain the same."* The position description was revised again in July 1998 but supervisors' duties remained the same: *"Clarify to show change in subordinate position number change."*

The position description of the arson division director was also revised on the date of the reorganization, December 15, 1997, but did not refer to specific responsibilities over the arson investigation program. The director's previous position description in the Operations Manual called for technical arson investigation skills. The manual titled the director an Arson Investigator IV and included responsibilities such as:

Supervise sensitive arson investigations in the State of Illinois and may investigate such cases where significant impact may be a result on other cases. Reviews arson reports that are submitted to the Chicago Office by staff, provides advice to staff on the proper technique and process of obtaining and preparing statements, exhibits, reports and other arson information.

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## CONCLUSION

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OSFM needs to ensure that its investigation reports conform with its written policies established in the Operations Manual. According to agency officials, the system of essentially having peers (i.e., Arson Investigators II) review reports did not result in any changes being suggested by Arson Investigators II. Critical review would seem to be important given that the results of investigation reports may have criminal implications or may affect one's ability to collect fire insurance.

Since arson investigation requires technical skills, a Bureau of Alcohol, Tobacco, and Firearms fire investigator who has worked with OSFM since 1979 said defense attorneys question investigators' knowledge of the field to determine the credibility of their work. Therefore, it may be beneficial to have the work of investigators reviewed carefully by a supervisor trained in arson investigation to ensure that necessary steps of an investigation have been followed, that adequate evidence has been collected, and that investigation reports are complete and accurate.

A trained and experienced individual could have the responsibility to review all investigation reports and also help provide court testimony. Two-thirds of other states' fire marshals and Illinois' fire chiefs who responded to our survey said their supervisors were trained investigators.

Agency officials concurred that some reports were sparsely written and that investigators did not completely document all evidence collected. They said they were considering having a person trained in arson investigation review reports.

Another item that needs to be reviewed is the arson investigation Operations Manual. The manual contains policies which address matters such as investigation procedures, statutes (e.g., individuals rights, legal entry, search warrants), and report writing. The manual was last revised more than a decade ago in 1988 and should be updated to make it current with statutes, methods, and procedures. OSFM could also establish a checklist to help ensure that the agency has complete records involving investigations and that the documents conform with established policies and procedures.

<b>FIRE INVESTIGATION REPORTS</b>	
<b>RECOMMENDATION NUMBER</b>  <b>4</b>	<p><i>The Office of the State Fire Marshal should review and update its policies and procedures regarding fire investigation reports and records. In addition, OSFM should implement management controls to ensure that:</i></p> <ul style="list-style-type: none"> <li>▪ <i>Reports are prepared for all investigations.</i></li> <li>▪ <i>Reports conform with standards established by the agency, such as for completeness, interview information, and physical evidence.</i></li> <li>▪ <i>Reports are reviewed by a certified arson investigator who may be a Regional Administrator or a specialist.</i></li> <li>▪ <i>All pertinent records of an investigation are in the agency's control.</i></li> </ul> <p><i>A checklist could be established which specifies the elements of a complete investigation file.</i></p>
<b>FIRE MARSHAL'S RESPONSE</b>	<p>Reports will be prepared for all cases. Administrators or lead workers will be responsible for reviewing reports for completeness and case preparation. Required records will be maintained in the agency offices.</p>

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**PERFORMANCE EVALUATIONS**

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Fire chiefs generally praised OSFM arson investigators and their K-9 units, although a few said they lacked confidence in some investigators. OSFM officials concurred that some investigators' work was excellent, some was satisfactory, and some was not

satisfactory. The division director indicated that working within the confines of a unionized environment made it difficult to take actions against investigators whose performance was sub-standard.

OSFM officials said some local fire chiefs do not want certain investigators to do the investigation but have been unwilling to put this in writing. Officials added that written comments would help provide evidence necessary to take corrective action.

All OSFM investigators received supervisory ratings that were satisfactory or above and only one was given negative comments in the fiscal year 1998 annual performance evaluations that we reviewed. The agency used a Department of Central Management Services evaluation form which had a column for self-rating by the employee and a column for rating on the same attributes by the evaluator. Eight questions applied to all investigators and two were for supervisory investigators. In over two-thirds of the questions, all investigators received a satisfactory rating from their evaluator while the remaining one-third were Exceeds Expectations.

In only one case did an investigator give himself a Needs Improvement on one attribute (for quality). The evaluation contained unfavorable comments from the evaluator which said OSFM received written complaints about the employee's conduct at a fire scene; that individual was promoted to an Arson Investigator II after the evaluation.

The Office of the State Fire Marshal needs to objectively assess the performance of arson investigators and provide them feedback on a regular basis, including during annual performance evaluations. If performance is not satisfactory, as may be for some investigators, it needs to be communicated to the appropriate investigators and documented in their personnel records. The union contract states under Management Rights (RC-29, Article III) that *"It is understood and agreed by the parties that the Employer possesses . . . [t]he right to suspend, discharge or take other appropriate disciplinary action against employees for just cause."*

Conversely, good work performance needs to also be recognized and rewarded. OSFM could obtain the views of local fire departments who use and rely upon investigation services, such as by giving fire chiefs a written instrument to comment on the work of investigators who conducted investigations for them. These comments may be considered during annual evaluations.

Investigators' work performance can be better evaluated if supervisors reviewed investigators' work product, namely the Fire Investigation Reports.

<b>PERFORMANCE EVALUATIONS</b>	
<b>RECOMMENDATION NUMBER</b>  <b>5</b>	<i>The Office of the State Fire Marshal should evaluate the work performance of arson investigators more objectively to include both negative and positive comments that are applicable, provide feedback on a regular basis including</i>

	<p><i>their annual evaluations, document deficiencies, and take action to correct work performance that continues to not meet expectations.</i></p>
<p><b>FIRE MARSHAL'S RESPONSE</b></p>	<p>The addition of the new administrators will provide more frequent and direct contact with the arson investigators. Review of reports, assistance in case investigation in the field for major cases, and participation in continuing education between the administrators and investigators will be achieved in the future. Positive results will be noted with regard to personal performance and action will be taken for any investigators not meeting expectations.</p>

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## Chapter 5

# OTHER ISSUES

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Local fire departments did not report all fires each month to the Office of the State Fire Marshal as directed by statute. In our random sample, local fire departments did not report 40 percent of the fires in the monthly report to OSFM that is required by statute.

The OSFM program for certifying fire and arson investigators needs to be reviewed to determine if any requirements need to be modified, such as establishing a continuing education requirement.

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### LOCAL REPORTING OF FIRES

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Local fire departments were not reporting all fires each month to the Office of the State Fire Marshal as directed by statute. We checked 113 of the 120 fire cases in our random sample for which sufficient data was available to determine if they were being reported to OSFM. Of these, 45 (40%) were not listed in the local fire department's monthly reports to OSFM. Local fire departments are required by the Fire Investigation Act (425 ILCS 25/6) to report to OSFM all fires in their jurisdiction by the 15<sup>th</sup> of the month following the fire:

The officer making investigation of fires occurring in cities, villages, towns, fire protection districts or townships shall forthwith notify the Office of the State Fire Marshal and shall by the 15th of the month following the occurrence of the fire, furnish to the Office a statement of all facts relating to the cause and origin of the fire, and such other information as may be called for in a format approved or on forms provided by the Office. [Emphasis added] (425 ILCS 25/6)

OSFM officials said the reporting requirement has existed since at least the 1970s, although there is some non-reporting. Fire Marshal officials said most non-reporting is by smaller fire departments; however, there were some exceptions. For example, Rockford did not submit calendar year 1997 data until after August of 1998; Rockford reported 924 fires for calendar year 1997. Agency officials said on August 18, 1998 that Chicago did not submit the first quarter report for January–March 1998 until recently; Chicago reported 23,672 fires for calendar year 1997. As of November 1998, Chicago had not submitted data for April–June 1998 while Rockford had not submitted data for January–June 1998.

Nearly 10 percent (53 of 585) of the fire chiefs responding to our survey questionnaire said they were either unaware of the reporting requirement or were unaware that it was a statutory requirement. One fire chief said that being a volunteer fire department they had limited time and manpower, most of which was devoted towards providing services; he suggested they be paid to submit the reports. Fire Marshal officials said prior to the legislation being repealed in 1980, a mayor or fire chief paid more than \$1,000 per year received \$0.50 for each report; all other persons required to submit reports received \$0.75 and \$0.15 per mile traveled, from the Fire Prevention Fund. These payments were repealed by the Legislature.

The Fire Investigation Act also requires OSFM to keep records on all fires that occur in the State. OSFM places this information in its Illinois National Fire Incident Reporting System (INFIRS) which is used to submit information to the Federal Emergency Management Agency’s (FEMA) National Fire Incident Reporting System.

The Office of the State Fire Marshal shall keep a record of all fires occurring in the State, together with all facts, statistics and circumstances, including the origin of the fires, which may be determined by the investigations provided by this act; such record shall at all times be open to the public inspection, and such portions of it as the State Director of Insurance may deem necessary shall be transcribed and forwarded to him within fifteen days from the first of January of each year. [Emphasis added] (425 ILCS 25/6)

OSFM officials said information on fires is used by newspapers and legislators in addition to being used for special reports. Local fire departments are also sent reports from INFIRS and some information is placed on the OSFM Internet home page.

OSFM relies upon local fire chiefs to submit the required reports only if there is a fire during the month. OSFM could improve the completeness of its information by including on the INFIRS reporting form a page that could be returned periodically (e.g., semi-annually) if there were no fires. The Fire Incident Report form is currently in need of being updated anyway since it refers to Illinois Revised Statutes for its authority rather than the current Illinois Compiled Statutes, and refers to the form being approved by the Forms Management Center which OSFM officials said existed under Department of Central Management Services until 1997.

Since fire chiefs and even fire protection districts change periodically, reminders by OSFM could be helpful. With the increased availability of the Internet, INFIRS reports could also be submitted electronically. Fire chiefs could be informed that if they do not respond during the specified period they could be listed in OSFM reports as not having submitted data that was being collected pursuant to State law.

After the end of audit fieldwork, OSFM wrote a letter to the fire chiefs on April 6, 1999 that said they needed to report all fires by the 15<sup>th</sup> of the month. Agency officials said they *“have received numerous phone calls, email messages and letters from individuals who indicated that they would begin or resume reporting immediately.”* The agency was also surveying fire chiefs concerning their computer resources since they will have the option to report via the Internet.

LOCAL FIRE REPORTS	
<b>RECOMMENDATION NUMBER</b>	<i>The Office of the State Fire Marshal should inform all local</i>

<b>6</b>	<b><i>fire departments that they need to submit data on fires each month as required by the Fire Investigation Act (425 ILCS 25/6), and should monitor to ensure that complete data is provided in a timely manner.</i></b>
<b>FIRE MARSHAL'S RESPONSE</b>	The agency recently sent a letter to all fire departments reminding them of the statute requiring the submission of fire reports, a copy of which is included in this audit report. The vast majority of fire department have been submitting fire data, yet a small number of mainly rural and volunteer departments have not. The agency will continue to work cooperatively with them to increase compliance.

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### CERTIFICATION PROGRAM

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The certification program for fire and arson investigators does not require continuing education although fire investigation is changing due to technological advancements. The National Fire Protection Association guideline 921 (“Guide For Fire and Explosion Investigations”), used by the Illinois Fire Service Institute to train participants, has been updated three times in the last eight years in part due to the scientific and technical changes in the field.

The Office of the State Fire Marshal sponsors exams to certify individuals to become fire investigators and arson investigators. Becoming a certified arson investigator requires 120 hours of basic training at the University of Illinois Fire Service Institute plus 260 hours of advanced training (for a total of 380 hours) at the University of Illinois Police Training Institute in Champaign-Urbana. The 260 hours includes 40 hours of weapons training through the Illinois Law Enforcement Standards Board. To become a certified fire investigator requires just the 120 hours of basic training.

The only annual training that is required is firearms training for arson investigators. No continuing education, or refresher courses, are required of fire or arson investigators to maintain certification. The investigation program director at the Fire Service Institute stated that it is important to have continuing education in order to stay abreast with changes.

One fire chief also questioned the lack of required continuing education. *“There should be some form of required re-certification by investigators. Our department requires our own personnel to have 48 hours continuing education.”* Another fire chief suggested using the training program of the Bureau of Alcohol, Tobacco, and Firearms which is more extensive.

For its investigators, OSFM had established self-study continuing education which involved monthly testing. The tests were administered through the University of Illinois Fire Service Institute but were only given during May, June, July, and September 1998. Agency officials said they have begun using the National Fire Protection Association video tapes which are less expensive.

The Bureau of Alcohol, Tobacco, and Firearms has an annual re-certification program for its fire investigators which requires field experience and continuing education. The International Association of Arson Investigators requires re-certification every five years for its fire investigators which also requires field experience and continuing education.

<b>CONTINUING EDUCATION</b>	
<b>RECOMMENDATION NUMBER</b>  <b>7</b>	<i>The Office of the State Fire Marshal should conduct a review to determine if there is a need for continuing education requirements for investigators who want to maintain their fire or arson investigation certification.</i>
<b>FIRE MARSHAL'S RESPONSE</b>	Professional development and training of arson investigators will be enhanced, beyond what current rules and regulations require. These will be in concert with national standards (NFPA 921) and professional associations with which the agency will have active participation. Several training courses and professional development activities have been scheduled to begin in the summer of 1999.

APPENDIX A

**HOUSE RESOLUTION NUMBER 486**

**STATE OF ILLINOIS  
NINETIETH GENERAL ASSEMBLY  
HOUSE OF REPRESENTATIVES**

*House Resolution No 486*

*Offered by Representatives Hoffman - Mitchell - Moffitt -  
Holbrook and Michael Smith*

**WHEREAS**, Thousands of fires destroy residential and commercial property in Illinois and place a serious threat to the life and safety of individuals; and

**WHEREAS**, It is truly unfortunate that hundreds of fires are deliberately set by arsonists across the State; and

**WHEREAS**, The State Fire Marshal's Office is responsible for investigating suspicious fires and maintains a staff of only nineteen to conduct such investigations in the field; and

**WHEREAS**, The response time it takes to investigate a suspicious fire is an important factor in preserving critical evidence that may help determine whether a fire was set by an arsonist; and

**WHEREAS**, It was recently reported that many arson cases are not investigated in a timely and effective manner by the State Fire Marshal's Office and rarely do the arson findings lead to criminal charges; and

**WHEREAS**, The House Public Safety Appropriations Committee recently reviewed the operations of the State Fire Marshal's Office and revealed that the agency maintains an overtime policy that awards time off for compensation instead of payment, which could lead to less field time for investigations; and

**WHEREAS**, The State Fire Marshal issued a protocol statement to the 1,209 local fire departments in Illinois that outlines the types of fires that would get priority for arson investigations; therefore be it

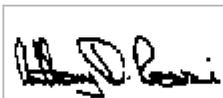
**RESOLVED, BY THE HOUSE OF REPRESENTATIVES OF THE NINETIETH GENERAL ASSEMBLY OF THE STATE OF ILLINOIS**, that the House directs the Auditor General to conduct a management audit of the State Fire Marshal's role in fire investigations, including a review of the timeliness of the Fire Marshal's investigations and policy or protocol statements and the agency's utilization of overtime compensation; and be it further

**RESOLVED**, That the State Fire Marshal's Office and any other entities having information relevant to this audit shall cooperate fully with the Auditor General in the conduct of this audit; and be it further State or other and promptly

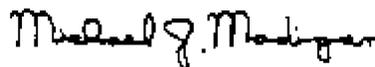
**RESOLVED**, That the Auditor General commence this audit as soon as possible and report his findings and recommendations upon completion in accordance with the provisions of the Illinois State Auditing Act; and be it further

**RESOLVED**, That suitable copies of this resolution be presented to the Auditor General and the State Fire Marshal.

*Adopted by the House of Representatives on May 21, 1998.*



*Anthony D. Ross, Clerk of the House*



*Michael J. Madigan, Speaker of the House*



APPENDIX B

**AUDIT METHODOLOGY**



## Appendix B METHODOLOGY

The Illinois House of Representatives adopted Resolution Number 486 directing the Auditor General to conduct a management audit of the State Fire Marshal's role in fire investigations (see Appendix A). The audit included a review of the timeliness of the State Fire Marshal's investigations, the policy or protocol statements, and the Fire Marshal's utilization of overtime compensation. Among the reviews, the audit:

- Selected a sample of fire investigation case reports to assess the timeliness of arson investigator response and investigation, and the completeness of their documentation (see Appendices C and D).
- Obtained and examined payroll and timekeeping records to determine how the agency monitored arson investigators' accumulation and use of overtime.
- Examined agency and division policies, standards and procedures to determine how agency management monitored and controlled investigators' activities.
- Conducted a mail survey of other states' fire marshals to obtain information on their organizational structure, policies, and investigative activities, and a mail survey of Illinois fire department chiefs to obtain their input on issues in the Resolution (see Appendices F and G).

To identify the universe of investigation reports to be sampled, we requested that OSFM's Fire Prevention/Arson Investigation Division provide a copy of the complete Investigations Case Log for fiscal year 1998. We received data on diskette that contained 1,018 investigation records listed by case number, by county, in alphabetical order, for all fire investigations conducted in fiscal year 1998.

