

# National Fire Incident Reporting System Program Management

NFIRS PM-Student Manual

*3rd Edition, 1st Printing-November 2007*



**FEMA**

**FEMA/USFA/NFA  
NFIRS PM-SM  
November 2007  
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***National Fire Program Incident Reporting  
System Program Management***



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**FEMA**



**FEDERAL EMERGENCY MANAGEMENT AGENCY**

**UNITED STATES FIRE ADMINISTRATION**

**NATIONAL FIRE ACADEMY**

**FOREWORD**

The Federal Emergency Management Agency (FEMA) was established in 1979. FEMA's mission is to focus Federal effort on preparedness for, mitigation of, response to, and recovery from emergencies encompassing the full range of natural and manmade disasters.

FEMA's National Emergency Training Center (NETC) in Emmitsburg, Maryland, includes the United States Fire Administration (USFA), its National Fire Academy (NFA), and the Emergency Management Institute (EMI).

To achieve the USFA's legislated mandate (under Public Law 93-498, October 29, 1974), "to advance the professional development of fire service personnel and of other persons engaged in fire prevention and control activities," the U.S. Fire Administration has developed an effective program linkage with established fire training systems which exist at the State and local levels. It is the responsibility of the USFA to support and strengthen these delivery systems. The field courses of the USFA's National Fire Academy have been sponsored by the respective State fire training systems in every State.

The USFA's National Fire Academy is proud to join with State and local fire agencies in providing educational opportunities to the members of the Nation's fire services.



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**COURSE GOAL**

Use NFIRS and evolving technology to assist the fire service and information partners in making better decisions that address fire and life safety issues.

**STUDENT OUTCOMES**

1. Shape the future of the fire service and fire service response to community needs through the effective use of information.
2. Understand the roles and responsibilities of players involved in NFIRS.
3. Identify and explain the benefits of collecting and compiling incident data through NFIRS.
4. Apply code strategy principles to better document incidents.
5. Understand and apply proper data analysis and data presentation techniques.
6. Select and use proper methodologies to support the decisionmaking process using NFIRS data.

**TARGET AUDIENCE**

Administrative fire officers, systems operations (data entry/support staff), and system management/administration staff. Individuals who need the knowledge, skills, and abilities to manage a reporting system



**COURSE SCHEDULE**

DAY 1: Unit 1  
Computer Lab

DAY 2: Unit 2  
Computer Lab

DAY 3: Unit 3  
Computer Lab

DAY 4: Unit 4  
Computer Lab

DAY 5: Unit 4 (continued)  
Computer Lab

DAY 6: Computer Lab  
Unit 5



# MODULE 1

## INTRODUCTION

### Prerequisites

Students are required to meet the following prerequisites before participating in this Module:

- *Successfully complete the two-day Introduction to NFIRS Course; or*
- *Successfully complete the Introduction to NFIRS Self-Study Course; or*
- *Successfully complete an equivalent course offered through their State NFIRS Program Manager*

### Terminal Objectives

The students will be able to:

- Demonstrate an understanding of the various roles and responsibilities of the NFIRS program manager at the state and local level.
- Describe how the NFIRS program manager can impact the fire and emergency services issues in their state or community.
- Describe how the National Fire Incident Reporting System (NFIRS) can have an impact on fire and life safety decisions.
- Describe the resources that help the program managers do their job.

### Enabling Objectives

The students will:

- Identify the roles and responsibilities for managing the NFIRS program and how these are accomplished in their respective jurisdictions.
  - Describe the current level of involvement in their jurisdiction.
-

- Create an action plan to identify future initiatives to enhance participation.
- Identify opportunities for collaboration and organizational commitment that contribute to the success of NFIRS at the local state and national levels.
- Demonstrate the use of resources that help manage NFIRS.

## References

- **Student Manual**

Your Student Manual (SM) includes a narrative text for you to highlight key points for some of the content and also can be used to make notes. During several of the units, you will be using your SM as a guide (or map) to the source documents. The SM will be your primary reference material once you return to your department. Page references to the source documents you will be using throughout the course are included in the SM.

- ***NFIRS Complete Reference Guide***

The *NFIRS Complete Reference Guide* is a line-by-line guide to the completion of the incident report modules. The handbook includes all of the code conventions.

- ***NFIRS Data Entry Tool Guide***

The *NFIRS Data Entry Tool Guide* is a guide for the entry, maintenance, and validation of incidents, as well as a detailed explanation and steps on how to use each tool.

- ***NFIRS System Administration Tool Guide***

The *NFIRS System Administration Tool Guide* is a guide for system administrators setting up and maintenance of group and users.

- ***NFIRS Configuration Tool Guide***  
The *NFIRS Configuration Tool Guide* is a guide for the setup of user options and local database access.
- ***NFIRS Web-Based Reporting Tool Guide***  
The *NFIRS Web-Based Reporting Tool Guide* includes step-by-step instructions to generate, retrieve, and print reports from the Web-Based Reporting Tool.

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NFIRS PROGRAM MANAGEMENT

*Module 1 – Introduction*

## MAKING NFIRS WORK

Fire department data collection has had a positive impact on citizen safety. Reports of fires in consumer products have led to investigations and recalls of certain coffee makers, televisions, and heating appliances. The success of the system is dependent on commitment at four levels. The first, and most important, is the local level. The success of the **National Fire Incident Reporting System** (NFIRS) begins with the commitment of the local fire department and its personnel to the collection of accurate data in a timely manner.

At the state level, the State Fire Marshal, or another agency that manages NFIRS, must support the efforts of fire departments that participate in the system and encourage the participation of non-reporting departments.

The federal agency that administers NFIRS is the United States Fire Administration (USFA), and the National Fire Academy (NFA) provides NFIRS training opportunities.

Working at the local fire agency level, the NFIRS Program Managers play a vital role in the system's success. Their responsibilities include managing the system, ensuring quality reports, providing feedback to their department, and increasing participation in NFIRS.

Whether you have the title of NFIRS Program Manager or are involved in some other capacity, you can make a difference in the system. For instance, clerical and administrative personnel can influence the way NFIRS is managed. In order to influence (and improve) NFIRS, regardless of the title you hold, you must understand the big picture, from the mechanics of data collection to the importance of data to decision-makers at all levels of government.

This course is designed to help you meet these challenges. We will use the five basic NFIRS program management functions listed below throughout the course:

- Planning
- Administration
- Training

- Operations
- Communications

## **COURSE OVERVIEW**

### **Course Goal**

Use NFIRS and evolving technology to assist the fire service and information partners in making better decisions that address fire and life safety issues.

### **Course Requirements**

- Attend all classes
- Participate in discussions and activities
- Complete individual and group activities
- Complete additional readings as required
- Complete individual action plan

### **Student Outcomes**

- Shape the future of the fire service and fire service response to community needs through effective use of information.
- Understand the roles and responsibilities of players involved in NFIRS.
- Identify and explain the benefits of collecting and compiling incident data through NFIRS.
- Apply coding strategy principles to better document incidents.
- Understand and apply proper data analysis and presentation techniques.
- Select and use proper methodologies to support the decision-making process using NFIRS data.

## **Modules of Instruction**

### **Module 1: Introduction**

This Module reviews the history of NFIRS and explains the relationships among the various levels of people who collect and use NFIRS data. It also reviews the resources and materials that will be used in class, including documentation manuals, software, PCs, USFA tools, the computer lab, and the Internet.

### **Module 2: The NFIRS System**

This Module reviews the various incident reporting modules, discusses coding strategies and the flow of data from the local to the state and federal database. This Module introduces the *NFIRS Complete Reference Guide*, system documentation, and other resources.

### **Module 3: NFIRS Quality Assurance**

The purpose of this Module is to provide students with a guide to developing a successful quality control/quality assurance program. Students will learn to differentiate between the typical and special-case or consequential incidents, identify required and essential data elements, and will utilize standard output reports and other tools to identify data quality issues.

### **Module 4: Data Analysis and the Decision-Making Process**

This Module is designed to help students identify the business reasons for using fire data analysis to enhance local fire agency effectiveness and efficiencies, and apply analytic techniques to the decision-making process. Students will use NFIRS data, the decision-making process and analysis tools, to address real agency problems, issues and questions.

## Module 5: NFIRS Program Management

The purpose of this Module is to help students understand the functions involved in managing an NFIRS program in order to improve participation, timeliness of reporting, data quality, understand the value of NFIRS data at the local, state, and federal levels, and using CATPO.

### **COURSE MATERIALS**

#### **Student Manual**

Your Student Manual (SM) includes a narrative text for you to highlight key points for some of the content and also can be used to make notes. During several of the Modules, you will be using your SM as a guide (or map) to the source documents. The SM will be your primary reference material once you return to your department. Page references to the source documents you will be using throughout the course are included in the SM.

#### **NFIRS References**

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##### NFIRS Data Entry Tool Guide

The *NFIRS Data Entry Tool Guide* is a guide for the entry, maintenance, and validation of incidents, as well as a detailed explanation and steps on how to use each tool.

##### NFIRS System Administration Tool Guide

The *NFIRS System Administration Tool Guide* is a guide for system administrators setting up and maintenance of group and users.

### NFIRS Configuration Tool Guide

The *NFIRS Configuration Tool Guide* is a guide for the setup of user options and local database access.

### NFIRS Web-Based Reporting Tool Guide

The *NFIRS Web-Based Reporting Tool Guide* includes step-by-step instructions to generate, retrieve, and print reports from the Web-Based Reporting Tool.

## **NFIRS PROGRAM DEVELOPMENT**

The need to collect data was realized and identified in 1972 with the publication of *America Burning*. Page 9 reports the recommendation "... that a national fire data system be established to provide a continuing review and analysis of the entire fire problem." The USFA, which was created based on recommendations in *America Burning*, is the agency that evaluates the Nation's fire problem. Among other mandates, the USFA is charged with providing for a nationwide exchange of information pertaining to fire and life safety and having data collection, storage, retrieval, and dissemination capability.

Early data collection varied throughout the country. The first States to pilot test the NFPA 901 system were California, Oregon, Ohio, and New York. Version 1 software, developed by the National Fire Prevention and Control Administration (NFPCA was USFA's predecessor), was used in Minnesota, Missouri, and South Dakota. The program started in 1975 with the "NFIRS Users Conference." Version 2 software was completed between 1976 and 1978. Version 3 development began in 1979, and Version 4 in 1985.

### **The Data Collection Process**

*Fire departments play a crucial role in the collection of fire-related data.* In fact, NFIRS would not exist without fire department participation. The fire chief plays an important role in determining the success of NFIRS at the local level. The fire chief must be committed to NFIRS and must reinforce that commitment

through management policy and practices. Absent or incomplete data diminish the capacity of the system to provide the information needed for decision-making.

### Data Collection at the Local Level

The data collection process actually begins with the initial receipt of the call by the dispatcher. The company officer (CO) and/or the Incident Commander (IC) then completes the necessary report or reports when the incident ends. Data entered must be as complete and accurate as possible.

Completing the NFIRS forms is not an end in itself. Changes are made to the data based on additional information about the cause of the fire, interviews with people who have been injured at the incident, or changes to the estimated dollar loss.

Agencies other than the fire department may supplement the initial collection. For instance, the medical examiner or hospitals can be contacted for follow-up reports on casualties that must be changed to fatalities. Law enforcement agencies may provide additional information on the cause of the fire if a crime is involved. Offices of emergency management also can provide information that may supplement the initial data collection.

### Data Collection at the State Level

Data collection for NFIRS States usually begins with the State fire marshal or equivalent office. The individual at this office needs to ensure that the program has priority. He or she oversees the use of the data and can coordinate the collection of data with other State agencies. An important role of the State Program Manager is to market the product to decision-makers who can use the information from the data and to the fire departments that collect and use the data.

### Data Collection at the National Level

Agencies at the national level that collect data include the USFA which provides oversight and funding for NFIRS. The USFA also

makes data available to those who need them. The National Fire Data Center provides a central location to collect data from the States and provides feedback to the States in the form of reports.

## RESOURCES

There are a number of resources available to help you manage an NFIRS program. Many of them you will use in this course. We have already talked about your SM, the *NFIRS Handbook*, and the *Fire Data Analysis Handbook*. Some other resources are described below.

**Data Entry/Validation Tool:** Program for entering incidents, validating incidents, and producing summary reports.

**Configuration Tool:** Program to set online/offline reporting.

**System Administration tool:** Program used to identify NFIRS 5.0 users, set up groups, and set user permissions.

**Learning Resource Center:** The Learning Resource Center (LRC) is the campus library for students attending the NFA. With a collection of more than 50,000 books, reports, magazines, and audiovisual materials, the LRC facilitates and supports research and curriculum development and design. The LRC staff can supply routine information, do literature searches, compile bibliographies, and provide documentation in the form of reports and articles. Access to the LRC card catalog is available over the Internet.

**Computer Lab:** Students will use campus computers for various course activities and will have a chance to try several software packages.

## SUMMARY

Collection and analysis of NFIRS data can assist fire departments and other information partners in developing fire and life safety strategies. NFIRS is the mechanism used to collect standardized data from fire departments. The success of the system begins with commitment at the local level.

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NFIRS PROGRAM MANAGEMENT

*Module 1 – Introduction*

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The five basic functions of NFIRS program management are:

- Planning
- Administration
- Training
- Operations
- Communications

### **Activity 1.1**

#### **Introductions**

#### **Purpose**

To allow you to become acquainted with each other and to gain insight into the collection and use of data.

#### **Directions**

1. Individually, use the survey form on the following page to gather data about a student you do not currently know.
2. Make sure that you gather enough data so that you can introduce this person to the rest of the class.
3. You and your partner will have a total of 10 minutes to gather the data and prepare yourselves to make introductions.

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NFIRS PROGRAM MANAGEMENT

*Module 1 – Introduction*

**Activity 1.1 (cont'd)  
Survey**

Name: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Employer: \_\_\_\_\_

**Number of employees:**

\_\_\_\_ 1-25    \_\_\_\_ 26-50    \_\_\_\_ 51-100    \_\_\_\_ 101-200    \_\_\_\_ 201-500    \_\_\_\_ 501+

**Number of Incidents Handled Per Year: (check one)**

<100     101-1,000     1,001-10,000     10,001-50,000     50,001-100,000     >100,000

**Experience with NFIRS:**

<1 year     1-3 years     3-5 years     5-10 years     >10 years

**Data Collection/Entry Responsibilities:**

- Complete NFIRS or other incident reports.
- Gather incident reports from stations/departments.
- Review and/or edit forms/data submitted by others.
- Upload/send incident data to \_\_\_\_\_ State \_\_\_\_\_ Federal.
- Design and/or carry out special studies.
- Key and/or code incident data submitted.

**Data Analysis Responsibilities/Skills:**

- Analyze data on a regular basis and for special reports.
- Possess basic statistical skills at a beginner, intermediate, advanced level.
- Possess advanced statistical skills at a beginner, intermediate, advanced level.

**Activity 1.1 (cont'd)**

**Presentation Responsibilities/Skills:**

- Prepare reports for supervisor, agency/personnel, decision-makers, media, public, etc.
- Promote use of NFIRS by making presentations in own agency, to outside groups.
- Use information to make presentations "in house," to decision-makers, to public, etc.
- Develop charts and graphs--skills are beginner, intermediate, or advanced.

**Program Management Responsibilities:**

- Develop and/or deliver training.
- Conduct needs assessments and develop short- and long-range plans.
- Supervise employees--schedule work, evaluate performance.
- Provide technical support for data collection, coding, analysis, presentation.
- Testify at legislative and/or public hearings.
- Market NFIRS to fire service, public, decision-makers, media.
- Respond to inquiries from public, media, decision-makers.
- Network with other NFIRS managers.

**Course Expectations:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Activity 1.2**  
**Scavenger Hunt (Optional)**

**Purpose**

To evaluate your familiarity with, and use of, resources that help to manage NFIRS.

**Directions**

1. You will have 20 minutes to individually complete the following Student Activity Worksheet.
2. Use all of the resources to which you have been introduced or others with which you are familiar to find the information. Note the source for each question.
3. Return to class ready to report what you have found. Your instructor will collect the worksheets.

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NFIRS PROGRAM MANAGEMENT

*Module 1 – Introduction*

**Activity 1.2 (cont'd)  
Worksheet**

1. List (7) of the approved NFIRS 5.0 vendors.  
Source: \_\_\_\_\_  
List of Vendors: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
2. Define and explain “incident type” codes.  
Source: \_\_\_\_\_  
Definition: \_\_\_\_\_  
Explanation: \_\_\_\_\_
  
3. Note the number of Modules in the course and the titles of two of them.  
Source: \_\_\_\_\_  
# of Modules: \_\_\_\_\_  
Two Titles: \_\_\_\_\_  
\_\_\_\_\_
  
4. Identify the reporting tool for the Federal NFIRS 5.0 program.  
Source: \_\_\_\_\_  
Reporting Tool: \_\_\_\_\_
  
5. Explain how to set the DET for online access.  
Source: \_\_\_\_\_  
Explanation: \_\_\_\_\_  
\_\_\_\_\_
  
6. Describe how to find the tutorial for using the DET.  
Source: \_\_\_\_\_  
Description: \_\_\_\_\_  
\_\_\_\_\_

**Activity 1.2 (cont'd)**

7. Note who recommended the establishment of the NFIRS.

Source: \_\_\_\_\_

Who Recommended: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Explain how you find the online national data summary.

Source: \_\_\_\_\_

Explanation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Describe how you could get updated information about NFIRS 5.0.

Source: \_\_\_\_\_

Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. Explain the process of setting up groups.

Source: \_\_\_\_\_

Explanation \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Activity 1.3**  
**Management Responsibilities**

**Purpose**

To evaluate your understanding of the tasks that must be completed for NFIRS to be successful in an organization and who performs each task in the organization.

**Directions**

1. Complete the following worksheet.
2. Identify who in your organization performs the tasks listed on the worksheet. If the tasks are not being done, leave the box blank.
3. You will have 20 minutes to complete your work.
4. Be prepared to share your answers with the large group.

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NFIRS PROGRAM MANAGEMENT

*Module 1 – Introduction*

**NFIRS PROGRAM MANAGEMENT**

*Module 1 – Introduction*

**NFIRS PROGRAM MANAGER’S RESPONSIBILITIES**

<b>Communication</b>		
<b>Task</b>	<b>Who performs it?</b>	<b>Priority Task</b>
Participate in fire service organizational meetings, conferences, and association activities (fire chiefs, inspectors, instructors, investigators, and firefighters).		
Network with NFIRS Program Managers to enhance operations.		
Write NFIRS guidelines for specific State or local problems.		
Provide feedback to fire department personnel about current NFIRS issues.		
Conduct meetings with NFIRS ad hoc committee.		
Provide technical support to fire department officers, answering questions about data collection, coding questions, etc.		
Respond to inquiries from fire department personnel and the public after having first asked appropriate clarifying questions.		
Instruct fire service personnel on uses of NFIRS data; send guide for their use to develop information.		
Testify at State legislation or local committee meetings.		
Speak to fire service organizations, public, and industry.		
Market NFIRS and NFIRS information to fire service organizations, the public, legislatures, industries, and media.		
Acquire appropriate data from the data processing shop and compose reports in answer to requests received by agency staff, legislature, public, industry, etc.		
Promote the use of NFIRS data by other agencies, managers and other decision-makers.		
Market NFIRS by making presentations to various groups.		
Develop information for an annual report using NFIRS data.		
Write articles and provide information from NFIRS data for agency newsletter, and the publications of other organizations.		
Provide other agency managers and CEO with current information from NFIRS data and data collected from other sources.		
Distribute/Publish Standard output reports and Annual Report.		

**NFIRS PROGRAM MANAGEMENT**

*Module 1 – Introduction*

**NFIRS PROGRAM MANAGERS RESPONSIBILITIES (cont'd)**

<b>Communication (cont'd)</b>		
<b>Task</b>	<b>Who performs it?</b>	<b>Priority Task</b>
Publish Reports on Dept/Organization web page.		
Provide tech support to NFIRS users, answering questions about data collection, quality and coding.		
Market NFIRS and NFIRS information to fire service organizations, the public, legislatures and other information partners.		
Prepare articles and provide information using NFIRS data for agency newsletters, publications, or other media.		

<b>Administration</b>		
<b>Task</b>	<b>Who performs it?</b>	<b>Priority Task</b>
Set performance goals and plans.		
Motivate employees and users.		
Schedule workload for maximum efficiency.		
Send data to State/USFA.		
Prepare a budget for NFIRS program and justify line-item needs.		
Establish and monitor QA/QC policies for organization.		
Act as a liaison between the data processing personnel and the data collectors.		
Establish hierarchy of users and set permissions for using program.		
Establish guidelines/protocols for organization Record Management System.		
Establish policy/procedure for review/approval of vendor software to ensure compatibility with current NFIRS standard.		
Establish policy for the releasing NFIRS data to the media and other users.		
Establish policy/procedure for data sharing with other agencies.		
Prepare budget to ensure NFIRS receives necessary funding.		

**NFIRS PROGRAM MANAGEMENT**

*Module 1 – Introduction*

**NFIRS PROGRAM MANAGERS RESPONSIBILITIES (cont'd)**

<b>Planning</b>		
<b>Task</b>	<b>Who performs it?</b>	<b>Priority Task</b>
Conduct a needs assessment to identify and resolve issues regarding reporting.		
Design and carry out special studies that involve other agencies.		
Develop a long-range plan to address new technologies affecting the NFIRS program.		
Write and communicate program goals and objectives.		
Develop a plan to address data quality control issues.		
Provide data to assist in a loss-reduction strategy to address a community-specific hazard evident in your data.		
Review operation of NFIRS program and develop plan to improve areas falling short of goals.		

<b>Training</b>		
<b>Task</b>	<b>Who performs it?</b>	<b>Priority Task</b>
Develop training for NFIRS data collectors.		
Train new fire departments/personnel on NFIRS data collection.		
Provide periodic refresher courses on NFIRS collection.		
Review data quality reports and develop training programs to improve areas that don't meet standards.		
Develop media support for training.		
Develop a short-range and long-range plan to meet the initial and ongoing training needs of fire departments and personnel.		
Develop and provide quality control workshops for data collection personnel.		
Develop user specific NFIRS training for department personnel including managers, field staff and support personnel.		

**NFIRS PROGRAM MANAGEMENT**

*Module 1 – Introduction*

**NFIRS PROGRAM MANAGERS RESPONSIBILITIES (cont'd)**

<b>Training (cont'd)</b>		
<b>Task</b>	<b>Who performs it?</b>	<b>Priority Task</b>
Develop software specific training programs (Excel®, Power Point, Access) which will enhance the effectiveness of NFIRS as a decision making tool.		
Develop workshops promoting the value of NFIRS as a decision making tool.		
Develop data analysis workshops.		
Review and recommend tools to deliver training, including projectors and laptop PC's.		

<b>Operations</b>		
<b>Task</b>	<b>Who performs it?</b>	<b>Priority Task</b>
Analyze data and present them in a way that can be used as information.		
Develop a protocol for naming and labeling files received from fire departments/ stations.		
Return incomplete/inaccurate incident files to fire departments/stations.		
Learn and review NFIRS publications.		
Review NFIRS standard to ensure compliance with current standard.		
Export data for use in COTS (commercial off the shelf software).		
Release data in timely manner to USFA.		
Produce annual report.		
Recognize NFIRS users.		
Generate standard output reports for managers.		
Generate ad hoc reports as requested.		
Review data to identify emerging trends in FD responses.		
Review NFIRS/USFA website for latest news.		

## MODULE 2 THE NFIRS SYSTEM

### Prerequisites

Students are required to meet the following prerequisites before participating in this module:

- *Demonstrate knowledge and use of the current NFIRS standard.*

### Terminal Objectives

The students will be able to:

- Use the NFIRS environment to build an accurate and comprehensive incident database for their jurisdiction.

### Enabling Objectives

The students will:

- Use the complete reference guide for the accurate documentation of incidents.
- Use Federal Client Tool or vendor software packages to manage the NFIRS database.
- Use the Web-based Reporting System to create reports of interest to the jurisdiction.

### References

- *Student Manual*

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## **INCIDENT DATA COLLECTION**

### **The Incident Report**

An incident report is the written or electronic documentation that a fire or other incident occurred. It may be as brief as a basic fact statement or as lengthy as an extensive discussion of the incident, supported by photographs, witness statements, and laboratory test results. The length and complexity of the report will depend upon the nature and magnitude of the incident, State and local policies concerning data collection, the need for specific data, and the resources available for obtaining information and completing reports. They also depend on the training and motivation of the person filling out the report.

The incident report should include a description of the circumstances related to the incident, including the cause, factors contributing to the magnitude of the incident, actions taken by the fire department to mitigate the incident, and a description of the casualties or the damage resulting from the incident.

### **Three Basic Purposes of the Incident Report**

There are three basic purposes to an incident report at the local level. First, it is the legal record of the fact that a fire or other incident occurred and provides official notification to those who may be required legally to know of the incident, such as the State Fire Marshal.

Second, it provides information to senior officers and fire department managers so that they are kept informed about what is happening within areas of responsibility.

Finally, the incident report provides data on fire and other emergency services to fire service management so they can track trends, gauge the effectiveness of prevention and intervention measures presently being used, evaluate the impact of new methods, and indicate those areas that may require further attention.

The first two purposes can be served by any report that is an accurate description of the incident. The third purpose, however,

requires that information be collected in a consistent format that will permit a meaningful aggregation of the data from reports on many incidents.

It also is important that a single report serve the basic data needs of several types of potential users. The data needed at the State and national level must be provided from what is collected locally. At the same time, *it is important that the locally collected data also have a visible, significant use at the local fire service level.* If the data are collected only for the benefit of those outside the local area, the motivation and commitment to quality and completeness may diminish, with a resulting reduction in the usefulness of the data.

### **Uniformity of Incident Reporting**

To achieve uniformity in reporting, the U.S. Fire Administration (USFA), within the Federal Emergency Management Agency (FEMA), has developed the National Fire Incident Reporting System (NFIRS). This system is based on the work of the National Fire Information Council (NFIC) and the National Fire Protection Association (NFPA) Technical Committee on Fire Reporting.

The NFPA Technical Committee on Fire Reporting is responsible for developing and maintaining NFPA 901, *Standard Classifications for Incident Reporting and Fire Protection Data.* This standard establishes basic definitions and terminology for use in incident reporting and serves as a means of classifying data so that the information can be aggregated.

### **Benefits of an Incident Reporting System**

At the local level, a fire department can derive many benefits from a good incident reporting system, particularly if it is based on NFIRS. Some of the following uses involve no more than totaling data from the system. Others require more extensive analysis. Many of these benefits can be derived at the State and Federal levels when a database is used that combines the fire experience of many local fire departments. It is important to note that while this examination focuses on fires, similar benefits can be derived for other types of incidents handled by fire departments, such as

emergency medical services (EMS) and hazardous materials (Haz Mat) incidents.

**Describing a community's fire problem:** It is possible to pinpoint where fires are occurring, what factors are most responsible for ignitions, and what casualties and damage are occurring as a result of fires. With the problem placed in proper perspective, the most serious and solvable aspects of the fire problem can be tackled first.

## THE DATA-BASED DECISION-MAKING PROCESS

The first step in the data reporting process is for fire personnel to record the circumstances of all incidents accurately, using a reliable and consistent coding methodology. This is a key for developing profiles that affect a department's decisions. Incident data can be used by fire departments to document their experience, support all types of management decisions, and identify, prepare, and justify budget requests.

Local agencies then can send their incident data to the State, where the information is combined with data from other fire departments into a statewide database. By combining data at the State level, trends in fire problems can be detected that often are too infrequent to be seen at the local level, and a State fire profile can be developed. *Consistent response data support local decision making in administration and operations.* Trend information can be used to target fire safety and prevention programs, as well as to assist in identifying the safety level of products and practices. For these reasons, fire incident reporting is mandatory in many States.

State incident data is sent to the National Fire Data Center (NFDC) at the United States Fire Administration (USFA) for further analysis. The NFDC can compare and contrast statistics from States and large metropolitan departments to develop national public education programs, make recommendations for national codes and standards, guide allocation of Federal funds, identify consumer product failures, identify the focus for research efforts, and support Federal legislation, such as the Hotel/Motel Fire Safety Act (PL 101-391, Sept. 25, 1990).

At the national level, data combined from participating States can be used by the information partners to address community risk

reduction issues. These organizations use national-level fire data to establish policy, allocate funds, and set standards to affect the fire problem. Decision-making based on incident patterns identifies common areas for prevention and high-risk products, and geographic areas so partners can take steps in response.

Addressing issues nationally can help local emergency responders acquire resources to address high-risk issues.

The purpose at all levels in the data reporting system is to provide timely and reliable information that supports the decision-making process.

## THE ALL-INCIDENT REPORTING SYSTEM

### Benefits

The new system is modular in design and uses only the modules necessary to describe the incidents. Data are collected for all incident types in one basic module. More detailed information can be collected with other modules to further profile fires, and structure fires.

### Ease of Use

- Data coding has been revised to reduce confusing classifications.
- Simplifies look-ups by alphabetizing coding lists with multiple choices for the same code.

### Compatibility

- *Compatible with current electronic technology. Version 5.0 is designed for electronic media technology.* The design specification contains specific data libraries, programming specifications, and data flowcharts.

- Allows for the inclusion of optional State or local data storage and retrieval. These data are for use at the local or State level only.
- Recognizes that there may be a need for additional data elements to meet the local situation.

### **Comprehensiveness**

- Collects behavioral information on multiple levels, e.g., children playing with fire, age range, what they used to set the fire, and if they were alone at the time of the incident.
- Formats the address to allow computerized queries and street-based address matching for Geographic Information System (GIS) purposes.
- Breaks fire losses into property and contents to better define structure losses. Preincident value is now captured also as an optional data element.
- Captures specific property information about multiple onsite materials and their use. This will allow identification of non-intended or illegal uses of property, such as residential drug houses or laboratories.
- Notes information on the number of acres burned for all fires. Specific and detailed information about wildland or large open fires is captured for those fires only.
- Represents missing (not reported) data as blanks system wide. Missing data will no longer be lumped in with undetermined default code values.

### **Reliability**

- Profiles fire prevention and code issues that affected the fire.

- *Captures multiple factors contributing to the causes of the fire for the first time.* This allows identification of juvenile firesetters, gang involvement in fires, alcohol and cigarette interaction, as well as drugs and youth involvement by age categories.
- Expands on equipment involved in starting fires. Detailed tracking of specific equipment involved in fire ignitions is possible.
- Highlights factors that affect fireground suppression. Burglar bars, high-rack storage, balloon construction, and unprotected vertical openings are some examples of this information.

### **Usefulness**

- Transmits certification of applications with certification numbers to the State.
- Administrative information is gathered and classified routinely.
- Provides better information on the impact of fire protection features.
- Includes carbon monoxide incidents.
- Notes one-time information for special studies purposes.
- Groups fire service resources for apparatus and personnel by use at the incident. Specific, detailed information about the use of fire service personnel and apparatus will be collected in a standard way for the first time in optional modules. This will permit staffing studies on several levels of use.
- *Data fields profile building and systems information that can be used to develop prevention strategies.* Outlines detailed information on the impact of fires on buildings. Information on the building's size, number of stories, and

status now is available. Specific information on fire origin, damage patterns, flame spread, and materials contributing to flame spread is captured as well.

- Expands information on detectors and automatic suppression systems. Information on the system's presence, range, power supply, effectiveness, operation, and reason for failure is included.
- Extends information on casualties to provide a better understanding of the relationship of the casualty to factors contributing to injury, as well as the nature and cause of injuries.

## **NFIRS 5.0 SPECIFICATIONS CYCLE**

The United States Fire Administration's National Fire Data Center (NFDC) has adopted a NFIRS specification update schedule that allows for changes to the codes and edits to occur on an annual basis. The schedule aligns with the calendar year data collection cycle adopted by most states.

### **The Annual Specification Cycle provides:**

- The change process would be managed so that everyone affected would have the changes prior to their effective date (to allow time for them to be incorporated into software.
- A means to ensure that incidents that have been validated by the federal client tool would remain valid regardless of subsequent changes in the rules."

Changes to the NFIRS specifications will occur on the first business day in September of each year with those changes taking effect on January 1. This schedule will give vendors three (3) months to make the necessary changes and distribute software updates.

The versioning scheme for the Design Documentation is the year of the release, the one digit month of the release and the NFIRS version; for example, 2002.2.NFIRS 5.0.

The design documentation is posted at the NFIRS design documentation page at:

<https://www.nfirs.fema.gov/documentation/design>.

## **MODULE OVERVIEW**

### **NFIRS 5.0 Module Overview**

Version 5.0 uses a modular format to increase the accuracy and applicability of data collection for all incident types. The overall number of data fields has been increased. However, because 5.0 takes advantage of selective field entries based on incident type, the number of fields used to define an incident has decreased compared to Version 4.1. Version 5.0 has eleven modules that are described below.

Each module (form) in the system is designed to collect specific data. The modules do, however, have some characteristics in common. Any portion of a module identified by a letter - A, B, etc. - is called a section. Sections may be subdivided into blocks such as A1, A2, etc. A block can contain one or more lines and each entry within a line is called a field. Codes are used, in some cases, to capture data within a field.

Whenever a data-entry point is marked with a star (\*), the information requested is considered essential and the section, block, line, and/or field must be completed.

### **NFIRS-1--Basic Module**

The Basic Module is used for every incident. State agencies that are responsible for incident reporting will determine which optional modules (EMS, Haz Mat, Wildland, Apparatus, Arson) are required to be submitted.

If the State does not mandate the use of optional modules, the local fire department may still elect to use the module(s).

NFIRS-1 includes information on:

- Fire Department Identifier
- Location
- Incident Type
- Aid Given or Received
- Dates And Times/Shifts/Special Studies
- Actions Taken
- Dollar Losses And Values
- Casualties
- Hazardous Materials Releases
- Property Use
- Persons and Entities Involved

For certain incident types, NFIRS-1 is the only module that must be completed.

- Confined fires, i.e., food on stove
- Small vegetation fires
- Outside rubbish fires
- Explosions
- Some "other" fire types
- Nonfires

#### Comments Concerning Aid Given or Received

If aid is given (codes 3 and 4), then only the information on the Basic Module through block G<sub>1</sub> (Resources) must be completed by the department giving aid. The remainder of the Basic Module and any other modules associated with the incident may be completed but this is not required. The information not captured by the department giving aid is captured by the department that receives aid for that incident.

Estimated Dollar Losses and Values (Block G2)

Property and content losses are recorded in block G2. Loss information must be completed for all fire loss when the loss is known. Entry of loss information is optional for other incident types.

<b>G2 Estimated Dollar Losses &amp; Values</b>			
<b>LOSSES:</b> Required for all fires. Otherwise optional. <b>None</b>			
Property	\$	____,____,____	<input type="checkbox"/>
Contents		____,____,____	<input type="checkbox"/>
<b>PRE-INCIDENT VALUE:</b> Optional			
Property	\$	____,____,____	<input type="checkbox"/>
Contents	\$	____,____,____	<input type="checkbox"/>

**Estimated Dollar Loss.** Rough estimation of the total loss to the structure and contents, in terms of the cost of replacement in like kind and quantity. This estimation of the fire loss includes contents damaged by fire, smoke, water, and overhaul. This does not include indirect loss, such as business interruption.

**Preincident Value.** Estimation of the replacement cost of the structure and contents.

**Square Foot Building Costs** (Replacement Costs).

<http://www.saylor.com/lacosts/index.html>

**ICC Building Valuation Data.**

<http://www.iccsafe.org/cs/techservices>

**NFIRS-2--Fire Module**

The Fire Module is used for any fire that extends beyond a non-combustible container. It would be used to record information on incidents involving fires, including buildings, outside storage fires, vehicle fires, and larger vegetation fires. As an option, the Wildland Module can be used for vegetation and other outside fires. Building fires require the use of the Structure Fire Module.

NFIRS–2 includes information on:

- Property Details
- On-Site Materials
- Ignition: Area, Source of Ignition, Material Ignited, Factors Contributing, Human Issues, Equipment Involved
- Human Factors Involved
- Mobile Property Description
- Fire Origin and Spread Description
- Fire Suppression Factors

### **NFIRS-3--Structure Fire Module**

The Structure Fire Module is used in conjunction with the Fire Module for building fires which extend beyond a noncombustible container (Incident Types 111 and 120s). The Fire Module provides greater details about the property involved; the Structure Fire Module furnishes information regarding the buildings involved in the fire, how the fire started, and detection and suppression equipment present.

The Structure Fire Module, through its available data fields, provides a means to describe larger fire incidents extensively.

NFIRS-3 includes information on:

- Structure type
- Building status, height, main floor size
- Fire origin, fire spread, number of stories damaged by flame
- Material contributing to flame spread
- Presence of detectors, detector type, detector power supply, detector operation, detector effectiveness, detector failure reason
- Presence of automatic extinguishment system (AES), type of AES, AES operation, AES effectiveness and AES failure reason

### **NFIRS-4--Civilian Fire Casualty Module**

The Civilian Fire Casualty Module captures data regarding any civilian (non-fire service) casualty associated with fire-related incidents. An entry in H<sub>1</sub> of the Basic Module will initiate the completion of this module.

A casualty is a person who dies or is physically injured as the direct result of a fire-related incident. In this circumstance the term civilian includes, but is not limited to, the following: private citizens, emergency medical service responders (not fire department), and police.

The Civilian Fire Casualty Module is designed to provide a better understanding of human reaction to fire.

NFIRS-4 includes information on:

- Person's identification
- Demographic information
- Injury causes, including human and contributing factors
- Activity when injured
- Location when injured
- Symptoms and portion of body injured
- Disposition

### **NFIRS-5--Fire Service Casualty Module**

The Fire Service Casualty Module is used when fire service personnel suffer an injury, fall, or exposure involved with any incident. When the Fire Service Casualty Module is used, at a minimum the Basic Module must also be completed. Other modules may also be required depending on the incident type.

An exposure is when fire service personnel are exposed to a toxic substance or harmful physical agent through any route of entry (e.g., inhalation, ingestion, skin absorption, or direct contact). Exposures can be reported regardless of the presence of clinical signs and symptoms.

Firefighter casualty information can be used by Health and Safety Officers to reduce risks at incidents.

NFIRS-5 includes information on:

- Person's identification and age
- Injury time
- Assignment and activity at time of injury
- Severity of injury and disposition
- Location of victim when injured
- Symptoms and portion of body injured
- Cause of injury, factors contributing, object involved
- Where injury occurred
- Equipment profiles

Protective Equipment (Section K)

<b>K1</b>	<b>Did protective equipment fail and contribute to the injury?</b> Please complete the remainder of this form <b>ONLY</b> if you answered <b>YES</b> .	Yes <input type="checkbox"/> No <input type="checkbox"/>
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If the answer to K1 is "yes" complete equipment sequence field, and the remainder of the module.

This section provides detailed information on the specific equipment that failed and contributed to the injury.



**NFIRS-6--EMS Module**

In its infancy, fire department activity reporting was limited to fires only--at least on a national level. Little recognition was given to the "other" activities that fire departments were performing on a daily basis. As fire department management became more responsive to the budgetary concerns and restrictions of fiscal policy, the need to justify all activities and expenditures grew. Many local fire departments began to collect data on their own, using the NFIRS program to attempt to gather management information concerning all of those other activities and stretching the program in directions that were never anticipated.

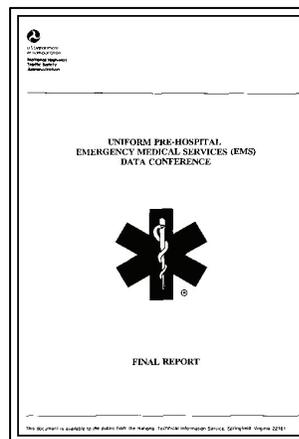
Recognizing that EMS-type activities are a significant portion (well over 40 percent) of what fire departments are currently

## NFIRS PROGRAM MANAGEMENT

### *Module 2 – The NFIRS System*

doing, the NFIC encouraged the USFA to include an EMS Reporting Module in the new NFIRS 5.0 reporting system. The USFA acknowledged that EMS was integral to the needs of local fire departments, and that the data were critical to management of those departments.

An EMS reporting committee was formed with representation from local fire departments providing EMS, State Fire Marshal's Offices, a State EMS Director, and a physician advisor.



For a copy of the 80 EMS data points and their definitions, see the NHTSA Web site at:

[www.nhtsa.gov/people/injury/ems/products.htm](http://www.nhtsa.gov/people/injury/ems/products.htm)

The EMS Module is not intended to replace or otherwise interfere with State or local EMS patient care reporting requirements, nor is it intended to be a comprehensive EMS patient care report. Instead, the data elements in this module should be viewed as "core elements" around which a complete patient care report can be built.

### Purpose

The purpose of the EMS Module is to gather basic data as they relate to the provision of emergency medical care by local fire service units. It is intended to encompass both responding fire suppression units and fire department EMS units.

Use

The optional EMS Module is used to report all medical incidents to which a department responds. The EMS Module does not replace the Civilian Fire Casualty Module in cases where a civilian injury or death occurs as a result of fire.

Data on fire service injuries or deaths are reported on the Fire Service Casualty Module.

Whenever an "Incident Type" in the 300 series (i.e., 311, 322, 371, etc.) is entered on the Basic Module Section C, the EMS Module may also be completed. It also may be completed for injuries which occur at other incidents.

One EMS Module should be used for each patient, and the number of modules submitted for an incident should match the "Number of Patients" entered in block B of the paper form.

NFIRS--6 includes information on:

- Incident location and type
- In-service dates and times
- Provider assessment
- Victim demographics
- Injury/illness description
- Procedures used
- Safety equipment involved
- Care level
- Patient status and disposition

Patient Status (Block M)

Critical to the fire or fire department EMS unit operation is the determination of patient status change while the fire department was providing treatment. "Patient Status Change" is one of the most significant factors and is extremely useful when

<b>M Patient Status</b>	
<b>1</b>	<input type="checkbox"/> <b>Improved</b>
<b>2</b>	<input type="checkbox"/> <b>Remained same</b>
<b>3</b>	<input type="checkbox"/> <b>Worsened</b>
Check if:	<input type="checkbox"/> <b>Pulse on Transfer</b>

analyzing the data collected. All other factors relate to this single element and influence it to varying degrees.

Collation to the final patient outcome post-hospital would be highly desirable, but was well outside the scope of the effort to develop an EMS reporting module.

### NFIRS-7--Haz Mat Module

The "optional" Haz Mat Module is used when the Basic Module (Block H3--Hazardous Materials Release) indicates "other" for hazardous material. Its purpose is to document **reportable** Haz Mat incidents. Generally speaking, a reportable Haz Mat incident is one in which:



- Specialized Haz Mat resources were dispatched or used, or should have been dispatched or used, for assessing, mitigating, or managing the situation; or
- Releases or spills of hazardous materials exceed 55 gallons.

Nothing in this definition is meant to alter compliance with State or local Haz Mat reporting requirements. In States with mandatory reporting, the State legislature determines which optional modules (EMS, Haz Mat, Wildland, etc.) are to be submitted to the State.

The Haz Mat Module permits hazardous materials incidents to be profiled in depth for incident-management analysis and response-strategy development. It collects relevant information on:

- Hazardous materials identification
- Container information
- Release amounts and location
- Actions taken
- Mitigating factors

If more than one hazardous material is involved, one module is completed for each Haz Mat released. (Note that the term "release" is intended to include a spill).

### Haz Mat Identification (Section B)

The purpose of Section B is to identify the specific hazardous materials involved in an incident as accurately as possible. Several different identification systems have been developed that can aid fire department personnel with identifying hazardous materials.

- UN Number
- DOT Hazard Classification
- CAS Registration Number
- Chemical identifier
- Chemical name

Not all of these systems need to be used to identify the hazardous materials. In fact, in an automated system, many of these data elements are cross-referenced in the database. Thus, the entry of one piece of information may cause the system to populate some or all of the other Haz Mat identification fields.

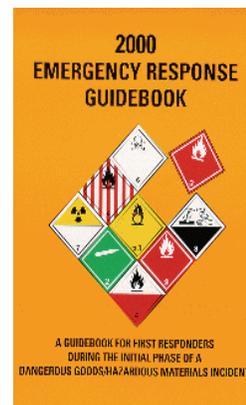
If the CAS Number is known and entered, the system will populate all other Haz Mat ID fields without any further lookup being necessary.

Those chemicals listed in the USFA publication entitled Hazardous Materials Guide for First Responders are cross-referenced in an appendix of the *NFIRS Handbook* and are contained in the NFIRS 5.0 Haz Mat Module database.

In some cases, it may take more than one piece of information to accurately identify a hazardous material.

The UN Number does not necessarily identify a specific chemical. Thus, in cases where the UN Number is used, it must be in conjunction with the chemical or trade name for the specific chemical to be accurately identified.

The UN Number is a four-digit number assigned to the hazardous material that conforms to United Nations (UN) standards for the identification of hazardous materials in international transportation. These numbers can be found in a variety of reference materials including the North American Emergency Response Guidebook (NAERG) published by the Research and Special Programs Administration, U.S. Department of Transportation (DOT) and the Hazardous Materials Guide for First Responders published by the U.S. Fire Administration.



In some cases, a single UN Number will be assigned to several materials with similar properties. Not all hazardous materials have been assigned UN Numbers.

The primary hazard associated with various hazardous materials categories is described by the DOT Hazard Classification system. It is intended to be used on placards or labels during transportation. Since many materials have multiple hazards, the **DOT Hazard Classification** may not describe all of the potential hazards faced by emergency responders at a Haz Mat incident.

The DOT Hazard Classification consists of a single digit hazard-class code followed by a decimal point and a single digit code for the division. For the purpose of documentation, this two-part hazard class/division code has been converted to a two-digit code. The proper entry in this field is the two-digit code that corresponds with the hazard classification and division as found on a placard or label.

By itself, the DOT hazard class and division does not identify a specific chemical. To do so, it must be used in conjunction with the chemical or trade name or the CAS Number.

The **CAS Registration Number** is the identification number assigned to a chemical by the Chemical Abstract Service (CAS) of the Chemical Abstract Society. This number may be found in reference materials, on Material Safety Data Sheets (MSDS's), and on some product labels. Not all hazardous materials have an assigned CAS Number.

In an automated system, it is intended that the entry of the CAS Registration Number would populate all other Haz Mat ID fields without any further lookup being necessary.

The **chemical name** is the standard chemical or trade name by which the hazardous material is commonly known. Products from different manufacturers with similar chemical ingredients may have different trade names.

The proper entry in this field is the chemical or trade name of the hazardous material as shown on the MSDS, product label, packaging, or container.

A common herbicide used for household applications may be entered by the trade name, "Weed-B-Gone™", or by the chemical name, "2,4-Dichlorophenoxyacetic acid (2-4D)".

### **Firefighter Safety Study Act of 1990**

Public Law 101-446, the Firefighter Safety Study Act of 1990, directs the Administrator of the U.S. Fire Administration to consult and coordinate a review of information available to first responders with government agencies, private sector firms, and other first responders. The goal of these efforts is to improve the accuracy and suitability of response guidance so that safer and more effective responses to hazardous materials incidents can be conducted at the State and local level.



The ***Hazardous Materials Guide for First Responders*** is the result of an extensive study of available hazardous materials response resources for first responders undertaken by the USFA as part of the Firefighter Safety Study Act. The study concluded that, while several excellent and technically accurate resources are available, none are directed to the specific needs of the first responder trained

at the Awareness or Operational Levels of Training; the training levels of most first responders.

### NFIRS-8--Wildland Fire Module



Historically, NFIRS data have not proven useful in understanding the nature and magnitude of the wildland fire problem. The "optional" Wildland Module attempts to rectify this by capturing data about:

- The number of acres burned and the type of materials involved in these fires.
- Conditions that contribute to the ignition and spread of wildland fires.
- The resources needed to control and/or extinguish these fires.

The purpose of the Wildland Fire Module is to document **reportable** wildland fires. Generally speaking, a reportable wildland fire is any fire involving vegetative fuels that occurs in the wildland or Urban-Wildland Interface areas, including those fires that threaten or consume structures.

To better understand the role of fire on the wildland ecosystem, prescribed fires are also included in this definition of reportable fires.

For the purpose of wildland fire reporting, the following definitions are used:

- **Prescribed fire**--Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist prior to ignition (Incident Type 632).
- **Urban-Wildland Interface Area**--The geographical area where structures and other human development meet or inter-mingle with wildland or vegetative fuels.
- **Urban-Wildland Interface fire**--Any fire, other than prescribed fire, where fire suppression tactics were influenced by a geographical area where structures and other human development meet or intermingles with wildland or vegetative fuels (Incident Type 141).
- **Wildland fire**--Any fire other than a prescribed fire, involving vegetative fuels that occur in the wildland. A wildland fire may expose and possibly consume structures (Incident Type 141).
- **Wildland**--An area in which development is essentially non-existent, except for roads, railroads, power lines, and similar facilities.

The Wildland Fire Module permits wildland fires to be profiled in depth for resource allocation, incident management, and fire impact analysis. In addition, aggregated data on wildland fires will provide invaluable information that can be used by policy makers developing codes and standards, zoning ordinances, and forest management plans.

### Wildland Fire Module Use

The "optional" Wildland Fire Module is used when the Incident Type is coded as Forest, Woods, or Wildland Fire (Incident Type 141), or a Prescribed Fire (Incident Type 632). In these cases, the Wildland Fire Module would be used in-lieu-of the Fire Module.

The Wildland Fire Module also may be used for the following Incident Types:

140	Vegetation Fire, Other
142	Brush, or Brush and Grass Mixture Fire
143	Grass Fire
160	Special Outside Fire
170	Cultivated Vegetation, Crop Fire, Other
171	Cultivated Grain, Crop Fire
172	Cultivated Orchard or Vineyard Fire
173	Cultivated Trees or Nursery Stock Fire
561	Unauthorized Burning
631	Controlled Burning (Authorized)

### Controlled Burning versus Prescribed Fire

Incident Type 631 "Controlled Burning" is used for fires where the burning is authorized and under control. Controlled burns are typically "agricultural" in nature and managed by the property owner. In order to meet the definition of a Prescribed Fire (Incident Type 632), a written, approved prescribed fire plan must exist prior to ignition. These fires are typically carried out by a wildland management agency.

Both types of fires are considered non-hostile, and both presume that the Environmental Protection Agency (EPA) requirements are met prior to ignition.

A prescribed fire that escapes management is a hostile fire-- Incident Type is 141 (Wildland Fire). A hostile fire cannot become a prescribed fire, but the management strategy (actions taken) may change.

If it does not have a written, approved prescribed fire plan **prior** to ignition, it is not a prescribed fire--regardless of how it is managed (or how many times it escapes control). How the hostile fire is managed is the action taken.

NFIRS-8 includes information on:

- Property details
- Fire cause
- Ignition information
- Fire suppression and management
- Mobile property type
- Equipment involved in ignition
- Weather data
- Fuel model at origin
- Total acres burned
- Property management
- Person responsible
- Fire behavior

Wildland Fire Cause (Section D)

Block D<sub>1</sub> provides factors contributing to ignition, for the broadest classification of ignition causes consistent with the "General Fire Causes" adopted by the National Wildfire Coordinating Group (NWCG). The primary use of this information is to distinguish between human-caused and natural wildland fires.

<b>D<sub>1</sub> Wildland Fire Cause</b> ★	
1 <input type="checkbox"/> Natural source	8 <input type="checkbox"/> Misuse of fire
2 <input type="checkbox"/> Equipment	0 <input type="checkbox"/> Other
3 <input type="checkbox"/> Smoking	U <input type="checkbox"/> Undetermined
4 <input type="checkbox"/> Open/outdoor fire	
5 <input type="checkbox"/> Debris/vegetation burn	
6 <input type="checkbox"/> Structure (exposure)	
7 <input type="checkbox"/> Incendiary	

The classification of Wildland Fire Cause represents a significant departure from the coding scheme used in the Fire Module where a combination of

"Cause of Ignition" and "Factors Contributing to Ignition" are used to describe how and why the fire started. In some cases, the Wildland Fire Cause is not a "cause" at all, but an incident type or a factor contributing to ignition.

**NFIRS-9--Apparatus or Resources Module**

The Apparatus Module is used as a local option to identify apparatus sent to each incident.

NFIRS-9 includes information on:

- Apparatus identification and type
- Dispatch, arrival, clear dates and times
- Number of personnel
- Use
- Actions taken

If the Apparatus Module is used, the Basic Module must also be completed.

Either the Apparatus/Resources Module or the Personnel Module may be used, but not both.

### **NFIRS10--Personnel Module**

The Personnel Module is used as a local option to identify personnel sent to each incident.

If the Personnel Module is used, the Basic Module also must be completed.

NFIRS--10 includes information on:

- Apparatus identification and type
- Dispatch, arrival, clear dates and times
- Use
- Actions taken
- Personnel ID, rank, actions taken

The Personnel Module is also a local option module and some of the data may not be forwarded to the state. Personnel identification numbers, names, rank/grade, apparatus assignment, and actions taken can be noted. The Apparatus and Personnel Modules can provide administrators with data that is useful for management strategy development.

Either the Personnel Module or the Apparatus/Resources Module may be used, but not both.

## NFIRS-11--Arson Module



The Arson Module may be used whenever the Cause of Ignition, (NFIRS-2 E1) is coded as "intentional," or as "under investigation." No distinction is made as to whether or not a crime has occurred, nor is there a determination of criminal intent. The Arson Module may also be used when the fire is under investigation or in cases where the cause is "Undetermined after investigation."

The Arson Module also may be used to document juvenile-set fires, whether determined to be intentional or not. This information will permit analysis of juvenile firesetting trends including intervention strategies and repeated activity.

Arson is defined as to unlawfully and intentionally damage, or attempt to damage, any real or personal property by fire or incendiary device.

Nothing in this definition is meant to alter or affect compliance with State or local incident reporting requirements. In States with mandatory reporting, the State Program Manager determines which optional modules (EMS, Haz Mat, Wildland, Arson, etc.) are to be submitted to the State.

The Arson Module consists of two parts: a local investigation module which permits a fire department or arson investigation unit to document certain details concerning the incident; and a juvenile

firesetter section which identifies key items of information that could be used for local, State and national intervention programs.

Many arson investigation units use an "arson information management system" to collect and compile information on arson incidents. This module is not intended to replace such systems, but rather to identify those data elements that could be exported to the NFIRS and included as an integral part of the USFA National Fire Database and the Bureau of Alcohol, Tobacco and Firearms (BATF), Arson and Explosives National Repository.

The NFIRS-11 includes information on:

- Agency investigating the incident
- Case status
- Suspected motivation factors
- Entry methods, devices, other information
- Property ownership
- Laboratory used

## **ATF CALL CENTER**

**Designed to improve arson and explosives  
informational transfer to law enforcement agencies  
National Repository Branch  
1-800-8841**

A centralized toll free telephone number answered by the ATF National Repository Branch is launched to increase the availability of arson's and explosives incident information to law enforcement.

In 1996, Congress, recognizing ATF's expertise in the investigation of fire/arson and explosives-related incidents, passed legislation authorizing the Secretary of the Treasury to establish a national repository of information regarding arson incidents and the actual and suspected criminal misuse of explosives throughout the United States. Treasury's authority over this system was included in an amendment to Title 18, United States, Code, Section 846. Subsection (b) was added, as follows: "The Secretary is authorized to establish a national repository of information on incidents involving arson and the suspected criminal misuse of explosives."

All Federal agencies having information concerning such incidents shall report the information to the Secretary pursuant to such regulations as deemed necessary to carry out the provisions of this subsection. The repository shall also contain information on incidents voluntarily reported to the Secretary of State and local authority.

The Secretary of Treasury tasked ATF with carrying out this congressional mandate. ATF's mission is to establish a national repository of information on incidents involving arson and the criminal misuse of explosives. This information will be available for statistical analysis and research, investigative leads, and intelligence. This National Repository will be an extension of the ATF Arson and Explosives Incidents System (AEXIS) and will incorporate information from a variety of law enforcement and fire service sources.

ATF recognizes that partnerships with other agencies are vital to the success of the National Repository. The database is being designed and implemented with input from Federal, State, and local fire service and law enforcement authorities. The principle Federal partners in the data collection effort are ATF, the Federal Bureau of Investigations (FBI) and the United States Fire Administration (USFA). The National Repository development was divided into three phases.

Phase one involved the establishment of a public Internet site that provides aggregate statistical summaries of data regarding arson and explosives incidents from data collected by ATF, the FBI, and the USFA. The information currently listed on this site is not integrated with data from other agencies.

Phase two involved the modernization of the ATF Explosives Incidents System (EXIS), which is now known as the Arson and Explosives Incident System (AEXIS). Eighty-eight thousand incidents from EXIS, which date back over 20 years, now reside on a modern Oracle database. Phase three will integrate data from all contributing sources and will establish the National Repository secure site will be a law enforcement and fire service intelligence database designed to aid investigators in identifying trends and similarities between arson and explosives incidents.

The National Repository will help authorized investigators identify case-specific similarities regarding explosive and incendiary device construction, methods of initiation, types of fuels/explosives used, and methods of operation. The system will also be capable of linking thefts of explosives. Through partnership with other Federal, State and local law enforcement and fire service agencies, the system will also help identify persons who commit crimes of violence using arson and explosives. The system will link and will rely on communication between investigators to disseminate case-specific information on a case-by-case basis.

A toll-free telephone number has been established to provide a method for direct exchange of information between authorized users and ATF National Repository Intelligence Research Specialists who have detailed knowledge of the systems capabilities. It is anticipated that information received from foreign law enforcement sources will also be incorporated into the National Repository. This information would then be accessible to authorize officials via telephone through ATF personnel assigned to the National Repository. It is not anticipated that information would be shared with foreign sources via Internet technology.

To facilitate the development of the National Repository, ATF has established the Arson and Explosives National repository Branch within the Arson and Explosives programs Division at Bureau Headquarters. The Branch is available to assist other Federal, State, and local law enforcement and fire service investigators with arson and explosives investigations.

For further information contact Arson and Explosives National Repository Branch at 1-800-461-8841.

By: William Spruce  
Branch Chief ATF National Repository Branch

## Juvenile Firesetter Module

This portion of NFIRS-11 may be used to document information concerning juvenile-set fires, whether determined to be intentional or not.



This information will permit analysis of juvenile firesetting trends, including intervention strategies and recidivism.

This module is completed only for fires where the person(s) involved in the ignition of the fire was a child or juvenile under the age of 18.

The Juvenile Firesetter Module includes information on:

- Age, gender, race and ethnicity of each juvenile involved
- Family type
- Suspected motivation and risk factors
- Disposition

### Motivation/Risk Factors (Block M<sub>7</sub>)

Block M<sub>7</sub> documents the stimulus and/or risk factors that were present and constituted a possible motivation for the subject(s) to burn, or attempt to burn any real or personal property.

The risk factors listed are those that research has shown to be predictors of

juvenile firesetting, delinquency and adult arson. However, data on juvenile firesetters is extremely limited and this information will be useful in determining if these risk factors are valid or if others are more predictive. This information will also be helpful in tracking juvenile firesetting trends and in the development of

<b>M<sub>7</sub></b>	<b>Motivation/Risk Factors</b>		Check only one of codes 1-3 and then all others that apply
	1	<input type="checkbox"/> Mild curiosity about fire	
	2	<input type="checkbox"/> Moderate curiosity about fire	
	3	<input type="checkbox"/> Extreme curiosity about fire	
	4	<input type="checkbox"/> Diagnosed (or suspected) ADD/ADHD	
	5	<input type="checkbox"/> History of trouble outside school	
	6	<input type="checkbox"/> History of stealing or shoplifting	
	7	<input type="checkbox"/> History of physically assaulting others	
	8	<input type="checkbox"/> History of fireplay or firesetting	
	9	<input type="checkbox"/> Transiency	
	0	<input type="checkbox"/> Other	
	U	<input type="checkbox"/> Unknown	

prevention and intervention strategies.

Of the motivation and risk factors listed, only one should be selected concerning "curiosity about fire" (codes 1-3). All other motivation and risk factors that apply then should be selected.

### **NFIRS-1S--Supplemental Form**

This form adds flexibility to any paper-based incident reporting system by expanding the amount of data that can be collected. One section of the form provides a standard means to capture name/address/telephone data regarding several persons/entities involved in an incident. The other section of the form furnishes space for additional remarks or narrative relative to an incident.

### **The Narrative Report**

As presented in Unit 1, the incident report serves as an official, legal record of an incident and must describe the incident and the actions taken to mitigate it accurately. While many of these facts may be collected in uniform, coded fields, some information can best be presented in a detailed narrative. Information that should be included in the narrative includes:

- Observations and actions taken--list them in logical order (usually chronological). Paint a complete picture of the scene; summarize the incident.
- Describe the scene conditions and the condition of the premises when you left.
- Describe property damage and remaining hazards.

### **Web-Based Reporting**

The web-based Summary Output Reports User's Guide describes the requirements and procedures necessary to generate and save summary and statistical data using the NFIRS 5.0 web-based Summary Output Reports Tool. For readers viewing The Guide electronically, terms that appear as hyperlinks can be accessed

directly in the Glossary. When viewing the Guide in print, underlined terms may be referenced in the Glossary.

The NFIRS 5.0 web based reports utilize Actuate information delivery technology to provide registered users access to summary and statistical information from Fire Department and incident data saved to the National Database. Report executables are predefined according to NFIRS 5.0 report requirements established by the USFA and do not require the use of the USFA NFIRS 5.0 client software. The user will need an Active status NFIRS 5.0 user account with the specific reports permissions assigned to it. The data set available to the user is based on group assignment. Users who do not have an Active status NFIRS account or who do not have the reports permissions must contact their NFIRS 5.0 State Program Manager. A list of State Program Managers and NFIC members is posted on the NFIC web site at: <http://www.nfic.org>

Users may select a pre-defined report executable to generate summary and statistical information based on their group level and below, or if they are assigned at a fire department level, on the fire department and its incident data. Two types of reports are available: management reports, which provide summary information as specified by the report query, and reports with user-specified parameters. Some reports include statistical information derived from incident information included in the report and user's state.

Actual incident data cannot be extracted from the reports.

The Actuate Reports web page content is managed by the use of frames. The frame set that appears on the screen varies in each area of the tool. For example, when viewing a report, the report itself will be contained in one frame, a string of navigational tools will appear in the uppermost frame (the NavBar), and the Groups Tree will have its own frame. Each frame has its own scroll bar to bring into view its components. The user can scroll to view complete information specified and returned.

In the Reports site's sidebar are links to the NFIRS 5.0 Homepage, <http://www.nfirs.fema.gov>, and a page where the Reports User Documentation can be accessed. The sidebar link named: Enter Reports accesses the Reports login screen.

Many reports have the option of including invalid status incidents in the frequency counts. Since invalid incidents may be missing required fields or other fields directly involved in the report's query, the resulting counts and summaries should be considered an approximation.

### **Active Vendors List**

This page lists Active Vendors and their contact information. Vendors who have notified the USFA when their product development has completed and has been tested to be compatible with the NFIRS 5.0 database standard will be marked as "Active" and placed on the Active Vendor List. This new status will supersede the previous two status categories of "conditionally certified" and "fully certified."

NFIRS 5.0 Vendors who wish to make available the most current version number for their product can email their company name, Active Vendor ID, Software ID and the most current Version number of their NFIRS 5.0 reporting software to [Marianne.Casey@associates.dhs.gov](mailto:Marianne.Casey@associates.dhs.gov). The Version release date of the software is optional. It is the sole responsibility of the vendor to notify the NFIRS web support team or the NSC when their software's version number needs to be updated, as is the case when vendor company information needs to be updated.

<http://www.nfirs.fema.gov/system/activevendors.shtm>

**Activity 2.1**  
**National Fire Incident Reporting System Benefits**

**Purpose**

To evaluate student understanding of incident-reporting purposes and attributes of NFIRS 5.0.

**Directions**

Working alone, consider the following questions and be prepared to share your answers as part of a group discussion.

**Questions**

1. Identify one local, one State, and one Federal benefit that is a result of your FD participation in NFIRS.
  - Local \_\_\_\_\_
  - State \_\_\_\_\_
  - Federal \_\_\_\_\_
2. Identify a critical element that is not currently captured in NFIRS, indicate whether it is mandatory or optional entry and prepare a brief justification for its inclusion in the standard.
3. Discuss an NFIRS success story that is familiar to you.
4. How would your department benefit if you were able to analyze NFIRS data from other agencies? Give examples of data elements that you would want to share?

NFIRS PROGRAM MANAGEMENT

*Module 2 – The NFIRS System*

**Activity 2.2**  
**Required v. Essential Data**

**Purpose**

The purpose of this activity is to explain why completing only required modules may not tell the complete story on an incident.

**Directions**

1. Read the incident scenarios below and identify what modules *must* be completed.
2. Discuss what data elements are not captured and why it is important to capture the additional data.
3. Identify the optional modules that *could* be completed.
4. Discuss how the completion of the optional modules enhances the quality of the report.

**Scenario 1**

The River City fire department is dispatched to a reported building fire. Two engines and one truck respond. Upon arrival, they discover a cooking fire that was contained to the pot on the stove. There was no extension of fire beyond the pot.

**Required:** \_\_\_\_\_

**Optional:** \_\_\_\_\_

**Scenario 2**

The Mt. Cook fire department is dispatched to Central High School for a reported smoke alarm sounding. School is in session at the time of the alarm. Units arrive and discover a fire contained to a metal trash container in one of the girls restrooms on the second floor of the school. One of the teachers saw Wanda Star running out of the rest room just before the alarms sounded. When questioned, Wanda admitted to starting the fire in the trash can. She failed to study for her math test and was hoping that school would be dismissed.

**Required:** \_\_\_\_\_

**Optional:** \_\_\_\_\_

**Scenario 3**

The Big Valley fire department is dispatched to a reported motor vehicle accident involving a tank truck on Highway 114. Units arrive and see that a tank truck carrying 2500 gal. of gasoline skid off the road, jack knifed, and hit a utility pole, rupturing the tank. The gasoline from the tank flowed into the John River. FD personnel evacuated a motel and BBQ restaurant near the incident. The driver of the truck suffered severe trauma as a result of the accident. Two police officers were overcome by fumes. One firefighter was transported to the hospital after complaining of chest pains. The FD had resources for 28 hours while a private contractor cleaned up the scene.

**Required:** \_\_\_\_\_

**Optional:** \_\_\_\_\_

**Scenario 4**

The Eastern Shore FD is dispatched to a grass fire along the slope of the Great Dune Mountain range. The fire ultimately consumed 400 acres of eastern pine. They received mutual aid from 3 neighboring fire departments as well as their state forest fire service.

**Required:** \_\_\_\_\_

**Optional:** \_\_\_\_\_

### **Activity 2.3**

#### **Columbus Fire**

#### **Purpose**

To review the students' understanding of the NFIRS modules, coding strategies, required and optional modules and entries, use of data on local, state and national level and data quality.

#### **Directions**

1. Your instructor will show a video.
2. You should take notes and identify important elements of the scenario, including:
  - What modules must be completed
  - Critical incident elements that should be captured
  - How follow-up information might be included in the report
3. The instructor will conduct a discussion of your notes.

NFIRS PROGRAM MANAGEMENT

*Module 2 – The NFIRS System*

## **APPENDIX A**

### **NFIRS TOOL(S) REFERENCE GUIDES**

NFIRS PROGRAM MANAGEMENT

*Module 2 – The NFIRS System*

# **National Fire Incident Reporting System (NFIRS 5.0)**

## **NFIRS Data Entry/Validation Tool Users Guide**

**NFIRS 5.0 Software Version 5.4**

Prepared for:  
**Directorate of Preparedness and Response  
(FEMA)**

Prepared by:  
**Verizon Federal Incorporated  
P.O. Box 309  
Round Hill, VA 20142**



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## 1. Introduction to the Data Entry Tool Manual

The Data Entry Tool Manual provides the NFIRS user community with a comprehensive guide for efficient use of the NFIRS Data Entry/Validation Tool and is intended as a reference for new users as well as users updating from previous NFIRS Versions 5.3.4 or earlier. For the **Rapid Start-up Guide**, which outlines key steps needed to get the user using the National Fire Incident Reporting System as quickly as possible, refer to Section 8 of this manual. For information regarding how to fill out the new NFIRS 5.0 forms, consult the NFIRS 5.0 Complete Reference Manual found on the **NFIRS Web Site**, <http://www.nfirs.fema.gov/>.

The Data Entry/Validation Tool is a Graphical User Interface (GUI) between the user and a database. It supports all NFIRS modules for entering, validating, querying, modifying and deleting incidents specified by the NFIRS 5.0 standard. The documentation provides details about the interface to facilitate navigating and editing the software's modules. A brief Appendix offers a list of keyboard shortcuts to aid users in data entry, and a list of attribute codes and the fields to which they refer.

The latest version of NFIRS 5.0, software Version 5.4, is a fully operational Client Suite of incident reporting software made available for state level agencies and their registered NFIRS 5.0 users. The Data Entry/Validation Tool is designed for data entry in either On-Line mode or Off-Line mode. New users may download, install, and begin using software Version 5.4 with or without a previous NFIRS 5.0 Version of software on their PC. The initial release version is 5.4.0, made available on January 2, 2006. The NFIRS 5.0 Version 5.4.1 was released on March 1, 2006.

Users of previous USFA software versions must upgrade to NFIRS 5.0 Version 5.4 before logging into the On-line system because of JDK version changes made in NFIRS 5.0 Version 5.3.

The installation routine for Version 5.4 on PCs with Windows NT, Windows 2000 Professional or XP requires that the user with the System Administrator login for the operating system perform the installation.

NFIRS 5.0 software Version 5.4 provides local database options of Microsoft Access 97, Access 2000, Access 2002; FoxPro 6.0, MS SQL 7.0 or MS SQL Server 2000 to support the amount of incident data the state or department must collect and store. The PC must have the desired database program installed prior to installation of the NFIRS 5.0 software. It is recommended the user review the maintenance requirements before selecting a database program other than Access 97, 2000, or 2002 to ensure successful setup and to ensure that support for necessary database maintenance is available.

To generate, retrieve and print Forms Based Incident Reports, Adobe Acrobat Reader Version 3.02 or better must be installed on the user's PC. To download a cost free version of Adobe Acrobat Reader, go to: <http://www.adobe.com/products/acrobat/readstep.html>

With the implementation of Version 5.4, the On-line Reporting Tool which was accessible from within the On-Line Data Entry Tool, is defunct. Users who wish to generate summary and statistical reports on NFIRS 5.0 data saved in the National Database are encouraged to use the web-based Summary Output Reports Tool, made available on the NFIRS 5.0 web site: <http://www.nfirs.fema.gov> Contact the NFIRS State Program Manager for more information. The System Admin Tool Users' Guide has information on necessary user account permissions for access to the web-based reports. Also with

Version 5.4, the Program Admin Tool has been removed from the USFA NFIRS 5.0 client suite.

The NFIRS 5.0 Version 5.4 communication protocol is the same as the previous version 5.3, which uses HTTPS over port 443, an industry standard protocol. This change requires users to upgrade to Version 5.4 after its release, before logging into the National Database. Users behind a firewall or using a proxy server to access the Internet will need the numeric IP and address and its port, as in previous versions, entered in the Configuration Tool's Advanced Tab. The Configuration Tool User's Guide has complete information.

The default access mode in NFIRS 5.0 Version 5.4 is On-Line access.

Installation and start-up instructions are provided in Sections 2, 3, and 4 and address specific requirements and procedures for each type of database user as well as users who will be working in the On-line mode only.

It is imperative all users download and install NFIRS 5.0 updates when made available. Clients will be notified through email if an update has been posted, and notifications are posted on the NFIRS 5.0 web site News Page:  
<http://www.nfirs.fema.gov/system/news.shtm>

### ***Previous NFIRS 5.0 Versions' Information and Enhancements***

#### **Previous Versions 2.02, 2.03, 3.00, 4.0 and 5.0:**

When the previous software version NFIRS 5.0 Version 4.0 was released, versions 2.02 and 2.03 became defunct. Version 2.02 and 2.03 users who have data saved to an Off-Line database should contact their [fema-nfirshelp@dhs.gov](mailto:fema-nfirshelp@dhs.gov) for specific support. Version 3.00 users who have data saved to their local database can import the data to the National Database but it will be validated against the most current rules. Contact the NFIRS Support center for more information:  
<http://www.usfa.fema.gov/nfirs/support/>

The ability to import 4.1 files was enabled with the release of NFIRS 5.0 Version 4.0, and was made a default setting with software Version 5.3.

The NFIRS 5.0 previous Version 5.0 software provided expanded database options for Off-Line use, expanded options when exporting incidents, the capability to perform User Injection at the State level, and the addition of US Postal Street Type abbreviations for selection in the Street Type field. A complete list of enhancements is available in the readme.txt of the latest version of the USFA Client Software, NFIRS 5.0 Version 5.4.

#### **Previous Version 5.2.1:**

NFIRS 5.0 Version 5.2.1 enabled State Program Managers and System Administrators to implement Special Studies and Plus One codes by accessing the Codes and Special Studies interfaces through the System Admin Tool. The System Admin Tool User's Guide, available for download after login to the NFIRS User login, has instructions for creating Plus One codes and Special Studies.

An additional permission level, the State Admin, limited the assignment of the Bulk Import Utility permission to State Program Managers. Upon release of Version 5.2.1, this permission was added to State Program Manager 's NFIRS accounts. State Program Managers may contact support if they wish to have the State Admin permission assigned to another user in their state.

The FEMA standard for password format was enforced with previous Version 5.2.1. User passwords must be 8 - 15 alpha-numeric characters. Users can enter their existing user account passwords to access the USFA client software and the NFIRS web pages. When the 89 day required password change occurs, they will be required to enter a password that meets the FEMA standard, or when a user performs a manual password change within the Data Entry Tool, the new password will have to meet the requirements.

User accounts that had a login for 60 days will be automatically deactivated by the system. Users who have been inactive for 60 days or longer must contact their State NFIRS Program Manager or System Administrator to request their account be re-activated.

### **Previous Version 5.2.3:**

In accordance with the NFIRS 5.0 specification cycle, there were no codes, rules, or edit changes made in Version 5.2.3. Enhancements made to the USFA software Version 5.2.3 included support for Access 2002 (Access XP), and MS SQL Server 2000; the preliminary implementation of "Once Valid / Always Valid" handling of incidents such that an overwrite of an incident under the latest version's rules via the Import mechanism will not result in the incident becoming invalid. Version 5.2.3 also included the Apparatus/Personnel Module being automatically populated with the Basic Module's G1 Resources when the Local Forms Used is True (box is checked). For Off-line Users, a local Data Cleansing Tool was added to the Off-line Client software tools per request of users who wish to run specific scripts on the local database that address previously identified data issues. The use of the Data Cleansing Tool is optional.

### **Previous Version 5.3**

CORBA and its components, which handled the communication protocol in previous versions, were removed. This change provided a robust yet industry standard protocol using HTTPS over port 443, and required users to upgrade to Version 5.3 after its release in order to log into the National Database. The NFIRS Version Control Service was activated in the Version 5.3.1 client software, enabling a version check to be performed upon login to the NFIRS 5.0 On-line system and allowing the use of the Automatic Update feature. Version 5.3.2 implemented the Apparatus/Personnel module in the client software-generated Forms Based Incident report (FBIR) and revised the FBIR generation to result in a single file. The release of Version 5.3.3 coincided with the January 2005 Specification Cycle release, and included more detailed fire module requirements.

The NFIRS 5.0 Specification Corrections and Changes log lists the edits and rules changes for all specification cycles, and is posted at:

<http://www.nfirs.fema.gov/documentation/design/>

## 2. Download and Installation of the NFIRS 5.0 Client Suite Software

Prior to running the NFIRS Client Suite software, the user must either download the software from an FTP site on the **NFIRS 5.0 Web Site**. An Internet connection is required to access the web page and download the file. A link to the Download Software web page is available to registered users after successful login at the NFIRS User Homepage. The Tutorial at <http://www.nfirs.fema.gov/users/tutorial.shtm> provides complete illustrations and information on the installation routine.

To ensure proper installation, it is recommended that before beginning installation the user note whether the PC has Access 97, 2000, or 2002.

**Reminder:** When installing the application on a PC with Windows NT platform, the user with the NT System Administrator permissions must perform the installation. When installing the application on a PC with the Microsoft 2000 Office Professional suite or Windows XP, the user with System Administrator permissions must perform the installation.

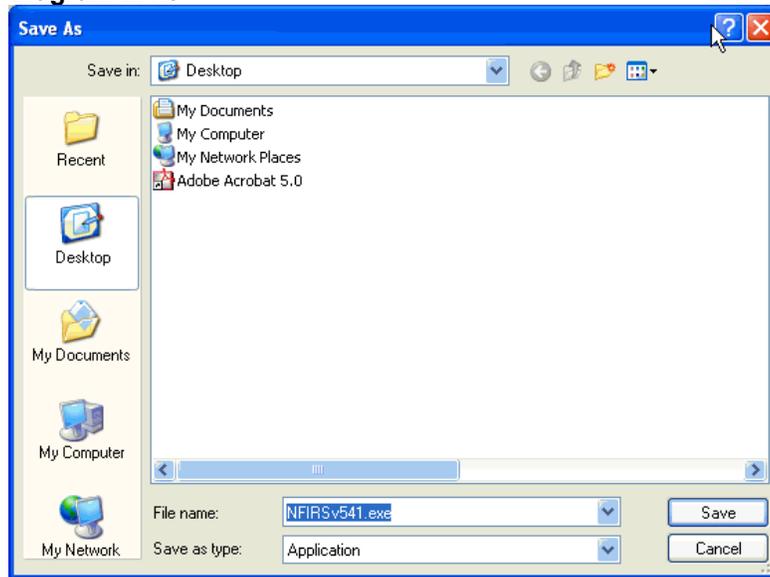
To generate, retrieve and print Forms Based Incident Reports, Adobe Acrobat Reader Version 3.02 or better must be installed on the user's PC. To download a cost free version of Adobe Acrobat Reader, go to:  
<http://www.adobe.com/products/acrobat/readstep/html>

### 2.1 New Users

New users must download the software from the NFIRS 5.0 Download Software Web page or obtain a CD from their State Program Manager, if a CD is available. To access the Download Software page, go to <http://www.nfirs.fema.gov> and click on the link for User Login. At the User Login page, enter Username, State and Password and click on the Login button. After successful login, the link for Download Software will appear in the sidebar.

When the user clicks on the FTP link on the Download Software page (e.g., NFIRS 5.0 Client Version 5.4.1 (Virginia)), a Download File window will be displayed. Specify to save the file to the PC. When the user clicks the Save button, a Save As dialog box (diagram 2.1.0) will appear prompting the user for a directory to download to. A good choice is the C:\temp directory or Desktop, but any directory is acceptable. **Note:** Write down where the file will be downloaded to – this information will be needed shortly. When the user clicks the Save button, the file will begin to download.