The investigation records were ordered by the date of an investigator's response. One investigation record had a date of response outside the audit period and was not included in the population of records to be sampled. This resulted in a universe of 1,017 investigation records from which we sampled.

A December 15, 1997 agency reorganization coincided with implementation of OSFM's new protocol for requesting investigative assistance. The effective date of these changes divided the fiscal year into approximately equal periods which facilitated an analysis of investigative activities before and after the organizational change.

Of these 1,017 records, 526 records were for investigations initiated before the reorganization and implementation of the new protocol. The remaining 491 records were for investigations initiated after reorganization and implementation of the new protocol. The two sets of records each represent a separate sample universe. The records in each population were then sorted by date of response and a sample was selected.

A sample was selected from each population using simple random sampling. To ensure that each investigative record in each population had an equal chance of being selected, a random number

generator was used to select numbers that corresponded to the ordinal number of each record. For each population sampled, a 90% confidence level with a tolerable error rate of 10% was used resulting in a sample size of 60 investigative records from each population.

To determine how the agency monitored the accumulation and use of overtime compensation, we requested OSFM provide complete timekeeping data for fiscal year 1998. We received printouts and supporting data on diskette containing daily and monthly timekeeping records for OSFM arson investigators for fiscal year 1998. These data were compiled manually by OSFM Fire Prevention/Arson Investigation Division staff from Field Personnel Daily Activity forms and were maintained on a PC-based spreadsheet. We compared the daily and monthly timekeeping records to determine if they reconciled and accurately accounted for the overtime earned, used, or liquidated at the end of the fiscal year. We followed up with agency personnel to explain the disparities that we identified.

The agency began to use the Central Time and Attendance System (CTAS) in December 1997 to perform all their payroll and timekeeping functions. We requested summary reports for each investigator from CTAS for the last 6 months of fiscal year 1998. We analyzed and compared the data from CTAS and the manual data to determine if data integrity was maintained from the manual system to CTAS. We analyzed the manual data and CTAS reports to determine the amounts of overtime earned, used, and accumulated before and after the policy change and reorganization.

To determine if arson investigators received cash payments for accumulated compensatory time, we obtained payroll histories for each arson investigator for fiscal years 1997 and 1998 from the Comptroller's Office. We reviewed the histories to identify supplemental payroll payments. We verified with the agency whether or not the supplemental payments we identified were for accumulated compensatory time.

APPENDIX C

**FIRE INVESTIGATIONS SAMPLED  
BEFORE THE PROTOCOL**



**Appendix C**  
**FIRE INVESTIGATIONS SAMPLED BEFORE PROTOCOL**  
**JULY 1, 1997    DECEMBER 14, 1997**

HOURS ELAPSED								
OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>■ Interviews</li> <li>■ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>■ Cause of Fire</li> <li>■ Report Review</li> </ul>	Observations
3	n/a	3:36	1:46	n/a	<ul style="list-style-type: none"> <li>■ n/a (K-9 only)</li> <li>■ n/a (K-9 only)</li> </ul>	n/a	<ul style="list-style-type: none"> <li>■ n/a (K-9 only)</li> <li>■ Reviewed by Investigator II</li> </ul>	Fire department requested a K-9 investigator for a residential fire. Since it was a K-9 request only, no OSFM investigation was conducted to determine the cause of fire.
5	n/a	2:50	1:15	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Reviewed by Investigator II</li> </ul>	Investigator was directly contacted by fire department for a residential fire. Investigator arrived, determined the cause to be an accidental electrical fire, and closed the case the same day.
13	n/a	5:14	0:40	n/a	<ul style="list-style-type: none"> <li>■ n/a</li> <li>■ K-9 only</li> </ul>	n/a	<ul style="list-style-type: none"> <li>■ n/a (K-9 only)</li> <li>■ Report reviewed by Investigator II</li> </ul>	Police directly contacted investigator for a K-9 for an apartment fire. Since it was a K-9 request only, no OSFM investigation was conducted to determine the cause of fire.
17	n/a	80:55	1:00	n/a	<ul style="list-style-type: none"> <li>■ Owner</li> <li>■ Sample, Pictures</li> </ul>	Open as of audit fieldwork	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report reviewed by Investigator II</li> </ul>	An investigator was requested nearly three days after a commercial building fire caused moderate-to-severe damage. The fire was determined to be incendiary (arson) and law enforcement was involved.
28	n/a	2:35	13:05	n/a	<ul style="list-style-type: none"> <li>■ Witnesses, Owner</li> <li>■ K-9, Sample, Pictures</li> </ul>	70	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that caused severe damage. There was no documentation in case file that police were involved. The cause of the fire was not determined. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
32	n/a	7:10	99:00	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	209	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator who did not respond to investigate a vehicle fire for four days. The cause of the fire was determined to be arson but there was no documentation in case file that investigator collected physical evidence, or conducted interviews. The case was open for 209 days. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
38	n/a	1:37	1:09	n/a	<ul style="list-style-type: none"> <li>■ Employees</li> <li>■ Sample</li> </ul>	Closed. No date	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Police requested an investigator for a vehicle fire that caused minimal damage. Investigator took samples, conducted interviews, and determined fire to be arson. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
42	n/a	1:00	2:35	n/a	<ul style="list-style-type: none"> <li>■ Victim and children</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	4	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a residential fire that caused extensive damage and injured a firefighter. An investigator responded and determined fire was accidental (children were playing with lighter).
62	n/a	87:33	19:45	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ K-9, Samples, Pictures</li> </ul>	8	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report reviewed by Investigator II</li> </ul>	Police requested a K-9 for a fire that severely damaged a vehicle. Investigator took samples and pictures and determined the fire was arson.
69	n/a	0:17	0:15	n/a	<ul style="list-style-type: none"> <li>■ Witnesses</li> <li>■ Pictures</li> </ul>	Open as of audit	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report</li> </ul>	Fire department requested an investigator for an apartment fire that caused severe damage and

Appendix C								
FIRE INVESTIGATIONS SAMPLED BEFORE PROTOCOL								
JULY 1, 1997      DECEMBER 14, 1997								
HOURS ELAPSED								
OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>■ Interviews</li> <li>■ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>■ Cause of Fire</li> <li>■ Report Review</li> </ul>	Observations
						fieldwork	reviewed by Investigator II	injured one person. Investigator interviewed witnesses, took pictures, and determined fire was accidental.
75	n/a	1:09	6:15	n/a	<ul style="list-style-type: none"> <li>■ Tenant</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	17	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Investigator was directly contacted by fire department for an attic fire that caused extensive damage. Investigator arrived and interviewed the tenant but the cause of the fire was not determined. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
84	n/a	11:27	1:00	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Sample, Pictures</li> </ul>	7	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report reviewed by Investigator II</li> </ul>	Police requested an investigator for a vehicle fire that caused severe damage. Investigator arrived an hour after being notified, took physical samples and pictures, and determined fire to be arson.
88	n/a	0:45	0:37	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	28	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for an electrical fire that severely damaged a residence. Investigator determined the fire was accidentally caused.
92	n/a	1:40	0:45	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	35	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Investigator was directly contacted by fire department for a fire to an apartment complex that caused severe damage and killed one tenant. The cause of the fire was undetermined. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
100	n/a	1:15	2:45	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Owner</li> <li>■ Pictures</li> </ul>	191	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a mobile home. The case was open for 191 days. The fire was determined to be arson; however, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
101	n/a	2:15	0:25	n/a	<ul style="list-style-type: none"> <li>■ Witness, Occupant, firefighters</li> <li>■ Sample, Pictures</li> </ul>	191	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that severely damaged a mobile home. Investigator collected samples, took pictures, conducted interviews, and determined fire was arson. The case was open for 191 days.
102	n/a	159:52	1:00	n/a	<ul style="list-style-type: none"> <li>■ Fire service</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report reviewed by Investigator II</li> </ul>	Investigator was directly contacted by fire department one week after a fire destroyed a vacant residence. The fire was determined to be arson. There was no documentation in case file that physical evidence was collected. The case was closed the same day.
104	n/a	33:31	1:00	n/a	<ul style="list-style-type: none"> <li>■ Fire service</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report reviewed by Investigator II</li> </ul>	Investigator was directly contacted by fire department 1½ days after a fire that moderately damaged a residence. The fire was determined to be arson but there was no documentation in case file that physical evidence was collected or police were involved, and the case was closed the same day.
133	n/a	28:39	8:00	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Police, owner</li> <li>■ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator after a fire severely damaged a garage. OSFM tried to contact the investigator within an hour of the

Appendix C FIRE INVESTIGATIONS SAMPLED BEFORE PROTOCOL JULY 1, 1997 DECEMBER 14, 1997								
HOURS ELAPSED					■ Interviews ■ Physical Evidence Collected	Days To Close Case <sup>5</sup>	■ Cause of Fire ■ Report Review	Observations
OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>				
								call but the investigator was not reached until the next day and did not arrive until late afternoon. Investigator conducted interviews, took pictures, determined fire to be arson but closed the case the same day. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
152	n/a	0:05	0:25	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	32	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Investigator was directly contacted by fire department within 5 minutes of a fire that extensively damaged a garage shed. Investigator arrived 25 minutes later but there was no evidence that physical evidence was collected or interviews were conducted; investigator was unable to determine cause of fire. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
154	n/a	207:37	19:25	n/a	<ul style="list-style-type: none"> <li>■ Supervisor of building</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator 1½ weeks after a fire moderately damaged an apartment building. The case was closed the same day and the fire was determined to be accidental.
160	n/a	1:51	0:35	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Sample</li> </ul>	45	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report reviewed by Investigator II</li> </ul>	Police requested an investigator for a fire that totally destroyed a vehicle. An investigator took physical samples but there was no documentation in case file that interviews were conducted. The cause of fire was undetermined.
161	n/a	8:00	0:25	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	52	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report reviewed by Investigator II</li> </ul>	Investigator was directly contacted by fire department for a fire that totally destroyed the contents of a barn. Investigator took pictures but there was no documentation in case file that interviews were conducted; the cause of the fire was undetermined.
180	n/a	0:00	26:25	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report reviewed by Investigator II</li> </ul>	Police directly contacted an investigator for a fire that totally destroyed a vehicle. Investigator arrived the next day and took pictures but there was no documentation in case file that interviews were conducted. The case was closed the same day and the cause of the fire was undetermined.
183	n/a	0:22	0:55	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	73	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department directly contacted an investigator for a fire that injured one person and moderately damaged patio furniture. There was no documentation in case file that interviews were conducted. The fire was determined to be arson; however, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
196	n/a	2:35	0:45	n/a	<ul style="list-style-type: none"> <li>■ Fire service</li> <li>■ Pictures</li> </ul>	168	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Investigator was directly contacted by fire department for a fire that minimally damaged a commercial business. Investigator took pictures and conducted interviews. The case was open for 168 days. The fire was determined to be arson; however, the Fire Investigation Report was very brief and was not reviewed by another OSFM investigator although required by agency

Appendix C FIRE INVESTIGATIONS SAMPLED BEFORE PROTOCOL JULY 1, 1997      DECEMBER 14, 1997								
HOURS ELAPSED					■ Interviews ■ Physical Evidence Collected	Days To Close Case <sup>5</sup>	■ Cause of Fire ■ Report Review	Observations
OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>				
205	n/a	0:45	2:05	n/a	<ul style="list-style-type: none"> <li>■ Occupants</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	66	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	policy. Fire department requested an investigator for a fire to a storage shed that caused minimal damage. An investigator interviewed the occupants but there was no documentation in case file that physical evidence was collected. The fire was determined to be arson; however, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
211	n/a	0:50	1:05	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Owner</li> <li>■ Pictures</li> </ul>	1	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that cause extensive damage to a residence. An investigator conducted interviews and took pictures. The fire was determined to be accidental. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
233	n/a	7:44	64:20	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Family</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	52	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Investigator was directly contacted by fire department for a fire that totally destroyed a mobile home. Investigator arrived 2½ days after fire, conducted interviews, but could not determine cause of fire. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
239	n/a	14:03	18:45	n/a	<ul style="list-style-type: none"> <li>■ Interviews conducted</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	1	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Police directly contacted an investigator for a vehicle fire that occurred the night before. Investigator arrived the next morning and conducted interviews but there was no documentation in case file that physical evidence was collected. The fire was determined to be arson and police made arrests. However, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
250	n/a	1:14	1:00	n/a	<ul style="list-style-type: none"> <li>■ Interviews conducted</li> <li>■ Sample, Pictures</li> </ul>	292	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that severely damaged a large commercial building. An investigator arrived an hour later, conducted interviews, and collected physical evidence. The case was open for 292 days. The fire was determined to be arson; however, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
255	n/a	15:21	4:20	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Owner</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	101	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department directly contacted an investigator the day after a fire moderately damaged a residence. Investigator did not arrive for more than four hours. Owner and fire service were interviewed but the cause of fire was undetermined.
256	n/a	0:17	0:30	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Owner</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	19	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a residential garage fire that caused moderate damage. The fire was determined to be arson; however, there was no documentation in the case file that physical samples were collected or the report was reviewed by another OSFM investigator as required by agency policy.
260	n/a	0:55	0:20	n/a	<ul style="list-style-type: none"> <li>■ Fire service</li> <li>■ No documentation</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not</li> </ul>	Fire department requested an investigator for a fire that moderately damaged a residence and

Appendix C FIRE INVESTIGATIONS SAMPLED BEFORE PROTOCOL JULY 1, 1997 DECEMBER 14, 1997								
HOURS ELAPSED					■ Interviews ■ Physical Evidence Collected	Days To Close Case <sup>5</sup>	■ Cause of Fire ■ Report Review	Observations
OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>				
					in case file that physical evidence was collected		reviewed	killed the occupant. Investigator interviewed the fire service but there was no evidence in case filed that physical evidence was collected. The case was determined to be accidental and was closed the same day.
261	n/a	0:10	0:10	n/a	■ Fire service ■ Sample, Pictures	149	■ ARSON ■ Report not reviewed	Investigator was directly contacted by fire department for a fire that minimally damaged a residence. Investigator arrived within 10 minutes, interviewed the fire service, took physical samples, and pictures. The fire was determined to be arson but there was no documentation in the case file that police were notified and the report was not reviewed by another OSFM investigator although required by agency policy.
264	n/a	44:55	4:50	n/a	■ No documentation in case file that interviews were conducted ■ No documentation in case file that physical evidence was collected	0	■ Undetermined ■ Report not reviewed	Fire department requested an investigator two days after a fire extensively damaged a commercial structure. Investigator could not determine the cause of the fire due to extensive damage. There was no documentation in the case file that interviews were conducted or physical evidence was collected, and the case was closed the same day. Report was not signed by the investigator and was not reviewed by another OSFM investigator although required by agency policy.
266	n/a	103:39	2:15	n/a	■ Owner, Witness ■ No documentation in case file that physical evidence was collected	18	■ Undetermined ■ Report not reviewed	Investigator was directly contacted by fire department four days after a fire totally destroyed a vehicle. Investigator could not determine the cause of the fire. Report was not reviewed by another OSFM investigator although required by agency policy.
272	n/a	0:33	0:48	n/a	■ Fire service, Owner ■ Sample, Pictures	93	■ ARSON ■ Report not reviewed	Fire department requested an investigator for a fire that caused moderate damage to a residence. Investigator determined the fire was arson. Report was very detailed, contained a photo log, and progress reports; however, the report was not reviewed by another OSFM investigator although required by agency policy.
276	n/a	1:00	1:45	n/a	■ No documentation in case file that interviews were conducted ■ No documentation in case file that physical evidence was collected	0	■ ARSON ■ Report reviewed by Investigator II	Fire department requested an investigator for a shed fire. Investigator determined fire to be arson but there was no documentation in the case file that physical evidence was collected or interviews were conducted.
281	n/a	0:16	0:54	n/a	■ Victim ■ Pictures	3	■ Accident ■ Report not reviewed	Investigator was directly contacted by fire department for a fire that extensively damaged a commercial business. Investigator determined fire was accidental. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
285	n/a	n/a	0:20	n/a	■ Victim ■ Samples	7	■ Accident ■ Report not reviewed	Special assistance was requested from OSFM by fire department.
287	n/a	n/a	21:45	n/a	■ n/a (K-9 only) ■ n/a (K-9 only)	n/a	■ n/a (K-9 only) ■ Report not	Fire department requested an investigator to bring a K-9 for a residential fire but the

Appendix C								
FIRE INVESTIGATIONS SAMPLED BEFORE PROTOCOL								
JULY 1, 1997      DECEMBER 14, 1997								
HOURS ELAPSED					<ul style="list-style-type: none"> <li>■ Interviews</li> <li>■ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>■ Cause of Fire</li> <li>■ Report Review</li> </ul>	Observations
OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>				
							reviewed	investigator did not respond until the next morning. K-9 detected accelerants.
310	n/a	0:39	1:15	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Sample, Pictures</li> </ul>	Not available	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a residential fire that caused moderate-to-extensive damage. Investigator determined the fire was arson and one person was arrested. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
317	n/a	0:42	1:00	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Sample, Pictures</li> </ul>	134	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that moderately damaged a residence. Investigator responded within an hour and determined fire was arson. The case was open for 134 days.
319	n/a	n/a	2:10	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Employee</li> <li>■ Pictures</li> </ul>	2	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report reviewed by Investigator II</li> </ul>	Investigator was directly contacted by fire department for a fire that severely damaged a retail outlet. Investigator interviewed fire service and employees, and took pictures but was unable to determine the cause of fire.
351	n/a	1:31	2:00	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	18	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Investigator was directly contacted by fire department for a fire that totally destroyed a garage. Investigator determined the fire to be arson and one person was arrested. The Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
360	n/a	16:33	65:18	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Sample, Pictures</li> </ul>	1	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Sheriff requested an investigator for a boat fire. An investigator responded three days later and determined the fire was arson. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
363	n/a	1.00	0:22	n/a	<ul style="list-style-type: none"> <li>■ Victims</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	7	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Sheriff directly contacted an investigator for a fire that totally destroyed a mobile home. Investigator could not determine the cause of the fire. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
391	n/a	0:51	18:08	n/a	<ul style="list-style-type: none"> <li>■ Conducted interviews</li> <li>■ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Investigator was directly contacted by fire department for a fire that severely damaged a residence. Investigator responded the next day but could not determine the cause of the fire and closed the case the same day. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
395	n/a	8:15	0:30	n/a	<ul style="list-style-type: none"> <li>■ Conducted interviews</li> <li>■ Sample, Pictures</li> </ul>	222	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Police requested an investigator for an apartment fire. Investigator responded within an hour of being notified, conducted interviews, took pictures and physical evidence, and determined fire was arson. One person was arrested the same day by police. The case was open for 222 days. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
412	n/a	1:03	1:03	n/a	<ul style="list-style-type: none"> <li>■ Owner, Employees</li> <li>■ Pictures</li> </ul>	75	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a commercial structure

Appendix C FIRE INVESTIGATIONS SAMPLED BEFORE PROTOCOL JULY 1, 1997 DECEMBER 14, 1997								
HOURS ELAPSED								
OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>■ Interviews</li> <li>■ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>■ Cause of Fire</li> <li>■ Report Review</li> </ul>	Observations
							reviewed by Investigator II	and injured a firefighter. Investigator conducted interviews and took pictures, but could not determine its cause.
418	n/a	1:00	0:25	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Witness</li> <li>■ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Investigator was directly contacted by fire department for a residential fire that caused minimal damage an hour earlier. Investigator conducted interviews and determined fire to be accidental. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
436	2:30	1:14	6:00	6:30	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Sample, Pictures</li> </ul>	7	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that severely damaged a structure. Investigator determined the fire was arson; however, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
438	n/a	5:04	0:33	n/a	<ul style="list-style-type: none"> <li>■ Owner</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that minimally damaged a residence. Investigator arrived in one-half hour of being notified, determined the fire was accidental, and closed case that day. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
481	n/a	0:21	0:48	n/a	<ul style="list-style-type: none"> <li>■ Owner</li> <li>■ No documentation in case file that physical evidence was collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a vehicle fire. Investigator arrived within an hour of being notified and determined the fire was arson. Case was closed that same day.
487	n/a	18:55	22:35	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	90	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for an explosion that critically injured one person. Investigator arrived the next day and determined the fire to be accidental.
492	n/a	3:04	1:05	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Owner, Tenant</li> <li>■ Pictures</li> </ul>	16	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that caused some severe damage in a commercial building. Investigator determined the fire was arson; however, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
504	n/a	n/a	0:30	n/a	<ul style="list-style-type: none"> <li>■ Occupant, Owner</li> <li>■ Pictures</li> </ul>	14	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that severely damaged a residence. Investigator arrived in one-half hour of being notified but was unable to determine the cause of the fire.
507	n/a	0:38	0:35	n/a	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	9	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Police requested an investigator for an apartment fire. Investigator determined the fire was accidental. The Fire Investigation Report was very brief and was not reviewed by another OSFM investigator although required by agency policy.
526	n/a	0:19	1:12	n/a	<ul style="list-style-type: none"> <li>■ Fire service</li> <li>■ Pictures</li> </ul>	4	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that moderately damaged an apartment and injured one person. Investigator determined the fire was accidental.
		<b>Total</b> 906 hours	<b>Total</b> 461 hours	*		<b>Total</b> 2,531		

**Appendix C**  
**FIRE INVESTIGATIONS SAMPLED BEFORE PROTOCOL**  
**JULY 1, 1997    DECEMBER 14, 1997**

HOURS ELAPSED								
OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	■ Interviews ■ Physical Evidence Collected	Days To Close Case <sup>5</sup>	■ Cause of Fire ■ Report Review	Observations
		42 minutes	53 minutes			days		
		<u>Average</u> 16 hours	<u>Average</u> 7 hours	*		<u>Average</u> 48 days		
		11 minutes	42 minutes					
*		<u>Median</u> 1 hour	<u>Median</u> 1 hour	*		<u>Median</u> 14 days		
		34 minutes	4 minutes					

\* Data available for only 1 case

n/a = not applicable

1. Hours elapsed between the time of fire and the time the Office of the State Fire Marshal (OSFM) was called.
2. Hours elapsed between the time of fire and the time the investigator was notified to respond to the fire.
3. Hours elapsed between the time the investigator was notified and the time the OSFM investigator arrived at the fire scene.
4. Hours elapsed between the time OSFM was called and the time the OSFM investigator arrived at the fire scene.
5. Calendar days elapsed to close the case after an OSFM employee arrived at the fire scene.

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SOURCE: Case files and records at the Office of State Fire Marshal (OSFM).

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APPENDIX D

**FIRE INVESTIGATIONS SAMPLED  
AFTER THE PROTOCOL**



**Appendix D  
FIRE INVESTIGATIONS SAMPLED AFTER PROTOCOL  
DECEMBER 15, 1997 JUNE 30, 1998**

OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>▪ Interviews</li> <li>▪ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>▪ Cause of Fire</li> <li>▪ Report Review</li> </ul>	Observations
3	n/a	0:45	0:45	n/a	<ul style="list-style-type: none"> <li>▪ Suspect</li> <li>▪ Pictures</li> </ul>	3	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a residence. One individual was arrested for violating an order of protection.
21	1:04	1:16	0:42	0:54	<ul style="list-style-type: none"> <li>▪ Witness/Victim</li> <li>▪ Pictures</li> </ul>	16	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a residence and killed two. Investigator arrived within an hour but was unable to determine the cause of the fire.
23	n/a	7:27	0:30	n/a	<ul style="list-style-type: none"> <li>▪ Fire service, Witness, Relatives</li> <li>▪ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that severely damaged a residence. The time OSFM was called to send an investigator was not available but the investigator was not notified for 7½ hours although there was a fatality. Investigator closed the case the same day without determining the cause of the fire.
24	0:22	0:27	0:20	0:25	<ul style="list-style-type: none"> <li>▪ Fire service, Occupant</li> <li>▪ Pictures</li> </ul>	5	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that caused moderate-to-severe damage to an apartment. Investigator determined fire was accidental.
25	0:32	33:20	2:25	35:13	<ul style="list-style-type: none"> <li>▪ Fire service, Police</li> <li>▪ Sample, Pictures</li> </ul>	4	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that minimally damaged a mobile home. OSFM contacted an investigator from outside the district 33 hours later. Fire was determined to be incendiary (arson) but the investigation had to be suspended because the scene was not secured.
35	2:45	12:48	1:30	11:33	<ul style="list-style-type: none"> <li>▪ Fire service, Victims</li> <li>▪ Pictures</li> </ul>	n/a	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that severely damaged a vehicle. OSFM contacted an investigator 10 hours later. Fire was determined to be arson.
39	1:08	1:50	14:11	14:53	<ul style="list-style-type: none"> <li>▪ Fire service, Owner</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	3	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a mobile home. OSFM contacted the investigator but advised him to report the next morning. Investigator was unable to determine the cause of the fire.
43	3:18	31:24	1:30	29:36	<ul style="list-style-type: none"> <li>▪ Fire service, Police</li> <li>▪ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that moderately damaged a residence. OSFM contacted the investigator 1½ days later. Fire was determined to be arson but case was closed the same day.
55	20:11	20:02	20:55	20:46	<ul style="list-style-type: none"> <li>▪ Owner</li> <li>▪ Sample, Pictures</li> </ul>	294	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Police requested an investigator a day after a fire moderately damaged a residence. Fire was determined to be arson; the case was open for 294 days. (Fire Investigation Report stated investigator was notified before OSFM was called.)
62	3:39	4:20	1:00	1:41	<ul style="list-style-type: none"> <li>▪ Fire service, Owner</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	23	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that extensively damaged a residence. OSFM contacted an investigator from outside the district. Fire was determined to be accidental.
65	n/a	17:38	0:20	n/a	<ul style="list-style-type: none"> <li>▪ Owner</li> <li>▪ Pictures, Sketch</li> </ul>	21	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that moderately damaged an apartment. The time OSFM was requested to send an investigator was not available; OSFM contacted the investigator 17½ hours after the fire. The apartment was

**Appendix D**  
**FIRE INVESTIGATIONS SAMPLED AFTER PROTOCOL**  
**DECEMBER 15, 1997 JUNE 30, 1998**

OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>▪ Interviews</li> <li>▪ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>▪ Cause of Fire</li> <li>▪ Report Review</li> </ul>	Observations
								locked when the investigator came and the investigator had to make an appointment for the next day to conduct an examination. The apartment was cleaned before the investigator arrived. Investigator interviewed the owner and drew sketches of the fire scene. Fire was determined to be arson; however, there was no documentation in case file that police were contacted.
66	11:57	12:10	0:25	0:38	<ul style="list-style-type: none"> <li>▪ Police</li> <li>▪ Sample, Pictures</li> </ul>	21	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Police requested an investigator 12 hours after a fire that caused minimal damage. Investigator took physical samples and interviewed police. Fire was determined to be arson and one person was arrested several weeks later.
71	0:44	1:07	94:38	95:01	<ul style="list-style-type: none"> <li>▪ Occupant</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that minimally damaged a residence. OSFM contacted the investigator within the hour, but due to a holiday, the investigator did not respond until four days later. Consent was needed to conduct the search. Fire was determined to be accidental. Case file did not contain the required Case Initiation Form.
76	2:10	2:35	1:11	1:36	<ul style="list-style-type: none"> <li>▪ Fire service</li> <li>▪ Sample, Pictures</li> </ul>	34	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that moderately damaged a vacant apartment building. K-9 assisted, was successful in getting a hit, and fire was determined to be arson.
81	28:15	28:15	3:15	3:15	<ul style="list-style-type: none"> <li>▪ No documentation in case file that interviews were conducted</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	n/a	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ No fire investigation report</li> </ul>	Fire department requested an investigator 28 hours after a fire totally destroyed a mobile home. An investigator from outside the district responded. Agency records contained a Case Initiation Form only; the required OSFM Fire Investigation Report was not in the case file.
87	54:51	79:07	1:00	25:16	<ul style="list-style-type: none"> <li>▪ n/a (K-9 only)</li> <li>▪ n/a (K-9 only)</li> </ul>	n/a	<ul style="list-style-type: none"> <li>▪ n/a (K-9)</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested a K-9 for an apartment fire that killed one person. The K-9 was unsuccessful in getting a hit.
96	1:50	2:05	15:35	15:50	<ul style="list-style-type: none"> <li>▪ Owner</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	3	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a residence. Investigator arrived the next morning nearly 16 hours after the fire and determined it to be accidental. The required OSFM Case Initiation Form was not in the file.
115	1:37	6:40	3:28	8:31	<ul style="list-style-type: none"> <li>▪ Owner</li> <li>▪ Sample, Pictures</li> </ul>	5	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that severely damaged a vehicle. OSFM did not contact the investigator for 5 hours. Investigator determined fire was arson.
116	1:00	0:48	0:35	0:24	<ul style="list-style-type: none"> <li>▪ Fire service</li> <li>▪ Sample, Pictures</li> </ul>	4	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that minimally damaged a residence. Investigator interviewed the fire service, collected samples, used K-9, and determined the fire was arson. Case was referred to police. (Fire Investigation Report stated investigator was notified before OSFM was called.)
118	0:35	0:42	0:45	0:52	<ul style="list-style-type: none"> <li>▪ Fire service</li> <li>▪ Pictures</li> </ul>	73	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that minimally damaged a commercial warehouse. Investigator interviewed the fire service, took

**Appendix D  
FIRE INVESTIGATIONS SAMPLED AFTER PROTOCOL  
DECEMBER 15, 1997 JUNE 30, 1998**

OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>▪ Interviews</li> <li>▪ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>▪ Cause of Fire</li> <li>▪ Report Review</li> </ul>	Observations
								pictures, and determined the fire was arson.
120	13:42	55:20	2:45	44:25	<ul style="list-style-type: none"> <li>▪ Owner</li> <li>▪ Pictures, Sketch</li> </ul>	9	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator 13½ hours after a fire totally destroyed a commercial structure. OSFM did not contact an investigator for almost two days. An insurance investigator completed a cause and origin investigation before the OSFM investigator arrived. Fire was determined to be accidental.
137	2:10	2:45	16:15	16:50	<ul style="list-style-type: none"> <li>▪ Interviews conducted</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Sheriff requested an investigator for a fire that totally destroyed a mobile home and killed the owner. OSFM contacted the investigator within ½ hour but the investigator did not arrive until the morning. Investigator wrote the cause of the fire was undetermined due to the mobile home being totally destroyed.
145	0:33	8:38	49:00	57:05	<ul style="list-style-type: none"> <li>▪ No documentation in case file that interviews were conducted</li> <li>▪ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ No fire investigation report</li> </ul>	Fire department requested an investigator for a fire that extensively damaged a residence. OSFM did not contact the investigator for 8 hours and the investigator did not arrive for two days. There was no documentation in case file that interviews were conducted or police were involved. Fire cause could not be determined and the case was closed the same day. OSFM s required Fire Investigation Report was not in the case file.
148	1:32	1:40	12:09	12:17	<ul style="list-style-type: none"> <li>▪ Fire service, Occupant, Witness</li> <li>▪ Sample, Pictures, Sketches</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that caused moderate damage to a vehicle and residence. An investigator from outside the district was informed right away but did not arrive until 12 hours later. Fire was determined to be arson.
185	0:39	6:04	0:55	6:20	<ul style="list-style-type: none"> <li>▪ Interviews Conducted</li> <li>▪ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a house under construction. OSFM did not inform the investigator for 5½ hours. Investigator was unable to determine the cause of the fire and closed the case the same day.
204	2:46	3:17	1:00	1:31	<ul style="list-style-type: none"> <li>▪ Fire service, Police</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a residence and killed one occupant. Investigator wrote that he was unable to determine the cause of the fire due to extensive damage. Case was closed the same day. (Two months later the cause of the fire was changed from undetermined to accidental.)
225	3:50	3:55	1:50	1:55	<ul style="list-style-type: none"> <li>▪ Owner</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	1	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that severely damaged several structures and involved explosions. Investigator determined the fire to be accidental. Case was closed the next day.
230	1:28	1:35	1:05	1:12	<ul style="list-style-type: none"> <li>▪ Fire service, Police, Coroner</li> <li>▪ Pictures, Sketch</li> </ul>	4	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Sheriff requested an investigator for a fire that totally destroyed a barn and killed the owner. Investigator conducted interviews and took pictures, but could not determine the cause of fire.
233	0:51	3:56	0:30	3:35	<ul style="list-style-type: none"> <li>▪ Fire service, Victims</li> <li>▪ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that severely damaged four vehicles. Investigator determined the fire was arson but the case was closed the same day.
243	1:23	4:32	0:56	4:05	<ul style="list-style-type: none"> <li>▪ No documentation in case file that interviews were</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ No fire investigation report</li> </ul>	Fire department requested an investigator for a structural fire. Cause of fire was not determined although there was no documentation in case file that interviews were conducted. Case was closed

**Appendix D  
FIRE INVESTIGATIONS SAMPLED AFTER PROTOCOL  
DECEMBER 15, 1997 JUNE 30, 1998**

OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>▪ Interviews</li> <li>▪ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>▪ Cause of Fire</li> <li>▪ Report Review</li> </ul>	Observations
					<ul style="list-style-type: none"> <li>conducted</li> <li>▪ Pictures</li> </ul>			the same day and OSFM s required Fire Investigation Report was not in the case file.
245	0:35	0:40	0:46	0:51	<ul style="list-style-type: none"> <li>▪ Occupant</li> <li>▪ Pictures, Sketch</li> </ul>	87	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a residence, injured a resident, and caused an explosion. Investigator interviewed the occupant, drew sketches of the fire scene, took pictures, and determined fire was accidental.
253	0:54	1:04	0:15	0:25	<ul style="list-style-type: none"> <li>▪ Fire service, Owner</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ Undetermined</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a residence and injured a firefighter. The investigator wrote in the report that the cause of fire was undetermined due to total destruction; later the cause was changed to arson and arrests were made.
254	24:57	25:45	21:00	21:48	<ul style="list-style-type: none"> <li>▪ Employees</li> <li>▪ Pictures</li> </ul>	11	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Police requested an investigator a day after a fire moderately damaged a commercial building. Investigator arrived the next day and determined the cause of the fire was arson. The required OSFM Case Initiation Form was not found in the case file.
257	0:25	0:55	1:05	1:35	<ul style="list-style-type: none"> <li>▪ Fire service, Occupant</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	3	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for an apartment fire that caused moderate-to-extensive damage. Investigator interviewed the fire service and occupant. Cause of fire was determined to be accidental.
268	n/a	n/a	n/a	n/a	<ul style="list-style-type: none"> <li>▪ Police, Fire setters</li> <li>▪ No documentation in case file that physical evidence collected</li> </ul>	n/a	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report not reviewed</li> </ul>	Two persons were arrested and a special investigative report was found in the case file.
280	0:25	23:55	2:05	25:35	<ul style="list-style-type: none"> <li>▪ Fire service</li> <li>▪ Samples, Pictures, Sketch</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ Report reviewed by Investigator II</li> </ul>	Sheriff requested an investigator for a fire that moderately damaged a residence. Investigator was not notified for nearly 24 hours after the fire. Investigator interviewed the fire service, collected samples, took pictures, sketched the fire scene, and determined fire was arson. One person was arrested.
282	1:11	1:39	1:00	1:28	<ul style="list-style-type: none"> <li>▪ n/a (K-9 only)</li> <li>▪ Police Dept. collected Sample</li> </ul>	15	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ K-9 only report</li> </ul>	Fire department requested an investigator for a residential fire. Investigator determined fire to be arson; two juveniles were arrested by local police department. Case file contained a K-9 examination Report.
284	1:53	2:08	1:10	1:25	<ul style="list-style-type: none"> <li>▪ No documentation in case file that interviews were conducted</li> <li>▪ Pictures</li> </ul>	1	<ul style="list-style-type: none"> <li>▪ ARSON</li> <li>▪ No fire investigation report in case file</li> </ul>	Fire department requested an investigator for a fire to a storage barn and empty house. Although cause of fire was determined to be arson, case was closed the next day, and the required OSFM Fire Investigation Report was not in the case file.
286	2:19	2:35	1:30	1:46	<ul style="list-style-type: none"> <li>▪ No documentation in case file that interviews were conducted</li> <li>▪ No</li> </ul>	0	<ul style="list-style-type: none"> <li>▪ Accident</li> <li>▪ No fire investigation report</li> </ul>	Fire department requested an investigator for a residential fire. Investigator determined cause of fire to be accidental. Case was closed the same day and the required OSFM Fire Investigation Report was not in the case file.