Diagram 2.1.0



When the download is complete, a dialog box will appear which states Download Complete. When the user clicks the OK button or Close button, the box will disappear, Close the browser. New users with no previous versions on the PC will locate the executable file and double click on it to begin the installation.

If the user chooses to download the executable using the four parts provided on the NFIRS Download Software page, first create a folder on the hard drive, for example: C:/NFIRSinstall, in which to save the four files. Each of the four files must be saved to folder, with no other contents. To install using the four parts, locate and double click on the file named: NFIRSV541Imaged.exe. When prompted to enter the folder name of the files, enter the complete path (case and spacing must be exact), then click Unzip. The installation process will begin.

## 2.2 Off-Line Users with Previous Versions of NFIRS 5.0 on the PC

### *NFIRS 5.0 Version 5.3.x or earlier*

Installation of Software Version 5.4 requires a download of the NFIRSV541 executable (NFIRSV541.exe). Following the implementation of Version 5.4 in the On-line system, users who attempt to login to the On-line system using Version 5.3.x or earlier on their PC will not be successful. This error or a similar error will be displayed:

Request failed (gov.fema.nfirs.service.NFIRSVersionControlServiceDB). Reason: Your application (version 5.3.4, or Version Unknown) is out of date. Please download and install the latest version (5.4.1)

Users must obtain the most current version 5.4.1 by downloading and installing the USFA Client software, or obtaining a CD from their state, if the state makes a CD available.

Note: after the successful installation of Version 5.4, if this error occurs: "Could not find On-Line database, System may be down," The user should verify Internet access or configuration information.

It is recommended users create a back up copy of their previous version's database file before proceeding with installation. If reports are saved to the previous version's Reports folder, they must be moved to another location on the hard drive or they will be removed when the removal of the previous version is performed. If the Off-line Data Cleansing Tool has been used to run scripts for the Off-line database and the user wishes to retain the history of when the scripts were applied, the Version 5.3.x or 5.2.3 AllDatabasePatches.obj file must be saved and moved into the Version 5.4 folder after successful installation.

Users will move the Version 5.3.x Access database into the NFIRSV54 Database folder and rename it: NfirsdataV54.mdb. Perform Remote Synchronization before working in the Off-Line mode.

## 2.3 New On-Line Users

New users must download the software from the NFIRS 5.0 Download Software Web page or obtain a CD from their State Program Manager, if a CD is available. Access 97, Access 2000, Access 2002, FoxPro 6.0, MS SQL 7.0 or MS SQL 2000 is not required on the user's PC to work in the On-Line mode only.

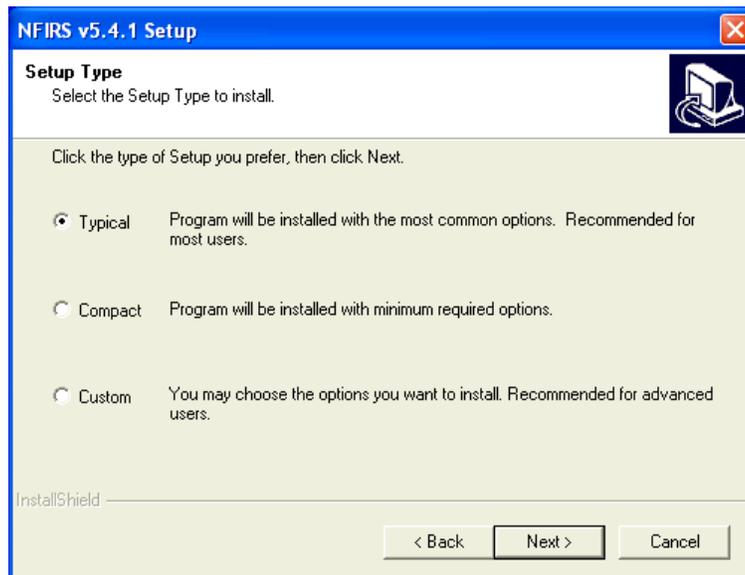
To access the Download Software page, go to <http://www.nfirs.fema.gov> and in the User Section, click on the sidebar link for User Login. At the User Login page, enter Username, State and Password and click on the Login button. After successful login, the link for Download Software will appear in the sidebar.

On the Download Software page, click the FTP link for **NFIRS 5.0 Client Version 5.4.1** and in the Download File pop up box that is displayed, specify a location to **Save** the file (for example: C:\Windows\Desktop) and click OK. When the download is complete, close the Download File pop up window, and close the browser. Locate the executable file NFIRSV541.exe and double click on it to begin installation.

If the user chooses to download the executable using the four parts provided on the NFIRS Download Software page, first create a folder on the hard drive, for example: C:\NFIRSinstall, in which to save the four files. Each of the four files must be saved to folder, with no other contents. To install using the four parts, locate and double click on the file named: NFIRSV541Imaged.exe. When prompted to enter the folder name of the files, enter the complete path (case and spacing must be exact), then click Unzip. The install will proceed.

Off-Line users can accept all the defaults through the setup process. **Note:** the default mode is On-Line Access. Following installation before opening the Data Entry Tool, the Off-Line user must change the configuration setting to Off-Line Access in the Configuration Tool's Advanced Tab. For complete information or to solve configuration issues, see the Configuration Tool User's Guide found at the NFIRS Web Site, <http://www.nfirs.fema.gov/>

On-Line only users should specify Custom Setup during installation (diagram 2.3.0). When Custom is selected and the Next button is clicked, in the next screen that appears uncheck Local Database. Click Next.

**Diagram 2.3.0 - Setup Type for On-line Only Users**

It is recommended that users remove the previous NFIRS 5.0 Versions 5.3.x program after successful installation of NFIRS 5.0 Software Version 5.4.

The following tables provide an outline of the steps required for downloading and installing the NFIRS Client Suite. The first table outlines download with the single executable. The second table outlines downloading and installing using the four parts.



**Download/Installation Table for NFIRS 5.0 Version 5.4:**

<b>Step</b>	<b>Action</b>	<b>Response</b>
1	Log onto the Internet and go to <a href="http://www.nfirs.fema.gov">http://www.nfirs.fema.gov</a>	User is now at the NFIRS Web site.
2	Click on User Section. Click on sidebar link: User Login and type Username, State and Password.	User is now at Users' Section Homepage. User is required to login.
3	Click on Download Software.	User is now at NFIRS Download page.
4	Click on an FTP link for NFIRS 5.0 Version 5.4.1	The Download File box opens.
5	Click Save.	The Save as... box opens.
5	Choose a location (suggestion: C:\Desktop) to download the file to and click OK.	The file begins to download. The download time will depend upon the connection speed.
6	When the download is complete, close all Windows applications that are open.	This is to ensure that all files are copied correctly during the installation.
7	Open Windows Explorer and locate NFIRSv541.exe and double click on it.	The NFIRS Client Suite Installation starts.
8	Read and accept the NFIRS License Agreement.	This is required for the Installation.
9	Read and accept the JRE license Agreement.	This is required for the Installation.
10	Choose the destination (the default is C:\Program Files \NFIRSv54).	The default destination is recommended.
11	Choose Type of Installation.	For Off-Line use, select Typical Installation. For On-Line only use, select Custom Installation and uncheck Off-Line Database.
12	Click the Next button.	A new Program Group is created.
13	The NFIRS Client Suite is installed.	No additional action is required.
14	Click on Finish to complete the installation.	Installation is complete.
15	Verify the PC has Adobe Acrobat Reader Version 3.02 or better.	If the Adobe Acrobat Reader is not located, go to: <a href="http://www.adobe.com/products/acrobat/readstep.html">http://www.adobe.com/products/acrobat/readstep.html</a> to obtain a cost free download.

Download and installation Table: Using the Four Part Executables:

<b>Step</b>	<b>Action</b>	<b>Response</b>
1	Create a new folder on the hard drive, example, C:\NFIRSinstall	A new folder is created.
2	Log onto the Internet and go to <a href="http://www.nfirs.fema.gov">http://www.nfirs.fema.gov</a>	User is now at the NFIRS Web site.
3	Click on User Section. Click on the sidebar link: User Login and type Username, State and Password.	User is now at Users' Homepage. User is required to login.

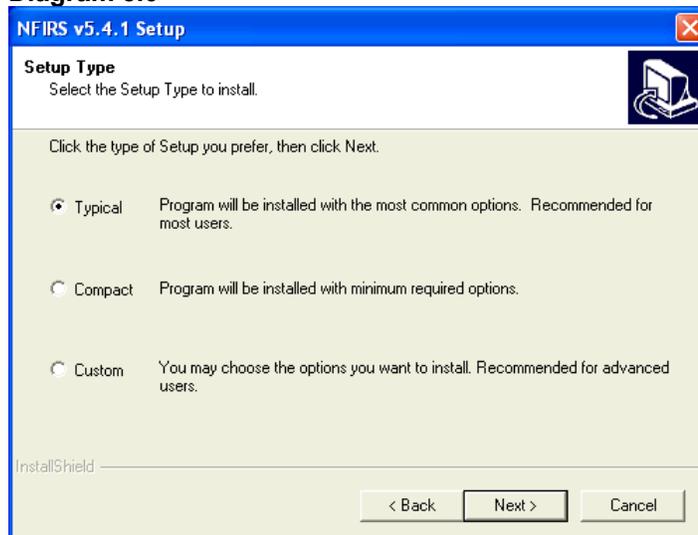
4	Click on Download Software.	User is now at NFIRS Download page.
5	Click on the FTP link for NFIRS 5.0 Version 5.4.1 PART 1 of 4	The Download File Notice dialog box opens. Click Download Now.
6	Choose the folder created for the executable files (C:\NFIRSIinstall) to download the file to and click OK.	The file begins to download. The download time will depend upon the connection speed.
7	When the Part 1 file has completed download, close the Download File box and click on the FTP link for the PART 2 executable file.	The Download File dialog box opens.
8	Specify the folder created for the executable files (C:\NFIRSIinstall) as the Save in location, and click OK.	The Part 2 file begins to download. The download time will depend upon the connection speed.
9	Repeat the download steps for Parts 3 and 4, saving the file to the same folder.	The four parts (NFIRSV54Imaged.exe, data3.cab, data4.cab, data5.cab ) will be downloaded and saved to the same folder. Add no other files.
10	When the downloads are complete, close all Windows applications that are open.	This is to ensure that all files are copied correctly during the installation.
11	Open Windows Explorer and locate NFIRSV54Imaged.exe and double click on it.	The WinZip self Extractor message will be displayed.
12	In the WinZip message window, click OK.	The message will be dismissed.
13	In the next WinZip message window, where the text is highlighted and states: Enter folder name here and press "Unzip," enter the complete path to the folder, example: C:\NFIRSIinstall	The complete path must be specified exactly for the extraction process to be successful.
14	Click Unzip	The file extraction occurs and the installation process will begin.
15	Read and accept the NFIRS License Agreement.	This is required for the Installation.
16	Read and accept the JRE license Agreement.	This is required for the Installation.
17	Choose the destination (the default is C:\Program Files \NFIRSV54).	The default destination is recommended.
18	Choose Type of Installation.	For Off-Line use, select Typical Installation. For On-Line only use, select Custom Installation and uncheck Off-Line Database.
19	Click the Next button.	A new Program Group is created.
20	The NFIRS Client Suite is installed.	No additional action is required.
21	Click on Finish to complete the installation.	Installation is complete.
22	Verify the PC has Adobe Acrobat Reader Version 3.02 or better.	If the Adobe Acrobat Reader is not located, go to: <a href="http://www.adobe.com/products/acrobat/readstep.html">http://www.adobe.com/products/acrobat/readstep.html</a> to obtain a cost free download.

### 3. Database Setup for Off-Line Use

To run the NFIRS 5.0 Client software in the Off-Line mode, one of the following database programs must be installed on the user's PC prior to installation of the USFA NFIRS 5.0 Software: Access 97, Access 2000, Access 2002, FoxPro 6.0, MS SQL Server 7.0, or MS SQL Server 2000. An Internet connection will be required to download the software and for new Off-Line users to perform initial User Injection and to obtain periodic updates. The same configuration issues must be addressed in Version 5.4 as in previous versions 5.3.x or 5.2.3; specifically, if the user is behind a firewall, the proxy server address must be specified in the Configuration Tool prior to the User Injection procedure.

To install the program, close all programs and locate the NFIRS 5.0 Software Version 5.4 executable file (NFIRSV541.exe) that was downloaded from the Internet. Double click on the file, or highlight the file and click Open. The WinZip Self-Extractor (NFIRSV541.exe) message window will appear. Click the Setup and the installation will begin. Read and accept the Licensing Agreements. It is recommended that users accept the default Destination Location, C:\Program Files\NFIRSV54\. Users who have Access on the PC and wish to work in the Off-Line mode must select Typical in the Setup Type window (diagram 3.0). It is recommended users accept the default Program Folder. After installation is complete, the user has the option to view the readme.txt file. Click Finish after viewing the file, or when the installation is complete. The blue, NFIRSV54 Setup screen may take a moment to disappear before the user is returned to the Desktop.

**Diagram 3.0**



If prompted to restart the PC, click OK or Finish to restart the PC. After the PC has restarted, the user may then proceed to selecting the mode (On-Line or Off-Line access), database setup, if necessary, followed by initial User Injection.

The NFIRS 5.0 Software version 5.4 is shipped with an Access 97 database. New Off-Line Users who wish to use either Access 2000, Access 2002, FoxPro 6.0, MS SQL Server 7.0, or MS SQL Server 2000 must first convert the database file shipped with the installation, and then specify the Database Type (in the Configuration Tool's Advanced Tab). To complete Off-line local database configuration, initial User Injection must be

performed prior to starting the Data Entry /Validation Tool. The sections below address database setup and user injection for each type of user. Users who will be working On-Line mode only can refer to Section 4.1.

### 3.1 Access 97 Users:

#### **New Users:**

The default Database Type during installation of NFIRS 5.0 software Version 5.4 is Access 97. After successful installation of the Version 5.4 software, new users will change the default access mode from On-Line to Off-Line, and those users who have Access 97 on the PC will then proceed to initial User Injection (steps 1- 7 below).

After successful installation, Off-Line users must change the mode to Off-line Access: go to Start...Programs...NFIRSV54...Configuration Tool and click on the Advanced Tab. Check the Off-Line Access box

1. After successful installation, go to Start...Programs...NFIRSV54...Configuration Tool and click on the Advanced Tab.
2. Check the Off-Line Access box. Click Save and exit the Configuration Tool.
3. From the Start menu, go to Programs...NFIRSV54...Data Entry Tool.
4. When the Off-Line login screen appears, click OK leaving the Username, State, and Password fields blank.
5. The message will appear: "Would you like to inject a user from the On-Line database?" Click YES.
6. At this point, the application will load all the information from the Off-Line database. When this is complete, the user may be prompted to make a connection to the Internet if a connection is not detected. Step 5 requires a connection to the Internet.
7. Log into the On-Line database using the Username, state and Password registered via the NFIRS Web Page.
8. After login, the user will be prompted to select a password for the Off-Line database. The user can enter the same password for Off-Line login as On-Line login.
9. When the User Injection/Remote Synch process is complete, a pop up window will display: "Your Internet connection is no longer required." The user will be in the Data Entry Tool in the Off-Line mode.

Reminder: Adobe Acrobat Reader Version 3.02 or better is required to generate Forms Based Incidents Reports.

**Users of the previous version NFIRS 5.0 Version 5.3 client software who have data saved to an Access 97 database:** The previous Version NFIRS database must be copied or moved into the new NFIRSV54 Database folder and renamed. Version 5.2.3 users can follow the same steps as Version 5.3.x users, substituting the Version database location (NFIRSV523, for example) and file name (NfirsdataV523.mdb, for example) as applicable.

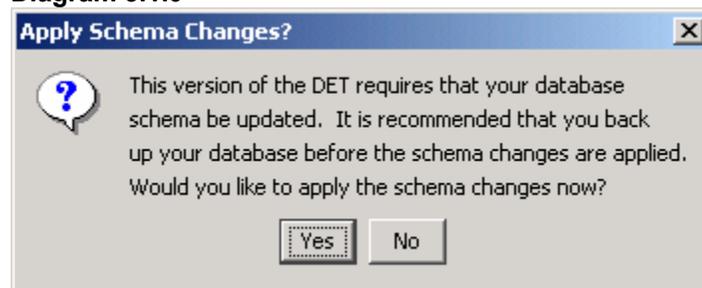
1. Make a back up copy of the NfirsdataV53.mdb database (NOT NfirsdataV53.ldb) and save it to your hard drive (default location: C:/Program Files/NFIRSV53/Database/ )
2. Install Version 5.4.

3. Locate and right click on the NfirsdataV53.mdb database (NOT NfirsdataV53.ldb) and select Copy.
4. Locate and open the new version NFIRSV54 Database folder (default location: C:/Program Files/NFIRSV54/Database/ ).
5. In the NFIRSV54 Database folder, right click and select Paste. The Version 5.3 database will be saved to the version 5.4 Database folder.
6. Rename the empty V54 database (NfirsdataV54.mdb) that was installed with Version 5.4 program. Suggested name: origNfirsdataV54.mdb **Note:** multiple copies of the empty database can be saved and used; for example, to store data separately by year.
7. Rename the NfirsdataV53.mdb to: NfirsdataV54.mdb. It must be exact. **Note:** if file extensions do not show on the PC, do not add the .mdb to the file name.

Perform User Injection and Remote Synchronization to update the Off-Line NFIRS Version 5.4 database with the most current rules and codes, and Version 5.3 database schema.

8. Go to Start...Programs...NFIRSV54...Configuration Tool and click on the Advanced Tab.
9. Check the Off-Line Access box. Click Save and exit the Configuration Tool.
10. From the Start menu, go to Programs...NFIRSV54...Data Entry Tool.
11. Click Yes to the prompt: Apply Schema Changes? (Diagram 3.1.0)

**Diagram 3.1.0**



12. When the Off-Line login screen appears, click OK leaving the Username, State, and Password fields blank.
13. The message will appear: "Would you like to inject a user from the On-Line database?" Click YES.
14. At this point, the application will load all the information from the Off-Line database. When this is complete, the user may be prompted to make a connection to the Internet if a connection is not detected. Step 12 requires a connection to the Internet.
15. Log into the On-Line database using the Username, state and Password registered via the NFIRS Web Page.
16. After login, the user will be prompted to select a password for the Off-Line database. The user can enter the same password for Off-Line login as On-Line login.
17. When the User Injection/Remote Synch process is complete, a pop up window will display: "Your Internet connection is no longer required." The user will be in the Data Entry Tool in the Off-Line mode.

If a copy of the empty database is created to separate data storage, the database in use must be named NfirsdataV54.mdb. User Injection must be performed to the empty database before use.

### **3.2 Access 2000 and 2002 Users**

Users selecting Access 2000 or Access 2002 as a database must follow these instructions to set up their Off-Line database. XP users: please note Access allows conversion to 2000 or 2002 Access database formats.

Prior to initial User Injection, the database must be converted and renamed, and the Database Type (Access 2000) must be specified in the Configuration Tool.

#### **Renaming the Database:**

1. After successful installation, in Windows Explorer or My Computer locate the NFIRSV54 root directory and open the Database folder (default location: C:/Program Files/NFIRSV54/Database/ ).
2. Double click on the Nfirsdatav54.mdb file to open it.
3. In the Access program message window that appears, select the Convert Database option. (Or, in the Access program, go to the Tools menu...Database Utilities...Convert database... and select the NfirsdataV54.mdb in the NFIRSV54/Database folder)
4. In the "Convert Database Into" save in field, specify the NFIRSV54 Database folder.
5. Accept the default name for the database (default name: db1.mdb). This name will be changed later. Click Save.
6. When the converting process is complete, close the database, and close the Access program. You will be returned to Windows Explorer.
7. Rename the original NfirsdataV54.mdb (suggestion: origNfirsdataV54.mdb)
8. Rename the new database NfirsdataV54.mdb (must be exact).

The database has been converted. The user can proceed to setting the Database Type in the Configuration Tool (steps 9 - 11 below).

#### **Specifying the Database Type:**

The Database Type is selected in the NFIRS 5.0 Software Version 5.3 Configuration Tool. On-Line configuration information can be entered and saved in the On-Line Access section of the Advanced Tab before exiting the configuration Tool (step 11 below). For more information, refer to the Configuration Tool User's Guide for complete information.

9. From the Start menu, select Programs...NFIRSV54.... Configuration Tool.
10. In the Off-line section from the Database Type drop down box, select the appropriate version of Access.
11. Click Save and exit the Configuration Tool. Proceed with initial User Injection (steps 12 - 18 below).

#### **Initial User Injection:**

12. From the Start menu, select Programs...NFIRSV54...Data Entry Tool.

13. When the Off-Line login screen appears, leave the Username, State, and Password fields blank and click OK.
14. The message will appear: "Would you like to inject a user from the On-Line database?" Click YES.
15. At this point, the application will load all the information from the Off-Line database. When this is complete, the user will be prompted to make a connection to the Internet.
16. Log into the On-Line database using the Username, State and Password registered via the NFIRS Web Page.
17. After login, the user will be prompted to change the password for the Off-Line database. This allows the user create a new password for the Off-line login. Or, the user can enter the same password for Off-Line login as On-Line login.
18. When the User Injection/Remote Synch process is complete, a pop up window will display the message: "Your Internet connection is no longer required." The user will be in the Data Entry Tool (Main View screen) in the Off-Line mode.

Complete information for User Injection and Remote Synchronization can be found in Section 4.

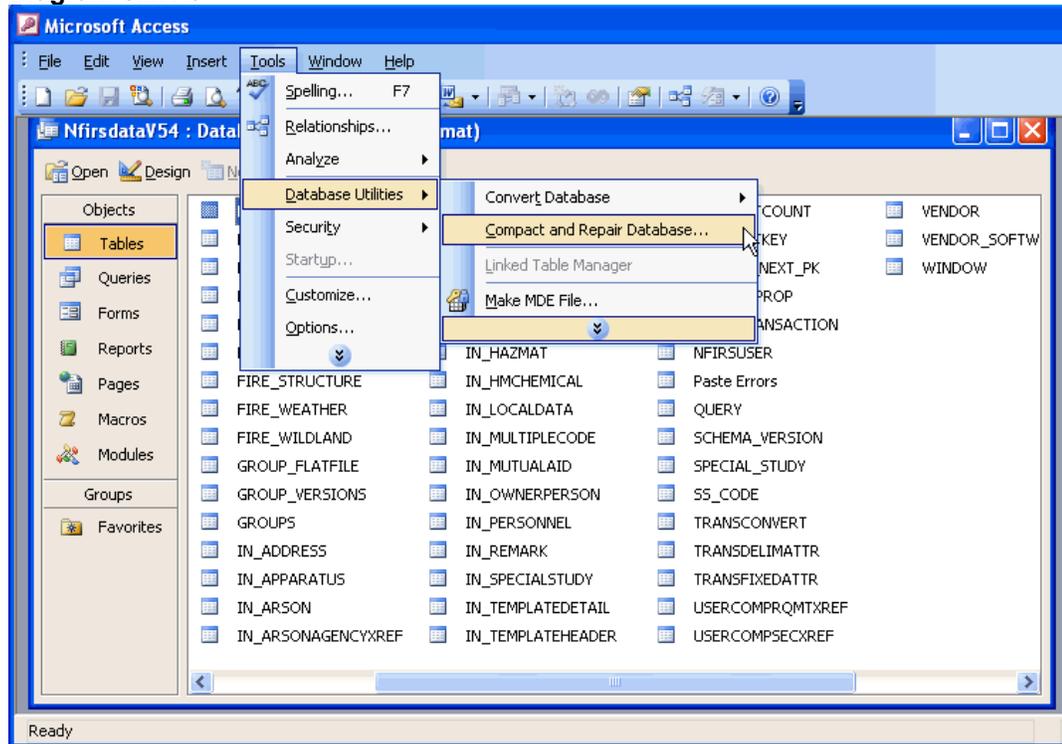
### **3.2.1 Compacting the Access Database – Off-Line Users Only**

It is recommended that the user compact the new, local Access database before selecting the Data Entry Tool and continue to compact it on a regular basis.

#### **To compact the NFIRSV5.4 Database:**

1. Open the NFIRSV54 root directory and locate the Database folder. The default location is C:\Program Files\ NFIRSV54\ Database\.
2. In the Database folder, double click on the file Nfirsdatav54.mdb. The Access program will open and the table names of the database will be displayed.
3. Under the Access Tools menu, select Database Utilities...Compact Database (diagram 3.2.1.0). The status of the compact process will be displayed in the lower left message bar.
4. When the compact process is complete, close the database and close the Access program by clicking the X in the upper right corner. Close Windows Explorer.

Diagram 3.2.1.0



### 3.3 Visual FoxPro 6.0 Database Setup

Users who wish to use Visual FoxPro 6.0 as the Off-Line database engine must have the Visual FoxPro 6.0 program on the PC prior to installation of NFIRS 5.0 software Version 5.4

Import the schema to your Visual FoxPro 6.0 database using these steps:

1. Obtain the zip file containing the Visual FoxPro 6.0 schema ("NFIRSFoxPro.zip"), available on the NFIRS Download Software Page.
2. Unzip and save the files to a directory of your choice.
3. Start Microsoft Visual FoxPro 6.0.
4. Under the FoxPro File menu, select Open.
5. Locate the folder containing the unzipped FoxPro files, and select the nfirproject.pjx file.
6. You will be prompted to make the new directory the home directory for the new FoxPro database, which is suggested.

Complete the following steps to create an ODBC source for this new Visual FoxPro 6.0 database.

1. From the Start menu, select Settings...Control Panel.
2. Double click on the ODBC Data Sources 32 bit icon. The icon may be named differently on NT machines.

3. In the ODBC Data Sources Administrator window, click on the System DSN Tab.
4. Click on the Add button. The Create New Data Source window will be displayed.
5. Select the Microsoft Visual FoxPro Driver.
6. Enter a Data Source Name and Description. For Example: MyVFPServer
7. Click Finish. Close the Control Panel.
8. From the Start menu, select the NFIRSV54 Configuration Tool and click on the Advanced Tab.
9. If configuration information is necessary for Online Access, check the Online Access box and enter the information. Click Save.
10. Check the Offline Access box.

Rename the ODBC driver to point to Visual FoxPro 6.0:

1. In the Database Type drop down box, select Visual FoxPro 6.0.
2. Replace the odbc driver name (in the top text field) with the one you just created. Example: jdbc:odbc:MyVFPServer
3. Click Save, and exit the Configuration Tool.
4. Proceed with User Injection. (Refer to steps 1 - 7 in the Access 97 New Users section above).

### **3.4 Microsoft SQL Server 7.0 and SQL Server 2000 Database Setup**

Users who wish to use MS SQL Server 7.0 or MS SQL Server 2000 as the Off-Line database engine must have MS SQL Server 7.0 or MS SQL Server 2000 installed on the PC prior to installation of NFIRS 5.0 software Version 5.3. The instructions and the schema are the same for both version of MS SQL Server 97 and 2000. Begin by importing the schema to the MS SQL Server 7.0 (or 2000) database using these steps:

1. Create a new database using the SQL Enterprise Manager (EM).
2. From the EM, under the Tools menu select SQL Server Query Analyzer.
3. When the Query Analyzer launches, go to the combo box at the top-right and select your database name.
4. Click the "Open" icon (second icon from left on top of window).
5. Select the .sql file that contains the schema, which is usually named "NFIRSSQLServerSchema.sql".
6. Press F5 to execute the script.
7. Select the .sql file that contains the table updates, which is usually named "SQLServerTableUpdates.sql".
8. Press F5 to execute the script.
9. Quit the Query Analyzer.
10. The new schema is now found under "tables" for the new database, which can be viewed in the Enterprise Manager.

Create an ODBC source for this new SQL Server database.

1. Select Start...Settings...Control Panel
2. Open the ODBC Data Sources-32 bit. This may be named differently on different versions of NT.
3. Click on the System DSN Tab.
4. Click on Add button. The Create New Data Source window will be displayed.
5. Select SQL Server.
6. Fill in the following information in the DSN configuration screens:

Screen 1: Enter name for your SQL Server NFIRS Database and the SQL Server name on which it resides.

Screen 2: Select the "With windows NT authentication using network login ID" radio button for SQL Server Authenticity. Leave other settings as default.

Screen 3: Select the "Change the default database to" check box and then select your newly created SQLServer NFIRS database from the drop down list below the box. Leave other settings as default.

Screen 4. Leave settings as default.

7. From the Start menu, open the NFIRS Configuration Tool and click on the Advanced Tab.
8. If configuration information is necessary for On-line Access, check the On-line Access box and enter the information. Click Save.
9. Check the Off-line Access box.
10. From the Database Type drop down list select SQL Server 7.0 (or 2000).
11. Replace the odbc driver name (in the top text field) with the one you just created. The driver name should now look like "jdbc:odbc:MySqlServer"
12. Save and exit the Configuration Tool (leaving the "Offline access" box checked)
13. Proceed with User Injection (refer to steps 1 -7 in the Access 97 New Users section above, or in the User Injection Section 4.2.)

### **3.5 Visual FoxPro 6.0 & MS SQL Server 7.0: Previous Version Users**

Visual FoxPro 6.0 or MS SQL Server 7.0 Off-Line Users who have fire department and incident data saved locally from NFIRS 5.0 Version 5.3.x can follow the steps below.

1. Install NFIRS 5.0 Version 5.4.1
2. After successful installation, in the Configuration Tool's Advanced Tab, name the odbc Data Source the same as it appears in the ODBC Data Source Administrator.
3. In the Configuration Tool's Advanced Tab, select the Database Type.
4. Click Save and exit.
5. Perform User Injection/ Remote Synchronization.
6. In the User Injection process, at the prompt: "Apply Schema Changes? ...Would you like to apply the schema changes now?" click Yes and proceed with User Injection.

## 4. Starting the NFIRS Data Entry/Validation Tool

When the user selects NFIRS from the Start Menu on their personal computer, a pop-up window (Setting Database Connection...) will be displayed followed by a login window.

The user must verify the software version being used is Version 5.4 if the login window fails to come up or this error message or one similar occurs: Request failed (gov.fema.nfirs.service.NFIRSVersionControlServiceDB). Reason: Your application (version 5.3.4) is out of date. Please download and install the latest version (5.4.1)

If this error message occurs:

“Could not find On-Line database. System may be down,” verify an Internet connection exists, or check if there is a configuration issue which must be resolved. Please refer to the NFIRS Configuration Tool User’s Guide Documentation for configuration issues, available on the NFIRS Users Documentation web page, <https://www.nfirs.fema.gov/users/usersdocs.shtm>

**Note:** Users using the software in the On-Line mode must first have an Internet connection established before logging onto NFIRS. Users who do not have an Off-Line Database set up will need to run the software in the On-Line mode only. Section 4.0 provides details.

At the login window, the user enters the Username, State, and Password created during user registration. If the user is working in the Off-Line mode, the password used is the one created during User Injection. The user is allowed up to five consecutive failed login attempts after which the system locks the user’s account. Successful login after less than five attempts will reset the failed login counter. If the user’s account becomes locked, an administrator will have to unlock the account using the NFIRS System Administration Tool. For further information, please see the NFIRS System Administration Tool User’s Guide available on the NFIRS Users Documentation web page, <https://www.nfirs.fema.gov/users/usersdocs.shtm>

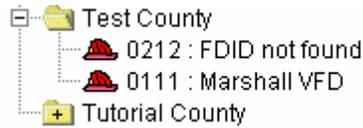
### 4.1 Starting the Data Entry /Validation Tool (On-Line Users):

Users who will be entering their incidents On-Line will be submitting their incident information directly to the National Database. In Version 5.4, On-Line Access is the default mode. Establish a connection to the Internet, if one is not established automatically. Start the Data Entry Tool from Start... Programs...NFIRSV54...Data Entry Tool. At the login window, the user enters the Username, State, and Password entered during user registration. Click OK to submit user information. In the white status bar, the message “Validating User...” will be displayed. If the wrong user information was entered, an error will be generated. Re-enter using correct login information.

When the Data Entry Tool Main View Screen is displayed, a hierarchical tree will display your State, and/or County or Region and the Fire Department Name.

If the user’s FDID is displayed followed by **FDID NOT FOUND** (Diagram 4.1.0), the Fire Department information (header record) must be created and saved. To create the Fire Department header record, highlight FDID and FDID Not Found by clicking once in the Groups Window. Click on Fire Dept. from the Menu Bar...Select New Fire Department. (If New Fire Dept. is grayed out, the FDID and FDID Not Found is not highlighted.)

Diagram 4.1.0



When the Fire Department screen is displayed, the FDID number will be automatically entered. Enter the Fire Department Name. Additional information is optional. Upon completion of the Fire Department screen, click OK. The message box at the bottom of the window will display 'Saving Fire Department Information.' The screen will close and the user will be returned to the Data Entry/Validation Tool Main View Screen. In the Groups Window, the FDID Not Found will be replaced by the Department Name entered in the Fire Department screen. The user is now ready to begin entering new incident information.

## 4.2 User Injection and Remote Synchronization (Off-Line Users):

User Injection enables the user to update an Off-Line database with user information from the National Fire Incident Reporting System database. It is only necessary to perform User Injection when adding a user to the Off-Line database, or when moving a previous version's Off-Line database to the new version 5.4. For locations where more than one user will be accessing the Off-Line database (with separate accounts), user injection will have to be performed for each account (user). For example, to add the users Smith and Jones to the Off-Line database, user injection will have to be performed for Smith and then once again for Jones.

Remote Synchronization, which occurs automatically during User Injection, enables the user to synchronize user account information and FDID information in their Off-Line database with the user account information and FDID information in the On-Line National Database. **Note:** Remote Synchronization does not synchronize incident information.

Remote Synchronization can be performed separately by selecting it from the Advanced Tab on the menu bar. This will ensure that the user's local database is in synch with the National Database, and it is recommended that the user perform Remote Synchronization once a month. Along with the routine Remote Synchronization, it is recommended that users compact the Access database.

### 4.2.1 Procedure for User Injection (Off-Line Users):

To perform User Injection, the user must configure the NFIRS client software for Off-Line Access using the NFIRS Configuration Tool (see NFIRS Configuration Tool User's Guide for further information, available on the NFIRS User Documentation web page <http://www.nfirs.fema.gov/users/usersdocs.shtml>). In order to complete the User Injection Process, the user will need to establish an Internet connection.

The user must then start the NFIRS Data Entry Tool. When the login window appears, the user must leave the Username, State and Password fields blank

and click the OK button. A window will appear asking the user, “Would you like to inject a user from the On-Line database?” When the user clicks OK, the On-Line login window will appear. The user must enter the username, state, and password entered during registration.

After entering the On-Line Username, State and Password, a pop-up window will appear prompting the user to change passwords. This window enables the user to create a different password for the Off-Line database if desired. The user may opt to use the same password for the Off-Line database as for the On-Line database. After entering a password and then confirming it, the user must click the OK button. It is at this point that User Injection and Remote Synchronization occur. When complete, a window will appear informing the user that the Internet connection is no longer required. The user must click the OK button to dismiss the window. The NFIRS Data Entry Tool Window will be active, and the user will be able to enter Incident data in the Off-Line mode.

The following table outlines the steps required to perform user injection and synchronize the local database with the National Fire Incident Reporting System Database.

**User Injection Instructions Table:**

Step	Action	Response
1	Ensure that the NFIRS Data Entry Tool is set to run in the Off-Line mode. Instructions are contained in the NFIRS Configuration Tool Users Guide.	This ensures that User Injection can take place.
2	Establish an Internet Connection.	The User will be connected to the Internet.
3	Click on Start...Programs...NFIRSV54... Data Entry Tool.	This will launch the NFIRS Data Entry Tool.
4	Leave Username, State, and Password fields blank and click on the OK button	A Window will appear asking if the user wishes to perform User Injection.
5	Click the OK button.	Data will be requested automatically.
6	A login Window for the On-Line database will appear.	No action needed.
7	Enter Username, State, and Password for the On-Line database (the Username, State, and Password that was used during NFIRS registration).	The user is connected to the On-Line database.
8	A Change Password pop-up window is displayed.	This password change is to create a separate password for the Off-Line database.
9	The user may enter the same password as is used for the On-Line database, or create a different one.	The password is created for the Off-Line mode login.
10	Click the OK button after entering and confirming the new password.	User Injection and Remote Synchronization occur. <b>Reminder:</b> Performing User Injection /Remote Synchronization will not synchronize incident data.
11	The NFIRS Data Entry Tool is launched in Off-Line mode.	The user is ready to enter Incident data in the Off-Line mode.

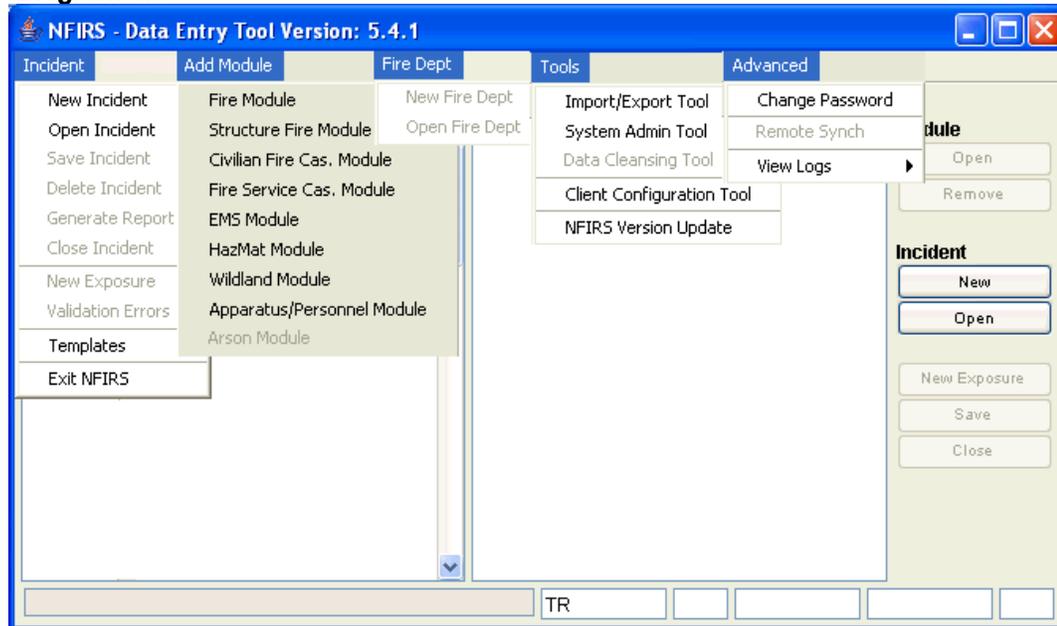
## 4. The Menu Bar

There are five pull-down menus in the NFIRS Data Entry/Validation Tool. The menus provide actions for entering and maintaining Incident and Fire Department Data as well as other Tools and administrative functions (diagram 4.0).

Diagram 4.0 displays the NFIRS Data Entry/Validation Tool with the Menu Bar fully opened to provide the user with a quick reference of all the options available from this tool. During actual use, the user will only be able to pull down one menu at a time. Some actions are invalid at given points in the execution of the Data Entry/Validation Tool. For example, under the Incident menu, the option to save, delete, or close an incident will be inactive (grayed out) unless an incident is opened.

**Note:** Version 5.4 menus and menu options are the same as previous versions 5.3.x. The Data Cleansing Tool is available in the Off-line mode only.

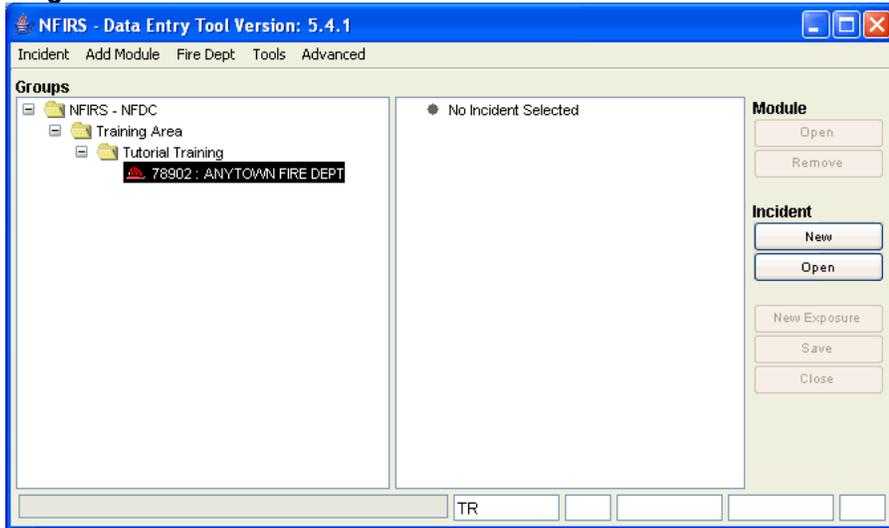
**Diagram 4.0**



### 4.1 The Data Entry Tool Push Buttons:

The Data Entry Tool provides push button short cuts (diagram 4.1.0) for opening or creating new incidents, creating new exposures, saving or closing incidents, and opening or removing modules. The following subsections contain additional information on these functions.

**Diagram 4.1.0**



## 4.2 The Incident Menu:

The Incident menu provides the user the ability to create a New Incident, Open an existing incident, Save an incident, Delete an incident, Generate a Report, and Close an Incident, enter a new Exposure, check Validation Errors, or pick an Incident Template and Exit NFIRS (diagram 4.2.0). This is a “pick and click” menu – the user clicks on Incident, and then clicks on the choice of options.

**Diagram 4.2.0**



### **4.2.1 New Incident:**

When the user clicks New Incident, a pop-up window for Section A – Incident Key will appear. Upon completing Section A, if the user has not checked “No Activity”, the Basic Module will be created and appear as part of the Incident tree in the Main View. Highlight Basic Module and then click on the Open push button on the Incident Shortcut Push buttons under Module (see diagram 4.1.0), or double click on Basic module. Enter requested information. To obtain codes for coded fields, press F1 while cursor is placed in the field.

Based upon the values input in the Basic Module, additional Modules may be required. These additional required modules will not automatically be added, however, the requirement for additional modules will be called out during the validation check. From the Add Module Tab, the User can select the module and enter the requested information.

### **4.2.2 Open Incident:**

When the user clicks on Open Incident, the Incident Search Window a pop-up will appear. The user may enter values for all, some, or none of the available fields. The more fields that are filled out, the more selective the search process will be. If no fields are selected, the search will retrieve all incidents in the database. When the pane is filled with retrieved incidents, the user may double click on the appropriate incident to select and modify.

After the user selects the desired incident, the Incident Search Window will minimize automatically. The user can maximize the window by clicking once on the task bar at the bottom of the Desktop where the Incident Search window is signified. The Incident Window will maximize in size and the user can select another incident to open and view. To close the Incident search Window, click once on the X in the upper right corner of the window.

### **4.2.3 Save Incident:**

Information that has been entered may be saved by clicking on Save Incident on the pull-down Incident Menu, or click on Save button on the Incident Shortcut Push buttons (see diagram 4.1.0).

If validation errors are present when the user clicks on Save Incident, a prompt will appear stating that Validation Errors Exist, offering the user the chance to review and modify the incident as required. If the user clicks on No, the incident will be saved as an invalid incident with validation errors. If the user clicks on Yes, the validation window will appear. If the user clicks on Cancel, the pop-up window will disappear and the incident is not saved. The user will be returned to the previous window.

To make a back-up copy of incident data, the user may save incident data to a floppy disk. The user must first save the incident(s) as described above and then export the incident. To export the saved incident, open the Import/ Export Tool (Section 5.1.2). Export the desired incident(s). When the Save Incidents to File dialog box appears, save the file to 3 1/2 Floppy [A]. Name the file and click

Save. The incident data on disk can be imported at a later date or opened in Notepad.

#### **4.2.4 Delete Incident:**

In order for the user to delete an incident, an incident must be selected (refer to section 4.2.2 to select an incident). The user will be prompted to ensure that this is the desired action. Once deleted, the incident is removed from the system and cannot be recovered.

If the user has not been assigned the Delete Incident permission from their System Administrator, the Delete Incident option will be grayed out.

#### **4.2.5 Generate Report (Forms Based Incident Report)**

An incident can be generated as a Forms Based Incident Report in pdf format using the information the user entered into the modules for the incident. These reports generate the equivalent of the paper forms of the modules and can be generated On-Line or Off-Line, an incident at a time. To view, save, and print the reports, Adobe Acrobat version 3.02 or better is required on the user's PC. Adobe Acrobat Reader may be downloaded from the Adobe web site, <http://www.adobe.com/products/acrobat/readstep.html> at no cost.

An incident must be open in order to generate a report. An incident is "open" when the user sees in the Main View Screen the Groups Window on the left, and on the right a hierarchical tree showing Section A - Key Information and Basic Module, as well as any other modules that have been filled out for the incident. The user can generate a report on a newly entered incident once the information has been entered and saved, and before closing the incident.

#### **To Generate a Forms Based Incident Report:**

1. Click on Incident from the menu bar, then click on Generate Report.
2. The Set Reports Directory pop up window appears. The user may choose to save the report to a different location and enter a report name, or click Save to save the report to the default location and file name (diagram 4.2.5.0). The default location is the Reports folder, a sub-directory of the NFIRS root directory. The default file name will be: state.FDID.incidentnumber.exposure.pdf (diagram 4.2.5.1).
3. When the report has been successfully saved and generated, a pop up message Reports Forms Generated Successfully will appear.
4. Click OK. The user will be returned to the Main View Screen.

Diagram 4.2.5.0

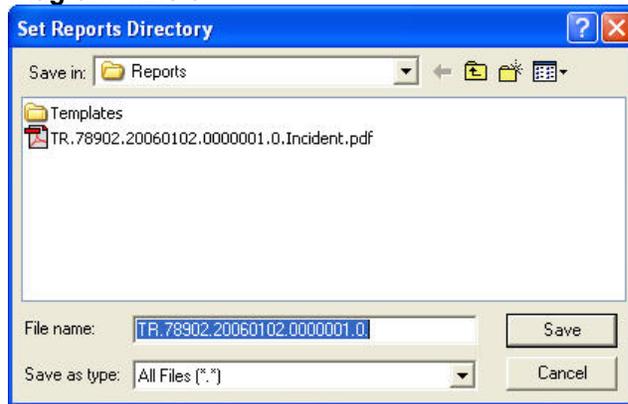
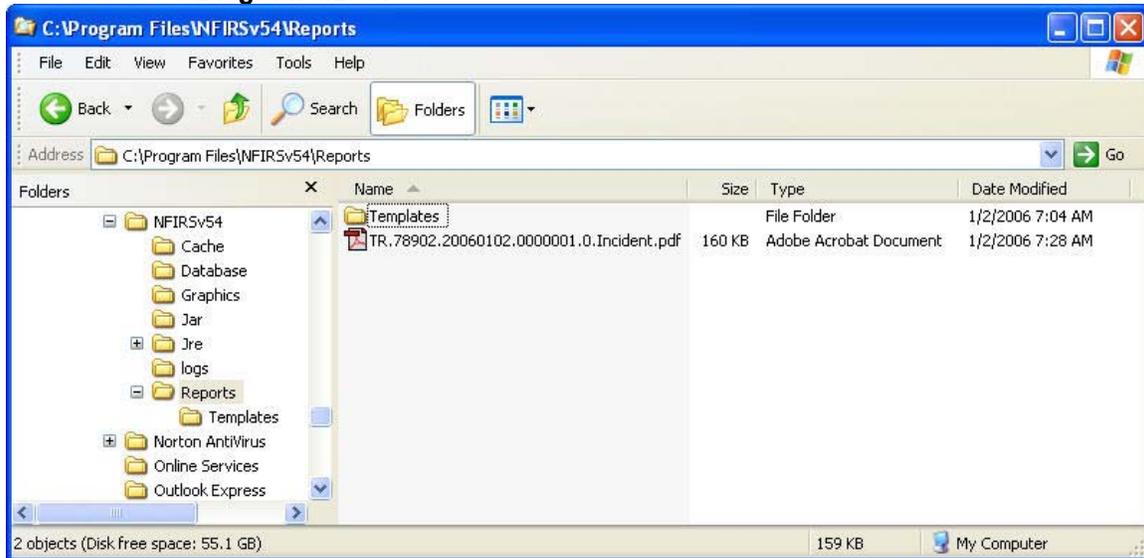


Diagram 4.2.5.1



5. To view a report that was generated, minimize or close the Data Entry Tool.
6. Open Windows Explorer and locate the NFIRS root directory.
7. Double click on the Reports folder. The user will see a single .pdf file for the incident report. Currently, all forms are available.
8. Double click on the file to open. Adobe Acrobat Reader will open the report in pdf format.

**Note:** The first time a report is generated, the user may be prompted to locate the Acrobat Reader Executable. Click OK. Then:

- Locate the Adobe Program folder and double click on it to open.
- Locate the Reader folder and double click on it to open.
- Locate the executable file and double click on it to open.

The Adobe Reader executable files are named:

- Adobe Acrobat Version 3.02: acrored32.exe
- Adobe Acrobat Version 4.0: Acrobat.exe
- Adobe Acrobat Version 5.0: AcroRd32.exe

To print a report, the report must be open in Adobe Acrobat Reader. From the Adobe File menu, choose the Print command.

**4.2.6 Close Incident:**

To close an incident, the user must either create an incident, or select an incident. When the user clicks on Close Incident, a pop up window will appear if the most recent changes to the incident have not been saved. The user can click Yes to save the incident, No to disregard the changes, or Cancel the save process and return to the previous window.

If the user has entered data for a new incident or modified an existing incident, the user must save that incident data before selecting New Incident again.

**Caution:** If the user selects New Incident before saving the previous incident, this causes the previous incident to close and not be saved.

**4.2.7 New Exposure:**

When the user clicks on New Exposure, the current exposure or base record will be closed and a new incident exposure will be created by incrementing the previous exposure number by one.

**4.2.8 Validation Errors:**

When the user clicks on Validation Errors, the Validation window will appear (diagram 4.2.8.0). The Validation window displays both Critical and Warning Errors. Warning Errors are strictly informational and do not effect the validity of the incident; Critical Errors cause an incident to be invalid. If no Validation Errors exist, the value for Total in this window will equal zero.

**Diagram 4.2.8.0**



To generate the list of errors and save it to a file, save the incident but do not close it. Specify the type of errors to be included: All or Critical only. Click the To File button. Specify a location to save the file and name it. Click Save.

#### 4.2.9 Templates:

The Templates choice has two modes. The first mode, Delete Template, is active when there is no incident selected. When the user clicks on Delete Template, the Template Selection window (diagram 4.2.9.0) displays a listing of all templates available to the user for deletion. If the user has no templates, the template selection window will not appear.

The second mode, Save Incident As, enables the user to save an incident according to a template. A template facilitates entering incident data for those users who have incidents with common field elements. For example, if a department performs a regular run, the template saves the address and/or shift personnel information eliminating the need to manually enter the data each time the incident is reported. If the user enters primarily EMS incidents, it would be desirable to set up a template to facilitate future entry of EMS incidents in order to simplify keying of EMS incident data.

To create a template, an incident must first be created or open. After the user adds the appropriate modules to “customize” the incident, click on “Incident...Templates...Save Template As.” A pop-up Window will be displayed in which the user is prompted to assign the template a name. (diagram 4.2.9.1). It will save time locating the template in the future if the user chooses a descriptive name. **Note:** save the template prior to entering Remarks text.

Multiple templates may be saved under the same name, but doing so may cause confusion when retrieving templates. After entering a name, the user may either click on the OK button to save the template or the cancel button to discard the template.

Diagram 4.2.9.0

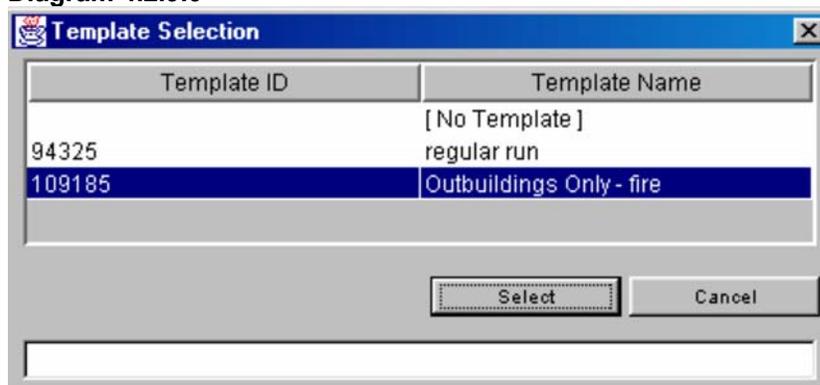
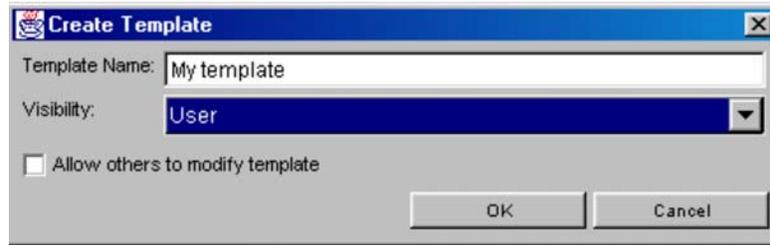


Diagram 4.2.9.1



#### 4.2.10 Exit NFIRS:

When the user clicks on Exit NFIRS, if the user has an open, modified incident, a pop up window will appear asking the user: Exit NFIRS Data Entry Tool? Yes, No or Cancel. If the user clicks on No or Cancel, the changes will not be saved and the pop-up window will disappear returning the user to the previous window. If the user clicks on Yes, a new pop-up window will appear informing the user that changes exist: Save Incident Before Closing? Yes, No or Cancel. If the user clicks on Yes, the Changes will be saved and the application will exit. If the user clicks on No, the Changes will not be saved, and the application will exit. If the user clicks on Cancel, the pop-up window will disappear, and the user will be returned to the previous window.

If Validation Errors are present, the user will be provided the opportunity to update and validate the incident. If the user has an open, unmodified incident, the pop-up window stating that changes exist will not appear. If there are no validation errors, the user will be prompted to confirm Exit, and upon confirmation, the application will exit.

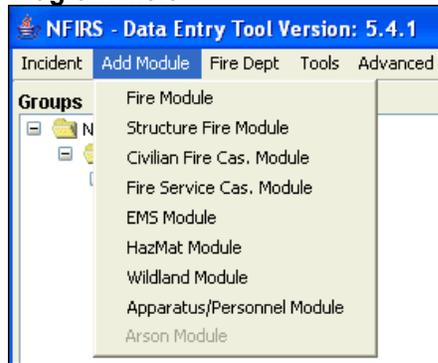
### 4.3 The Add Module Menu:

The Add Module Menu provides the user the ability to add Fire, Structure, Civilian Fire Casualty, Fire Service Casualty, EMS, HazMat, Wildland, Apparatus, and Arson Modules (diagram 4.3.0). In order to add a module, the user must either have an Incident open, or be in the process of creating an Incident.\* The user should highlight the module that is to be added and click the open button on the main view screen. When the NFIRS Data Entry/Validation Tool is first started, this menu will be grayed out.

\*Reminder: Additional required modules will not automatically be added, however, the requirement for additional modules will be noted during the validation check.

To remove a module, the incident must be open. Highlight the desired module to be removed on the Main View Screen, then click on Remove push button in the module section.

Diagram 4.3.0



#### 4.4 The Fire Department Menu:

The Fire Department menu provides the user the ability to enter and update the department's information and modify information about an existing Fire Department. The user may enter and save additional information for the Fire Department, such as address, number of volunteers, apparatus and personnel information; however only the FDID, State, and Description (name) of the Department is required. The required information creates the Fire Department's header record in the National or local database which allows the user to send or update information that pertains to the department.

An FDID must be available on the Main View Screen in order for the user to create the Fire Department header. Fire Department Identification Codes (FDIDs) are assigned by the state and entered in the system using the System Administration Tool. Contact your State NFIRS Program Manager for further information.

When a user opens the Data Entry Tool to the Main View Screen, the fire department FDID and name will display (diagram 4.4.0) in the Groups window.

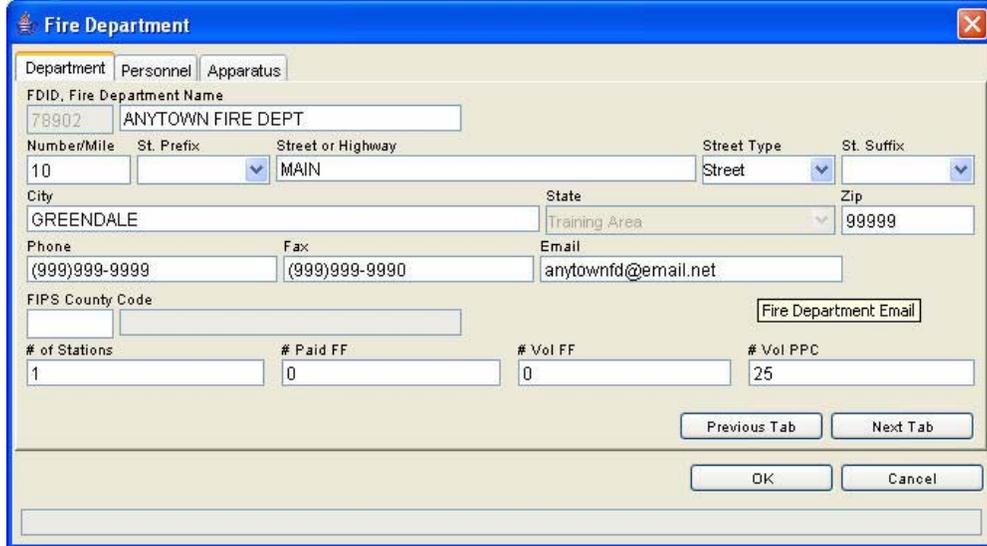
**NOTE:** If the user sees the words **FDID Not Found**, this means the Fire Department Header record has not been created. This header record must exist before the user can begin to enter incidents.

To create a new Fire Department Header record, click on the FDID from the Groups window. This will highlight the FDID and the words **FDID Not Found**. Click on Fire Dept. from the Menu Bar and then click on New Fire Dept. The Fire Department screen will be displayed. The FDID field will default to the fire department's FDID the user is creating. Enter the Fire Department name and information. There are two additional tabs, **Personnel** and **Apparatus** (shown in diagram 4.4.1) in which the user may enter additional information regarding the department. When the user clicks OK after entering the desired information, the information has been saved and the Fire department's header record has been created.

Diagram 4.4.0



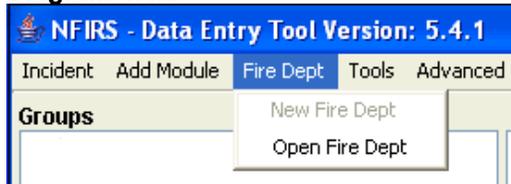
Diagram 4.4.1



**Viewing and Modifying An Existing Fire Department's Information**

To view and modify information of an existing Fire Department, the user must first click on a department name in the Main View Screen (see diagram 4.4.0) and then click on Fire Dept ... Open Fire Dept (diagram 4.4.2).

Diagram 4.4.2



The first tab, **Department** is where the user enters Fire Department specific information, such as the number of paid and volunteer firefighters, the address of the fire department, etc. The other two available tabs, Personnel and Apparatus enable the user to enter and modify data about the department's existing personnel and apparatus.

The push buttons Next and Previous enable the user to navigate through the three label tabs and enter new or delete information. Above the push buttons are two windows that provide the user information about how many pages of Personnel or Apparatus information exist.

## 5. The Tools Menu:

The Tools menu provides an interface to the NFIRS Client Suite. The tools provided allow the Import/Export of incidents and fire department information including Conversion of 4.1 and transaction files to NFIRS 5.0 format, System Administration, and Client Configuration, and the local mode NFIRS Data Cleansing Tool which addresses known data issues in Off-line databases. **Note:** Access to tools is user specific: if a user does not have access to a tool, the option will be grayed out. For example, not all users will have the option to access the NFIRS System Admin Tool. Only users who have been granted System Administrator privileges can access the NFIRS System Admin Tool.

The Bulk Import Utility and the Bulk Export Utility are not part of the Client Suite Software. Refer to the NFIRS 5.0 Web Site, <http://www.nfirs.fema.gov> for information on the web-based Utilities. The web-based Summary Output Reports Tool is not part of the Client Suite Software, but is made available to all states for users who use third party software. Contact the NFIRS State Program Manager or the NFIRS Support Center for information.

### 5.1 The Import / Export Tool

The Import/Export Tool provides the user the capability to import and export fire department information and incident data. Users entering data in the Off-Line mode will use the Import/Export Tool to import 5.0 delimited Fire Department and Incident data into a database (National or local database), and/or to a text file or spreadsheet. The Import /Export Tool is utilized to convert 4.1 Master files and 4.1 Add Transaction files to the NFIRS 5.0 format. The Tool has been enhanced with an automatic mechanism which detects the type of input file, parses (prepares) and validates the file, and then converts and imports the data in the 5.0 format. Log files are created during import which provide details of the process and validation errors that exist in the import file. The following sections provide instructions to export and import 5.0 Delimited files. Section 5.1.5 provides complete instructions for the Conversion routine with 4.1 data files.

Since the previous Version 5.2.3 release, a "Once Valid / Always Valid" handling of incidents has been included, such that an overwrite of an incident under the latest version's rules via the Import mechanism will not result in the incident becoming invalid. The .log and .err import log files will note errors specific to incidents under this condition. Version 5.4 implemented a rules versioning whereby incidents are validated according the Incident Date in the Key Information.

Users entering and saving Fire Department information and incidents in a local database will use the Import/ Export Tool to send their information to the National Database. A

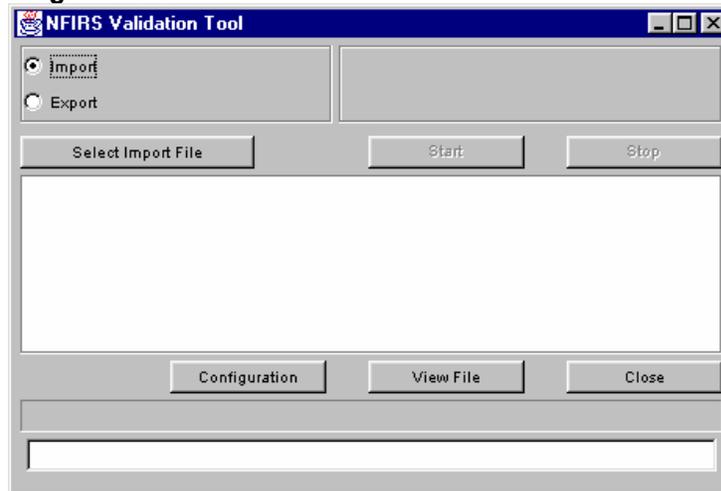
## Data Entry Tool Users Guide

connection to the Internet will be necessary. The first time a user is ready to send their incident data from their local database to the National Database, they must first export their Fire Department information to a file and then import the file to the National Database. This will create the Fire Department header record in the National Database. The Fire Department header record is required to properly store incidents for the fire department.

Users may verify their Fire Department and Incident data was imported successfully to the National Database or to their local database by clicking on Incident from the Menu bar and then Open Incident. The Incident Search window will be displayed. Click on Search to view all incidents or define the search criteria for a narrower search.

When the user clicks on the Import/Export Tool, the NFIRS Validation Tool window will be displayed. The Validation Tool appears by default with only the Import and Export selections available. When the user selects the Export check box (circular in shape), the interface changes to display Incident and Fire Department check boxes (diagram 5.1.0). The following sections describe the steps to utilize the Import /Export Tool to send Fire Department information and Incidents created in 5.0 format to the National Database.

**Diagram 5.1.0**



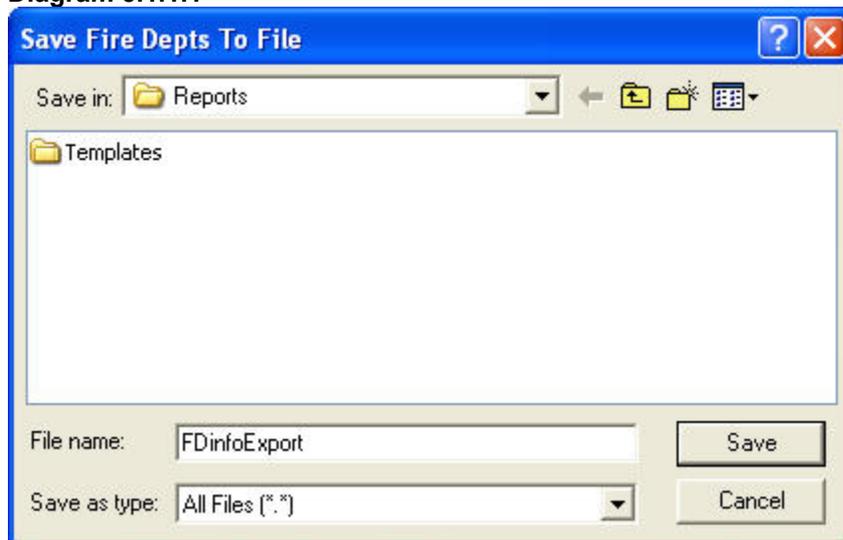
### **5.1.1 Exporting Fire Departments – 5.0 Data:**

To export Fire Department information, select the Export check box and select the Fire Department check box (circular in shape). The Select Incidents push button changes to Select Fire Depts. When the user clicks on the Select Fire Departments push button, the Select Fire Department pop-up window will be displayed (diagram 5.1.1.0) with a listing of fire departments available for export. When the user clicks on a fire department in the hierarchy and then clicks the Select push button, a Save Fire Departments To File pop up window (diagram 5.1.1.1) will be displayed. Users have the option of saving to the default NFIRSV54 directory, or choosing a different location. Name the file and click Save, or click Cancel to return to the previous window.

Diagram 5.1.1.0



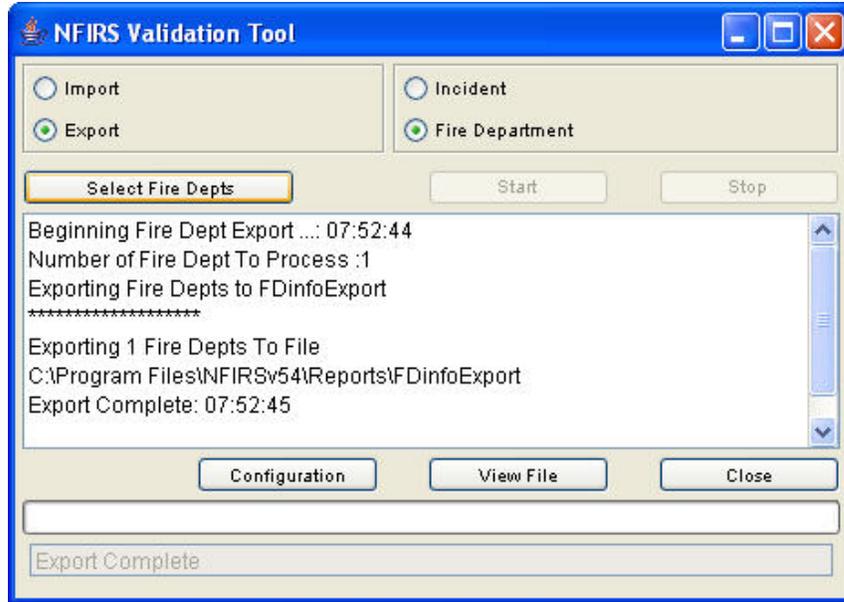
Diagram 5.1.1.1



**Reminder:** The first time a user is ready to send their incident data from their local database to the National Database, they must first export and import their Fire Department information. This creates the Fire Department header record in the National Database, which is required to properly store incidents for the fire department. The order of the procedure for first-time users is: export Fire Department information, export Incident information; change configuration, import Fire Department information, import of Incident information. The user can verify the incidents were imported to the National Database at the end of the procedure, while still On-Line.

In the Validation Tool window, a summary of the export process will be listed when the Fire Dept export is finished (diagram 5.1.1.2). The beginning time of the export process, the number of Fire Depts processed, and the file to which the data will be stored is listed in the first section of the list. The second section lists the number of Fire Depts being exported, the complete directory path to the export file, and the export completion time.

Diagram 5.1.1.2



The export process creates two files: an ASCII text file and a log file. The ASCII text file is the original file which contains the fire department (or incident) data and is the file the user will select during the import process. The log file provides documentation of the export process. Diagram 5.1.1.3 shows a view of the export files in the root directory and the icons that are likely to be displayed. The file size varies according to the amount of Fire Dept (or incident) data. The user may open and view the log file in NotePad or WordPad.

**Diagram 5.1.1.3**

	FDinfoExport	1 KB	File
	FDinfoExport.log	1 KB	Text Document

To import the data to the National Database, the user must change Off-Line access to On-Line access in the Configuration Tool. The Configuration Tool allows the user to specify whether to import the data to a database or a flat file, Accept Invalid Records, and/or Overwrite Existing Incidents. For more information, refer to the Configuration Tool User's Guide, available on the NFIRS Users Documentation web page, <http://www.nfirs.fema.gov/users/usersdocs.shtm>.

To change configuration from the Validation Tool window, click on the Configuration button. The Configuration Tool will be displayed. Select the Advanced tab. Check the box for On-Line access. Click Save and exit the Configuration Tool. Exit the Data Entry Tool. **Note:** The Data Entry Tool must be exited for the configuration change to take effect. Establish a connection to the Internet. Open the Data Entry Tool and select the Import/ Export Tool.

The default settings in the Software Version 5.4 are Accept Invalid Incidents and Overwrite Existing Incidents. If the user does not wish to import Invalid incidents, uncheck the Accept Invalid incidents During Import check box.

The following table outlines the steps to export Fire Department data.

### Exporting Fire Department Data – 5.0 Data

Step	Action	Response
1	<b>Exporting a Fire Department:</b> Click on Tools...Import/Export Tool.	NFIRS Validation Tool launches.
2	Select the Export and Fire Department check boxes.	The Select Fire Department push button is activated.
3	Click on Select Fire Dept. button.	Select Fire Department Window opens.
4	Click on (highlight) desired Fire Department and click on Select.	Save Fire Departments to File window opens.
5	Specify a location to save the file and enter a file name. Click on the Save button.	Fire Department data is saved.

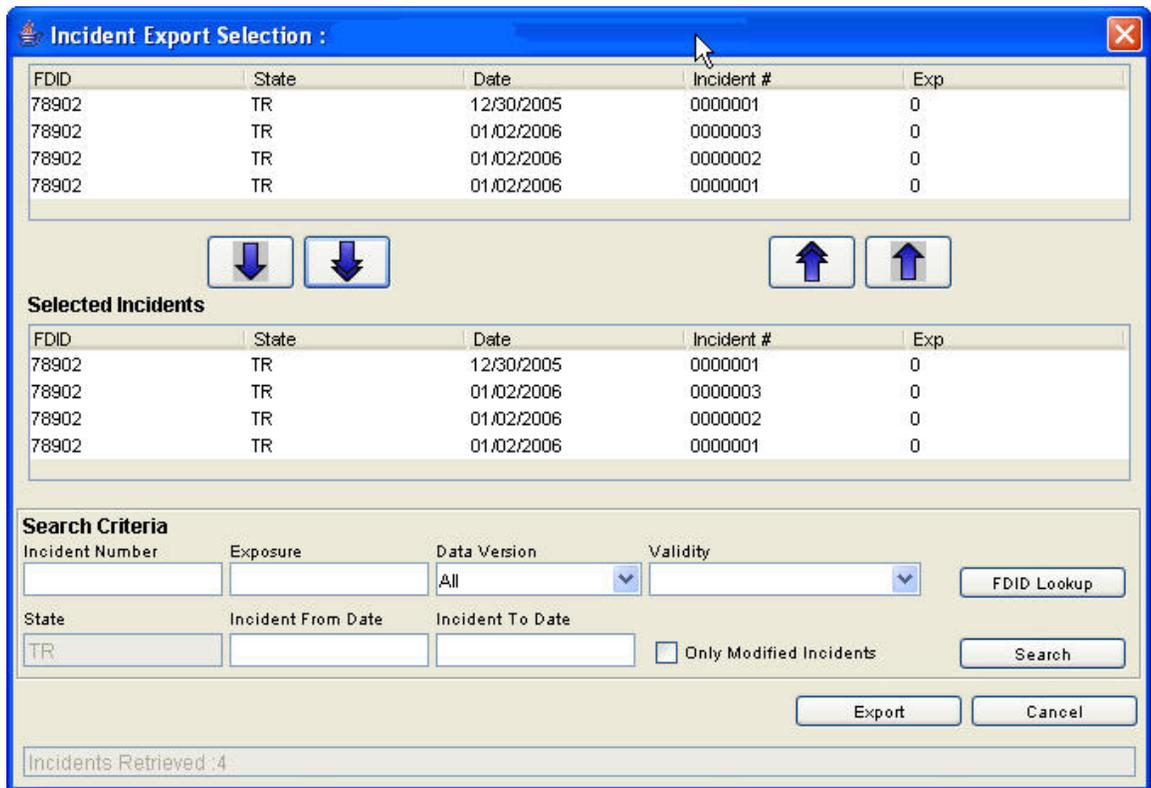
#### 5.1.2 Exporting Incidents – 5.0 Data:

When the user clicks the Export check box and the Incident check box, the **Select Fire Dept** push button changes to **Select Incidents**. When the user clicks on the Select Incidents push button, the pop-up Incident Export Selection window (diagram 5.1.2.0) will appear.

The Incident Export Selection window enables the user to choose Incidents for export based upon FDID, date, exposure, data version (4.1 or 5.0), validity, and modification. The user can click on the FDID Look-up push button to select the desired Fire Department and search for the incidents entered for that Fire Department. When the Search button is selected, the top portion of the window will list all available incidents for export. The middle portion of the window lists all incidents that have been selected. The user may select all incidents by clicking on the blue double down arrow, or the user can choose an individual incident by highlighting the incident in the top portion of the Search window and then clicking on the blue single down arrow. The user may narrow the search by entering values in the fields in the lower portion of the window: Incident Number, Exposure Number, entering a date range in the Incident Date fields, and by clicking on the Only Modified Incidents check box.

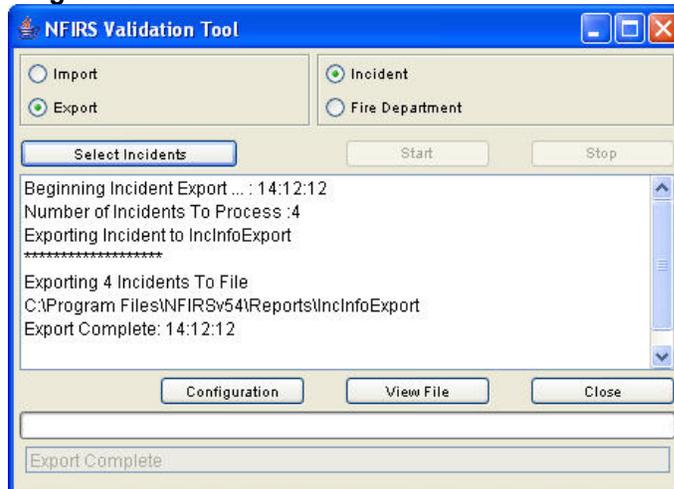
When the Export push button is clicked, the Save Incidents to File dialog box is displayed (the default directory is C:\ProgramFiles\NFIRSV54). Name the export file and click on Save. The export file of the selected incidents is created.

Diagram 5.1.2.0



During the export process, in the main view screen of the Validation window the status of the export process is recorded (diagram 5.1.2.1). A list of information includes the beginning export time, the number of incidents processed, the destination of the export (the newly created file), the selected action in process (Exporting Incidents to File), the complete file destination, and when the process is finished, "Export Complete."

Diagram 5.1.2.1



The following table outlines the necessary steps to export Incident data.

## Exporting Incident Data – 5.0 Data

Step	Action	Response
1	<b>Exporting NFIRS Incident Data:</b> Click on Tools...Import/Export Tool.	NFIRS Validation Tool launches.
2	Click on Export and Incident check boxes.	Select Incidents push button appears.
3	Click on Select Incidents.	Incident Export Selection Window appears.
4	Click on Search for all incidents or fill in the Search Criteria at bottom of Incident Export Selection window and click on Search.	The top pane of the Incident Export Selection window becomes populated with Incidents matching the search criteria.
5	Highlight desired incidents and click on single down arrow to select highlighted incident, or click on double down arrow to select all incidents.	Bottom pane of Incident Export Selection. window becomes populated with selected incidents.
6	NOTE: To remove an incident from the selected incidents pane, highlight desired incident and click on single up arrow to select highlighted incident, or click on double up arrow to select all incidents.	Highlighted incidents are removed from the selected incidents' pane.
7	When selection process is complete, click on the Export button.	The Save Incidents to File pop-up window appears.
8	Choose a location to save file to and click OK.	The incidents are exported, and the export file is created.

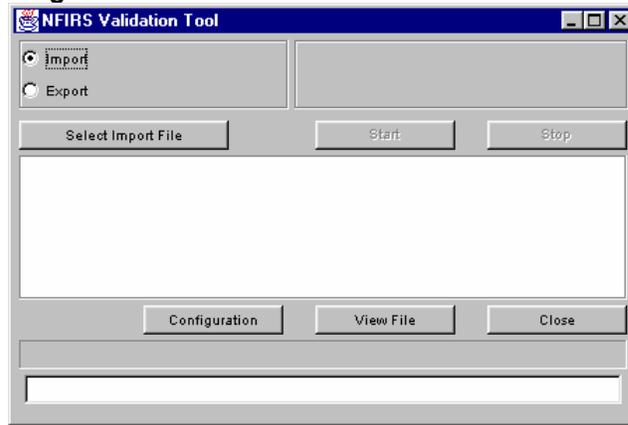
The export files can be imported into a spreadsheet, a local database, or into the National Database. To import the files into the National Database, the user must change the configuration to On-Line, close the Data Entry / Validation Tool, re-start the Tool, and establish an Internet connection. In the Configuration Tool, click on the Advanced Tab. Check On-Line Access and click Save. Exit the Configuration Tool. Exit the Data Entry Tool for the configuration change to take place. When the Data Entry /Validation Tool is re-opened, the user can begin the import process.

**Reminder:** The first time a user imports data into the National Database, the Fire Department export file must be sent before the incident file (s) in order to create the header record for the department.

### 5.1.3 Importing Fire Departments - 5.0 Data:

To import fire department information, the user will click on the Import check box (diagram 5.1.3.0).