**Appendix D**  
**FIRE INVESTIGATIONS SAMPLED AFTER PROTOCOL**  
**DECEMBER 15, 1997 JUNE 30, 1998**

OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>■ Interviews</li> <li>■ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>■ Cause of Fire</li> <li>■ Report Review</li> </ul>	Observations
					documentation in case file that physical evidence collected			
303	1:23	11:37	1:56	12:10	<ul style="list-style-type: none"> <li>■ Fire service, Police, Occupant</li> <li>■ Sample, Pictures</li> </ul>	2	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report reviewed by Investigator II</li> </ul>	Fire department requested an investigator for a fire to a residence. Cause of fire was undetermined. The Undetermined Cause Fact Sheet, which OSFM introduced to help supervisory personnel review the case to try and determine the fire's cause, was in the case file.
307	0:26	0:30	0:35	0:39	<ul style="list-style-type: none"> <li>■ Fire service</li> <li>■ Pictures</li> </ul>	3	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that severely damaged a structure. Investigator arrived within the hour and determined the cause of fire was arson. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
308	0:55	1:05	2:05	2:15	<ul style="list-style-type: none"> <li>■ Fire service, Occupants</li> <li>■ Pictures</li> </ul>	36	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that severely damaged a shed. Investigator interviewed the fire service and occupants, and took pictures but could not determine its cause. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
325	n/a	2:11	0:30	n/a	<ul style="list-style-type: none"> <li>■ Fire service, Owners</li> <li>■ No documentation in case file that physical evidence collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a shed. Fire was determined to be accidental and the case was closed the same day. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
331	0:49	0:49	5:15	5:15	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	170	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that moderately damaged a commercial structure. Investigator arrived five hours after the fire. Fire was determined to be arson; however, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
332	1:42	19:46	13:25	31:29	<ul style="list-style-type: none"> <li>■ Fire service, Owner</li> <li>■ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that minimally damaged a residence. OSFM did not notify the investigator for 18 hours after being called and it was another 13 hours before the investigator arrived. Fire was determined to be arson but the case was closed the same day and the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
339	3:29	3:37	11:17	11:25	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	0	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire to a vacant building that injured a firefighter. OSFM contacted the investigator right away but the investigator did not arrive until the morning. Fire was determined to be arson but the case was closed the same day without any documentation of interviews, the Fire Investigation Report was very brief, and the report was not reviewed by another OSFM investigator although required by agency policy.
352	2:06	2:16	0:34	0:44	<ul style="list-style-type: none"> <li>■ Fire service</li> <li>■ Pictures</li> </ul>	2	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that totally destroyed a garage. Investigator determined the fire was accidental. The report was

**Appendix D**  
**FIRE INVESTIGATIONS SAMPLED AFTER PROTOCOL**  
**DECEMBER 15, 1997 JUNE 30, 1998**

OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>■ Interviews</li> <li>■ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>■ Cause of Fire</li> <li>■ Report Review</li> </ul>	Observations
								not reviewed by another OSFM investigator although required by agency policy.
360	1:00	1:26	0:14	0:40	<ul style="list-style-type: none"> <li>■ Victim</li> <li>■ No documentation in case file that physical evidence collected</li> </ul>	6	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that extensively damaged a residence. Investigator determined fire was accidental. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
368	110:19	126:39	25:30	41:50	<ul style="list-style-type: none"> <li>■ No documentation in case file that interviews were conducted</li> <li>■ Pictures</li> </ul>	46	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Police requested an investigator four days after a fire extensively damaged a vehicle, killed one person, and injured a second person. Fire was determined to be accidental. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
386	1:08	1:32	0:37	1:01	<ul style="list-style-type: none"> <li>■ Fire service, Occupant</li> <li>■ No documentation in case file that physical evidence collected</li> </ul>	18	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that minimally damaged a residence. Fire was determined to be arson and police were involved. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
389	1:17	0:30	0:30	0:00 See Observations for time discrepancy	<ul style="list-style-type: none"> <li>■ Occupants</li> <li>■ No documentation in case file that physical evidence collected</li> </ul>	6	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Police requested an investigator for a fire that minimally damaged a residence but was the second fire to the facility in two days. Cause was determined to be arson; however, the case file did not contain the required Case Initiation Form and the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy. (Fire Investigation Report stated investigator was notified and responded before OSFM was called.)
418	1:16	2:00	0:30	1:14	<ul style="list-style-type: none"> <li>■ Fire service</li> <li>■ Pictures</li> </ul>	4	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that severely damaged a vehicle. Investigator determined fire was accidental. Case file did not contain the required Case Initiation Form and the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
426	20:06	20:46	2:00	2:40	<ul style="list-style-type: none"> <li>■ Fire service, Owner</li> <li>■ No documentation in case file that physical evidence collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that severely damaged a mobile home. Investigator determined fire was accidental and closed case the same day. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
430	1:23	1:43	0:15	0:35	<ul style="list-style-type: none"> <li>■ Fire service, Occupant</li> <li>■ No documentation in case file that physical evidence collected</li> </ul>	0	<ul style="list-style-type: none"> <li>■ Undetermined</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that extensively damaged a mobile home. Cause of fire was undetermined but case was closed the same day. Undetermined Cause Fact Sheet, which OSFM introduced to help determine the fire's cause, was in the case file. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
436	2:02	2:37	0:30	1:05	<ul style="list-style-type: none"> <li>■ Witness</li> <li>■ Pictures</li> </ul>	15	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for two fires that caused total destruction. Investigator determined the cause was arson; however, the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.

**Appendix D  
FIRE INVESTIGATIONS SAMPLED AFTER PROTOCOL  
DECEMBER 15, 1997 JUNE 30, 1998**

OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigator Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	<ul style="list-style-type: none"> <li>■ Interviews</li> <li>■ Physical Evidence Collected</li> </ul>	Days To Close Case <sup>5</sup>	<ul style="list-style-type: none"> <li>■ Cause of Fire</li> <li>■ Report Review</li> </ul>	Observations
440	0:23	1:06	0:50	1:33	<ul style="list-style-type: none"> <li>■ Interviews conducted</li> <li>■ Pictures</li> </ul>	179	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Sheriff requested an investigator for a fire that totally destroyed a vacant residence. Investigator determined fire was arson. The case was open 179 days. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
461	14:40	33:58	1:32	20:50	<ul style="list-style-type: none"> <li>■ Owner</li> <li>■ Sample, Pictures</li> </ul>	2	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Police requested an investigator almost 15 hours after a fire minimally damaged a vehicle. OSFM informed an investigator from outside the district 19 hours later. The investigator determined the fire was arson. One person was arrested. Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
477	1:00	0:48	0:15	0:03	<ul style="list-style-type: none"> <li>■ Witness</li> <li>■ No documentation in case file that physical evidence collected</li> </ul>	81	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that caused minimal-to-moderate damage to a structure. Fire was determined to be accidental. Case file did not contain the required Case Initiation Form and the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy. (Fire Investigation Report stated investigator was notified before OSFM was called.)
483	0:55	1:16	86:00	86:21	<ul style="list-style-type: none"> <li>■ Police</li> <li>■ No documentation in case file that physical evidence collected</li> </ul>	20	<ul style="list-style-type: none"> <li>■ Accident</li> <li>■ Report not reviewed</li> </ul>	Fire department requested an investigator for a fire that minimally damaged a residence. Investigator did not arrive for over 3½ days and determined fire was accidental. Case file did not contain the required Case Initiation Form and the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
491	0:27	0:35	0:20	0:28	<ul style="list-style-type: none"> <li>■ Suspect</li> <li>■ Sample, Pictures</li> </ul>	2	<ul style="list-style-type: none"> <li>■ ARSON</li> <li>■ Report not reviewed</li> </ul>	Police requested an investigator for a fire that caused moderate damage. The investigator arrived within one-half hour of being notified and determined fire was arson; however, the case file did not contain the required Case Initiation Form and the Fire Investigation Report was not reviewed by another OSFM investigator although required by agency policy.
	<b>Total</b> 364 hours 16 minutes	<b>Total</b> 651 hours 56 minutes	<b>Total</b> 434 hours 54 minutes	<b>Total</b> 692 hours 47 minutes		<b>Total</b> 1,238 days		
	<b>Average</b> 6 hours 37 minutes	<b>Average</b> 11 hours 3 minutes	<b>Average</b> 7 hours 22 minutes	<b>Average</b> 12 hours 36 minutes		<b>Average</b> 22 days		
	<b>Median</b> 1 hour 23 minutes	<b>Median</b> 2 hours 35 minutes	<b>Median</b> 1 hour 5 minutes	<b>Median</b> 2 hours 15 minutes		<b>Median</b> 3 days		

**Appendix D**  
**FIRE INVESTIGATIONS SAMPLED AFTER PROTOCOL**  
**DECEMBER 15, 1997 JUNE 30, 1998**

OAG #	Fire to OSFM Called <sup>1</sup>	Fire To Investigator Notified <sup>2</sup>	Investigato r Notified To Arrival <sup>3</sup>	OSFM Called To Investigator Arrival <sup>4</sup>	■ Interviews ■ Physical Evidence Collected	Days To Close Case <sup>5</sup>	■ Cause of Fire ■ Report Review	Observations
s								

n/a = Not Available

1. Hours elapsed between the time of fire and the Office of State Fire Marshal (OSFM) arson hotline was called.
2. Hours elapsed between the time of fire and the time the investigator was notified of the fire.
3. Hours elapsed between the time the investigator was notified and the time the OSFM investigator arrived at the fire scene.
4. Hours elapsed between the time OSFM was called and the time the OSFM investigator arrived at the fire scene.
5. Calendar days elapsed to close the case after an OSFM employee arrived at the fire scene.

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SOURCE: Case files and records of the Office of the State Fire Marshal (OSFM).

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APPENDIX E

**ILLINOIS FIRE INCIDENT DATA**



## **Appendix E**

### **ILLINOIS FIRE INCIDENT DATA**

This appendix shows the number of fire incidents reported to the Illinois National Fire Incident Reporting System (INFIRS) by fire departments in each of the 102 counties. Local fire departments are required by State statute to report all fires in their jurisdiction by the 15<sup>th</sup> of the month following the fire to the Office of the State Fire Marshal. OSFM has specified that fire departments report in the format established by the National Fire Incident Reporting System (NFIRS).

The information in this appendix is based on data downloaded from the INFIRS mainframe computer. It contains all fires reported to INFIRS for the period January 1, 1997 – September 30, 1998 which were entered in the database by January 7, 1999. Complete data on fires in Illinois was not available during audit fieldwork because of several reasons:

1. OSFM was in the process of entering in the computer local fire reports that had been submitted to INFIRS for calendar year 1998.
2. There was non-reporting by some local fire departments, as discussed in Chapter 5.
3. Rockford had not submitted any data for 1998 by the end of 1998.
4. Chicago's (city) data on fires that occurred between April 1, 1998 and June 30, 1998 was submitted to INFIRS after OSFM provided the data to the Office of the Auditor General.

The federal software used to compile INFIRS data does not allow extraction of mixed calendar year data. Therefore, our office wrote a special computer program to compile as complete data as possible for Fiscal Year 1998 for Illinois. We extracted data for July 1, 1997 to December 31, 1997 from the 1997 calendar year data set, and we extracted January 1, 1998 to June 30, 1998 data from the 1998 calendar year data set. We also had to write a computer program to extract specific data, such as for the times of fires.

Information for all fire incidents reported to INFIRS are shown in the table below. The number of fire incidents and the number of arson or suspicious fires were furnished to us separately by OSFM and are reported separately.

**Appendix E  
FIRE INCIDENTS BY COUNTY**

<b>County</b>	<b>Fire</b>	<b>Fire</b>	<b>Fire</b>	<b>Fire Incidents</b>		<b>Arson/Suspicious Fires</b>	
	<b>Incidents CY 1997</b>	<b>Incidents CY 1998</b>	<b>Incidents FY 1998</b>	<b>7/1/97- 12/31/97</b>	<b>1/1/98- 6/30/98</b>	<b>7/1/97- 12/31/97</b>	<b>1/1/98- 6/30/98</b>
Adams	319	140	249	158	91	48	16
Alexander	118	58	85	47	38	6	3
Bond	83	43	88	51	37	0	2
Boone	136	25	74	53	21	6	0
Brown	41	14	24	12	12	0	2
Bureau	152	47	63	40	23	2	2
Calhoun	4	1	2	1	1	0	0
Carroll	144	86	98	35	63	0	3
Cass	52	30	39	17	22	0	2
Champaign	611	192	408	248	160	44	28
Christian	148	24	67	49	18	7	3
Clark	84	62	85	38	47	0	1
Clay	41	21	44	28	16	1	1
Clinton	95	32	59	39	20	1	1
Coles	182	148	192	79	113	14	19
Cook County	3856	2129	3551	1909	1642	239	208
Cook (Chicago and near)	28613	7733	27342	13887	13455	2768	1282
Crawford	123	46	108	64	44	10	4
Cumberland	39	41	52	19	33	3	5
Dekalb	391	138	320	192	128	25	29
Dewitt	84	24	38	18	20	1	1
Douglas	57	14	34	23	11	4	0
DuPage	2314	1380	2182	1090	1092	155	177
Edgar	164	99	159	79	80	5	4
Edwards	16	8	12	7	5	0	0
Effingham	105	62	105	57	48	3	3
Fayette	103	54	87	42	45	2	5
Ford	27	10	22	12	10	0	1
Franklin	237	98	201	123	78	19	9
Fulton	199	61	140	92	48	20	13
Gallatin	43	18	37	26	11	1	0
Greene	85	33	68	41	27	0	1
Grundy	222	88	177	109	68	16	4
Hamilton	38	18	34	19	15	0	0
Hancock	37	9	30	21	9	1	1
Hardin	10	5	11	7	4	0	0
Henderson	41	9	31	23	8	0	0
Henry	277	107	190	103	87	17	15
Iroquois	110	41	100	67	33	2	6
Jackson	290	94	207	138	69	29	20
Jasper	35	12	30	20	10	1	0
Jefferson	265	82	211	149	62	25	2
Jersey	43	26	40	19	21	3	5
Jo Daviess	143	61	96	53	43	5	2
Johnson	65	34	55	30	25	0	0
Kane	1382	835	1250	658	592	181	124