Diagram 5.1.3.0



When the user clicks on the Select Import File push button, the Import File Selection pop-up window will be displayed. The user is able to navigate through the directory structure to locate the file for import. To select a file, highlight the file and click the Open button, or double click on the file.

A Confirm/Change File Type Selection box will be displayed (diagram 5.1.3.1). If the file selected for import is Fire Department information, confirm that the Fire Depts check box is checked. A file containing both Fire Department and Incident information can be set to process by selecting the Fire Depts and incidents check boxes. To accept the file selection, click on the Accept button. Click on the Cancel button to return to the Validation main view screen. (If the file selected does not contain the specified data type, the user will be prompted to choose another file).

Diagram 5.1.3.1



The automatic parsing and validation of the selected file begins. The status 'Importing File' will be displayed in the white rectangular box in the lower left

corner and will change to 'File Validation Complete' when the validation process is finished. In the Validation window (diagram 5.1.4.0), the Parse and Validation Statistics will be displayed in list form. The list includes:

- the total number of records read
- the number of Fire Departments records accepted
- the number of Incident records accepted
- and the number of records from the input file rejected

**Note:** A "record" is one row of a data file, therefore one incident may contain several records.

The list in the Validation dialog box will include information about the transaction in list form. File names are appended with an underscore ( \_ ), the information type contained in the records (fd or inc), the data type of file without punctuation (50 or 41), Fire Department or incident type records. The complete list of information includes:

- the time the file was set to process
- the complete file name
- the Transaction Type (TransType)
- Import Target (database or flat file)
- Database mode (On-Line or Off-Line)
- Accept Invalid Incidents During Import: true or false (yes or no)

The Configuration push button launches the NFIRS Configuration Tool (see the NFIRS Configuration Tool documentation for further information). The Close push button closes the NFIRS Validation Tool.

The following table outlines the necessary steps to import Fire Department data.

**Importing Fire Department Data – 5.0 Data:**

<b>Step</b>	<b>Action</b>	<b>Response</b>
1	<b>Importing Fire Departments Data:</b> Click on Tools... Import/Export Tool.	NFIRS Validation Tool launches.
2	Click on Import check box.	Import check box is checked.
3	Click on Select Import File button.	Import File Selection box will display.
4	Click on the file to import and then click Open.	The Validation and Import Process begins.

### 5.1.4 Importing Incidents –5.0 Data

To import 5.0 incidents, select the Import check box. The Select Fire Dept button will change to Select Incidents. When the user clicks on the Select Incidents button the Import File Selection pop up window will be displayed. The user can navigate through the directory structure to locate the desired incident file created during export. To import the file, highlight the file and click Open, or double click on the desired file. The import process will begin.

Information about the import process will be listed in the dialog box of the Validation Tool upon completion of the import process (diagram 5.1.4.0). The import process validates and imports the data to a database (User's Off-Line database or the National Database, or to a flat file), and the results will be displayed in the Validation Tool dialog box. The results of the validation and import process are documented in files which can be located in the sub directory folder named Out. The user may locate and view these files by clicking on the View File button. Diagram 5.1.4.1 shows the out folder after the import of both an FDID Information file and an Incident data file. The user should refer to the out folder's files to verify import success.

Diagram 5.1.4.0

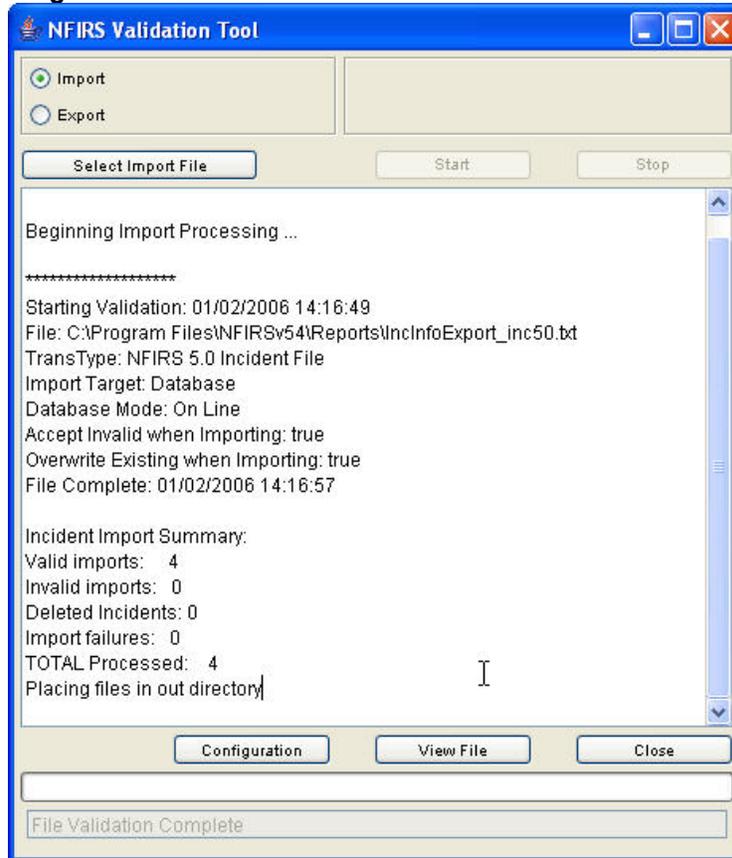
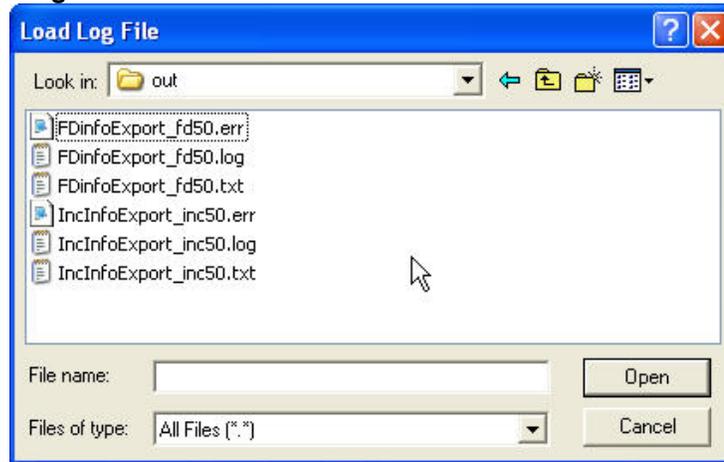


Diagram 5.1.4.1



With the January 2006 Specification cycle, incidents' validation according to Incident Date was implemented in the National database and in the USFA client NFIRS 5.0 software Version 5.4. The previous Version 5.2.3 release included A "Once Valid / Always Valid" handling of incidents such that an overwrite of an incident under the latest version's rules via the Import mechanism will not result in the incident becoming invalid. The .log and .err import log files will note errors specific to incidents under this condition.

The following table outlines the steps to import Incident data.

**Importing Incident Data – 5.0 Data:**

Step	Action	Response
1	<b>Importing Incidents:</b> Click on Tools...Import/Export Tool.	NFIRS Validation Tool launches.
2	Click on Import check box.	The Select Fire Depts button will change to Select Incidents.
3	In the Import File Selection pop up window, locate the file to import.	
4	Highlight the file to import and then click Open.	The Validation and Import Process begins.

**5.1.5 Conversion of 4.1 Master and Transaction Files to NFIRS 5.0 format:**

The NFIRS 5.0 Data Entry/Validation Tool provides the user the tools needed to convert 4.1 data to 5.0 format. NFIRS 4.1 data is specifically marked as originating from 4.1 compliant software and is validated against the 4.1 specific rules. The NFIRS Import/Export Tool provides an automatic recognition mechanism to detect the type of file selected for conversion and provides

automatic parsing (preparation) for three file types: 5.0 Delimited, 4.1 Master files, and 4.1 Transaction files. The user will follow the same procedure as importing 5.0 data files when converting the 4.1 Master and 4.1 Transaction files into the NFIRS 5.0 format. For import instructions of 5.0 Delimited files, refer to section 5.1.1.

A file selected for conversion must contain all 4.1 Master file records or all 4.1 Transaction records. The selected 4.1 file may contain, however, both Fire Department and Incident data. When the user selects a file for import, the automatic sensing mechanism will be engaged. This mechanism determines the type of file by the number of bytes it contains. A Master file contains 106 bytes per record. If a Master File has already been parsed, it will contain 108 bytes because the state information has been added. A transaction file contains 80 bytes. Only Add Transactions will be parsed and imported. Change and Delete Transactions will not be parsed and imported.

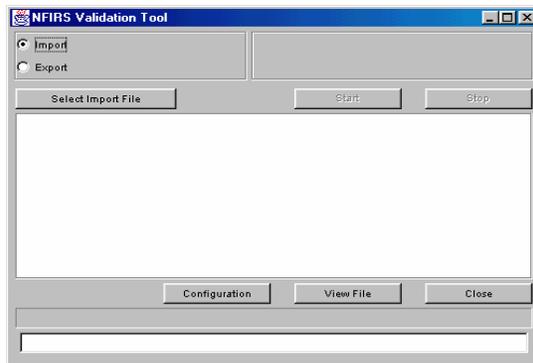
**Note:** With previous Version 5.2.1, a sort mechanism was added to ensure 4.1 master files in which incidents were not arranged by incident type to be sorted by record type prior to parse and import. If the file is sorted, it replaces the original file. **Users are recommended to save a backup copy of original 4.1 master files.**

The white rectangular box in the lower left corner of the Validation Tool screen will display the status of the parsing and validation process. A summary of the conversion process and the import process will be displayed in the Validation Tool dialog box upon completion of the process. The results of the validation and import process are documented in files that can be located in the sub directory folder named Out. The user may locate and view these files by clicking on the View File button. Diagram 5.1.4.0 shows the out folder after the import of a 5.0 incident file. The user should refer to the files to verify import success.

To import and validate 4.1 data, the Import to Database checkbox must be selected on the User Options Tab in the Configuration Tool. This is the default setting.

To access the Import/Export Tool, in the Data Entry Tool under the Tools menu, select the Import/Export Tool. The NFIRS Validation Tool window will be displayed with Import selected by default (diagram 5.1.5.0)

**Diagram 5.1.5.0**

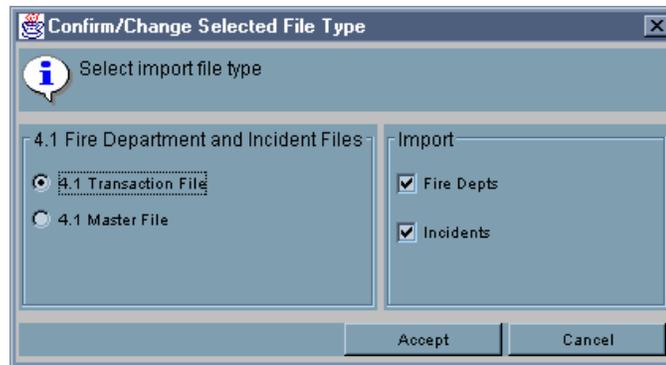


To begin the conversion process, click on the Select Import File button. The Import File Selection dialog box will be displayed. The user can navigate through

the directory to locate the file to import. Highlight the desired file and click on the Open button, or double click on the desired file to begin the parsing and validation process. The sensing mechanism automatically determines the file type by reading the first one hundred records of the file.

The Confirm/Change Selected File Type dialog box will be displayed (diagram 5.1.5.1), in which the user verifies the file type detected by the sensing mechanism. If the file contains different information than shown in the Confirm/Change dialog box, the user may select the appropriate check boxes. **Note:** If the file contains both Incidents and Fire Depts, both boxes must be checked. When the user clicks the Accept button, the parsing and validation process begins. A message may appear briefly in the lower left white message box: Creating Parallel Database Connections..., which changes to the message: Importing File... If the Cancel button is clicked, the user will return to the Validation Tool main view screen.

**Diagram 5.1.5.1**



In the white rectangular status box at the lower left corner of the Validation Tool, the status of the parsing and validation process will be displayed. During the process the message will read: “Importing file...,” and upon completion the message will read: “File Validation Complete.” The blue status box may completely fill during the process, however, the validation and import may not be complete and the user must wait for the File Validation Complete message before inputting another file or reviewing log files. The Stop button will interrupt the parsing process. If the Stop button is clicked, the user must input the file again. If a message “Exception During Import” displays in the Validation Tool dialog box, the user must refer to the out folder to find the cause of the error (refer to Section Sub Directory “Out”). **Note:** The parsing and validation process time depends on the amount of records the file contains. The user must allow more time for larger files to be processed.

### ***The Validation Tool Dialog Box***

Upon completion of the parse and validation process, the Validation Tool dialog box will provide a summary of the Parse and Validation Statistics in the Validation Tool window. The scroll bar on the right of the Validation window allows the user to view the complete list. Below is an explanation and diagrams of the Parse and Validation Statistics of a sample file that contains fire department and incident information. Refer to the Section Sub-Directory “Out” for a description of the files that are created and placed in the out folder.

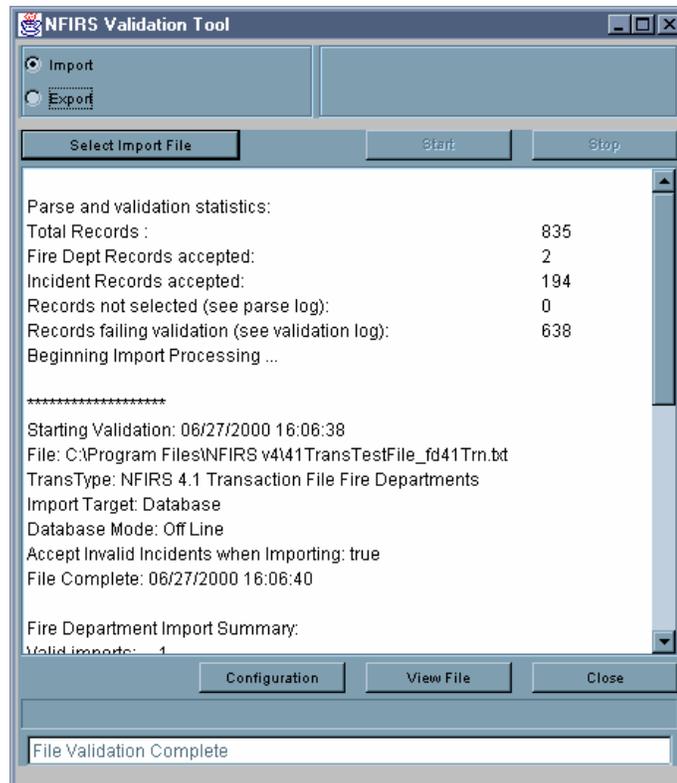
## Data Entry Tool Users Guide

The first section in the dialog box shown in Diagram 5.1.5.2 is the parse and validation statistics. These statistics refer to Records Read, Fire Dept and Incident Records Read, etc. **Note:** One record is one row in the data file. For example: in a 4.1 data file, a single Fire Department transaction is comprised of two records.

The second line in the list shows the Total Records read. Line three is the Fire Department Records Accepted. Records not accepted are not processed. Line four is the number of Incident Records Accepted. **Note:** One incident may contain several records. Line five is the total number of Records Not Selected. The user is referred to the Parse log, a separate file created and placed in the out folder. The Parse log provides details of the incidents not accepted, for example: the bad record is followed by a message such as "An incident exists without the associated FD record." Line six is the total number of Records Failing Validation, and the user is referred to the Validation log, a separate file created and placed in the directory folder. Line seven reports the conclusion of the parsing and validation process and records the start of the import process.

The second list in the Validation window (shown in diagram 5.1.5.2) provides a summary of the incident information contained in the input file after it has been parsed and validated. Line one provides the Total Number of Incidents in the record. Line two is the number of Valid Incidents. Line three is the number Incidents Rejected because of validation errors. Line four is the Total Number of Exposures. Line five is the number of Valid Exposures. Line six is the total number of Exposures Rejected. In the sample file, the rejected exposure most likely was an exposure which had no originating incident.

Diagram 5.1.5.2



The third section of the list provides information at the completion of the import process about the Fire Department records contained in the file (diagram 5.1.5.3). The list begins with the time the input file was set to process. Line two is the location and name of the file. The file name will be appended to include data, information, and file types. The naming convention is:

filename\_repaired41\_informationtype41\_filetype.txt

Line three provides the Transaction type (Master or Transaction file) and the information type (Fire Departments or Incidents). Line four states whether the user's Import Target was a Database or a Flat file. Line five states the Database Mode at the time of the process (either On Line or Off Line). Line six states if in the Configuration Tool the Accept Invalid Incidents when Importing box is checked. If line six states True, the check box is checked. If line six states False, the box is not checked.

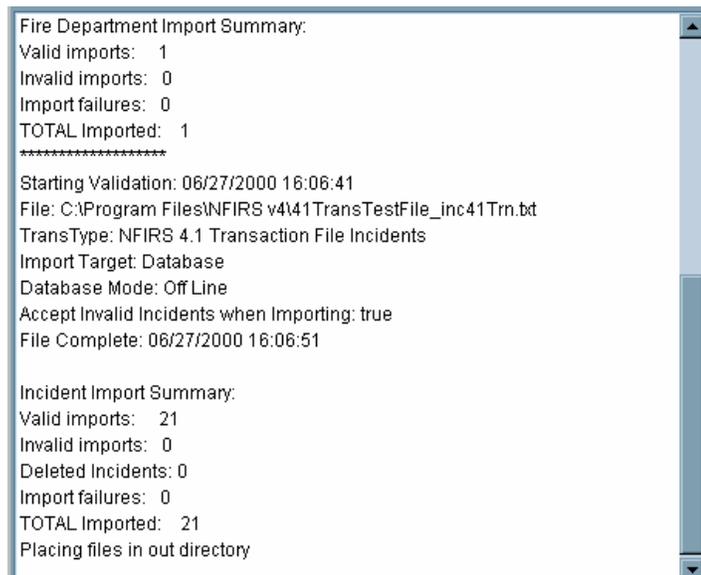
The last three lines in the third section state closing conditions of the Fire Department records' parsing and validation process. Line seven states the location of the log files created (Placing original file in out directory). Line eight is the time the import process is completed, and line nine states the Total Transactions Processed. In the sample file, the two Fire Department records constitute the information for a single Fire Department, therefore one transaction (one Fire Department) was processed.

The fourth section of the list provides a summary of the records that contain Incident information (diagram 5.1.5.3). The list provides the same information as the Fire Department section, except the processing time for each one hundred records is recorded.

The destination of the location of the log files is noted (Placing original file in out directory). The validation and import completion time is stated.

The last section, Incident Import Summary, states the total number of valid and invalid incidents processed number of deleted incidents, import failures, and a total of successful imports. The destination of the log files is recorded on the last line.

**Diagram 5.1.5.3**



```
Fire Department Import Summary:
Valid imports: 1
Invalid imports: 0
Import failures: 0
TOTAL Imported: 1
*****
Starting Validation: 06/27/2000 16:06:41
File: C:\Program Files\NFIRS v4\41TransTestFile_inc41Trn.txt
TransType: NFIRS 4.1 Transaction File Incidents
Import Target: Database
Database Mode: Off Line
Accept Invalid Incidents when Importing: true
File Complete: 06/27/2000 16:06:51

Incident Import Summary:
Valid imports: 21
Invalid imports: 0
Deleted Incidents: 0
Import failures: 0
TOTAL Imported: 21
Placing files in out directory
```

### The Sub-Directory Folder “out”

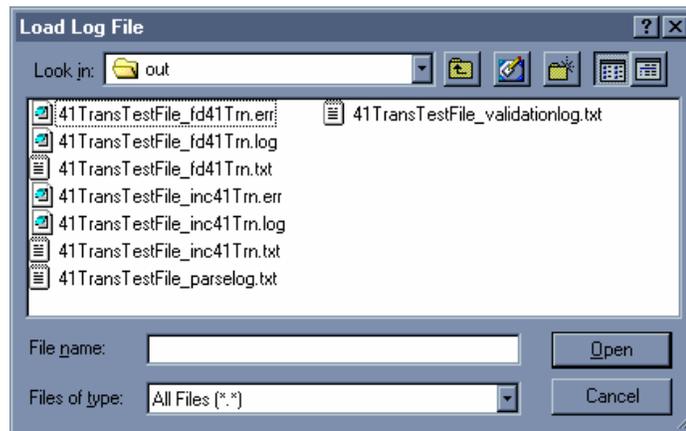
When the user closes the Validation Tool dialog box, the statistics will be cleared from the screen. The statistics and the import file processing information is documented and stored in the “out” sub-directory.

The user should view the files created to check for validation errors and transaction errors (bad data). The files in the out folder have the appended name assigned during the detection and parsing process. The naming convention is:

originalfilename\_informationtype41\_transactiontype.filetype

To view the files, click the View File button. In the Load Log File pop up window, locate the folder named “out” and double click on it. The out folder contents will be displayed (diagram 5.1.3.4).

Diagram 5.1.3.4



The .err file contains a listing of all the validation errors. If no validation errors are present in the data, the file will have no contents. The .log file contains a reading of the Validation and Import process. The .out file contains a listing of all good transactions. The .bad file will contain the bad transactions. If there are no bad transactions, no .bad file will be created. The parselog.txt contains a summary of the number of records read, accepted, and rejected during the 4.1 parsing process. The validationlog.txt will contain detailed explanation why the transactions did not pass validation and a summary of the parsing statistics.

The user can verify that the 4.1 data was entered into the department by conducting an Open Incident Search for the specific department.

## **5.2 The System Admin Tool:**

From within the System Administration Tool, the Administrator may modify and add users from the Administrators group tier and below. **Note:** Not all users will have access to this tool.

When the user clicks on the System Admin Tool, a pop-up window for the NFIRS 5.0 System Admin Tool will appear. See the System Administration Tool Documentation for additional information. The ability to access the Special Studies, Chemicals, and Codes (for Plus One Codes implementation) interfaces from within the System Admin Tool. System Admin permissions is necessary to access the System Admin Tool, and the Program Admin permission will be necessary to save changes made in interfaces.

## **5.3 The Client Configuration Tool:**

The purpose of this tool is to allow user maintenance for options and settings. From within this Tool, the User specifies On-Line or Off-Line use, whether to run against a local or remote database, select the database type, the file location and type for import/export data, whether data encryption is to be used, and firewall settings (if present). Most users will use the Configuration Tool to verify or change their system's access mode; i.e., from Off-Line mode to On-Line mode and select the database type.

With NFIRS 5.0 Version 5.4, the default mode has been changed to On-line Access.

When the user selects on the Client Configuration Tool, the NFIRS 5.0 Configuration Tool will appear. Refer to the NFIRS 5.0 Configuration Tool Documentation for further information.

## **5.4 NFIRS Data Cleansing Tool (Off-line only):**

Per Users' requests, the capability to run scripts to clean up specific data issues in local databases has been included in the previous USFA Client Software version 5.2.3. These scripts are the same scripts that are run on the National Database prior to generating the public data format to remove invalid values, for example, null identifiers -32xxx), and remove specific known issues such as negative numbers in EMS Module Age fields.

Not all users will need to use the Data Cleansing Tool. Not all scripts may be desired at the state and local level. Prior to using this Tool, contact your State Program Manager or NFIRS Support Center for more information on the optional use of the Off-line Data Cleansing Tool and its scripts.

## Data Entry Tool Users Guide

When a script is run, the data value(s) affected by that script will be changed in the local database. It is not possible to undo or return the original data values(s) to the local database unless the user re-imports the original data file, or uses the back up copy and deletes the database file to which the script(s) were applied.

Prior to opening the Data Cleansing Tool, make a back up of or copy the local NFIRSV54 database. For Access users, the database file is named: NfirsdataV54.mdb (not .ldb). Its default location is: C:\Program Files\NFIRSV53\Database\

The Version 5.4 Data Cleansing Tool includes thirteen scripts to address these specific data values and fields (note: these scripts are the same as previous version 5.3 and 5.2.3):

- Script 1: Set NFIRS Version number in 5.0 incidents to 5.0 if 05.00, 0500, 5.00, etc.
- Script 2: Clean up unconverted Heat Source codes
- Script 3: Fix invalid Mobile Property and Equipment Involved years.
- Script 4: Remove Fire Modules from non-fire incidents
- Script 5: Clear age field in Wildland Module if age is 1
- Script 6: Set property use conversion to 400 when equal to 409
- Script 7: Set Not Residential flag based on Property Use
- Script 8: Clear invalid civilian injury dates ( prior to 12/31/1969)
- Script 9: Clear EMS Casualty Age if negative number.
- Script 10: Clear large negatives in FD-related fields (less than -999)
- Script 11: Clear large negatives in incident-related fields (less than -999)
- Script 12: Zero large values in-FD field Number-of-Paid-FFs- (greater than 10000)
- Script 13: Populate G1 Resource fields with counts from Apparatus/Personnel Module if Local Forms Used =Yes.

**Note: The script to address the G1 resources has a version for a local Oracle database. The local Oracle database script should be selected by users with Oracle, MS SQL Server 97 and MS SQL Server 2000 Users.**

The [Appendix C](#) lists each of the SQL scripts in detail, including the tables and fields affected in the database when each script is executed.

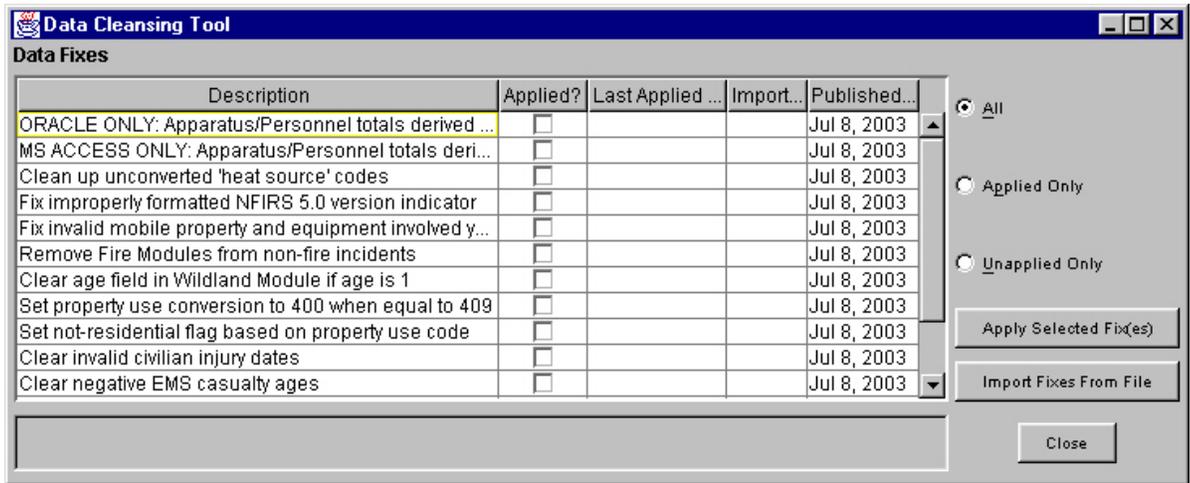
### 5.4.1 Using the Data Cleansing Tool

The Data Cleansing Tool is available in the Off-line mode only. To access the Data Cleansing Tool, open the Data Entry Tool and from under the Tools menu select Data Cleansing Tool.

Before applying any of the scripts, verify a back up copy of the NFIRS local database has been made.

Diagram 5.4.1.0 shows the data Cleansing Tool scripts available for selection.

Diagram 5.4.1.0



To select a script to run, highlight it. Click the Apply Selected Fix(es) button. The script will be executed. In the message bar at the bottom of the Data Cleansing Tool window, the amount of rows in the database affected by the script execution will be displayed. **Note:** This is not the number of *incidents* affected. The number of rows may not be equal to the number of incidents affected by the script execution. For example, The script for the NFIRS Version check and reset to "5.0" will show a row affected for each occurrence of "5.0" in the INCIDENTKEY table. The G1 Resources script may show no rows affected, even if counts have been derived and populated in the IN\_Basic table.

When a script is applied, specific data values in the local database are changed. Exports of data following the execution of a script(s) will contain the changed values. For example, if an incident saved to the local database contained an Age of 1 in the Wildland module, after the script which addresses this issue is executed, that incident will no longer contain an Age value of 1 in the Wildland Module. Refer to [Appendix C](#) for details on each script.

When an original data file is imported and Overwrite Existing incidents is specified, the original bad data values will be saved once again to the database.

The Data Cleansing Tool window displays the status of scripts which have been made available to execute against the local database. In the column named: Applied? a check mark designates that the script has been executed on the local database. The Last Applied Date displays the date the script was executed. Note: When working with multiple copies of Off-line databases, for example, a database file for each specific year, The Last Applied Date is not database specific.

Upon subsequent openings of the Data Cleansing Tool, the scripts may be displayed according to the selections: All, Applied only, or Unapplied Only.

Future functionality includes the Import Fixes From File button, which will enable the user to add new scripts to the NFIRS 5.0 application. If additional scripts are created for data maintenance, the NFIR 5.0 user community will be notified by list

message. The Imported On date displays the date a new script is imported to the NFIRS 5.0 application. The Published On Date is the approximate date the script was made available to the user community.

Refer to the [Appendix C](#) for details on each script.

### **5.5 The Advanced Menu:**

The Advanced Menu (diagram 5.5.0) provides an interface to change passwords, synchronize a local database to the National Fire Incident Reporting System database, and View the logs created by Event Logging (see NFIRS Configuration Tool Documentation).

Since the release of previous Version 5.2.1, new passwords must meet the FEMA standard. Users must enter a password consisting of 8 - 15 alpha-numeric characters using this utility.

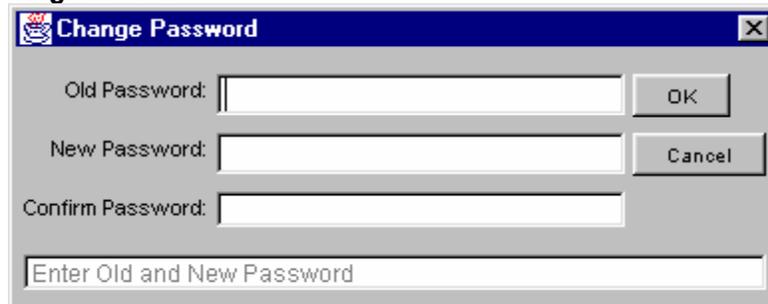
**Diagram 5.5.0**



Correct password format must have a minimum of 8 alpha-numeric passwords, and should not be easily guessed or related to the user' personal life or occupation, for example, birth dates, initials, spouse's names, etc.

To change a user password, click on Advanced ... Change Password. When the Change Password Dialog box appears, the user must enter the old password, and then enter and confirm a new password (diagram 5.5.1).

**Diagram 5.5.1**

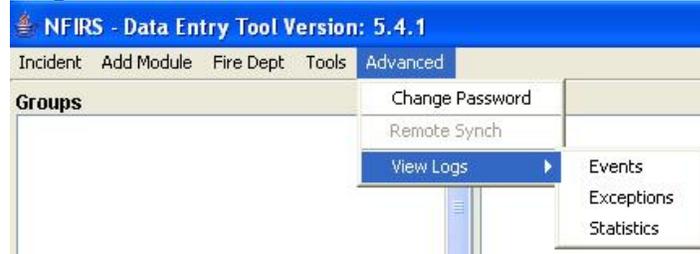


The user may synchronize their user account and FDID information with the National Fire Incident Reporting System database by clicking on Advanced ...Remote Synch. **Note:** The user must have an active Internet connection prior to clicking on Remote Synch. This option is unavailable if the user is working in the On-Line mode. The user should perform synchronization to the National

Database on a periodic basis to ensure that all user account and group information is current. Remote Synch does not involve incident data..

The user is given the option to enable different levels of Event Logging in the NFIRS Configuration Tool. To view logs the user must click on Advanced ... View Logs, and then click on a type of log – choices include Events, Exceptions and Statistics (diagram 5.5.2).

**Diagram 5.5.2**



## **6. Editing Modules**

The NFIRS Data Entry/Validation Tool is designed to work in a modular fashion. All data is entered in one or more of the Modules. The modular design allows data entry procedures to be uniform throughout all modules.

There are various types of fields in the Modules, such as pull-down menus and check boxes. This section will discuss each type of field the user will encounter when editing Modules.

When the cursor is placed in a field and the Tab key is pressed, the cursor or focus will advance the next field.

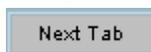
### **6.1 Tabs:**

At the top of the Modules are Label Tabs. On each Tab is a listing of the Module Sections located at the Tab. In order to navigate through the sections of a Module, the user has the option of clicking on a tab (diagram 6.1.0) or clicking on the Next Tab Push Button (diagram 6.1.1).

**Diagram 6.1.0**



**Diagram 6.1.1**



### **6.2 Buttons – OK and Cancel:**

Each of the Modules will have an OK and Cancel button (diagram 6.2.0). If the user single clicks on the OK button, data entered will be validated and if validation is successful, saved. Clicking on the Cancel button will discard the entered data and exit the module.

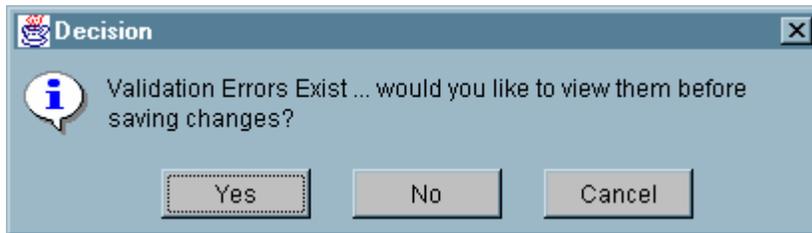
**Diagram 6.2.0**



### **6.3 Buttons – Yes No and Cancel:**

If validation finds problems with the entered data, the user will be given the opportunity to review and correct validation errors or save the Incident with validation errors (diagram 6.3.0). To review validation errors, click Yes. To save the Incident with validation errors, click No. To cancel the save and return to the previous window, the Cancel button should be clicked. If the Cancel button is clicked, the pop-up window will disappear.

**Diagram 6.3.0**



### **6.4 Required and Optional Fields**

Each module contains data entry fields. Diagram 6.4.0 shows the first tab of the Basic Module. Data entry in certain fields is required for the incident to pass validation. Required fields will appear as yellow rectangular boxes. Depending upon the modules added, additional fields may be required. If data is not entered in a required field, the omission will be indicated during validation. All other fields are optional. In some instances the required fields may be a free-form text field, such as entering a Street address. In other instances, a field may require a code lookup. Information about whether a field requires a single code or allows multiple codes will be displayed on the status bar on the bottom-left hand side of the screen. Either double clicking on the field or pressing F1 on the keyboard activates the Codes look-up list box (diagram 6.4.1 and diagram 6.4.2).

Diagram 6.4.0

The screenshot shows the 'Basic Module' window with several sections:

- Sections:** B - E, Sections F - J, Section K1, Section K2, Section L - M, Special Study
- B Location:** Includes fields for Address Type (Street address), Census Tract, Number/Mile, St. Prefix, Street or Highway, Street Type, St. Suffix, Apt. or Suite, City, State, and Zip.
- C Incident Type:** Includes fields for Their FDID, FDID State, and Incident Number.
- D Aid Given or Received:** Includes fields for Aid Given and Aid Received.
- E1 Dates and Times:** Includes a table for Alarm, Arrival, Controlled, and Last Unit Cleared with Date and Time columns.
- E2 Shifts and Alarms:** Includes fields for Shift/Platoon, Alarms, and District.

Buttons at the bottom include Previous Tab, Next Tab, OK, and Cancel. A status bar at the very bottom shows values: 07317, TR, 10/30/2002, 0000001, 000.

Diagram 6.4.1 shows the Code Lookup box for Incident Type which appears when the user either double clicks in the Incident Type field or presses F1 on the keyboard with the cursor entered in the Incident Type field. Diagram 6.4.2 shows a Multiple Code Selection box for the Actions Taken field of the Basic Module..

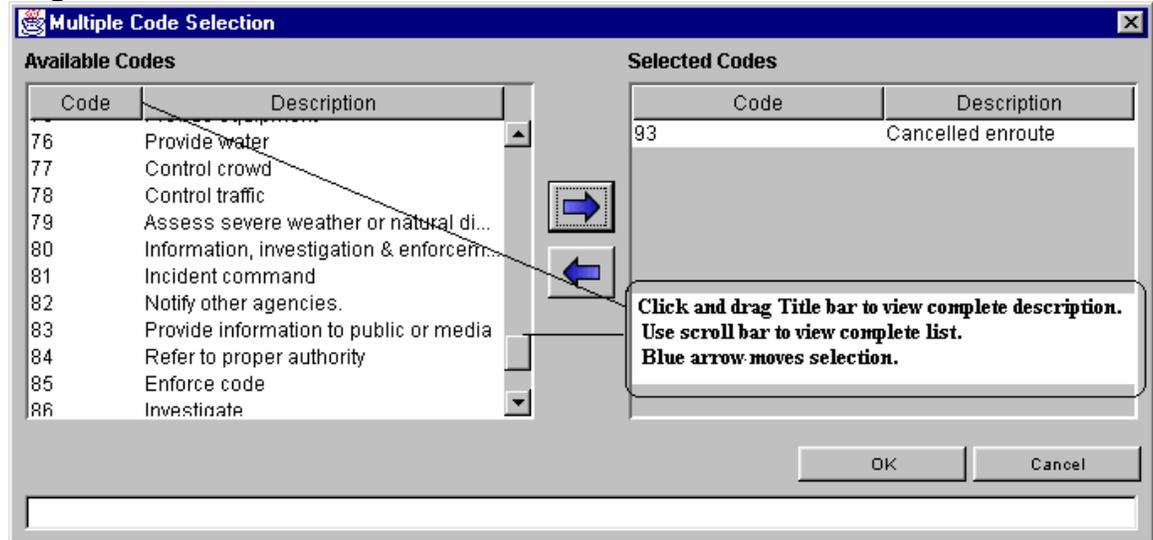
Diagram 6.4.1

The 'Codes Lookup' dialog box displays a tree view of Incident Type codes:

- Incident Type
  - (1) Fire
  - (2) Overpressure Rupture, Explosion, Overheat -no fire
  - (3) Rescue & Emergency Medical Service Incidents
  - (4) Hazardous Conditions (No fire)
  - (5) Service Call
  - (6) Good Intent Call
    - (60) Good intent call, other
    - (61) Dispatched and canceled enroute
    - (611) Dispatched & canceled en route**
    - (62) Wrong location
      - (621) Wrong location
    - (63) Controlled burning
      - (631) Authorized controlled burning
      - (632) Prescribed fire

At the bottom, there are radio buttons for Numerical (selected) and Alphabetic, an Alpha Search field, and Select and Cancel buttons.

Diagram 6.4.2



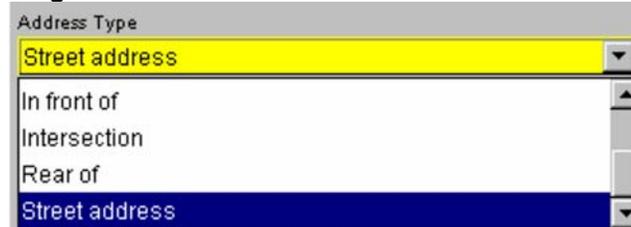
## 6.5 Pull-down Menus:

A pull-down menu provides the user the opportunity to select from a list of data (diagrams 6.5.0 and 6.5.1). Initially the field with a pull-down menu will appear as a blank rectangle with an arrowhead facing down. Click on the arrow to display selections. Highlight the desired selection and click again to insert the selection into the field.

Diagram 6.5.0



Diagram 6.5.1



Or, the user can click on the field and enter the first letter of the word they wish to input. The first entry in the pull-down list starting with that letter will be input. If the same letter is pressed again, the next word in the pull-down list is input.

As an example, in the State field of the Basic Module, when the letter “V” is pressed, the State of Vermont is selected. When the letter “V” is pressed again, the Virgin Islands is selected. If the user enters “VI” the State of Vermont will be selected for the “V” followed by the State of Idaho for the “I”. If the user clicks on the arrowhead, the pull-down menu is displayed. The user must click on a value in order to select it.

**Note:** In Software Version 5.3, the Street Type code must be selected by using the drop down box and scroll bar or by making a text entry. The Street Type field is no longer a coded field, but was expanded to include U.S. Postal abbreviations.

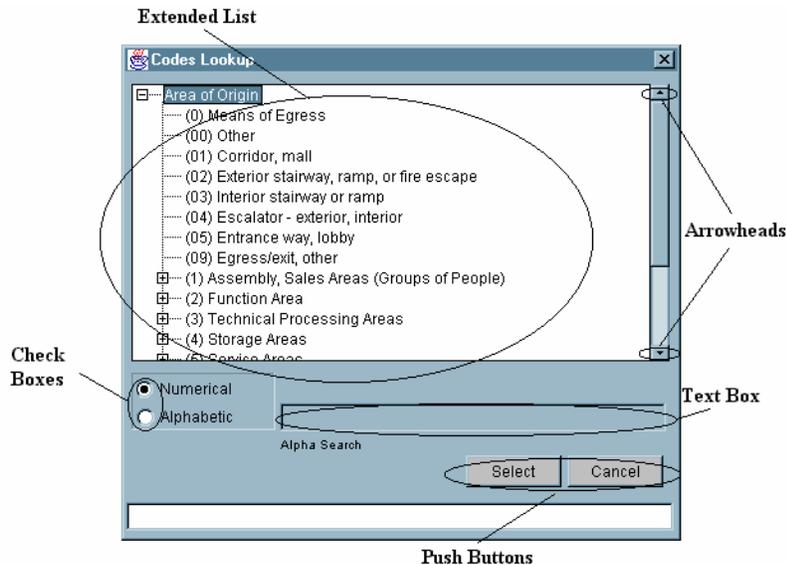
## **6.6 Free Form Text Boxes:**

The fields without pull-down arrows are free form text boxes. The field for Street or Highway is a free form text box – the user is allowed to enter data in a free form format, e.g., Victoria or HCR 51 Box 255.

## **6.7 Components of the Single Code Look-up List Box**

The look-up list box may contain mutually exclusive check boxes in an extended list, which may be navigated by clicking on the up or down arrowhead, push buttons, and text boxes for searching through the extended list (diagram 6.7.0).

**Diagram 6.7.0**



### **6.7.1 Extended List:**

The extended list is hierarchical in structure. A plus (+) or minus (-) sign next to a heading indicates a branching tree structure is present. If the user clicks on the plus sign, the branch will expand providing a more detailed offering. Once the branch has been extended, the plus sign will change to a minus.

Selecting a plus (+) heading will result in validation errors, as it is not a valid selection. Only lowest members in the hierarchy are valid selections. From the example provided (diagram 6.7.0), “Area of Origin” is a top level heading (+), and is an invalid selection, as is “ (1) Assembly of Sales Areas (Groups of People),” however, “ (01) Corridor, Mall” is one of the lower extensions of the Area of Origin “branch,” and is a valid selection. Clicking on a minus sign will collapse the extension and return the plus branch view.

### **6.7.2 Check Boxes:**

As shown in the preceding diagram, a check box (sometimes referred to as a “radio button” when circular in shape) is a point-and-click data entry tool. The check boxes Numerical and Alphabetic are exclusive: only one can be checked at a time, and if Numerical is checked, the Alpha Search text box is grayed out (rendered inactive).

### **6.7.3 Arrowheads:**

The arrowheads shown in the above diagram are a point and click tool used to scroll the extended list up or down. Clicking in the bar between the arrowheads will cause the extended list to page down, as opposed to scrolling down one line at a time.

### **6.7.4 Push Buttons:**

The Push Buttons shown in the above diagram are also point and click data entry tools. In the Codes Lookup window, clicking on the Select button will select a highlighted code. Note: Selection of codes can also be accomplished by double clicking on a code in the Codes Lookup extended list. Clicking on the Cancel button will cancel the selection of a highlighted code and exit from the Codes Lookup window.

### **6.7.5 Text Boxes:**

In the discussion on Check Boxes reference was made to a Text Box adjacent to the Check Boxes. This Alpha Search text box can speed up the selection of Codes by clicking on Alphabetic and then beginning to type the name of the code. For example, if Alphabetic was clicked, and the user began typing “awning” (note: no quotes should be entered) the code for awning will become highlighted. The more letters that are typed, the more specific the selection becomes. Thus, typing the letter “a” may cause the highlight to be on “(11) Arena” whereas typing “aw” will cause the highlight to jump to the code for “awning.”

## 6.8 Components of the Multiple Code Look-up List Box:

The Multiple Code Look-up List Box (Diagram 6.8.0) contains Available Codes and Selected Codes lists, Code Selection and Deselect push buttons, List Navigation arrowheads, and OK and Cancel pushbuttons. This format is used when more than one code can be captured for a single data element.

### 6.8.1 Available Codes List:

The Multiple Code Look-up List Box offers the user multiple codes to select from. From the Available Codes List, the user can select codes in one of three ways, as described in the next three subsections.

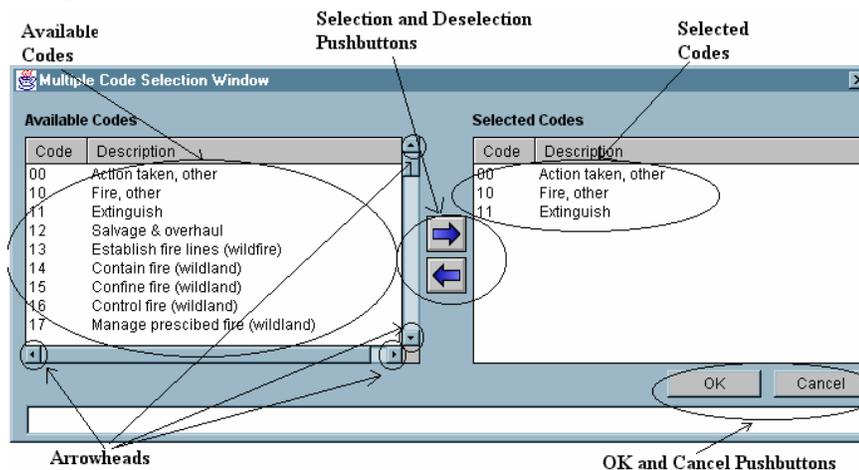
### 6.8.2 Double Clicking:

The user may select a code by double clicking a code from the selection list. The user may double click on one code after another to select multiple codes. To deselect a code, double click on the code in the Selected Codes window.

### 6.8.3 Single Clicking with Control Key:

The user may select a code by single clicking, holding the control key and then continuing to single click codes. As each code is single clicked, it will be highlighted. If a code from the list is to be deselected, single click the code again, and the highlight will disappear. When the selections are complete, single click on the code selection arrowhead (diagram 6.8.3.0). To deselect codes, use the same method from the Selected Codes window, or double click on one or more codes in the selected Codes window.

Diagram 6.8.0



#### **6.8.4 Single Clicking with Shift Key:**

The user may select multiple codes in sequence by clicking on the first code in the list and while holding the shift key, clicking on another code above or below the code. This action will highlight all codes inclusive above or below the first code clicked. To select, single click on the code selection arrow (pushbutton in the form of an arrow). To deselect codes, use the same method.

#### **6.8.5 Arrowheads:**

Scrolling through Available and Selected Codes can be accomplished by single clicking on the pushbutton in the form of an arrow.

### **6.9 The Special Study Tab (Basic Module)**

The Special Study Tab in the Basic Module enables users to enter codes and information that pertain to a special study being conducted at the state or local level. The Special Study Tab is viewable by all users, but a special study must be implemented by a State Program Manager or System Administrator. If a special study has been implemented for the user's department or login level, specific codes and descriptions will be available through the F1 Key Codes Lookup where applicable. The user may select Applicable Studies or All Studies when searching for studies available for reporting. If a Special Study has not been implemented and a user enters data in the Special Study ID or Special Study Value fields, a warning will be listed in the Validations warnings upon saving the incident.

## **7. Exiting the NFIRS Data Entry/Validation Tool:**

Push buttons provide the user the opportunity to Open or Remove one or many Modules prior to exiting the NFIRS Data Entry/Validation Tool, as well as to Save an Incident, or exit the NFIRS Data Entry Tool without saving an Incident (diagram 7.0). **Note:** No data is saved unless the user clicks on the Save push button in the Main View or the Save button on the pop-up window which appears if changes have been made, and the user clicks on the Close push button in the Main View (diagram 7.1). If the user clicks on the No push button (diagram 7.1) the changes made to an Incident will not be saved. If the user clicks on the Cancel push button (diagram 7.1) the pop-up window will exit, and the user will be returned to the Main View.

Diagram 7.0

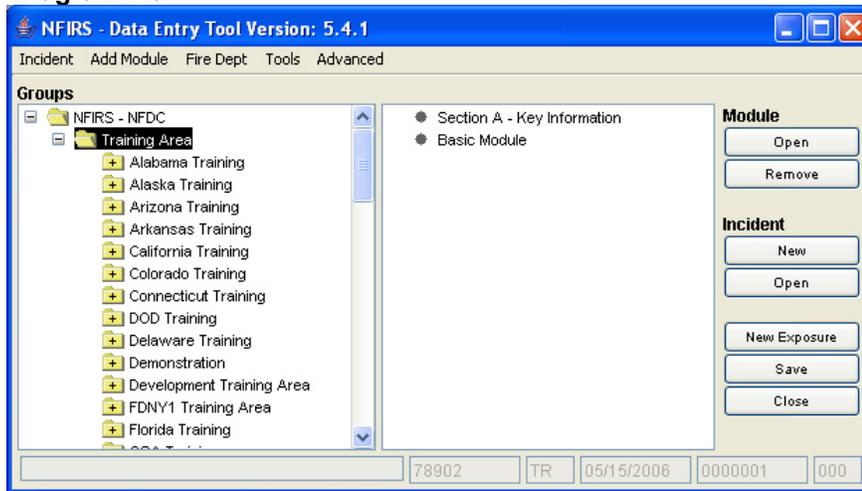
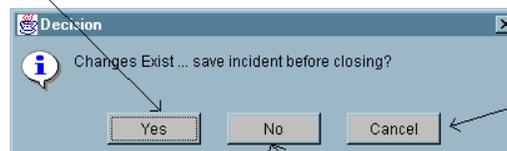


Diagram 7.1

Save Changes Push Button



Exit This Window and Go Back to Main View Push Button

Discard Edits Push Button

## **8. The NFIRS Rapid Start-Up Guide**

### **8.1 Introduction to the NFIRS Rapid Start-up Guide**

The Rapid Start-Up Guide's purpose is to outline key steps needed to get the User using the National Fire Incident Reporting System as quickly as possible. Only the key points are described below. For details on the Tools described below and other Tools available with the NFIRS 5.0 Data Entry Tool System, refer to the previous sections of this Manual.

For a Tutorial on how to download, install, and begin using the software refer to the Tutorial posted on the NFIRS web site at <http://www.nfirs.fema.gov/users/tutorial.shtm>. The Tutorial can be downloaded and printed so the user may have a reference guide while in front of the computer.

Users download the NFIRS software from the NFIRS Web Site. Access this site by going to [www.nfirs.fema.gov](http://www.nfirs.fema.gov).

### **8.2 Download and Installation of the NFIRS Software**

1. Go to [www.nfirs.fema.gov](http://www.nfirs.fema.gov) and click on the User Section Homepage, then on the sidebar link: User Login
2. Enter User account info in the Login screen and click on Login.
3. Locate the Download Software link in the sidebar and click on it.
4. On the Download Software page, click on the FTP link for Version 5.4.1.
5. In the File Download notice box, click on the link Download Now.
6. Save the File to a folder (refer to the Software Version 5.4 Readme.txt file or to the Tutorial for in depth instruction and screen shots on choosing the destination folder). Download of the file will begin.
7. When the download is complete, locate the file you saved to the folder. (See Step 5)
8. Close all programs and double click the executable file to install.

### **8.3 Starting the Data Entry Tool: User Injection Process** ***Microsoft Access 97 Users***

1. In the Configuration Tool on the Advanced Tab, verify the Off-line Access box is checked.
2. Start the Data Entry Tool by going to Start...Programs...NFIRsv54...Data Entry Tool.

3. The Off-Line Login Screen will be displayed. Click the OK button. (Leave the fields for Username, State or Password blank.)
4. This will begin the User Injection Process.
5. The User will be prompted: Would you like to inject a User from the On-Line Database? Click Yes.
6. The NFIRS Login Screen for On-Line use will display. (You need to have a connection to the Internet.) Enter your Username, State and Password.
7. User Injection will begin.

When User Injection has completed, the User is ready to work Off-Line.

## **8.4 Starting the Data Entry Tool: Database Setup and User Injection**

### ***Microsoft Access 2000 and Access 2002 Users***

1. After successful installation, locate the NFIRSV54 root directory.
2. Double click on the Nfirsdatav54.mdb file to open it.
3. Select the Convert Database option.
4. In the "Convert Database Into" save in field, specify the NFIRSV54 Database folder.
5. Accept the default name for the database (default name: db1.mbd). This name will be changed later. Click Save.
6. When complete, close the database and the Access 2000 (or 2002) program.
7. Rename the original NfirsdataV54.mdb (suggestion: origNfirsdataV54.mdb).
8. Rename the new database NfirsdataV54.mdb If file extensions are hidden on the PC, rename the database: NfirsdataV54

The database has been converted. The user must now select the Database Type.

9. Open the Configuration Tool.
10. Verify the Off-line Access Check box is checked.
11. In the Database Type drop down box, select Access 2000 (or Access 2002).
12. Click Save and exit the Configuration Tool. Proceed with initial User Injection.
13. Open the Data Entry Tool.
14. Leave the Off-line login screen blank and click OK.
15. Click YES to "Would you like to inject a user from the On-line database?"

16. Connect to the Internet (if automatic dial up does not occur).
17. Login to the On-line database.
18. Create a password for the Off-line database, if desired, or enter On-Line password.
19. When the User Injection/Remote Synch is complete, a message will display: "Your Internet connection is no longer required."

## **8.4 Starting the Data Entry Tool (Off-Line Mode)**

1. Open the Configuration Tool by going to Start...Programs...NFIRSv54...Configuration Tool.
2. Click on Advanced Tab.
3. Check the box to specify Off-Line Access.
4. Click Save...OK...Exit Configuration Tool.
5. Start the Data Entry Tool by going to Start...Programs...NFIRSv54...Data Entry Tool.
6. The NFIRS Off-line Login screen will displayed . Enter Username, State and Password. Click OK
7. The Main Screen View of the Data Entry Tool will be displayed.

## **8.5 Starting the NFIRS Data Entry Tool (On-Line Mode)**

1. Establish a connection to the Internet.
2. Start the Data Entry Tool by going to Start...Programs...NFIRSv54...Data Entry Tool.
3. The NFIRS Login screen for On-Line will display. Enter Username, State and Password. Click OK.
4. Once the connection is complete, the Main Screen View will appear. The User will see at top of screen: NFIRS – Data Entry Tool Version: 5.4.1

## **8.6 Begin Using the Data Entry Tool**

### ***Fire Department – Personnel/Apparatus***

1. Under Groups locate and highlight your department's name. Click on FDID and Department Name to highlight your department's name.

2. Click on Fire Dept Tab from the Menu Bar and click on Open Fire Department.
3. Three label tabs appear. Enter Department information. Use the Tab key to navigate Personnel and Apparatus label tabs, entering information as necessary.
4. Click OK.
5. The Department information will be saved.

## **8.7 New Incident**

1. Click on the Incident tab on the menu bar and click on New Incident.
2. The Incident Key Window will be displayed.
3. Enter Incident Information.
4. Click Ok.
5. Double click on Basic Module, or single click to highlight and click on the Incident Short-cut push button Open under Module. The Basic Form will open.
6. The User can now begin entering the incident information.
7. Click on Save to save incident.

## **8.8 Save An Incident**

1. After entering incident information, pull down the Incident Menu.
2. Click on Save Incident.

## **8.9 Open An Incident**

1. Click on the Incident Tab and click on Open Incident.
2. Click Search to display incident(s).
3. Highlight Incident...Click Open.

## **8.10 To Generate a Forms Based Incident Report (Local Report)**

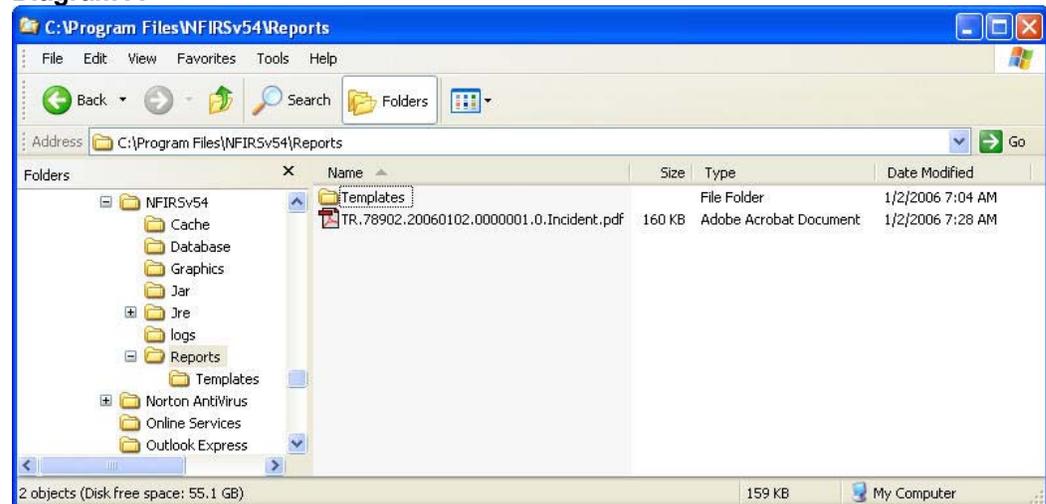
### ***Adobe Acrobat Reader Required***

1. Open an incident.

## Data Entry Tool Users Guide

2. Click on Incident on Menu Bar...click on Generate Report.
3. Click OK to the Report Generated Successfully prompt.
4. To retrieve and print the report, open Windows Explorer.
5. Locate the folder where report was saved (default: \NFIRsv54\Reports\).
6. Open the folder where the report was saved.
7. Locate the pdf file created when generating the reports (diagram A).
8. Double click on the form to be printed. This will open Acrobat Reader if it is not already open.
9. In Acrobat Reader from the File tab on the Menu bar, click on print.
10. Repeat for each of the pdf files for the incident.

**Diagram A**



**Note:** The first time a report is generated, the user may be prompted to “Locate the Acrobat Reader Executable.” Click OK. Locate the Adobe Acrobat Program folder and double click on it to open. Locate the Reader folder and double click on it to open. Locate acord32.exe (or Acrobat.exe) and double click on it to open.

## 8.11 Export Incidents

1. Click on Tools from Menu Bar.
2. Click on Import/Export.
3. Click on Export.

4. Click on Select Incidents.
5. Click on Search.
6. Select the Incidents to be exported.
7. Click on Export.
8. Name the file the data is saved to and its location.
9. Click Save.
10. Click on Close when Export is complete.

## **8.12 Import Incidents**

1. Click in Tools from the Menu Bar.
2. Click on Import/Export Tool
3. Select Import.
4. Click on Select Import File button.
5. Locate and select file for Import.
6. Click Open.
7. Click on Close when Import is complete.

## **8.13 Exit NFIRS**

1. Click on Incident on the Menu Bar.
2. Click on Exit NFIRS.
3. Click on Yes.

## 8.14 Troubleshooting

The following table outlines the most common questions from NFIRS 5.0 users during initial start-up. Additional frequently asked questions are addressed on the NFIRS FAQs page, <http://www.nfirs.fema.gov/users/usersfaq.shtm>.

Question	Response	Action
How do I find the version number of the Access program?	Open the program to see if Access 97 is displayed.	Verify by going to the Access Help menu and clicking on About (Access) to locate the program and version information.
What do I do if my screens do not display?	Check Display Configuration. 800x600 Pixel display is necessary.	Go to Start...Settings...Control Panel...Double click on Display...Click on Settings Tab. Desktop area needs to set at 800x600 Pixels.
...if the installation will not complete?	Check disk space. 55 MB is minimum.	Go to Start...Windows Explorer. Click once on the C Drive...then right click for drop down menu. Click on Properties. Free disk space and Used disk space will be displayed.
I get a message during Access Database setup selection that says "There is a mismatch between , Data Source, Database and Drivers."	Verify you selected the correct Database Type for the database program on the PC. Or, verify the database has been converted.	Locate the database in the NFIRSV54 root directory and double click on it to open. Convert the database, saving it to the NfirsV54 Database folder and renaming it NfirsdataV54.mdb. If your PC does not show file extensions: name it: NfirsdataV54
...if I am unable to login?	Verify the software version: it must be NFIRS 5.0 Version 5.4 for On-Line use.	Verify on the Start ...Programs selection menu the version number of the NFIRS program.
...if I am still unable to login?	Check to see if you are logging in On-Line or Off-Line. There are two ways to check.	(1.) Check when you start the Data Entry Tool if the Login screen says NFIRS Login (On-Line) or Login (Off-Line); or (2). Go to Start...Programs...NFIRSV54...Configuration Tool...Click on Advanced Tab. Look to see if On-Line or Off-Line access box is checked.
How do I change from Off-Line to On-Line?	Use the Configuration Tool to change access settings.	Open the Configuration Tool and click on the Advanced Tab. Check the box for On-Line access. Click Save...OK...Exit. Refer to Configuration Tool User's Guide for more information.
I am trying to Login Off-Line. Why do I get a message that says, " User not found-Please	User Injection into your Off-Line database has not been completed.	Start Data Entry Tool. When you see the Login Screen for Off-Line, click OK leaving the fields blank. You will then be prompted: Would you like to Inject a

**Data Entry Tool Users Guide**

<p>re-enter?"</p>		<p>User from the On-Line database? Click OK. The On-Line Login screen will display. Enter your User-name, State, and Password. A prompt to change your password appears. You may enter the same password as you use for On-Line login. A message displays when User Injection process is complete.</p>
<p>When I enter the Data Entry Tool, my FDID Number is correct but it says "FDID not Found."</p>	<p>The name of your department has not been entered in the system.</p>	<p>Highlight the Dept. number and FDID Not Found. Click on Fire Dept from the Menu bar. Click on New Department. Here you will enter the Fire Department's name and information. Click OK and the department information will be saved and the department name will be displayed.</p>

## 9. Appendix

### 9.A Scripts and Table Information for Data Cleansing Tool

The following information is provided to assist State Program Managers and users who wish to apply SQL scripts to their local database to address codes and values issues identified by users and the USFA during data review and analysis.

These scripts are applied to the data extract from the National database to be used in the public data format. Per users' requests, these scripts have been made available for users to apply to their local database.

The actions of the scripts are not reversible. Users are asked to review each script prior to execution. Making a backup copy of the local database is recommended. Once a script is applied, the change can be reversed.

#### **Data Fix 1: Set NFIRS Version number in 5.0 incidents if 05.00, 0500, 5.00,etc.**

The SQL statement associated with this script replaces incorrectly formatted values indicating the incident version number (e.g., '05.00', '0500', '5.00', etc.) with the string '5.0'. Versions 4.1 incidents are excluded.

In INCIDENTKEY table where IN\_NFIRSVERSION does not equal 5.0, update it to 5.0.

Note: when this script is run locally, the Data Cleansing Tool rows affected will not reflect the number of values that needed to be reset, but the number of "5.0" occurrences plus the number of variations of "5.0."

#### **Data Fix 2: Clear X from unconverted Heat Source codes**

This script addresses the Heat Source codes in the 7, 8, and 9 series that were not completely converted. In the IN\_FIRE table, these codes in the 70, 80, and 90 series values have "X" in front of them.

Table Name	Column Name	Affecting Values
IN_FIRE	IN_HeatSource	X70
IN_FIRE	IN_HeatSource	X71
IN_FIRE	IN_HeatSource	X72
IN_FIRE	IN_HeatSource	X73
IN_FIRE	IN_HeatSource	X74
IN_FIRE	IN_HeatSource	X80
IN_FIRE	IN_HeatSource	X81
IN_FIRE	IN_HeatSource	X82
IN_FIRE	IN_HeatSource	X83
IN_FIRE	IN_HeatSource	X84
IN_FIRE	IN_HeatSource	X97

**Data Fix 3: Clear large negatives in incident-related fields**

The SQL statements associated with this data fix set the values found within specific columns in tables used to record incident data to null if they fall outside of valid ranges. The columns and the criteria for setting those column values to null are captured in the following table:

Table Name	Column Name	Affecting Values
IN_BASIC	IN_ApparSupp	less than -999
IN_BASIC	IN_ApparEMS	less than -999
IN_BASIC	IN_ApparOther	less than -999
IN_BASIC	IN_PersSupp	less than -999
IN_BASIC	IN_PersEMS	less than -999
IN_BASIC	IN_PersOther	less than -999
IN_BASIC	IN_LossProperty	less than -999
IN_BASIC	IN_LossOther	less than -999
IN_BASIC	IN_ValueProperty	less than -999
IN_BASIC	IN_ValueOther	less than -999
IN_BASIC	IN_FatalFS	less than -999
IN_BASIC	IN_FatalOther	less than -999
IN_BASIC	IN_NonfatalFS	less than -999
IN_BASIC	IN_NonfatalOther	less than -999
IN_BASIC	IN_LossTotal	less than -999
MOBILE_PROP	MP_Year	less than -999
IN_FIRE	FR_NumResidential	less than -999
IN_FIRE	FR_NumBuildings	less than -999
IN_FIRE	FR_AcresBurned	less than -999
IN_FIRE	FR_AgeOfPerson	less than -999
EQUIP_INVOLVED	EQ_Year	less than -999
CAS_CIVILIAN	CC_Age	less than -999
CAS_CIVILIAN	CC_FloorAtStart	less than -999
CAS_CIVILIAN	CC_FloorAtInjured	less than -999
CAS_FIRESERVICE	FS_Age	less than -999
CAS_FIRESERVICE	FS_StoriesFromGrade	less than -999
CAS_FIRESERVICE	FS_Responses	less than -999
FIRE_LATLONG	FRW_Latitude	less than -999
FIRE_LATLONG	FRW_Longitude	less than -999
FIRE_ALTADDR	FRW_Township	less than -999
FIRE_ALTADDR	FRW_Range	less than -999
FIRE_WILDLAND	FRW_NumBuildings	less than -999
FIRE_WILDLAND	FRW_NumThreatened	less than -999
FIRE_WILDLAND	FRW_TotalAcres	less than -999
FIRE_WILDLAND	FRW_Age	less than -999
FIRE_WILDLAND	FRW_RowFeet	less than -999
FIRE_WILDLAND	FRW_NumBuildings	less than -999
FIRE_WILDLAND	FRW_NumThreatened	less than -999
FIRE_WILDLAND	FRW_TotalAcres	less than -999

Table Name	Column Name	Affecting Values
FIRE_WILDLAND	FRW_Age	less than -999
FIRE_WILDLAND	FRW_RowFeet	less than -999
FIRE_WEATHER	FRW_WindSpeed	less than -999
FIRE_WEATHER	FRW_AirTemp	less than -999
FIRE_WEATHER	FRW_RelativeHumidity	less than -999
FIRE_WEATHER	FRW_FuelMoisture	less than -999
FIRE_PROPERTYMGMT	FRW_Undetermined	less than -999
FIRE_PROPERTYMGMT	FRW_TaxPaying	less than -999
FIRE_PROPERTYMGMT	FRW_NonTaxPaying	less than -999
FIRE_PROPERTYMGMT	FRW_City	less than -999
FIRE_PROPERTYMGMT	FRW_County	less than -999
FIRE_PROPERTYMGMT	FRW_State	less than -999
FIRE_PROPERTYMGMT	FRW_Federal	less than -999
FIRE_PROPERTYMGMT	FRW_Foreign	less than -999
FIRE_PROPERTYMGMT	FRW_Military	less than -999
FIRE_PROPERTYMGMT	FRW_Other	less than -999
IN_HMCHEMICAL	HM_ContainerCapacity	less than -999
IN_HMCHEMICAL	HM_Released	less than -999
IN_ARSONJUVENILE	AR_Age	less than -999

#### Data Fix 4: Clear large negatives in FD-related fields

The SQL statements associated with this data fix set the values found within specific columns in the FD\_HEADER table to null if they fall outside of valid ranges. The columns and the criteria for setting those column values to null are captured in the following table:

Table Name	Column Name	Affecting Values
FD_HEADER	FD_NumStations	less than -999
FD_HEADER	FD_NumVolFFF	less than -999
FD_HEADER	FD_NumVolFFFPPC	less than -999
FD_HEADER	FD_PopProtect	less than -999
FD_HEADER	FD_SquareMiles	less than -999

#### Data Fix 5: Zero large values in Number-of-Paid-FFs-in-FD field

The SQL statement associated with this fix sets values in table FD\_HEADER's column FD\_NumPaidFF to 0 if found to be greater than 10,000.

#### Data Fix 6: Clear negative EMS casualty ages

The SQL statement associated with this fix sets values in table CAS\_EMS's column EMS\_Age to null if found to be negative.

### Data Fix 7: Clear invalid civilian injury dates

The SQL statement associated with this fix sets date values in table CAS\_CIVILIAN's column CC\_InjuryDate to null if found to be before Jan 1, 1970.

### Data Fix 8: Set non-residential flag based on Property Use

This data fix consists of two SQL statements that set the IN\_FIRE table's FR\_NotResidential field for incidents that generated were by NFIRS version 4.1 based on the value found in the same incident's IN\_BASIC\_PropertyUse field if the FR\_NotResidential value is not already correct.

#### Statement 1

If incident data meets the criteria (all rows are linked by IncidentID):

Table Name	Column Name	Criteria
IN_BASIC	IN_PropertyUse	Starts w/ '4'
IN_FIRE	FR_NotResidential	Is not already equal to 'N'
INCIDENTKEY	IN_NFIRSVersion	Equals '4.1'

Then its value in IN\_FIRE table's FR\_NotResidential is set to 'N'.

#### Statement 2

If incident data meets the criteria (all rows are linked by IncidentID):

Table Name	Column Name	Criteria
IN_BASIC	FR_PropertyUse	Does not start w/ '4'
IN_FIRE	FR_NotResidential	Is not already equal to 'Y'
INCIDENTKEY	IN_NFIRSVersion	Equals '4.1'

Then its value in IN\_FIRE.FR\_NotResidential is set to 'Y'.

### Data Fix 9: Set Property Use conversion to 400 when equal to 409

The SQL statement associated with this fix sets the values in table IN\_BASIC's column IN\_PropertyUse to '400' if found to be equal to '409'.

### Data Fix 10: Clear age field in Wildland Module if age is 1

The SQL statement associated with this fix sets the values in table FIRE\_WILDLAND's column FRW\_Age to an empty string ("") if found to be equal to the number 1.

### **Data Fix 11: Remove Fire Modules from non-fire incidents**

This data fix consists of three SQL statements each of which removes a specific kind of fire module if the module's associated incident is of type greater than 173. The effects of each statement follow:

#### **Statement 1**

If an incident has a row in IN\_FIRE and the incident's value in IN\_BASIC.IN\_Type is greater than '173' then delete its row in IN\_FIRE.

#### **Statement 2**

If an incident has a row in FIRE\_STRUCTURE and the incident's value in IN\_BASIC.IN\_Type is greater than '173' then delete its row in FIRE\_STRUCTURE.

#### **Statement 3**

If an incident has a row in FIRE\_WILDLAND and the incident's value in IN\_BASIC.IN\_Type is greater than '173' then delete its row in FIRE\_WILDLAND.

### **Data Fix 12: Fix invalid Mobile Property and Equipment Involved Years.**

This data fix consists of two SQL statements that fix Y2K bugs in NFIRS data where an entry that was meant to represent 2000 ended up being saved as 1900. The first statement sets the value MOBIL\_PROP.MP\_Year to 2000 if found to be 1900. The second statement does the same for EQUIP\_INVOLVED.EQ\_Year.

### **Data Fix 13: Populate Basic's G1 Resource fields with counts from Apparatus/Personnel Module where Local Forms Used is true.**

This data fix addresses incidents in which the Local Forms Used flag is specified (Y for Yes, or true condition). The script consists of SQL statements which for those incidents calculate and ultimately populate the Basic Resource totals fields. Apparatus records are categorized according to the Use code in the apparatus record, and the sum of each apparatus category will be inserted into the corresponding Resources Apparatus fields (Suppression, EMS, Other). Personnel records associated with apparatus records by sequence number (IN\_Seq) will be totaled, and the total will be populated into the respective Basic Resource personnel fields. When no personnel records are found associated with an apparatus, the number from the Apparatus Module's Ap\_NumPeople Number of People field is used.

All Rows are linked by Incident ID:

#### **Statement 1**

If incident data meets the criteria where the IN\_ResourceFormUsed =Y, then its Apparatus records are assigned according to the value in the IN\_APPARATUS table in the AP\_USE column to one of the following categories: Apparatus Suppression (AP\_Use =1), Apparatus EMS (AP\_Use =2), Apparatus Other (AP\_Use =0).

#### **Statement 2**

The sum of each apparatus category will be inserted into the corresponding IN\_Basic Resource Apparatus field: IN\_ApparSupp, IN\_ApparEMS, IN\_ApparOther

**Statement 3**

Where a Personnel record is associated to an Apparatus record by the value in IN\_APPARATUS table's IN\_Seq value, add 1 to the count for total of personnel for the respective Resource field (IN\_PersSupp, IN\_PerEMS, IN\_PerOther) in the IN\_BASIC table.

Statement 4

Where no Personnel records are associated to an Apparatus record by the value in IN\_AP table's IN\_Seq value, add the value found in the IN\_APPARATUS table's IN\_NumPeople field to the respective Resource field (IN\_PersSupp, IN\_PerEMS, IN\_PerOther) for Suppression, Personnel EMS, Other) in the IN\_BASIC table.

## **9B. Keyboard Shortcuts**

### **Select from Menu Bar:**

ALT – Highlights Menu Bar  
F10 – Highlights Menu Bar  
Down Arrow – Drops menu down  
Up Arrow – Scrolls up menu  
Left/Right Arrow Keys – Move cursor Right and Left

### **Open Incident:**

Enter – Opens Search Window  
Multiple Code Look Up – F1 to bring up list of codes  
Arrow down codes - Shift/Arrow up/down selects multiple codes  
Enter - Adds selected codes

### **Drop Down Lists:**

F4 – drops down list  
End – brings user to bottom of list  
Home – Brings User to top of list  
Page Down – Scrolls down sections of drop down list by section  
Page Up – Scrolls up sections of drop down list by section

### **Multiple Code Look-Up:**

Arrow Down – Scrolls Down List of Codes  
Right Arrow – Opens Hierarchy on level  
Arrow Up – Scrolls up Hierarchy

### **Miscellaneous:**

Shift/Tab – Backspace  
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# **National Fire Incident Reporting System**

## **System Administration Tool Users Guide**

**NFIRS 5.0 Software Version 5.4**

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## **1. Introduction**

The System Administration Tool Guide provides comprehensive documentation to enable State NFIRS Program Managers to efficiently use the NFIRS System Administration Tool. The Guide is intended for new users as well as users familiar with the NFIRS system administration tasks. For a Rapid Startup Guide that outlines only the key steps for setting up groups and activating users, refer to Section 10 of this document.

The System Administration Tool is a Graphical User Interface (GUI) developed for the administration of National Fire Incident Reporting System Database users and groups. With this tool the administrator may add and modify groups and users in a graphical environment.

State NFIRS Program Managers may assign system administration privileges to an individual (s) registered in the NFIRS community to assist with user account and group maintenance, if necessary.

System Administrators who access the System Administration Tool will be able to view the Group Hierarchy at their level and below. The System Administrator will be able to add, view, and modify groups and fire departments. **Note:** Groups can be modified but not deleted.

System Administrators will be able to add, view, delete, and modify user information in the User Maintenance Window. State NFIRS Program Managers may view all registered users, view administrators within the state, set users' permissions, reset passwords, view user activity status (inactive or no activity within 60 days) and number of bad logins.

State Program Managers and their System Administrators will use the System Admin Tool to assign necessary permissions to registered NFIRS 5.0 users who wish to access the new NFIRS 5.0 web-based tools. Permission for the Bulk Import Utility and the new web-based Summary Reports Output Tool can be assigned exclusively since they do not require the use of the USFA NFIRS 5.0 software.

### **Capabilities with NFIRS 5.0 Version 5.4**

The functions of the NFIRS 5.0 Version 5.4 are the same as offered in previous version 5.3.x. In addition to user account and group maintenance, the NFIRS 5.0 Version 5.4 System Administration Tool has three components formerly within the Program Administration Tool: the Codes Editor, the tool used to add and modify Plus One Codes; and the Special Studies Editor, used to add and modify Special Studies. The Chemical Editor enables the national level user to add and edit the chemicals information and codes in the National Database. The user must have the Program Admin permission to access these interfaces and to save changes made within them.

A user with the State Admin permission assigned to their account can assign the Bulk Import permission to users at their level and below, and access the Field Permission (Field Perms) button. The Field Perms interface enables the State Program Manager to modify the default Field Level Security settings to prevent data from being released publicly at the federal level when to do so would conflict with state and local jurisdiction laws. The Design Documentation available at <http://www.nfirs.fema.gov/documentation/design/> lists the default System Security Field Settings for the NFIRS 5.0 data fields, beginning on page 108.

The NFIRS 5.0 System Admin Tool Version 5.4 continues to automate password management and enforces password format to meet FEMA's guidelines established to ensure minimal risk to system and information access.

To further support the FEMA security standard, an automatic deactivation of user accounts that have not had a login to the On-line system within 60 days was implemented in previous version 5.3. For complete information and recommendations, refer to Section 3, User Maintenance.

### **Definition and Development of Groups**

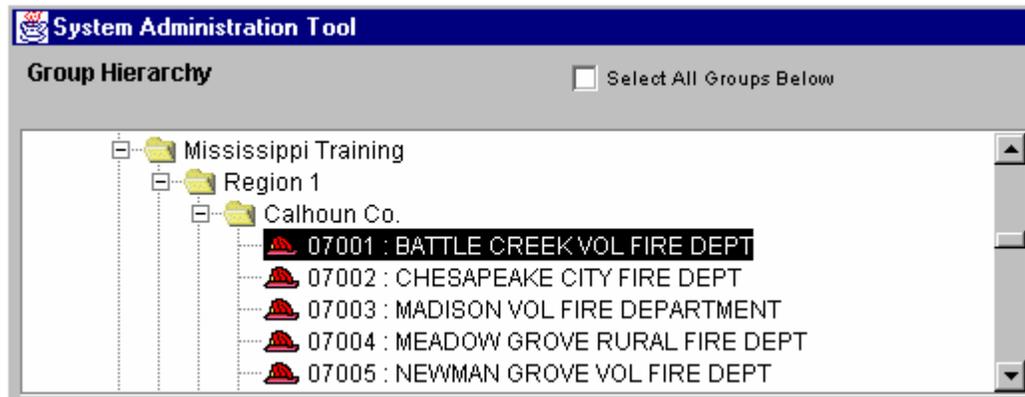
The hierarchical structure for group organization allows for ease in system administration maintenance, enforces security at group levels, and distributes administration privileges. The Group Hierarchy is in extended list form. Information in the Group Detail fields changes according to the highlighted group.

The extended list is analogous to a tree. The state is the trunk of the tree, the county or region is the branch, and the fire departments are the leaves (referred to as "nodes" throughout this document). Because of the hierarchical nature of Groups, all groups end at the FDID level. A group one level higher than another is referred to as a "parent" or "parent group." Parent groups are indicated by a yellow folder including a plus sign, and FDIDs are indicated with a red fire hat icon.

**Note:** The administrator can view, add, and modify a group and/or node at his or her level or below.

Fire Departments may be grouped several ways and should be created to facilitate the management of System Administrators and Fire Departments. One method of grouping Fire Departments is by region. Diagram 1.0 displays the Group Hierarchy for Mississippi Training with the groups defined by region, then defined by county, and ending with Fire Departments.

**Diagram 1.0**



Groups may be created for Congressional Districts, counties, cities, etc. It may be desirable to create a Group of Fire Departments for a large city and assign an

Administrator to the Group. In this manner, the State level Administrator can share the workload of Groups and user maintenance through the sharing of administrative tasks and enforcing group level security. Users can be associated with individual Fire Departments and/or with Groups.

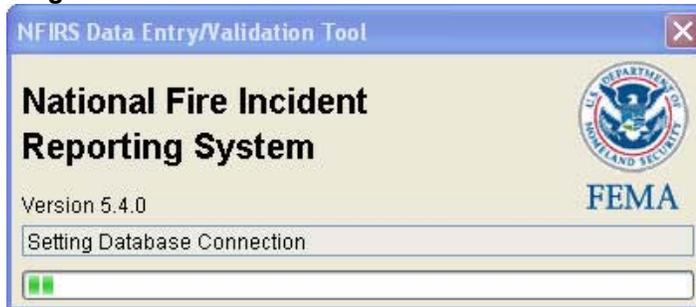
In order for a user to begin entering incident information with the NFIRS 5.0 software, the fire department must be created and saved by using the System Administration Tool. The administrator will need to create groups first, assign registered users to the appropriate group, then activate each user's status and set their permissions. Periodically the administrator should check for new registered users.

## 2. Starting the NFIRS System Administration Tool

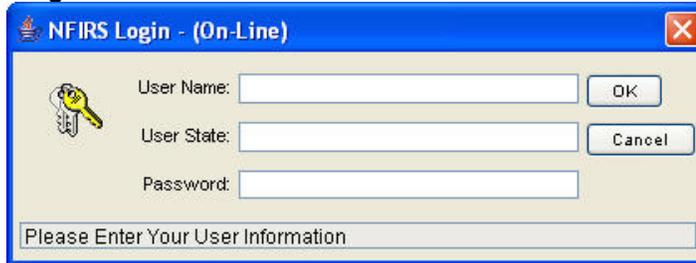
The System Administrator may start the NFIRS System Administration Tool one of two ways: From the Start menu ... Programs ... NFIRSV54... System Admin Tool, or from within the NFIRS Data Entry Tool, click on the Tools Tab on the Menu Bar and then click on System Admin Tool.

When an administrator starts the NFIRS System Administration Tool, a pop-up window "Setting Database Connection" appears (diagram 2.0) followed by a login window (diagram 2.1). If the login window fails to come up, there is a configuration issue, which must be resolved. Please refer to the NFIRS Configuration Tool User's Guide Documentation to solve configuration issues can found at the NFIRS Web Site: <http://www.nfirs.fema.gov/users/userdocs.shtm>

**Diagram 2.0**



**Diagram 2.1**



At the login window, the Administrator must enter their User Name, State, and Password and then click on the **OK** button. **Note:** The Username, State and Password entered must be the same values as those entered during the registration process. If an Administrator registers under one name but tries to access the NFIRS System

Administration Tool under a different name, an error will be generated. The **Cancel** button may be clicked to exit the System Admin Login Window.

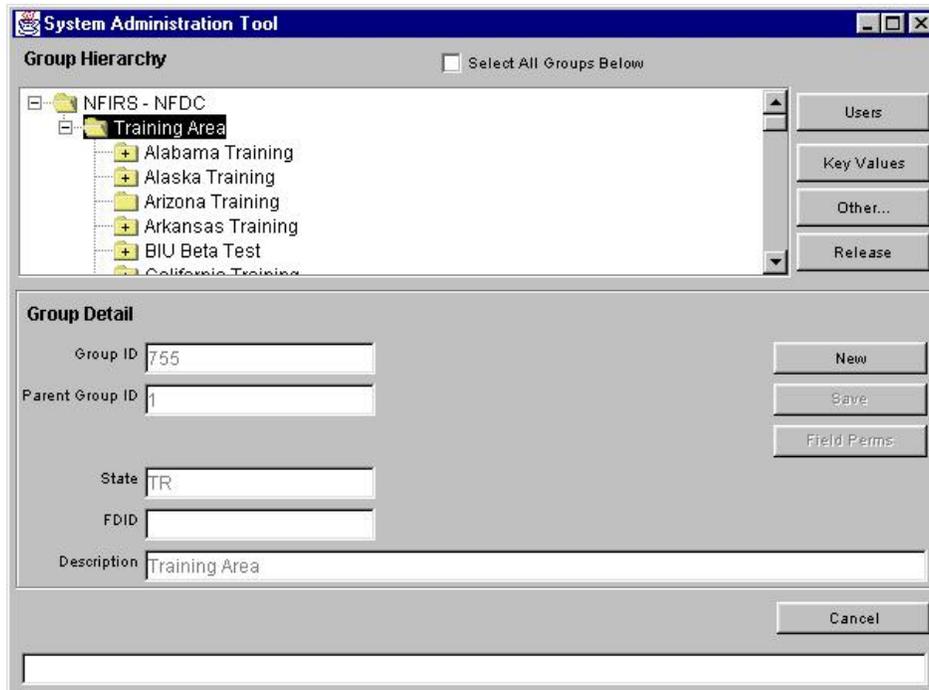
The Administrator is allowed up to five consecutive failed login attempts after which the system locks the Administrator's account. Successful login after less than five failed attempts will reset the failed login counter. If the Administrator's account becomes locked, another Administrator at the Administrator's group level or higher will have to unlock the account using the NFIRS System Administration Tool.

Upon successful login to the database, the first window that appears is the Group Hierarchy Window (diagram 2.3). Group maintenance is performed with the components of this window. Depending on the user's permissions, additional buttons will be displayed.

- The **Release** button will only be displayed if the user's Parent Group is 1 and the user has been assigned Release Incident permission. For more information on Releasing Incidents, refer to Section 5.
- The **Other...** button will only be displayed if the user has been assigned the Program Admin permission. The Codes, Chemicals, and Special Studies interfaces are accessed by clicking on the Other... button. For more information on these interfaces, refer to Sections 6-8.
- The **Field Perm** button will only be displayed if the user has been assigned the State Admin permission. For more information on the Field Perms interface, refer to Section 9.

Diagram 2.3 displays the main view of the System Admin Window, state of Training (TR).

**Diagram 2.3**



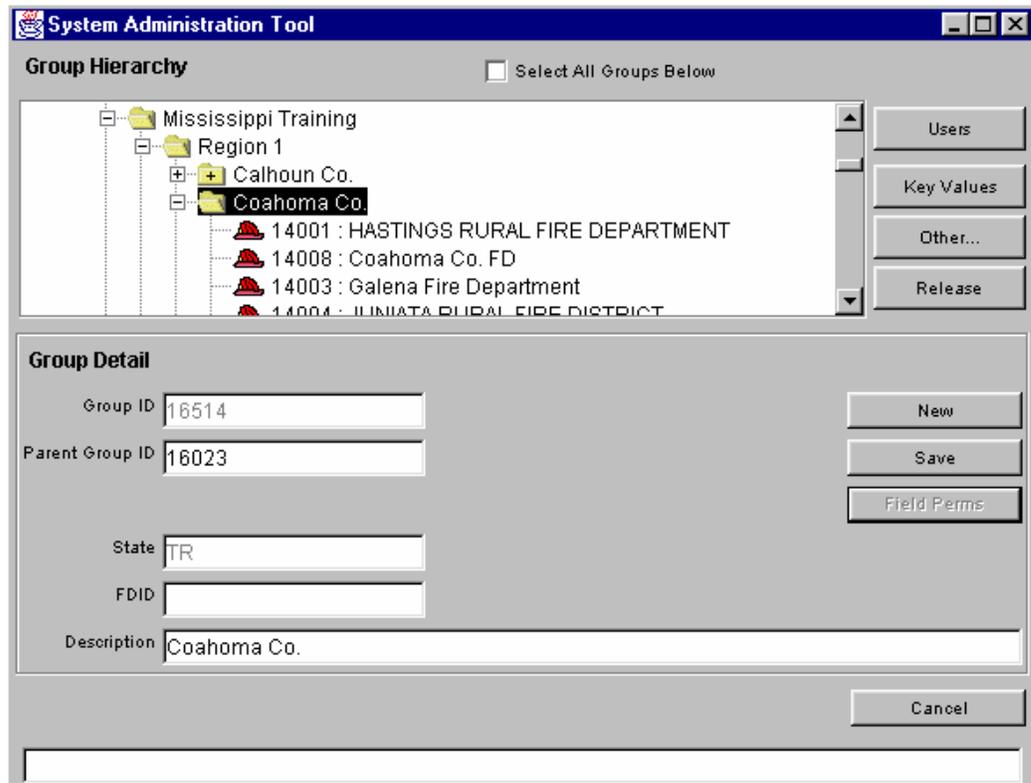
## 2.1 Creating a New Group

When the System Administrator first opens the Tool, he or she will see the Group Hierarchy Window (diagram 2.1.0). To create a new Group, the Administrator must click on the Parent of the new group to be inserted and then click the **New** push button. In the white message box at the bottom of the screen, Requesting New Group Number will be displayed. The system retrieves a new Group ID which will be displayed in the Group ID field. The description field clears.

The Administrator enters the description of the new group in the Description Field. If the new group is a Fire Department and will be an end node, enter the new group's FDID number. If the new group is not an end node, leave the FDID field blank.

Click on the **Save** push button to save the new group or node. A message will be displayed: "User Group Insert Successful." The System Administrator is returned to the Group Hierarchy in collapsed form. The System Administrator is then ready to begin assigning users to the group.

Diagram 2.1.0



The following table outlines the steps for adding a node to the Group Hierarchy.

**To Add a Group to the Hierarchy:**

Step	Action	Result
1	Click on the Parent group of the new group.	Parent Group becomes highlighted.
2	Click on the <b>New</b> push button.	The system retrieves next available Group ID number. The Description field clears.
3	Enter the Group's Descriptor in the Description field. <b>Note:</b> FDID is only entered if the node is a fire department and is to be the bottom the Group Hierarchy.	Group name is recorded.
4	Click the <b>Save</b> push button.	The Group Hierarchy collapses and the node is added.

## 2.2 Moving a Group

To move a group from one parent group to another, first note the Group ID for the *new* parent group. Click on the group to be moved. When the group is highlighted, the Parent Group field becomes editable. Enter the new Parent Group ID. Modify the Description field if desired. Click on Save. When the new information is saved, the message "User Group Changes Saved" will be displayed in the white message box at the bottom of the window. The System Administrator is returned to the Groups Hierarchy Window.

**Note:** A Parent group that has child groups within it should not be changed to an end node (FDID). Changing a parent group to an end node causes its original nodes to be removed from the hierarchy. These former end nodes will need to be manually deleted from the On-line System (contact the NFIRS Support Center).

## 2.3 The Group Detail Fields

Below the Group Hierarchy Pane, there are five fields for **Group Details**: the Group ID number, the Parent Group ID number, the State, FDID number, and a field for the description of the group. When the administrator highlights a group in the hierarchy, the corresponding information will appear in the fields.

### 2.3.1 Group ID

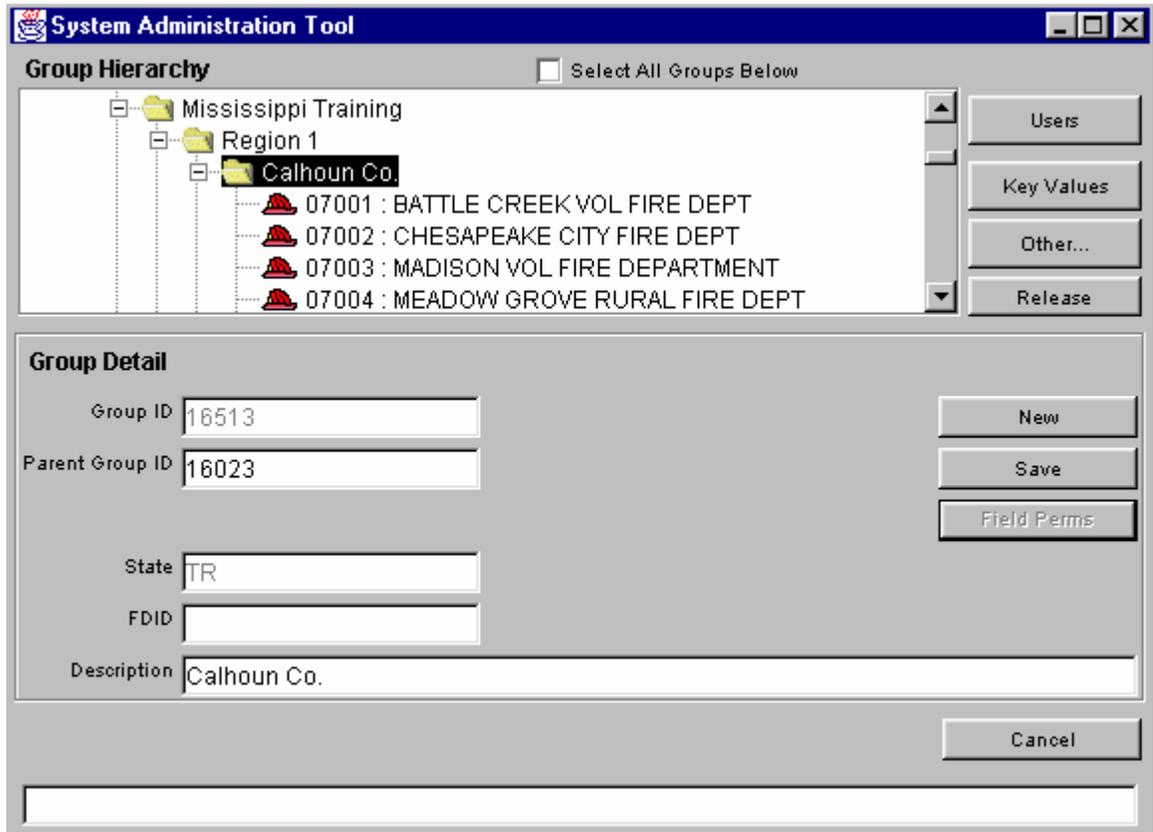
The **Group ID** is the number that distinguishes a group from all others in the hierarchy. The system assigns Group IDs when the administrator creates a new group. The Group ID field is not editable.

### 2.3.2 Parent Group

The Parent Group number will be displayed when the user highlights a group in the list. The Parent Group is the group one level above the highlighted group. For example, in diagram 2.3.2.0 the Parent ID for Region 1, when highlighted, is 6795, Mississippi Training. Region 1 is the parent for Calhoun Co., and Calhoun County's Parent Group ID is 16023. Calhoun Co. is the parent of Battle Creek Vol. Fire Dept., Chesapeake Vol. Fire Dept., Madison Vol. Fire Dept., and Meadow grove Rural Fire Dept. When highlighted, each of these group's Group IDs will display in the Group ID field.

A fire department cannot be a parent for another group, for example, a station.

Diagram 2.3.2.0



### 2.3.3 State

The standard, two-letter state abbreviation defaults in this field according to the administrator's state.

### 2.3.4 FDID

FDID is the Fire Department Identifier that is assigned by the state.  
**Note:** Only the end node groups, Fire Departments, will have FDIDs assigned. Once created and saved, an FDID number cannot be edited.

### 2.3.5 Description

The Description field is a free form text field in which the administrator enters the description of the group being defined or modified. The field is not case sensitive and has a maximum of twenty-five characters. The Description can be changed at any time by editing the field and clicking Save. Or, an FDID Information file can be imported to overwrite the existing Description.

## 3. The User Maintenance Window

The User Maintenance Window (diagram 3.0) is accessible by clicking the **Users** push button on the right of the Group Hierarchy Window. The Administrator can only access users that are at or below the group associated with the Administrator's login. For example, an Administrator associated at the State-level Group may administer, activate, or modify users at the State-level and below; an Administrator associated with a County-level Group may administer users at the County-level and below.

Diagram 3.0

**User Maintenance (User Group: 6546)**

**User List**

GroupID	Username	State	Last Name	First Name	Last Login
6546	TEST0729	TR	user	test	10/07/2002 17:30...

**User Detail**

Username: TEST0729    State: TR    Group ID: 6546    Status: Active

First Name: test    MI:    Last Name: user

Phone: (444)444-4444    Email: test.user@fema.gov

Last Login: 10/07/2002 17:30:40    # Bad Logins: 0    [Reset Logins]

Password Last Changed: 10/07/2002 17:38:21     Must Change Password    [Change Password]    [Set Permissions]

[Delete]    [New]    [Save]    Print: Formatted Text    [To File]    [Close]

# Users (1/1)

To view all users within a specific group, highlight the group and check the **Select All Groups Below** check box (located on the Group Hierarchy Window). The User Maintenance Window will be displayed, and in the User List Pane will be the users for the specified group level. The list may further be defined by checking one of the five check boxes below the User List on the right: **All** (users), **No Activity** (60 days), **Inactive Only**, **Administrators**, **Bad Logins**.

The User Maintenance Window provides administrators the ability to view and modify user-specific information. The administrator can create, activate, and delete a user, modify user information, reset logins and passwords with the components of this window.

When the Administrator opens the User Maintenance Window, the users who have registered using the NFIRS Web Site will be listed with their State's level Group ID, with Inactive status.

A user must be moved to their appropriate group or Fire Department and activated before he or she can begin entering incidents. If a user has not registered through the NFIRS 5.0 Web Site, the administrator must obtain and manually enter the user-specific information in order to create the user in the system.

### **3.1 Creating Users**

To create a user, click on the **New** button. All editable fields in the User Detail fields will be cleared and the Administrator can enter user-specific information. Yellow highlighted fields are required fields and must be filled out. Required fields include User Name, User State, Group ID, First name, Last name, Phone, Email (if user does not have an email address, enter NONE). Optional fields include Status (Active or Inactive), MI (middle initial), and Must Change Password.

The Administrator will enter the Group ID to which the user will be assigned. When all required fields are filled out, click the **Save** button. The new user information and group assignment will be saved.

To activate the user, click on the **Status** drop down box. Select **Active**. Click **Save**.

If a user is not active for sixty days, the user account will be automatically set to Inactive. The User List can be sorted by Active status users, Inactive status users, users with System Admin permissions (Administrators), and users with bad logins. It is recommended that State Program Managers or their System Administrators periodically review the list of Inactive users and delete unnecessary user accounts, or contact the user if necessary.

### **3.2 Adding Users to Groups**

If the user registered through the NFIRS Web Site, his or her name and user specific information will appear in the Group List. To add or move the user to a group, highlight the user's name in the Group List. User-specific information

populates the fields of the User Detail Pane. Highlight the **Group ID** field. Type in the Group ID to which the user will be assigned.

Click the **Save** button to save new user information.

To activate the user, click on the **Status** drop down box. Select **Active**. Click **Save**.

### **3.2.1 User Login Buttons**

To view or change user login information, the Administrator must first highlight the desired user name in the User List Pane. When the user name is highlighted, the last login date will be displayed in the **Last Login** field. The last login is recorded for all NFIRS 5.0 On-line or web based services: the On-Line client software, NFIRS 5.0 User login web page, login to the Bulk Import Utility, or to the NFIRS 5.0 Web Based Reporting site. Two push buttons, **# of Bad Logins** and **Reset Logins** provide the Administrator the capability to view the number of bad logins and to reset the login counter for the specified user.

After five unsuccessful login attempts, the user's account will become locked. The user must contact the Administrator to report and resolve the issue. The Administrator may reset the login counter by first highlighting the user's name in the User List Pane. Click the **Reset Login** button. The user will have five attempts at the next login before the account locks.

The accounts of users who have not logged in to the On-Line system in 60 days will be automatically deactivated. These users must contact a System Administrator or the NFIRS State Program Manager to have their account status reset. To re-activate their account, highlight their name in the User List Pane. Click the **Status** drop down box and select Active. Click Save. Or, if the account is no longer necessary, it can be deleted.

### **3.2.2 User Passwords and Password Management**

When a new user registers through the NFIRS 5.0 web site, the password entered must comply with FEMA IT's Information Assurance guidelines, outlined below, which were established to minimize risk of access of critical IT systems and their information.

- All passwords must be at least eight (8) characters in length.
- All user-chosen passwords must contain at least one non-alphabetic character such as a numeral (0-9).
- All computer system users must choose passwords that cannot be easily guessed. Passwords must NOT be related to the user's job, personal life, for example, a car license plate number, a spouse's name, or an address. Passwords must not be a word found in the dictionary or some other part of speech; for example, proper names, places, and slang must not be used.

- Never store passwords online, or write them down and place them near the computer.
- Passwords and login IDs are not to be shared with anyone. It is the responsibility of the users to maintain the confidentiality of their passwords. Users are responsible for actions and events resulting from the disclosure of personal passwords.
- Change your password every 6 months or sooner if the system permits (every 90 days is recommended).

The NIRS 5.0 client software enforces a password change every 89 days. Also, users can change their passwords at any time from within the Data Entry Tool. In the Main View Screen under the Advanced Menu, there is a Change Passwords option for all users.

### **New NFIRS 5.0 Users**

When a new user is manually created, the password will default to the user's Username. Upon initial login, the user will be required to change the password. The Administrator may change the default password by clicking on the **Change Password** push button. When the **Change Password** push button is pressed, a pop-up window (diagram 3.2.2.0) will appear providing the Administrator ability to change the user's password.

**Note:** The Administrator may only change a user's password after the user information has been saved.

To change a user's password, first select the desired user in the User List Pane. Type in the new password. Retype the password to confirm. Click the **OK** button. Click on **Change Password** button.

**Diagram 3.2.2.0**



When a new user registers through the NFIRS 5.0 User Registration Page, they must specify a password. If the password does not meet the necessary format, an error will be displayed and they will be prompted to enter another password.

**Note:** The Administrator cannot recover the initial password a user entered during NFIRS Web Site registration if the user misplaces it. The Administrator can only set or change a user's password.

### **3.2.3 Set Services Permissions**

The **Set Permissions** push button provides the Administrator an interface to modify NFIRS Database users' permissions. Click once on the Set Permissions push button for the Services Permissions pop-up window to appear (diagram 3.2.3.0). A check box accompanies each of the eighteen permissions or services available.

Seven permissions will be checked by default, as shown in Diagram 3.2.3.0.

At this time, these four reporting permissions **Report Submit**, **Report Fetch**, **Report Templates**, and **Report Generate** are the necessary permissions for a user to access the web-based Summary Reports Output Tool. A user who does not have access to the USFA client software may be assigned the four reporting permissions and be restricted to the NFIRS 5.0 Web-based Reporting site. The reports can be generated on the data set available to the user, i.e., the data set at or below the user's Group assignment.

The permissions for **System Admin**, **Program Admin**, and **Release Incidents** should be reserved for users who will have system administration responsibilities, including user account maintenance at and below their group assignment, creation and maintenance of Plus One Codes and Special Studies.

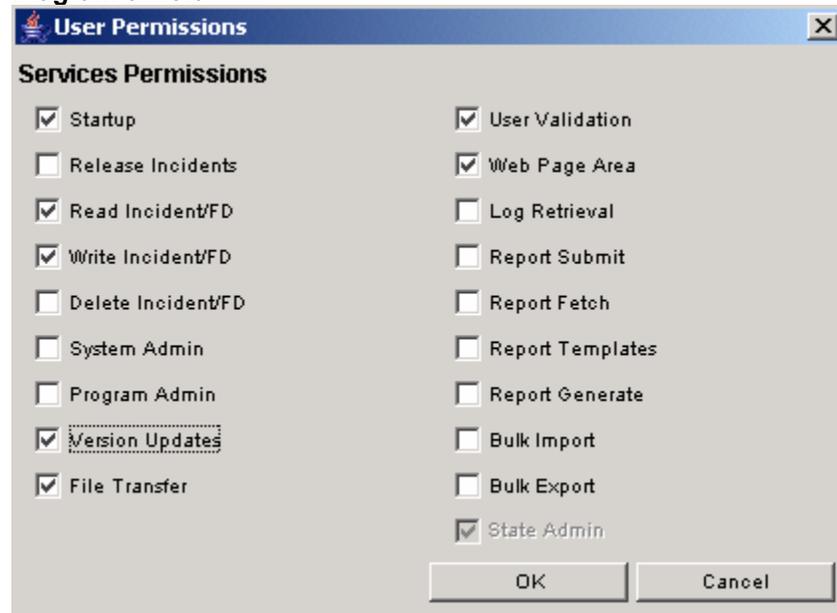
The **Bulk Import** permission should be reserved for those users who will be sending files to the National Database via the Bulk Import web interface. The USFA Client software is not necessary to use the Bulk Utility. The **Bulk Export** permission should be reserved for those users who must access the incident data at their group level and below but do not have the USFA NFIRS 5.0 client software. A user can be assigned the Bulk Import Tool exclusively.

Mass Export enables users to obtain incident data from their group level and below in a delimited flat file. The Mass Export permission is not accessible at this time.

**Note:** If the user has access to the System Admin Tool, he or she has access to all available privileges of a System Administrator, including modifying permissions of other user at or below his level.

Diagram 3.2.3.0 on the next page shows the Services Permissions window with default permissions, with the exception of State Admin.

Diagram 3.2.3.0



**Note:** Diagram 3.2.3.0 shows the default permissions for a new user. The Administrator can change these permissions by removing the check from the desired box, or check the desired permission to add.

After the appropriate permissions have been checked, click the **OK** button to save the permissions to the user. Clicking the **Cancel** button returns the user to the User Maintenance screen without saving changes.

The services or permissions available for assignment to users are defined below. Following the list is a section explaining permissions that can be assigned to users who will not be using the USFA software.

**Startup:** provides the user the ability to connect to the National Fire Incident Reporting System Database only.

**Read Incident/FD:** provides the user the ability to query incidents and Fire Department Information from the NFIRS Database.

**Write Incident/FD:** provides the user the ability to enter or update incidents and Fire Department information into the NFIRS Database.

**Delete Incident:** provides the user the ability to delete incidents and Fire Department Information from the NFIRS Database.

**System Administration:** provides the user the ability to use the NFIRS 5.0 System Admin Tool.

**Program Administration:** provides the user the ability to use the NFIRS 5.0 Program Admin Tool, and save changes made with the Codes and Special Studies editors accessible from the System Admin Tool.

**Version Updates:** provides the user the ability to download NFIRS Client Tools updates from within the NFIRS Data Entry /Validation Tools menu. Users will be notified if this utility can be used for a particular update.

**File Transfer:** provides the user the ability to transfer Incidents from a flat file to the NFIRS Database.

**Release Incidents:** provides the state level user the mechanism to release incidents for National Trending by the USFA.

**User Validation:** provides the user the ability to revalidate user information and change passwords after 89 days when prompted.

**Web Page Area:** provides the user the ability to login on to the NFIRS 5.0 User login page on the NFIRS 5.0 web site, <http://nfirs.fema.gov/>

**Log Retrieval:** provides the user the ability to view the events, exceptions, and stats log files. These files can provide important information for troubleshooting.

**Report Submit:** provides the user the ability to access the web-based Summary Reports Output Tool on the NFIRS 5.0 web site.

**Report Fetch:** provides the user the ability to retrieve reports generated from web-based Summary Reports Output Tool on the NFIRS 5.0 web site.

**Report Templates:** provides the user the ability to create and save templates for reporting similar incidents within the group or department.

**Report Generate:** provides the user the ability to generate web-based Summary Reports Output Tool on the NFIRS 5.0 web site.

**Bulk Import:** provides the user the ability to login to the Bulk Import utility web page area and place files on the Bulk Import Utility server for processing without using the USFA Client software.

**Bulk Export:** In future versions, will provide the user the ability to login to the NFIRS web page area where the Mass Export will be located, and export at or below the group level to which the user is assigned.

**State Admin:** provides the user the ability to assign Bulk Import permission. This permission must be assigned by a National Level User.

### ***View Only Permissions***

A user without the need to report or modify a departments' incident data can be assigned the Start Up, Read Incident /FD to be able to login to the Data Entry Tool and view the Fire Departments and incidents available to the user's group. To generate reports using the web-based Summary Reports Output Tool on the NFIRS 5.0 web site, the user account must have the four reporting permissions assigned to it: Report Submit, Report Generate, Report Templates, Report Fetch. Refer also to section 3.4, *View Only Permissions* for information on creating a group for which a user can view only.

The Bulk Import permission, assigned exclusively, enables the user to access the Bulk Import Utility web page area and upload files to the National Database.

The Bulk Export permission, assigned exclusively, enables the user to access the Bulk Export in the Reporting web page area to create a flat file or Excel format file of the data in the National Database at their level and below.

### **3.3 Modifying Users**

To modify user information, click on an existing user in the User List Pane. When the user is selected, the User Detail fields will be populated with the user's specific information. All values except for the username can be modified.

- To modify user information in a text field, highlight the text and type in new information. Click **Save**.
- To activate a user, highlight the user to be modified. In the User Detail Pane, click on the **Status** drop down box. Select **Active** to insert into the Status field. Click **Save**.
- To require the user to change passwords upon next login, check the **Must Change Password** check box.
- To reset the user's bad login count, click the **Reset Login** button.

System Administrators are urged to review the list of user account periodically and delete user accounts that have become Inactive, or contact the user and inquire about the status of reporting.

### **3.4 Moving a User**

To move a user from one group to another group, in the Group Hierarchy Window the Administrator must highlight the group level or group the user is associated with; for example, the State. Check **Select All Groups Below** box. Click the **Users** button. In the User List Pane, all users (active and inactive status) will be displayed. Highlight the desired user to be moved. User-specific data populates the fields of the User Detail Pane. Highlight the user's Group ID and type in the desired new Group ID. Click **Save**. **Note:** Both the Group Hierarchy Window and the User Maintenance Window can be opened and arranged to view concurrently for accuracy.

#### **View Only Permissions**

Occasionally a user may request the ability to view a county or several departments that already exist in the hierarchy without the need to report or modify those departments' incident data. A separate folder can be created on the tree and the desired departments can be added to the folder. The FDID and Departments' Descriptions must be named exactly as they appear in their original location in the hierarchy. The user will need an separate account assigned to that folder, *without* the permissions System Admin, Delete Incident, Write Incident,

File Transfer, or Bulk Import. The incident counts will not be duplicated when generating statistical reports.

### **3.5 Deleting a User**

To delete a user, highlight the user in the User List and click on the **Delete** button. A pop up box will appear which shows the user's name and state. Click **Yes** to delete the user permanently from the list. Click **No** or **Cancel** to return to the User Maintenance Window without deleting the user.

The administrator may periodically see a duplicate registration. In the event that a user makes a duplicate registration, the administrator can delete the duplicate from the User List. Users need to be notified which Username is active.

After sixty consecutive days without a login to the On-Line system, active user accounts are reset to Inactive status. The user must contact their State Program Manager or System Administrator and request the account be re-activated. It is recommended that the State Program Manager review the Inactive list periodically and delete unnecessary user accounts.

**Note:** The administrator cannot delete groups, only users.

### **3.6 Miscellaneous Components**

Several components of the User Maintenance Window facilitate user maintenance and user list organization. Five check boxes (diagram 3.6.0) control how the User List is sorted and displayed. The System Administrator can choose to display the list of **All** users, users with **No Activity (60 days)**, users with the status **Inactive Only**, users at the **Administrators** level, or users with **Bad Logins**.

**Diagram 3.6.0**



The **Delete**, **New**, and **Save** buttons (diagram 3.6.1) are used to delete a user from the list (an irreversible action), to add a new user manually to the User List, and to save user specific information.

The **Print** drop down box allows the administrator the ability to save the User List in Formatted Text or Excel file format. **Note:** Files formatted for Excel will require Excel on the user's PC to open and view.

The **To File** button allows the Administrator to save the user list to a specified location. When the **To File** button is pressed, the **Save User List To** pop up window appears. The administrator chooses a location to save the file. The default location is in the NFIRS root directory. Name the file and click **Save**. The files may be opened with NotePad or WordPad as well as any word processing program. They may also be imported to an Excel spreadsheet.

**Diagram 3.6.1**



The **Close** button when pressed closes the User List Window and returns the user to the Group Hierarchy Window. The white rectangular box at the bottom of the screen displays messages pertaining to the display and actions taking place in the User List Window.

## **4. The Key Values Window**

The Key Values Window enables the System Administrator to view the maximum or available values the system will use when assigning Group IDs, Special Studies, Attributes, events and event messages, etc. Users at the User Group 1 or at National level can edit the Key Values. Users at a login level below the National Database can view the Key Values but will not be able to edit values.

## **5. The Release Incidents Window**

By releasing a 5.0 incident or incidents, a state (or fire department) is allowing the USFA to use the incidents' data in National Trending reports and statistical information. Once an incident is Released, the incident can be accessed and viewed in the On-line database, however, the Released incident is not editable.

If a user wishes to edit a Released 5.0 incident, a State level user or System Administrator at the state level assigned the Release Incident permission must "Unrelease" the incident to allow editing. After the incident has been modified, the incident must be released again.

Valid, 4.1 Data incidents are automatically Released when sent to the National Database. To update or modify a 4.1 incident, the Program Manager or user with Release Incident permissions import the updated incident with Overwrite Incidents specified. **Note:** The 4.1 incident that is Un-released, opened, and saved will be validated against 5.0 rules.

## 5.1 Release Incidents Permissions

A user at the US level must assign the State Program Manager the Release Incident Permission and assign the Program Manager to a level whose Parent Group ID is 1. Program Managers may request the Release Incident permission to be assigned a user(s) who will assist in releasing incidents. When a Program Manager or System Administrator with the Release Incident Permission opens the System Admin Tool, the Release button will be available on the interface.

**Note:** the File Transfer permission, which is assigned by default at the time of a user's account activation, allows users to send a flat file to the National Database in order to report incident data. The Release Incident permission is not assigned to any user by default.

A specific level of security has been assigned to each field in all modules to ensure that sensitive information is not released. The security level is the highest level at which the data in the field may be released from the national system. The list of security levels is in the Data Dictionary in the Design Documentation, <http://www.nfirs.fema.gov/documentation/design/> beginning on page 108. States do have the option to change the security level of a field if necessary to meet specific state laws

## 5.2 To Release an Incident:

When a Program Manager or System Administrator with the Release Incident Permission opens the System Admin Tool, the Release button will be available on the interface. After clicking on the Release button, an Incident Date Range window will be displayed (diagram 5.2.0). Specify a date range for which all incidents will be released, or the range in which to search for incidents to be released. Note: When releasing a large quantity of incidents, the return message occurs after the setting for each incident has been updated in the database, so the return message may not immediately be displayed.

Diagram 5.2.0



The Incident Date refers to the date in the incident's Key Information - Section A. For example, if the Program Manager specifies the range: Start Date 06/01/00 and Stop Date 09/01/00 and clicks the Release button, all incidents with a Key Information date from June 1, 2000 to September 1, 2000 will be released.

In order to update a released 4.1 or 5.0 incident, an Add transaction must be imported with Overwrite Existing Incidents specified in the Configuration Tool or Bulk Import Tool. Or, to edit a released 5.0 incident, the Program Manager must "unrelease" the incident. **Note:** 4.1 incidents are validated against 4.1 rules, converted to 5.0 format, and flagged in the database as 4.1 incident data. If a 4.1 incident is unreleased, opened and saved, it will be validated against 5.0 rules.

### 5.3 To Unrelease an Incident:

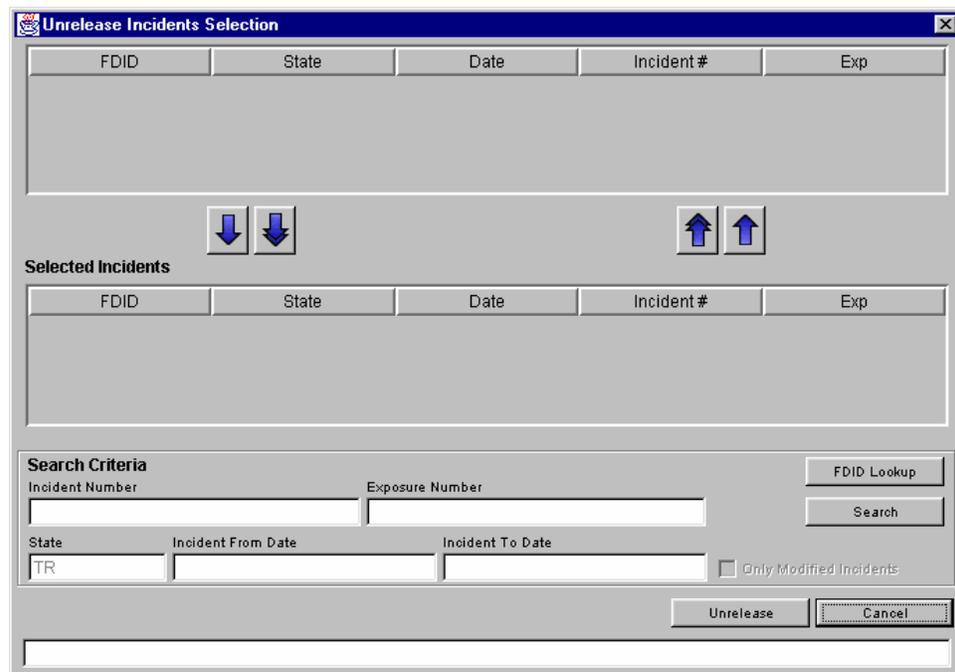
In the System Admin Tool, click on the Release button. Specify the incident's date or a range of dates for several incidents. Click on the Unrelease button. The Unrelease Incident Window will be displayed (diagram 5.3.0). Select (highlight) the desired incidents to be Unreleased and click on the blue down arrow to move the selected incidents to the lower portion of the window. Click the Unrelease button. The status of the incidents will be changed and they can be edited using the Data Entry Tool.

A maximum of 1000 incidents can be Un-released at one time.

**Note:** A released 4.1 incident that is opened will be validated against 5.0 rules when saved and closed.

The Program Manager can verify an incident has been released by opening the Data Entry Tool and retrieving a released incident and opening it. The data will be displayed in the modules' fields but will be grayed out. The incident cannot be edited.

Diagram 5.3.0



## **6. The Codes Window**

The Codes Window is accessed by Clicking on the **Other...** button in the System Admin Tool main view.

The Codes Window enables the National level user to create, modify, and delete code categories from the National Database, and enables State Program Managers and their System Administrators to implement Plus One Codes within their state. The Program Admin permission is necessary for the user to save changes made when making code categories and Plus One codes.

### ***Plus One Codes***

The fields that support a Plus One code have a fixed maximum size which allows the potential extra digit of the new code. A Plus One code may be implemented to allow many additional, more specific values to be defined by local departments or states for their own uses. When a plus one code is imported to the USFA National Database, only the national length code is used for analysis.

For complete information on the Plus One Code requirement for NFIRS 5.0 transaction file fields, refer to page 131 under "Coded Fields" and "Multiple Choice Fields" in the Flat File Transfer Format section of the Design Documentation, available at:  
<http://www.nfirs.fema.gov/documentation/design/>

For example, a state or Fire Department may wish to further define the national length description for a Mobile Property Type to specify when an electric vehicle is involved in fires. In the Mobile Property Type codes, the national length code (10) Passenger Road Vehicle, Other, could have a Plus One Code added for (101) Electric Vehicle. Or, the national length code (13) Off-road Recreational Vehicle could have a Plus One Code added for (131) Golf Cart.

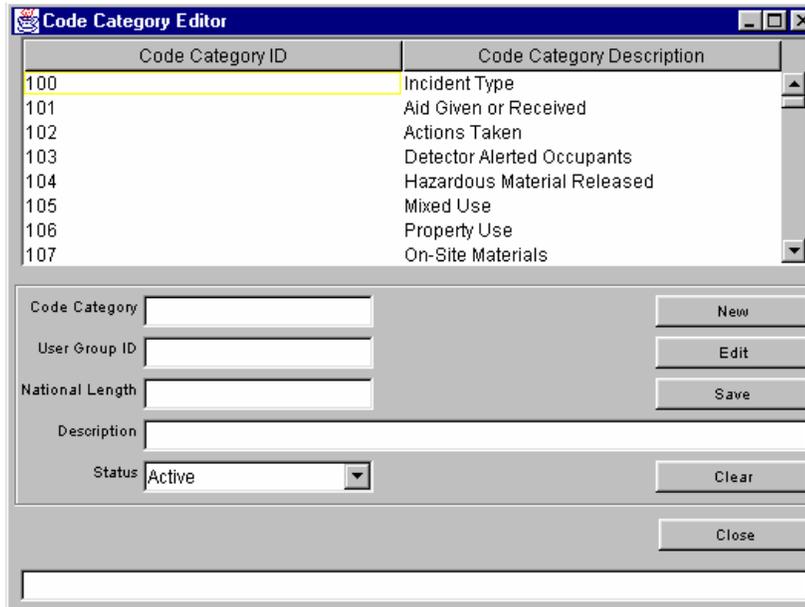
When the new plus code is first created, it may take fifteen to twenty minutes to be re-cached and appear in the Data Entry Tool.

Off-Line users must perform User Injection to obtain new codes that are implemented and saved to the National Database.

### **6.1 Creating a Plus One Code**

To create a Plus One code, Click on the **Other...** button the click on the **Codes** button. The Codes Category Editor will appear. The national level code categories are assigned a standardized, numeric number, which are displayed in the left side of the window, and their descriptions will be displayed in the right side (diagram 6.1.0). A scroll bar on the right of the window enables the view of all available codes for the category.

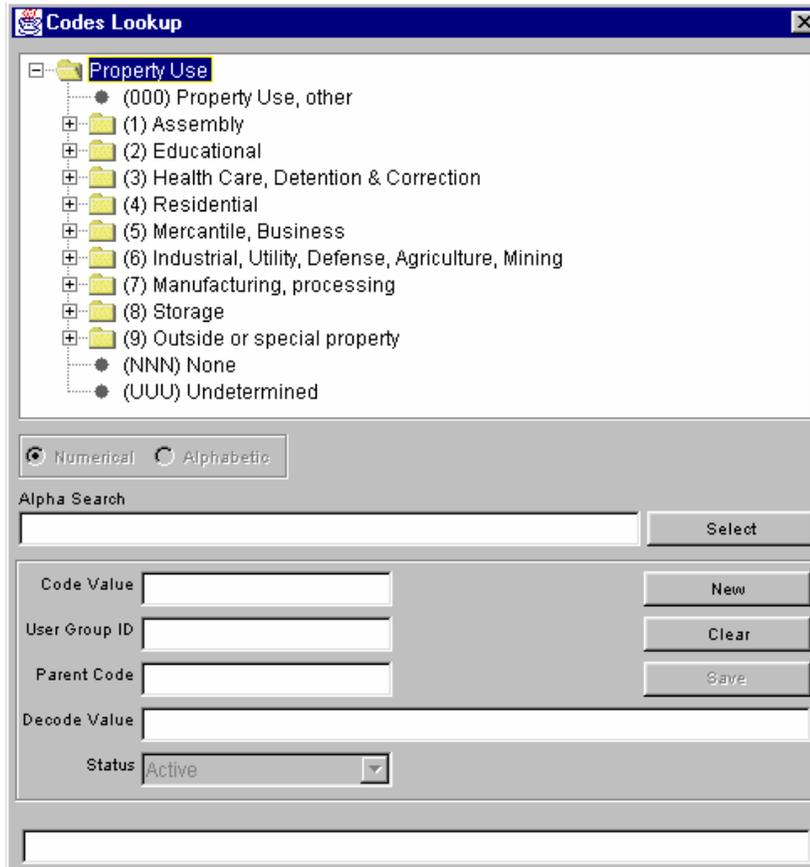
Diagram 6.1.0



Select the parent code group in which the new Plus One code will be created, for example, Property Use. System information for the highlighted code category will be displayed in the Details fields. For example, the system information for Property Use that will be displayed is: national Code Category ID (106), the User Group ID (defaults to the user's system assigned group ID), National Length (3), which states the specified length for the code category, and the code's Description as it appears in the code look up information (Property Use). The Status box displays whether the code category is Active or Inactive.

Click the **Edit** button (not the New button). The Codes Lookup window will display the existing codes for the selected category. For example, diagram 6.1.1 on the following page shows the Property Use category.

Diagram 6.1.1



In the Code Lookup window, click on the plus sign to extend the view of all codes for the category. Or, use the selection feature: select the **Numerical** radio button, enter a code, and click the **Select** button. If the desired code is not numeric, select the **Alphabetic** radio button, type in the Decode Value (description) and click the Select push button.

Click on the desired national length code from which a new code will be assigned (example: 111, Bowling Alley). The selected code's system-assigned information will populate the fields in the lower portion of the window.

Click on the **New** button. The information fields will clear. Enter the **Code Value**. This will be the new, numeric code (or alpha, alpha numeric depending on the parent code's format). Enter the **Parent Code**. Enter the **Decode Value**, which is the description the user will view. There is a fifty character maximum length for the Decode Value. Set the Status to **Active** to implement the code. Click **Save** to save the new information. The message window in the lower left will display: Updating code information.... Information saved successfully. The code hierarchy will collapse and when extended, the new code will appear under the parent code value. The new Code will be saved and you will be returned to the Code Category Editor.

To Delete a code, highlight the code and set its status to **Inactive**. The user will be prompted to confirm the delete action, which is not reversible. To clear the information from the fields, click **Clear**. Click **Close** to close and exit the Code Category Editor.

**Note:** On-Line Users may not view the new code until the next day when the system has re-cached the new information. Off-line users must perform User Injection to update their local Codes Lookup information.

The steps to create a Plus One code are outlined below.

<b>Step</b>	<b>Action</b>	<b>Result</b>
1	Log into the System Admin Tool. Highlight the group for which the Plus one code will be visible.	The System Admin Tool opens The desired group level is specified.
2	Click on the <b>Codes</b> push button.	The Codes Category Editor window is displayed.
3	Select a Code Category in which the plus one code will be created.	The desired code will be highlighted and its information will be displayed in the fields below.
4	Click the <b>Edit</b> push button.	The Codes Lookup window will be displayed.
5	Highlight the parent for the Plus One code about to be created.	The parent code information will populate the fields,
6.	Click the <b>New</b> push button.	The fields will clear, and the user Group ID will be entered automatically. Users at this group level will view and have access to the code..
7	Enter a Code Value	The numeric or alpha numeric code will be established for the new code.
8	Enter a Parent Code Value	The parent code will be specified.
9	Enter a Decode Value	The new code Description will be specified.
10	Click Save	The hierarchy view will collapse and the new Plus One code will be saved.

## **6.2 Deleting a Plus One Code**

Locate and highlight the desired Plus One code. When the Plus One code's information has populated the fields, set the Status to Inactive. A message box will appear confirming if you wish to set the status to Inactive, which will delete the code. Click Yes. This action is not reversible.

## **7. The Chemicals Window**

The Chemicals Editor enables the national level user to add, modify and delete chemicals and their associated information from the National Database. The Chemicals window is accessible by clicking on the button named: **Other...** the table of chemicals will be displayed when the user enters a letter or two into the Chemical String Search field.

## **8. The Special Studies Window**

The Special Studies Window enables the State Program Manager or System Administrator to create, modify, and delete a Special Study and its codes from the National Database.

The Special Study codes information must be created and saved to the On-Line system in order to make the codes selection available to the USFA client software user in the Basic Module's Special Studies Tab, E3 fields. Having the code saved in the National database also allows third party transaction files containing the Special Studies information to be validated at the National level. The Special Study code, if present in a 5.0 transaction file, is contained in the record Type 1060 with the Basic module Information. This record must contain the unique system-assigned Special Study ID number for the record and the codes it contains to be validated upon import to the National Database.

Special Studies may be created for state-wide use, a county or region, or a single FDID. When the Special Study is created, a date range is specified which determines the availability of the Special Studies selection according to the Incident Date.

Each login level has a Key Value assigned to and can be identified by the system-assigned User Group ID in the Key Values Window of the System Admin Tool. The Key Value assignment ensures no duplicate Special Studies IDs are created and no Special Studies IDs are overwritten. Key Values may be viewed and edited by clicking on the Key Values button from the System Admin Tool.

If a user attempts to create a Special Study and receives the following error: "Your user group is not set up to add Special Studies, contact your System Administrator to request assistance," the key value must be established for the user's group. State Program Managers or System Administrators with state level login and Program Admin permission can establish the key value, or contact NFIRS support.

### **Examples of Special Studies**

Two examples of Special Studies are as follows: a study to collect information on a particular type of sprinkler system: its brand and if it operated successfully or unsuccessfully. Another example is a study to collect information on historical properties involved in fires: the type of property: residential, commercial, or other type; and if the property was operating or vacant.

The following sections provide complete instructions on creating a Special Study. Users creating a Special Study are recommended to plan the group level for which the study will be available, the name of the Special Study, the date range the special study will be effect, and the descriptions for the selectable codes the user will see in the Codes Lookup box. For example:

- The name of the Special Study will be "Historical Properties Involved in Fires".
- It will be available state wide (all departments may view and select its codes in the Basic Module)
- The study will be conducted for the current year (Start Date: 01/01/2006, Stop Date: 12/31/2006)
- The selectable codes will be: (1) Residential and inhabited, (2) Residential and uninhabited, (3) Commercial and operating, (4) Commercial and operating, (5) Other space or other structure type.

The System Administrator will first create the Special Study, and then create the codes that users will select to represent applicable data.

## **8.1 Creating a Special Study and its Codes**

Open the System Admin Tool and click on the **Other...** button. Click on the Special Studies button. The Special Studies Lookup window will appear (diagram 8.1.0).

The upper portion of the window displays the Special Studies ID, Name, and date range for the study for Special Studies saved in the National Database. Two radio buttons, **Applicable Studies** and **All Studies** enable the user to retrieve the Special Studies that are applicable only those studies that are Active status or all studies available to the user's group. The fields on the lower left portion will display information for a selected study. Buttons on the right of the window enable the user to create a **New** study, **Edit Code** values (by accessing the Codes Lookup utility), **Save** new codes or modifications, and **Clear** the information fields. The **Cancel** button will close the window without saving changes.

**Diagram 8.1.0**

ID	Name	Start Date	Stop Date
----	------	------------	-----------

Applicable Studies  All Studies

Special Study ID:

User Group ID:

Start Date:

Stop Date:

Max Length:

Description:

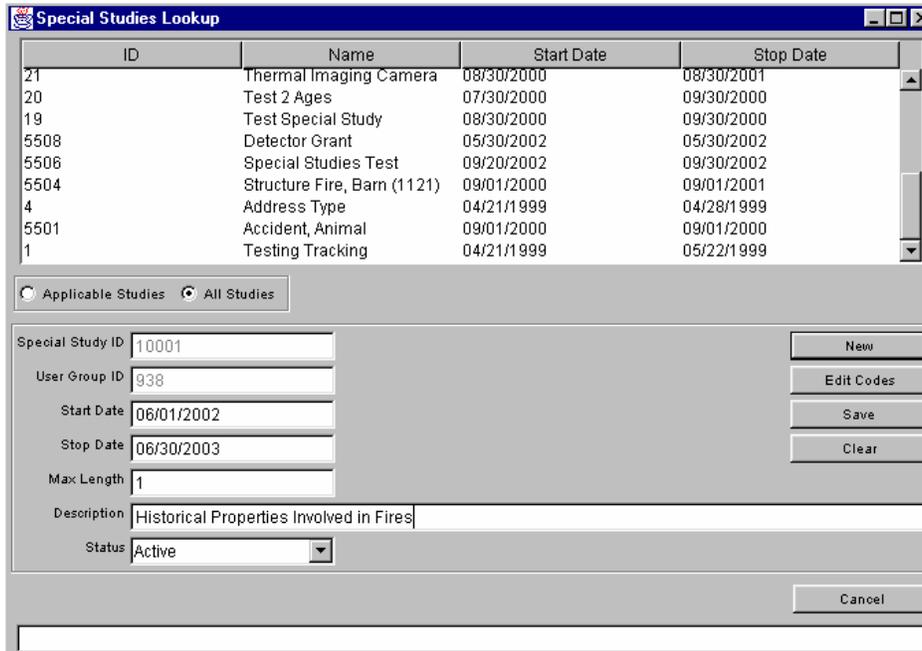
Status: Active

To create a Special Study, click the **New** button. The system assigned ID for the study will be entered automatically in the **Special Study ID** field. The **User Group ID** will be entered automatically in the User Group ID field (as shown in diagram 8.1.1). **Note:** each login level has a Key Value assigned to it to ensure no duplicate IDs are created and no IDs are overwritten.

The **Start Date** and **Stop Date** will default to the current day. Modify the Start Date and Stop Date fields as desired to establish the date range for which the Special Studies will be available to the user for reporting.

Enter a **Description** (50 character maximum length value). Click **Save**. The message bar will state the status: "Changes are being saved...", "the Display is updating..." and finally, "Special Study Information Saved Successfully." After Special Study has been saved in the National Database, and follow the steps to create the supporting codes for user selection.

**Diagram 8.1.1**



### **Creating the Code Values**

Locate the new Special Study in the list and click once on it to select it. Click on the **Edit Codes** button. The Code Look up window will be displayed and in the pane will be the Special Study that was just created, as shown in the example in diagram 8.1.2.

Diagram 8.1.2

The screenshot shows a window titled "Codes Lookup" with a search bar containing "Historical Properties Involved in Fires". Below the search bar are two radio buttons: "Numerical" (selected) and "Alphabetic". An "Alpha Search" field is empty. The main form area contains four input fields: "Code Value", "User Group ID", "Parent Code", and "Decode Value". To the right of these fields are three buttons: "New", "Clear", and "Save". Below the input fields is a "Status" dropdown menu currently set to "Active".

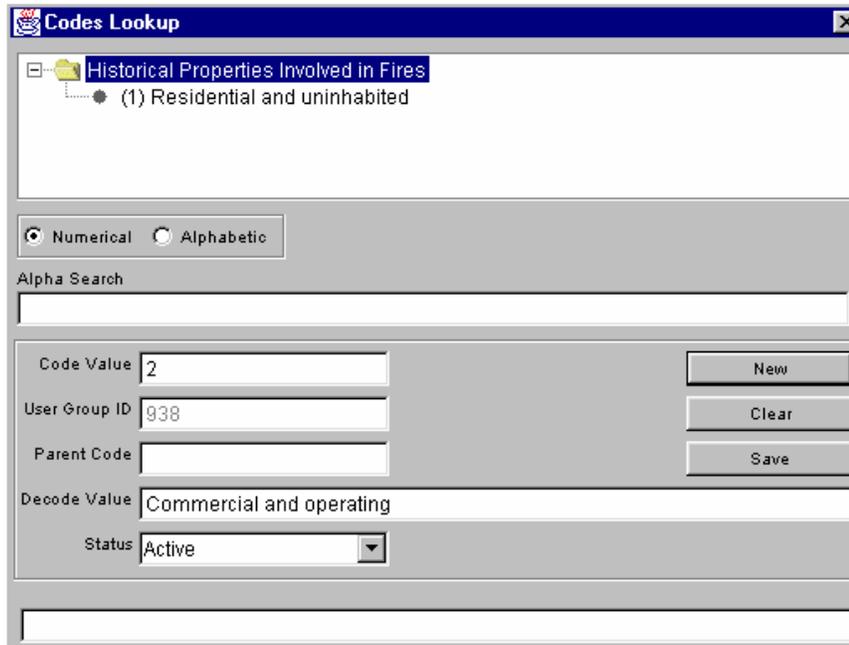
Highlight the Special Study name in the Codes Lookup window and click the **New** button. The User Group ID will be entered automatically. Enter a **Code Value**, This will be the numeric or alpha numeric code that is associated with the code value, and it must be length specified when the Special Study was created. Leave the **Parent Code** field Blank. Enter the **Decode Value**, which is the description the user will see in the Special Studies Lookup box. Click **Save**. Diagram 8.1.3 shows the Code Lookup window with a defining code (1) Residential and uninhabited that has been created and is ready to be saved.

Diagram 8.1.3

The screenshot shows the same "Codes Lookup" window as Diagram 8.1.2, but with data entered. The "Code Value" field now contains "1", "User Group ID" contains "938", and "Decode Value" contains "Residential and uninhabited". The "Status" dropdown remains "Active". At the bottom of the window, a message bar displays "Code Information Saved Successfully".

To create an additional code to define the study, repeat the steps taken in the Code Lookup window: highlight the Special Study, click Edit Codes button, enter the code value and Decode Value, and click Save. Diagram 8.1.4 shows the Code Lookup window with an additional code, (2) Commercial and Operating, that has been created and is ready to be saved.

Diagram 8.1.4



An outline of the steps necessary to create a Special Study and its codes follow Section 8.2 .

## 8.2 Modifying Codes in an Existing Special Study

To modify a Special Studies code, open the System Admin Tool and click on the **Other...** button, then click on the Special Studies button. The Special Studies Lookup window will appear. Select the **All Studies** radio button to display all available Special Studies. A scroll bar on the right of the window enables the view of all available Special Studies.

Select (highlight) the desired Special Study. Click on the **Edit Codes** button. The Code Lookup window will be displayed and list the existing codes for the selected study. **Note:** if an error message displays in the lower left message bar: "exception during Special studiesLookupViewActionEvent null, " verify the desired Special Study is highlighted.

To modify a code, in the Code Lookup window, highlight the desired code. The details for selected code will populate the fields (the Parent Code field may be blank). Place the cursor in the field that needs to be edited and type in the correction. Click **Save**.

To add a code an additional code to for the selected Special Study, in the Code Lookup window highlight the name of the special study. Click the **New** button. The detail fields

will be cleared. Enter the criteria for the new code. The Code Value is the actual numeric (or alpha-numeric) code the user will select and enter in the named Special Studies Value field in the Basic module. The User Group ID will be entered automatically, and a parent code entry is not necessary. Enter a Description (maximum 50 characters). Click Save. The New code will be added to the Codes Lookup list for the selected Special Study.

The following table outlines the steps to create a Special Study.

**Creating a New Special Study and its Codes**

<b>Step</b>	<b>Action</b>	<b>Result</b>
1	Open the System Admin Tool and click on the Other... button, then click on the Special Studies button	The System Admin Tool's Special Studies Lookup window will be displayed.
2	Click on the <b>New</b> push button.	The Special Study ID and User Group ID field will default to system assigned values.
3	Enter a Start Date and a Stop Date for which the Special Study will be applicable.	The date range will be specified. The Special Study will be available and validated for incidents that have an Incident Alarm Date within this range.
4	Enter a Decode Value.	Enter a description that defines the code value.
5	Leave the Parent Code field blank.	
6	Enter a Code Value	A code value will be created for display in the Special Studies Look up box.
7	Click the <b>Save</b> push button.	The Special Study will be saved.
8	Highlight the Special Study where it appears in the Lookup list	The Special Study will be selected in order to continue creating its codes.
9	Click the <b>Edit Codes</b> push button.	The Codes Lookup window will be displayed.
7	Highlight the new Special Study (it will appear as the single bullet item)	The New Special Study will be selected.
8	Click the <b>New</b> button.	The detail fields will clear.
9	Enter a Decode Value	Enter a description that defines the code value.
10	Leave the Parent Code field blank.	
11	Enter a Code Value	The numeric or alpha numeric code value will be established.
12	Click Save	The code to define the Special Studies will be saved.
	Repeat steps 8 – 12 if an alternative code is necessary.	

## **9. The Field Perms Window**

State Program Managers assigned the State Level permission will have the ability to modify the field security levels of data fields in the NFIRS 5.0 system for their state and fire departments by using the components of the Field Permissions window. The purpose of these settings is to prevent data from being released in the public data format if this would conflict with state or local jurisdiction privacy laws. The Design Documentation (page 108 - 125), available at <http://www.nfirs.fema.gov/documentation/design/> contains a list of default security levels for each field in the NFIRS 5.0 system.

The data security settings are in effect once the data is transmitted to the National Database via transaction file or entry with the USFA client software. Data fields marked "State" and "FDID" are collected and stored in the National database, but may not be released publicly without the State's permission or originating Fire Department's permission.

### **9.1 Changing a Field's Security Level**

To modify an existing default field security setting, open the System Admin Tool. To modify a field's security setting for the entire state, highlight the State in the hierarchy and click the **Field Perms** button. A confirmation window will appear which states: Since you have not selected a specific FDID, you will be setting preferences for the entire State. Do you wish to continue? Click Yes to modify a field level's security for the entire state. Click No or Cancel to return to the hierarchy and select a FDID.

To modify a field's security setting for an FDID, locate the desired FDID in the hierarchy. Click on the **Field Perms** button. The Field Level Perms window will open.

When the Field Perms button is clicked, the Field Level Perms window will be displayed. In this window, the list of fields in the NFIRS 5.0 System will be displayed. Select (highlight) the desired field. The selected field's info will appear in bottom pane, including the default level security for the selected field.

There are three checkboxes in the Visibility section where the field permissions are specified: and National, State, Fire Department. Make the desired change for the selected field by un-checking or checking the box next to the level. Example, to specify the selected fields' data should not be included in release at the public level, uncheck the National box. Click the Save button.

To verify a field's security level setting has been saved, close and reopen the System Admin Tool. Locate the desired field and verify the visibility is set as was specified in the previous session.

## **10. The System Administration Tool Rapid Start-up Guide**

The Rapid Start-Up Guide for the System Administration Tool outlines the key steps necessary for the System Administrator to begin using the Tool as quickly as possible. Only key points are described below. In-depth information on the System Administration Tool can be found beginning on Page 3 of this document.

### **10.1 Starting the System Administration Tool**

1. Go to Start...Programs...NFIRSV54...System Admin Tool.
2. A screen will appear: "Login On-Line." Enter User Name, State and Password. Click **OK**.

### **10.2 To Create a New Group**

1. Click once on the Group in which the County or Fire Department is to be added.
2. Click on **New** push button.
3. The System will assign a Group ID, and the Parent Group will become the Group to which you are adding.
4. Enter an FDID number and description of the Group you are adding. For a County or Region, enter the description; for a Fire Department, enter the description and FDID.
5. Click on **Save**.
6. The Group Hierarchy will collapse.
7. Click on the + sign to display the hierarchy tree.

**Note:** When the System Administrator exits the System Administration Tool after any changes were made to the Groups, these changes will not be seen for about 20 minutes.

### **10.3 To View Users**

1. Go to Start...Programs...NFIRSV54...System Administration Tool.
2. The On-Line login screen appears. Enter Username, State and Password. Click **OK**.
3. At the Group Hierarchy Window, click on the desired Group to view its users' list.
4. Click on the **Users** push button.
5. The User Maintenance Window will be displayed and the users associated with the Group will be displayed.

#### **10.4 To View All Users in the State**

1. In the Group Hierarchy Window, click on your state to highlight.
2. Check the box next to **Select All Groups Below**.
3. Click on the **Users** push button.
4. The User Maintenance Window will be displayed and all users in selected state will be listed.

#### **10.5 To View All Inactive Users in the State or Group**

1. In the Group Hierarchy Window, click on your state to highlight.
2. Check the box next to **Select All Groups Below**.
3. Click on the **Users** push button.
4. The User Maintenance Window will be displayed and all users in selected state will be listed.
5. Click on the **Inactive - 60 Days** radio button (located on the right side of the window). The list displayed lists only those users whose accounts Status is Inactive.

#### **10.6 To Activate a User**

1. At the Group Hierarchy Window, click on your state.
2. Click on the **User** push button.
3. Users will be displayed.
4. Highlight the user to be activated.
5. Enter the system assigned **Group ID** the user is to be associated with (not the FDID).
6. Click on **Status...**select **Active**.
7. Click on the **Set Permissions** button.
8. Check the box next to the permissions to be assigned. Note: The Bulk Import Permission enables users to access the Bulk Import Web interface. The Bulk Export Permission allows the user to access the Bulk Export.
9. Click **OK** to close the Permissions window.
10. Click **Save** on the User Maintenance window before closing. .

**Note:** When a user registers using the User Registration Form from the NFIRS 5.0 Web Site, their default Group ID is the Group ID of the state they registered in. The user's accounts are inactive until the System Administrator activates them. Additional permissions may be assigned at the time of activation or at a later date.

### **10.7 To Create A Plus One Code**

1. Click on the **Other...** button, and then click on the **Codes** button.
2. Select (highlight) the Code Category for which the Plus One code will be created.
3. Click on the **Edit** button.
4. The Codes Lookup window will be displayed, and contain the existing codes for the selected category.
5. Highlight the parent code for the new Plus One code.
6. Enter the **Parent Code** value.
7. Enter the **Code Value**. This is the numeric or alpha numeric value that signifies the code.
8. Enter the **Decode Value**, This is the description users will see in the Code Lookup window.
9. Verify the **Status** is **Active**.
10. Click **Save**.

### **10.8 To Create A Special Studies**

1. Click on the **Other...** button, and then click on the **Special Studies** button.
2. Select (highlight) the Code Category for which the Plus One code will be created.
3. Click on the **New** button.
4. A system assigned number will fill the Special Study ID field. The User Group ID will default to the System Administrator who is logged in.
5. Modify the Start and Stop dates as desired.
6. Enter the Max Length for the codes that will define the Special Study (1 is adequate for most codes).
7. Enter a Description for the Special Study.
8. Verify the Status is Active (if it is to be implemented immediately).
9. Click **Save**.

10. Locate the newly created Special Study in the list and click the **Edit Codes** button.
11. In the Codes Look up window, highlight the Special Study where it appears as a bullet item and click the **New** button.
12. Enter a **Decode Value** (the description).
13. Leave the **Parent Code** field blank.
14. Enter a **Code Value** (the numeric or alpha code to represent the Special Study details).
15. Click Save.

## **11. Troubleshooting**

- A user contacted me to report he forgot his password. How do I reset his password?

An Administrator cannot recover a lost or forgotten password. Change the user's password.

In the User List Pane, highlight the user. In the User Detail field, click the **Change Password** button. A pop up window appears. The administrator enters a new password, then reenters the password to confirm. Click **OK**. Report the password to the user.
- When a user opens the Data Entry Tool, "**FDID Not Found**" message displays instead of the Fire Department name.

The Header Record has not been created for the group. The user must create the Header Record.

To create a Header Record, the user selects **Fire Dept** from the Menu Bar (in the Data Entry Tool Main View Screen). Click on **New Fire Dept**. In the Fire Department Screen, the user will see the FDID number. The user enters the Fire Department Name. All other information is optional. When the user clicks **OK**, the information will be saved and the user is returned to the Data Entry Main View Screen. An import of Fire Department information will also create the header record.
- A user trying to register reports an error message: **Failed to Register User: 10477** ( or **9999**).

The Username is already been taken by another registrant in the state. The user must choose a new username. Advise the user to alter a character in the name and submit the registration again.

**Note:** The Username is not case sensitive, but is space sensitive. It may be an alpha-numeric value. Punctuation or other characters is not recommended in the Username

- A user trying to login reports an error message: **You have not been activated or, Failed to Register User: 10468**

The user account status is Inactive. In the System Admin Tool User Maintenance window, locate the user account and reset his or her status to Active. Click Save. Advise the user to login the same day, or their account will deactivated upon the daily reboot of the system.

- How long does it take to activate a Group?

When an administrator creates or adds a group, it takes approximately twenty minutes for the information to be processed in the National Database. After this period, the group will display in the hierarchy. When an administrator activates a user or changes the user's status, the change takes place immediately.

- How long does it take to activate and View a Plus One Code?

When an administrator creates or adds a Plus One Code, it takes approximately twenty minutes for the information to be processed in the National Database. After this period, the Plus One Code will display in the On-Line User's View of the Code Lookup box. Off-Line users must perform User Injection to obtain the added Plus One codes in the Code Lookup box.

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# **National Fire Incident Reporting System (NFIRS 5.0)**

## **Configuration Tool User's Guide**

**NFIRS 5.0 Software Version 5.4**

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## 1. Introduction:

The Configuration Tool User's Guide provides comprehensive documentation of the Configuration Tool components available to the user. The Guide facilitates user control of the NFIRS Client Suite and enables the user community to quickly and efficiently begin using the Configuration Tool. The Guide is intended for new users of NFIRS 5.0 Software Version 5.4 (5.4.0).

The Configuration Tool provides the user the capability to specify the import location of data files, whether to run against an On-Line or Off-Line database, the address of the firewall (if present in the user's network), and whether data encryption is to be utilized. The user may open the Tool by clicking the Start button...Programs...NFIRsv54 ...Configuration Tool, or from the Data Entry Tool Menu bar click on Tools...Client Configuration Tool. No Internet Connection is required to open this tool.

The Configuration Tool contains four tabs that enable the user to navigate the available screens: the **User Options Tab**, the **Forms Tab**, the **Advanced Tab**. Each tab provides specific functionality and options to the User. To view a tab, single click on desired Tab heading. Note: The **Transactions Tab** is not activated at this time.

The User Options Tab provides the user options of importing data to a database or flat file, to accept invalid records during import, and overwrite existing incidents during import. The user has the ability to set import performance control for Off-Line, On-Line-network or On-Line-modem, set the batch size during the import of data, set the delimiter, and specify whether to show seconds in times' display or not. The user makes the appropriate selections using the check boxes and drop down menus.

Most configuration changes that affect imports can be made dynamically from within the Data Entry Tool. Refer to the specific component's section for complete details. For example, the access mode cannot be changed dynamically. The user must exit the Configuration Tool for the change from Off-Line access to On-Line access to occur.

The Forms Tab lists the available Client GUIs (modules) which the user sees displayed on their computer and uses to enter their incident information. The available forms are Basic, Fire, Structure, Civilian Casualty, Fire Service Casualty, EMS Casualty, Wildland, HazMat and Arson.

The Advanced Tab provides the user the ability to specify the Off-line or On-Line access mode, specify the database type, set firewall configuration, enter HTTP or Socks firewall Internal IP address and Port, Cache Application Data, and set the Event Logging level. Instructions for Off-Line users of the NFIRS 5.0 Software Version 5.4 who must specify the Database Type and verify configuration information before using the Data Entry Tool in the Off-Line mode, are included in separate sections in the Advanced Tab section of this document.

This release of USFA NFIRS 5.0 Version 5.4 client software includes an upgrade to JDK version 1.4.2\_10 which is necessary to support DHS Security requirements and Sun licensing agreements. This change requires users to upgrade to Version 5.4 after its release, before logging into the National Database.

The NFIRS 5.0 Version 5.4 communication protocol, like the previous version 5.3, uses HTTPS over port 443, an industry standard protocol.

The following sections describe in detail the appearance and function of the Configuration Tool components.

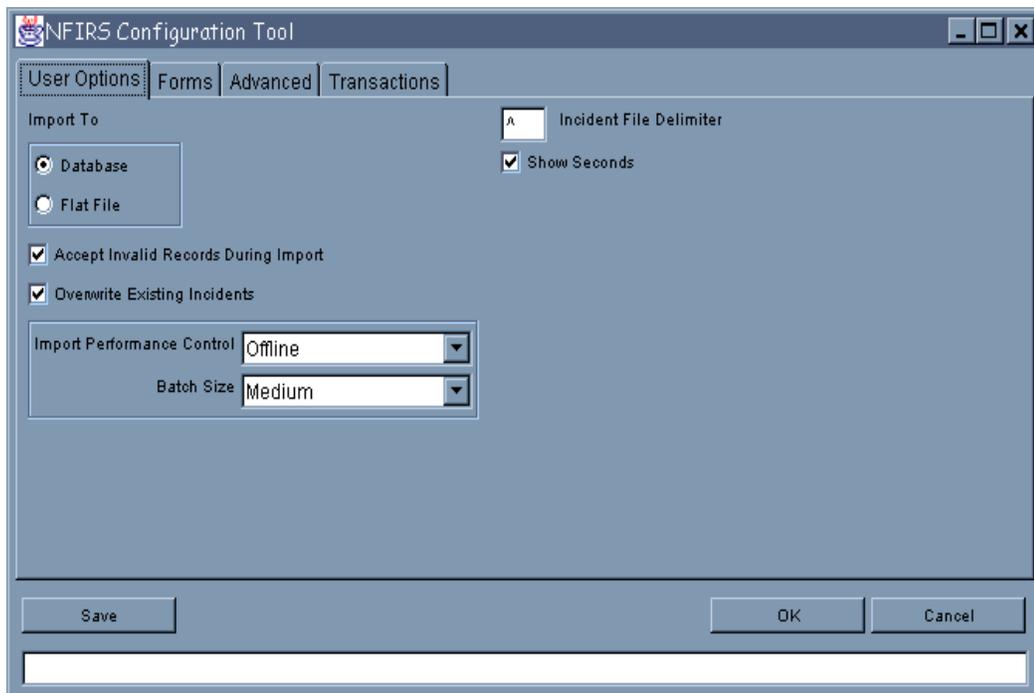
## 2. User Options Tab:

The **User Options Tab** (diagram 2.0) provides several options to assist the user make an accurate Import / Export or Conversion of data. The user can choose from the following options: to import data to a Database or Flat File, Accept Invalid Records During Import, Overwrite Existing Incidents During Import, Import Performance Control for Off-Line, On-Line-Network or On-Line-Modem. The user can set the Batch Size during the import/export of data, set the Incident File Delimiter, and choose whether to Show Seconds or not. The options are provided in check boxes and/or drop down menus.

The user will not necessarily change or reset every option available each time they use NFIRS 5.0, but it is recommended that users review User Options settings before new data import tasks, or when troubleshooting data import issues.

Most users operate the tool with the default settings shown in Diagram 2.0 below. If changes are made to settings, click the Save button in the lower left corner before clicking OK or closing the screen.

**Diagram 2.0**

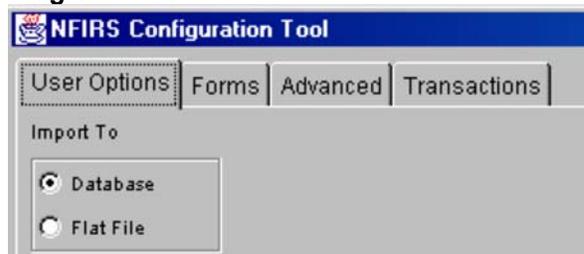


## 2.1 File Importing:

The File Importing check boxes provide the user the option to import data to a **Database** or to a **Flat File** (Diagram 2.1.0). The Import to **Database** option is for importing data to a database; either an Access 97, Access 2000, Access 2002, Visual FoxPro 6.0 or MS SQL Server 7.0, MS SQL Server 2000, an Oracle database, or to the National Database. Importing to a flat file runs the data through the validation process and creates log files detailing the validation process.

To specify an option, click on the check box next to the desired import location.

Diagram 2.1.0



The user may locate the log files for an import by double clicking on the “out” folder that is created during the import process. The out folder location defaults to the NFIRSV54 root directory, or the location where the original import file is stored. To access the out folder from the Validation Tool window, click the View File button.

**Note:** The out folder will not exist until the first data import takes place. For details, see the Import/Export (Section 5.1) in The Data Entry/Validation Tool User’s Guide.

If the data file is on a 3 ½ floppy disk, it is recommended the data file be saved to the PC’s hard drive before the import process.

The log files created during an import are:

Filename.err	A listing of the validation errors
Filename.log	A file listing the validation process
Filename.bad	A listing of all the bad transactions (critical or fatal)
filename.txt	A replication of the original file
filename.unp	Messages related to connectivity

## 2.2 Data Validation:

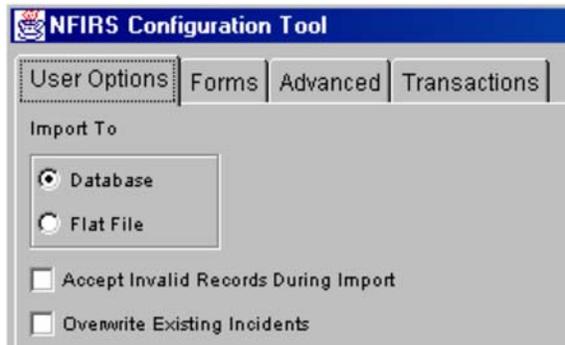
Two check boxes facilitate incident validation: **Accept Invalid Records During Import** and **Overwrite Existing Incidents**. Data validation checks take place during manual incident entry and during data imports. (See the Data Entry/Validation Tool Users Guide posted on the NFIRS 5.0 Web site). During

data import processing, the user is provided the option to accept data that has not passed data validation (failed a validation check) by checking the Accept Invalid Records During Import checkbox (diagram 2.2.0). If Accept Invalid Records During Import checkbox is not checked, imported data not passing validation will not be imported to the database or the flat file and instead will be written to a separate file with the extension ".bad".

Upon successful installation, the Accept Invalid Incidents Upon Import is checked by default.

**Note:** Improper data such as alpha data in a numeric field is never allowed.

Diagram 2.2.0



The **Overwrite Existing Incidents** check box provides the user the option to overwrite existing incidents during the import of data. If the box is checked, during the import of the data, incidents with the same Key Information in the database (Local or National database) will be overwritten with the data that is being imported. Upon successful installation, this box is checked by default.

**2.3 Performance Control:**

The user may select the connection performance during the import of data by choosing the **Import Performance Control** for **Off-Line**, **On-Line-Network** or **On-Line-Modem**. By specifying the performance control, the user is establishing the optimum connection to the database used to import data to the database. Thus, if the user is working on-line using a modem connection and importing incidents to the National Database, the On-Line Modem setting provides three connections to the database. When the user is working off-line and is importing data to a local database, the Off-Line setting provides one connection.

**Note:** The Import Performance Control default setting is **Off-Line Modem**, which most users will find sufficient for importing.

**Batch Size** specifies to the application how many transactions are to be bundled together and then imported to the database. The default setting is **Medium**.

**2.4 Incident File Delimiter:**

If the user chooses to import from a flat file, the option of an **Incident File Delimiter** is provided (diagram 2.4.0). Field delimiters are symbols placed between fields that enable software to differentiate between the fields. The Incident File Delimiter defaults to the ^ sign (caret). If another delimiter is chosen, it must be a symbol that will not appear in the data file in order to prevent failed data loads.