**Appendix E  
FIRE INCIDENTS BY COUNTY**

<b>County</b>	<b>Fire</b>	<b>Fire</b>	<b>Fire</b>	<b>Fire Incidents</b>		<b>Arson/Suspicious Fires</b>	
	<b>Incidents CY 1997</b>	<b>Incidents CY 1998</b>	<b>Incidents FY 1998</b>	<b>7/1/97- 12/31/97</b>	<b>1/1/98- 6/30/98</b>	<b>7/1/97- 12/31/97</b>	<b>1/1/98- 6/30/98</b>
Kankakee	547	367	495	276	219	40	41
Kendall	159	36	104	78	26	29	2
Knox	231	106	167	85	82	9	5
Lake	1233	555	978	556	422	115	78
LaSalle	468	161	305	191	114	10	5
Lawrence	109	47	112	70	42	9	5
Lee	180	86	133	70	63	10	4
Livingston	190	129	178	99	79	13	15
Logan	188	68	135	80	55	14	10
Macon	652	360	563	308	255	97	44
Macoupin	255	93	194	114	80	15	3
Madison	1144	732	1126	584	542	146	115
Marion	379	189	355	192	163	34	31
Marshall	80	29	47	21	26	0	7
Mason	106	36	51	28	23	1	0
Massac	99	71	102	46	56	4	3
McDonough	206	84	148	90	58	34	26
McHenry	798	386	628	352	276	74	35
McLean	497	232	422	240	182	28	11
Menard	37	21	25	7	18	0	1
Mercer	19	7	12	6	6	1	2
Monroe	19	5	9	4	5	0	0
Montgomery	116	37	78	45	33	6	0
Morgan	190	81	140	93	47	16	6
Moultrie	56	27	38	17	21	3	5
Ogle	166	31	69	38	31	0	4
Peoria	1267	104	700	625	75	90	7
Perry	85	44	79	43	36	4	2
Piatt	70	36	69	35	34	1	2
Pike	123	24	71	55	16	2	2
Pope	1	4	5	1	4	0	2
Pulaski	11	6	12	6	6	1	0
Putnam	50	11	34	25	9	2	1
Randolph	97	62	100	50	50	7	5
Richland	117	53	113	68	45	6	8
Rock Island	476	357	552	244	308	84	66
Saline	111	65	110	58	52	3	2
Sangamon	787	466	749	388	361	82	65
Schuyler	22	17	20	8	12	0	0
Scott	26	13	19	11	8	2	0
Shelby	41	18	38	22	16	0	0
St. Clair	2565	1196	2239	1298	941	494	201
Stark	41	17	28	13	15	1	0
Stephenson	193	67	134	87	47	20	18
Tazewell	571	239	461	256	205	44	24
Union	63	35	70	38	32	0	1
Vermilion	358	168	296	169	127	12	13
Wabash	81	60	97	48	49	4	1

**Appendix E  
FIRE INCIDENTS BY COUNTY**

<i>County</i>	<i>Fire</i>	<i>Fire</i>	<i>Fire</i>	<i>Fire Incidents</i>		<i>Arson/Suspicious Fires</i>	
	<i>Incidents CY 1997</i>	<i>Incidents CY 1998</i>	<i>Incidents FY 1998</i>	<i>7/1/97- 12/31/97</i>	<i>1/1/98- 6/30/98</i>	<i>7/1/97- 12/31/97</i>	<i>1/1/98- 6/30/98</i>
Warren	73	38	60	26	34	1	4
Washington	60	31	49	26	23	3	2
Wayne	112	49	101	58	43	7	5
White	32	27	46	19	27	1	4
Whiteside	224	112	168	90	78	13	10
Will	1730	939	1606	841	765	106	112
Williamson	298	151	276	134	142	20	8
Winnebago	1478	294	937	713	224	176	70
Woodford	73	26	50	25	25	3	1
<b>Total</b>	<b>60,984</b>	<b>22,997</b>	<b>54,400</b>	<b>29,162</b>	<b>25,238</b>	<b>5,561</b>	<b>3,098</b>

Note: Calendar year 1998 data is only up to September 30, 1998. See explanation in the introduction page to this appendix.

SOURCE: Office of the State Fire Marshal data summarized by the Office of the Auditor General.

APPENDIX F

**SUMMARY OF OTHER STATES'  
AND ILLINOIS FIRE CHIEFS'  
SURVEYS**

## Appendix F SUMMARY OF OTHER STATES' AND ILLINOIS FIRE CHIEFS' SURVEYS

**How many full-time equivalent investigators did your organization have between July 1, 1997 and June 30, 1998?**

Number of Responses	NUMBER OF INVESTIGATORS																										
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	18	19	20	21	22	24	25	28	34	101	109
Other States*	0	1	2	2	0	0	1	0	1	4	1	1	0	1	2	1	1	1	1	1	0	1	0	1	1	1	1
Illinois Fire Chiefs**	0	26	39	34	17	22	12	8	12	1	0	0	5	1	0	0	0	0	0	0	1	0	1	0	0	0	0

Other States' Average: 20 investigators between July 1, 1997 and June 30, 1998 (fiscal year 1998).

\*One State did not specify the exact number of investigators.

Illinois Fire Chiefs Average: 2 investigators between July 1, 1997 and June 30, 1998 (fiscal year 1998).

\*\*Three Fire Chiefs did not specify the exact number of investigators.

**What is your organization's planned response time for the following types of fires?**

Type of Fire	OTHER STATES					ILLINOIS FIRE CHIEFS*				
	Immediate/ ASAP	Same Day	Next Day	Varies	No Response	Immediate/ ASAP	Same Day	Next Day	Varies	
Fatality	24	2	0	0	1	154	12	1	4	
Injury/Major Economic Impact	19	5	0	2	1	154	12	1	4	
Suspicious	19	4	1	2	1	152	14	1	4	
Garage/Barn/Car	15	4	2	3	3	139	22	5	5	
<b>TOTAL</b>	<b>77</b>	<b>15</b>	<b>3</b>	<b>7</b>	<b>6</b>	<b>599</b>	<b>60</b>	<b>8</b>	<b>17</b>	
	76%	15%	3%	7%	n/a	88%	9%	1%	2%	

\*11 Fire Chiefs with investigators did not answer this question.

**Are investigators' reports reviewed by others in your office, such as for procedural compliance, technical accuracy, investigative sufficiency, and/or completeness?**

	OTHER STATES		ILLINOIS FIRE CHIEFS	
Yes, Supervisor	23	85%	121	68%
Yes, Other	2	7%	16	9%
No	2	7%	41	23%
No Response	0	0	4	0
<b>TOTAL</b>	<b>27</b>	<b>100%*</b>	<b>182</b>	<b>100%</b>

\*Does not add to 100% due to rounding.

**What are your investigators' standard business hours?**

	OTHER STATES		ILLINOIS FIRE CHIEFS	
Day Shift (7-3,8-5,8-4,9-5, etc.)	20	74%	55	26%
Day Shift (on call 24 hours/7 days)	6	22%	16	7%
171 Hours in 28-day cycle (on call)	1	4%	0	0
24 Hours On/48 Hours Off	0	0	97	45%
On Call as Needed - 24 hours	0	0	31	14%
Volunteer	0	0	8	4%
Other	0	0	8	4%
<b>TOTAL</b>	<b>27</b>	<b>100%</b>	<b>215*</b>	<b>100%</b>

\*The total exceeds 182 responses because some departments had fire and arson investigators working different shifts.

If your investigators work overtime, how are they compensated?				
	OTHER STATES		ILLINOIS FIRE CHIEFS	
Paid Overtime	6	22%	109	60%
Compensatory Time	5	19%	25	14%
Choice of Pay or Compensatory Time	12	44%	25	14%
No Compensation Provided	1	4%	23	13%
Other	3	11%	0	0
<b>TOTAL</b>	<b>27</b>	<b>100%*</b>	<b>182</b>	<b>100%*</b>

\*Does not add to 100% due to rounding.

If an investigator wants to use compensatory time, who decides if it can be used?				
	OTHER STATES		ILLINOIS FIRE CHIEFS	
Supervisor	5	26%	21	44%
Investigator with Supervisor Approval	14	74%	24	50%
Investigator	0	0%	3	6%
Not specified	0	n/a	2	n/a
<b>TOTAL</b>	<b>19</b>	<b>100%</b>	<b>50</b>	<b>100%</b>

What credentials are required of investigators and of investigators' immediate supervisors?						
	<i>Investigators</i> Certification Required	<i>Investigators</i> Certification Not Required	Did Not Answer	<i>Supervisors</i> Certification Required	<i>Supervisors</i> Certification Not Required	Did Not Answer
Other States	18 67%	9 33%	0 n/a	16 67%	8 33%	3 n/a
Illinois Fire Chiefs	168 95%	9 5%	5 n/a	110 75%	36 25%	36 n/a

On average, approximately how many cases were assigned to your individual investigators between July 1, 1997 and June 30, 1998?

Number of Responses:	NUMBER OF CASES																									
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Other States	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	
Illinois Fire Chiefs	13	17	26	25	11	14	13	2	10	0	16	1	7	1	0	7	1	1	3	0	10	0	1	1	1	
Number of Responses:	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	50	52	53	55	
Other States	1	0	0	0	0	1	0	1	0	1	1	0	1	0	0	1	0	0	1	0	0	2	1	1	1	
Illinois Fire Chiefs	5	0	1	2	0	2	0	0	0	0	1	0	0	0	0	3	0	0	0	1	0	1	1	0	0	
Number of Responses:	56	60	75	80	85	90	96	100	110	125	140	170	200	294	Other											
Other States	0	0	2	2	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	Varies (1), not available (1)				
Illinois Fire Chiefs*	1	1	0	1	0	1	0	6	2	1	1	1	1	1	1	1	1	1	1	1	Unknown (3)					

Other States' Average: 53 cases per investigator between July 1, 1997 and June 30, 1998 (fiscal year 1998) for those states which provided investigator caseload data. One state did not provide a response to this question.

Illinois Fire Chiefs' Average: 17 cases per investigator between July 1, 1997 and June 30, 1998 (fiscal year 1998).

\* The total exceeds 182 because some fire departments had fire and arson investigators who had different number of

cases.

### SUMMARY OF QUESTIONS SPECIFIC TO ILLINOIS FIRE CHIEFS

**How many times did your organization request a State Fire Marshal arson investigator between July 1, 1997 and June 30, 1998?**

Answer	Number of Responses	Percent
1	109	41%
2	80	30%
3	27	10%
4	16	6%
5-6	21	8%
7-8	4	1%
9-10	3	1%
10+	7	3%
Unknown	2	1%
<b>TOTAL</b>	<b>269</b>	<b>100%*</b>

\*Does not add to 100% due to rounding.

**How satisfied are you overall with the State Fire Marshal's role in arson investigations, timeliness, adequacy of investigations, and policy and protocol for responding to requests for investigators?**

	Overall Satisfaction		Timeliness		Investigation		Protocol	
Very Satisfied	143	54%	99	37%	142	54%	47	18%
Mostly Satisfied	73	27%	104	39%	82	31%	77	29%
Somewhat Satisfied	34	13%	47	18%	25	9%	54	20%
Mostly Dissatisfied	10	4%	12	5%	12	5%	38	14%
Very Dissatisfied	6	2%	4	2%	3	1%	37	14%
Unaware of Protocol	0	0%	0	0%	0	0%	14	5%
No Response	3	n/a	3	n/a	5	0%	2	n/a
<b>TOTAL RESPONSES</b>	<b>269</b>	<b>100%</b>	<b>269</b>	<b>100%*</b>	<b>269</b>	<b>100%</b>	<b>269</b>	<b>100%</b>

\*Does not add to 100% due to rounding.

**Have you made any changes due to the new State Fire Marshal protocol which became effective December 1997?**

	Made More Requests For OSFM Investigators	No Changes	Made Fewer Requests For OSFM Investigators	OTHER			
				Formed In-House Arson Unit	Used Police, Insurance, County Arson Task Force, ATF	Pool Resources With Other Departments	Other
282 Total *	2 1%	185 66%	59 21%	10 4%	9 3%	3 1%	14 5%

\*Some Fire Chiefs took more than one of these actions. Does not add to 100% due to rounding.

**How has the new protocol affected the arrest and prosecution of individuals suspected of conducting arson?**

	Arrests	Percent	Prosecution	Percent
Significant Increase	0	0%	0	0%
Increased	9	4%	5	2%
No Effect	209	88%	203	88%
Decreased	13	5%	19	8%
Significant Decrease	7	3%	5	2%
No Response	31	n/a	37	n/a

<b>TOTAL</b>	<b>269</b>	<b>100%</b>	<b>269</b>	<b>100%</b>
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**SUMMARY OF QUESTIONS SPECIFIC TO OTHER STATES' FIRE MARSHALS**

**What is your organization's place in the state organizational structure?**

	OFFICE WITHIN A STATE AGENCY							
	Cabinet	Legislative	Insurance	Public Safety	Attorney General	Commerce	State Police	Other
Number of States	2 7%	2 7%	6 21%	7 25%	1 4%	1 4%	5 18%	4 14%

**What fires does your organization investigate?**

All fires in the state	1	4%
All fires where assistance is requested	14	52%
All fires suspected to be arson	3	11%
Only fires suspected to be arson and assistance is requested	7	26%
Other	2	7%
<b>TOTAL</b>	<b>27*</b>	<b>100%</b>

\*A 28<sup>th</sup> state was not included because it responded that it does not conduct fire investigations.

**Where do investigators report for duty?**

Investigators' Homes in Different Regions	8	30%
Regional Offices	15	56%
One Central Office	4	15%
<b>TOTAL</b>	<b>27</b>	<b>100%*</b>

\*Does not add to 100% due to rounding.

**What is the primary criteria used to assign fire cases to investigators?**

Geographic Region	14	52%
Supervisors Select and Assign (based on availability or expertise)	7	26%
Geographic Region and Supervisor Selection	6	22%
<b>TOTAL</b>	<b>27</b>	<b>100%</b>

**What was the average number of overtime hours worked by an investigator?**

<b>Responses:</b>	3.5 hours per week
	4-6 hours
	5+ hours
	5 hours per week
	6 hours per week
	10 hours per week
	10 hours
	20 hours
	30 per month
	50 hours per year
	80 hours
	120 hours per year
	128.5 hours
	135 hours per year
	150 hours (3 responses) per year
	169 hours per year
	200 hours
	300 hours per year

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SOURCE: Illinois Auditor General's "Survey of Fire Chiefs" and "Survey of State Fire Marshals."

APPENDIX G

**SURVEY OF OTHER STATES'  
FIRE MARSHALS**



**Appendix G  
SURVEY OF OTHER STATES FIRE MARSHALS FY 1998**

<b>State</b>	<b>Organization Level</b>	<b>Fires Investigated</b>	<b>Investigators/ Investigations</b>	<b>Location of Office</b>	<b>Case Assignment</b>	<b>Response Time</b>	<b>Timeliness Measurement</b>	<b>Report Review and Quality Standards</b>	<b>Duty Hours</b>	<b>Overtime Compensation</b>	<b>Duties When Unassigned</b>	<b>Credentials</b>	<b>Average FY98 Load</b>
Alaska	Department of Public Safety Division of Fire Prevention	Specified fires (e.g., fatality, injury, intentional or criminal fires, significant public impact, etc.)	9 trained in fire and arson investigation, including 3 supervisors who investigate only when needed  36 investigations	3 regional offices	Supervisors assign based on availability and then expertise	Immediate. Because most travel in Alaska is by aircraft, immediate in most cases is not until the next day	Reports	Supervisors review all reports	Arson Investigators: 8:00a - 4:30p	Provided choice of pay or compensatory time by union contract. Decided by investigator with supervisor's approval.  Average overtime per investigator was 120 hours during year	Building inspection, plan reviews, fire prevention education, fire hazard complaints, etc. Fire/arson investigation is only about 20% of the position	<u>Arson Investigators:</u> -Prior fire experience -Weapons training -Alaska Police Academy -National Fire Academy Fire and Arson Investigation course  <u>Supervisors</u> Same as above	6 cases
Florida	Cabinet level	All fires if by design or carelessness	101 arson investigators  6, 493 investigations	14 regional offices	Each investigator is assigned a geographic region, supervisor assigns	Immediate	Reports are reported electronically with log of times, etc.	-Supervisors review -Supervisors review all reports	8:00a - 5:00p Investigators rotate on-call nights and weekends	Choice of pay or compensatory time; work 30 hours overtime per month; decided by investigator with supervisor approval	Conduct follow-up investigations and testify in court	<u>Arson Investigators:</u> -College degree (preferred) -Prior fire service (preferred) -Competency testing as arson investigator -Weapons training -Continuing education (40 hours/year) State Law Enforcement Certification <u>Supervisors</u> Same as above	85
Georgia	Office within Insurance and Safety Fire Commission	Only fires where assistance is requested	13 arson investigators  709 investigations	-1 central office -Investigators homes located in different regions of state	Each investigator is assigned a geographic region	Investigators schedule own investigation; expectation is ASAP response	For fatalities and major fires supervisor notified immediately	-Supervisors review -Supervisors review all reports	7:45a - 4:30p, on-call 24 hours/day, 7 days/week	Awarded compensatory time.  Arson investigators worked average of 128.5 hours overtime	Administrative paperwork	<u>Arson Investigators:</u> -Certification as arson investigator -Weapons training -Continuing education (20 hours/year) <u>Supervisors</u> Same as above	55
Hawaii	Other: City and county of Honolulu and 4 counties of Hawaii	Fires suspected of arson and assistance is requested; assist Coast Guard on waterfront	2 fire investigators and 1 trainee; (do not have police powers)  140 investigations	Designated fire station in city/county of Honolulu	Supervisor selects and assigns; all investigators respond during duty hours; on-call after hours	Immediate; do not do vehicle fires unless fatality	Currently backlogged on reports; implementing new system	-Captain and Battalion Chief review -Investigators complete checklist and supervisors review all reports	7:45a-4:30p, 1 investigator on-call after hours	Paid overtime and choice of pay or compensatory time.  Fire investigators work 6 hours overtime per week; decided by Battalion Chief of Fire Prevention	No idle or non-investigative time	<u>Fire Investigators:</u> -College degree (preferred) -Prior fire service -Certification as fire investigator -Certification as arson investigator -Continuing education, 16-24 hours/year by International Association of Arson Investigators - (IAAI) <u>Supervisors</u> -College degree (preferred) -Prior fire service -Certification as Fire	140