To change the setting, highlight the symbol displayed in Incident File Delimiter box and type in desired character, or highlight the symbol displayed and press Delete. Type in desired character.

**Diagram 2.4.0**



**2.5 Show Seconds:**

The **Show Seconds** option enables the user to specify a higher level of incident reporting precision by designating to the degree of seconds vice hours and minutes (diagram 2.5.0).

Seconds may always be entered in any time field. If Show Seconds is set to "No" then a field will only show seconds if it is not equal to zero. If Show Seconds is set to "Yes" then the affected window will always show seconds precision. Check the box to show seconds or uncheck not to show seconds equal to zero.

**Diagram 2.5.0**

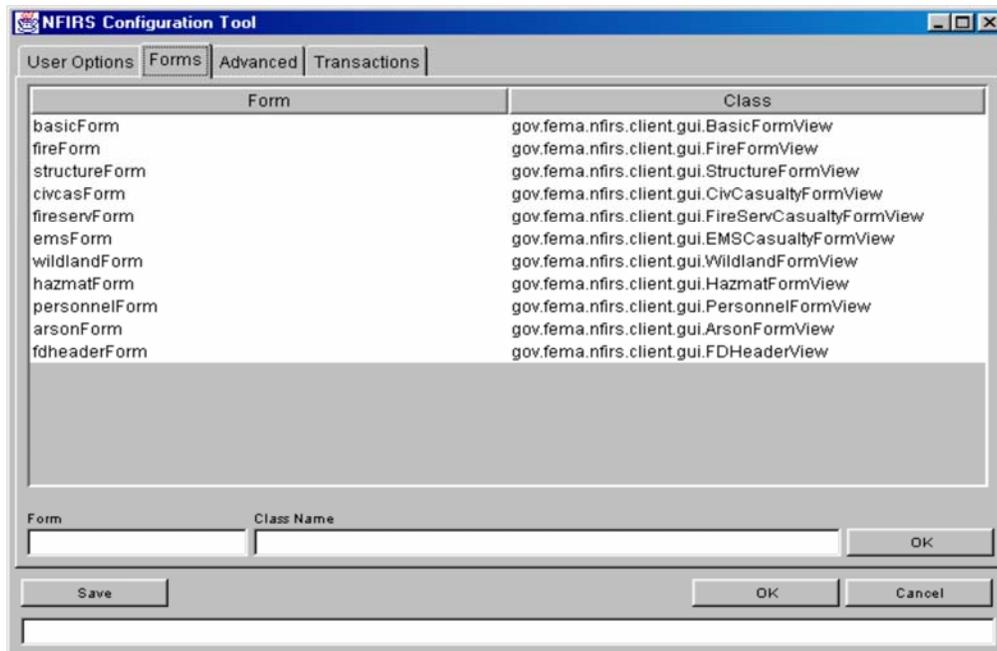


### 3. Forms Tab:

The Forms Tab (diagram 3.0) lists the available Client GUIs (modules) which the user sees displayed on their computer when using the NFIRS application to enter their incident information. The available forms are Basic, Fire, Structure, Civilian Casualty, Fire Service Casualty, EMS Casualty, Wildland and Hazmat, Personnel, Arson and Fire Department header.

**Note:** Modifying the class name of the Client GUIs will result in the user being unable to open a module, and/or an exception message will occur and the user will be unable to open the module.

Diagram 3.0

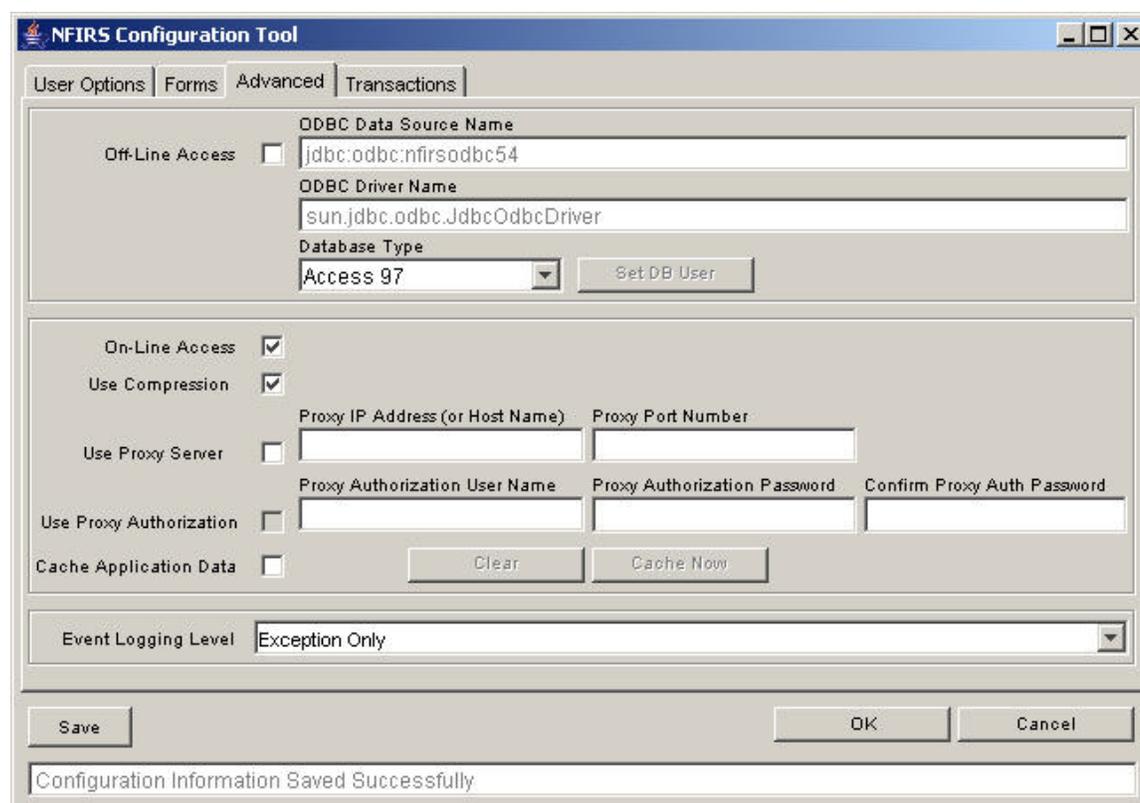


## 4. The Advanced Tab

The third tab on the NFIRS Configuration Tool is the **Advanced Tab** (diagram 4.0). Configuration options under the Advanced Tab include specifications for Off-Line or On-Line Access to a database, ODBC Data Source and Driver Name, database type, communications protocol, firewall address, cache application data and logging level.

After successful installation, Off-line users setting up a local database will need to open the Configuration Tool and check the Off-Line Access box to specify the mode, verify the Database Type and enter configuration information, if necessary, in the On-Line Access area. An Internet connection will be required for Off-line users in order to perform initial User Injection, Remote Synchronization, and send incidents to the National Database. Instructions for each database type are included in the sections listed below.

Diagram 4.0



### 4.1 Off-Line Access:

The first check-box on the Advanced Tab is **Off-Line Access**. When the user checks the Off-Line Access check box, they are specifying that FD and incident information they enter and save will be saved to a local database (on the User's PC). NFIRS 5.0 Software Version 5.4 provides these options for the local database applications: Access 97, Access 2000, Access 2002 (XP), Visual FoxPro 6.0, MS SQL Server 7.0, and MS SQL

Server 2000. The database program the user selects must be on the PC prior to installing NFIRS 5.0 Software Version 5.4.

The Oracle 7.3x or 8.3x database (diagram 4.1.0) options are for remote use only.

When Off-Line Access is checked, the **ODBC Data Source Name** must be specified. Users using Access 97, 2000, or 2002 will use the default name: jdbc:odbc:nfirsodbc54 (as shown in Diagram 4.0).

When Off-Line Access is checked, the **ODBC Driver Name** must be specified, and will default to the description of the manufacturer. Users using Access 97, Access 2000, or 2002 do not have to change the default name (shown in Diagram 4.0).

If the local database requires a database username and password, click the **Set DB User** button. When clicked, a pop-up window will appear where the user can specify username and password. **Note:** Most users will NOT need to set the database password.

The default **Database Type** is Access 97 (an Access 97 database will be installed during Typical installation). The Off-Line user must specify the database application that will be used as the local (Off-Line) database engine. **Access 2003 Users:** Users with the Access version 2003 on the PC must use the default Database Type Access 97.

**Note:** It is not recommended to open the Access local database using the Access program directly. Make a back up copy of opening the Access database prior to opening the database with the Access program.

Off-Line users must have the database program of their choice installed on the PC prior to the installation of NFIRS 5.0 Software Version 5.4. Users of NT, Windows 2000, and XP must be logged to the PC as its system administrator to install the NFIRS software.

It is recommended that users upgrading from Microsoft Office 97 to Microsoft Office 2000 perform the upgrade of the office suite first, and then install the database program they choose to use for their local NFIRS 5.0 database, followed by NFIRS 5.0 Client Software.

Regular database maintenance is recommended to maintain optimum performance of the local database. Access Users will find complete steps for the procedure to compact the Access database in the Data Entry Tool Users Guide or at the Tutorial Page, <http://www.nfirs.fema.gov/users/tutorial.shtm>. FoxPro and MS SQL Server users should follow the database maintenance procedures as recommended by the manufacturers of the program.

Section 4.1.1 provides setup instructions for **Access 97** Off-Line users.

Section 4.1.2 provides setup instructions for **Access 2000 and Access 2002 (XP)** Off-Line users.

Section 4.1.3 provides instructions for **Visual FoxPro 6.0** local database setup.

Section 4.1.4 provides instructions for **MS SQL Server 7.0** and **MS SQL Server 2000** local database setup.

The Data Entry Tool Users Guide provides complete information on the User Injection and data entry.

### 4.1.1 Configuration for Access 97

After successful installation of the NFIRS 5.0 software Version 5.4, users who have Access 97 on the PC must:

1. Open the Configuration Tool and click on the Advanced Tab.
2. Check the Off-Line Access box.
3. Click Save, and proceed to initial User Injection. Note: Users behind a firewall or using a proxy server will need to enter configuration information in the On-Line Access section of the Advanced Tab before proceeding with Initial User Injection.

For complete details on User Injection, refer to the Data Entry Tool Users Guide.

#### **Users of Previous Software Version 5.3.4 or an earlier version:**

Users of the previous NFIRS 5.0 Software Versions 5.3.x who have fire department and incident data saved to their Access 97 local database can follow these steps to move the database into the new Software Version 5.4 Database folder after successful installation.

1. Make a back up copy of the previous Version 5.3.x, local database file (Named: NfirsdataV53.mdb). Its default location is C:\Program Files\NFIRSV53\Database\
2. Install the NFIRS 5.0 Software Version 5.4.
3. Locate the new Version 5.4 database file (named: NfirsdataV54.mdb ). The default location of the database file is: C:\Program Files\NFIRSV54\Database\
4. Rename the file to: origNfirsdataV54.mdb (if file extensions are not displayed on the PC, rename the file origNfirsdataV54).
5. Locate the previous version 5.3 database file and copy or move it to the NFIRSV54 Database folder.
6. Rename the file to: NfirsdataV54.mdb (if file extensions are not displayed on the PC, rename the file NfirsdataV54).
7. Remote Synchronization/User Injection is required to update the Off-Line database with rules and codes from the National Database.

When beginning the Remote Synch process, the user will be prompted to "Apply Schema Changes?" Click Yes to proceed with the User Injection/ Remote Synchronization process. The Data Entry Tool User's Guide provides complete instructions.

### 4.1.2 Configuration for Access 2000 and Access 2002 (XP) - New Users

Users with Access 2000 or Access 2002 (Access XP) on the PC will need to complete the installation of the NFIRS 5.0 Software Version 5.4, specify the Off-Line access mode, and then convert and rename the database before specifying the Database Type on the Advanced Tab. After the database has been converted and renamed, the user can proceed with initial User Injection.

To set up the Access 2000 or Access 2002 database for local use:

1. After successful installation, open Windows Explorer and locate the NFIRSV54 root directory. Open the Database folder.
2. Double click on the NfirsdataV54.mdb. The Access program will open.
3. The user will be prompted to Convert Database. Click Yes or OK to convert database. (or, open the Access program, from the Tools menu select Database Utilities...Convert database option. In the directory window that is displayed, locate the NFIRSV54 database: NfirsdataV54.mdb).
4. A directory window will appear. In this window, the user must specify the location to save the converted (new) database. Specify the NFIRSV54\Database folder in the NFIRSV54 root directory as the location to save the converted database.
5. Accept the default name (db1.mdb) for the converted database.
6. When the database is finished being converted, click on the X in the upper right corner to close the database. Close the Access program. The user will be returned to Windows Explorer.
7. Using Windows Explorer, rename the original NfirsdataV54.mdb database (suggestion: empty97NfirsdataV54.mdb).
8. Rename the database that was created in the converting process to NfirsdataV54.mdb (must be exact. If the PC does not show file extensions for known file types, name it: NfirsdataV54).
9. From the Start menu, open the NFIRSV54 Configuration Tool and go to the Advanced Tab.
10. In the Off-Line section, check the Off-Line access box.
11. In the Off-Line section in the Database Type drop down box, select the Access version used when converting the database file. **Note:** On-Line configuration information, if necessary, may be entered at this time.

If the error message is displayed: "There is a mismatch between Data Source, Driver and Database Type," click OK. Verify the Access program version on the PC is the same as the selected Database Type on the Advanced Tab. Verify that the default database has been converted and is located in the NFIRSV54\Database folder. Verify the user was logged in as the PC's system administrator. If the Database Type still cannot be saved, contact the NFIRS Support Center at: [fema-nfirshelp@dhs.gov](mailto:fema-nfirshelp@dhs.gov)

Before closing the Configuration Tool, verify the Off-line Access box is checked. Click Save and exit the Configuration Tool. Proceed with initial User Injection.

***Access 97 users who wish to upgrade to Access 2000 or 2002***

The following steps are recommended to Off-Line users of the previous NFIRS 5.0 Software Versions 5.3.x who have data saved to an Access 97 database and would like to upgrade to another Access version.

If reports are saved to the NFIRSV53 Reports folder, move the folder to another location on the hard drive. If the Data Cleansing Tool was used to run scripts on the Off-Line database and the user wishes to retain the history of when the scripts were run, copy or move the Version 5.3 file named: AllDatabasePatches.obj to another location on the hard drive.

1. Make a back up copy of the Access 97 database, NfirsdataV53.mdb (NOT .ldb) or previous version NFIRS database and save it to the hard drive or zip disk.
2. Completely remove the NFIRSV53 program.
3. Perform the upgrade to Access 2000, or to the office suite which includes Access 2000.
4. Install NFIRS 5.0 Software Version 5.4.
5. Move the previous version database file into the new NFIRSV54 database folder, convert it to the necessary Access version (see steps for converting the database) and rename the file: NfirsdataV54.mdb (if file extensions do not show on the PC, name it: NfirsdataV54)
6. Perform User Injection/Remote Synchronization.

Version 5.3.x Off-Line Data Cleansing Tool Users: To retain the history of the scripts run in the Version 5.3,x, move the AllDatabasePatches.obj into the NFIRSV54 folder, and overwrite the file that exists.

#### **4.1.3 Off-Line Users: Visual FoxPro 6.0 Setup**

Users who wish to select Visual FoxPro 6.0 as the Off-Line database engine must have the program on the PC prior to installation of NFIRS 5.0 software Version 5.4. The user will import the schema to the Visual FoxPro and create the local database, assign a new ODBC data source to the database, perform User Injection/Remote Synchronization to populate the new database with application data and user and department information from the National Database. Visual FoxPro 6.0 is intended for the Off-Line mode only, therefore the On-Line Reporting Tool included in the Client Suite will not be available to the user to generate statistical reports on the data saved to the Visual FoxPro 6.0 database.

1. Obtain the zip file containing the Visual FoxPro 6.0 schema ("NFIRSFoxPro.zip"), available on the NFIRS Download Software Page).
2. Unzip and save the files to a directory of your choice.
3. Start Microsoft Visual FoxPro 6.0.
4. Under the FoxPro File menu, select Open.
5. Locate the folder containing the unzipped FoxPro files, and select the nfirsproject.pjx file.
6. You will be prompted to make the new directory the home directory for the new FoxPro database, which is suggested.

Complete the following steps to create an ODBC source for the new Visual FoxPro 6.0 database.

1. From the Start menu, select Settings...Control Panel.
2. Double click on the ODBC Data Sources 32 bit icon. The icon may be named differently on NT machines.
3. In the ODBC Data Sources Administrator window, click on the System DSN Tab.
4. Click on the Add button. The Create New Data Source window will be displayed.

5. Select the Microsoft Visual FoxPro Driver.
6. Enter a Data Source Name and Description. For Example: MyVFPServer
7. Click Finish. Close the Control Panel.
8. From the Start menu, select the NFIRSV54 Configuration Tool and click on the Advanced Tab.
9. If configuration information is necessary for On-Line Access, check the On-Line Access box and enter the information. Click Save.
10. Check the Off-Line Access box before exiting the Configuration Tool.

Rename the ODBC driver to point to Visual FoxPro 6.0:

1. In the Database Type drop down box, select Visual FoxPro 6.0.
2. Replace the odbc driver name (in the top text field) with the one you just created. Example: jdbc:odbc:MyVFPServer
3. Click Save, and exit the Configuration Tool.
4. Proceed with User Injection (Refer to the Data Entry Tool Guide for complete information).

#### **4.1.4 Off-Line Users: MS SQL Server 7.0 or MS SQL Server 2000 Setup**

Users who wish to use MS SQL Server 7.0 or MS SQL Server 2000 as the Off-Line database engine must have Microsoft SQL Server Version 7.0 or MS SQL Server 2000 installed on the PC prior to installation of NFIRS 5.0 software Version 5.4.

The user must first import the schema to the MS SQL Server 7.0 or 2002 and create the local database, and then assign a new ODBC data source to the database. To complete the setup, User Injection/Remote Synchronization must be performed to populate the new database with application data, user and department information from the National Database. MS SQL Server 7.0 (or MS SQL Server 2000) are intended for local use only, which means the NFIRS 5.0 On-Line Reporting Tools cannot be used against it.

Import the schema to the MS SQL Server 7.0 (or 2000) database using these steps:

1. Create a new database using the SQL Enterprise Manager (EM).
2. From the EM, under the Tools menu select SQL Server Query Analyzer.
3. When the Query Analyzer launches, go to the combo box at the top-right and select your database name.
4. Click the "Open" icon (second icon from left on top of window).
5. Select the .sql file that contains the schema, which is usually named "NFIRSSQLServerSchema.sql".
6. Press F5 to execute the script.
7. Select the .sql file that contains the table updates, which is usually named "SQLServerTableUpdates.sql".
8. Press F5 to execute the script.
9. Quit the Query Analyzer.

10. The new schema is now found under "tables" for the new database, which can be viewed in the Enterprise Manager.

Create an ODBC source for this new SQL Server database.

1. Select Start...Settings...Control Panel
2. Open the ODBC Data Sources-32 bit. This may be named differently on different versions of NT.
3. Click on the System DSN Tab.
4. Click on Add button. The Create New Data Source window will be displayed.
5. Select SQL Server.
6. Fill in the following information in the DNS Configuration window:
  - a. **Screen 1:** Enter name for your SQL Server NFIRS Database and the SQL Server name on which it resides.
  - b. **Screen 2:** Select the "With Windows NT authentication using network login ID" radio button for SQL Server Authenticity. Leave other settings as default.
  - c. **Screen 3:** Select the "Change the default database to" check box and then select your newly created SQLServer NFIRS database from the drop down list below the box. Leave other settings as default.
  - d. **Screen 4.** Leave settings as default.
7. From the Start Menu, launch the NFIRS Configuration Tool.
8. Select Online Access and verify all On-line configuration info is correct.
9. Select Offline Access.
10. In the Database Type drop down box, select your version of MS SQL Server (7.0 or 2000)
11. Replace the ODBC Data Source Name (in the top text field) with the one you just created. This will now look similar to "jdbc:odbc:MySqlServerDB" Verify the ODBC Driver name is: sun.jdbc.odbc.JdbcOdbcDriver
12. Verify the Off-Line Access box is selected. Save and exit the Configuration Tool. Proceed with User Injection.

#### **4.1.5 Previous Version 5.0 Users of Visual FoxPro 6.0 or MS SQL Server 7.0**

Visual FoxPro 6.0, MS SQL Server 7.0 or 2000 Off-Line Users who have fire department and incident data saved locally from NFIRS 5.0 Version 5.3 can follow the steps below.

1. Install NFIRS 5.0 Version 5.3.
2. After successful installation, in the Configuration Tool's Advanced Tab, name the ODBC Data Source the same as it appears in the ODBC Data Source Administrator.
3. In the Configuration Tool's Advanced Tab, select the Database Type.
4. Click Save and exit.

5. Perform Remote Synchronization: open the Data Entry Tool, leave the Off-Line login screen fields blank and click OK.
6. When prompted "Apply Schema Changes? ...Would you like to apply the schema changes now?" click Yes.
7. Proceed with the Remote Synch process.

## 4.2 *On-Line Mode:*

The second check-box in the Advanced Tab is **On-Line Access**. When the On-Line Access box is checked, the user must have an Internet connection established before logging in. On-Line access mode enables the user to communicate with the National Database. In Version 5.4, On-Line access is the default mode.

When the On-Line access box is selected, the user is communicating to the data source with HTTPS (Hypertext Transfer Protocol Secure). The NFIRS 5.0 Version 5.4 communication protocol uses HTTPS over port 443, an industry standard protocol.

The third check box in the Advanced Tab is **Use Compression**. Version 5.4 of the Data Entry Tool allows the user to compress the data portion of the communications. The default setting is checked. Over slow (i.e., dial-up) lines, compression can improve the communication speed. Compression will require extra processing on both ends to compress and uncompress the data. If the Use Compression check box is checked, the Data Entry Tool sends its data compressed. If the data sent to the NFIRS service is compressed, the data returned is compressed as well.

## 4.3 *Negotiate Firewall*

The third check-box in the Advanced Tab is **Use Proxy Server** (diagram 4.3.0). User sites that employ an HTTP firewall must specify the internal IP address of that firewall and its internal HTTP port.

To locate the PC's IP address and port, open the browser. Netscape users should click on Edit from the Menu bar and select Preferences. Click on the plus sign (+) next to Advanced to extend the tree, and click on Proxies. If Manual Proxy Configuration is checked, click on View. Write down the HTTP internal IP address and the port. Internet Explorer users should click on View from the Menu bar and then Internet Options. Click on the Connections Tab and locate the Proxy Server. Write down the HTTP internal IP address and the port.

When the user selects Use Proxy Server, the address of the Proxy IP Address (or Host Name ) and Proxy Port Number must be specified. Enter the IP address (Or Host Name) and Proxy Port Number port in the respective fields in the NFIRS Configuration Tool and click the Save button to save the settings.

User sites that don't employ an HTTP firewall must leave the HTTP Firewall check-box blank.

In most cases, if the user is a dial-up client through an Internet Service Provider (ISP), the Use Proxy Server checkbox and fields will be left blank.

Diagram 4.3.0

**4.4 Proxy Authorization:**

The fourth check-box on the Advanced Tab is for **Use Proxy Authorization**, (diagram 4.4.0). Only if the Use Proxy Server checkbox is checked, the Use Proxy Authorization field will be enabled. If the user must authenticate identity when negotiating a firewall request, Use Proxy Authorization box must be checked. The name for the firewall account must be entered in the Use Proxy Authorization Name, the Use Proxy Authorization Password must be entered, and an entry to Confirm Proxy Auth Password must be entered. Contact the Firewall Administrator at the site for specific information.

Diagram 4.4.0

**4.5 Cache Application Data:**

The fifth check-box in the Advanced Tab is **Cache Application Data** (diagram 4.5.0), the function of which is unchanged from Version 5.4. When the Cache Application Data box is checked, the NFIRS tools cache application data locally rather than continually make requests across the network. Caching results in reduced network traffic and increased performance of the NFIRS client suite. As shown in Diagram 4.5.0, the **Clear** and **Cache Now** buttons are active when Cache Application Data check box is checked. In order to make the buttons active; the NFIRS Data Entry/Validation tool must be active. The Clear button clears – deletes the cache (locally), and the Cache Now button caches everything (locally).

Diagram 4.5.0

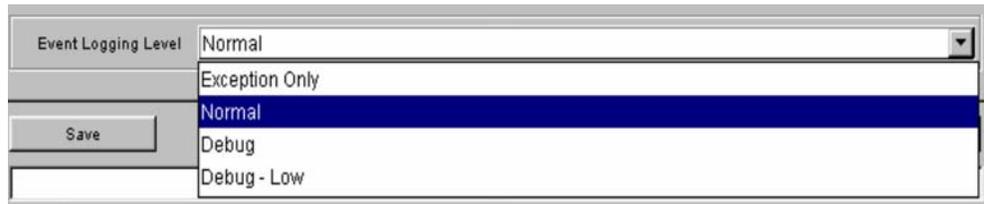
#### 4.6 Event Logging Level

The different levels of logging are used to generate information that is used by support personnel in the event of application concerns. The **Event Logging Level** drop down box (diagram 4.6.0) allows the User to choose from four levels of logging; Exception Only, Normal, Debug, and Debug-Low. The default is Exception Only logging.

Some levels of logging, such as Debug-Low may generate large files (perhaps up to several megabytes) whereas logging only Exceptions will generate small log files. Log files are recycled; i.e., whenever the application is restarted, the old log files are overwritten.

To change the selection, click on the drop down menu and highlight desired logging level.

Diagram 4.6.0



### 5. The Transactions Tab

At this time, the Transactions Tab functionality is not available.

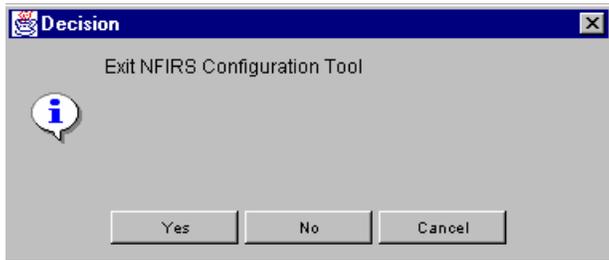
### 6. Saving User Configurations

When the user has completed configuration choices, the user can save the modifications and go on to another tab, :cancel without saving modifications, or click OK to save settings and exit (diagram 6.0). If the user makes modifications to the Configuration Tool but does not want to save the changes, click Cancel. A pop-up window will appear prompting the user Exit NFIRS Configuration Tool? Yes, No, or Cancel (diagram 6.1). If the user clicks on Yes, the Configuration Tool will exit without saving configuration modifications. If the user clicks on No or Cancel, the user returns to the previous screen. If the user wants to save configuration modifications, click on the Save button and go to the next tab in the Configuration Tool, or OK to save and exit.

Diagram 6.0



Diagram 6.1



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**USFA  
National Fire Incident Reporting System  
(NFIRS 5.0)**

**Summary Output Reports Tool  
Users' Guide**

**April 2004**



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## 1. Introduction

The web-based Summary Output Reports Users' Guide describes the requirements and procedures necessary to generate and save summary and statistical data using the NFIRS 5.0 web-based Summary Output Reports Tool. For readers viewing The Guide electronically, terms that appear as hyperlinks can be accessed directly in the Glossary. When viewing the Guide in print, underlined terms may be referenced in the Glossary.

The NFIRS 5.0 web based reports utilize Actuate information delivery technology to provide registered users access to summary and statistical information from Fire Department and incident data saved to the National Database. [Report executables](#) are predefined according to NFIRS 5.0 report requirements established by the USFA and do not require the use of the USFA NFIRS 5.0 client software. The user will need an Active status NFIRS 5.0 user account with the specific reports permissions assigned to it. The data set available to the user is based on group assignment. Users who do not have an Active status NFIRS account or who do not have the reports permissions must contact their NFIRS 5.0 State Program Manager. A list of State Program Managers and NFIC members is posted on the NFIC web site at: <http://www.nfic.org>

Users may select a pre-defined report executable to generate summary and statistical information based on their group level and below, or if they are assigned at a fire department level, on the fire department and its incident data. Two types of reports are available: management reports, which provide summary information as specified by the report query, and reports with user-specified parameters. Some reports include statistical information derived from incident information included in the report and user's state.

Actual incident data cannot be extracted from the reports.

The Actuate Reports web page content is managed by the use of [frames](#). The frame set that appears on the screen varies in each area of the tool. For example, when viewing a report, the report itself will be contained in one frame, a string of navigational tools will appear in the uppermost frame (the NavBar), and the Groups Tree will have its own frame. Each frame has its own scroll bar to bring into view its components. The user can scroll to view complete information specified and returned.

In the Reports site's sidebar are links to the NFIRS 5.0 Homepage, <http://www.nfirs.fema.gov>, and a page where the Reports User Documentation can be accessed. The sidebar link named: Enter Reports accesses the Reports login screen.

Many reports have the option of including invalid status incidents in the frequency counts. Since invalid incidents may be missing required fields or other fields directly involved in the report's query, the resulting counts and summaries should be considered an approximation.

## 2. System Requirements to Access, Generate, and Save Web-based Reports

- Minimum Browser versions: Internet Explorer Version 5.5.
- Java Plug In - A Sun Java Plug-In may be required if the PC's JRE version is not 1.3 or better. If an adequate version is not detected, the user will be automatically be prompted to download it at no cost, and will be re-directed to the site: <http://java.sun.com/getjava/installer.html> **Note:** If the user opts not to download at the time of the prompt, entry to the report executables area may be possible, but report submission will not be successful. The user will not be prompted a second time, and must go <http://java.sun.com/getjava/installer.html> and obtain the download.
- Use of [Frames](#) - most browsers now support the use of frames.
- Adobe Acrobat Reader to view and save the reports in [PDF](#) format. To obtains Adobe Acrobat Reader for no cost at: <http://www.adobe.com/products/acrobat/readstep.html>
- Reports Permissions assigned to the user's NFIRS account (Report Submit, Report Fetch, Report Templates, Report Generate). The NFIRS System Administrator's Users Guide has complete details for State Program Managers and System Administrators who maintain user account permissions.

## 3. Accessing the Summary Output Reports Tool

The Reports Tool can be accessed from any of the NFIRS 5.0 web pages by clicking on the Homepage link in the sidebar section named: Summary Output Reports Tool. The user will login to an https, secure environment, and the NFIRS 5.0 Web-based Reports Home page will be displayed.

If the PC's system requirements do not meet those outlined on the Reports Home page or in the [System Requirements](#) section of this document, the user may experience an error when trying to select a report executable, or it will not be possible to submit and generate the report.

To proceed to the Reports login, click on the link: Web-based Reports Login to access the Reports Login page.

### Login

When the Login page is displayed, enter the NFIRS 5.0 Username, state abbreviation, and password and click on the **Login** button or hit the Enter key. Entering incorrect or invalid account information causes the fields to clear after hitting the Enter key. If the account does not have the necessary reports permissions, the login information will not be validated, the

fields will clear, and the login will be unsuccessful. Contact your State Program Manager for assistance.

If the user is prompted to download a Java plug-in Version 1.3.1 from the <http://java.sun.com/> web site, an adequate java version is not detected on the user's machine. Access to the reports area is possible without the download, however, generating reports will not be possible.

## After Successful Login to the Reports

Upon successful login, the Reports main view will be displayed (Figure 3.A). A scroll bar on the right and at the bottom of the main view frame enables the user to view and access the complete list of available report executables.

The current sidebar links enable the user to access other pages:

- the NFIRS 5.0 Home page (<http://www.nfirs.fema.gov> )
- the Web-based Reports Login page
- the Web-based Reports Documentation page

If the user exits the Reports web page area by visiting the NFIRS 5.0 web site home page, a timeout may occur and the user may have to login again to the Reports Web page.

Figure 3.A



## 4. Reports Main Page

Components on the main page provide basic functions and navigation via four tabs. Each function is described separately. Scroll bar on the right and at the bottom allow the entire area to be viewed. Note: high pixels settings will enable more screen area to be viewed.

### Sidebar Links

The sidebar links enable the user to return to the **NFIRS Homepage**, <http://www.nfirs.fema.gov/>. The **Refresh Reporting** sidebar link enables the user to return to the main view area if the session has been idle without requiring the users to login again. The **Documentation** link accesses the page which contains the web-based Reports documentation for users.

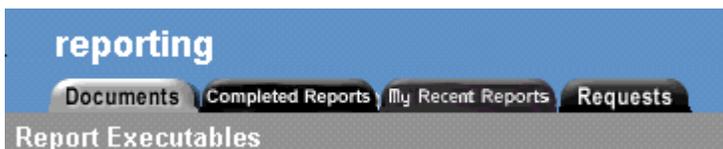
The **Logout** button: To logout, click on the Logout Button (Figure 4.A) in the upper left hand corner. A message will be displayed: Your Account has been logged off of Web-Based Reports. Close the browser to exit the Internet Explorer session.

Figure 4.A



The four tabs which serve as the main method of navigation (Figure 4.B): the **Documents** Tab, the **Completed Reports** Tab, **My Recent Reports** Tab, and the **Requests** Tab.

Figure 4.B



Each Tab shown in Figure 4.B contains hyperlinks and information on submitted reports as follows:

- The Documents Tab contains the predefined report executables
- The Completed Reports Tab lists hyperlinks to completed reports
- My Recent Reports Tab lists reports completed within the day.

- The Request Tab lists information on reports in progress.

At any time the user may click on one of the Tabs move to another area. Note: information entered into the parameter fields of a report will be cleared if the user visits another tab. Before visiting another tab, enter all report parameters and then submit the report.

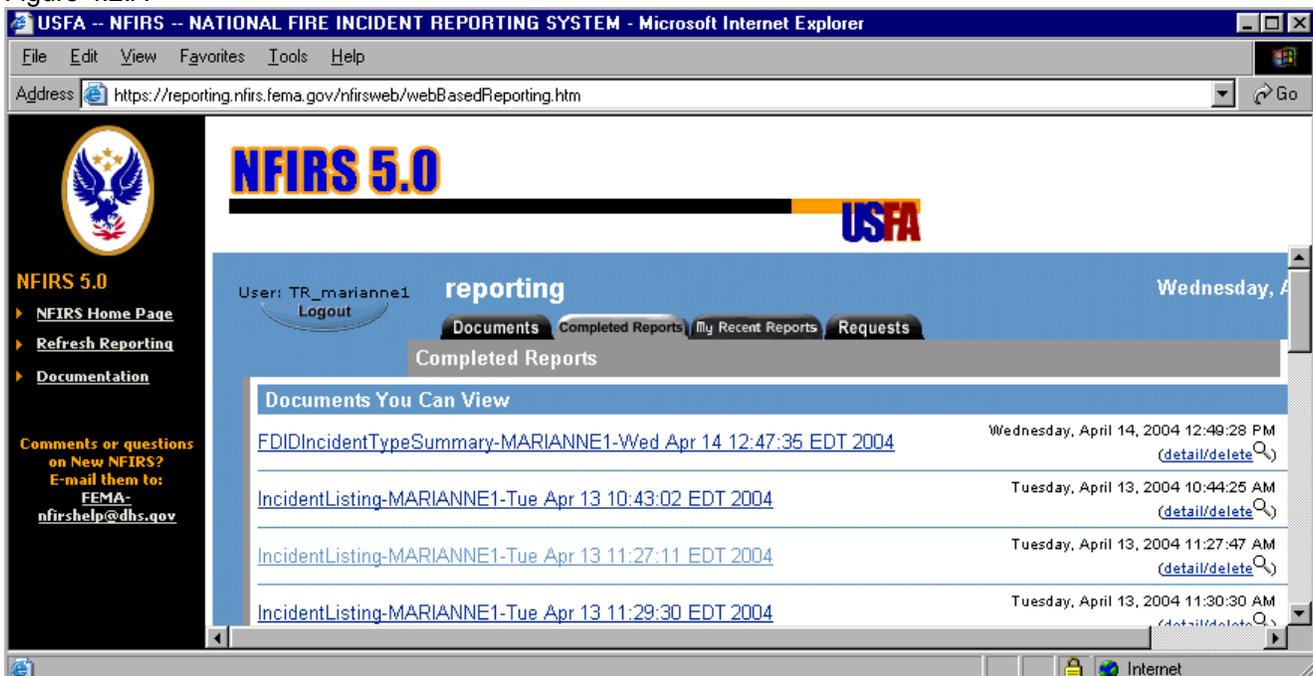
## 4.1 Documents Tab

The available report executables are listed on the Documents Tab. A brief description of the report query accompanies the executable name. Complete report descriptions and information on the SQL query can be obtained on the Reports Documentation page. To select a report to generate, click on the desired report executable. The report interface where the user specifies initial criteria such as date range, FDID, data version to be included etc., will be displayed. Refer to Figure 3.A for a view of the Documents Tab and the report executables.

## 4.2 Completed Reports Tab

The Completed Reports tab (Figure 4.2.A) allows users to access and view completed reports by all users within their group and below.

Figure 4.2.A



When the user clicks on the Completed Reports tab, the new frame will be displayed. Under the heading "Documents You Can View," there will be a list of all completed reports generated in the last ten days up until the previous day. The hyperlink format includes the report executable name, the username of the NFIRS user who submitted the report, and the day and time the report was completed.

More detail on the report submission is available by clicking on the **Detail / Delete** link to the right. Note: a scroll bar allows the user to access the detail/delete link if it is not in view.

Reports stored in the Completed Reports Tab are deleted automatically after 10 days from the time they were generated.

To view completed reports run only by the current user, click on the "My Recent Reports Tab."

### 4.3 My Recent Reports Tab

Selecting the My Recent Reports tab (Figure 4.3.A) allows users to access and view only those reports which they submitted for generation.

Figure 4.3.A



When the user clicks on My Recent Reports tab, a new frame will be displayed. Under the heading "Personal Channel," there will be a list of all completed reports generated in the last ten days up until the previous day. The hyperlink format includes the report executable name, the Username, and the day and time the report was completed. Only those reports generated by the user will be listed on this tab. A green icon labeled "Success" designates if

the report generated was successful. A red icon labeled "Failed" will designate if the report failed.

To the far right of the Success or Failed icon is a link named: **Detail / Delete** Note: if this link is not in view, a scroll bar allows the user to access the detail/delete link. To obtain more information on the report submission and its generation, click the link. If a report fails, the information can be copied and pasted into an email with the report parameters and sent to NFIRS Support for troubleshooting.

Reports stored in the My Recent Reports Tab are deleted automatically after 1 day from the time they were generated.

#### 4.4 Requests Tab

Reports that have been submitted but have not finished are listed on the My Requests tab (Figure 4.4.A) under the heading "Active Requests." When no reports are in process, the message is displayed: There are currently no active requests on server: reporting.

Figure 4.4.A



#### 5. Report Executables

The user may generate reports on groups and FDIDS at their login level and below by clicking on the desired report executable, which are predefined sets of parameters used as query conditions. The list of report executables becomes available after login to the Reports area, or left click once on the **Documents Tab** (not the Documentation link in the sidebar). A brief description of the reports' query conditions accompanies the report executable, on the Documents tab to the right.

Complete descriptions of each available report can be accessed on the web-based Reports Documentation page, available from the sidebar of the Reports Home page. The Report Descriptions document lists all the report descriptions for available reports. Individual Report Descriptions are listed separately as hyperlinks on the Documentation page, where the user can view or download a detailed description including specific query information for a single report.

Report executables that have been previously selected will be displayed as a "visited" link, showing a lighter color blue hyperlink. This has no effect on report generation. They are listed on the Documents Tab in alphabetical order by executable name.

When a report executable is clicked, the report interface will load in to the main view frame. This can take a moment, and the time to load is dependent upon Internet or network traffic. During this time, the NFIRS top banner and sidebar frames will be displayed. When the loading is complete, the report executable name, the fields where the user will enter additional parameters, as well as a section for NFIRS Group Selection will be displayed.

A combination of text fields, drop down boxes and check boxes provide the user the means to enter specify report parameters.

## 5.1 Initial Report Filters

Incidents that meet the initial query conditions will be further filtered by the parameters specified by the user, such as Date Range, Data Version, Incident Validation Status, and Released or Unreleased Status. For every incident that meets the initial report parameter and that also meets the user's selected parameters, 1 will be added to the Frequency Count.

A summary of Losses and Casualties from these incidents are included in specific reports. Exposures' losses and casualties are included in the sum of the base incidents' casualties and losses. Mutual Aid Given incidents (incidents coded Aid Given 3 or 4), are not included in summary report frequency totals, but have a separate frequency total on most reports.

Some reports include a **Sort** drop down box which allows the user to specify whether the FDIDs are listed by FDID number, numerically, or By FDID Name, alphabetically.

## 5.2 Group Selection

When a report is selected and its interface is displayed in the frame, a groups tree will be displayed in a lower frame labeled **NFIRS Groups Selection**. The NFIRS Group Selection is hierarchical in format and will contain the groups available to the user based on NFIRS User Group assignment. The Groups Selection frame has a scroll bar on the right to enable view and selection of the complete tree.

Icons represent the group's collapsed or extended status and if it has been selected for inclusion in the report. Figure 5.1.A below represents a collapsed hierarchy. The user can place the cursor on this icon and left click once to extend the groups view. Figure 5.1.B represents an extended hierarchy of groups. To collapse the groups list, click once on the extended icon.

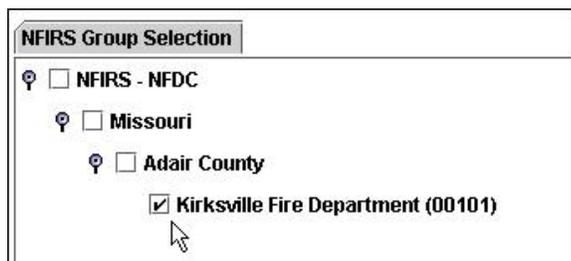
Figure 5.2 A, B, and C



Figure 5.1.C is the check box which indicates if the group is to be included in the report.

- State level users may place a check in the State level box to include all groups below.
- County or Region level users may place a check in the County or Region level box to include all groups below.
- Users at the state, region or county level may fully extend the hierarchy and uncheck groups to have them excluded from the report.
- Users at a department level can select only their Fire Department (Figure 5.2.D).

Figure 5.2.D



If a report is submitted and no group has been specified, a message window will be displayed: "You must select something from the Group Tree."

It is possible the descriptions accompanying the FDIDS differ in the Groups view and completed reports than the Group structure in the Data Entry Tool. The description may be updated by importing an FDID information file with the current description, or by using the Data Entry Tool in the on-line mode: from the Fire Dept menu, select Open and enter the current Description and click OK.

### 5.3 Ad Hoc Filters

Most available reports provide the user the capability to add filters on selected codes fields, and specify a range for those codes or values. Information about the individual report's SQL and how its frequencies and summaries are calculated are included in each report's description section which can be viewed or downloaded from the Reports Documentation page.

The Ad Hoc filter interface will not be displayed until the **Create Report Filters** check box is selected. When the box is checked, a new frame will load which displays the ad hoc filter

options: Filter Items, Groups, Report Filters (Figure 5.3.A). The loading of the frame may be affected by the amount of network or Internet traffic.

Fields available for selection are listed by module in which they are located and coded fields are accompanied by the numeric code.

The initial report filters are the Incident Date Range, Version, Incident Status, Release/Unreleased establish the report filters. The Ad hoc filters enable the user to narrow the query to find frequencies of specific codes reported in the incident data set.

Figure 5.3.A

The screenshot displays the 'Parameters' and 'Adhoc Filters' sections of the Summary Output Reports Tool. The 'Parameters' section includes 'Date From' and 'To' fields with calendar icons, both with a placeholder format of 'mm/dd/yyyy'. Below these are dropdown menus for 'Status' (set to 'Valid'), 'Version' (set to '5.0'), 'Released' (set to 'U'), and 'Sort' (set to 'FDID'). The 'Adhoc Filters' section features a checked checkbox for 'Hide Report Filters'. Underneath, there are three main areas: 'Filter Items' with a dropdown menu showing 'Section A: Incident Number' and 'From'/'To' input fields; 'Groups' with a dropdown menu set to 'AND' and a box containing 'No Items Applied'; and 'Report Filters' with a box containing 'No Groups Applied'. Blue arrows indicate the flow of data between these sections.

When an Ad hoc filter is used, an "and" or an "or" statement can be created and added to the existing SQL for the report, which has the effect of narrowing the returned frequency count.

For example, a report that has the following filters will return the frequency of only those incidents in the fire series reported to have a total dollar loss of over 500,000 and a reported heat source of candle.

- Incident Type code From 100 To 173 (all fire Incident Types)
- Total Dollar Losses From 500,000 to 9,999,999
- Heat Source code: 66 (Candle)

When a report is returned with the incident frequency zero, the query found no incident which contains all codes or values specified.

If the **Hide Report Filters** check box is selected, the Ad Hoc report filter options will close and items entered will not be saved. .

## 6. Generating a Report

Users must have the four reports permissions assigned to their NFIRS 5.0 account and their PC must meet the system requirements (listed on the Reports Web site, and listed in this [Section 2](#) of this document). Contact your State NFIRS Program Manager for account information.

After the report query is successfully submitted, the user may close the browser and return at another time to view and download the report. It is not necessary to download every report. The user may select only those reports they wish to save for future reference and printing. Reports can be saved in entirety or by a selected single page.

Finished reports stored under the My Recent Requests tab are deleted from the Reports Server twenty four hours after completion. Finished reports stored under the Completed Reports tab are deleted from the Reports Server ten days after completion.

When the report executable has been selected and fully loaded in the browser, the report's name and selectable parameters will be displayed. The user will define the report's parameters through the use of formatted text fields, check boxes, and drop down boxes. Report filters will vary depending to the report. Most reports offer for parameters: Date Range, Incident Status, Data Version, Released or Unreleased Status, and the group level. The user may specify groups at or below their level. Scroll bars enable the user to view the entire interface. When a user fails to enter criteria necessary to build the report criteria, an error message will prompt the user to enter the missing information.

If a report query has ad hoc capability, the report interface will include a **Create Report Filters** check box which the user will select to enable the selection of ad hoc filters. A separate interface will be loaded in to view when the user specifies to Create Report Filters.

Each time the user adds criteria, the frame will reload to include the specified criteria. The criteria specified will be listed on the heading page of the completed report.

### 6.1 Steps to Generate an NFIRS Report

1. After successful login to the Reports area, locate the list of report executables on the Documents tab (default view after successful login).
2. Click on the link to the desired report executable, for example, the Incident Listing. Its interface will be displayed (Figure 6.1.A)

Figure 6.1.A



3. Enter the desired parameters:
  - For the **Date From** and **Date To** fields, type in: mm/dd/yyyy including the slash mark.
  - Under the **Status** drop down box, select the Status of incidents to include in the report: Valid (V), Invalid (I), All.
  - Under the **Version** drop down box: select the Data Version: 5.0 or 4.1, or Both.
  - Under the **Released** drop down box: select the Incident Status: Released or Unreleased, or both.
  
4. In the **Select Coded Field** area (Figure 6.1.B), the user can specify an **Nfirs Module** and **Field** on which the frequency count will be calculated. The default is the Basic Module's Incident Type. The available options are viewable in the drop down boxes for these fields (Figure 6.1.B and 6.1.C).

Figure 6.1.B

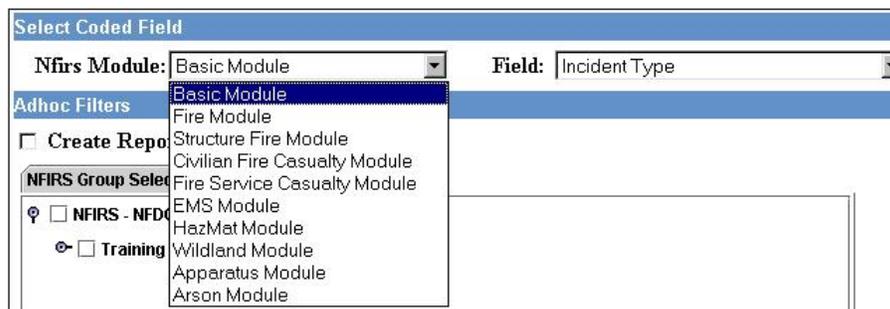
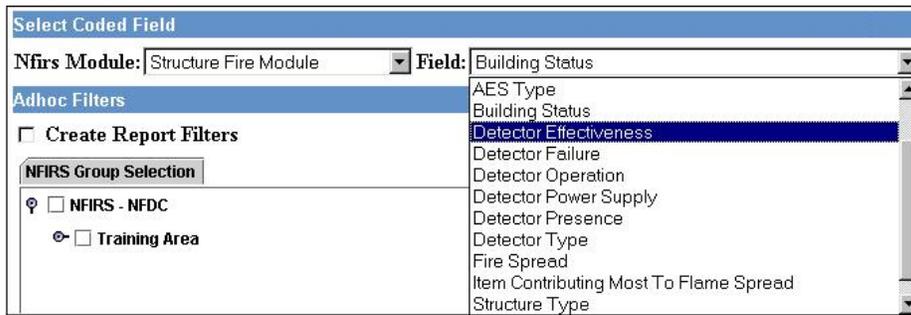


Figure 6.1.C



5. To add ad hoc filters to narrow the query, in the Ad Hoc section, check the **Create Report Filters** check box. Note: After checking the box, the frame will reload. This may take a few seconds.
6. The new Interface displayed will contain the fields and drop boxes to be used when defining the ad hoc filters.
7. In the Ad hoc Filters section, leave the **Hide Report Filters** checkbox checked (this box by default keeps the report filter interface in view. Do not uncheck the box when creating filters or the filters and criteria will be cleared.
8. Under the Filter Items heading, the **Filter** drop down box contains the available selections that may be used to narrow the query. Select the module and its field which contains the desired field to be used as a filter. The main interface may reload while the filters are updated.
9. In the **From** and **To** fields, define the filter. For example, to set up the filter to query for the number of incidents that have a reported Total Loss over \$500,000. enter:  
From: 500000 To: 999999999 (Figure 6.1.D).

Figure 6.1.D

**NFIRS reporting** Tue Apr 20 15:03:52 EDT 2004

Documents Completed Reports My Recent Reports Requests

**NFIRS Incident Listing**

**Parameters**

Date From: 04/01/2004 To: 04/20/2004  
"mm/dd/yyyy" "mm/dd/yyyy"

Status: Version: Released: Sort:  
Valid 5.0 All FDID

**Adhoc Filters**

Hide Report Filters

**Filter Items:**

Filter: Basic: Total Loss

From: 500000

To: 999999999

**Groups:** AND

Total Loss from: 50000 to: 999999999

**Report Filters:**

No Groups Applied

10. Click on the blue arrow pointing right next to the **Groups** area. The main interface may go blank momentarily while the filters are updated.

11. Repeat the steps 8 and 9 to select an additional filter if desired, for example, Basic Module: Property Use, From: 581 To: 581, Department or discount store. The filters would then appear similar to Figure 6.1.E:

Figure 6.1.E

**NFIRS reporting** Tue Apr 20 15:10:34 EDT 2004

Documents Completed Reports My Recent Reports Requests

**NFIRS Incident Listing**

**Parameters**

Date From: 04/01/2004 To: 04/20/2004  
"mm/dd/yyyy" "mm/dd/yyyy"

Status: Version: Released: Sort:  
Valid 5.0 All FDID

**Adhoc Filters**

Hide Report Filters

**Filter Items:**

Filter: Basic: Property Use

From: 581 - Department or discount store

To: 581 - Department or discount store

**Groups:** AND

Total Loss from: 50000 to: 999999999  
Property Use from: 581 to: 581

**Report Filters:**

No Groups Applied

12. In the **Groups** Drop down box, select AND or OR to determine the use of the filters.

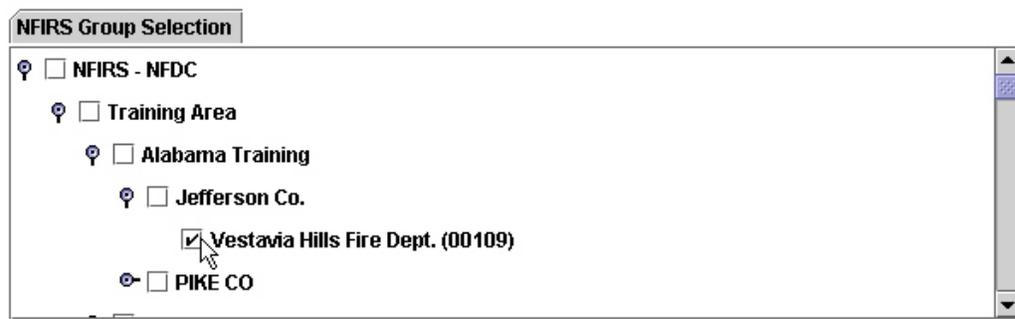
For example: A group filter of Total Dollar Losses From 500000 To 9999999 *AND* Property Use From 581 To 581 will include incidents with both the Property Use 581 and a Total dollar loss amount in that range. The group filter with an *OR* used will include all incidents with Property Use 581 and all incidents with total dollar loss in that range, but not in the same incident. The AND statement will broaden the criteria of the report, the OR statement narrows the criteria.

13. Click on the blue arrow to the right to move the group to the **Report Filters** box. Repeat steps 8 - 12 to create additional filter groups, moving each one to the Report Filters when complete. Up to five groups may be created. Note: The completed report will include the specified filters on the cover page.

Important: The filters must be moved to the Report Filters, at the far right of the interface to be applied to the report.

14. In the **NFIRS Group Selection** area, the groups tree or structure will be displayed (Figure 6.1.F). Select a **Group** by checking the box next to it. Note: Only those groups available to the user login will be selectable. If the icon at the left of the checkbox is horizontal, click on it to expand and display groups below it.

Figure 6.1.F



15. When all parameters and filters have been specified, click on the **Submit** button located at the top in the blue sidebar, or at the bottom of the blue sidebar.

16. A message will be displayed (Figure 6.1.G): "The request was successfully submitted to run.Report: FireDeptInfo on Server: reporting."

Figure 6.1.G



When the report generation is complete, the finished report appears as a hyperlink on the **Completed Reports** tab or **My Recent Requests** tab. The user may click on the link to view the report in the browser, exit the browser and return later to the Reports web site to retrieve the report, or submit another report.

To submit another report, click on the Report executables hyperlink or click on the Documents tab (Figure 6.1.G). The list of report executables will be displayed.

The user can wait till the report appears on the My Recent Requests tab as a hyperlink to view it, or exit the browser and return later to the Reports web site to retrieve the report, or submit another report. To submit another report, click on the Report executables hyperlink or click on the Documents tab (Figure 6.1.H). The list of report executables will be displayed.

Figure 6.1.H



## 6.2 Quick Steps to Generate an NFIRS Report: - No Ad Hoc Filters

1. Select the desired report by clicking on its executable.
2. Enter the date range for which the report will include information. Include the forward-slash mark: Example: 01/12/2001.
3. From the drop down boxes select the incident status, data version, and release status of incidents to include. Some reports offer a sort specification, by FDID Number or by FDID Name (alphabetical by Description).
4. Select the desired group on which the report will be generated.
5. Click the Submit Request button in the blue sidebar.
6. To return to the report executables to generate another report, click on the hyperlink "Report Executables" in the Navigation bar, or by clicking the "Documents" tab. Do not use Back button.

## 7. Retrieving the Completed Report

Reports that have completely finished will appear as a hyperlink the My Recent Reports tab the day of its generation. Following the day the report was generated, it will be located on the Completed Reports Tab. The user will click on the hyperlink to view the report in the browser, and if desired, download and save the report to the hard drive.

The default report naming schema is:

ReportExecutableName-Username -DayDateTime (of report generation )  
Example: IncidentListing-MARIANNE1-Tue Apr 13 10:39:08 EDT 2004

If a report encounters an error, the hyperlink will not be created. To the right of the report name will the status "Failed " will be displayed. Generate the report again, noting the parameters used. If failure occurs again, contact support personnel and provide the report parameters.

**To retrieve a report:** left click on the hyperlink for the desired completed report. The completed report interface will load into the browser frame.

## 8. Viewing the Completed Report

When a report is in view, a scroll bar on the right and bottom of the frame enable the user to view all sections of the report. The navigation string (**NavBar**) in the frame above the report is an efficient way to move from page to page of the report. The NavBar options are:

- **First** - brings the first page in view
- **Previous** - brings the previous page in view
- **Next** - advances the view to the next page of the report
- **Last** - brings the last page of the report in view (usually the summary page).
- **GoTo** - to advance to a specific page, enter the number in the Page field and click GoTo.
- **Page** - The page number window specifies which page is in view out of the total number of pages in the report.
- **Percent (%) field** - to change the view size of the report.

The **Search** capability allows the user to construct a search window using text fields within the report, such as FDID, Name, Incident Type. Not all reports will contain searchable fields, for example the Incidents By Time Series and Data Quality reports.

The **PDF /Printing** capability opens a new frame (web page) where the download, save and print options are located.

**Steps to View a Completed Report:** Retrieve the report and when it has fully loaded in the frame, select the desired percentage (suggestion: 75%). Navigate to the desired pages by using the NavBar page advance functions.

To return to the Report Executables, Completed Report tab, or other tabs, click on the Back button. The Reports main view frame will be displayed.

## 9. Downloading and Printing a Report

A completed report can be downloaded to the user's hard drive and saved in PDF format. The user has the option of downloading and saving the entire report, the current page, or may specify a page number or page range separated by commas. This is helpful where some the reports may have a high page content and therefore a high KB size.

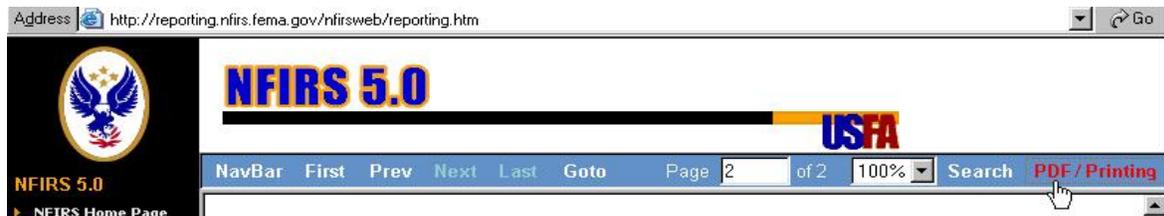
Once the report is saved to the hard drive (or disk), the report may be opened using the Adobe Reader program and printed from the Adobe program's Print command. Before printing, it is recommended to verify the page count of the report.

In order to download or print a report, the report must be completed status, and open or in view. The following steps are used to download, save, and print a report.

## 9.1 Steps To Download a Report:

1. From the Completed Reports Tab or Recent Report Tab, select and open the report.
2. In the far right of the report's NavBar, click "PDF/Printing." (Figure 9.1 )

Figure 9.1



3. A new browser window titled "reports - Save or View Report as PDF" will be displayed.
4. Specify the page range to save by selecting "All," "Current Page," or by entering page numbers, or a ranges of pages separated by commas (ex: 1, 3, 5-12)
5. Click the button "Save .PDF"
6. A "File Download" box will be displayed. Select Save (click on the Save button).
7. A directory window will be displayed. Specify the directory to which the report file will be saved.
8. Name the report or accept the default name, and click "OK."
9. To close the Save PDF window, click on the X in the upper right hand corner. The user is returned to the report in view.
10. Using Windows Explorer, or the Adobe program, locate the report where it was saved and open the file.

## 9.2 Steps to Print a Report

1. Locate the desired report which has been previously saved to the hard drive and is in PDF format (complete steps 1 - 10 above).
2. Double click on the PDF file to open the report (or open the Adobe acrobat Reader program and from under the File menu, select Open. Select the file).
3. The report will be displayed in PDF format.
4. From Under the File menu, select Print.

5. Verify the number of pages that will be printed, as some reports may contain a high number of pages.

## 10. Deleting a Completed Report

If the user does not manually delete a report, the system will automatically delete report links from the My Recent Report links twenty four hours after generation, and will delete reports listed in the Completed Reports Tab ten days after generation.

To delete reports manually., click on the **detail/delete** hyperlink listed to the right of the main report hyperlink. A new frame containing the general details of the report will be displayed. Click the Delete button in the blue sidebar to delete the report. The status window will display the message:

The following command completed successfully:  
Drop

The report will be deleted from the reports server.

Report deletions are not reversible.

## Glossary

**Report Executables:** predefined sets of parameters that are used as query conditions in reports. *Examples: From Date, Version, Status*

**Frames:** Frames refers to a Web page layout feature that enables the browser display area to be divided into two or more sections. Each section is called a frame and each frame displays its own individual contents. Frames are supported by most Web browsers.

**.PDF:** "Portable Document Format" These documents are "portable" because they are cross-platform and can be read regardless of what software was used to create the original files or what other software is loaded on the user's computer besides the Adobe Acrobat Reader.

### **System Requirements to Access, Generate, and Save Web-based Reports**

- Minimum Browser versions: Internet Explorer Version 5.5.
- Java Plug In - A Sun Java Plug-In may be required if the PC's JRE version is not 1.3 or better. If an adequate version is not detected, the user will be automatically be prompted to download it at no cost, and will be re-directed to the appropriate site: <http://java.sun.com/getjava/installer.html>
- Use of [Frames](#) - most browsers now support the use of frames.
- Adobe Acrobat Reader to view and save the reports in [PDF](#) format. To obtains Adobe Acrobat Reader for no cost at: <http://www.adobe.com/products/acrobat/readstep.html>
- Reports Permissions assigned to the user's NFIRS account (Report Submit, Report Fetch, Report Templates, Report Generate). The NFIRS System Administrator's Users Guide has complete details for State Program Managers and System Administrators who maintain user account permissions.

## Troubleshooting

**Question:** If the user clicks on the browser's Back button to exit the Reports web page area, a "page has expired" error will occur. **Answer:** The user can click on the browser's Forward button to return to the Reporting area. Click on the tabs, NavBar hyperlinks, and Logout button to navigate to the desired area.

**Question:** After submitting a report, it does not appear in the list on the Completed Reports tab. **Answer:** The report may not be complete yet. Check the Requests tab. If a report fails, it will not be a hyperlink, but will be text in the list of completed reports.

**Question:** On the Recent Reports Tab, the links to reports listed yesterday are now gone. How often are they deleted? **Answer:** Recently generated reports are deleted automatically every twenty four hours from the My Recent Reports Tab. Report links listed on the Completed Reports Tab are deleted automatically every ten days from the Completed Reports Tab.

**Question:** Can a report be generated to list the number of incidents ( for example) in 2002 with residential property uses, a high dollar loss, the Cause Of Ignition was intentional, where the Detector did not alert occupants? **Answer:** Yes, using the Ad Hoc filters the specific queries may be built upon that of the report executable.

**Question:** The report I generated has "no data returned" for it. **Answer:** No incidents matched the overall criteria and filters of the report. Verify the query was constructed to include rather than filter out incidents.

**Question:** The department for the report has X amount of incidents, but the returned report shows less than that. **Answer:** If invalid incidents are included in the report, it is possible that incidents are missing the field included in the query.

**Question:** When I try to use the Search capability, I cannot select the field to add to the search. **Answer:** Not all reports have report fields that can be selected to add to the search capability, such as Data Quality, Incident by Time Series .

**Question:** In the Groups tree, there is an FDID with a name that differs from the actual Fire Department. The FDID name displayed is an old name. **Answer:** It is possible the descriptions accompanying the FDIDS differ in the Groups view and completed reports than the Group structure in the Data Entry Tool. The description may be updated by importing an FDID information file with the current description, or by using the Data Entry Tool in the On-line mode: from the Fire Dept menu, select Open and enter the current Description. Click OK.

## MODULE 3 NFIRS QUALITY ASSURANCE

### Prerequisites

Students are required to meet the following prerequisites before participating in this module:

- *Familiarity with the rational and coding structure of the NFIRS System*
- *Basic understanding of Excel<sup>®</sup> navigation and data entry techniques*
- *Registered User of the NFIRS Federal Server*

### Terminal Objectives

The students will be able to:

- Identify the components of a comprehensive data quality assurance program.
- Understand the rationale for complete reporting.

### Enabling Objectives

The students will:

- Differentiate between the typical and special-case or consequential incidents.
    - Define typical and special-case or consequential incidents.
    - Identify required and essential data elements.
  - Utilize standard output reports and other tools to identify data quality issues.
  - Compare and contrast a report that passes the edit checks (required data) and one that accurately describes the incident (essential data).
-

## References

### *Student Manual*

Your Student Manual (SM) includes a narrative text for you to highlight key points for some of the content and also can be used to make notes. During several of the units, you will be using your SM as a guide (or map) to the source documents. The SM will be your primary reference material once you return to your department. Page references to the source documents you will be using throughout the course are included in the SM.

### *NFIRS Complete Reference Guide*

The *NFIRS Complete Reference Guide* is a line-by-line guide to the completion of the incident report modules. The handbook includes all of the code conventions.

### *NFIRS Data Entry Tool Guide*

The *NFIRS Data Entry Tool Guide* is a guide for the entry, maintenance, and validation of incidents, as well as a detailed explanation and steps on how to use each tool.

### *NFIRS System Administration Tool Guide*

The *NFIRS System Administration Tool Guide* is a guide for system administrators setting up and maintenance of group and users.

### *NFIRS Configuration Tool Guide*

The *NFIRS Configuration Tool Guide* is a guide for the setup of user options and local database access.

### *NFIRS Web-Based Reporting Tool Guide*

The *NFIRS Web-Based Reporting Tool Guide* includes step-by-step instructions to generate, retrieve, and print reports from the Web-Based Reporting Tool.

*Excel<sup>®</sup> Orientation for Pivot Table Users (Appendix B)*

A step-by-step tutorial on the basic features of Excel that is required for the operation and configuration of pivot tables.

NFIRS PROGRAM MANAGEMENT

*Module 3 – Quality Assurance*

## DATA QUALITY CONTROL

### The Importance of Data Quality Control

Fire is a perpetrator; it can rob you of your possessions, loved ones, health, and financial status. If you experienced an assault and battery in your home how would you feel if the police detective failed to perform a complete investigation? The incomplete report would fail to capture the perpetrator and prevent future crimes. Accurate and complete reporting is critical for the protection of life and property.

The first step in the quality control process is the capturing accurate data at the scene of the incident. The common phrase “garbage in garbage out” applies to the data if proper steps are not followed to ensure that *what is collected* accurately reflects *what happened* at the incident.

***NFIRS Data Quality Control is a system for ensuring the application of proper standards for accurate and reliable data.***

During the recording of an incident, the report is dynamic not static. The details could change as more information becomes available, due to further investigations by your fire department or other agencies, or due to a change as a direct result of the initial incident. This gathering of information could take weeks or months. Submit a change to the incident report whenever the conditions of the incident changes. Regardless of whether the gathering of incident data has completed or the incident is still under investigation, the record in the database should accurately reflect the status of the incident.

It is important to remember:

- The incident report is a legal record.
- The incident report must accurately reflect the event.
- The incident report is complete; all required fields are completed.
- The incident report is a dynamic document.
- The incident data is used at local, state, and national levels.

## Who Does Data Quality Control

Data quality control is not a one person job. All levels responsible for the processing of the incident have a role. Data quality control is performed at different levels:

- The **member making the report** must collect needed and accurate data.
- The **officer in charge of the incident** must check the incident for accuracy and completeness.
- The **local quality control person** must ensure that all local system edits and requirements have been met.
- The **State NFIRS Program Manager** must make certain that all state edits and requirements have been met.
- The **USFA** must ensure that all incidents added to the national database adhered to the national requirements.

## Tools to Support Data Quality Control

There are several tools available to ensure the application of proper standards for accurate and reliable data.

- Field Incident Report - used to collect needed data at the scene
- NFIRS software - available from third party NFIRS software vendors or the United State Fire Administration (USFA); the USFA software, the NFIRS Federal Client Tool, is available from State NFIRS Program Managers
  - > List of active vendors with NFIRS software is available from USFA's website [www.nfirs.fema.gov/activevendors.htm](http://www.nfirs.fema.gov/activevendors.htm) .
  - > All NFIRS software must comply with the current NFIRS 5.0 Reporting Standard. The NFIRS Design Documentation contains the rules in which the standard is built. It can be downloaded from

USFA's website [www.nfirs.fema.gov](http://www.nfirs.fema.gov) . Section 3 – Technical Documents contains the following sections that support NFIRS Data Quality Control:

- Edit Requirements
  - Relational Edits
  - Incident Module Rules
  - Incident Flat File Transfer Format
  - Data Dictionary
- Incident reports should not contain errors. NFIRS errors are grouped into two categories:
  - Critical Error – data that is required and must be provided on the report to allow the report to be complete. A report with a critical error is marked as an invalid incident. An invalid incident cannot be used in National statistics. Mandatory data fields are identified on the NFIRS forms with a special symbol (☆). Normally, NFIRS software color code required data fields: i.e., NFIRS Federal Client Tool's background color is yellow for required data fields.
  - Warning Error – data that is either missing or incorrect on the report; a warning error will not prevent the report from being marked as complete.
  - Reports/Queries – one of the best ways to identify data quality control problems is using NFIRS reports and queries. Report writing and query building are standard features in most NFIRS software packages. They are helpful to draw your attention to questionable numbers such as average response time, dollar loss, injuries and fatalities, etc.
- > NFIRS Web-based reporting has been developed for users to access NFIRS data for a designated group (fire department, county, region, or state). Standard reports can be created and queries can be built to view the data.

## **Differentiating Between the Typical and Special-case or Consequential Incidents**

Accurate and complete reporting is critical for the protection of life and property especially in cases where fires involve casualties and high dollar losses which can be considered special case or consequential incidents.

### Typical Incidents

Typical Incidents are those where there is minimum dollar loss and no injuries or fatalities.

### Special Case Incidents

Special-case incidents are incidents that have a high risk for loss of life, property and the environment or adverse consequences to the community.

- *For example:* incidents involving nursing homes, schools, churches or other critical infrastructure components such as power plants, dams, etc. Specific cases are to be determined by the community.

### Consequential Incidents

For example: high dollar loss fires, casualties (civilian or firefighter), or significant environmental effects. Specific cases are be defined by the community.

## **Identify Required and Essential Data Elements**

Instructors will illustrate and discuss the difference between passing the edit checks (required data) and accurately describing the incident (essential data).

### **Introduction to Excel<sup>®</sup>**

Using the guide in Appendix B, the instructor will lead you through an overview of the features of MS Excel<sup>®</sup> as they relate to data quality and analysis. This introduction is intended to establish a baseline level of skill so all participants will be able to perform the tasks in the course.

(See Appendix B – *Excel<sup>®</sup> Orientation For Pivot Table Users*)

NFIRS PROGRAM MANAGEMENT

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### **Activity 3.1**

#### **Open-Tank Explosion**

##### **Purpose**

To analyze an incident in terms of what information should be reported in the incident report and the NFIRS-1 Basic module.

##### **Directions**

1. Your instructor will hand out a description of an incident (from an article on the internet), as well as the corresponding incident report and a printout of the completed NFIRS-1 Basic module for the incident.
2. You will be given time to read each document, after which you will participate in a group discussion about what information should be reported.

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## Activity 3.2

### Special Case and Consequential Incidents

#### Purpose

Students will be able to define typical and special-case or consequential incidents.

#### Directions

1. Students will be given a list of incidents.
2. You will identify which of the incidents are consequential. For example:
  - High dollar loss fires
  - Civilian casualties
  - Firefighter casualties
  - Incidents having significant environmental effects
3. Student responses may be based on community definition. Students should agree on a definition for the purpose of this course.

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### Activity 3.3

#### Required and Essential Data Elements

##### Purpose

To illustrate the difference between required, optional, and essential data in painting a complete picture of an incident.

##### Directions

4. The class will be randomly divided into two groups: *Mandatory Field Collector Only*, and *Mandatory + Essential Data Fields*.
5. Both groups will concurrently view a 20 minute Columbus Fire Department video that documents a fully involved residential structure fire.
6. The mandatory field group will use the NFIRS paper forms to record only the mandatory data required to pass the edits (use 1 digit codes instead of the three digit codes, unknowns, etc), based on their observations of the fire video. The mandatory plus essential group will document the video using the NFIRS paper forms and include all relevant information, including the mandatory data.
7. Two students from each group will be selected to participate on a panel to discuss what was recorded and which of the options provided the best picture of the fire scenario. The students will also discuss the implications of not reporting essential data for any consequential incident.
8. Following the panel discussion, the remaining 10 minutes of the video will be played for the class.

##### Discussion

1. How many fields of mandatory data were required to be completed and how long did it take to record this information?
2. How many fields of mandatory and consequential data were required and how long did it take to record this information?
3. Which of these two methods provided the most accurate and complete description of the incident?

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4. Why might this additional information be useful to the local department and at the state and national level?
  - Accountability to customers
  - Improved efficiency and effectiveness
  - Evaluation of existing strategies and tactics (SOP's)
  - Fire prevention strategies
  - Targeted loss opportunities
  - National view of fire problem
  
5. If this was your home and instead of a fire, the home had been burglarized with significant damage to the residence, would you be content if the police report just included the mandatory minimum amount of data? Would your attitude change if the burglary also included injuries (assault and battery)?

## COMPUTER LAB ACTIVITY

### Activity 3.4

#### Introduction to Excel<sup>®</sup>

**Purpose:**

To give students an overview of Microsoft Excel<sup>®</sup>, including *menus, navigation, formulas, auto-filters, charting and graphing* (including a charting and graphing exercise).

**Directions:**

1. This activity will take place in the computer lab.
2. You will be directed to an Excel<sup>®</sup> workbook.
3. You will be asked to identify special-case and consequential incident types and validate the completeness of the incident record (from the standpoint of essential data elements).

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**APPENDIX A**

**SAMPLE QUALITY  
ASSURANCE/QUALITY CONTROL  
POLICIES**

NFIRS PROGRAM MANAGEMENT

*Module 3 – Quality Assurance*



**TUKWILA FIRE DEPARTMENT  
POLICY & PROCEDURE**

Subject: **INCIDENT REPORTS (NFIRS & MIRF)**

Index: Administration

Number: 01.02.05

Reference:

Aether's Help File

NFIRS Manuals (Quick Reference, Handbook, Coding Q&A)

WA State Fire Fatality Report Form

TFD Policy & Procedures:

01.06.05 Patient Confidentiality

Effective Date: 12/03/04

Supersedes: 08/18/97

Pages 7

Fire Chief:

Date Originated: 1990

## 1.0 PURPOSE

- 1.1. To ensure that all calls dispatched are properly documented by completion of a Medical Incident Report Form (MIRF) or a National Fire Incident Report System (NFIRS).
- 1.2. To ensure that incident reports are completed accurately and timely.
- 1.3. To define who is responsible for completion, review and editing of reports.
- 1.4. To ensure that required information is sent to the State of Washington in a timely manner.

## 2.0 DEFINITIONS

- 2.1. **Station** – defined as the primary response zone of the incident. If the incident is outside the city then the primary station responding to the incident shall be selected.
- 2.2. **Aid Given/Received** – Aid can only come from or be given to another Fire Department.
- 2.3. **Automatic Aid Given** –When Tukwila Fire is dispatched with another agency; for example, you are dispatched on a first alarm assignment outside the city with another agency.
- 2.4. **Mutual Aid Given** – When Tukwila Fire is requested by another agency, for example, a strike team or a task force or a special call for aid.
- 2.5. **Automatic Aid Received** – When an outside agency is dispatched with Tukwila Fire, for example, E47 is dispatched on a first alarm assignment with L54.
- 2.6. **Mutual Aid Received** –When Tukwila Fire requests aid from an outside agency. For example, an engine strike team is requested for an all hands fire at the mall.
- 2.7. **Other Aid Given** – When giving aid to a jurisdiction that has no Fire Department.
- 2.8. **FDID** – The Fire Department ID (FDID) for Tukwila Fire is “17M19”, for the purposes of the NFIRS this is the only value allowed in this field.
- 2.9. **Census Tract** – A census bureau identification number expressed as a four digit number with two decimal numbers for example “0262.00”
- 2.10. **District** – The Tukwila Fire Department Inspection district. Always expressed as

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001 through 015. For calls outside the city limits, enter “O/J” in capital letters.

- 2.11. Exposure** – The NFIRS definition of an Exposure is: A fire resulting from another fire outside that building, structure, or vehicle, or a fire that extends to an outside property from a building, structure, or vehicle. For example, if the building fire ignites a truck parked outside, the truck fire is an exposure fire.
- 2.12. Location Type** – Tukwila Fire Department defines location type as address only. Hundred blocks on roads shall be used when applicable.
- 2.13. Alarm Time** – The Time Valley Comm. receives the call. Listed as “Received” on the run sheet.
- 2.14. Dispatch Time** – The time Valley Comm. dispatches the call. Listed as “Dispatched” on the run sheet. Additional units will have ASSTER on the run sheet as in second alarm or upgraded to commercial alarm.
- 2.15. Enroute Time** – The time the unit goes responding. Listed as “Enroute” on the run sheet. Each unit will have it’s own enroute time.
- 2.16. Clear Time** – The time the unit clears the scene. Listed as “Clear” on the run sheet. May be the same as MOBINS if no “Clear Time” listed on the run sheet.
- 2.17. In Service Time** – The time the unit goes in service. Listed as “MOBINS” on the run sheet. May be the same as “Clear” if no “MOBINS Time” listed on the run sheet.
- 2.18. On Scene Time** – The time the unit arrives on location of the incident. Listed as “On Scene” on the run sheet.
- 2.19. Control Time** – The time the incident is under control, and no additional apparatus will be needed for mitigation, for example Tap Fire. This is required for all WILDLAND FIRES.
- 2.20. Case Number** – The number assigned to the incident by Valley Comm. The case number will have a format of \$TFYY#####. Where YY equals the year of the incident and the ##### equals the incident number.
  - 2.20.1.1.** For incidents where only Tukwila Fire responds to, the case number will be in the upper right corner.
  - 2.20.1.2.** For incidents where Tukwila Fire responds on Automatic/Mutual Aid Given, the Tukwila Fire incident number will be located near the unit designator with an ASST code next to the unit designator. The case number of the agency receiving aid will be located near

the top right corner of the run sheet. This is used in the mutual aid incident number field. NOTE: you may need to contact the agency receiving aid to obtain their incident number.

- 2.21. **Civilian Fire Casualty** – A fire casualty is a person who is injured or killed as a result of a fire, and includes injuries or deaths from natural or accidental causes sustained while involved in the activities of fire control, attempting rescue, or escaping from the dangers of the fire. Fires include incident types 100-199.
- 2.22. **Fire Service Casualty** – The fire service casualty module is used to report injuries, deaths, or exposures to fire service personnel that occur in conjunction with **any incident response**. An **exposure** occurs when fire service personnel come in contact with a toxic substance or harmful physical agent through any route of entry into the body (e.g., inhalation, ingestion, skin absorption, or direct contact). Exposures can be reported regardless of the presence of clinical signs and symptoms. An exposure fire is NOT the same as an exposure to personnel.
- 2.23. Other items as defined in the NFIRS Program Help file and manuals.

### 3.0 POLICY

- 3.1. Fire service calls shall be documented by one of two means:  
Note: The use of the short report in the resource manual is recommended to aid in completing the NFIRS report.
  - 3.1.1. NFIRS All suppression calls, including but not limited to groupings
    - 3.1.1.1. Fires – any incident where there is a fire
    - 3.1.1.2. Overpressure Rupture, Explosion, Overheating no fire
    - 3.1.1.3. EMS/Rescue – any call with a high angle rescue or confined space rescue etc.
    - 3.1.1.4. Hazardous Conditions – any hazardous materials call etc.
    - 3.1.1.5. Service Calls
    - 3.1.1.6. Good Intent Calls
    - 3.1.1.7. False Alarms – AFA(s), SWFA(s) etc.
    - 3.1.1.8. Weather Related Calls
    - 3.1.1.9. Special Incidents
  - 3.1.2. MIRFs: All aid calls.
    - 3.1.2.1. Aid calls as a result of a fire shall be documented in an NFIRS using the EMS and the Casualty tab
      - 3.1.2.1.1. The initial dispatch code on a MIRF for these calls is 99R9.

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- 3.2. All casualties including both civilian and fire service, as a result of an incident (other than a simple EMS call) will be documented in an NFIRS.
- 3.3. All fire service injuries shall be documented in an NFIRS.
- 3.4. The Fire Chief or his designee shall have the authority to edit the fire loss values.
- 3.5. Only personnel completing the report shall make corrections/edits to their respective NFIRS report.
  - 3.5.1. Exception allowed for individual narratives, i.e. observation reports etc.
- 3.6. When a duplicate call is generated no report shall be completed. Only the logbook/files at 51's shall contain the duplicate call entry/run sheet.
- 3.7. The shift commander or their designee shall create a daily roster in the NFIRS program.
- 3.8. All run sheets not stored with, or as, the final report will be destroyed by shredding.

#### **4.0 RESPONSIBILITIES**

- 4.1. The Officer in Charge/Incident Commander shall be responsible for completion of all NFIRS reports for suppression calls and forwarding related fatality paperwork to the Tukwila fire prevention office (see section 5.10).
- 4.2. Each individual, when required, shall write observation narratives.
  - 4.2.1. Examples of when observation reports might be required are:
    - 4.2.1.1. Arson Fires
    - 4.2.1.2. Suspicious Fires
    - 4.2.1.3. Dollar loss greater than \$10,000
    - 4.2.1.4. When an investigator is called to the scene
- 4.3. All reports are due by the end of each shift. Any exceptions must be cleared through Battalion 51.
  - 4.3.1. Calls for service at the end of your shift will be given a 1-day grace period at the discretion of the Operations Chief.
  - 4.3.2. No report will be carried over a 4 day off period unless approved by a Chief Officer.

## 5.0 PROCEDURES

- 5.1. When responding to Boeing, there is no mutual or automatic aid given.
- 5.2. When dispatched to a call and you cannot locate it, the following codes will be used 622 – no incident found on arrival at dispatch address, with a corresponding action taken of 86 – investigate.
- 5.3. When responding to a “white powder call”, the following incident types will be utilized:
  - 5.3.1.1. Intentional Biohazard Incident – Code the Incident Type as Incident Type 451 (Biological hazard, confirmed or suspected).
    - The Hazardous Material Release field should be coded as 0, (Other, Special Haz Mat actions required) and the Haz Mat module should be completed.
    - On the Haz Mat module, code the Cause of Release as 1 (Intentional).
    - Free-form enter the actual name of the biohazard again in the chemical name field (i.e. Anthrax) on the Haz Mat module rather than picking one of the chemicals from the existing database.
    - For Anthrax releases, code one of the Factors Affecting Mitigation as 21 (Release of extremely dangerous agent).
  - 5.3.1.2. Unintentional Biohazard Incident Code the Incident Type as Incident Type 451 (Biological hazard, confirmed or suspected).
    - Same as above except code the Cause of Release as 2 (Unintentional).
  - 5.3.1.3. Biohazard Reported But No Hazard Found
    - For good intent calls, use Incident Type 672 (Biological hazard investigation, none found)
    - For false Biological threats use Incident Type 751 (Biological hazard, malicious false report).
- 5.4. Exposures will be documented by creating a new incident report with the same incident number and incrementing the exposure number by one for each of the exposures. Damage to adjacent building, vehicles etc, which do not meet the definition of an exposure will have the dollar loss lumped together with the main fire loss and documented in the narrative. Exposures are defined in section 2.11.
- 5.5. Narratives shall be named in the following manner:

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- Main Narrative: Use the following format:
    - 03-0001 Narrative.
  - Observation Report Narratives: Use the following format:
    - OR, Last Name-First Initial
- 5.6.** Narratives may be completed in a “SOAP” format or any format that systematically describes the incident and the actions taken.
- 5.6.1.** Narratives shall be written in the 3<sup>rd</sup> person format.
- 5.6.2.** Mutual Aid Companies shall be listed in the narrative under a separate line called M/A, for example:
- S) E53 dispatched to 123 E. Main St. for a reported kitchen fire. The 1<sup>st</sup> due station is Station 54.
    - O) E53 arrived to find a 25 x 50 two-story wood frame single-family dwelling with nothing visible.
    - A) E53 investigated to find food on the stove with no extension.
    - P) All units except E53 code green. E53 ventilated and obtained owner information. E53 Returned in service.
    - M/A) E47, E19.
  - S) E52 Dispatched to a reported car fire at 12680 Gateway Drive. The 1<sup>st</sup> due station is station 53.
    - O) E52 arrived at 0230 hrs to find a single car fire with the passenger compartment fully involved.
    - A) Possible arson car fire
    - P) E52 attacked and extinguished the fire with a 1 ¾ in hose line with foam. E52 requested an investigator due to the fire location and the time of day. E52 advised Battalion 51 of situation. E52 surveyed the scene and found an empty gas can. The gas can was left in place where it was found. E52 took photos of scene and waited for the investigator. E52 tied in with the investigator upon his arrival. E52 returned in service.
- 5.7.** Observation reports will be written into the NFIRS program. Each member responding to an incident requiring an observation report will complete a narrative. See section 4.2
- 5.8.** Exposure Fire reports will be written into the NFIRS Program. Each exposure shall be given a number, starting with 001. Each additional exposure shall be incremented by 1. The format of the exposure fire narrative shall follow the same format as the main incident narrative. See Section 5.6. The exposure must be identified in the narrative as to the side of the building starting with the A side. Example Exposure “001” = Exposure “A1”

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- 5.9.** All air monitoring conducted at the scene of an incident shall be documented as an attachment with the following information:
- 5.9.1.** The members conducting the air monitoring.
  - 5.9.2.** The date and time of the incident.
  - 5.9.3.** The incident number.
  - 5.9.4.** The results of said air monitoring.
    - 5.9.4.1.** Either by hand notes or downloaded data
  - 5.9.5.** All personnel entering the contaminated area.
- 5.10.** Fire Fatalities shall be documented in the NFIRS program utilizing patient numbers. Full patient information shall be documented on the Washington State Fire Fatality Form. All appropriate precautions for HIPAA compliancy will be taken. The information on the Washington State Fire Fatality Form shall be forwarded by the Tukwila fire prevention office to the state fire marshal's office via one of the following means:
- 5.10.1.** Email – mgannie@wsp.wa.gov
  - 5.10.2.** Fax – 360-753-0398
  - 5.10.3.** Verbal communication – 360-753-0523

**Note:** For further information regarding this policy, please contact Battalion Chief Jim Schell [jschell66@comcast.net](mailto:jschell66@comcast.net)

# APPENDIX B

## MICROSOFT EXCEL<sup>®</sup> ORIENTATION FOR PIVOT TABLE USERS

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NFIRS PROGRAM MANAGEMENT  
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## *Excel<sup>®</sup> Orientation For Pivot Table Users*

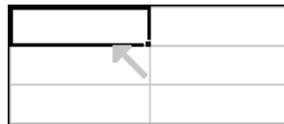


### Objectives

- The student will understand terminology that relates to Excel<sup>®</sup>
- The student will understand the basic operation of Excel<sup>®</sup>
- The student will be able to navigate and generally operate within Excel<sup>®</sup> in preparation for Pivot Table training

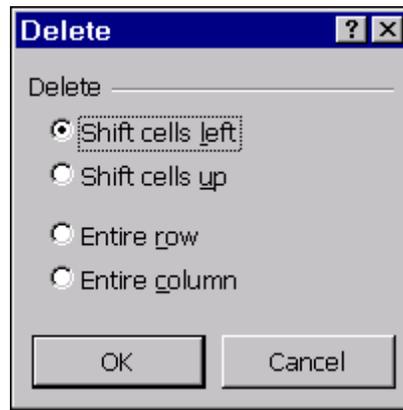
### Cell and Cell Address Management (Move, Copy, Delete, Fill, Format)

- To **move** a cell or cells, select the cell(s) you want to move and position the mouse arrow on the edge of the cell. Click and drag to new location.

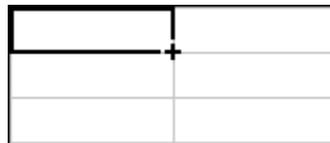


- To **Copy a cell** or cells, select the cell(s) you want to copy and chose  from the  function on the menu bar, hold down the Control key and press “C” on the keyboard, or use the copy icon  on the Standard Toolbar.
- To **Delete the contents of a cell**, select the cell and hit “Del” on the keyboard.
- To **Delete a cell**, select the cell and click the mouse on  from the menu bar and select . The Delete Window will appear and allow you shift the cells the direction you want.

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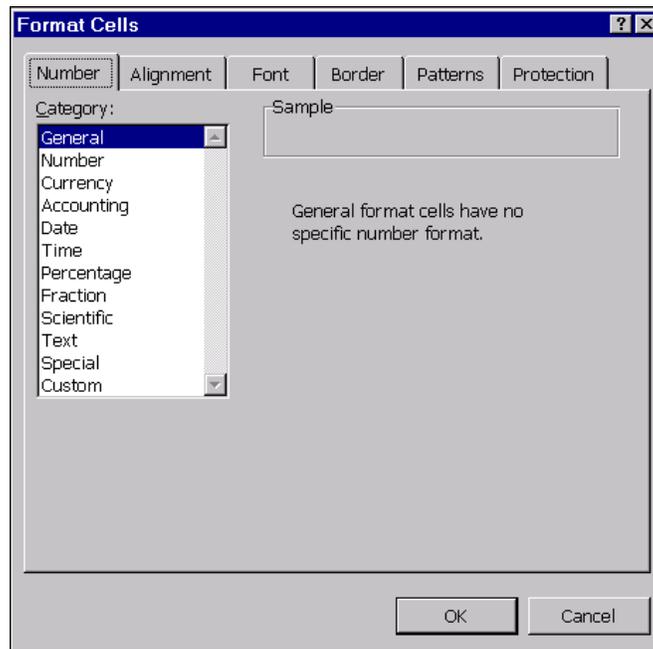


- To **Fill a cell** or cells with what is in a specific cell, move the mouse pointer to bottom right corner of the cell with the information you want until the black + sign appears, hold down the mouse button and drag to cells you want affected. If you want the entire column filled, double click on the black + sign. When double clicking, there must be information in the column to the right or left of that column for it to fill that distance.



- To **Format a cell** or cells, chose  from the menu bar and select  or hold down the Control key and press “1” on the keyboard. The format cells menu will appear and from here you can choose the format function you want (Number, Alignment, Font, Border, Patterns, or Protection.)

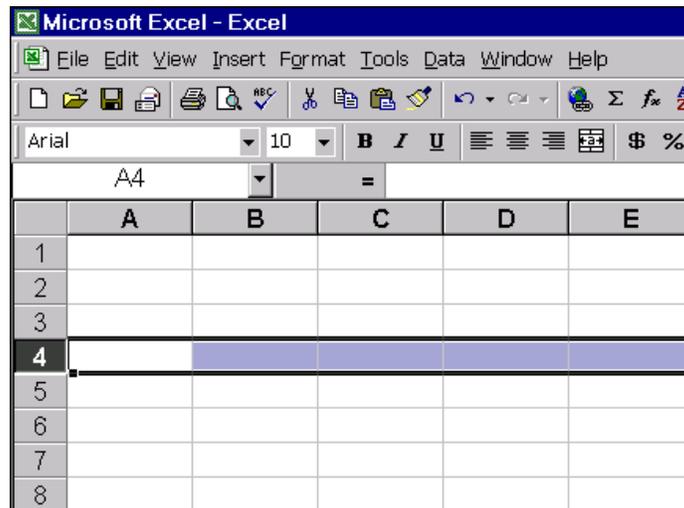
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### Row Management (Insert, Delete, Select, Format)

- To **Inset a row** select **Insert** from the menu bar and select **Rows**.
- To **Delete the contents of a row** select the row by mouse clicking on the number to the left of the row (1) and hit Del on the keyboard.
- To **Delete a row, Select the row** by mouse clicking on the number to the left of the row (1) and select **Edit** from the menu bar and select **Delete...**. This will move the remaining rows up.

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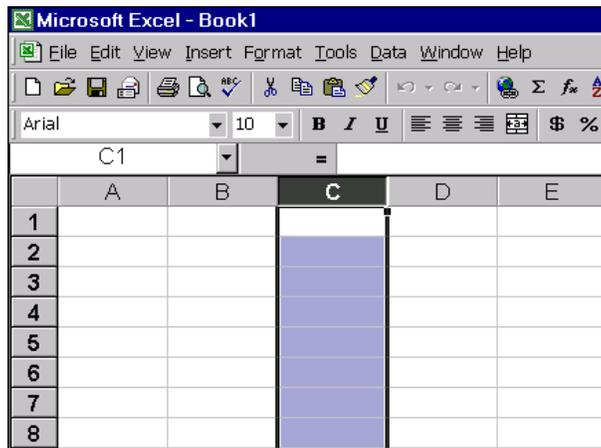


- To **Format a row**, Select the row and select **Format** from the menu bar and select **Cells...** or **Row**. If you select **Cells...** it will format all cells in that row the same. If you select **Row** you can format for height, autofit, hide or unhide rows.

### Column Management (Insert, Delete, Select, Format)

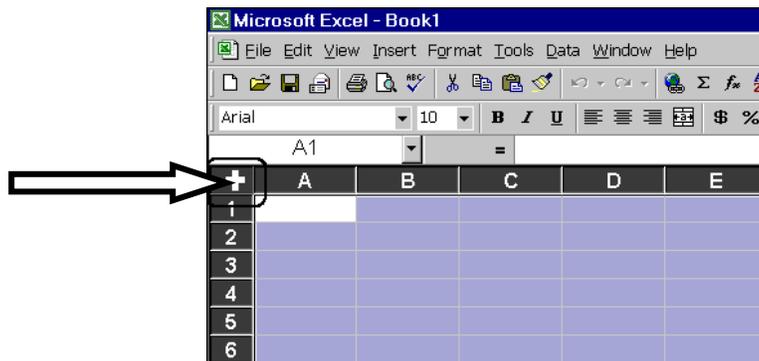
- To **Inset a column** select **Insert** from the menu bar and select **Columns**.
- To **Delete the contents of a column**, **Select the column** by mouse clicking on the letter above the column ( **A** ) and hit Del on the keyboard.
- To **Delete a column**, select the column by mouse clicking on the letter above the column ( **A** ) and select **Edit** from the menu bar and select **Delete...**. This will move the remaining columns to the left.
- To **Format a column**, select the column and select **Format** from the menu bar and select **Cells...** or **Column**. If you select **Cells...** it will format all cells in that column the same. If you select **Column** you can format for height, autofit selection, hide or unhide columns.

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**Sheet Management (Insert, Delete, Select)**

- To **Inset a worksheet** select **Insert** from the menu bar and select **Worksheet**.
- To **Delete the contents of a worksheet, Select the worksheet** by mouse clicking on the space above the row numbers and to the left of the column letters and hit Del on the keyboard.



- To **Delete a worksheet** select **Edit** from the menu bar and select **Delete Sheet**. This is a function you can not “undo” so be sure you really want to delete the sheet.

## Workbook (File)

An Excel<sup>®</sup> file is referred to as a Workbook and is made up of one or more worksheets

## Save

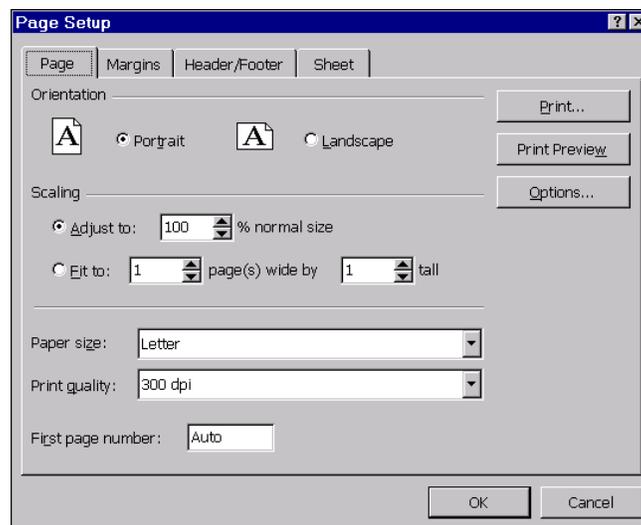
To Save a file, select  from the menu bar and select  or Select  from the toolbar or hold down the Control key and press “S” on the keyboard.

## Save As

The  function from the  menu will allow you to name a new file or rename an existing one. NOTE: the changed information will not be saved under the original file name.

## Page Setup

The  function from the  menu allows you to manage page orientation, scaling, paper size, margins, headers and footers, and sheet operations.



## Print Area

The **Print Area** function from the  menu allows you to set or clear the print area



## Cut

The  function from the  menu allows you to cut a selection to the clipboard for future pasting. It will remove the selection from its cut position. It can also be done from the toolbar with the  icon, or hold down the Control key and press “X” on the keyboard.

## Copy

The  function from the  menu allows you to copy a selection to the clipboard for future pasting. It will not remove the selection from its copied position. It can also be done from the toolbar with the  icon, or hold down the Control key and press “C” on the keyboard.

## Paste

The  function from the  menu allows you to paste a selection from the clipboard. It can also be done from the toolbar with the  icon, or hold down the Control key and press “V” on the keyboard.

## Repeat

The  function from the  menu allows you to repeat the last process conducted. This can also be done with the keyboard by holding down the Control key and pressing “Y”.

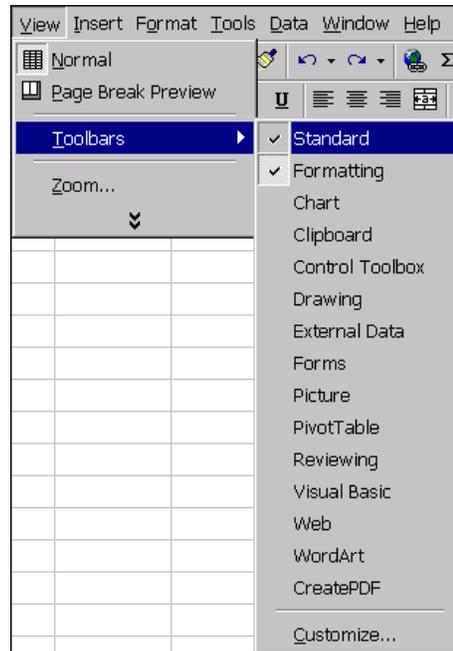
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**View Toolbars**

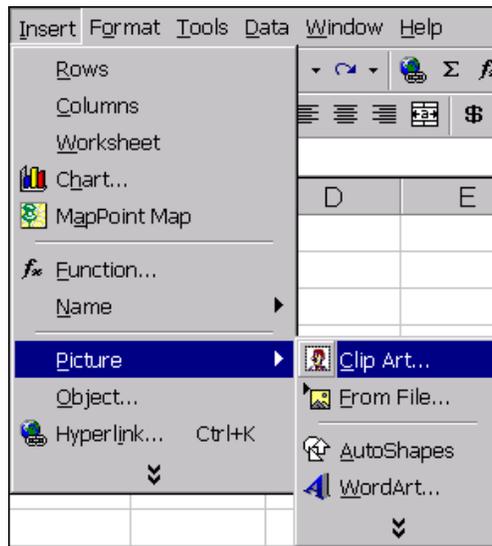
Selecting **Toolbars** from the **View** menu allows you to manage which toolbars are visible and also allows you to customize your toolbars with the icons you want.



**Insert Picture**

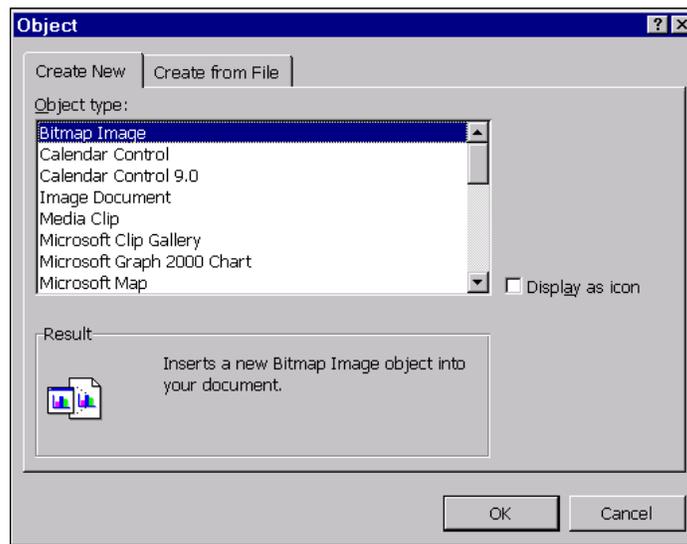
The **Picture** function from the **Insert** menu allows you to insert a picture from Clipart, a File, Autoshapes or WordArt.

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### Insert Object

The **Object...** function from the **Insert** menu allows you to insert an object from a file or create a new image such as clipart, a bitmap image, a media clip or other objects.



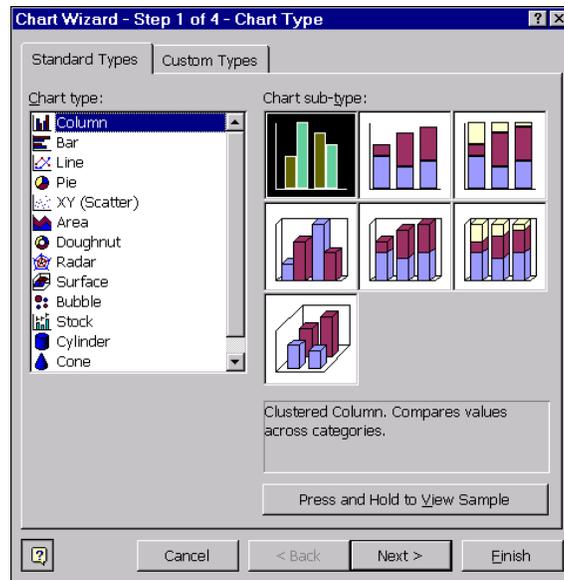
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### Insert Chart

The  Chart... function from the  Insert menu allows you to insert a chart from selected data either on that worksheet or as a new sheet. You can also perform this function from the  icon on the toolbar. Either way you will be connected to the Chart Wizard.



### Data Sort

The Data  Sort... function from the  Data menu allows you to Sort a file using multiple criteria with or without a header row. Be careful not to select a column first or it will only sort that column and your data will be corrupt.



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**Data Filter**

The Data  function from the  menu allows you to select specific criteria to view in multiple columns by using the  button that appears at the top of each column.

	A	B	C
1	<b>IncidentID</b> 	<b>FDID</b> 	<b>FD_Name</b> 
2	363	01100	BOISE FIRE DEPARTMENT
3	364	01100	BOISE FIRE DEPARTMENT
4	365	01100	BOISE FIRE DEPARTMENT
5	366	01100	BOISE FIRE DEPARTMENT
6	454	01100	BOISE FIRE DEPARTMENT
7	455	01100	BOISE FIRE DEPARTMENT
8	456	01100	BOISE FIRE DEPARTMENT
9	457	01100	BOISE FIRE DEPARTMENT
10	524	01100	BOISE FIRE DEPARTMENT
11	525	01100	BOISE FIRE DEPARTMENT
12	526	01100	BOISE FIRE DEPARTMENT
13	527	01100	BOISE FIRE DEPARTMENT

**Pivot Table**

A **Pivot Table** is interactive by selecting the  button in a pivot table and can be generated from data utilizing the  selection from the  menu or by clicking on the Data Wizard icon () from the toolbar.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Year</b>	2000 												
2														
3	<b>Count of TypeCode</b>	<b>Month</b> 												
4	<b>TypeClass</b> 	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
5	1 Fire	27	22	45	31	32	80	112	66	44	40	24	33	556
6	2 Exp	1	1	2			1	1	1	3	3	1		14
7	3 EMS	25	4	3	1	3	3	1		3	2	2	2	49
8	4 Hazard	14	18	27	22	20	25	27	30	25	22	18	39	287
9	5 Service	10	16	10	18	12	15	12	15	16	20	18	15	177
10	6 Good Intent	45	32	40	31	33	31	34	48	34	28	49	47	452
11	7 False Call	76	90	100	78	90	87	94	88	102	110	121	82	1118
12	9 Other	4	11	9	5	7	1	1	1	1	1	9	7	57
13	<b>Grand Total</b>	202	194	236	186	197	243	282	249	228	226	242	225	2710

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### **Formula Bar**

The formula bar shows what is in the selected cell whether it is a formula or text.



### **Autosum**

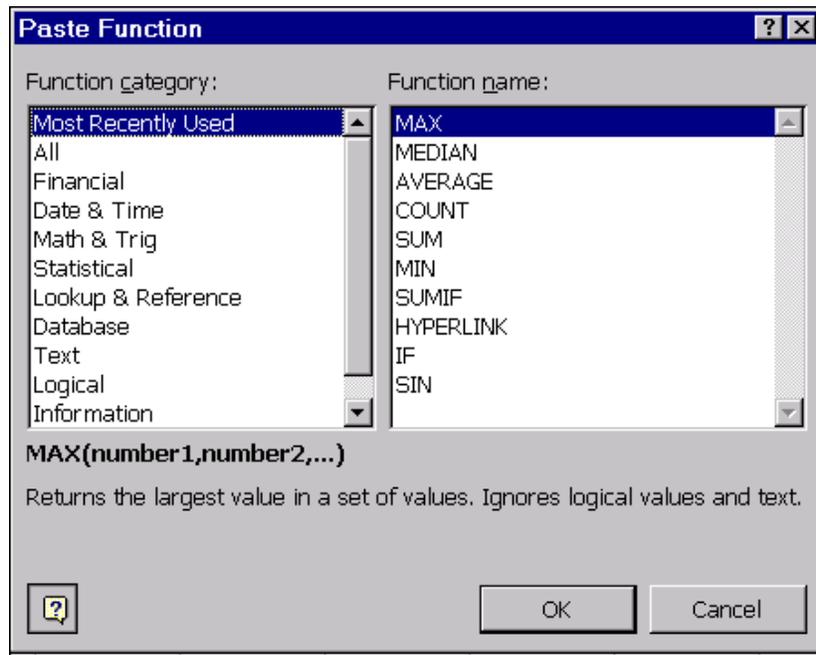
The Autosum function can be activated from the  icon on the toolbar and will allow you to do quick calculations based on data in a row or column. You can also modify and create more complex formulas by selecting cells and functions after selecting the  icon on the toolbar.

	A	
1	234	
2	324	
3	654	
4	332	
5	124	
6	315	
7	743	
8	293	
9	=SUM(A1:A8)	

### **Paste (Formula) Function**

The  from the  menu allows you to manage more complex formulas such as average, mean, minimum maximum, etc.

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**Creating Your Own Formulas (date time use for NFIRS data)**

To create your own formulas to extract specific date and time information from NFIRS **Alarm Time** data, create new columns to enter the formulas, reference the cell with the date time information and type the following formulas:

Time	DOW	Month	Day	Year
=TEXT(A2,"hh:mm")	=TEXT(A2,"ddd")	=TEXT(A2,"mmm")	=TEXT(A2,"dd")	=TEXT(A2,"yyyy")

**(In this formula A2 is the cell with the date time information).**

IN_AlarmDate
1/2/99 1:15 PM

Data will appear in the following format:

Time	DOW	Month	Day	Year
13:15	Sat	Jan	02	1999

These formulas can be copied down the column by using the fill function as described earlier.



## **MODULE 4 DATA ANALYSIS AND THE DECISION-MAKING PROCESS**

### **Prerequisites**

Students are required to meet the following prerequisites before participating in this module:

- *Understand NFIRS 5 coding and rationale*
- *Bring three to five business or operational issues of interest to the department where analysis of NFIRS data could provide a resolution*
- *Operational knowledge of Excel<sup>®</sup>*

### **Terminal Objectives**

The students will be able to:

- Identify the business justifications for using fire data analysis techniques as part of the decision-making process.
- Apply the problem solving process, using NFIRS data, to address real agency problems, issues and questions.
- Demonstrate the development of simple and complex pivot tables and publish results, both in table and chart form, on a website.

### **Enabling Objectives**

The students will:

- Identify three characteristics that the fire service shares with the business community.
  - Identify problems, questions, and concerns that can be answered with NFIRS data.
  - Develop an analysis plan to address a problem or question in your organization.
-

- Develop a pivot table using extracted NFIRS data to support the student's analysis plan.
- Construct a graph using proper guidelines to support the analysis of a problem or question.
- Publish a web-enabled pivot table and pivot chart.

## References

### **Student Manual**

Your Student Manual (SM) includes a narrative text for you to highlight key points for some of the content and also can be used to make notes. During several of the units, you will be using your SM as a guide (or map) to the source documents. The SM will be your primary reference material once you return to your department. Page references to the source documents you will be using throughout the course are included in the SM.

### ***NFIRS Complete Reference Guide***

The *NFIRS Complete Reference Guide* is a line-by-line guide to the completion of the incident report modules. The handbook includes all of the code conventions.

### ***NFIRS Data Entry Tool Guide***

The *NFIRS Data Entry Tool Guide* is a guide for the entry, maintenance, and validation of incidents, as well as a detailed explanation and steps on how to use each tool.

### ***Accessing and Analyzing Data with MS Excel<sup>®</sup>, Paul Cornell, Microsoft Press 2003***

Background text on pivot tables, OLAP, and analysis techniques.

### ***Excel<sup>®</sup> Data Analysis 2nd Edition, Jinjer Simon, Wiley Publishing, Inc., 2005***

Background text on various descriptive and inferential statistical techniques using Excel<sup>®</sup>.

## INTRODUCTION

This module will provide you with the rationale for why NFIRS data is essential to your department's effective and efficient delivery of services to your constituents, including the saving of life, property and the environment. You will learn guidelines for converting NFIRS data into useful information, and gain the tools and skills necessary to begin the complex analysis of your department's data.

## THE FIRE AND EMERGENCY SERVICES BUSINESS MODEL

What differentiates successful business from ones that fail? Let's review some representative businesses from four major markets: *technology, manufacturing, entertainment* and the *food industry*. Are there lessons for the fire and emergency services when comparing business that survive and those that fail?

- ***Domino's*** was the first pizza chain to recognize the change habits of their consumers. They determined that customers would rather take pizza home, or have it delivered to their homes, rather than go out to eat at a pizza parlor.
  - > How are their competitors and where are they today?
  - > Is the competition still in the process of change?
  - > Domino's stock value is an indicator of their success.
- ***Blockbuster*** is the leader in the very competitive market of movie rentals and has stayed ahead of their competition and continues to lead in the marketplace.
  - > Who is Blockbuster's competition?
  - > Where are they now?

- > How has Blockbuster’s marketplace changed in the past few years? How have they adapted to these changes?
- > Blockbuster survived the BetaMax/VHS market shift, VHS to DVD market shift, satellite TV by actually selling direct TV in their store, and is competing with Net Flicks by offering both web and in-store “flat fee unlimited rentals”.
- **General Electric (GE)** was the leader in home appliances up until the 80’s. They recognized the shift in their market and devised to move into other opportunities.
  - > What change in their marketplace occurred in the 70’ – 80’s (overseas manufacturing of home appliances)?
  - > What happened to their competitors (Emerson, RCA, and White)?
  - > What is GE doing today? (Recognizing the baby boom, GE has focused on transportation and health care (jet engines, CAT scans, MRI’s etc.)
- **Dell** computers are the most profitable of all personal computer and server companies. They recognized early in the game that computer components become technically obsolete (Moore’s Law) over a relatively short period of time. The use a highly efficient “just in time” inventory ordering system that allows them to float consumer funds to cover all of their inventory costs.
  - > Who are Dell’s competitors (Gateway, Compaq, HP, eMachine)? Where are they now?
  - > How have they changed to meet the short shelf life of PC’s today?

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The lesson learned from successful businesses that survive is that they have adapted to changes in their environment relative to customers, competitors and their products and services. Successful businesses continuously analyze data related to their customers, competitors and the quality of their services and products.

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**Activity 4.1**  
**Impact of Change on Your Department/Agency**

**Purpose**

To identify some of the data sources available to the fire and emergency services for analysis purposes.

**Directions**

1. You will be divided into small groups.
2. Each member in your group will identify and record the services, constituents
3. Customers and competitors of the agency or department they represent.
4. Each student will then determine the three (3) most significant changes that have affected his/her agency in the last 7 years. Record these changes on the worksheet.
5. A comparison will be made within each group to determine if there are similarities between the agencies represented.
6. As a group, identify the three (3) most significant challenges facing the agencies represented over the next seven years.
7. Be prepared to discuss these findings with the other groups in the class.

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**Activity 4.2**  
**Thinking With Your Gut**

**Purpose**

To identify the underlying mechanism that fuels intuition as described in the article entitled “Thinking With Your Gut.”

**Directions**

1. Reread the article entitled “Thinking With Your Gut”
2. Answer the questions on the next page.
3. Be prepared to share your thoughts with the group.



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**Activity 4.2**  
**“Thinking With Your Gut”**

1. What were the three examples of business decisions that “came from the gut” and went against conventional wisdom?
  
2. Is Intuition an inherent trait or can it be learned?
  
3. How were the Marines taught Decision-Making?
  
4. What happened when Marines worked as stock market traders?
  
5. What is the difference between the intuition process and the rational decision model?
  
6. In what circumstances are each of these methods most useful:
  
7. How does “Thinking with Your Gut” relate to the fire service business decisions?



## TYPES OF REPORTING TOOLS

There are typically three types of output reports that are commonly used to analyze data:

- Standard
- Ad hoc
- Analytic

Standard reports are fixed format, meaning that the data included in the report and the statistics used to summarize the data are predetermined by the programmer.

Ad hoc reports allow some flexibility on the selection or filtering of the data for inclusion in the report. Typically only a few predetermined filters are provided.

Analytic reports are a special type of report that allows full interaction with the data and the selection of the statistics being displayed, the data to be included and the ability to filter on one, or all of the data in the database.

Analytic reports simultaneously answer all of the questions necessary to perform a true analysis of the data:

- Who
- What
- Where
- When
- Why
- How

## TRANSFORMING DATA INTO USEFUL INFORMATION

Does raw NFIRS data support the planning and decision-making process in its current form? Is there any information content in this NFIRS data?

Organizing the data brings out information content. Can you now see information content in the same NFIRS data? Information content can also be extracted when the data is summarized (statistics are applied).

Organizing and summarizing data brings out its informational value and benefit

Organize—Charts & Graphs

Summarize—Statistics

Organizing the raw data into columns increases the information content of the data. Further organization of the data by adding labels also increases information content. The final step in converting data into useful information is to summarize the data using simple and complex statistics (counts, percents, ratios, rates, averages, and linear regression techniques, etc.)

Regardless of the source of the planning data, to make it useful information, it must be organized and summarized to support the decision process.

### **Tools and Techniques for Organizing Data**

The basic analytic techniques for organizing data involve the use of charts and tables. It has been said, “A picture is worth one-thousand words.” Charts and tables paint a picture that is a very powerful tool for identifying patterns and trends in the data.

There are five common graphic techniques for organizing and presenting data:

- Pie Charts
- Bar Charts
- Line/Area Charts
- Purpose
- Audience
- Data Types

There are no absolute rules for constructing appropriate charts but these guidelines will provide a framework to squeeze the most information content possible from the data.

## **Pie Charts**

Pie charts are graphical techniques suitable for Big Picture audiences with the intended purpose of showing the contribution of one element (slice) to the whole, and are used with categorical or grouped continuous data types.

To improve the information content of pie charts, the partitions or slices should be limited to 8 or less, each slice should be easily visible, and consider using percents rather than actual counts to label the slices.

This chart type can be used in all planning phases but is most commonly used in the community profile phase to describe the composition of profile characteristics (total incidents by type, primary ignition factor involved in fatal fires, etc.) Pie charts are less likely to be used in the fit-gap and monitoring/evaluation phases of the planning process because they cannot be used to compare more than one variable at a time.

## **Bar Charts**

Bar Charts are suitable for “Big Picture” audiences for the purpose of comparing the contribution of one component to another. Bar charts can be used with categorical or grouped continuous data. This type of chart is effective for informing and motivating an audience. Bar chart elements (bars) should be kept to a maximum of 18-24.

Bar charts are the most commonly used graphic technique in the planning process because they can compare more than one variable on a single chart. Bar charts can be used to compare actual data with benchmark criteria to determine where gaps exist in the emergency response system, and as a monitoring/evaluation tool to evaluate changes in data over time.

## **Line/Area Charts**

Line charts are useful for Big Picture audiences by informing and motivating decision-makers to take a recommended course of action. Line/area charts are commonly used to evaluate trends

over time and forecast outcomes into the future. Line/Area charts are appropriate for continuous data types.

The following example demonstrates the use of a line chart that depicts a trend and forecast of fire incident data. Discuss with the students the limitations of extending a forecast too far into the future (correlation does not mean causation – uncertainty of external influences, etc.)

### **Pictographs/Maps**

Pictographs are charts derived from pictures. This type of chart is useful for “Big Picture” audiences and can be combined with tables for the detailed audience. Pictographs should be limited to 6-8 data points and require the use of categorical or grouped continuous data types.

The concept that a picture is worth a thousand words is verified with pictographs. However, too many data points can overwhelm the audience and reduce the value of the pictograph.

Maps are a special form of pictographs and powerful tools in the master planning process. Pin maps are static, typically pre-printed maps where the data are manually paced on the map, for example the location of incidents relative to the location of fire stations, etc.

Geographic Information Systems automate the process for producing electronic maps that contain “layers” of points, lines and polygons that represent various data. GIS maps and other technologies will be discussed later in the lab.

Maps uniquely personalize the data being presented to an audience. When presented with a map, most people typically will focus their attention on a geographic area of personal interest to them. Legislators, for example, look at the political boundaries of their districts to see the impact of the data on their constituents, etc.

Pictographs and maps are one of the best chart types for use in all areas of the planning process because all aspects of emergency planning have a spatial component.

“Pivot tables” and “OLAP” On-Line\_Analytic-Processing Cubes that are the foundation of today’s Business Intelligence arsenal of tools used by the majority of the Fortune 500 companies and successful businesses. Pivot Tables and OLAP tools allow you to view your data in any number of ways and dimensions. Typical tables only provide a two-dimensional view; pivot tables give you the ability to look at your data in n-dimensions with a simple click and drag of your mouse. One pivot table can literally generate over 250,000 report views for a typical NFIRS database.

### **Chart Formatting Recommendations**

Proper formatting of your chart or graph is just as important as selecting the proper chart type. Failure to properly document the purpose, source and date of the data, or overly “glitz” the chart can severely detract from the information value of the chart.

Guidelines:

- Description / Clear Titles
- Data Time frames
- Limit to three text styles
- Reference sources
- Resist information overload!

### **ORGANIZING DATA WITH MS EXCEL**

MS Excel<sup>®</sup> is a commonly available spreadsheet program that can be used to organize and summarize planning data in various formats, including NFIRS data. Excel<sup>®</sup> is a unique spreadsheet program because it comes with pivot table capabilities that are typically only found in software programs that cost thousands of dollars. Excel<sup>®</sup> also has a very powerful and easy to use charting capability that can produce published quality output.

Because some of the class members may have varying levels of experience with Excel<sup>®</sup>, we will go through a short tutorial on Excel<sup>®</sup> basics. Only a basic level is required to perform all of the analyses necessary to support the planning process, although additional experience and knowledge with Excel<sup>®</sup> is always beneficial.

## SUMMARIZING DATA WITH MS EXCEL USING PIVOT TABLES

Charts and tables provide a means to paint a picture of the data being analyzed to identify trends, patterns, and relationships present in the data. Techniques to summarize data provide a numeric calculation to summarize the frequency of occurrence or distribution of the data with a single measure or statistic. These single measures that represent the underlying data provide an empirical way to evaluate and compare two or more series of data.

The following are simple “descriptive “statistics because they provide a single measure or number to describe the data being analyzed.

### Counts

*Definition:* Counts are the simplest summary measure that indicates the count of a nominal or ordinal variable. Counts do not take into consideration the numeric value of the variable, just the number of occurrences of the variable.

*Example:* Count of fire incidents, count of fatal fires, etc.

*Excel<sup>®</sup> Function:* =count()

### Sums

*Definition:* The arithmetic sum of an interval or ration data.

*Example:* Number of fire fatalities, number of firefighters responding, total dollar loss, etc.

*Excel<sup>®</sup> Function:* =sum()

### Rates

*Definition:* A count or sum of a variable per unit of measure (10,000 population, 1000 fires, etc.). This variation of counts and sums standardizes the measure to a common denominator to allow for more realistic comparisons. Rates are essential for describing

data in all phases of the planning process. Monitoring and evaluation require the use of rates to standardize comparisons.

*Examples:* 15 residential fires/10,000 population /year, 1.5 fire deaths/10,000 fires/year. .15 fire deaths/10,000 fires/year

*Excel<sup>®</sup> Formula:* =(number of occurrences/population) X rate (e.g. 100,000)

### Percent

*Definition:* The part of a whole expressed in hundredths. This measure is valuable in all phases of the planning process and can be used to compare changes in the variable over time.

*Example:* 40% of all fires are cooking related.

*Excel<sup>®</sup> Formula:* =(component/total) X 100

### Measures of Central Tendency

*Definition:* There are three measures that describe center or “average” of a series of numbers, the mean, median and mode.

The **mean** is the arithmetic average of the values in a distribution. To calculate the mean, add all the scores together and divide the total by the number in the distribution. The mean is the most robust measure of central tendency when the distribution is normally distributed, but is the most influenced by outliers.

The **median** is the middle term of a distribution. It is the point at which half of the terms fall above it and half of the terms fall below it. The median is not as robust as the mean but it is not influenced by outliers.

The **mode** is the term that appears most frequently in the distribution. It is the simplest measure of central tendency.

*Example:* (Response Times)

4  
4  
5

7

10

30

Mean = 6 (30 divided by 5).

Median = 5 (the middle value in the sorted series)

Mode = 4 (the most frequently occurring number)

Excel<sup>®</sup> Function:     =average(data range)  
                              =median(data range)  
                              =mode(data range)

### Trend Analysis Techniques

A major task in emergency master planning is to identify past and present trends for use in predicting how the data will behave in the future. Regression analysis, an inferential statistical procedure, is useful for detecting trends and developing a mathematical equation to predict future values.

The theory and detailed interpretation of regression analysis is beyond the scope of this class. However, with a conceptual understanding, regression analysis can be used as a descriptive tool to generate graphical representations (charts) of trends and forecasts.

One use for regression analysis in the planning process is its capability to identify trends in data over time. For example, the decreasing trend in fires and fire deaths over time or the increasing trend EMS services over time. Regression analysis develops a mathematical equation that provides a “best fit” solution that minimizes the difference between the predicted and actual observations. The strength of the relationship is measured by a Correlation Coefficient which varies from a (-1), inverse relationship to a (+1), a perfect relationship. The resulting mathematical model can be used to predict future values based on the strength of this relationship.

For planning purposes, linear regression analysis is used to detect trends and provide an equation for forecasting purposes. The assumptions behind linear regression are:

- The relationship is linear.
- Errors are normally distributed.
- Errors are independent.
- Errors have a constant variance.

### Pivot Tables and OLAP Tools for Organizing and Summarizing Data

In this basic data analysis class you will be given a CD containing two (2) plug and play pivot tables one that provides a an all incident summary of your incidents and the other that provides a detailed view of your fire incidents. The CD also provides three video files that provide instruction on extracting your departments/states NFIRS data, connecting the extracted data to the respective plug and play pivot table templates and a demonstration on how to use pivot tables for analyzing your data,

The first step in the analysis process is the development of a simple “Analysis Plan”. The plan has three parts: The description of the problem or issue being analyzed the data requirements to include in the pivot table, and the assumptions concerning the outcome of the analysis process. Appendix A provides a sample Analysis Plan.

### **NFA Computer Lab**

Your instructor will introduce you to NFA Computer Lab and provide instruction on the use of Excel<sup>®</sup> and Pivot Tables to analyze your department’s NFIRS data.

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**Activity 4.3  
Analysis Plan**

**Purpose**

Students will gain knowledge and experience in creating an Analysis Plan using a problem or issue of interest to their department.

**Directions**

Using the Sample Analysis Plan (Appendix A) you will:

8. Write a one sentence operational description of the problem/issue that contains information on the “who, what, where, when and how” elements of the problem/issue.
9. Determine the appropriate “measures” and the appropriate statistics for inclusion in the “data” section of the Plan.
10. Determine the groups, categories or code data fields to include in the “page” section of the Plan. These typically relate to the “who, what, where, when, why and how of the issue or problem.
11. Construct a one sentence description of the assumptions regarding the analysis results. This will provide a QA check to ensure that all of the required data has been included in the plan.
12. Students should be prepared to present their Analysis Plans to the class.

**Data Analysis Laboratory**

Your instructor will introduce you to NFA Computer Lab and provide instruction on the use of Excel<sup>®</sup> and Pivot Tables to analyze your department’s NFIRS data. The Instructor will demonstrate each activity/exercise and then allow the students to perform the task using their own data.

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**Activity 4.4**  
**Using Pivot Table Templates**

**Purpose**

To teach the students the knowledge and skills necessary for them to integrate the pivot table template with their own NFIRS data.

**Directions**

1. Your instructor will distribute a CD containing the NFIRS Business Intelligence (BI) Tool Kits that contain three (3) pivot table templates and associated MS Queries (Incident Summary, Fire and EMS), sample pivot tables, and sample NFIRS data.
2. Copy the BI Tools folder to your desktop.
3. Demonstrate the ODBC connection to the NFIRS Access or other database containing the results of the pivot table query (Tools, Pivot Table Wizard >Back >Get Data.)
4. The template is currently linked to a foreign database so the connection must be terminated. Select Cancel MS Query, and then select New.
5. In the Data Source Window, select Access or the name of the database containing the query results.
6. Select the Drive, Directory and Database containing the query results.
7. In the MS Query window, select the specific table that contains the query results and select all fields.
8. DO NOT sort or filter the extract file
9. Select “Return data to MS Excel”
10. You should now see the ODBC connection passing the records to the pivot table template.
11. A video containing the step by step process is included in the CD BI Toolkit

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**Activity 4.5  
Data Analysis Lab**

**Purpose**

Students will use the Analysis Plan to construct a pivot table view to analyze complex, multi-dimensional fire service problems.

**Directions**

1. The Instructor will demonstrate the pivot table analysis process by using the Analysis Plan developed to evaluate the delayed response, discussed earlier in Module 4.
  - a. Page (Dimension) Fields:
    - i. Incident Cat
    - ii. Date
    - iii. Time
    - iv. Address
    - v. Station
    - vi. Shift (added after assumptions indicated that there might be a crew problem)
  - b. Data (Measure) Fields
    - i. Count
    - ii. Percent
    - iii. Average response time
    - iv. %<= 6 min
  - c. Create a model for the 2 am call on New Years day for a service call.
2. Using your own NFIRS data, or sample data from the BI Toolkit, and the Analysis Plan you will:
  - Connect the pivot table template to your data source.
  - Construct the pivot table view based on your Analysis Plan.
  - Develop a model of the problem or issue defined in the Analysis Plan.
  - Identify patterns and trends that elucidate or resolve the problem or issue.

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**Activity 4.6**  
**Presenting Your Findings – Charting and Graphing techniques**

**Purpose:**

Provide the knowledge and skills necessary for the students to select the most appropriate charting and graphic technique for communicating pivot table results to a decision-maker.

**Directions:**

The instructor will demonstrate the use of Excel Charts to create interactive and static charts and the use of the most effective chart types previously covered in this Module.

Students will choose a chart or graphic to communicate the results from the analysis of their department's issue or problem

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## **Activity 4.7**

### **Mapping Incidents and Resources**

#### **Purpose**

To provide students with the knowledge and skills to use Microsoft MapPoint to conduct geospatial incident mapping and drive time studies.

#### **Directions**

1. Using the pivot table created in exercise 4.6, the instructor will demonstrate the extraction of fatal and high dollar loss incidents by category, using the drill down process.
2. Once the respective worksheets are created, the instructor will demonstrate how to import the data into Microsoft MapPoint.
3. After the data has been imported into MapPoint, the instructor will demonstrate the following:
  - Creating 4 minute drive time zones around at least 1 station location (to be provided by each student for their own dataset)
  - Single and multi-pin mapping of incident data
  - Calculating the number of incidents within and outside a polygon
4. Following the demonstration, students will use their own pivot table containing their own data and create:
  - Drive time zones
  - Single and multi-point incident maps
  - Calculation of the number of incidents within and outside a polygon

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## MODULE SUMMARY

The Top 10 concepts covered in this section are:

- 1) Data collection and analysis is an essential part of the planning process because it provides objective measures for the past, present and future community needs. NFIRS is a fundamental source for this data.
- 2) For data to be useful in the planning process, it must be organized and summarized. Graphic techniques are powerful tools for organizing data. Data can be summarized through the use of descriptive statistics.
- 3) Consider the purpose, audience and data type when determining which charting technique has the most information value.
- 4) Pie Charts are used to describe the relationship of one component to the whole.
- 5) Bar Charts compare one component with another.
- 6) Line Charts are useful for showing trends and forecasts.
- 7) Pivot Tables are Excel<sup>®</sup>'s best kept secret and can be used to summarize data using counts, sums, percents, rates and averages (mean, median and mode).
- 8) Regression Analysis is a technique for identifying trends in data, and to develop forecasts into the future.
- 9) The overall purpose of these techniques is to identify trends and patterns in past and present data to make decisions about the performance and outcomes.
- 10) Be patient, data analysis is an art and it takes practice to become familiar with these techniques.

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# APPENDIX A

## THE ANALYSIS PLAN FORMAT

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**The Analysis Plan Format  
Sample Analysis Plan**

<b>The Problem/Issue Statement</b>	
<i>Data Dimensions</i>	<i>Data Measures</i>
<i>Groups, Codes, Categories</i>	<i>Numeric values</i>
<i>Who, What, Where, When, Why, How</i>	<i>Performance and outcome measures</i>
<b>Assumptions (QA/QC)</b>	

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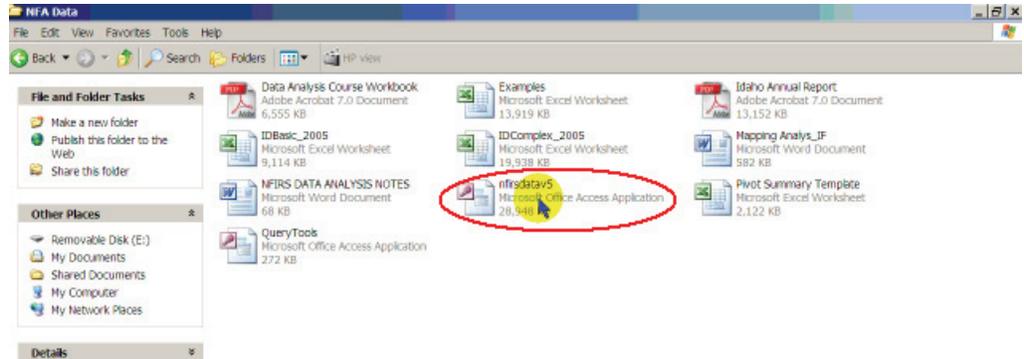
## **APPENDIX B**

# **PROCEDURE FOR CONNECTING PIVOT TABLE TEMPLATES TO NFIRS TOOL DATABASE**

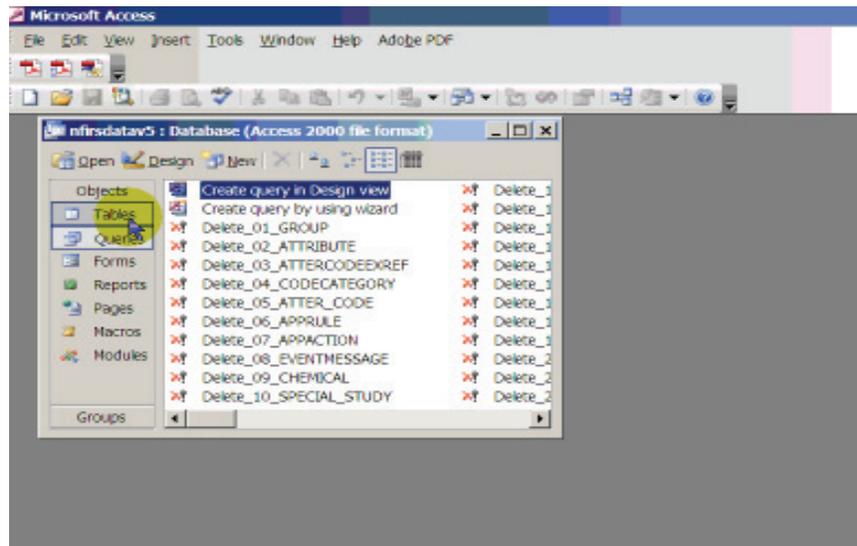


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1. Installing queries into the NFIRSdatav5.mdb database
  - a. Locate your NFIRSdatav5.mdb database containing your incidents downloaded from the Federal Server. Typically the database is located in the following directory: c:\Program Files > NFIRSV5 > Database.



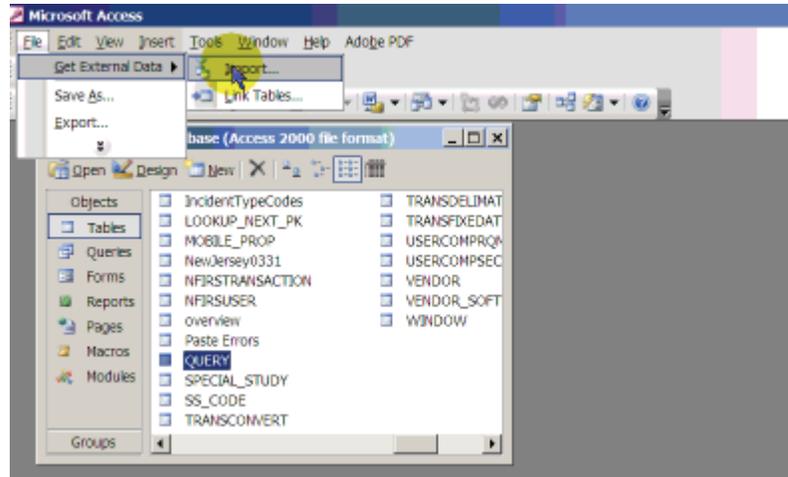
- b. Select Tables from the Object Form



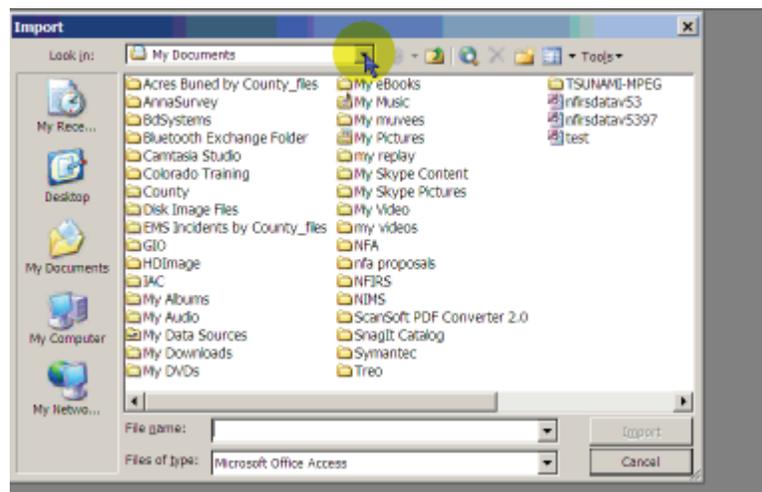
## NFIRS PROGRAM MANAGEMENT

### *Module 4 – Data Analysis and the Decision-Making Process*

- c. Got to File >Get External Data and click Import

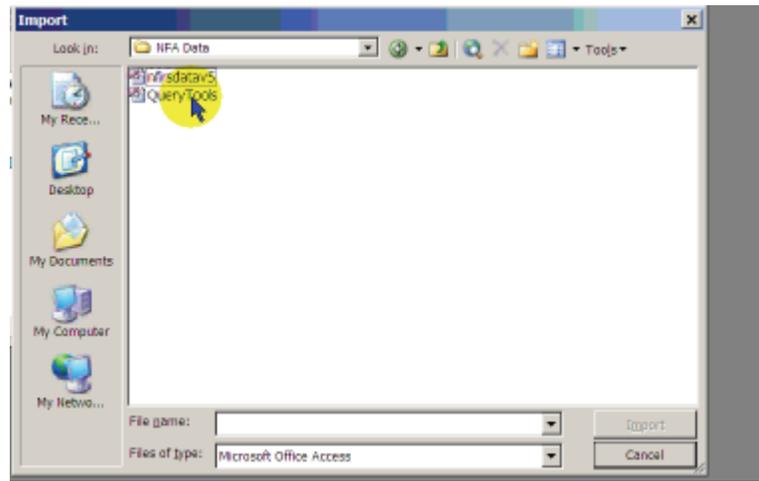


- d. A new window opens to locate the database where the queries are stored. This should be on your desktop.



- e. Locate and select the file “Query Tools”

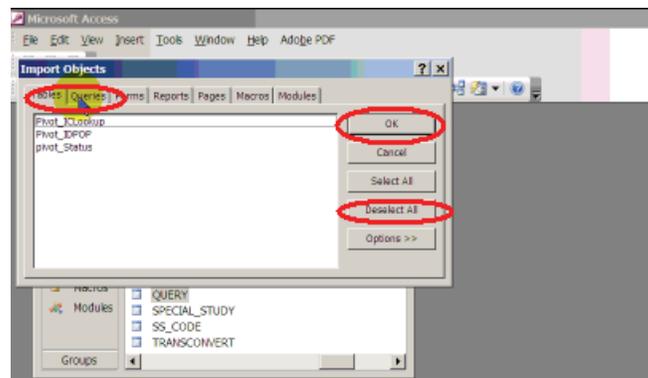
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- f. The Import Screen Opens and you need to “Select ALL’ of the Tables and Queries. DO NOT Click on OK until all of the Tables and Queries have been selected. Selected Tables and Queries will be highlighted in BLUE. When you verify that the Tables and Queries are highlighted, click OK and the Tables and Queries will be injected into your database.

You install these queries and tables one time only but will run the queries every time you update your database from the federal server to create a new “flat file” that will be connected to the Pivot Table Template.

Step 2 will show you how to run the query and create the flat file.

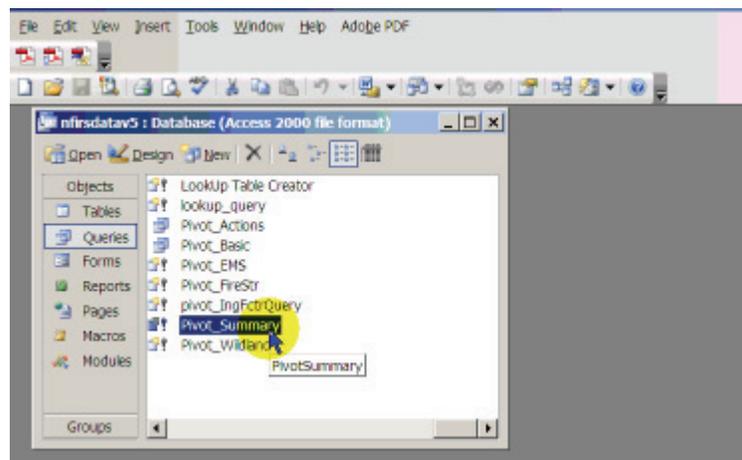


2. Step 2: Running the Query and Creating the AllIncident Flat File

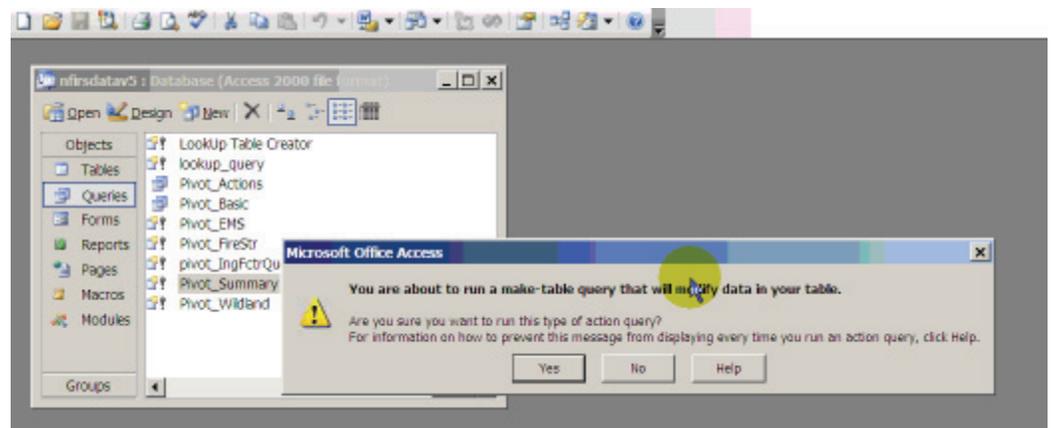
- a. Open your Nfirsdata.v5.mdb database and select the Query Tab in the Objects form. Locate the pivot summary query on the list of queries. Once you have located the pivot summary, double click on it to execute it.

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### *Module 4 – Data Analysis and the Decision-Making Process*



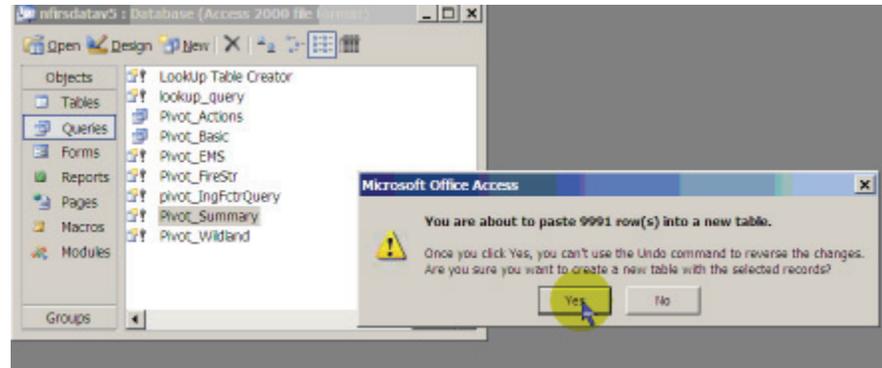
b. After clicking the query, you will be prompted to approve running it.



## NFIRS PROGRAM MANAGEMENT

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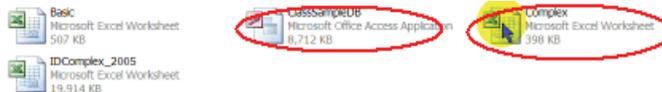
- b. Depending on the speed of your computer and the number of incidents in your file, it may take several minutes to an hour to create the new table. When the query finishes, you will be requested to approve pasting the number of records into the new table.



- c. You now have created a new table called Pivot Summary which contains the flat file data necessary to drive the Pivot Table.

Step 3 documents how you will connect the Excel Pivot Table Template to the Pivot Summary Table in Access

3. Step 3- Connecting the Excel Pivot Table Template to Your NFIRS Data.
  - a. The first step is to locate your Excel Pivot Table Template and your database. These should be in a folder on your desktop.
  - b. Click on the Excel Pivot Table Template to open it.



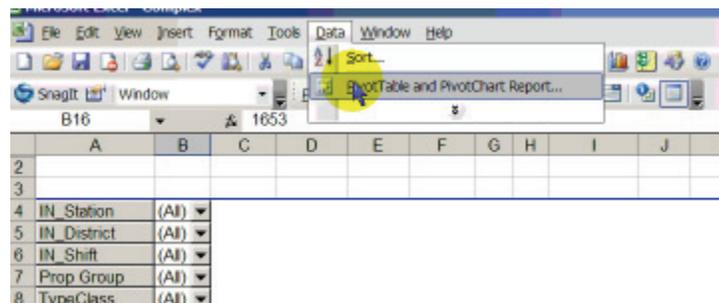
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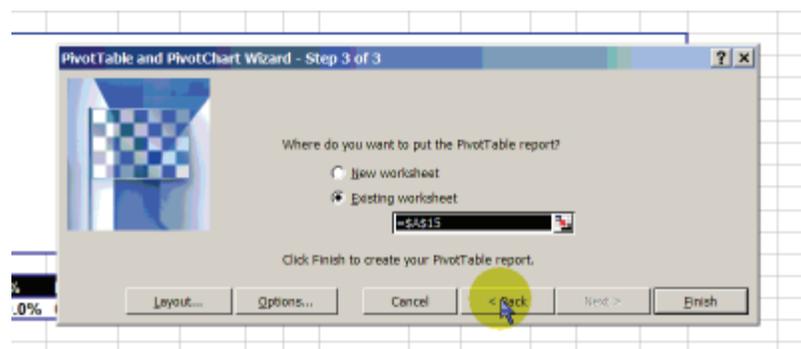
After the Pivot Table opens, place your cursor inside the table where the total is displayed. If you place your cursor outside the pivot table you will not be able to gain access to the Pivot Table Wizard

	A	B	C	D	E	F	G	H	I	J
2										
3										
4	IN_Station	(All) ▼								
5	IN_District	(All) ▼								
6	IN_Shift	(All) ▼								
7	Prop_Group	(All) ▼								
8	TypeClass	(All) ▼								
9	Primary Action	(All) ▼								
10	Aid_Status	(All) ▼								
11	Confined Fires	(All) ▼								
12	Fire_Groups	(All) ▼								
13	TypeCat	(All) ▼								
14										
15		#	%	Resp TM	%<6min	Dur	App Per	\$Loss	Civ In	
16	<b>Total</b>	<b>1,553</b>	<b>100.0%</b>	<b>0:09:19</b>	<b>50.4%</b>	<b>0:57:29</b>	<b>1.7 4.0</b>	<b>\$1,600,500</b>	<b>2</b>	
17										

- c. After clicking inside the pivot table, select Data on the Main Menu, then select Pivot Table Report.



- d. This opens up the third step of the Pivot Table Wizard where we can change the connection of the template to your data. To do this we need to go back to the 2<sup>nd</sup> step of the Pivot Table Wizard by clicking “Back”.



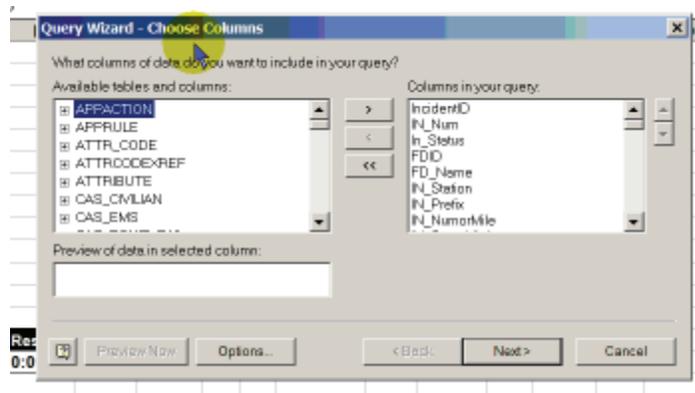
## NFIRS PROGRAM MANAGEMENT

### Module 4 – Data Analysis and the Decision-Making Process

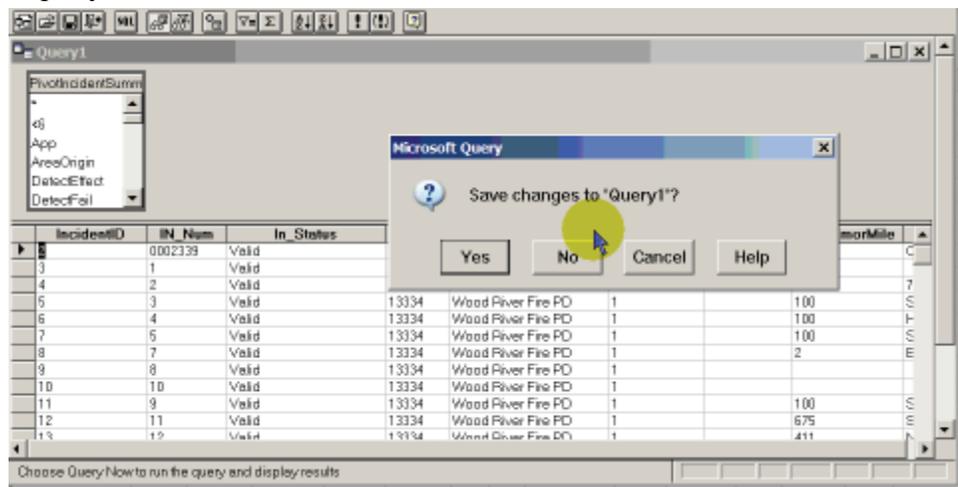
- e. We now are in the second step of the Pivot Table Wizard and need to “Get Data” which is your data stored in the Table of your NFIRSdatav5.mdb database. Click on Get Data.



- f. We are now in Microsoft Query that connected to the old data source. We need to delete this query and connect to your data. Click Cancel then Edit Query on the next screen as we need to delete it and create a new one.



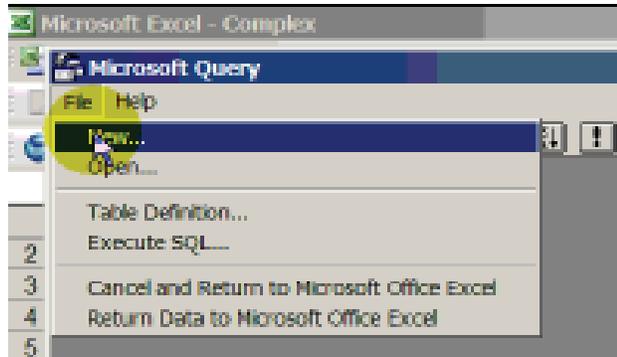
- g. When the query window opens, close the query and indicate NO to not save the old query.



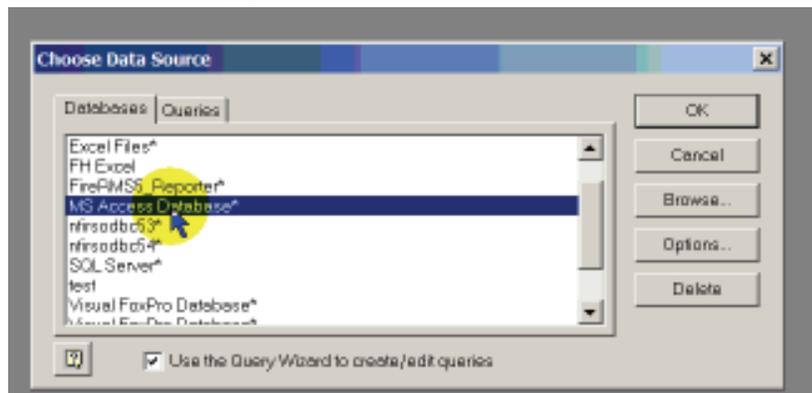
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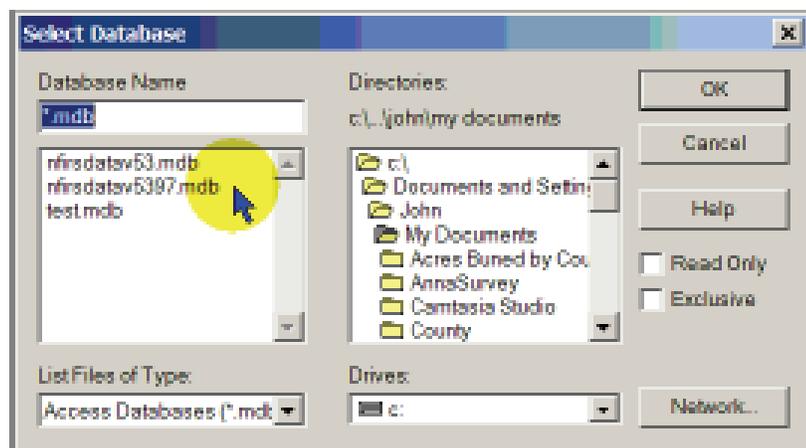
- h. After the old query closes, go to File on the MS Query screen and select new,



- i. You are now asked to select a Data Source which in this case is Microsoft Access, the native database type for the NFIRS Client Tool



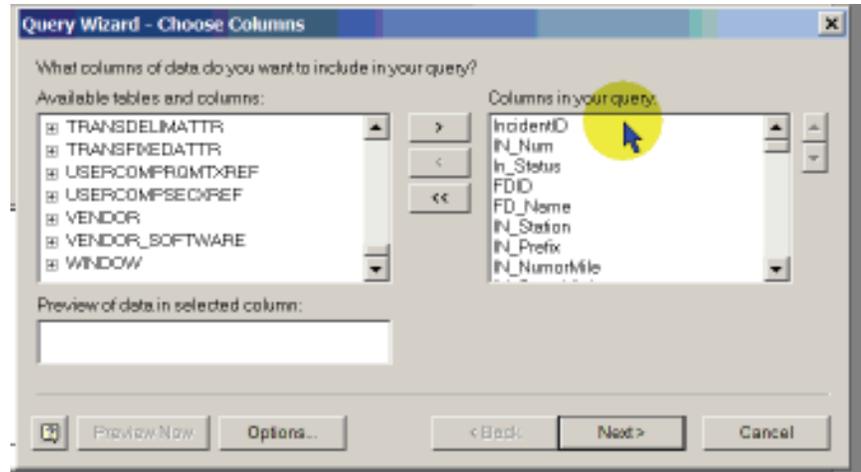
- j. You now need to change the location of the database to the location where your database is located. Locate the desktop and folder location on the right side of the window, and on the left side you should see your nfirsdatav5.mdb database. Click OK.



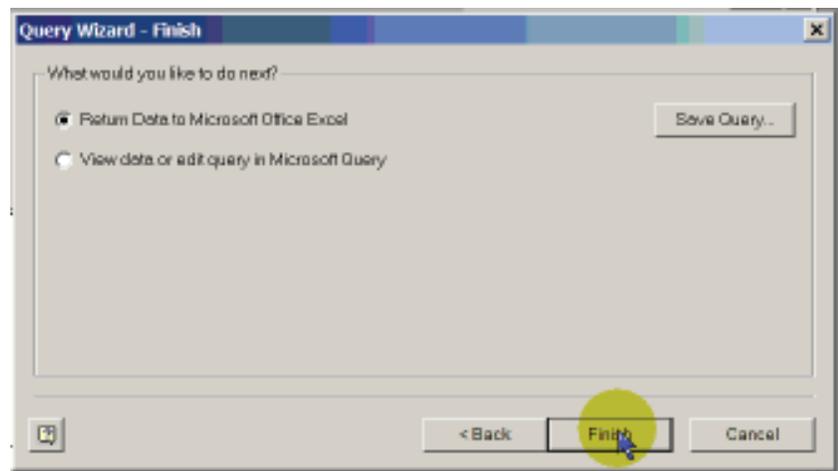
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- k. You are now back in the Microsoft Query and in your Access Database. On the left side of the query window, you need to select the Table containing the flat file data. It is called Pivot Incident Summary. Click on the arrow pointing to selected columns (the >sign) and move all of the fields into the query.



- l. The next two screens ask whether you want to filter or sort the data selected in your query. Select NO for each of these screens. You are now at the Finish Screen and you want to accept the default to return the data to MS Excel. Click Finish



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- m. You are now returned to the Second Step of the Pivot Table Wizard where you select Finish to execute the query and return the data into the Pivot Table Template.



- n. The query data is now loaded into the Pivot Table Template and can be seen by the blue bar at the bottom right of the screen.

	#	%	RespTM	%<6min	Dur	App	Per	\$Loss	Civ Inj	Civ/Fatal	PS Inj	PS/Fatal	Acres
Total	1,653	100.0%	0:09:19	50.4%	0:57:29	1.7	4.0	\$1,600,500	2	2	0	0	100

Calculating PivotTable report: .....

This completes the process for extracting data from your NFIRS database into the Pivot Table Template. There are three narrative video clips on the Class CD that provides a full view of each of the steps.

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# **APPENDIX C**

## **DATA ANALYSIS WORKBOOK**

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**Analytic Decision-Support  
&  
Problem Solving  
Techniques**

**(Tools For Analyzing NFIRS Data)**

**Workbook**





**Notes:**

## **Forward**

This 12-hour weekend field delivery is designed to orient fire service personnel to data analysis and problem solving techniques using common, off-the-shelf software (Excel/Pivot Tables) and NFIRS 5.0 data. In the reality of today's environment, the survival of the fire service depends on its ability to use critical information in making tactical and strategic decisions.

A companion CD is also included as part of the course offering and provides the databases, list files and pivot table examples used in the workbook. This will allow the student to continue the learning experience back in their own environments and hopefully use some of the tools on their own data.

Students are not expected to master all of the tools and techniques during this two-day course, but are expected to become familiar enough with the tools to continue to develop expertise back at their own agencies. This course builds on the Introduction to NFIRS 5.0 field delivery course and will be reinforced by a future class on Advanced Data Analysis and Problem Solving Techniques.

These are new concepts to the fire service and students are cautioned to be patient and not become frustrated if the tools and techniques described in the course are not immediately implementable.

*Terminal Objectives:*

The course participants will be able to:

1. Identify the business justifications for using fire data analysis techniques as part of the decision process
2. Apply the problem solving process, using NFIRS data, to address real agency problems, issues and questions.
3. Demonstrate the development of simple and complex pivot tables and publish results, both in table and chart form, and on a website.