**Appendix G  
SURVEY OF OTHER STATES FIRE MARSHALS FY 1998**

State	Organization Level	Fires Investigated	Investigators/ Investigations	Location of Office	Case Assignment	Response Time	Timeliness Measurement	Report Review and Quality Standards	Duty Hours	Overtime Compensation	Duties When Unassigned	Credentials	Average FY98 Load
												investigator -Certification as Arson investigator -Weapons training -Continuing education (16-24 hours/year) -Extended IAAI training	
Idaho	Office within Department of Insurance	Only fires where assistance is requested	3 Fire/Arson investigators  100 investigations	-2 Investigators homes located in different regions of state -1 Central office (Deputy OSFM)	-Each investigator is assigned a geographic region	Respond to as soon as notified, to be determined by the deputy notified	Review reports; meet with fire chiefs, they will call if not pleased	Supervisor reviews all reports for quality; no technical review	8:00a - 5:00p	Compensatory time: hour for hour, no time, and ½ pay.  300 hours per year; decided by investigator with supervisor approval	Teach investigative classes, reports, Public relations visits to fire department and police department	<u>Arson Investigators:</u> -Prior fire service -Continuing education (24 hours per year) Certification as fire investigator desired <u>Supervisors</u> Same as above	30
Indiana	Office within State Emergency Management Agency	Only fires where assistance is requested	11 arson investigators  699 investigations	-Investigators homes located in different regions of state	Each investigator is assigned a geographic region	-Fatality- immediate/same day -Injury- immediate/same day. -Major impact- same day. -Suspicious- ASAP -Garage, barn - upon investigator arrangements	Monitoring reports given to investigators to follow-up	-Supervisors review all reports	8:00a - 4:30p	Choice of pay or compensatory time  Arson investigators worked 10 hours overtime	Paperwork	<u>Arson Investigators:</u> - Prior fire service - Certification as fire investigator - Certification as arson investigator - Weapons training - Continuing education (16 hours/year) <u>Supervisors</u> Same as above	75
Iowa	Division in Department of Public Safety	Only fires where assistance is requested	9 fire/arson investigators (sworn peace officers)  719 investigations	9 Regional offices	Each investigator is assigned a geographic region	-Fatality and injury- immediate. -Major impact- and suspicious- ASAP. -Garage, barn - availability of investigator	Written reports reviewed by supervisor	-Supervisors review all reports	8:00a - 4:30p M-F	Choice of pay or compensatory time (by contract)  Worked 150 hours overtime per year; decided by investigator with supervisor approval	No idle or non-investigative time	<u>Fire/Arson Investigators:</u> -Weapons training -College degree or combination of education, department experience, and fire service experience And peace officer certification <u>Supervisors</u> Same as above	80
Louisiana	Office within Department of Public Safety and Corrections	Only fires suspected to be arson	18 arson investigators  834 investigations	-Investigators homes located in different regions of state -4 regional offices throughout State	Each investigator is assigned a geographic region	Immediate response to <u>all</u> suspicious fires	Supplemental progress reports track investigations; no time limit	Supervisor reviews all reports	8:00a - 4:30p	Paid overtime after 80 hours; awarded compensatory time up to 80 hours.  Worked average 4-6 hours overtime; decided by supervisor	1 month/year regulate fireworks industry, otherwise caseload does not allow for idle time	<u>Arson Investigators:</u> -College degree -Prior fire service -Certification as fire and arson investigator -Weapons training -Continuing education	52
Maryland	Office within State Police	Only fires suspected of arson and assistance is requested, and	34 fire investigators (inc. 7 supervisors)  1,149 investigations	-5 Regional offices -7 Branch offices	Each investigator is assigned a geographic region -if 2 in region, on-call investigator	Immediate	Review of reports	-Supervisors review all reports	7:00a - 3:30p or 8:00a - 4:30p	Choice of pay or compensatory time.  Fire investigators work 5 hours overtime per week;	Fire safety inspections, fire safety education seminars, training for local	<u>Fire Investigators:</u> -Prior fire service -Weapons training -Law enforcement training	43

**Appendix G  
SURVEY OF OTHER STATES FIRE MARSHALS FY 1998**

State	Organization Level	Fires Investigated	Investigators/ Investigations	Location of Office	Case Assignment	Response Time	Timeliness Measurement	Report Review and Quality Standards	Duty Hours	Overtime Compensation	Duties When Unassigned	Credentials	Average FY98 Load
		fatal fires			assigned					decided by investigator with supervisor approval	fire department	<u>Supervisors</u> Same as above	
Massachusetts	Legislative	Other-arson, suspicious, undetermined cause, violation of law, fatalities and serious injuries	28 arson investigators 1,200 investigations	12 Regional offices	Each investigator is assigned a geographic region, supervisor assigns	Immediate	Case management; preliminary report within 30 days, progress report every 30 days	-Supervisors review -Supervisors review all reports	8:30a - 5:00p M-F	Paid overtime  Fire and arson investigators worked 200 hours overtime in period	Conduct training for local fire department, review open cases, public relations, paperwork	<u>Arson Investigators:</u> -Certification as fire investigator -Certification as arson investigator -Weapons training -Continuing education <u>Supervisors</u> Same as above and prior fire service	40
Michigan	Office within State Police	Only fires where assistance is requested	20 fire investigators 785 investigations	11 Regional and sub-regional offices	Each investigator is assigned a geographic region	-Fatality, major impact, and suspicious fires-immediate. -Injury-same day. -Garage, barn-same or next day	Supervisor and section commander review requests and reports	-Supervisors review -Supervisors review all reports	8:00a - 4:30p	Paid overtime.  Fire investigators worked 135 hours per year	No idle or non-investigative time	<u>Fire Investigators:</u> -Certification as fire investigator -Certification as arson investigator -Weapons training -Continuing education (30 hours/year) -Basic and advanced vehicle training <u>Supervisors</u> Same as above, no vehicle training	53
Mississippi	Office within Department of Insurance	Suspected arson and/or assistance is requested; fires on State property and places of public assembly	14 arson investigators 681 investigations	-Investigators homes located in different districts in state -1 central office with 4 deputies assigned	Each investigator is assigned a geographic region	Same day for all	Case numbers assigned, report within 10 working days	-Supervisors review -Supervisors review all reports	8:00a - 5:00p M-F; investigators on-call 24 hours/day	Awarded compensatory time	Prepare reports, conduct inspections, regulate and enforce factory built homes law	<u>Fire Investigators:</u> -College degree -Certification as fire investigator -Certification as arson investigator -Weapons training -Certification as State Law Enforcement officer <u>Supervisors</u> Same as above	50-125 with average of 75
Montana	Office within Department of Justice	Only fires where assistance is requested	Unknown: deputy State Fire Marshal conduct arson and fire cause and origin	9 Regional offices throughout State	Each investigator is assigned a geographic region	Immediate with secure scene required	Completed within 90 days	-Supervisors review -Supervisors review all reports	8:00a - 5:00p	Accumulate 240 hours compensatory time, paid overtime after 240 hours; decided by supervisor	Perform life safety inspections	<u>Arson and fire Investigators:</u> -Prior fire service -Continuing education (50 hours/year)	Not provided
Nebraska	Cabinet	Only fires suspected of arson and assistance is requested	Arson investigators: 8 Investigations: 610	-Investigators homes located in different regions of state -3 regional offices -1 central office 2 district offices	-Each investigator is assigned a geographic region -Supervisors select and assign investigators	Immediate for all types of fires	Policy	Supervisory review of selected reports (e.g., Cause undetermined)	<u>Arson Investigators</u> 8:00 5:00 On call after hours	Paid overtime	N/A	<u>Arson Investigators:</u> -Weapons training -Graduate from Police Academy  <u>Supervisors</u> Same as above	80 cases

**Appendix G  
SURVEY OF OTHER STATES FIRE MARSHALS FY 1998**

<b>State</b>	<b>Organization Level</b>	<b>Fires Investigated</b>	<b>Investigators/ Investigations</b>	<b>Location of Office</b>	<b>Case Assignment</b>	<b>Response Time</b>	<b>Timeliness Measurement</b>	<b>Report Review and Quality Standards</b>	<b>Duty Hours</b>	<b>Overtime Compensation</b>	<b>Duties When Unassigned</b>	<b>Credentials</b>	<b>Average FY98 Load</b>
Nevada	Office within Department of Motor Vehicle and Public Safety	Suspicious cause or fatality	7 Full-time arson investigators, 7 full-time fire investigators  66 investigations	4 Regional offices	Each investigator is assigned a geographic region, supervisor assigns or first available	Immediate	No answer provided	Supervisor reviews, checklist required	8:00a - 5:00p M-F, on-call on weekends	Paid overtime or compensatory time @ 1.5 hours worked  150 hours overtime per year, decided by investigator with supervisor approval	Conduct fire/live safety inspections for state building and B-2 occupancies	<u>Arson Investigators:</u> -Prior fire service -Certification as fire and arson investigator -Weapons training -Continuing education (80 hours/year) <u>Supervisors</u> -College degree Same as above	13.2
New Mexico	Office within Insurance Department of Public Regulatory Commission	Only fires suspected of arson and assistance is requested	3 Arson investigators  119 investigations	One central Fire Marshal office	Supervisors assign based on availability	Response is ASAP, depends on availability and travel time	Left to investigators and chief investigator	Review only for probationary employees Investigators are trained professionals	<u>Arson Investigators</u> 8:00 5:00 On call 24/7 for emergencies	Provided choice of pay or compensation. Decided by investigator with supervisor s approval.  Average overtime per investigator was 10 hours/week	Reports and assisting with training	<u>Arson Investigators:</u> -Prior fire experience -Certification as fire and arson investigator -Continuing education  <u>Supervisors</u> Same as above	50 cases, short 1 investigator during audit period
New York	Office within Department of State	Only fires where assistance is requested	6 Fire investigators (do not have police powers)  72 investigations	2 Regional offices	Supervisor selects and assigns based on expertise	Immediate during normal hours; ASAP at other times	Review of reports for timely compliance, supervisor conducts real-time monitoring	-Supervisors review -Supervisors review all reports	8:00a - 5:00p; flex schedule with some night work	Paid overtime; awarded compensatory time  Fire investigators worked 150 hours overtime, decided by investigator with supervisor approval	Perform PILR services, Burn Reporting Program, Re-certification programs, etc.	<u>Fire Investigators:</u> -Prior fire service -Certification as fire investigator -Continuing education (12 hours/year) <u>Supervisors</u> Same as above	22
North Carolina	Department of Insurance	OSFM does not conduct fire investigations											
Oklahoma	State Law Enforcement Agency	Authority: all fires  Policy: only fires where assistance is requested	16 full-time arson investigators  800 investigations	-Investigators homes located in different regions of state -1 central office	Each investigator is assigned a geographic region, supervisor assigns	-Fatality and major impact- immediate. -Others- same day	Department Policy establishes time limit and supervisors oversight	Supervisors review Investigators complete checklist and supervisors review all reports	0n-call 24 hours/day, 171 hours/28 day cycle	Choice of pay or compensatory time  5+ hours overtime, decided by supervisor	Assist inspection division	<u>Arson Investigators:</u> -Prior fire service -Certification as arson investigator -Weapons training -Continuing education (18 hours/year) <u>Supervisors</u> -College degree -Prior fire service -Weapons training -Continuing education (24 hours/year)	100+
Oregon	Office within State Police	Only fires where assistance is requested and on properties unprotected by a fire department	19 full-time Deputy State Fire Marshal positions, not all are filled  252 investigations	15 regional offices throughout State	Each investigator is assigned a geographic region	Immediate	No time limit set	Fire data unit reviews for completeness; supervisor reviews selected reports	8:00a - 5:00p	Choice of pay or compensatory time with cap of 80 hours compensatory time; decided by investigator with supervisor s approval	Never have stand around time Enforce fire codes, plan reviews, public education activities	<u>Fire Investigators:</u> -Training in fire cause determination and equivalent of 3 years. Fire investigation experience	14
Pennsylvania	Office within	Only fires	44 full time and 65	Respond to	-Each investigator	Immediate	Immediate	Reviewed by supervisor	Day shift with	Paid overtime	If not performing	<u>Arson Investigators:</u>	Varies

**Appendix G  
SURVEY OF OTHER STATES FIRE MARSHALS FY 1998**

State	Organization Level	Fires Investigated	Investigators/Investigations	Location of Office	Case Assignment	Response Time	Timeliness Measurement	Report Review and Quality Standards	Duty Hours	Overtime Compensation	Duties When Unassigned	Credentials	Average FY98 Load
	State Police	suspected to be arson, fatality, or where assistance is requested	assistant fire marshals, all are sworn State Police; no differentiation between arson and fire investigator; 1 state fire marshal all others are deputy or assistant deputy fire marshals  2,490 investigations	assigned duty station, except in emergency then respond from home	is assigned a geographic region	response for fatality; others-varies	supervisor determines	for technical, etc. Supervisor reviews all reports	weekend off	50 hours per year	fire investigation duties then state trooper duties as assigned by troop commander or crime supervisor	-Weapons training -Continuing education, list of required classes then additional out-service classes <u>Supervisors</u> Same as above, most field supervisors are Sergeant/ Corporal and are criminal investigators with no fire service training	
South Dakota	Office within the Department of Commerce	Only fires where assistance is requested and catastrophic fires or with fatality	1 Full-time fire investigator  64 investigations	One central Fire Marshal office	Supervisors select and assign	-Immediate for fatality and suspicious fires. -Same day for injury, major economic impact, garage, and barn fires	Discretion of the supervisor	Supervisor reviews all reports	Normal business hours and on call	None, salaried employee	Other duties as assigned	None	50
Tennessee	Office within Division of Fire Prevention	Only fires suspected of arson and assistance is requested	24 full-time arson investigators including Director, Assistant Director, Supervisors, and 2 canine handlers  768 investigations	-Investigators homes located in different regions of state -3 regional offices throughout State	Each investigator is assigned a geographic region	-Fatality within 4 hours -Injury and major impact within 24 hours -Suspicious fires within 2 days	Reports required within specific time frames	Supervisor reviews all reports; checklist required	8:00a - 4:30p	Choice of pay or compensatory time  3.5 hours overtime per week.	Caseload does not allow for idle time; only 18 street investigators for 95 counties	<u>Arson Investigators:</u> -Weapons training -Continuing education <u>Supervisors</u> Same as above	37
Texas	Office within Department of Insurance	Only fires where assistance is requested	21 arson investigators  503 investigations	-6 regional offices -Investigators assigned to a regional office but work out of many other locations	Supervisors select and assign investigators; try to keep in a geographic area	-Fatality-same day -Injury-depends on severity -Major impact-same or next day -Suspicious, garage, and barn fires: in accordance with priority list	Reports prepared, submitted, reviewed. When approved by supervisor, investigation is completed	-supervisors review -Supervisors review all reports	8:00a - 5:00p	Awarded compensatory time, 1.5 hours for each hour overtime worked, used with supervisor's approval	Very seldom have non-investigation work; may assist on inspections, code compliance, etc.	<u>Arson Investigators:</u> -Certification as arson investigator -Weapons training -Continuing education (20 hours/year) -Certified Peace Officer with 5 years criminal investigation experience <u>Supervisors</u> Same as above with 10 years experience	25
Utah	Division within the Department of Public Safety	Only fires where assistance is requested and fires in State owned building, LPG incidents with >\$5000 loss, injury, or fatality	2 Fire/Arson investigators  97 investigations	One central Fire Marshal office	Supervisors assign based on availability	-Immediate for fatalities, injury and major economic impact -Same day for suspicious fires -Same day/next day, for garage/barn fires	Comment addressed how quickly responded	No review - investigators are trained professionals	7:00a - 4:00p	First 11 hours overtime is paid, then compensatory time; decided by investigator with supervisor approval	Investigators continue follow-up and assist with LP Gas program	<u>Arson Investigators:</u> -Prior fire service -Weapons training -Continuing education (40 hours per year) -Certifications as arson investigator recommended <u>Supervisors</u> -College degree	35 cases per year