*Enabling Objectives:*

1. Identify the 3 key characteristics that the fire service shares with the business community.
2. Develop an analysis plan to address a key problem/question in the student's organization.
3. Develop a MS query to retrieve data from the NFIRS database for use in pivot table analyses.
4. Develop a pivot table using extracted NFIRS data to support the student's analysis plan.
5. Construct a graph using the proper guidelines presented in the course to support the analysis of the student's problem/question.
6. Publish a web-enabled pivot table and pivot chart..

## *Section 1*

### *Excel Orientation For Pivot Table Users*

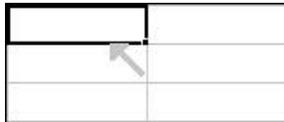


#### *Objectives*

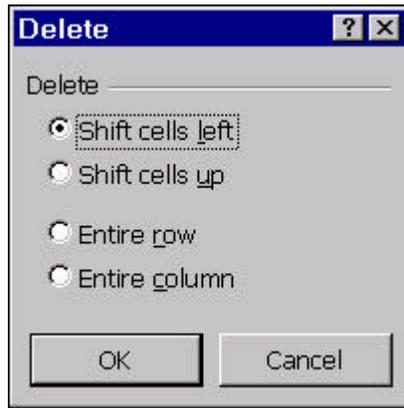
- *The student will understand terminology that relates to Excel*
- *The student will understand the basic operation of Excel*
- *The student will be able to navigate and generally operate within Excel in preparation for Pivot Table training*

#### *Cell And Cell Address Management (Move, Copy, Delete, Fill, Format)*

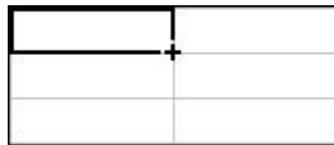
- ***To move a cell or cells, select the cell(s) you want to move and position the mouse arrow on the edge of the cell. Click and drag to new location.***



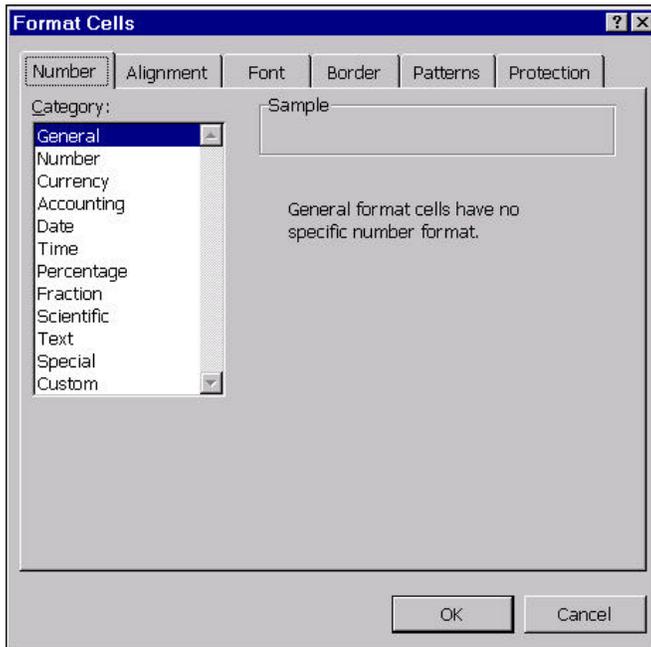
- To **Copy a cell** or cells, select the cell(s) you want to copy and chose  Copy from the  Edit function on the menu bar, hold down the Control key and press “C” on the keyboard, or use the copy icon  on the Standard Toolbar.
- To **Delete the contents of a cell**, select the cell and hit “Del” on the keyboard.
- To **Delete a cell**, select the cell and click the mouse on  Edit from the menu bar and select  Delete... The Delete Window will appear and allow you shift the cells the direction you want.



- To **Fill a cell** or cells with what is in a specific cell, move the mouse pointer to bottom right corner of the cell with the information you want until the black + sign appears, hold down the mouse button and drag to cells you want affected. If you want the entire column filled, double click on the black + sign. When double clicking, there must be information in the column to the right or left of that column for it to fill that distance.

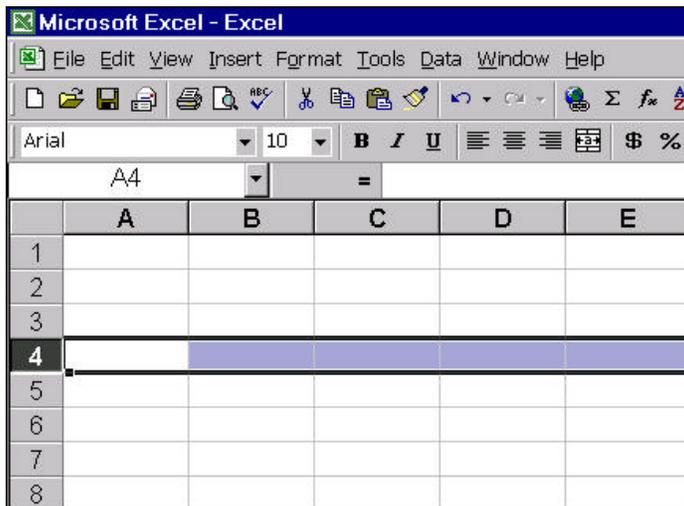


- To **Format a cell** or cells, chose **Format** from the menu bar and select **Cells...** or hold down the Control key and press “1” on the keyboard. The format cells menu will appear and from here you can choose the format function you want (Number, Alignment, Font, Border, Patterns, or Protection.)



Row Management (Insert, Delete, Select, Format)

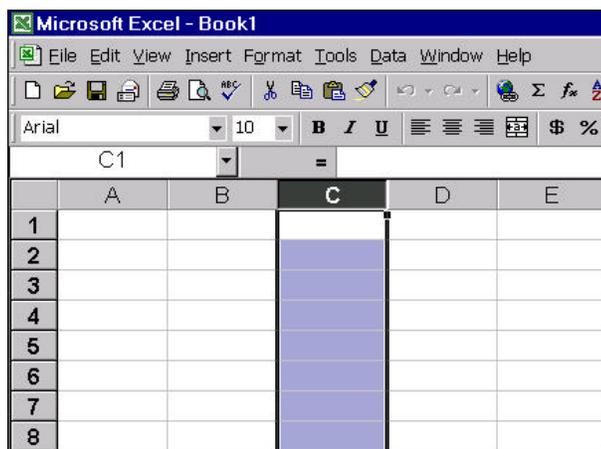
- To Inset a row select **Insert** from the menu bar and select **Rows**.
- To Delete the contents of a row select the row by mouse clicking on the number to the left of the row (1) and hit **Del** on the keyboard.
- To Delete a row, Select the row by mouse clicking on the number to the left of the row (1) and select **Edit** from the menu bar and select **Delete...** This will move the remaining rows up.



- To Format a row, Select the row and select **Format** from the menu bar and select **Cells...** or **Row**. If you select **Cells...** it will format all cells in that row the same. If you select **Row** you can format for height, autofit, hide or unhide rows.

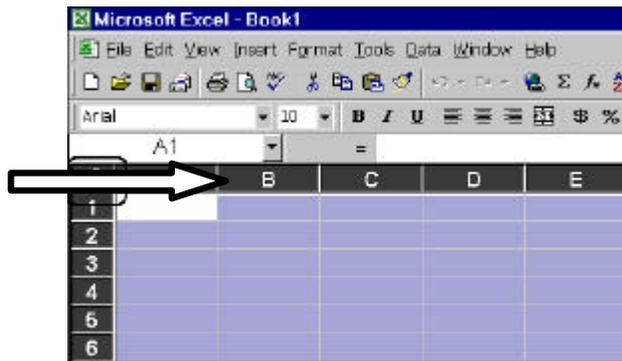
#### Column Management (Insert, Delete, Select, Format)

- To Inset a column select **Insert** from the menu bar and select **Columns**
- To Delete the contents of a column, Select the column by mouse clicking on the letter above the column (**A**) and hit Del on the keyboard.
- To Delete a column, select the column by mouse clicking on the letter above the column (**A**) and select **Edit** from the menu bar and select **Delete...** This will move the remaining columns to the left.
- To Format a column, select the column and select **Format** from the menu bar and select **Cells...** or **Column**. If you select **Cells...** it will format all cells in that column the same. If you select **Column** you can format for height, autofit selection, hide or unhide columns.



#### Sheet Management (Insert, Delete, Select)

- To Inset a worksheet select **Insert** from the menu bar and select **Worksheet**
- To Delete the contents of a worksheet, Select the worksheet by mouse clicking on the space above the row numbers and to the left of the column letters and hit Del on the keyboard.



- To Delete a worksheet select **Edit** from the menu bar and select **Delete Sheet**. This is a function you can not “undo” so be sure you really want to delete the sheet.

#### Workbook (File)

An Excel file is referred to as a Workbook and is made up of one or more worksheets

#### Save

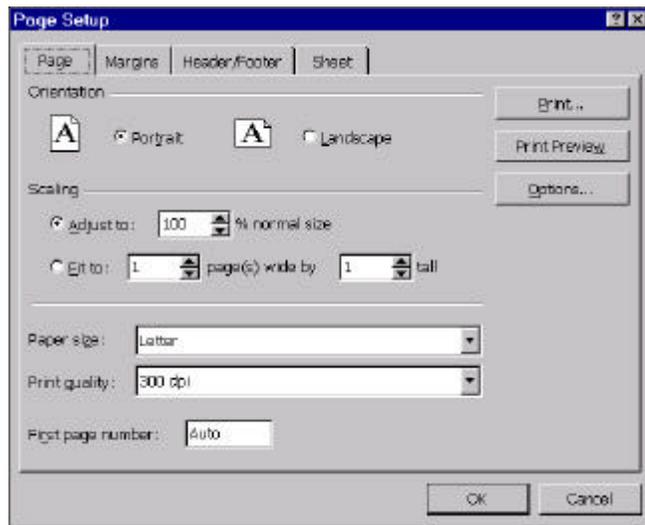
To Save a file, select **File** from the menu bar and select **Save** or Select  from the toolbar or hold down the Control key and press “S” on the keyboard.

#### Save As

The **Save As...** function from the **File** menu will allow you to name a new file or rename an existing one. **NOTE:** the changed information will not be saved under the original file name.

#### Page Setup

The **Page Setup...** function from the **File** menu allows you to manage page orientation, scaling, paper size, margins, headers and footers, and sheet operations.



### Print Area

The **Print Area** function from the **File** menu allows you to set or clear the print area



### Cut

The **Cut** function from the **Edit** menu allows you to cut a selection to the clipboard for future pasting. It will remove the selection from its cut position. It can also be done from the toolbar with the **Cut** icon, or hold down the Control key and press “X” on the keyboard.

### Copy

The **Copy** function from the **Edit** menu allows you to copy a selection to the clipboard for future pasting. It will not remove the selection from its copied position. It can also be done from the toolbar with the **Copy** icon, or hold down the Control key and press “C” on the keyboard.

### Paste

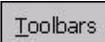
The **Paste** function from the **Edit** menu allows you to paste a selection from the clipboard. It can also be done from the toolbar

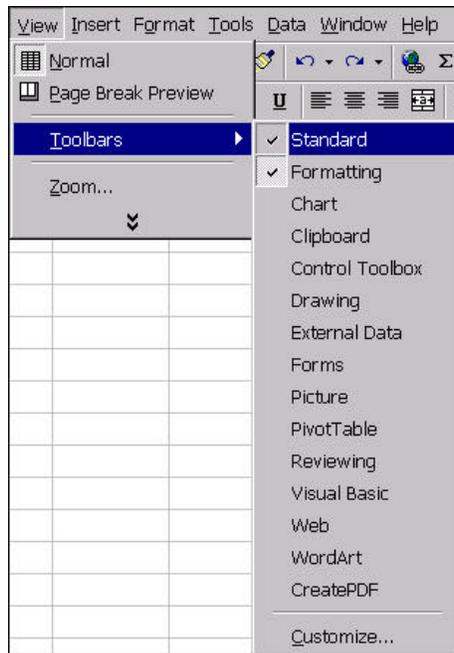
with the  icon, or hold down the Control key and press “V” on the keyboard.

### Repeat

The  function from the  menu allows you to repeat the last process conducted. This can also be done with the keyboard by holding down the Control key and pressing “Y”.

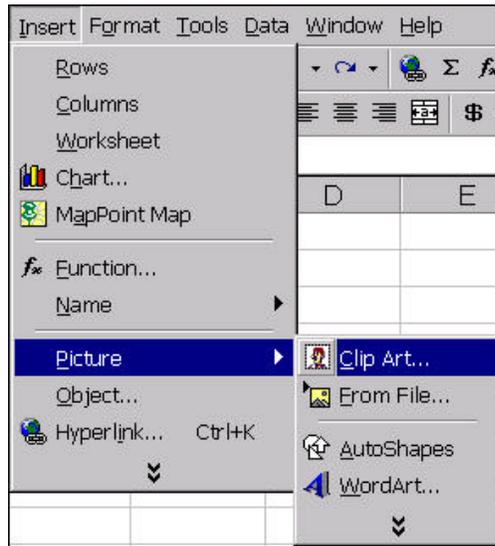
### View Toolbars

Selecting  from the  menu allows you to manage which toolbars are visible and also allows you to customize your toolbars with the icons you want.



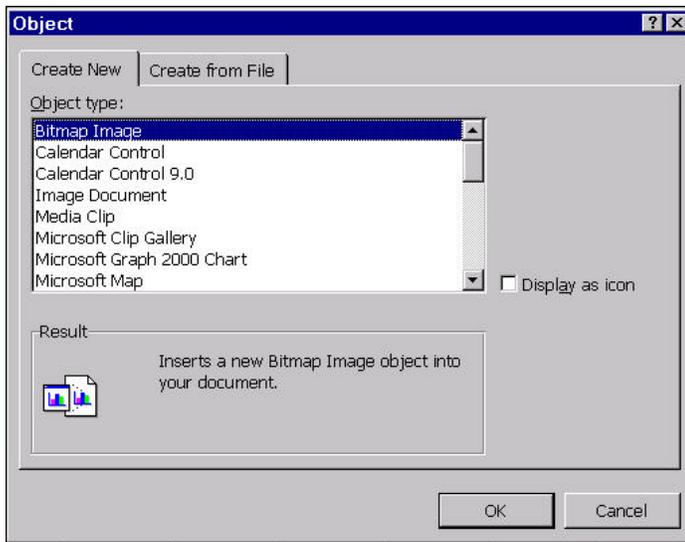
### Insert Picture

The  function from the  menu allows you to insert a picture from Clipart, a File, AutoShapes or WordArt.



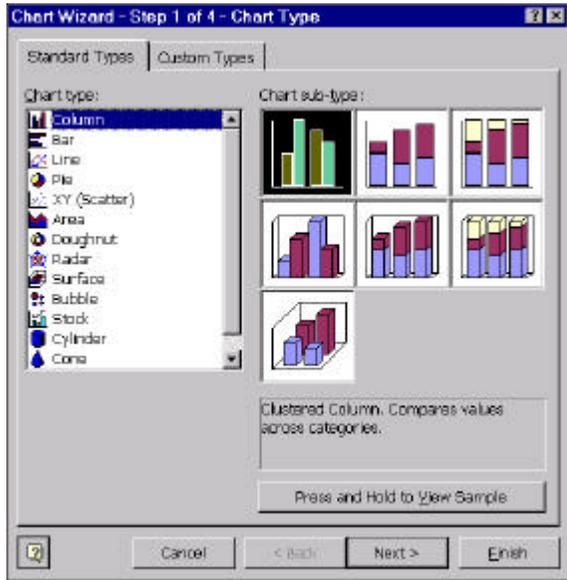
### Insert Object

The **Object...** function from the **Insert** menu allows you to insert an object from a file or create a new image such as clipart, a bitmap image, a media clip or other objects.



### Insert Chart

The **Chart...** function from the **Insert** menu allows you to insert a chart from selected data either on that worksheet or as a new sheet. You can also perform this function from the  icon on the toolbar. Either way you will be connected to the Chart Wizard.



### Data Sort

The **Data**  Sort... function from the **Data** menu allows you to Sort a file using multiple criteria with or without a header row. Be careful not to select a column first or it will only sort that column and your data will be corrupt.



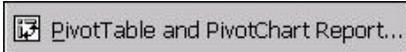
### Data Filter

The **Data** **Filter** function from the **Data** menu allows you to select specific criteria to view in multiple columns by using the  button that appears at the top of each column.

	A	B	C
1	IncidentID	FDID	FD_Name
2	363	01100	BOISE FIRE DEPARTMENT
3	364	01100	BOISE FIRE DEPARTMENT
4	365	01100	BOISE FIRE DEPARTMENT
5	366	01100	BOISE FIRE DEPARTMENT
6	454	01100	BOISE FIRE DEPARTMENT
7	455	01100	BOISE FIRE DEPARTMENT
8	456	01100	BOISE FIRE DEPARTMENT
9	457	01100	BOISE FIRE DEPARTMENT
10	524	01100	BOISE FIRE DEPARTMENT
11	525	01100	BOISE FIRE DEPARTMENT
12	526	01100	BOISE FIRE DEPARTMENT
13	527	01100	BOISE FIRE DEPARTMENT

### Pivot Table

A Pivot Table is interactive by selecting the  button in a pivot table and can be generated from data utilizing the



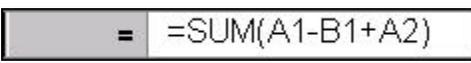
selection from the  menu or by

clicking on the Data Wizard icon () from the toolbar.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Year	2000												
2														
3	Count of TypeCode	Month												
4	TypeClass	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand
5	1 Fire	27	22	45	31	32	80	112	66	44	40	24	33	
6	2 Exp	1	1	2			1	1	1	3	3	1		
7	3 EMS	25	4	3	1	3	3	1		3	2	2	2	
8	4 Hazard	14	18	27	22	20	25	27	30	25	22	18	39	
9	5 Service	10	16	10	18	12	15	12	15	16	20	18	15	
10	6 Good Intent	45	32	40	31	33	31	34	48	34	28	49	47	
11	7 False Call	76	90	100	78	90	87	94	98	102	110	121	82	
12	9 Other	4	11	9	5	7	1	1	1	1	1	9	7	
13	Grand Total	202	194	236	186	197	243	292	249	228	226	242	225	

### Formula Bar

The formula bar shows what is in the selected cell whether it is a formula or text.



or



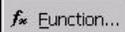
### Autosum

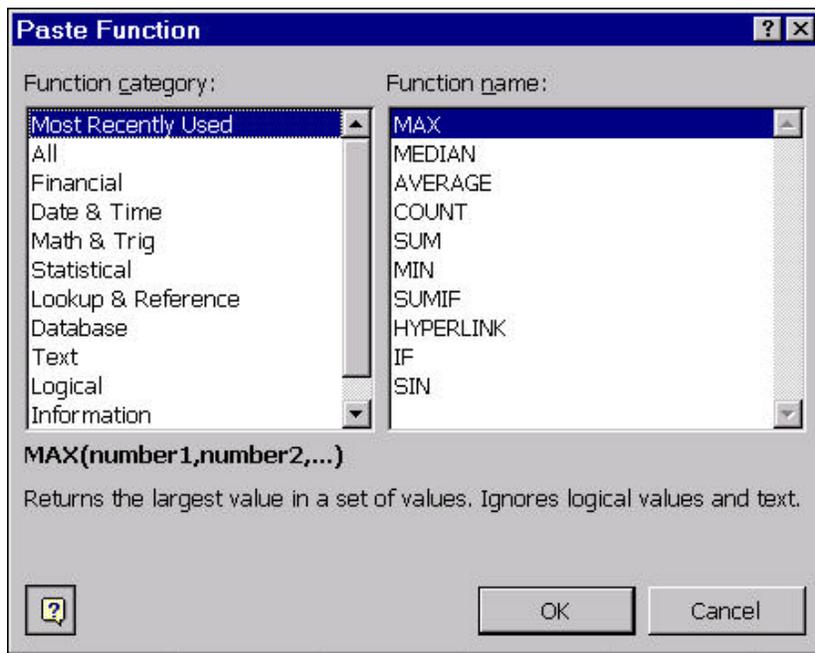
The Autosum function can be activated from the  icon on the toolbar and will allow you to do quick calculations based on data in a row or column. You can also modify and create more complex

formulas by selecting cells and functions after selecting the  icon on the toolbar.

	A	
1	234	
2	324	
3	654	
4	332	
5	124	
6	315	
7	743	
8	293	
9	=SUM(A1:A8)	

### Paste (Formula) Function

The  from the  menu allows you to manage more complex formulas such as average, mean, minimum maximum, etc.



*Creating Your Own Formulas (date time use for NFIRS data)*  
To create your own formulas to extract specific date and time information from NFIRS Alarm Time data, create new columns to enter the formulas, reference the cell with the date time information and type the following formulas:

Time	DOW	Month	Day	Year
=TEXT(A2,"hh:mm")	=TEXT(A2,"ddd")	=TEXT(A2,"mmm")	=TEXT(A2,"dd")	=TEXT(A2,"yyyy")

**(In this formula A2 is the cell with the date time information).**

IN AlarmDate
1/2/99 1:15 PM

Data will appear in the following format:

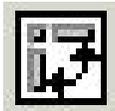
Time	DOW	Month	Day	Year
13:15	Sat	Jan	02	1999

These formulas can be copied down the column by using the fill function as described earlier.

## *Section 2*

# *Constructing Pivot Tables and Charts*

### *Using NFIRS Data*



## **Introduction**

A *pivot table* is a tool to organize and summarize the data in a list, an external database, or another pivot table. Pivot tables are a unique feature in Excel not present in other commercially available spreadsheet programs. Most traditional methods of summarizing and organizing data (standard spreadsheets, charts, graphs, etc.) only provide a 2-dimensional view of the data. Pivot tables allow you to “slice and dice” data in n-dimensions. Pivot tables are also interactive and allow you to use filters and rotate columns and rows to see the results instantaneously.

Pivot tables use Excel list files that can be created from the NFIRS 5.0 database: Notice that the fields (columns) are recognizable as NFIRS data and each row of the list file is a unique incident. Later, you will be shown how to query the NFIRS 5 database or other certified commercial databases to create an Excel list file.

1	B	C	D	E	F	G	H	I	J	K	L
	FD Name	IN Number	City	IN State	Zip	Type	TypeClass	Type Code	Mutual	IN Alarm Date	Time
2	CARLSTA140		Carlstadt	NJ	07072	741	False Alar	Sprinkler e N		1/2/99 1:15 PM	13:15
3	CARLSTA642		Carlstadt	NJ	07072	733	False Alar	Smoke det N		1/2/99 3:15 PM	15:15
4	CARLSTA711		Carlstadt	NJ	07072	741	False Alar	Sprinkler e N		1/2/99 9:23 PM	21:23
5	ROSELAN24		Roseland	NJ	07068	812	Weather	Flood asse N		1/3/99 10:15 AM	10:15
6	ROSELAN28		Roseland	NJ	07068	412	Hazardous	Gas leak ( N		1/3/99 8:55 PM	18:55
7	CARLSTA175		Carlstadt	NJ	07072	731	False Alar	Sprinkler e N		1/3/99 8:25 AM	08:25
8	CARLSTA5		South Haz	NJ	07606	731	False Alar	Sprinkler e N		1/3/99 8:15 AM	08:15
9	CARLSTA675		Carlstadt	NJ	07072	730	False Alar	System m N		1/3/99 9:59 AM	09:59
10	ROSELAN3		Roseland	NJ	07068	812	Weather	Flood asse N		1/3/99 9:40 AM	09:40
11	ROSELAN27		Roseland	NJ	07068	812	Weather	Flood asse N		1/3/99 11:00 AM	11:00
12	ROSELAN2		Roseland	NJ	07068	700	False Alar	False alar N		1/4/99 4:55 PM	16:55
13	CARLSTA557		Carlstadt	NJ	07072	733	False Alar	Smoke det N		1/4/99 4:20 PM	16:20
14	ROSELAN12		Roseland	NJ	07068	736	False Alar	CO detect N		1/5/99 10:15 PM	22:15
15	CARLSTA600		Carlstadt	NJ	07072	740	False Alar	Unintention		1/5/99 2:41 AM	02:41
16	CARLSTA480		Carlstadt	NJ	07072	651	False Alar	Smoke sen N		1/5/99 1:58 PM	13:58
17	ROSELAN426		Roseland	NJ	07068	357	Hazardous	Extricator N		1/6/99 10:22 AM	10:22
18	CARLSTADT FIRE		Carlstadt	NJ	07072	132	Fire	Road freig N		1/6/99 8:09 AM	08:09
19	CARLSTA416		Carlstadt	NJ	07072	735	False Alar	Alarm syst N		1/6/99 6:50 AM	06:50
20	ROSELAN8		Roseland	NJ	07068	442	Hazardous	Overheate N		1/11/99 7:33 PM	19:33
21	CARLSTADT FIRE		Passaic	NJ	07055	571	Public Ass	Cover ass 3		1/12/99 1:33 PM	13:33
22	CARLSTA114.8		Carlstadt	NJ	07072	131	Fire	Passenger N		1/13/99 9:24 AM	09:24
23	ROSELAN30		Roseland	NJ	07068	400	Hazardous	Hazardous N		1/14/99 12:52 PM	12:52
24	CARLSTA490		Carlstadt	NJ	07072	730	False Alar	System m N		1/14/99 8:04 PM	20:04
25	CARLSTA600		Carlstadt	NJ	07072	733	False Alar	Smoke det N		1/15/99 9:13 AM	09:13

Figure 1: NFIRS 5.0 Data List

The following pivot table shows the type of incidents responded to by month and year. Basic pivot table like this can be created in a matter of seconds from a list file.

Count of TypeClass	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
EMS		32	14	21	201	234	197	213	189	168	177	156	76	1750
False Alarm		378	346	308	259	290	243	290	248	199	188	133	151	3071
Fire		97	80	83	96	96	52	57	38	34	34	72	53	791
Hazardous Condit		118	115	88	104	114	102	91	85	57	64	55	75	1068
Other		22	16	36	67	54	21	16	32	27	57	19	13	362
Public Assist		81	74	85	73	97	67	86	68	66	45	44	63	631
Rupture/Exp		26	23	16	28	40	14	23	16	16	26	36	29	283
Service Call		189	167	157	168	177	116	121	106	114	104	98	99	1615
Undetermined		4	5	4	3	5	3	2	3		1	1	0	37
Weather		5			2	6	8	2	6	31	6			67
Grand Total		951	842	776	1040	1122	624	910	601	736	682	653	587	9905

Figure 2: Basic Pivot Table - Incident Type by Month

The next pivot table is more complex. It shows a summary of activity and incident type, including number of incidents, average response times, personnel, \$ loss, and civilian and fire fighter injuries and fatalities. Filters can be set for department, city, year, month, incident type, mutual aid, detector performance, haz-mat, mixed and property use, etc. Any combination of filters can be selected and any NFIRS data field can be included in a pivot table. This provides for an interactive view of the fire data.

	A	B	C	D	E	F	G	H	I	J
4	FD_Name	(All)								
7	City	(All)								
8	Year	(All)								
9	Month	(All)								
10	Type Code	(All)								
11	Mutual	(All)								
12	Detector	(All)								
13	HazMat	(All)								
14	Mixed Use	(All)								
15	Prop Code	(All)								
16										
17	TypeClass	Count	Resp_Tim	Apparatus	Personnel	\$ Loss	FS Fatal	Civ Fatal	FS Injury	Civ Injury
18	EMS	1761	21:24	1	4	\$201	0	4	3	20
19	False Alarm	1076	20:03	3	8	\$1,000	0	0	1	2
20	Fire	794	8:12	3	10	\$3,496,185	0	0	22	11
21	Hazardous Cond	1078	20:11	3	8	\$116,240	0	4	5	16
22	Other	383	4:44	1	5	\$0	0	0	0	0
23	Public Assist	888	12:37	2	6	\$8,410	0	2	1	3
24	Rupture/Exp	294	4:38	2	8	\$7,350	0	0	0	1
25	Service Call	1611	3:20	2	7	\$18,115	0	1	0	9
26	Undetermined	37	15:41	1	5	\$0	0	0	0	0
27	Weather	67	15:41	2	5	\$51,510	0	0	1	0
28	Grand Total	8991	28:15	2	7	\$3,718,078	0	11	33	62

**Figure 3: Complex Pivot Table – Incident Summary Information**

## Overview process for creating pivot tables

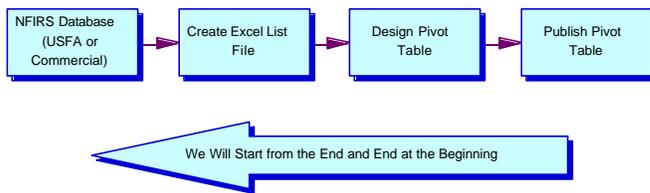
Constructing a pivot table is a 3-step process. First, you must extract data from your NFIRS 5 dataset and create a list file in Excel. The database can be either a commercial software package or the one used in USFA Data Entry Tool. Although we will be using examples from the USFA Data Entry Tool, pivot table’s work on any data that can be ported to an Excel spreadsheet. Creating the Excel list file will be discussed in Section 3 of this workbook.

Once the data is converted to an Excel list, you can begin construction of the actual pivot table by selecting the data that you want to analyze through the use of a pivot table wizard.

Using an analysis plan that was discussed in the Problem Solving Techniques exercise is an excellent tool to determine what data to use in constructing a meaningful pivot table.

The last step in creating a pivot table is to publish it either interactively on a network or website, or statically on paper.

### 3-Step Process to Create Pivot Tables



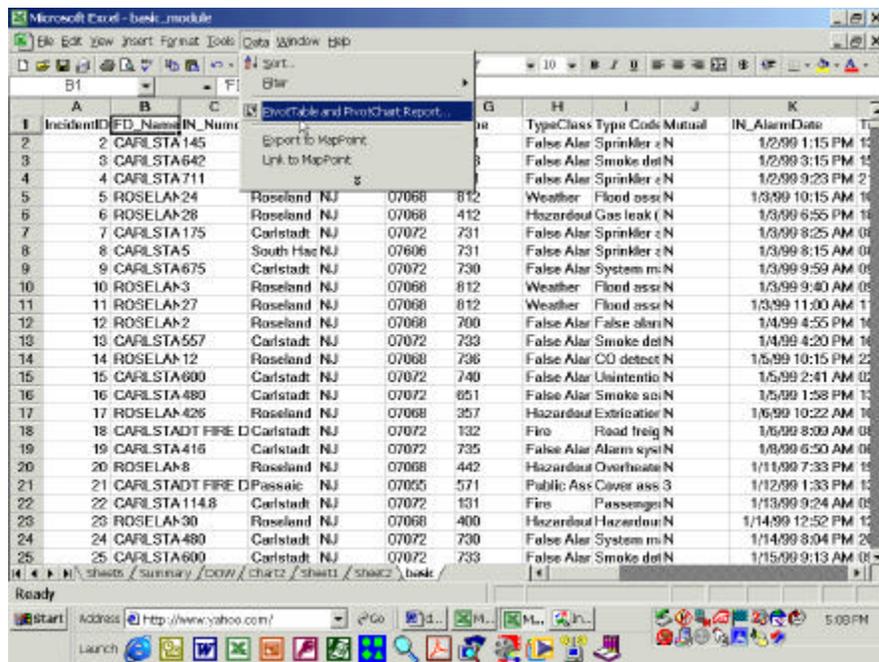
To help you understand the concepts and skills required to create and use pivot tables, you will begin by learning how to create a simple pivot table like the one in figure 2. Then, you will learn how to change the summary function and the format of the summary data, how to change the subtotal function, and how to update the contents of a pivot table. Once you are comfortable with these procedures, you will be ready to learn how to create more complicated pivot tables.

## How to create a simple pivot table

*To follow the examples in the workbook, open the “analysis.xls” workbook that is located on the Data Analysis Course Compact Disk (CD). It can be found in the Data sub-folder under the Data Analysis folder.*

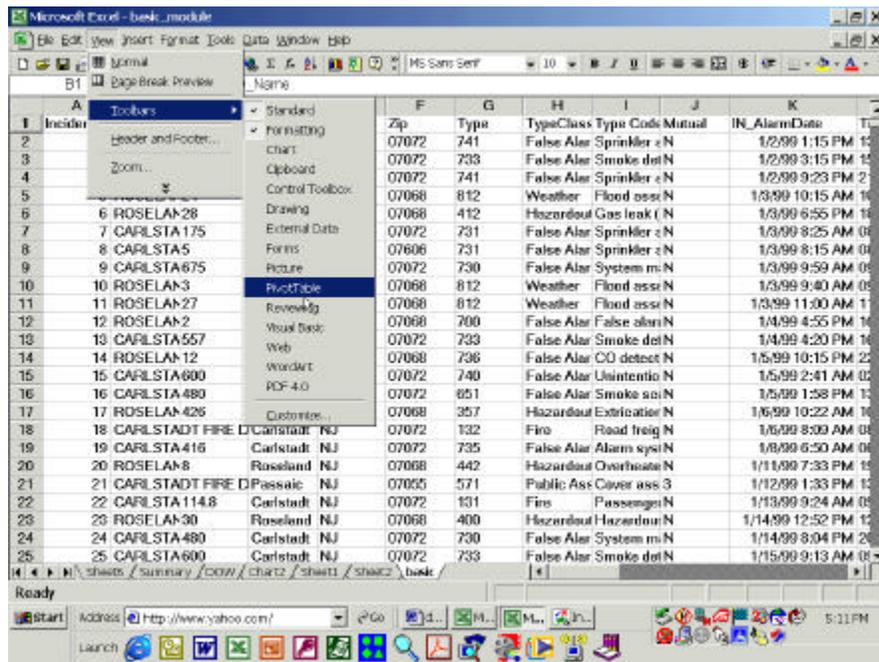
To begin creating a pivot table, select the Data Menu option from the menu bar at the top of the screen. Then select the Pivot Table Report option.

*Tip: Make sure that you have clicked on a cell in the NFIRS list worksheet as this allows the Pivot Table Wizard to automatically select the range of data to use in the pivot table.*



**Figure 4:**  
*Starting the Pivot Table Wizard from the “Data” Menu Option*

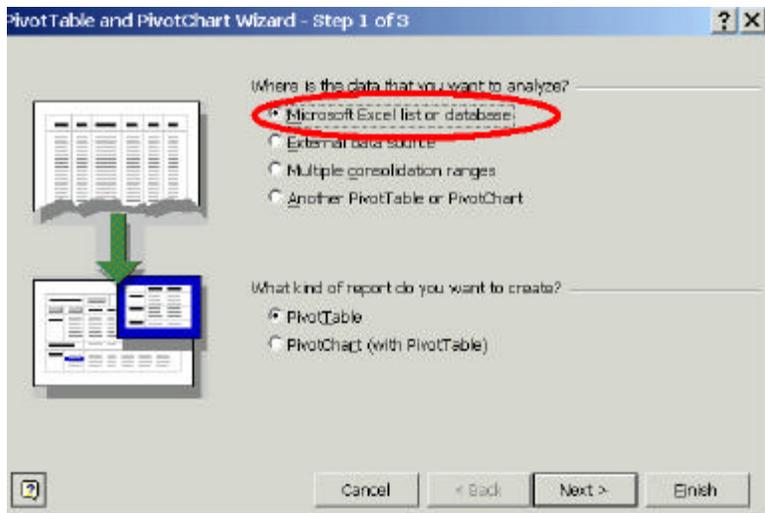
*Note: Although you can create and work with pivot tables using commands in the Data menus, Excel also provides a toolbar specifically for working with pivot tables. If Excel doesn’t display this toolbar automatically, you can use the Toolbars command in the View menu.*



**Figure 5:**  
**Making the Pivot Table Toolbar Visible through the “View” Menu Option**

Once the Pivot Table Wizard appears on you screen it walks you through the steps necessary to create a pivot table with the fields you want it to contain.

The first dialog box (Figure 6) asks you to identify the type of source data you want to summarize.

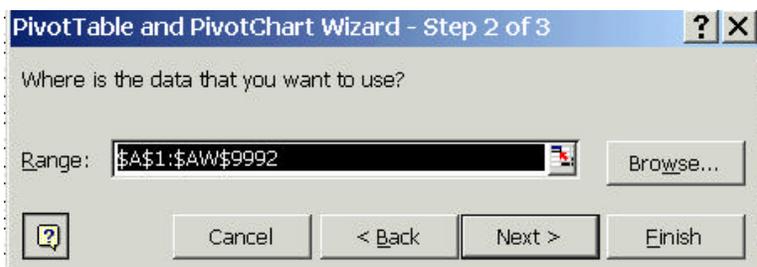


**Figure 6: Pivot Table Wizard Step 1 of 3**

The default is to create a pivot table from an existing Excel list. If you choose to create a pivot table from a source other than a list, the second PivotTable Wizard dialog box changes accordingly. If you select the External Data Source option, for example, the dialog box asks you if you want to start Microsoft Query to retrieve the data from an external data source. You will learn how to use Microsoft Query to retrieve a list file for the NFIRS 5.0 database in the next Section 3 of the workbook.

The next dialog box asks for the range that contains the list.

Tip: If you place the cell pointer on the first cell (A1) in the list before you start the PivotTable Wizard, Excel will enter the correct range for you. Otherwise, you can type in the range or select it in worksheet.



**Figure 7: Pivot Table Wizard Step 2 of 3**

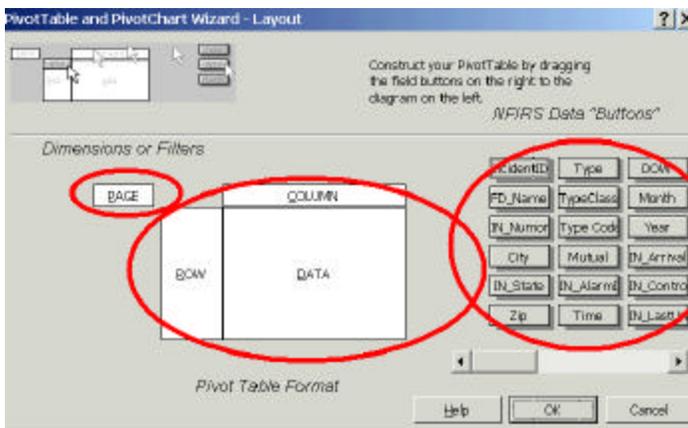
The last PivotTable Wizard dialog box (Figure 8) you can also indicate where you want Excel to place the pivot table by specifying a cell reference in the PivotTable Starting Cell text box. The default is to place the pivot table in a new worksheet in the current workbook.

*Tip: At this point **DO NOT** hit the “Finish” button. Instead, select the “Layout” button. This allows step allows you to use a more structured format for creating the actual pivot table.*



**Figure 8: Pivot Table Wizard Step 3 of 3**

Selecting “Layout” opens the Pivot Table Layout dialog box (Figure 9) that allows you to select the data to be included in the analysis, and how the data will be displayed.



**Figure 9: Pivot Table Wizard Layout Screen**

There are three main sections to the Layout screen: The Page section is where data that you want to use as filters or dimensions is identified.

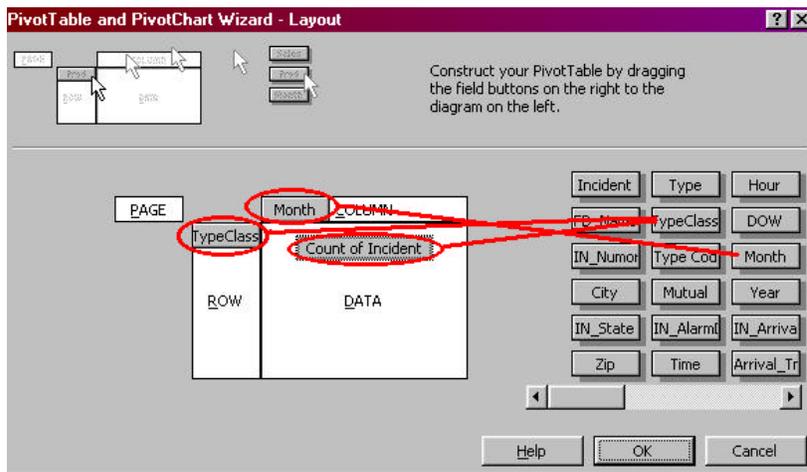
The section in the middle of the screen is the pivot table format area where you indicate which data to summarize in the table and which data to use as columns and rows.

The section on the right of the screen shows the NFIRS data field “buttons” that represents all of the fields of data that were extracted from the NFIRS 5 database. Notice the slider below the buttons. This can be used to move from the beginning to the end of the field list.

To create the structure for the simple pivot table example, drag the buttons that represent the fields in the list into the appropriate areas of the pivot table wizard layout screen

If you drag a field into the Column area, it becomes a *column field*. If you drag a field into the Row area, it becomes a *row field*. The column and row fields identify the fields by which the data is summarized.

If you drag a field into the Data area, it becomes a *data field*. The data field identifies the field to be summarized.



**Figure 10: Formatting a Basic Pivot Table**

In this example, field buttons can be used more than once in formatting the pivot table. Type Class is used as in the row area of the layout so that the data can be organized for each unique value of Incident Type. Incident Type is again used in the data area of the layout to indicate what data is to be summarized. Year is used in the column area of the layout to break out the number of unique Incident Types by the year in which they occurred.

When the layout is complete, click on the OK and you are back to Step 3 of the Pivot Table Wizard. Click Finish and the pivot table is generated in a new worksheet of the same workbook (Figure 11).

The resulting pivot table is similar to the one described in Figure 1, however, the field labels and the format are slightly different. Later in this section we will discuss how to change the labels, summary function, layout and format of your pivot table.

Count of Type Class	Month												Grand Total
Type Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
EMS	32	14	21	201	234	197	213	199	189	177	156	78	1750
False Alarm	378	346	308	299	290	243	200	248	199	188	133	151	3071
Fire	97	80	83	95	96	52	57	38	34	34	72	53	791
Hazardous Cond	118	115	88	104	114	102	91	85	57	54	55	75	1068
Other	22	18	36	67	54	21	18	32	27	57	19	13	382
Public Assist	81	74	85	73	97	67	86	68	68	45	44	63	831
Rupture/Exp	26	23	16	28	40	14	23	16	16	26	36	29	283
Service Call	188	167	157	168	177	116	121	106	114	104	98	99	1615
Undetermined	4	5	4	3	5	3	2	3		1	1	0	37
Weather	5			2	6	8	2	6	31	6			67
Grand Total	951	842	778	1040	1122	828	910	801	735	682	653	587	9905

**Figure 11: Resulting Basic Pivot Table from Layout in Figure 10**

If you study this pivot table, you’ll see that the subcategories for each row and column field you selected are included as column or row labels in the pivot table. These labels are called *pivot table items*; they indicate the categories of data that are summarized in the table. For example, the Type Class Column field contains ten pivot table items: EMS, False Alarm, Fire, Haz-Mat, Other, Public Assist, Rupture/Exp, Service Call, Undetermined and Weather. These categories are ordered alphabetically, but later we will discuss how to rearrange row and column items.

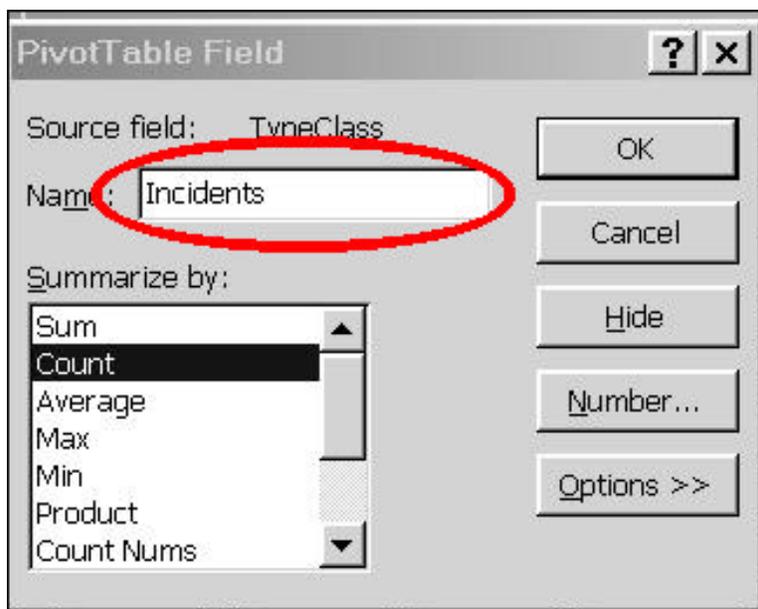
The *summary function* that is used in the pivot table depends on the data field you’re summarizing. If the data field is numeric, the default is the sum function. If the data field contains text, the default is used is the count function. The data field selected in this example is Type Class, which is a text field, so the pivot table shows the count of type class (incident type) for each month.

## How to change the summary function and the format of the summary data

The PivotTable Field dialog box is used to change a data field's name, function and display format. To access the Field dialog box, click on any cell in the data area or on the cell containing the label describing the summary, then select the Pivot Data Field button  in the Pivot Table menu. This opens the dialog box, figure 14, where you can select from a variety of functions for summarizing the data in the pivot table.

You can also change the format of the data by clicking on the Number button and selecting a format from the Format Cells dialog box that appears. You can also change the name that's used in the pivot table to

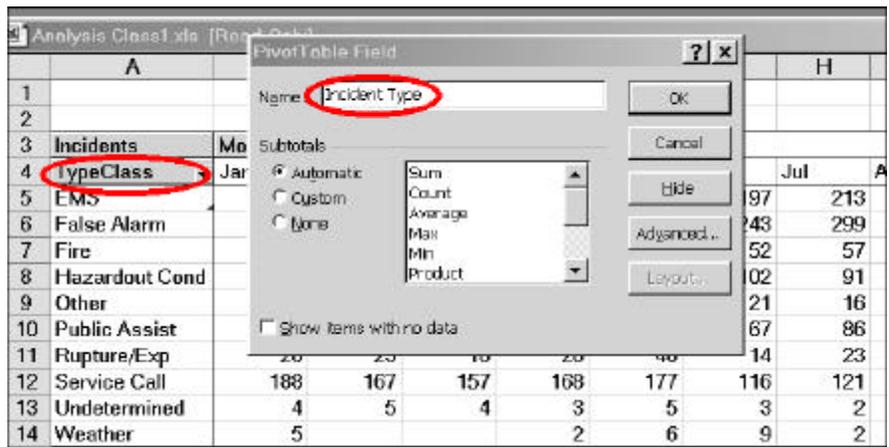
describe the summary. In this example, we are changing the data summary label from Type Class to Incidents.



*Figure 12: Pivot Table Field Option:*

Columns and row labels can also be changed using the Field Setting button or right clicking on the field label that you want to change. In figure 13, we are changing the Type Class label to Incident Type.

:



**Figure 13: Field Settings Option**

The resulting changes to the summary data and column field labels are shown in Figure 14.

Incident Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
EMS	32	14	21	201	234	187	213	199	108	177	195	70	1750
False Alarm	378	346	306	299	299	243	289	248	169	168	133	151	3011
Fire	97	80	83	95	95	52	57	38	34	34	72	53	791
Hazardous Cond	118	115	98	104	114	102	91	85	57	64	55	75	1086
Other	22	18	36	67	54	21	16	32	27	57	19	13	382
Public Assist	81	74	85	73	97	87	88	88	68	45	44	63	831
Rupture/Exp	26	23	16	28	40	14	23	18	18	28	36	29	293
Service Call	188	167	157	160	171	116	121	100	114	104	98	88	1615
Undetermined	4	5	4	3	5	3	2	3		1	1	6	37
Weather	5			2	6	9	2	6	31	6			67
Grand Total	951	842	778	1040	1122	824	910	801	735	682	683	567	9905

**Figure 14: Label Changes in Sample Pivot Table**

## How to change the layout of a pivot table

The row and column fields you select in the Pivot Table Wizard and the sequence of the pivot table items within those fields determine the layout of the pivot table. If the pivot table doesn't look the way you want it to when you create it, you can change the layout. The name pivot table is based on the fact that you can "pivot" row and column fields around the data area to look at the summary data in different ways.

The easiest way to move a field or item is to drag it to a new location in the table, just drag the label for a column or row field to the new position. As you drag the label, the pointer indicates whether the field will be a column, row or a filter (page) field. By dragging the Month field to a row and the Incident Type file to a column; the resulting table in figure 17 is produced. Notice that all of the cell values and totals are computed instantaneously.

**Tip:** *If you drag a field off the pivot table area, the pointer will turn into a red X – DON'T LET GO OF THE LEFT MOUSE BUTTON OR THE FIELD WILL DROP OFF THE SCREEN. If you lose the field, simply go the EDIT menu item and select Undo*

Month	EMS	Extra Alarm	Fire	Hazardous Con.	Other	Public Assist	Ruptured Pipe	Service Call	Undetermined	Weather	Grand Total
Jan	35	378	97	115	22	31	26	138	4	6	951
Feb	14	346	80	115	18	74	23	167	5	5	842
Mar	21	308	83	88	36	68	16	187	4	7	778
Apr	201	299	95	104	67	73	28	163	3	2	1046
May	234	299	96	114	54	97	40	177	5	6	1122
Jun	197	243	52	102	21	67	14	116	3	9	824
Jul	213	299	57	91	16	86	23	121	2	2	916
Aug	199	248	38	85	32	68	16	106	3	6	801
Sep	189	199	34	57	27	68	16	114	3	31	738
Oct	177	168	34	64	87	48	26	104	1	6	682
Nov	195	133	72	58	19	44	36	98	1	7	623
Dec	78	151	53	75	13	63	29	99	6	6	567
Grand Total	1750	3071	791	1068	382	831	293	1615	37	67	9905

**Figure 15: Pivoted Incident Type by Month Table**

You can also pivot columns, rows and filter (page) fields by accessing the pivot table layout screen from Step 3 of the Pivot Table Wizard. To access the Pivot Table Wizard, click on any cell in the pivot table and select the pivot table wizard from the pivot table menu.

Row and column subcategories can also be moved in a pivot table by placing the mouse pointer on the border of column or row label and moving it to a new position in the respective column or row. For example, the Incident Type categories are alphabetical but you may want to put them in the NFIRS 5.0 order, i.e. Fire, Explosion, EMS, etc. Simply drag and drop the categories in that order to produce the pivot table in Figure 18.

3	Count of Incident	Month												
4	TypeClass	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
5	Fire	97	80	83	95	96	52	57	38	34	34	72	53	791
6	Rupture/Exp	26	23	16	28	40	14	22	16	16	26	36	29	292
7	EMS	32	14	21	201	234	197	213	199	189	177	195	78	1750
8	Hazardout Cond	118	115	88	104	114	102	91	85	57	64	55	75	1068
9	Service Call	188	167	157	168	177	116	121	106	114	104	98	99	1615
10	Public Assist	81	74	65	73	97	66	86	67	68	45	44	63	829
11	False Alarm	378	346	308	299	299	243	299	248	199	168	133	151	3071
12	Weather	5			2	6	9	2	6	31	6			67
13	Other	22	18	36	67	54	21	16	32	27	57	19	13	382
14	Undetermined	4	5	4	3	5	3	2	3		1	1	6	37
15	Grand Total	951	842	778	1040	1122	823	909	800	735	682	653	567	9902

**Figure 16: Re-ordering Row or Column Subcategories**

## Using the “Report Format” function to enhance the look of a Pivot Table

The Report Format button on the Pivot Table menu  provides a series of optional report formats that can be applied to your pivot table. Click on the format of your choice and it is automatically applied. Figure 19 shows the Report Format selection screen. Figure 20 shows the resulting pivot table with the applied format.

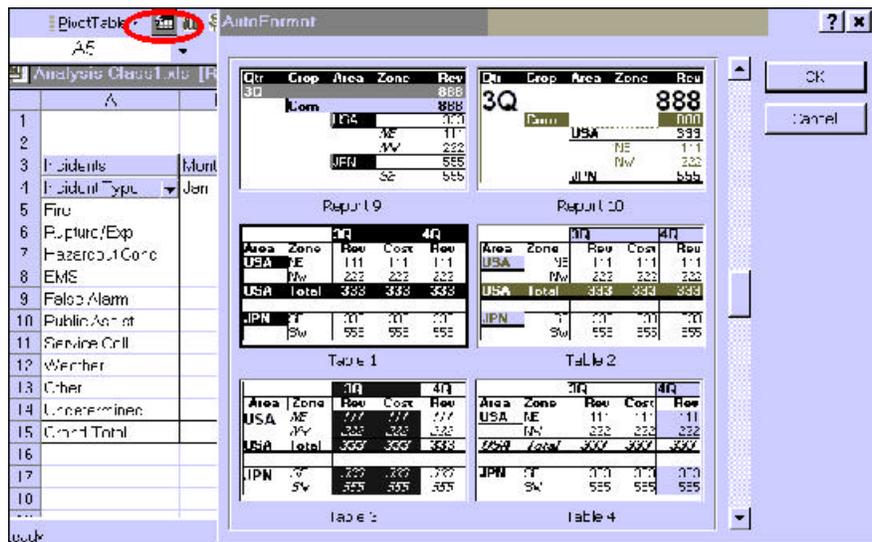


Figure 17: Report Format Screen

The resulting format is shown in figure 16.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2														
3		Count of Incident Month												
4	TypeClass	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
5	Fire	97	80	83	95	96	52	57	38	34	34	72	53	791
6	Rupture/Exp	26	23	16	28	40	14	22	16	16	26	36	29	292
7	EMS	32	14	21	201	234	197	213	199	189	177	195	78	1750
8	Hazardout Cond	118	115	88	104	114	182	91	85	57	64	55	75	1068
9	Service Call	188	167	157	168	177	116	121	106	114	104	98	99	1615
10	Public Assist	81	74	65	73	97	66	86	67	68	45	44	63	829
11	Falce Alarm	378	346	308	299	299	243	299	248	199	168	133	151	3071
12	Weather	5			2	6	9	2	6	31	6			67
13	Other	22	18	36	67	54	21	16	32	27	57	19	13	382
14	Undetermined	4	5	4	3	5	3	2	3		1	1	6	37
15	Grand Total	951	842	778	1040	1122	823	909	800	735	682	653	567	9902

Figure 18: Formatted Pivot Table Report

## How to update the contents of a pivot table

If the source data that's summarized in a pivot table changes, the pivot table isn't automatically updated. To update a pivot table so it reflects the current state of the source data, you use the Refresh Data command . This command is available from the Data menu, the shortcut menu, and the Pivot Table toolbar.

When you refresh a pivot table based on an Excel list, you should know that only the cells in the source range you originally specified when you created the table are examined. If the source list has more rows or columns than it did when the pivot table was created, you'll need to update the source range for the table before you update its contents.

To update the source range, access the PivotTable Wizard to display the layout dialog box, then click on the back button to display the dialog box that lets you specify the source range.

## How to create a complex pivot table

The remainder of this section describes additional skills you can use to create and work with more complex pivot tables. First, you will learn how to create pivot tables that contain more than one column, row, and data field. Then, you'll learn three skills that will make it easier for you to work with large or complicated pivot tables: how to hide and show detail data, how to group numeric data into ranges, and how to filter a pivot table using a page field.

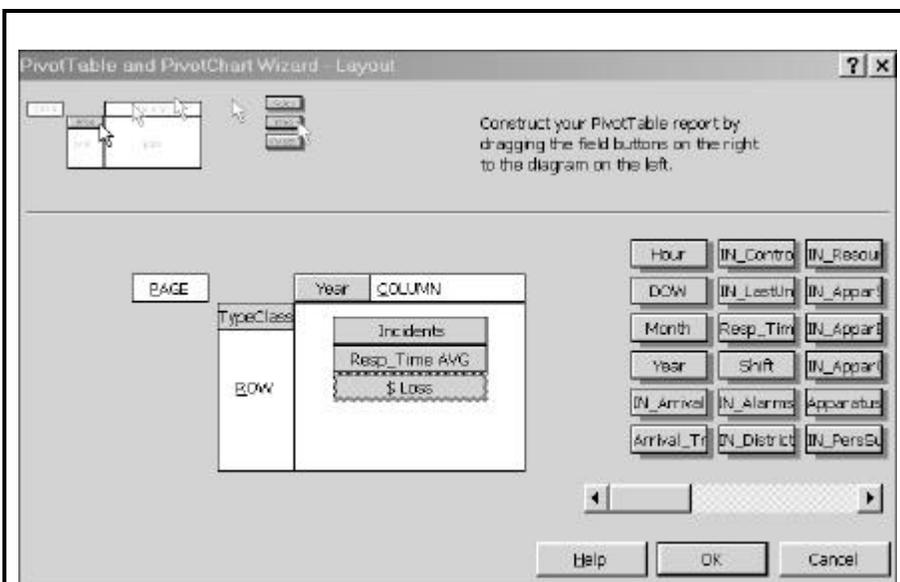
Using the Pivot Table Wizard, you learned how to change the layout of an existing pivot table. However, you are not limited to simply rearranging the fields and items in a pivot table. You can also add column, row, and data fields to create a more complicated pivot table. You can also delete fields you no longer want to include in the table.

Figure 19 presents a modification to the Layout Screen used in our Basic Pivot Table example (figure 2). This revised pivot table contains one row (Incident Types) and one column field (Year) and three data fields (Incident Count, Average Response Time and Total \$ Loss). You can also create pivot tables that contain two or more row and column fields. However, keep in mind that the more fields you include in a pivot table, the more difficult it will be to interpret. As a result, it makes sense to keep pivot tables relatively simple.

Remember that the default summary types, and numeric formats for the data fields must be appropriately modified by using the Field Settings screen. Once you have dragged the fields to their position on the Layout screen, double click on each of the field names in the data area and the Field Settings will be displayed.

Compare the Layout in Figure 19 with the Basic Layout described in Figure 9. Notice how easy it was to modify the Basic Layout to build a more complex pivot table.

***Tip: Make sure that you change the number format for Total \$ Loss to Currency with 0 decimal points and the number format for Response Time to Time – mm:ss. If the units are not set correctly, you will get an incorrect display of information.***



**Figure 19: Complex Pivot Table Layout Screen**

The resulting pivot table from the Layout in figure 19 is displayed in Figure 20.

	A	B	C	D	E	F
3			Year			
4	TypeC	Data	1999	2000	2001	Grand Total
5	EMS	Incidents	7	1706	37	1750
6		Resp_Time AVG	04:09	04:07	06:36	04:10
7		\$ Loss	\$200.00	\$0.00	\$0.00	\$200.00
8	False Al	Incidents	205	2511	355	3071
9		Resp_Time AVG	03:47	04:54	04:24	04:46
10		\$ Loss	\$0.00	\$1,000.00	\$0.00	\$1,000.00
11	Fire	Incidents	44	577	170	791
12		Resp_Time AVG	04:46	05:23	05:02	05:16
13		\$ Loss	\$1,003,000.00	\$2,490,185.00	\$3,000.00	\$3,496,185.00
14	Hazardou	Incidents	88	840	140	1068
15		Resp_Time AVG	03:32	05:07	04:21	04:54
16		\$ Loss	\$2,350.00	\$123,890.00	\$0.00	\$126,240.00
17	Other	Incidents	16	278	88	382
18		Resp_Time AVG	03:08	02:40	01:02	02:19
19		\$ Loss	\$0.00	\$0.00	\$0.00	\$0.00
20	Public A	Incidents	56	640	135	831
21		Resp_Time AVG	04:09	05:49	05:12	05:36
22		\$ Loss	\$2,400.00	\$7,010.00	\$0.00	\$9,410.00
23	Rupture	Incidents	18	217	58	293
24		Resp_Time AVG	03:43	04:00	04:04	04:00
25		\$ Loss	\$5,000.00	\$2,350.00	\$0.00	\$7,350.00
26	Service	Incidents	150	1247	218	1615
27		Resp_Time AVG	03:10	04:24	04:09	04:15
28		\$ Loss	\$10,635.00	\$5,550.00	\$0.00	\$16,185.00
29	Undeter	Incidents	1	24	12	37
30		Resp_Time AVG	01:00	08:00	04:25	06:39
31		\$ Loss	\$0.00	\$0.00	\$0.00	\$0.00
32	Weather	Incidents	38	29		67
33		Resp_Time AVG	02:03	06:48		04:06
34		\$ Loss	\$0.00	\$51,500.00		\$51,500.00
35	Total Incidents		623	8069	1213	9905
36	Total Resp_Time AVG		03:34	04:42	04:20	04:35
37	Total \$ Loss		\$1,023,585.00	\$2,681,485.00	\$3,000.00	\$3,708,070.00

Figure 20: Complex Pivot Table

By pivoting rows and columns, you can obtain a better display of the information contained in this pivot table (Figure 23).

	A	B	C	D	E	F	G	H	I	J
1										
2			Year	Data						
3			1999		2000		2001			
4	TypeClass	Incidents	Resp_Time AVG	\$ Loss	Incidents	Resp_Time AVG	\$ Loss	Incidents	Resp_Time AVG	\$ Loss
5	EMS	7	04:08	\$200.00	1706	04:07	\$0.00	37	05:36	\$0.00
6	False Alarm	205	03:47	\$0.00	2511	04:54	\$1,000.00	355	04:24	\$0.00
7	Fire	44	04:46	\$1,003,000.00	577	05:23	\$2,490,185.00	170	05:02	\$3,000.00
8	Hazardous Cont	88	03:32	\$2,350.00	840	05:07	\$123,890.00	140	04:21	\$0.00
9	Other	16	03:08	\$0.00	278	02:40	\$0.00	88	01:02	\$0.00
10	Public Assist	56	04:09	\$2,400.00	640	05:49	\$7,010.00	135	05:12	\$0.00
11	Rupture/Exp	18	03:43	\$5,000.00	217	04:00	\$2,350.00	58	04:04	\$0.00
12	Service Call	150	03:10	\$10,635.00	1247	04:24	\$5,550.00	218	04:09	\$0.00
13	Undetermined	1	01:00	\$0.00	24	08:00	\$0.00	12	04:25	\$0.00
14	Weather	38	02:03	\$0.00	29	06:48	\$51,500.00			
15	Grand Total	623	03:34	\$1,023,585.00	8069	04:42	\$2,681,485.00	1213	04:20	\$3,000.00

Figure 21: Alternate Format, Complex Pivot Table

## How to hide and show detail data

To hide or show the subordinates for a pivot table item, simply double-click on the cell that contains the label for the item. If you prefer, you can also use the Hide Detail and Show Detail commands to hide and show the detail data for a single item or for all the items in a field at once.

You can also display the source data for a value in the data area by double-clicking on the cell that contains the value. Then, Excel displays the records in the list on a separate worksheet that were used to calculate the value in a separate worksheet. This is an easy way to check the source of the data if you're confused by the results.

Figure 22 shows the worksheet created by double-clicking on the number 7 that designates the seven EMS incidents in 1999 from figure 21.

	A	B	C	D	E	F	G	H	
1	Incident	FD Name	IN NumorMile	City	IN State	Zip	Type	TypeClass	
2	532	SOUTH ORANGE FIRE FORCE	219	SOUTH ORANGE	NJ	07079	321	EMS	EMS call, etc
3	468	SOUTH ORANGE FIRE FORCE	337	SOUTH ORANGE	NJ	07079	311	EMS	Medical ass
4	365	SOUTH ORANGE FIRE FORCE	33	SOUTH ORANGE	NJ	07079	331	EMS	Lock-in, lift k
5	197	SOUTH ORANGE FIRE FORCE		SOUTH ORANGE	NJ	07079	311	EMS	Medical ass
6	79	ROSELAND VOL FIRE DEPT	426	Roseland	NJ	07068	251	EMS	Excessive f
7	58	CARLSTADT FIRE DEPARTMENT		East Rutherford	NJ	07073	342	EMS	Search for p
8	78	ROSELAND VOL FIRE DEPT	51	Roseland	NJ	07068	311	EMS	Medical ass

**Figure 22: Drill-down of 1999 EMS Incidents from figure 21:**

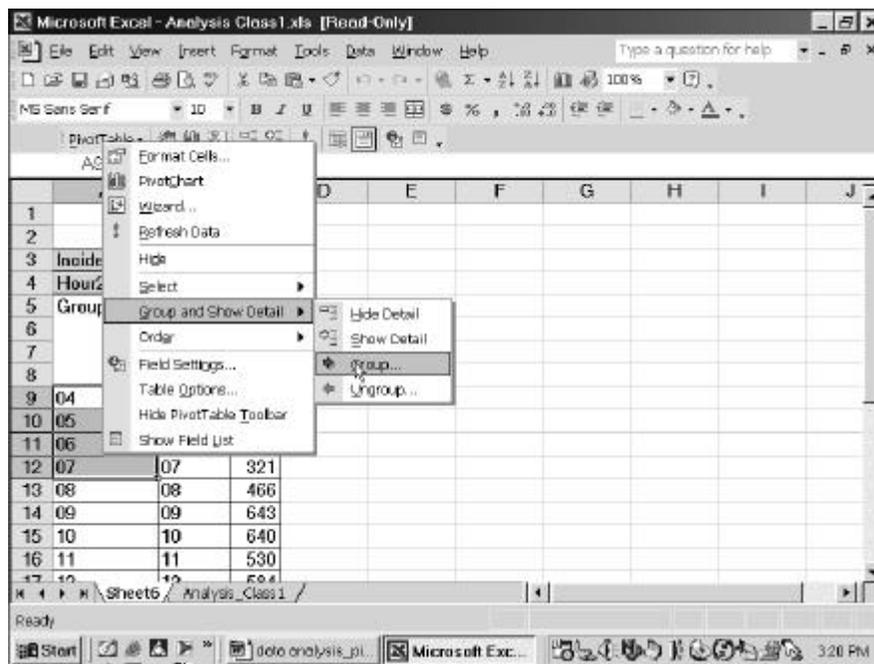
## How to group items into ranges

In analyzing fire data, it is often useful to group categories together to more easily see trends in the data. Pivot tables provide an easy way to “roll-up” or group both numeric and text data.

Figure 23 shows the number of incidents by hour of day that the incident was reported. In evaluating this data, it would be useful to group time of day into 4-hour blocks.

To group alarm hour, drag hour 0 through hour 3, then right clicking to display the “group” function in the drop down menu. This four-hour block is categorized into Group 1. By double-clicking on Group 1, the detail is collapsed into the Group 1 category.

You can change the Group 1 name to “mid - 4 am” simply by typing over Group 1. This process can be continued until the six 4-hour groups are created.



**Figure 23: Grouping Hour of Day Into 4-Hour Blocks:**

## How to use a page field to filter the data in a pivot table

Use of the Page Field is one of the most powerful features of pivot tables, but one of the least used and understood. Page Fields allows you to filter data in a pivot table and you can create as many filters as are appropriate for your analysis.

To create a page field, you access the Layout dialog box from the PivotTable Wizard, then drag the field you want to use as filters into the Page area. When you click on the Finish button, Excel displays the field at the top-left side of the pivot table along with a dropdown list box that contains all the items in that field.

The following complex pivot table several Page Fields (FD Name, City, Year, Month, Type Code, Mutual Aid, Detector Performance, Haz-Mat, Mixed Use and Property Use).

Codes selected from the dropdown menus for each filter (Independent Variable from your Analysis Plan) can be selected to provide a unique view of the pivot table information.

*Tip: In creating a pivot table from your Analysis Plan, is a good idea to place all of the identified independent variables in the Page Field and the Independent Variable(s) in the Data portion of the Pivot Table Layout. You can then drag and drop fields from the Page Field to a row or column position on the table.*

	A	B	C	D	E	F	G	H	I	J
6	FD Name	(All)								
7	City	(All)								
8	Year	(All)								
9	Month	(All)								
10	Type Code	(All)								
11	Mutual	(All)								
12	Detector	(All)								
13	HazMat	(All)								
14	Mixed Use	(All)								
15	Prop Code	(All)								
16										
17	TypeClass	Count	Resp. Tm	Apparatus	Personnel	\$ Loss	FS Fatal	Civ Fatal	FS Injury	Civ Injury
18	EMS	1761	21:24	1	4	\$201	0	4	3	20
19	False Alarm	1076	20:01	3	8	\$1,000	0	0	1	2
20	Fire	794	8:12	3	10	\$3,496,185	0	0	22	11
21	Hazardout Cond	1078	20:13	3	8	\$126,240	0	4	5	16
22	Other	383	6:44	1	5	\$0	0	0	0	0
23	Public Assist	888	12:37	2	6	\$8,410	0	2	1	3
24	Rupture/Exp	294	4:36	2	8	\$7,350	0	0	0	1
25	Service Call	1618	3:20	2	7	\$18,185	0	1	0	9
26	Undetermined	37	15:48	1	5	\$0	0	0	0	0
27	Weather	67	15:48	2	5	\$51,510	0	0	1	0
28	Grand Total	9991	28:15	2	7	\$3,718,078	0	11	33	62

**Figure 24: Complex Pivot Table with Page Filters**

## Comment

The pivot table functions presented in this section are probably more than you'll need for the most of the pivot tables you create. Even so, all of these functions can be useful in particular situations. If you plan on working with pivot tables, you should spend some time experimenting with these features. Although some of the function may seem confusing at first, they will make more sense once you see how they work.

## Summary

- A *pivot table* is a table that summarizes the data in one or more fields of a list, an external database, or another pivot table based on other fields. A pivot table contains *row* and *column fields* that specify the fields by which the data is summarized and *data fields* that determine what data is summarized. You can select from several *summary functions* for each data field.
- You use the PivotTable Wizard to define a pivot table. By default, Excel creates the pivot table in a new worksheet in the current workbook.
- You can change the layout of a pivot table by dragging the labels for row and column fields or pivot table items from one position to another. You can also move row and column fields using the PivotTable Wizard.
- From the PivotTable Field dialog box for a data field, you can select a different summary function for the field, you can specify the format for the summarized data, and you can change the label that's used in the pivot table to identify the summary.
- From the PivotTable Field dialog box for a row and column field, you can change the subtotal function or remove the subtotals.
- To update a pivot table to reflect changes made to the source data it's based on, use the Refresh Data command in the Data or shortcut menu or the Refresh Data button in the Query and Pivot toolbar.

- To hide and show detail data in a pivot table and group numeric items into ranges, use the commands in the Group and Outline submenu of the Data or shortcut menu or the appropriate buttons in the Query and Pivot toolbar.
- You can use *Page field* to filter the data in a pivot table.

## **Pivot Table Quick Reference Guide**

(Laminated Insert)

## ***Section 3***

### ***Publishing Interactive WEB-based Pivot Tables & Charts***

#### ***Introduction***

Interactivity is one of the major advantages of pivot tables. This capability gives the end-user the ability to “slice and dice” the data in a way that provides the most information value. Although pivot tables can be viewed using Excel or printed in a static mode on paper, their true value is preserved when they are published on the WEB where anyone with Internet Explorer can interact with the pivot table.

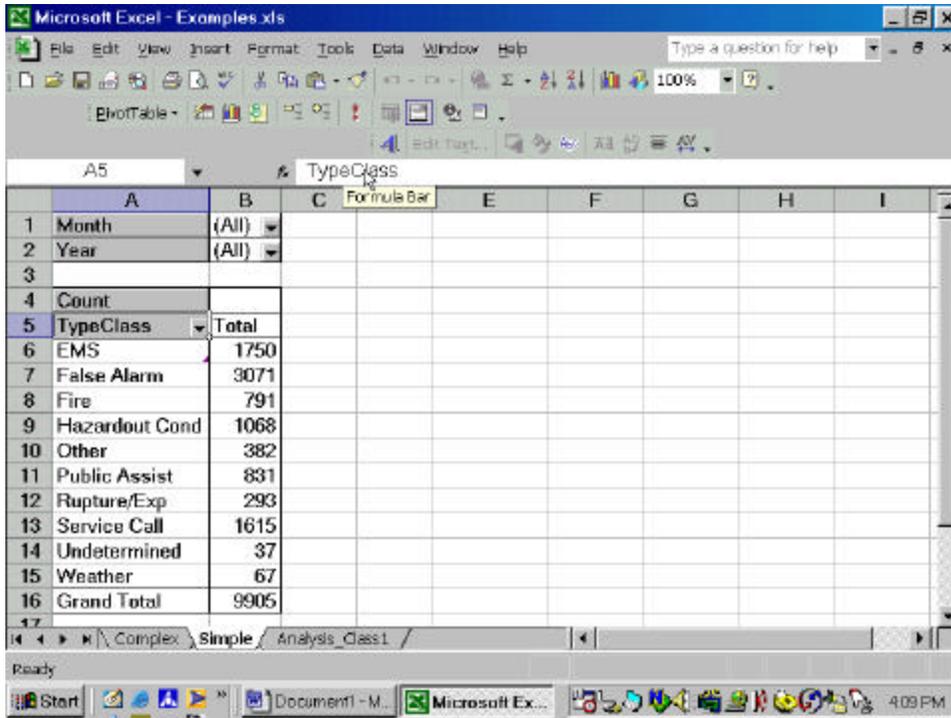
Although WEB publishing of pivot tables was supported in Office 97, significant enhancements in Office XP greatly improved the look and functionality of web-published pivot tables.

This section of Fire Data Analysis and Problem Solving Techniques will provide the user with the procedure for publishing their pivot tables on the WEB and highlight some of the added features in Office XP.

Terminal Objectives for this unit are:

1. To properly select the WEB components to publish interactive pivot tables and charts
2. Recognize the limitations of web-published pivot tables as compared to those directly viewed through Excel.
3. Publish a simple we-based pivot table and chart using sample data provided on the companion CD.

Re-create the “simple” pivot table as described in Section 2. This will be the example that will be used for WEB-based publishing.

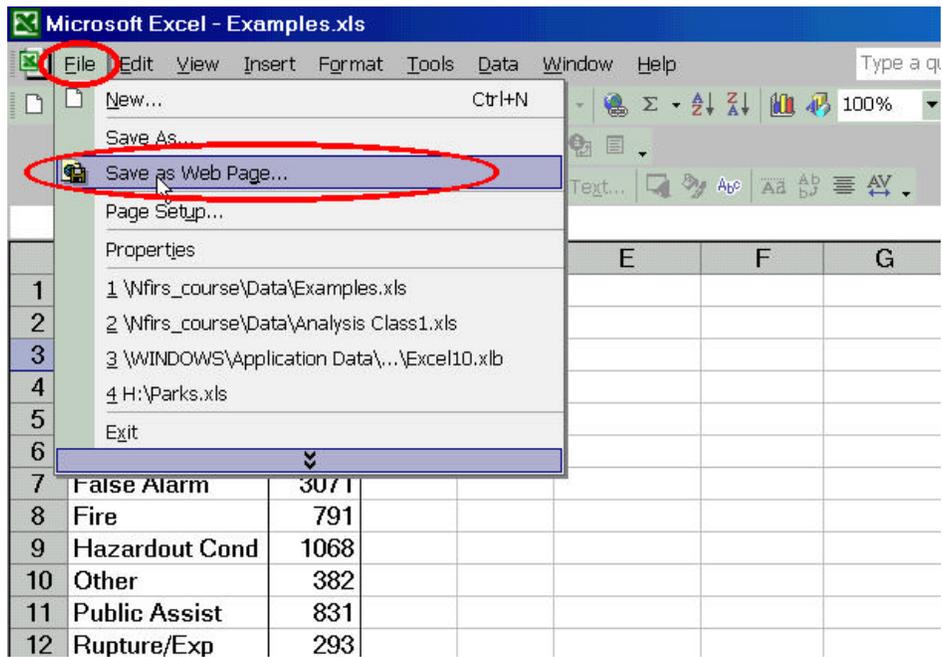


The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Examples.xls". The PivotTable is displayed in the following format:

	TypeClass	Total
1	Month	{All}
2	Year	{All}
3		
4	Count	
5	TypeClass	Total
6	EMS	1750
7	False Alarm	3071
8	Fire	791
9	Hazardout Cond	1068
10	Other	382
11	Public Assist	831
12	Rupture/Exp	293
13	Service Call	1615
14	Undetermined	37
15	Weather	67
16	Grand Total	9905

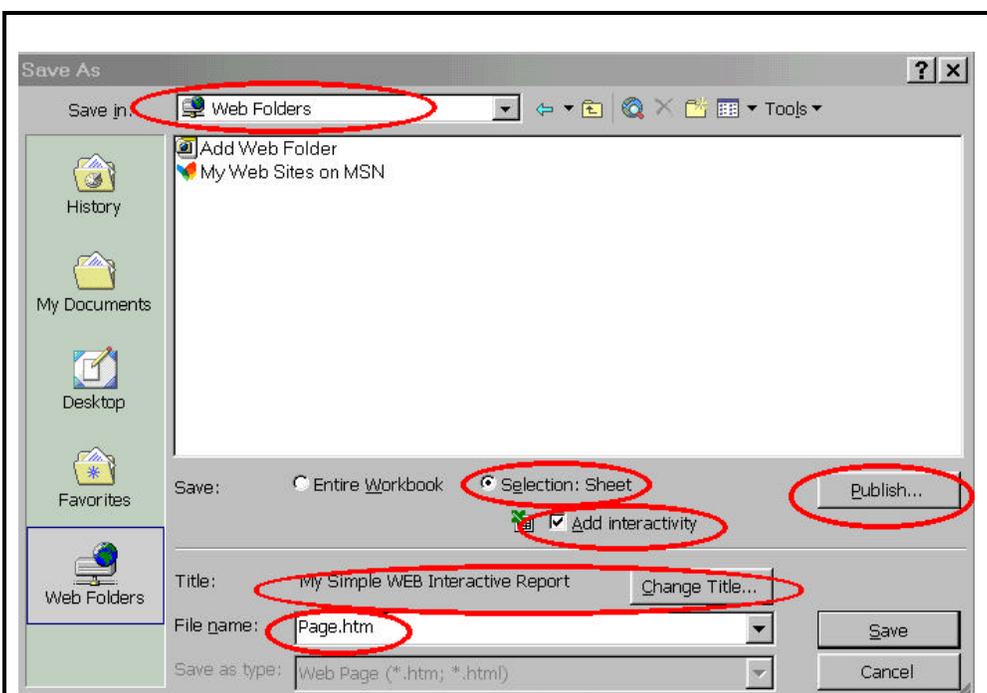
*Figure 1: Simple Pivot Table from Section 2*

With the simple pivot table as the active worksheet, select **File > Publish as Web Page** from the Main Menu.