**Appendix G  
SURVEY OF OTHER STATES FIRE MARSHALS FY 1998**

State	Organization Level	Fires Investigated	Investigators/ Investigations	Location of Office	Case Assignment	Response Time	Timeliness Measurement	Report Review and Quality Standards	Duty Hours	Overtime Compensation	Duties When Unassigned	Credentials	Average FY98 Load
												-Prior fire service -Continuing education (40 hours per year) -Certifications as arson investigator -Weapons training	
West Virginia	Office within Department of Military Affairs and Public Safety	Only fires where assistance is requested	9 arson investigators 871 investigations	-Investigators homes located in different regions of state	Each investigator is assigned a geographic region	-Fatality-immediate. -Injury if life threatening-immediate -Major impact-same day -Suspicious-as soon as case load permits	2 week limit for preparation and submission to central office	-Supervisors review -Supervisors review all reports	8:00a - 4:00p	Paid overtime; worked 20 hours overtime	Training, assist on other investigations, vehicle maintenance	<u>Arson Investigators:</u> -College degree -Prior fire service -Weapons training -Continuing education (40 hours/year) -Some investigators attend training at Redstone Arsenal in Ala. (160 hours) <u>Supervisors</u> Same as above	96
Wisconsin	Office within the Attorney General's Office	Only fires suspected to be arson	Arson investigators: plus 1 supervisor Approximately 275 investigations:	8 5 Regional offices	-Each investigator is assigned a geographic region. -Supervisors select and assign investigators considering expertise and availability	Range of response, such as immediate for suspicious fatalities and injury to firefighter, same day for suspicious fires, next day, if available, for garage/barn fires	Supervisor monitors cases	Supervisor reviews all reports	<u>Arson Investigators:</u> 8:00a 4:30p; allowed to flex within reason	Provided choice of pay or compensatory time by union contract. Decided by investigator with supervisor's approval. 1997's overtime per investigator was 169 hours during year	Never had this problem	<u>Arson Investigators:</u> -College degree -Weapons training -Continuing education (24 hours per year) -All get arson training including NFA, IAAI. Most have attained CFI  <u>Supervisors</u> Same as above	22 new cases per year; 10-15 active cases from prior years
Wyoming	Legislative	Only fires where assistance is requested	1 arson investigator and 9 fire investigators 34 investigations	3 regional offices	Each investigator is assigned a geographic region	Immediate	By established policy	-Supervisors review -Supervisors reviews random sample of reports	8:00a - 5:00p	Awarded compensatory time; arson investigators worked 80 hours overtime; fire investigators worked 24 hours overtime; decided by supervisor	No response	<u>Fire/Arson Investigators:</u> -Certification as fire or arson investigator -Weapons training -Continuing education <u>Supervisors</u> -Prior fire service -Certification as fire investigator -Continuing education	26 for arson investigations, 8 for fire investigations

APPENDIX H

**SURVEY OF ILLINOIS FIRE CHIEFS**



**Appendix H  
SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Satisfaction with OSFM for Following									Result of New Protocol		
Dist	OAG #	Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions			
<i>The 18 districts assigned to arson investigators are shown in Exhibit 1-2 on page 5 of the report.</i>											
1	160	Very satisfied	Mostly timely	Very satisfied	Very satisfied	No	Increased	No effect			
1	161	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect			
1	303	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No		No effect			
1	304	Very satisfied	Mostly timely	Very satisfied	Very satisfied	No	No effect	No effect			
1	305	Very satisfied	Very timely	Mostly satisfied	Very dissatisfied	No	No effect	No effect			
1	341	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect			
1	342	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect			
1	344	Very satisfied	Somewhat timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	Significantly decreased	Decreased			
1	345	Somewhat satisfied	Mostly Untimely	Somewhat satisfied	Very dissatisfied	Other	No effect	No effect			
2	97	Very satisfied	Very timely	Mostly satisfied	Very satisfied	No	No effect	No effect			
2	180	Very satisfied	Mostly timely	Very satisfied	Very satisfied	No	Increased	No effect			
2	181	Very satisfied	Very timely	Very satisfied	Mostly dissatisfied	Other	No effect	No effect			
2	184	Somewhat satisfied	Somewhat timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators		Decreased			
2	185	Mostly satisfied	Somewhat timely	Mostly satisfied	Mostly dissatisfied	Enhanced arson in-house personnel training levels	No effect	No effect			
2	186	Somewhat satisfied	Somewhat timely	Mostly satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect				
2	187	Very satisfied	Somewhat timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect			
2	188	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators and other action	No effect	No effect			
2	191	Very satisfied	Mostly timely	Mostly satisfied	Very dissatisfied	Other	No effect				
2	192	Mostly satisfied	Somewhat timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators and other action	No effect	No effect			
2	249	Very satisfied	Mostly timely	Mostly satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	Decreased	Decreased			
2	250	Very satisfied	Very timely	Mostly satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect			
2	251	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect			
3	17	Very satisfied	Very timely	Mostly dissatisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect			
3	18	Mostly satisfied	Somewhat timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect			
3	210	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect			
3	211	Very satisfied	Mostly timely	Very satisfied	Somewhat satisfied	No	No effect	No effect			
3	212	Mostly dissatisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators					
3	213	Mostly dissatisfied	Very timely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	Decreased	Decreased			

**Appendix H  
SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Dist	OAG #	SATISFACTION WITH OSFM FOR FOLLOWING				RESULT OF NEW PROTOCOL		
		Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions
3	214	Somewhat satisfied	Somewhat timely	Mostly satisfied	Very satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
3	215	Very satisfied	Very timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
3	271	Very dissatisfied	Very untimely	Mostly dissatisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators and other action	Increased	Increased
3	272	Mostly satisfied	Mostly untimely	Somewhat satisfied	Mostly dissatisfied	No	No effect	No effect
3	273	Mostly satisfied	Somewhat timely	Mostly satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
3	318	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	Now have trained individual on department. Discussed ways to secure scene until investigation arrives.	No effect	No effect
3	319	Very satisfied	Mostly timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
3	320	Very satisfied	Very timely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
3	321	Mostly satisfied	Somewhat timely	Mostly satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
4	116	Somewhat satisfied	Somewhat timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
4	119	Somewhat satisfied	Mostly timely	Somewhat satisfied	Somewhat satisfied	Joined the Strike Force and helped fund Northern Ill. Investigator Network	No effect	No effect
4	121	Very satisfied	Mostly timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
4	122	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly dissatisfied	No	No effect	No effect
4	124	Mostly satisfied	Somewhat timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators		
4	125	Mostly satisfied	Mostly timely	Mostly satisfied	Not aware of protocol	No	No effect	No effect
4	165	Very satisfied	Mostly timely	Very satisfied	Very dissatisfied	Made more requests for OSFM arson investigators	No effect	No effect
4	166	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
4	170	Mostly satisfied	Very timely	Mostly satisfied	Very satisfied	No	No effect	No effect
4	171	Mostly satisfied	Very timely	Somewhat satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
4	172	Very satisfied	Mostly timely	Very satisfied	Mostly dissatisfied	No	No effect	No effect
5	33	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
5	35	Mostly satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	Other	No effect	No effect
5	36	Very satisfied	Very timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
5	37	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
5	40	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
5	44	Mostly satisfied	Somewhat timely	Mostly satisfied	Mostly dissatisfied	Made 6 fewer requests for OSFM investigation	No effect	No effect

**Appendix H**  
**SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Dist	OAG #	SATISFACTION WITH OSFM FOR FOLLOWING				RESULT OF NEW PROTOCOL		
		Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions
5	45	Mostly satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	n/a
5	50	Mostly satisfied	Somewhat timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
5	51	Very satisfied	Very timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
5	52	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
5	53	Very satisfied	Mostly timely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	Decreased	No effect
5	54	Very satisfied	Mostly timely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	No effect	Decreased
5	58	Very satisfied	Mostly timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
5	59	Very satisfied	Very timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
5	60	Very satisfied			Not aware of protocol			
5	61	Mostly satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
5	62	Mostly satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
5	63	Mostly satisfied	Mostly timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
5	64	Very satisfied	Very timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
5	65	Very satisfied	Very timely	Very satisfied	Mostly dissatisfied	No	No effect	No effect
5	66	Very satisfied	Mostly timely	Very satisfied	Not aware of protocol	No		
5	68	Very satisfied	Very timely			No		
5	71	Mostly satisfied	Very timely	Very satisfied (K-9)	Mostly satisfied	No	No effect	No effect
5	74	Mostly satisfied	Somewhat timely	Mostly satisfied	Somewhat satisfied	No		
5	75	Very satisfied	Somewhat timely	Very satisfied	Very dissatisfied	No	No effect	No effect
5	76	Mostly satisfied	Mostly timely		Very dissatisfied	Formed in house arson investigation unit and use MABAS Div. 10 and police MCAT investigators	No effect	
5	77	Very satisfied	Mostly timely	Mostly satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators and other action	No effect	No effect
5	79	Very satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
5	80	Mostly satisfied	Somewhat timely	Somewhat satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
5	81	Somewhat satisfied	Mostly timely	Somewhat satisfied K-9	Very dissatisfied	No	No effect	No effect
5	83	Somewhat satisfied	Somewhat timely	Somewhat satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
5	84	Somewhat satisfied	Mostly untimely	Very satisfied	Very dissatisfied	No	No effect	Decreased
5	85	Very satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
5	86	Somewhat satisfied	Somewhat satisfied	Very satisfied	Very dissatisfied	Made fewer requests for OSFM investigation and	Significantly decreased	Significantly decreased

**Appendix H  
SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Dist	OAG #	SATISFACTION WITH OSFM FOR FOLLOWING				RESULT OF NEW PROTOCOL		
		Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions
						formed a division team		
5	88	Somewhat satisfied	Mostly timely	Somewhat satisfied	Somewhat satisfied	No	No effect	No effect
5	90	Very satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
5	91	Very satisfied	Very timely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators		
5	92	Mostly satisfied	Somewhat timely	Mostly satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
5	93	Mostly satisfied	Somewhat timely	Very satisfied	Very satisfied	Upgraded our team to include local police department and area fire departments	No effect	No effect
5	95	Very satisfied	Somewhat timely	Somewhat satisfied	Very dissatisfied	No	No effect	No effect
5	96	Somewhat satisfied	Somewhat timely	Somewhat satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
5	98	Mostly satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
6	8	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
6	9	Very satisfied	Somewhat timely	Very satisfied	Very dissatisfied	No	No effect	No effect
6	10	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No		
6	12	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
6	13	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
6	14	Very satisfied	Very timely	Very satisfied	Very satisfied	No		
6	15	Somewhat satisfied	Somewhat timely	Mostly satisfied	Very dissatisfied	No	Significantly decreased	Significantly decreased
6	16	Very satisfied	Very timely	Very satisfied	Very dissatisfied	No	No effect	No effect
6	146	Very satisfied	Somewhat timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
6	147	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
6	148	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
6	237	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No		
6	238	Very satisfied	Mostly timely	Mostly satisfied	Not aware of protocol	No	No effect	Increased
6	260	Very satisfied	Very timely	Very satisfied	Not aware of this protocol	No	No effect	No effect
6	261	Very satisfied	Mostly timely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
6	262	Very satisfied	Mostly timely	Mostly dissatisfied	Mostly satisfied	Call local sheriff instead of state	No effect	No effect
6	287	Very satisfied	Very timely	Very satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators		
6	301	Somewhat satisfied	Mostly untimely	Mostly satisfied	Very dissatisfied	Yes	No effect	Decreased
7	103	Somewhat satisfied	Somewhat/mostly untimely	Mostly satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
7	104	Mostly satisfied	Very timely	Mostly satisfied	Very satisfied	No	No effect	No effect
7	105	Mostly dissatisfied	Mostly timely	Mostly dissatisfied	Mostly dissatisfied	No	No effect	No effect

**Appendix H**  
**SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Dist	OAG #	SATISFACTION WITH OSFM FOR FOLLOWING				RESULT OF NEW PROTOCOL		
		Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions
7	142	Very satisfied	Very timely	Very satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	Decreased	Decreased
7	179	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	
7	196	Mostly satisfied	Very timely	Mostly satisfied	Very satisfied	No	No effect	No effect
7	197	Very satisfied	Mostly timely	Very satisfied	Very satisfied	No	No effect	No effect
7	198	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No		
7	199	Mostly satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
7	200	Very satisfied	Very timely	Very satisfied	Very satisfied	No		
7	201	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
7	202	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly dissatisfied	Formed an in-house arson unit	Significantly decreased	Significantly decreased
7	203	Very satisfied	Very timely	Mostly satisfied	Very satisfied	No	No effect	No effect
7	204	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
7	205	Mostly dissatisfied	Somewhat timely	Very dissatisfied	Very dissatisfied	Will use ATF more	No effect	No effect
7	206	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
7	207	Very satisfied	Very timely	Very satisfied	Very satisfied	No	Increased	Increased
8	176	Mostly satisfied	Mostly timely	Somewhat satisfied	Somewhat satisfied	No	No effect	No effect
8	323	Mostly satisfied	Very timely	Mostly satisfied	Mostly dissatisfied	No	No effect	No effect
8	324	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
8	325	Mostly satisfied	Mostly timely	Very satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
8	326	Somewhat satisfied	Somewhat timely	Somewhat satisfied	Somewhat satisfied	Other	No effect	No effect
8	328	Mostly satisfied	Mostly timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
8	329	Somewhat satisfied	Mostly timely	Somewhat satisfied	Mostly dissatisfied	In-house arson investigation unit and used insurance company investigators		
8	330	Mostly satisfied	Somewhat timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
8	331	Somewhat satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
8	332	Very satisfied	Very timely	Very satisfied	Mostly dissatisfied	No	No effect	No effect
8	334	Somewhat satisfied	Somewhat timely	Mostly dissatisfied	Mostly satisfied	Other	No effect	No effect
9	1	Very satisfied	Very timely	Very satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
9	7	Mostly satisfied	Mostly timely	Very satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
9	137	Mostly dissatisfied	Mostly untimely	Somewhat satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
9	138	Mostly satisfied	Somewhat timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
9	139	Somewhat satisfied	Very timely	Mostly satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators and use insurance companies		

**Appendix H**  
**SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Dist	OAG #	SATISFACTION WITH OSFM FOR FOLLOWING				RESULT OF NEW PROTOCOL		
		Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions
9	144	Somewhat satisfied	Somewhat timely	Somewhat satisfied	Mostly satisfied	No	Decreased	Decreased
9	145	Very satisfied	Very timely	Very satisfied	Very satisfied	No		
9	244	Very dissatisfied	Very timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
9	245	Mostly satisfied	Very untimely	Somewhat satisfied	Very dissatisfied	No	Significantly decreased	Significantly decreased
9	246	Very dissatisfied	Mostly untimely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	Decreased	Decreased
9	247	Very dissatisfied	Very untimely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	Significantly decreased	Significantly decreased
10	216	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No		
10	217	Very satisfied	Very timely	Mostly satisfied	Very dissatisfied	No	No effect	No effect
10	239	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	
10	252	Very satisfied	Very timely	Very satisfied	Not aware of protocol	No		
10	253		Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
10	254	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
10	256	Very satisfied	Very timely		Somewhat satisfied	Made fewer requests for OSFM arson investigators		
10	257	Somewhat satisfied	Mostly timely	Very satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	Decreased	Decreased
10	258	Mostly dissatisfied	Mostly untimely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators and are working on getting a paid on-call investigator for department	n/a	n/a
10	274	Very satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
10	275	Mostly satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
10	276	Somewhat satisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
10	277	Somewhat satisfied	Very timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
10	278	Mostly satisfied	Very timely	Mostly satisfied	Very satisfied	No	No effect	No effect
10	306	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
10	307	Mostly satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
10	308	Mostly satisfied	Very timely	Very satisfied	Mostly dissatisfied	Other-starting to pool resources with surrounding depts.	No effect	No effect
10	346	Mostly satisfied	Mostly timely	Somewhat satisfied	Somewhat satisfied	No	No effect	No effect
10	347	Mostly satisfied	Very timely	Mostly satisfied	Very dissatisfied	No	No effect	No effect
11	173	Very satisfied	Somewhat timely	Mostly satisfied	Somewhat satisfied	Use county wide arson task force whenever possible		
11	174	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	Other	No effect	No effect
11	175	Very satisfied	Somewhat timely	Mostly satisfied	Mostly satisfied	No	Increased	No effect
12	19	Very satisfied	Very timely	Mostly satisfied	Very satisfied	No	No effect	No effect
12	27	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
12	28	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
12	29	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect

**Appendix H  
SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Dist	OAG #	SATISFACTION WITH OSFM FOR FOLLOWING				RESULT OF NEW PROTOCOL		
		Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions
12	259	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
12	265	Somewhat satisfied	Mostly timely	Mostly dissatisfied	Somewhat satisfied	Used police and insurance investigators	No effect	No effect
12	266	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
12	267	Very satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
12	268	Very satisfied	Very timely	Somewhat satisfied	Very satisfied	No	No effect	No effect
12	280	Very satisfied	Somewhat timely	Very satisfied	Very satisfied	No	Decreased	No effect
12	281	Very satisfied	Very timely	Very satisfied	Not aware of protocol	No	No effect	No effect
12	290	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
13	20	Very satisfied	Mostly timely	Very satisfied	Very satisfied	No	No effect	Increased
13	22	Mostly satisfied	Mostly untimely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
13	23	Very satisfied	Very timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
13	24	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
13	25	Mostly satisfied	Very timely	Mostly satisfied	Very satisfied	No		
13	26	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
13	31		Very timely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
13	106	Mostly satisfied	Very timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
13	128	Mostly satisfied	Somewhat timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
13	131	Somewhat satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
13	149	Mostly dissatisfied	Mostly untimely	Mostly dissatisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
13	150	Mostly satisfied	Mostly timely	Mostly satisfied	Very satisfied	No	No effect	No effect
13	151	Very satisfied	Mostly timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
13	152	Very satisfied	Very timely	Very satisfied	Not aware of protocol	No	No effect	No effect
13	219	Very satisfied	Very timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
13	220	Very satisfied	Mostly timely	Very satisfied	Very satisfied	No	No effect	No effect
13	221			Very satisfied	Very dissatisfied	Made plans to secure scene for much longer duration due to delays		Decreased
13	222	Very satisfied	Very timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
13	223	Mostly satisfied	Somewhat timely	Mostly satisfied	Very dissatisfied	No	Decreased	Decreased
13	269	Very satisfied	Very timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
13	279	Mostly satisfied	Mostly timely	Very satisfied	Mostly satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
13	293	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
13	294	Very satisfied	Very timely	Very satisfied	Very dissatisfied	No	No effect	No effect
13	310	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
13	312	Somewhat satisfied	Somewhat timely	Mostly satisfied	Mostly dissatisfied	No	Decreased	Decreased
13	313	Very satisfied	Very timely	Very satisfied	Mostly dissatisfied	No	No effect	
14	141	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
14	159	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
14	224	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect

**Appendix H**  
**SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Dist	OAG #	SATISFACTION WITH OSFM FOR FOLLOWING				RESULT OF NEW PROTOCOL		
		Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions
14	225	Mostly satisfied	Mostly timely	Somewhat satisfied	Mostly satisfied	No	No effect	No effect
14	226	Somewhat satisfied	Somewhat timely	Somewhat satisfied	Mostly dissatisfied	No	No effect	No effect
14	227	Mostly satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
14	228	Very satisfied	Mostly timely	Very satisfied	Not aware of protocol	No	No effect	
14	231	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
14	233	Somewhat satisfied	Mostly timely	Mostly dissatisfied		No	No effect	No effect
14	263	Very dissatisfied	Mostly timely	Mostly dissatisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	Decreased
14	264	Somewhat satisfied	Somewhat timely	Somewhat satisfied	Somewhat satisfied	No	No effect	No effect
14	296	Mostly satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
14	299	Very satisfied	Mostly timely	Very satisfied	Very satisfied	No	No effect	No effect
15	99	Very satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
15	100	Mostly satisfied	Mostly timely	Somewhat satisfied	Mostly satisfied	No	No effect	No effect
15	101	Mostly satisfied	Very timely	Very satisfied	Very satisfied	No	Increased	Increased
15	102	Somewhat satisfied	Very untimely	Very satisfied	Very dissatisfied	Made fewer requests for OSFM arson investigators	Significantly decreased	Decreased
15	129	Very satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	Formed in-house arson unit, use insurance investigators	No effect	No effect
15	130	Somewhat satisfied	Somewhat timely	Mostly dissatisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators		
15	157	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
15	208	Mostly satisfied	Somewhat timely	Somewhat satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	No effect
15	209	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
15	234	Very satisfied	Very timely	Mostly satisfied	Not aware of protocol	No	No effect	No effect
15	235	Mostly satisfied		Mostly satisfied	Not aware of protocol	No		
15	236	Mostly satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect
16	4	Mostly dissatisfied	Mostly timely	Mostly satisfied	Somewhat satisfied	Made fewer requests for OSFM arson investigators	No effect	Decreased
16	5	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	Decreased	No effect
16	30	Somewhat satisfied	Somewhat timely	Mostly dissatisfied	Somewhat satisfied	No	No effect	No effect
16	284	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
16	285	Very satisfied	Mostly timely	Mostly satisfied	Very dissatisfied	No	No effect	
16	286	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
16	295	Very dissatisfied	Mostly untimely	Very dissatisfied	Mostly dissatisfied	No	No effect	No effect
16	297	Mostly satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
16	298	Mostly satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
16	314	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
16	315	Very satisfied	Mostly timely	Mostly satisfied	Mostly satisfied	No	No effect	No effect
16	316	Mostly satisfied	Very timely	Mostly satisfied	Very satisfied	No	Increased	No effect
17	132	Very satisfied	Somewhat timely	Very satisfied	Very satisfied	No	Increased	No effect
17	133	Very satisfied	Very timely	Very satisfied	Somewhat satisfied	No	No effect	No effect
17	134	Mostly satisfied	Mostly timely	Mostly satisfied	Not aware of protocol	No		

**Appendix H**  
**SURVEY OF ILLINOIS FIRE CHIEFS FY 1998**

Dist	OAG #	SATISFACTION WITH OSFM FOR FOLLOWING				RESULT OF NEW PROTOCOL		
		Overall	Timeliness	Investigation	Protocol	Changes	Arrests	Prosecutions
17	135	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
17	136	Very satisfied	Very timely	Very satisfied	Mostly dissatisfied	No	No effect	No effect
17	140	Very satisfied	Mostly timely	Very satisfied	Not aware of protocol	No	No effect	No effect
17	282	Mostly satisfied	Mostly timely		Mostly satisfied	No		
17	283	Very satisfied	Mostly timely	Mostly satisfied	Very satisfied	No	No effect	No effect
17	317	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
17	336	Mostly satisfied	Somewhat timely	Mostly satisfied	Somewhat satisfied	No	No effect	No effect
17	337	Mostly satisfied	Somewhat timely	Mostly satisfied	Mostly dissatisfied	No	No effect	No effect
17	338	Very satisfied	Very timely	Very satisfied	Mostly satisfied	No	No effect	No effect
17	339	Very satisfied	Mostly timely	Very satisfied	Mostly dissatisfied	Try to do more investigation with our men to speed up process	No effect	No effect
17	340	Mostly satisfied	Mostly timely	Somewhat satisfied	Mostly satisfied	No	No effect	No effect
18	2	Mostly dissatisfied	Mostly untimely	Very satisfied	Mostly dissatisfied	No	Decreased	No effect
18	3	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	Made more requests for OSFM arson investigators	No effect	No effect
18	153	Mostly satisfied	Mostly timely	Somewhat satisfied	Very satisfied	No	No effect	No effect
18	154	Somewhat satisfied	Mostly timely	Mostly satisfied	Mostly dissatisfied	Made fewer requests for OSFM arson investigators and formed an in-house arson investigation unit	Increased because had to form our own unit	Decreased
18	155	Mostly dissatisfied	Somewhat timely	Very dissatisfied	Somewhat satisfied	No	No effect	No effect
18	156	Very satisfied	Very timely	Very satisfied	Very satisfied	No		
18	162	Very satisfied	Mostly timely	Very satisfied	Very dissatisfied	No	No effect	No effect
18	163	Very satisfied	Very timely	Very satisfied	Not aware of protocol	No		
18	241	Very satisfied	Very timely	Very satisfied	Very satisfied	No	No effect	No effect
18	242	Very satisfied	Very timely	Mostly dissatisfied	Mostly dissatisfied	No	Decreased	Decreased
18	309	Very satisfied	Mostly timely	Very satisfied	Mostly satisfied	No	No effect	No effect



APPENDIX I

**STATE FIRE MARSHAL'S RESPONSE**



Office of the Illinois  
**State Fire Marshal**

June 11, 1999

Mr. William Holland  
Office of the Auditor General  
Des Park Plaza  
740 East Ash  
Springfield, IL 62703-3154

Dear Mr. Holland:

Thank you for the insightful analysis and recommendations contained in the Management Audit of the arson investigations operations. In the past few weeks, the agency has already implemented solutions to a number of the key recommendations. One of the most visible changes that has been made involves having arson investigators serve as duty agents to provide immediate assistance to fire departments and law enforcement for arson investigations. Response is being provided 24 hours a day, 7 days a week. Other changes will be initiated in the upcoming weeks.

It is rewarding to learn of some of the high ratings the agency received for its arson programs as a result of your survey. It is also helpful to know of some independent recommendations for improvements. The audit will aid the agency in correcting some deficiencies and making a good program even better.

The following is the agency's response to each of the recommendations:

**Audit Recommendation 1:** The Office of the State Fire Marshal should review the priority codes of its protocol to ensure the protocol allows responding to fires promptly.

**Agency Response:** This matter has been resolved by assigning arson investigators to serve as duty agents on a rotating basis to speak directly to fire or police departments requesting assistance on the agency's arson hotline. The duty agents have the authority to dispatch personnel immediately, 24 hours a day, 7 days a week.

The protocol clarification (dated February 1998) as referred to in the report clearly states in the second sentence, "The supervisor has the authority to dispatch investigators anytime necessary, 24 hours a day, 7 days a week." It further states in the same paragraph that, "...the supervisor who has the authority to dispatch investigators at any time." The agency and divisional policies for providing prompt response to requests for arson investigators has essentially remained unchanged over many years. The clarification to the protocols was issued in February 1998 and was with the review and approval of the Illinois Fire Chiefs Association. However, there was some question and confusion and consequently, information provided to the fire chiefs executive board and at the May 17, 1999, conference, the clear and unmistakable statement was made that arson investigators are available 24 hours a day, 7 days a week to provide assistance anywhere in the state. The readers must also consider the high satisfaction rate of the agency, by Illinois fire chiefs, as a result of the auditors survey. The audit survey found overall satisfaction with the agency 81 percent; adequacy of investigations 85 percent; and timeliness of investigations 76 percent.

Dissatisfaction with the agency's handling of arson investigations was only 6 percent. The only survey question that revealed greater dissatisfaction had to do with the agency's policy and protocols for sending arson investigators.

**Audit Recommendation 2:** The Office of the State Fire Marshal should review the method of assigning cases to reduce the disparity in arson investigators' caseloads to make work responsibilities more equal. Also, all requests for investigators should be documented, including any reasons for not dispatching investigators.

**Agency Response:** The agency is involved in productive and ongoing labor-management meetings with the arson investigators union and the assignment of cases and geographic boundaries is an issue that will be discussed and resolved. With regard to documenting requests for arson investigators, this is being accomplished as IEMA answers the arson hotline and records and documents all calls. They also connect the caller directly with a duty agent who is an arson investigator who can answer technical questions and has the authority to dispatch the nearest available investigator 24 hours a day, 7 days a week. The mid-level administrators who will be hired to meet the findings and recommendations of the report will be assigned these specific duties, among others, to monitor these areas.

**Audit Recommendation 3:** The Office of the State Fire Marshal should maintain complete time records. OSFM should:

- A. Keep records on when overtime requested by investigators was not authorized and the reason for not authorizing overtime.
- B. Ensure that investigators' compensatory time records are accurately recorded.
- C. Communicate in writing all the time codes that division employees may use, describe when each code should be used, and monitor employees' time charges.
- D. Require all arson division employees to keep accurate time records.

**Agency Response:** Time records are governed by CMS guidelines and will be adhered to by the agency. The new mid-level administrators will be given the specific responsibility for monitoring schedules and timekeeping on a daily basis. All overtime must already be approved in advance by a supervisor, and may also be approved by the duty agents who dispatch investigators to fire scenes. The time codes in question have to do with division report forms which are being reviewed and will be modified when labor and management come to agreement which is anticipated in the near future. All employees are required to keep accurate time records. However, administrators will be expected to closely review them for each pay period.

**Audit Recommendation 4:** The Office of the State Fire Marshal should review and update its policies and procedures regarding fire investigation reports and records. In addition, OSFM should implement management controls to ensure that:

- A. Reports are prepared for all investigations.
- B. Reports conform with standards established by the agency, such as for completeness, interview information, and physical evidence who may be a regional administrator or specialist.
- C. Reports are reviewed by a certified arson investigator who may be a regional administrator or specialist.
- D. All pertinent records of an investigation are in the agency's control. A checklist could be established which specifies the elements of a complete investigation file.

Mr. William Holland  
Page 3  
June 11, 1999

**Agency Response:** Reports will be prepared for all cases. Administrators or lead workers will be responsible for reviewing reports for completeness and case preparation. Required records will be maintained in the agency offices.

**Audit Recommendation 5:** The Office of the State Fire Marshal should evaluate the work performance of arson investigators more objectively to include both negative and positive comments that are applicable, provide feedback on a regular basis including their annual evaluations, document deficiencies, and take action to correct work performance that continues to not meet expectations.

**Agency Response:** The addition of the new administrators will provide more frequent and direct contact with the arson investigators. Review of reports, assistance in case investigation in the field for major cases, and participation in continuing education between the administrators and investigators will be achieved in the future. Positive results will be noted with regard to personal performance and action will be taken for any investigators not meeting expectations.

**Audit Recommendation 6:** The Office of the State Fire Marshal should inform all local fire departments that they need to submit data on fires each month as required by the Fire Investigation Act (425 ILCS 25/6), and should monitor to ensure that complete data is provided in a timely manner.

**Agency Response:** The agency recently sent a letter to all fire departments reminding them of the statute requiring the submission of fire reports, a copy of which is included in this audit report. The vast majority of fire departments have been submitting fire data, yet a small number of mainly rural and volunteer departments have not. The agency will continue to work cooperatively with them to increase compliance.

**Audit Recommendation 7:** The Office of the State Fire Marshal should conduct a review to determine if there is a need for continuing education requirements for investigators who want to maintain their fire or arson investigation certification.

**Agency Response:** Professional development and training of arson investigators will be enhanced, beyond what current rules and regulations require. These will be in concert with national standards (NFPA 921) and professional associations with which the agency will have active participation. Several training courses and professional development activities have been scheduled to begin in the summer of 1999.

The agency will benefit from this outside and independent review of the program. I thank you for the opportunity to update you on progress that is being made to meet the report recommendations.

Sincerely,



Thomas L. Armstead  
State Fire Marshal

Enclosures



**Office of the Illinois  
State Fire Marshal**

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Subject: Clarification of Protocol for requesting Arson Investigators

The Chief or designee should use the Arson Hotline 800-252-2947 and ask for the OSFM supervisor on duty to request an arson investigator. The supervisor has the authority to dispatch investigators anytime necessary, 24 hours a day, seven days a week. The chief or his designee may be asked if they can have the response delayed until morning or after the weekend, however, the Chief or designee should discuss special needs, requirements or other contributing factors with the supervisor who has the authority to dispatch investigators at any time.

There are 20 arson investigators serving 102 counties and 1,200 fire departments. All investigators have assigned territories and will also be asked to cover other agents' calls when vacation, sick leave, compensatory time or other days off are taken as provided by union contract and state guidelines.

During 1997, the division investigated 1,104 cases and 526 of these were determined to have been incendiary while 195 were accidental. The agency's protocol for assigning investigators reflects our concern for people. Deaths, injuries and major impact fires continue to receive our highest priority. We will continue to respond to suspicious fires to promptly protect and investigate potential crime scenes.

State statutes provide a procedure, with confidentiality and immunity provisions, to share factual information among certain fire investigation agencies. Full cooperation will be given in all investigations following the procedures established by state law.

We appreciate the cooperation of all parties involved and will periodically evaluate these operations to assure continued effective and efficient service for the needs of the fire service, law enforcement, insurance industry and citizens of Illinois.

2/98



Office of the Illinois  
**State Fire Marshal**

**General Office**

217-785-0909

**FAX**

217-782-1062

**Divisions**

ARSON INVESTIGATION

217-782-9116

BOILER and PRESSURE

VESSEL SAFETY

217-782-2596

FIRE PREVENTION

217-785-4714

MANAGEMENT SERVICES

217-782-9039

**NFIRS**

217-785-5826

HUMAN RESOURCES

217-785-1026

PERSONNEL STANDARDS

and EDUCATION

217-782-4542

PETROLEUM and

CHEMICAL SAFETY

217-785-5875

PUBLIC INFORMATION

217-785-1021

**WEB SITE**

[www.state.il.us/dsfm](http://www.state.il.us/dsfm)

April 6, 1999

Dear Chief:

Fire deaths in Illinois have fallen dramatically during the last decade. As a member of the fire service, you can be justifiably proud of the efforts made not only in fire suppression but in public awareness.

In Illinois, as with most states, the medium of fire reporting is the National Fire Incident Reporting System (NFIRS).

To date, in order to accurately count fire deaths NFIRS has been supplemented with data from clipping services and death certificates from the Department of Public Health. Comparing these sources makes it obvious that some departments aren't reporting Illinois fire fatalities via NFIRS. If deaths caused by fires aren't reported, there is high probability that other fire incidents are being neglected as well.

Under these circumstances, the fire service and the people of Illinois are being deprived of a valuable source of information from the experience of the fire fighting community. We cannot "fight fire with facts" if the data we are receiving is incomplete. Without full compliance, none of us - our office, the fire service nor the public can be fully aware of the fire situation in our state. Compliance with the law is not the only concern. State Statutes (425 ILCS 25/6) require fire departments to report all fires to the Office of the State Fire Marshal.

I know you care about the people and property in your communities, and you may feel you already have your hands full without having to fill out forms.

So, I'll make you a deal. We'll make it as easy as possible for you to report accurately and in a timely fashion. We'll help you get statistics and other information that will help you plan your department strategy and your budgets. We'll do everything in our power to be accessible and answer your questions.

Basically, all we ask of you is to report by the 15<sup>th</sup> day of the month what happened the month before. Plus, if possible, fax the reports with fatalities to 217-782-1062.

We'll soon be joining other states in the transition to Version 5.0, which will allow reporting via the Internet. In the meantime, please get the reports in. If you have suggestions concerning any way we can help you, drop us a line, call us or Email us. Information Systems Manager Kay Johnson's number is 217-785-5826 and her Email is [Kjohnson@pop.state.il.us](mailto:Kjohnson@pop.state.il.us). Mine is 217-785-1040 and [Khill@pop.state.il.us](mailto:Khill@pop.state.il.us). Thanks for your help.

Sincerely,

Kent R. Hill

Director, Division of Management Services