**Figure 2: Menu Selection**

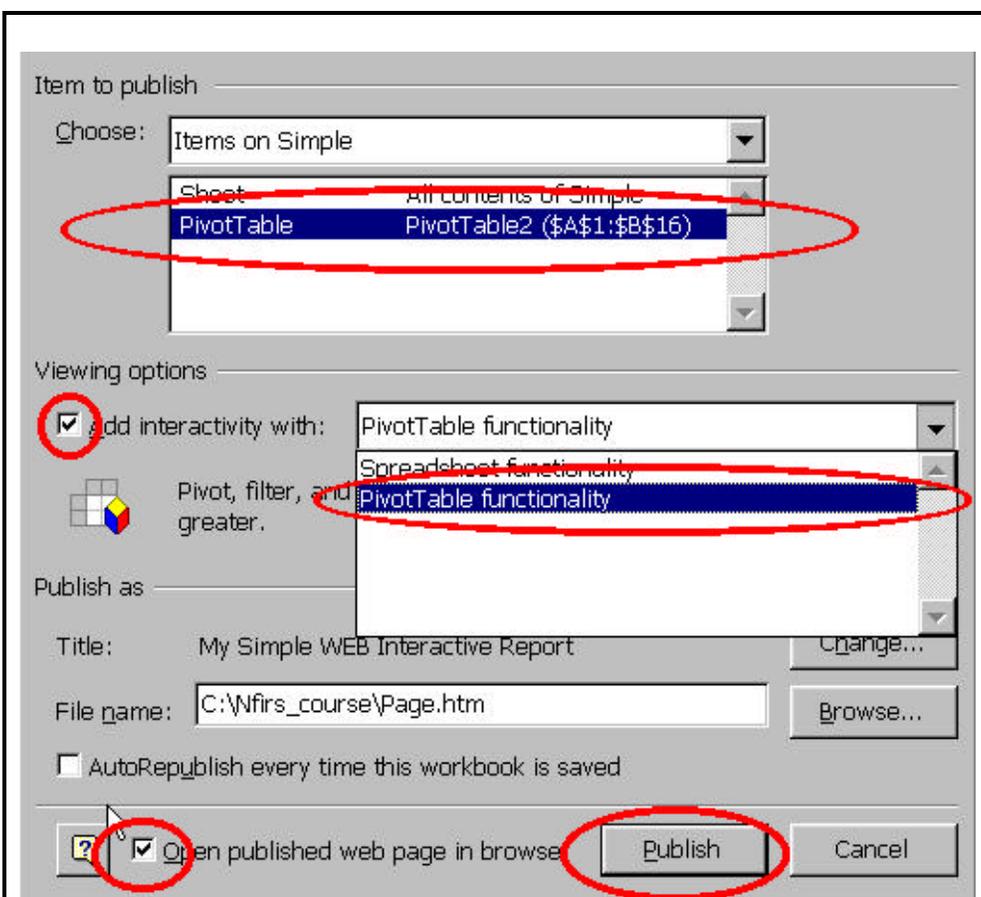
The "Save As" (figure 3) screen defines the name and location of the web components and defines the interactivity.



**Figure 3: The Save-As Screen**

- 1. Accept or rename the Save in Folder such as “My Documents”, “Web Folder”, etc.**
- 2. Click on *Selection Sheet* and *Add Interactivity*. Click the *Change Title* button to add a title for your report.**
- 3. Accept or redefine the file name for the web page, then click *Publish* - DO NOT CLICK SAVE -**

The next screen obtains additional information on what is to be published.

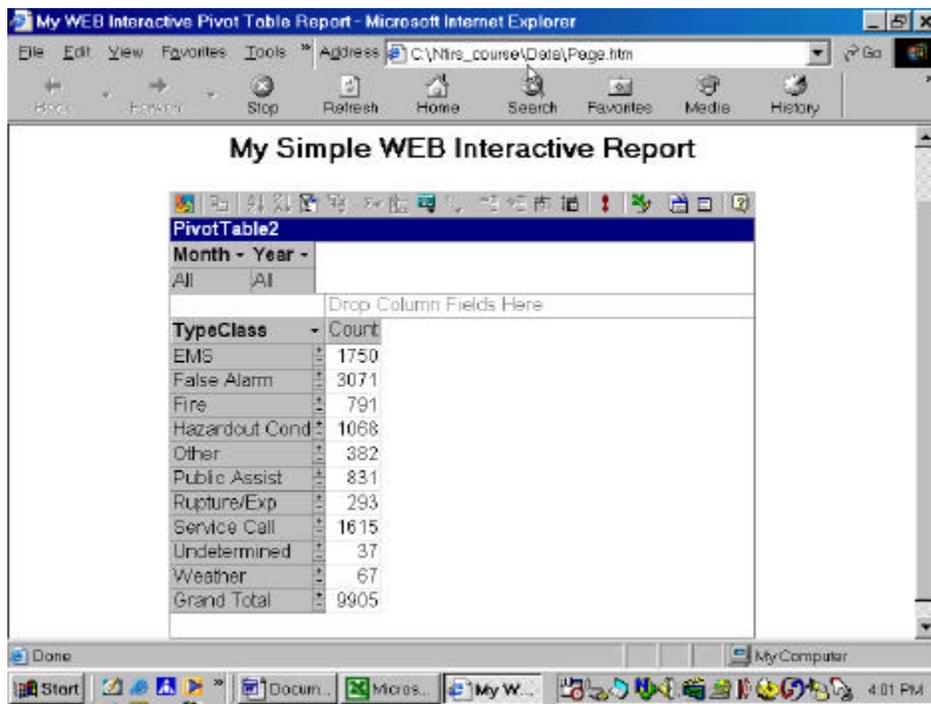


**Figure 4: The Publish Screen**

1. Choose *Pivot Table* from the options list.
2. Verify that *Add Interactive Functionality with* is checked
3. Select *Pivot Table Functionality*
4. Check *Open published web page in browser* to allow you to verify format of web page.
5. Click on the *Publish* button

After several moments the web page containing the pivot table will appear in the Internet browser screen. The time to generate the web page depends on the size of the list file, the complexity of the pivot table and the speed of the computer. Be patient, depending on the complexity of the pivot table and the size of the list file, this may take a few minutes.

The resulting pivot table should look similar to the sample below and have all of the functionality of the Excel pivot table. However, notice that the “page” fields are arranged horizontally rather than vertically at the top of the page.



**Figure 5: Published Web Page**

Be careful to drop page/column/row fields in the designated areas otherwise the field will drop off the screen. The fields cannot be restored using the Edit > Un Do feature but will be restored when the web page is reopened. Fields can also be added or restored by clicking on the Field List button (D) on the right end of the Main Menu Bar.



The Menu Bar and other display options can be changed or hidden by

selecting the *Commands and Options* button (C). The *Export to MS Excel* button (B) downloads the list file to the web user. The *Refresh* button (A) refreshes the web page pivot table with the Excel list file if they are on the same network.

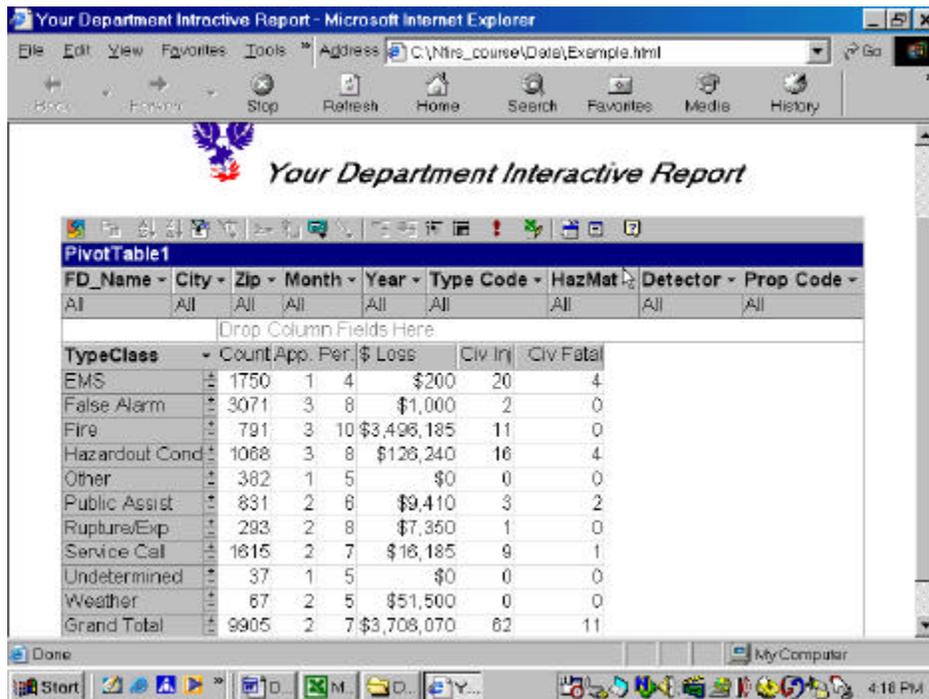
The following complex Excel pivot table contains data measures that are simple counts/sums and averages (response times/averages).

The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Examples.xls". The pivot table is displayed with a logo in the center that reads "Your Dept. Interactive Report". The table has columns A through I. Row 13 is the total row, which is highlighted in red. The data in row 13 is as follows:

	Count	Rsp_Tm	Durat	App.	Per.	\$ Loss	Civ Inj	Civ Fatal
<b>Total</b>	9905	0:04	0:46	2	7	\$3,708,070	62	11

**Figure 7: Complex Pivot Table With Averages**

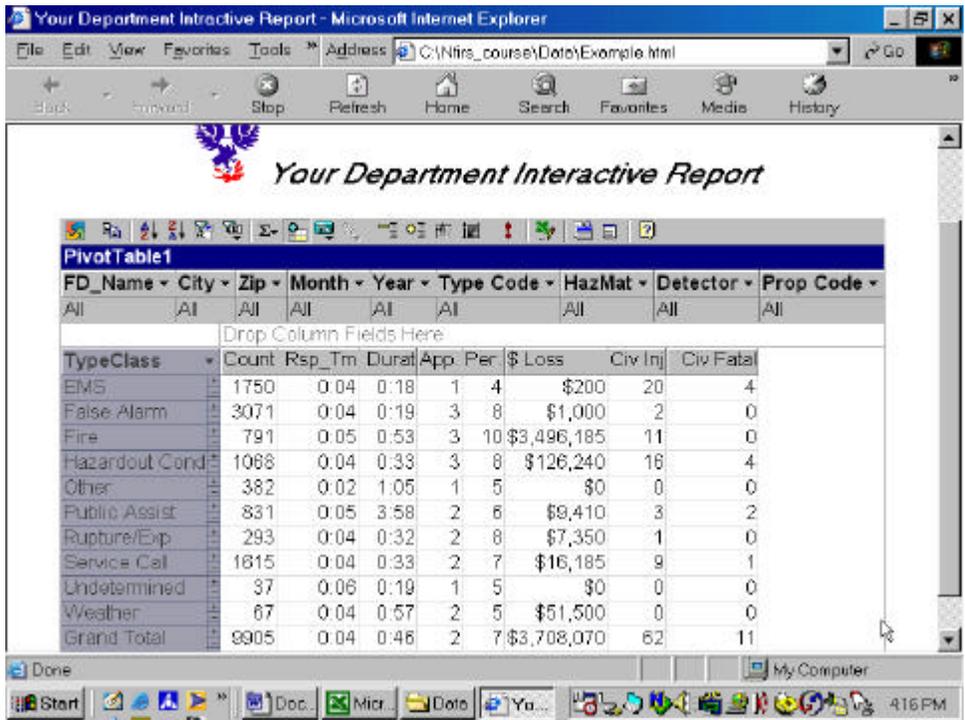
Office 2000 and below cannot display averages or percents in the published web page. When these functions are present in the original Excel pivot table, they are deleted from the resulting web page.



**Figure 8: Office 2000 Web Page**

As can be seen, the counts and sum fields are the only ones displayed on web pages developed from Office 2000 and below.

Office XP supports average and percent calculation in the published web pages provided that the browser has the XP Web components installed. If the browser doesn't have these components when trying to display an XP web page, the user is directed to the MS Website for downloading and installing the necessary components.



*Figure 9: XP Office Web Page*

As can be seen, all of the information content from the original Excel Pivot table is available on the web-published interactive pivot table.

## Interactive Pivot Charts

Interactive pivot charts can also be published on a web page. These charts contain both an interactive bar chart and the associated interactive pivot table. It should be noted that when using interactive charts, **KEEP THEM SIMPLE**

The same process is used to publish interactive charts as is used for publishing interactive pivot tables.

Create the chart from a pivot table and save it as a separate worksheet. While you are in the worksheet, got to File > Save As Web Page. Make sure you click Selection: Chart on the Save As screen and add interactivity and click on Publish to bring up the Publish as Web Page Screen (figure 10).

In the Publish as Web Page screen highlight Chart in the window, then select add interactivity with Chart functionality. Click on Publish create the web page (figure 11).

Note: This Interactive Pivot Chart was published in Office XP that supports 3-D column charts. Office 2000 and below only support 2-D column charts.

(Missing)

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## *Section 4*

### *How to Export Data (Query)*

### *The NIFRS Data Base*

#### **Introduction**

As discussed in Section 1, the first step in creating a pivot table involves the extraction, or export, of data from a NFIRS database. This section will describe the use of Microsoft Query, an add-in program that comes with Excel, which allows retrieval of information from relational databases such as the NFIRS 5 Access database. This process, including the use of MS Query, can also be used for any ODBC (Open Data Base Connectivity Driver) compliant commercial NFIRS program.

This section will demonstrate the process for making a simple (one table) and complex (two table) query using MS Query. Each student will be supplied with a CD containing a sample database and the examples provided in this unit.

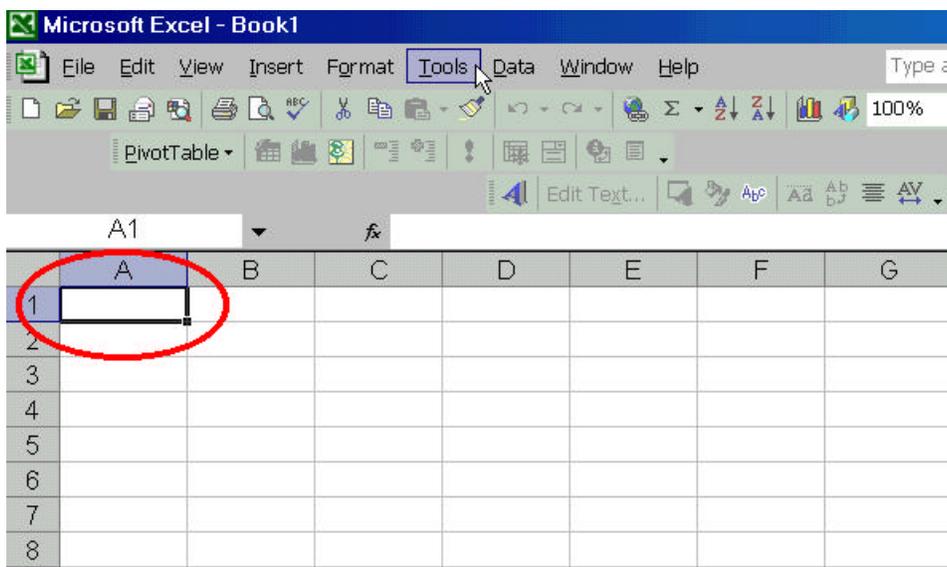
The terminal objectives are:

1. Define the source, location and name of the appropriate NFIRS database.
2. Select the appropriate tables and records from the NFIRS database
3. Identify the proper key fields and link tables for complex queries
4. Edit Queries
5. Create a list file for use in developing pivot tables.

## *Simple Query*

### *Starting Microsoft Query*

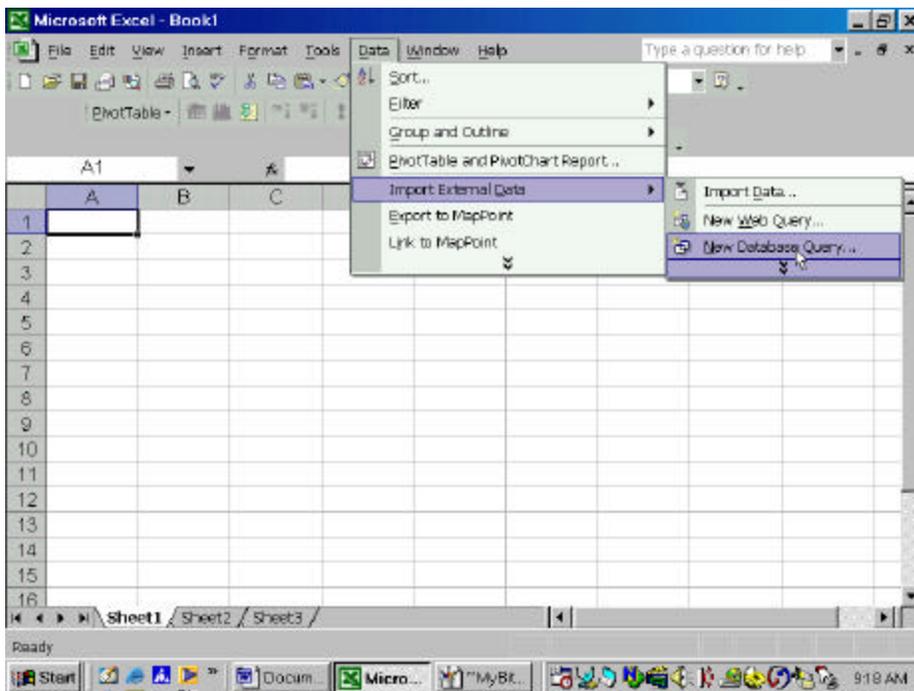
Top verify that the add-in program MS Query is installed on your computer, place the cursor in A1, the home position and click Tools on the Menu Bar. Starting in the A1 position will ensure that Excel will properly return the list file to the proper worksheet.



*Figure 1: Starting Microsoft Query*

### ***Starting MS Query (continued)***

Select *Import External Data > New Database Query*. If the system does not display the source database screen, then you need to install the MS Query add-in program. See your MS Office manual for instructions on adding this free component from the installation disk.

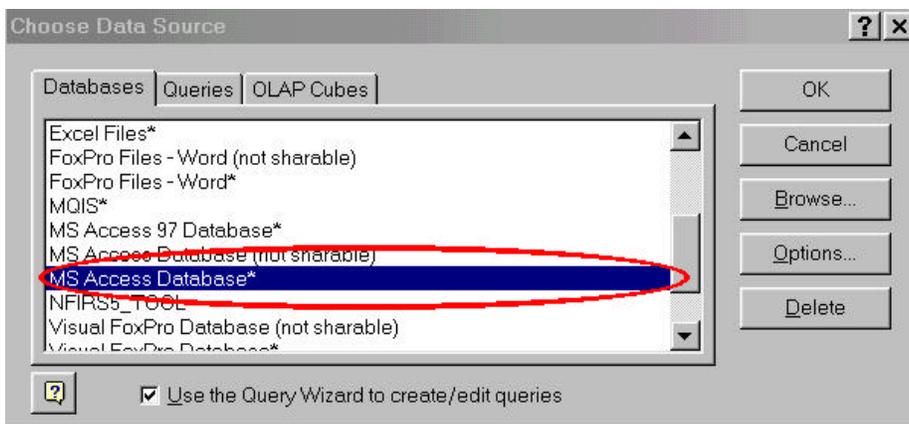


***Figure 2: Starting MS Query (continued)***

### *Selecting the Access Database Driver*

If you have MS Query installed, you will get a list of the databases that your version of MS Query currently supports. If the database that you want to access is not on the list, you can obtain an ODBC driver and install it using the *Options* button.

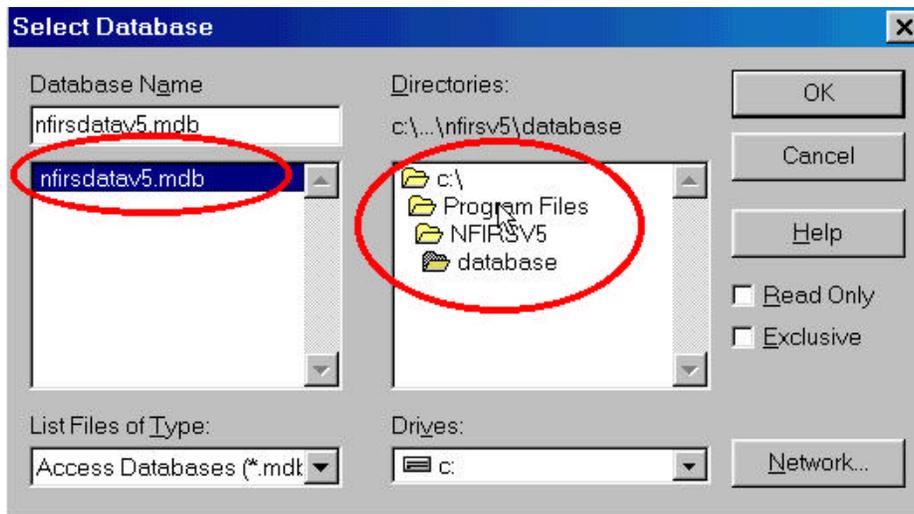
**If you are using the NFIRS Tool, select the MS Access Database\*.** If you are using a commercial NFIRS software package, check with the manufacturer to verify their database engine and select that one from the list.



*Figure 3: Selecting the Access Database Driver*

### *Locating the NFIRS Database*

The next screen allows you to identify the name and location of the selected database source. **The typical installation of the NFIRS Tool places the database in the Program File > NFIRSV5 > database directory. The name of the database is nfirsdatav5.mdb.** If you are using the NFIRS Tool on a network, performed a custom installation or are using a commercial NFIRS software package, you will need to find the location and name of the database.



*Figure 4: Locating the NFIRS Database*

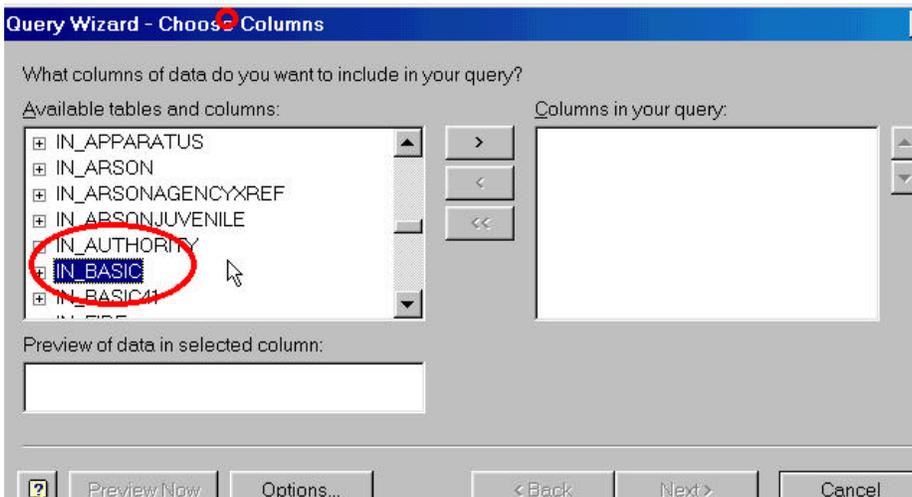
Once the database has been selected, the Query Wizard will step you through the process of selecting Tables and Columns (data) from the NFIRS database.

### ***Query Wizard - Choosing Tables***

Once the database has been identified, MS Query will display a wizard screen for selecting tables and records for export. The window on the left shows all of the tables in the NFIRS database. If you are using a commercial NFIRS software package, the table names may be different.

If you move the vertical scroll bar up and down, you can recognize several tables having names similar to the NIRS modules: In-Basic, IN\_Fire, In\_Hazmat, etc. These tables contain incident records for their associated module. Each table is linked by a *key field* such as incident ID that ensures that the incident records in one module are properly linked with records from other modules. In some cases more than one key is used to link tables. This will be discussed under complex queries.

**For this example, select the IN-Basic table.**



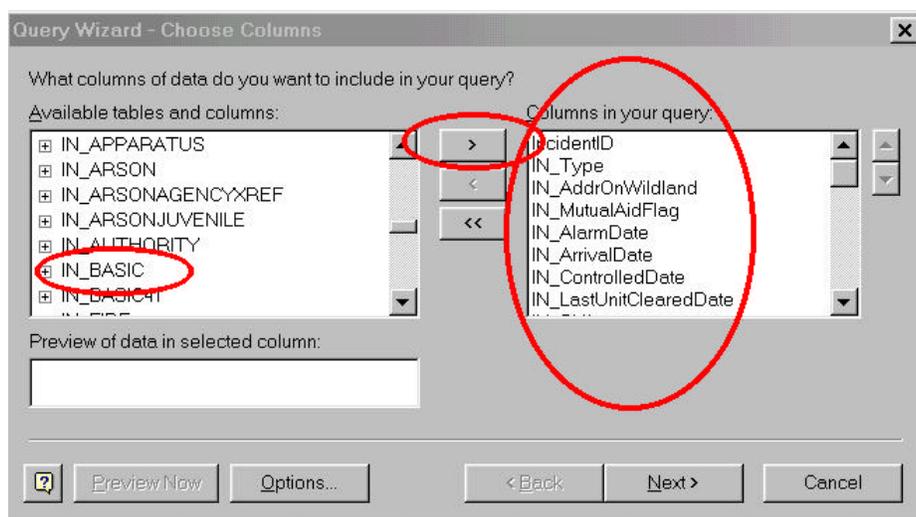
***Figure 5: Selecting Tables from the database***

## Query Wizard - Choosing Columns (Data)

If you want to select the majority of the data from a table, simply highlight the table then click the > button. This will transfer all of the columns (data) into your query. If there are some fields that you don't want in your query, simply highlight the field on the left of the screen and press the < button. It will be returned the field to the "available" column.

If you only want to select a few fields from the available column, click on the + in front of the table and all of the available fields will be displayed. Highlight the field that you want in your query, then press the > button and it will be transferred to the right column for inclusion in the query.

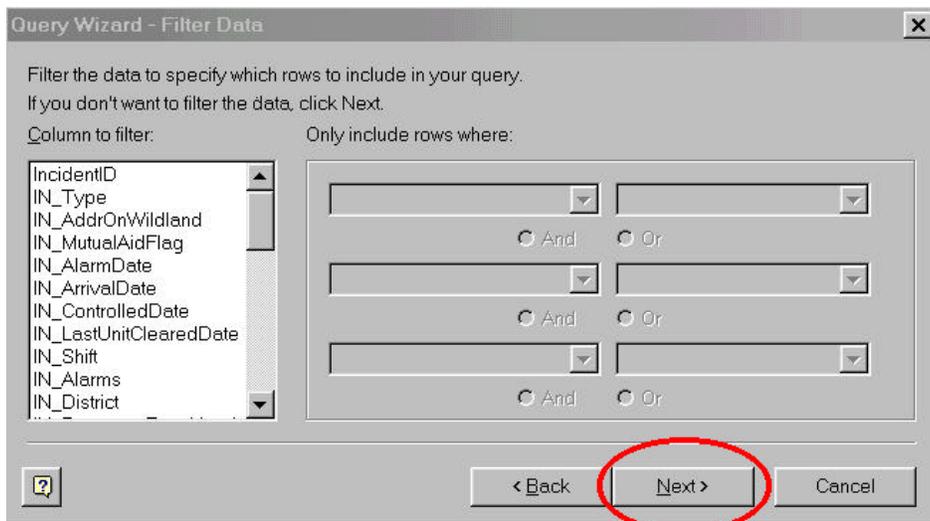
**For this example, highlight IN\_BASIC and move all of the fields from that table into the query.**



*Figure 6: Selecting Records from a Table*

## Query Wizard - Filter Option

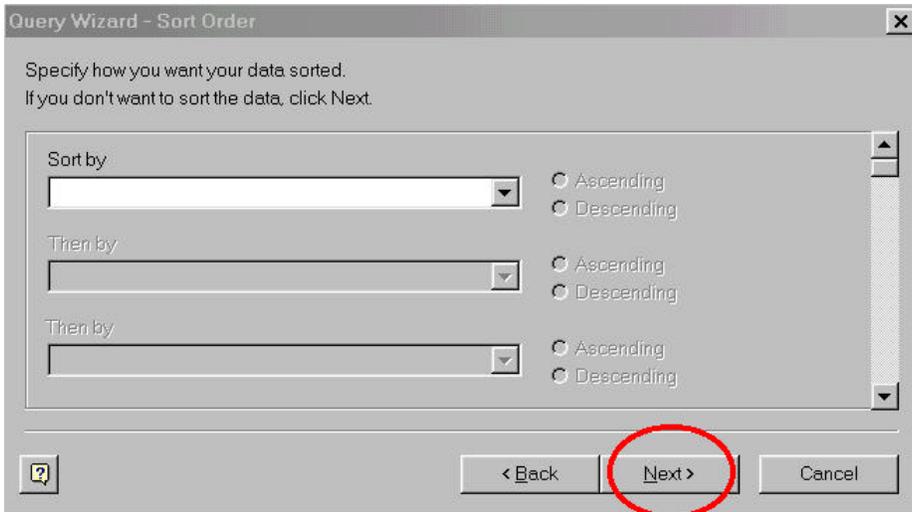
MS Query allows you to set conditional filters for inclusion of data in your query. **Because we will be using the list file and pivot table to perform filters, do not filter any of the selected fields.**



**Figure 7: Query Filter Option**

## *Query Wizard - Sort Option*

As with the filter option presented in MS Query, any sorting will be handled in the excel list or pivot table. **Do not select any sort options.**

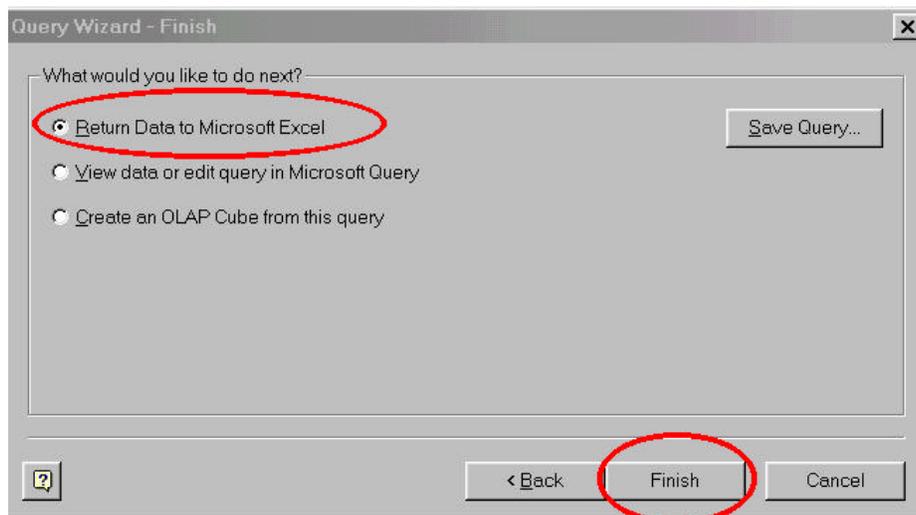


### ***Query Wizard – Finish (Returning the List File to Excel)***

The last screen in the Query wizard allows you to select how you want the selected data to be returned to Excel. You can also choose to edit the MS Query to further customize the data being exported.

We will discuss editing the MS Query in the next section of this unit. The OLAP Cube is an appropriate option if you have more than 64,000 records in your database but description of this process is outside the scope of this unit.

**For typical pivot table analyses, select the default option to return the data to Microsoft Excel.**

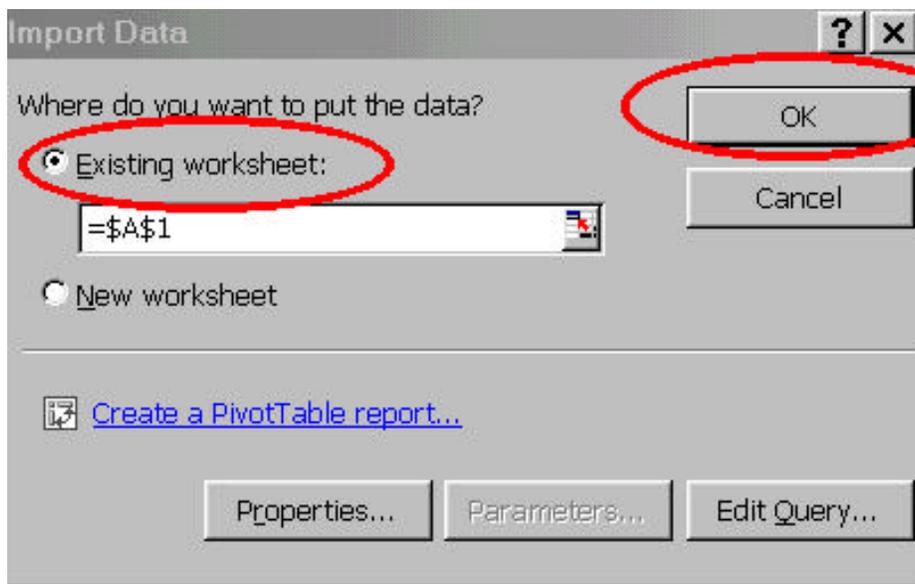


***Figure 8: Returning Data to Excel***

### ***Importing the List File From MS Queryt***

Once you have finished the MS Query wizard process and identified that you want the data returned to Excel, the system asks where you want to place the list file. Since you started in the A1 position on a new worksheet, the system defaults to the existing worksheet. If you want to place the list file in another location.

**For this example, select the default for placing the list file in the existing worksheet.**



***Figure 9: Importing the List File***

After you have identified the location for the list file, the system will process the query. It may take several seconds based on the size of the database and the complexity of the query.

Notice that the Query returned list file with the field names in the first row in the order that the fields were selected in the query. If you prefer a different order, this can be handled in Excel or you can run another query.

The screenshot shows a Microsoft Excel spreadsheet with the following data:

	A	B	C	D	E	F	G
	IncidentID	IN_Type	IN_AddrOnWildland	IN_MutualAidFlag	IN_AlarmDate	IN_ArrivalDate	IN_C
2	2	741	N	N	1/2/99 13:15	1/2/99 13:20	
3	3	733	N	N	1/2/99 15:15	1/2/99 15:20	
4	4	741	N	N	1/2/99 21:23	1/2/99 21:29	
5	5	812	N	N	1/3/99 10:15	1/3/99 10:18	
6	6	412	N	N	1/3/99 18:55	1/3/99 18:58	
7	7	731	N	N	1/3/99 8:25	1/3/99 8:29	
8	8	731	N	N	1/3/99 8:15	1/3/99 8:20	
9	9	730	N	N	1/3/99 9:58	1/3/99 10:02	
10	10	812	N	N	1/3/99 9:40	1/3/99 9:42	
11	11	812	N	N	1/3/99 11:00	1/3/99 11:05	
12	12	700	N	N	1/4/99 18:55	1/4/99 18:59	
13	13	733	N	N	1/4/99 16:20	1/4/99 16:22	
14	14	736	N	N	1/5/99 22:15	1/5/99 22:17	
15	15	740	N	N	1/5/99 2:41	1/5/99 2:45	
16	16	651	N	N	1/5/99 13:58	1/5/99 14:05	

**Figure 10: The Resulting List File**

At this point you are now ready to socnstruct your pivot table.

## *Complex Queries*

Tables in a database are linked by special “key fields” that ensure that the records in one table can be matched with the corresponding record in other tables. Several “key fields” are used in the USFA NFIRS Tool database: Incident ID, FDID and FD State are commonly used to link tables used for data analysis.

If you want to extract data from tables in the database that do not share the same key field, an additional table must be also included in your query that contains the unique keys necessary to link the tables. The USFA NFIRS Tool has a common key table called INCIDENTKEYS that is used to link disparate tables.

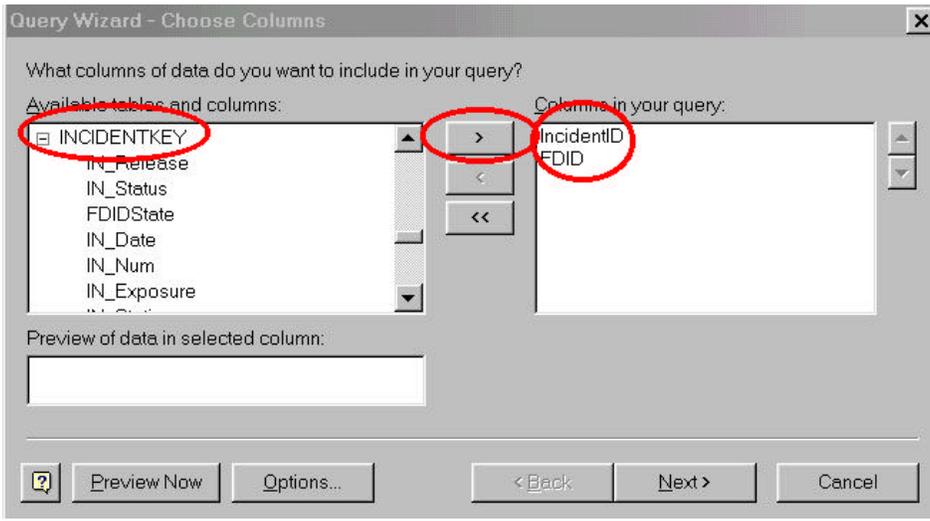
The following example demonstrates how to link two tables using the INCIDENTKEY table.

In the Select Data wizard, locate the INCIDENTKEY table and display the its associated fields by clicking on the + . This table contains all of the keys used in the various incident tables.

In this example, we will be querying from the FD HEADER table and the IN BASIC table. The key in the FD HEADER table is FDID and the key in the IN BASIC table is Incident ID. Notice that the INCIDENTKEY table contains these keys.

### *Select Key Fields for Multiple Table Queries*

**Select the FDID, and Incident fields for inclusion in your query.**



***Figure 11: Select Key Fields for Multiple Table Queries***

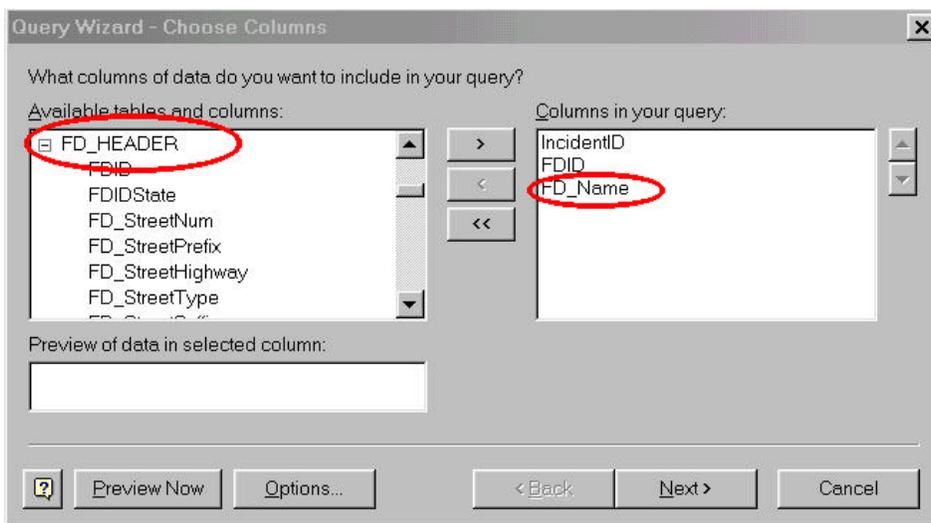
These two data fields are used in the USFA NFIR database to link incident information to fire department/state information. Without providing these keys, the data selected from each of the tables could not be connected properly.

## Selecting Data from Multiple Tables

Now that we have provided a link between the two tables, we can identify the table and data to be included in the query. Cursor up to the FD\_Header table in the left window and open it by clicking on the + sign.

For this example, it is useful to include the literal name of the fire department in the incident record. Notice that this table also contains useful information about the department such as address ( for GIS calculations), and population protected for use in identify and comparing like departments.

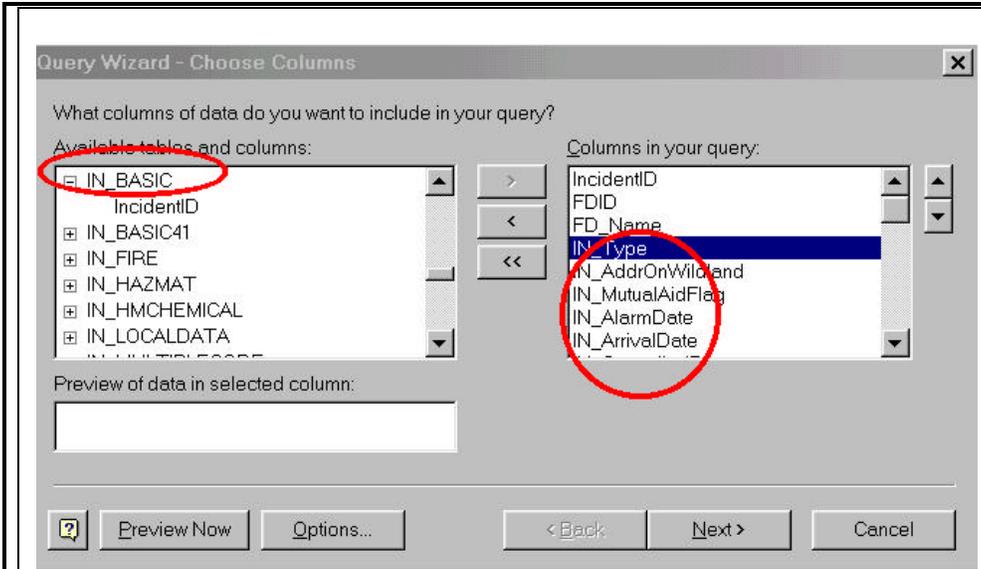
**Highlight FD Name and move it into the query window on the right by clicking on the > button.**



*Figure 11: Selecting Data from Multiple Tables*

Now scroll down to the IN\_BASIC table and open it by clicking on the + sign. Most all of the information on the Basic Form is included in this table and it makes this table an excellent source of NFIRS Summary Information.

**Either move each field into the query by highlighting it then clicking on the > button, or move all of them into the query by highlighting the IN\_BASIC table itself and clicking on the > button.**



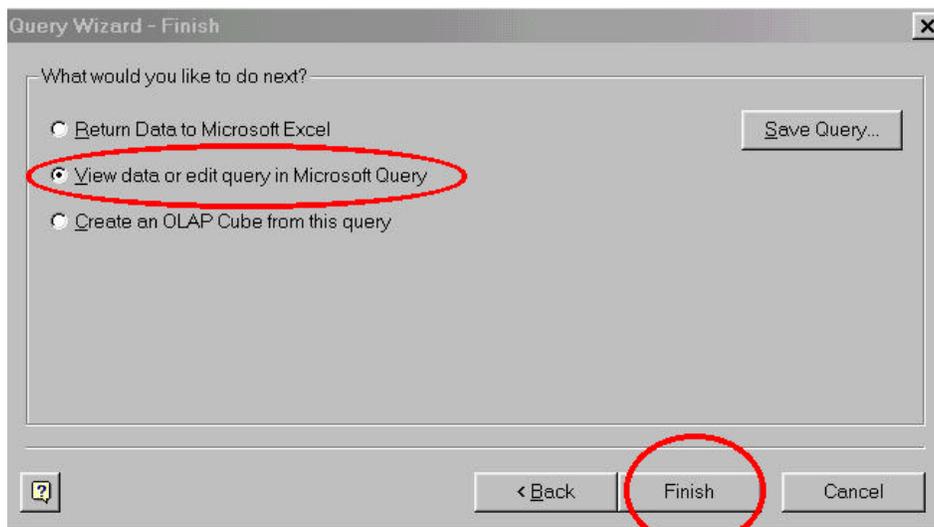
**Figure 12: Selecting Tables and Data (continued)**

Because the FDID and Incident ID were selected in the query, data is properly linked to the proper incident and fire department.

## *Editing The Query*

After accepting the defaults in the filter and sort wizard screens you are presented with the option to edit the query.

**Select the View Data or Edit Query option.**



*Figure 13: Editing the Query*

After selecting to edit the query, you are presented with a screen that displays the tables, links and fields that are included in your query (figure 14). This screen also displays the data resulting from the query.

Although beyond the scope of this section, this screen can be used to link coded fields with their literal translations and to create one to many links between tables.

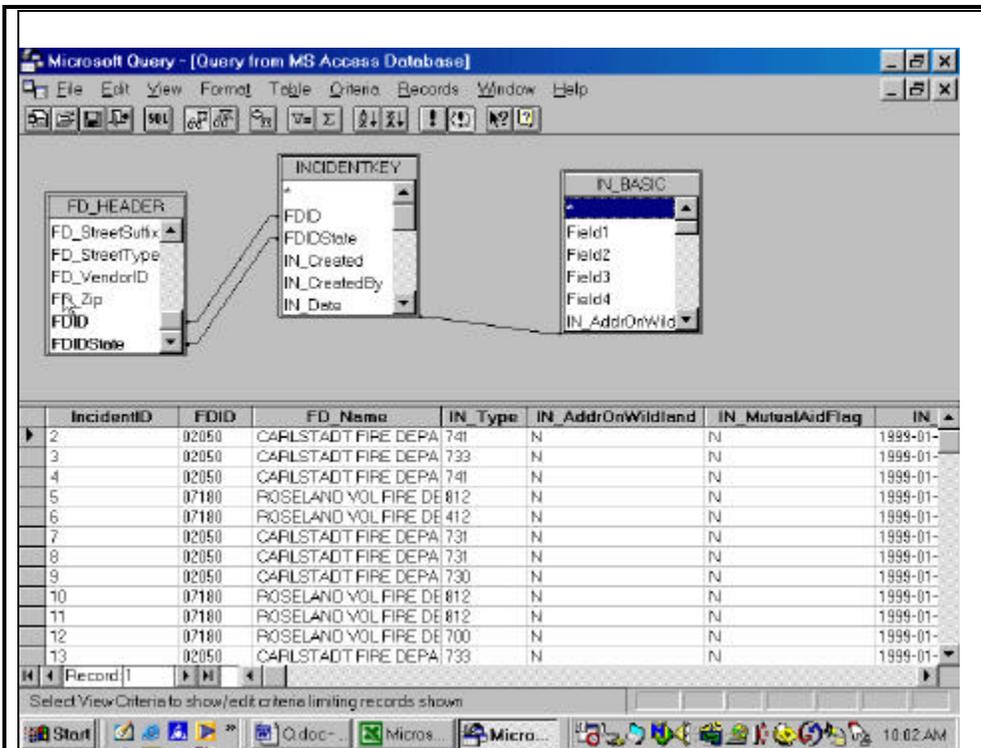


Figure 14: Edit Query Process

## Changing Table Links

In some cases, MS Query may not automatically provide the proper join or link type between tables. By clicking on the link you can specify the correct link setting.

Double click on the link between **INCIDENTKEY** and **IN\_BASIC** to reveal the *join* screen.

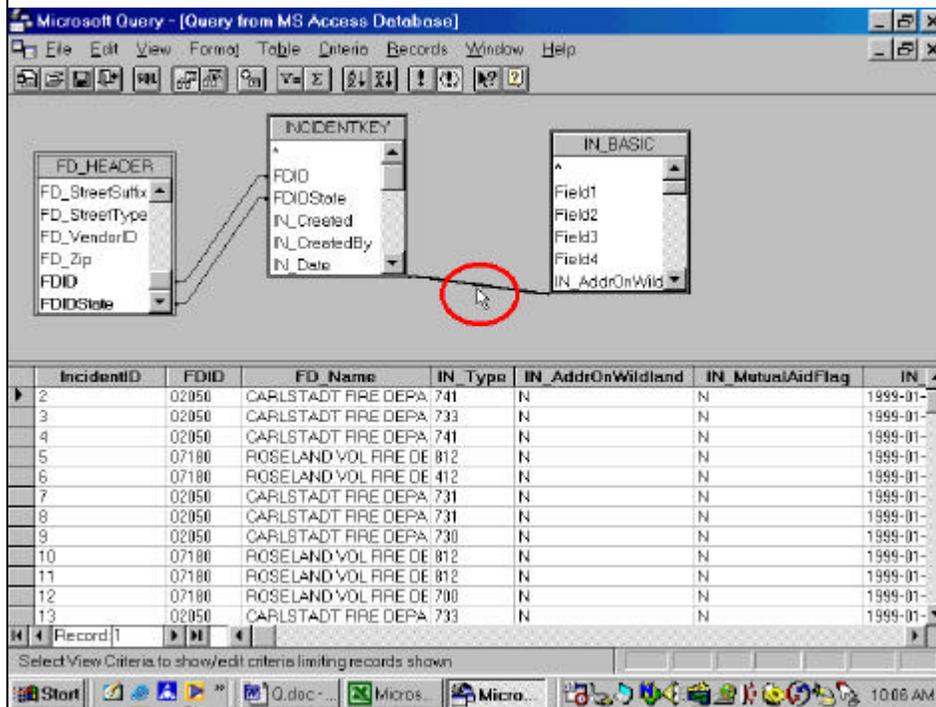


Figure 15: Changing Table Links

You will now be able to edit the type of link or join in the “Join Editor” as shown in figure 16.

### Join Editor

The current join indicates that the query will include only IN\_BASIC records where the IN\_BASIC key (IncidentID) is equal to the INCIDENTKEY key (IncidentID).

**Change the join type to 2 and see what happens to the number of records in the list file? Change the link to type 3 and see what, if any, changes occur?**

**When would you want to change the default join type?**

The screenshot shows the 'Join Editor' dialog box. At the top, there are fields for 'Left:', 'Operator:', and 'Right:'. The 'Left:' field contains 'IN\_BASIC.IncidentID', the 'Operator:' field contains '=', and the 'Right:' field contains 'INCIDENTKEY.IncidentID'. There are 'Add' and 'Close' buttons to the right. Below this is a section titled 'Join Includes' with three radio button options:

- 1: ONLY records from 'IN\_BASIC' and 'INCIDENTKEY' where IN\_BASIC.IncidentID = INCIDENTKEY.IncidentID
- 2: ALL values from 'IN\_BASIC' and ONLY records from 'INCIDENTKEY' where IN\_BASIC.IncidentID = INCIDENTKEY.IncidentID
- 3: ALL values from 'INCIDENTKEY' and ONLY records from 'IN\_BASIC' where IN\_BASIC.IncidentID = INCIDENTKEY.IncidentID

Below the 'Join Includes' section is a 'Remove' button and a section titled 'Joins in Query:'. This section contains a list of join expressions:

- FD\_HEADER INNER JOIN INCIDENTKEY ON FD\_HEADER.FDID = INCIDENTKEY.F
- FD\_HEADER INNER JOIN INCIDENTKEY ON FD\_HEADER.FDIDState = INCIDENTK
- IN\_BASIC INNER JOIN INCIDENTKEY ON IN\_BASIC.IncidentID = INCIDENTKEY.Incid**
- <End of list>

**Figure 16: Join Editor**

## Returning the query data from NFIRS 5 to Excel

Once you have completed editing the MS Query, the data can be returned to Excel by selecting “Return Data to MS Excel” from the File menu. You can also save the query, edit the SQL or create an OLAP Cube. These functions will be discussed in the proposed Advanced Fire Data Analysis course.

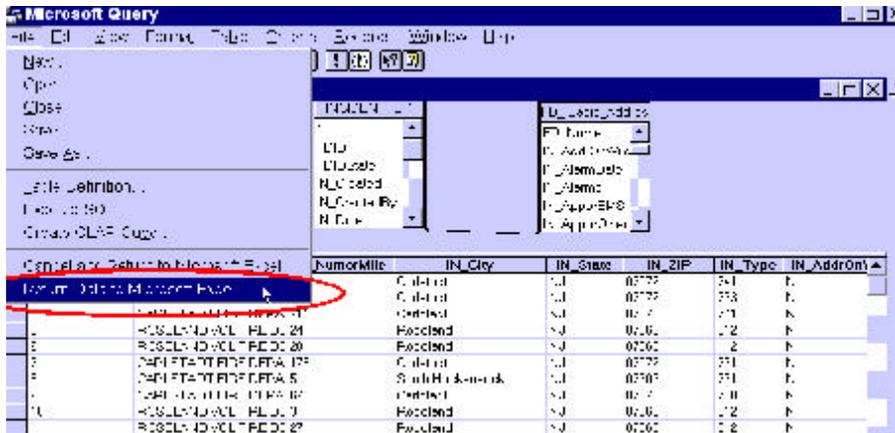


Figure 17: Retrning Query Data to Excel

Select Return Data to MS Excel.

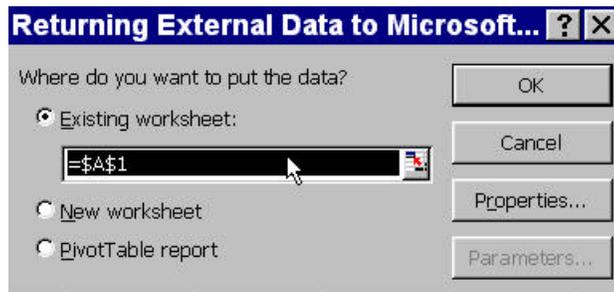


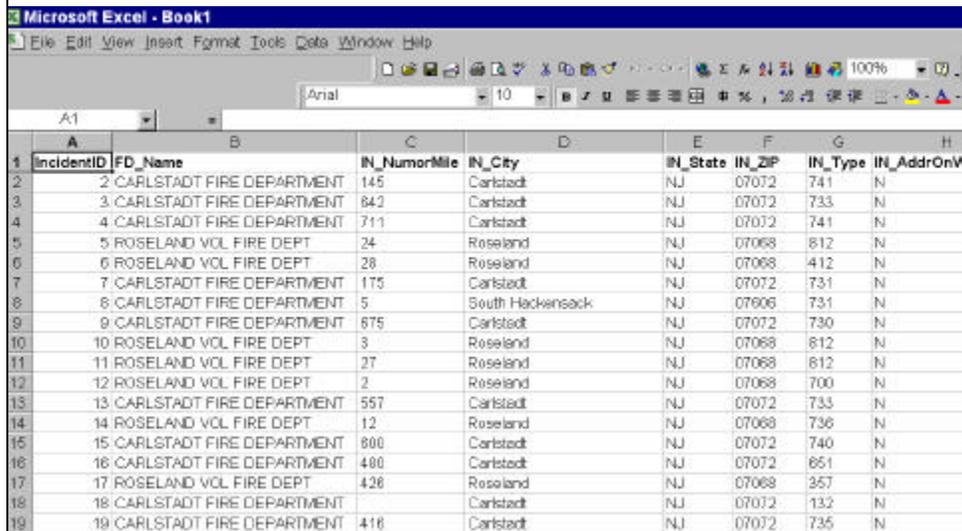
Figure 18: Placing Query Data in Excel

You are returned to the blank worksheet where you started the “Get External Data” request. The system will then prompt you for the location to place the returned data.

Select the Default, Click OK

### Verifying the Imported Query data

The resulting list file from the MS Query contains the data from the FD\_HEADER and IN\_BASIC tables in the order that the field were selected in the query. This list file can be used to prepare Interactive Pivot Tables.



IncidentID	FD_Name	IN_NumorMile	IN_City	IN_State	IN_ZIP	IN_Type	IN_AddrOnW
2	CARLSTADT FIRE DEPARTMENT	145	Carlstadt	NJ	07072	741	N
3	CARLSTADT FIRE DEPARTMENT	842	Carlstadt	NJ	07072	733	N
4	CARLSTADT FIRE DEPARTMENT	711	Carlstadt	NJ	07072	741	N
5	ROSELAND VOL FIRE DEPT	24	Roseland	NJ	07068	812	N
6	ROSELAND VOL FIRE DEPT	28	Roseland	NJ	07068	412	N
7	CARLSTADT FIRE DEPARTMENT	175	Carlstadt	NJ	07072	731	N
8	CARLSTADT FIRE DEPARTMENT	5	South Hackensack	NJ	07906	731	N
9	CARLSTADT FIRE DEPARTMENT	875	Carlstadt	NJ	07072	730	N
10	ROSELAND VOL FIRE DEPT	3	Roseland	NJ	07068	812	N
11	ROSELAND VOL FIRE DEPT	27	Roseland	NJ	07068	812	N
12	ROSELAND VOL FIRE DEPT	2	Roseland	NJ	07068	700	N
13	CARLSTADT FIRE DEPARTMENT	557	Carlstadt	NJ	07072	733	N
14	ROSELAND VOL FIRE DEPT	12	Roseland	NJ	07068	736	N
15	CARLSTADT FIRE DEPARTMENT	800	Carlstadt	NJ	07072	740	N
16	CARLSTADT FIRE DEPARTMENT	400	Carlstadt	NJ	07072	651	N
17	ROSELAND VOL FIRE DEPT	426	Roseland	NJ	07068	257	N
18	CARLSTADT FIRE DEPARTMENT		Carlstadt	NJ	07072	132	N
19	CARLSTADT FIRE DEPARTMENT	416	Carlstadt	NJ	07072	735	N

Figure 19: Returned List File

Always verify that the number of records returned is the number of records in the NFIRS database? If the number is less then there may be a problem with the joins selected to link the tables.

At this point we are ending at the beginning.

**Appendix \_\_\_**  
**NFIRS Modules**





### K1 Person/Entity Involved

Local Option

Business name (if applicable)

Area Code

Phone Number

Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr., Ms., Mrs. First Name MI Last Name Suffix

Number Prefix Street or Highway Street Type Suffix



Post Office Box Apt./Suite/Room City

State Zip Code

More people involved? Check this box and attach Supplemental Forms (NFIRS-1S) as necessary.

### K2 Owner

Local Option

Same as person involved? Then check this box and skip the rest of this section.

Business name (if applicable)

Area Code

Phone Number

Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr., Ms., Mrs. First Name MI Last Name Suffix

Number Prefix Street or Highway Street Type Suffix



Post Office Box Apt./Suite/Room City

State Zip Code



Remarks:

Local Option

#### Fire Module Required?

Check the box that applies and then complete the additional Fire mod. based on Incident Type as follows:

- |   |  |
|---|--|
| <input type="checkbox"/> Buildings 111                | Complete Fire & Structure                            |
| <input type="checkbox"/> Special structure 112        | Complete Fire Mod. & the I block on Structure Module |
| <input type="checkbox"/> Confined 113-118             | Complete Basic Module                                |
| <input type="checkbox"/> Mobile Property 120-123      | Complete Fire Module                                 |
| <input type="checkbox"/> Vehicle 130-138              | Complete Fire Module                                 |
| <input type="checkbox"/> Vegetation 140-143           | Complete Fire or Wildland                            |
| <input type="checkbox"/> Outside rubbish fire 150-155 | Complete Basic Module                                |
| <input type="checkbox"/> Special outside fire 160-164 | Complete Fire Module                                 |
| <input type="checkbox"/> Crop fire 170-173            | Complete Fire Module                                 |



ITEMS WITH A ★ MUST ALWAYS BE COMPLETED!

More remarks? Check this box and attach Supplemental Forms(NFIRS-1S) as necessary.

### M Authorization

Check box if same as Officer in charge.

Officer in charge ID Signature Position or rank Assignment Month Day Year

Member making report ID Signature Position or rank Assignment Month Day Year





**A**  Delete  Change **NFIRS - 4 Civilian Fire Casualty**

FDID  State  Incident Date  Station  Incident Number  Exposure

MM DD YYYY

**B Injured Person**  1 Male  2 Female

First Name MI Last Name Suffix

**C Casualty Number**

Casualty Number

**D Age or Date of Birth**

Age  Months (for infants)

OR

Date of Birth

Month Day Year

**E1 Race**

1  White  
 2  Black  
 3  Am. Indian, Eskimo  
 4  Asian  
 0  Other, multi-racial  
 U  Undetermined

**E2 Ethnicity**

1  Hispanic

**F Affiliation**

1  Civilian  
 2  EMS, not fire department  
 3  Police  
 0  Other

**G Date & Time of Injury** Midnight is 0000.

Date of Injury Time of Injury

Month Day Year Hour Minutes

**H Severity**

1  Minor  
 2  Moderate  
 3  Severe  
 4  Life threatening  
 5  Death

**I Cause of Injury**

1  Exposed to fire products including flame heat, smoke, & gas  
 2  Exposed to toxic fumes other than smoke  
 3  Jumped in escape attempt  
 4  Fell, slipped, or tripped  
 5  Caught or trapped  
 6  Structural collapse  
 7  Struck by/or contact with object  
 8  Overexertion  
 9  Multiple causes  
 0  Other  
 U  Undetermined

**J Human Factors Contributing to Injury**

None

Check all applicable boxes

1  Asleep  
 2  Unconscious  
 3  Possibly impaired by alcohol  
 4  Possibly impaired by other drug  
 5  Possibly mentally disabled  
 6  Physically disabled  
 7  Physically restrained  
 8  Unattended person

**K Factors Contributing to Injury**

None Enter up to three contributing factors

Contributing factor (1)  
 Contributing factor (2)  
 Contributing factor (3)

**L Activity When Injured**

1  Escaping  
 2  Rescue attempt  
 3  Fire control  
 4  Return to fire before control  
 5  Return to fire after control  
 6  Sleeping  
 7  Unable to act  
 8  Irrational act  
 0  Other  
 U  Undetermined

**M1 Location at Time of Incident**

1  In area of origin and not involved  
 2  Not in area of origin & not involved  
 3  Not in area of origin, but involved  
 4  In area of origin and involved  
 U  Undetermined

**M2 General Location at Time of Injury**

Check ONE box. If undetermined, leave blank and skip to Section N.

1  In area of fire origin **Skip to Section N**  
 2  In building, but not in area **Skip to Section Ms**  
 3  Outside, but not in area

**M3 Story at Start of Incident**

Complete ONLY if injury occurred INSIDE

Story at START of incident  below grade

**M4 Story Where Injury Occurred**

Story where injury occurred, if different from M3  below grade

**M5 Specific Location at Time of Injury**

Complete ONLY if casualty NOT in area of origin

Specific location at time of injury

**N Primary Apparent Symptom**

01  Smoke only, asphyxiation  
 11  Burns & smoke inhalation  
 12  Burns only  
 21  Cut, laceration  
 33  Strain or sprain  
 96  Shock  
 98  Pain only

Look up a code only if the symptom is NOT found above

Primary apparent symptom

**O Primary Area of Body Injured**

1  Head  
 2  Neck & shoulder  
 3  Thorax  
 4  Abdomen  
 5  Spine  
 6  Upper extremities  
 7  Lower extremities  
 8  Internal  
 9  Multiple body parts

**P Disposition**

Transported to emergency care facility

Remarks Local option

**A**

FDID  Delete  Change

State  Incident Date  Station  Incident Number  Exposure

MM DD YYYY

**B Injured Person**

Identification Number  1  Male  1  Career  2  Female  2  Volunteer

First Name  MI  Last Name  Suffix

**C Casualty Number**

Casualty Number

**D Age or Date of Birth**

Age  OR  Date of Birth

In years  Month  Day  Year

**E Date & Time of Injury**  Midnight is 0000.

Date of Injury  Time of Injury

Month  Day  Year  Hour  Minutes

**F Responses**

Number of prior responses during past 24 hours

**G1 Usual Assignment**

1  Suppression  
2  EMS  
3  Prevention  
4  Training  
5  Maintenance  
6  Communications  
7  Administration  
8  Fire investigation  
0  Other

**G2 Physical Condition Just Prior To Injury**

1  Rested 0  Other  
2  Fatigued U  Undetermined  
4  Ill or injured

**G3 Severity**

1  Report only, including exposure  
2  First aid only  
3  Treated by physician (no lost time)  
4  Moderate (lost time)  
5  Severe (lost time)  
6  Life threatening (lost time)  
7  Death

**G4 Taken To**

1  Hospital  
4  Doctor's office  
5  Morgue/funeral home  
6  Residence  
7  Station or quarters  
0  Other  
N  Not transported

**G5 Activity at Time of Injury**

Activity at time of injury

**H1 Primary Apparent Symptom**

Primary apparent symptom

**I1 Cause of Firefighter Injury**

Cause of injury

**I3 Object Involved in Injury**

None

Object involved in injury

**H2 Primary Area of Body Injured**

Primary injured body part or area

**I2 Factor Contributing to Injury**

Contributing factor

**J1 Where Injury Occurred**

1  Enroute to FD location  
2  At FD location  
3  Enroute to incident scene  
4  Enroute to medical facility  
5  At scene in structure  
6  At scene outside  
7  At medical facility  
8  Returning from incident  
9  Returning from med facility  
0  Other

**J3 Specific Location** Complete as applicable

65  In aircraft  
64  In boat or ship or barge  
63  In rail vehicle  
61  In motor vehicle  
54  In sewer  
53  In tunnel  
49  In structure  
45  In attic  
36  In water  
35  In well  
34  In ravine  
33  In quarry or mine  
32  In ditch or trench  
31  In open pit  
28  On steep grade  
27  On fire escape/outside stairs  
26  On vertical surface or ledge  
25  On ground ladder  
24  On aerial ladder or in basket  
23  On roof  
22  Outside at grade  
00  Other

**J4 Vehicle Type** Complete ONLY if Specific Location code is >60

1  Suppression vehicle  
2  EMS vehicle  
3  Other FD vehicle  
4  Non-FD vehicle

**J2 Story Where Injury Occurred**

1  Check this box and enter the story if the injury occurred inside or on a structure

Story of injury   Below grade

2  Injury occurred outside

**Remarks**

If protective equipment failed and was a factor in this injury, please complete the other side of this form.

NFIRS-5 Revision 8/18/99

**K1** Did protective equipment fail and contribute to the injury?  
Please complete the remainder of this form ONLY if you answered YES.

Yes Y   
No N

Equipment Sequence Number

**NFIRS - 5  
Fire Service  
Casualty**

**K2** Protective Equipment Item

Head or Face Protection

- 11  Helmet
- 12  Full face protector
- 13  Partial protector
- 14  Goggles/eye protection
- 15  Hood
- 16  Ear protector
- 17  Neck protector
- 10  Other

Coat, shirt, or trousers

- 21  Protective coat
- 22  Protective trousers
- 23  Uniform shirt
- 24  Uniform t-shirt
- 25  Uniform trousers
- 26  Uniform coat or jacket
- 27  Overalls
- 28  Apron or gown
- 20  Other

Boots or Shoes

- 31  Knee length boots w/ steel baseplate & steel toes
- 32  Knee length boots w/ steel toes only
- 33  3/4 length boots w/ steel baseplate & steel toes
- 34  3/4 length boots w/ steel toes only
- 35  Boots without steel baseplate & steel toes
- 36  Safety shoes w/ steel baseplate & steel toes
- 37  Safety shoes w/ steel toes only
- 38  Non-safety shoes
- 30  Other

Respiratory Protection

- 41  SCBA (demand) open circuit
- 42  SCBA (positive pressure) open circuit
- 43  SCBA closed circuit
- 44  Not self-contained
- 45  Cartridge respirator
- 46  Dust or particle mask
- 40  Other

Hand Protection

- 51  Firefighter gloves w/ wristlets
- 52  Firefighter gloves without wristlets
- 53  Work gloves
- 54  Hazmat gloves
- 55  Medical gloves
- 50  Other

Special Equipment

- 61  Proximity suit for entry
- 62  Proximity suit for non-entry
- 63  Totally encapsulated, reusable chemical suit
- 64  Totally encapsulated, disposable chemical suit
- 65  Partially encapsulated, reusable chemical suit
- 66  Partially encapsulated, disposable chemical suit
- 67  Flash protection suit
- 68  Flight or jump suit
- 69  Brush suit
- 71  Exposure suit
- 72  Self-contained underwater breathing apparatus (SCUBA)
- 73  Life preserver
- 74  Life belt or ladder belt
- 75  Personal alert safety system (PASS)
- 76  Radio distress device
- 77  Personal lighting
- 78  Fire shelter or tent
- 79  Vehicle safety belt
- 70  Other

Was the failure of more than one item of protective equipment a factor in the injury? If so, complete an additional page of this form for each piece of failed equipment.

**K3** Protective Equipment Problem

Check one box to indicate the main problem that occurred.

- 11  Burned
- 12  Melted
- 21  Fractured, cracked or broken
- 22  Punctured
- 23  Scratched
- 24  Knocked off
- 25  Cut or ripped
- 31  Trapped steam or hazardous gas
- 32  Insufficient insulation
- 33  Object fell in or onto equipment item
- 41  Failed under impact
- 42  Face piece or hose detached
- 43  Exhalation valve inoperative or damaged
- 44  Harness detached or separated
- 45  Regulator failed to operate
- 46  Regulator damaged by contact
- 47  Problem with admissions valve
- 48  Alarm failed to operate
- 49  Alarm damaged by contact
- 51  Supply cylinder or valve failed to operate
- 52  Supply cylinder/valve damaged by contact
- 53  Supply cylinder— insufficient air/oxygen
- 94  Did not fit properly
- 95  Not properly serviced or stored prior to use
- 96  Not used for designed purpose
- 97  Not used as recommended by manufacturer
- 00  Other equipment problem

**K4** Equipment Manufacturer, Model & Serial Number

Manufacturer   
Model   
Serial Number

**A** FDID  State  Incident Date  Station  Incident Number  Exposure   Delete  Change **NFIRS-6 EMS**

**B** Number of Patients  Patient Number  **C** Date/Time  Time Arrived at Patient  Time of Patient Transfer

Use a separate form for each patient

Check if same date as alarm date

Month Day Year Hour/Mins

**D** Provider Impression/Assessment  Check one box only

10 <input type="checkbox"/> Abdominal pain	18 <input type="checkbox"/> Chest pain	26 <input type="checkbox"/> Hypovolemia	34 <input type="checkbox"/> Sexual assault
11 <input type="checkbox"/> Airway obstruction	19 <input type="checkbox"/> Diabetic symptom	27 <input type="checkbox"/> Inhalation injury	35 <input type="checkbox"/> Sting/bite
12 <input type="checkbox"/> Allergic reaction	20 <input type="checkbox"/> Do not resuscitate	28 <input type="checkbox"/> Obvious death	36 <input type="checkbox"/> Stroke/CVA
13 <input type="checkbox"/> Altered LOC	21 <input type="checkbox"/> Electrocutation	29 <input type="checkbox"/> OD/poisoning	37 <input type="checkbox"/> Syncope
14 <input type="checkbox"/> Behavioral/psych	22 <input type="checkbox"/> General illness	30 <input type="checkbox"/> Pregnancy/OB	38 <input type="checkbox"/> Trauma
15 <input type="checkbox"/> Burns	23 <input type="checkbox"/> Hemorrhaging/bleeding	31 <input type="checkbox"/> Respiratory arrest	00 <input type="checkbox"/> Other
16 <input type="checkbox"/> Cardiac arrest	24 <input type="checkbox"/> Hyperthermia	32 <input type="checkbox"/> Respiratory distress	NN <input type="checkbox"/> None/no patient or refused treatment
17 <input type="checkbox"/> Cardiac dysrhythmia	25 <input type="checkbox"/> Hypothermia	33 <input type="checkbox"/> Seizure	

<b>E1</b> Age or Date of Birth Age <input type="checkbox"/> Months (for infants) OR Month Day Year	<b>F1</b> Race 1 <input type="checkbox"/> White 2 <input type="checkbox"/> Black 3 <input type="checkbox"/> Am. Indian/Eskimo 4 <input type="checkbox"/> Asian 0 <input type="checkbox"/> Other, multi-racial U <input type="checkbox"/> Undetermined	<b>G1</b> Human Factors Check all applicable boxes 1 <input type="checkbox"/> Asleep 2 <input type="checkbox"/> Unconscious 3 <input type="checkbox"/> Possibly impaired by alcohol 4 <input type="checkbox"/> Possibly impaired by drugs 5 <input type="checkbox"/> Possibly mentally disabled 6 <input type="checkbox"/> Physically disabled 7 <input type="checkbox"/> Physically restrained 8 <input type="checkbox"/> Unattended person N <input type="checkbox"/> None	<b>G2</b> Other Factors If an illness, not an injury, skip G2 and go to H3 1 <input type="checkbox"/> Accidental 2 <input type="checkbox"/> Self-inflicted 3 <input type="checkbox"/> Inflicted, not self N <input type="checkbox"/> None
<b>E2</b> Gender 1 <input type="checkbox"/> Male 2 <input type="checkbox"/> Female	<b>F2</b> Ethnicity 1 <input type="checkbox"/> Hispanic		

<b>H1</b> Body Site of Injury List up to five body sites	<b>H2</b> Injury Type List one injury type for each body site listed under H1	<b>H3</b> Cause of Illness/Injury Cause of illness/injury
---	--	--

<b>I</b> Procedures Used Check all applicable boxes 01 <input type="checkbox"/> Airway insertion 02 <input type="checkbox"/> Anti-shock trousers 03 <input type="checkbox"/> Assist ventilation 04 <input type="checkbox"/> Bleeding control 05 <input type="checkbox"/> Burn care 06 <input type="checkbox"/> Cardiac pacing 07 <input type="checkbox"/> Cardioversion (defib) manual 08 <input type="checkbox"/> Chest/abdominal thrust 09 <input type="checkbox"/> CPR 10 <input type="checkbox"/> Cricothyroidotomy 11 <input type="checkbox"/> Defibrillation by AED 12 <input type="checkbox"/> EKG monitoring 13 <input type="checkbox"/> Extrication 14 <input type="checkbox"/> Intubation (EGTA) 15 <input type="checkbox"/> Intubation (ET) 16 <input type="checkbox"/> IO/IV therapy 17 <input type="checkbox"/> Medications therapy 18 <input type="checkbox"/> Oxygen therapy 19 <input type="checkbox"/> OB care/delivery 20 <input type="checkbox"/> Prerarrival instructions 21 <input type="checkbox"/> Restrain patient 22 <input type="checkbox"/> Spinal immobilization 23 <input type="checkbox"/> Splint extremities 24 <input type="checkbox"/> Suction/aspirate NN <input type="checkbox"/> No Treatment 00 <input type="checkbox"/> Other	<b>J</b> Safety Equipment Used or deployed by Patient 1 <input type="checkbox"/> Safety/seat belts 2 <input type="checkbox"/> Child safety seat 3 <input type="checkbox"/> Airbag 4 <input type="checkbox"/> Helmet 5 <input type="checkbox"/> Protective clothing 6 <input type="checkbox"/> Flotation device N <input type="checkbox"/> None 0 <input type="checkbox"/> Other U <input type="checkbox"/> Undetermined	<b>K</b> Cardiac Arrest Check all applicable boxes 1 <input type="checkbox"/> Pre-arrival arrest? If pre-arrival arrest, was it? 1 <input type="checkbox"/> Witnessed 2 <input type="checkbox"/> Bystander CPR 2 <input type="checkbox"/> Post-arrival arrest? Initial Arrest Rhythm 1 <input type="checkbox"/> V-Fib/ V-Tach 0 <input type="checkbox"/> Other U <input type="checkbox"/> Undetermined
--	---	--

<b>L1</b> Initial Level of Provider <input type="checkbox"/> 1 <input type="checkbox"/> First Responder 2 <input type="checkbox"/> EMT-B (Basic) 3 <input type="checkbox"/> EMT-I (Intermediate) 4 <input type="checkbox"/> EMT-P (Paramedic) 0 <input type="checkbox"/> Other provider N <input type="checkbox"/> No Training	<b>L2</b> Highest Level of Provider On Scene 1 <input type="checkbox"/> First Responder 2 <input type="checkbox"/> EMT-B (Basic) 3 <input type="checkbox"/> EMT-I (Intermediate) 4 <input type="checkbox"/> EMT-P (Paramedic) 0 <input type="checkbox"/> Other provider N <input type="checkbox"/> No care provided	<b>M</b> Patient Status 1 <input type="checkbox"/> Improved 2 <input type="checkbox"/> Remained same 3 <input type="checkbox"/> Worsened Check if: 1 <input type="checkbox"/> Pulse on Transfer	<b>N</b> Disposition 1 <input type="checkbox"/> FD transport to ECF 2 <input type="checkbox"/> Non-FD transport 3 <input type="checkbox"/> Non-FD trans/FD attend 4 <input type="checkbox"/> Non-emergency transfer 0 <input type="checkbox"/> Other N <input type="checkbox"/> Not transported
--	---	--	---







**A**

FDID <input type="text"/>	State <input type="text"/>	Incident Date <input type="text"/>	Station <input type="text"/>	Incident Number <input type="text"/>	Exposure <input type="text"/>	<input type="checkbox"/> Delete	<b>NFIRS - 10 Personnel</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Change	

**B**

Apparatus or Resource <input type="checkbox"/>	Dates and Times	Sent	Number of People <input type="checkbox"/>	Use <input type="checkbox"/>	Actions Taken
	<input type="checkbox"/> Check if same date as alarm date Month Day Year Hours/Mins	<input checked="" type="checkbox"/>		Check ONE box for each apparatus to indicate its main use at the incident.	List up to 4 actions for each apparatus and each personnel.
<b>1</b> ID <input type="text"/> Type <input type="text"/>	Dispatch <input type="checkbox"/> <input type="text"/> Arrival <input type="checkbox"/> <input type="text"/> Clear <input type="checkbox"/> <input type="text"/>	Sent <input type="checkbox"/>	<input type="text"/> #	<input type="checkbox"/> Suppression <input type="checkbox"/> EMS <input type="checkbox"/> Other	<input type="text"/> <input type="text"/>

Personnel ID <input type="checkbox"/>	Name	Rank or Grade	Attend <input checked="" type="checkbox"/>	Action Taken	Action Taken	Action Taken	Action Taken
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				

**2**

ID <input type="text"/> Type <input type="text"/>	Dispatch <input type="checkbox"/> <input type="text"/> Arrival <input type="checkbox"/> <input type="text"/> Clear <input type="checkbox"/> <input type="text"/>	Sent <input type="checkbox"/>	<input type="text"/> #	<input type="checkbox"/> Suppression <input type="checkbox"/> EMS <input type="checkbox"/> Other	<input type="text"/> <input type="text"/>
--	--	-------------------------------	------------------------	--	--

Personnel ID <input type="checkbox"/>	Name	Rank or Grade	Attend <input checked="" type="checkbox"/>	Action Taken	Action Taken	Action Taken	Action Taken
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				

**3**

ID <input type="text"/> Type <input type="text"/>	Dispatch <input type="checkbox"/> <input type="text"/> Arrival <input type="checkbox"/> <input type="text"/> Clear <input type="checkbox"/> <input type="text"/>	Sent <input type="checkbox"/>	<input type="text"/> #	<input type="checkbox"/> Suppression <input type="checkbox"/> EMS <input type="checkbox"/> Other	<input type="text"/> <input type="text"/>
--	--	-------------------------------	------------------------	--	--

Personnel ID <input type="checkbox"/>	Name	Rank or Grade	Attend <input checked="" type="checkbox"/>	Action Taken	Action Taken	Action Taken	Action Taken
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				
<input type="text"/>			<input type="checkbox"/>				

**A** FDID  State  Incident Date  MM  DD  YYYY  Station  Incident Number  Exposure   Delete  Change **NFIRS - 11 Arson**

**B Agency Referred To**  None  Street Address  Their Case Number   
 Agency Name  City  Their ORI   
 Agency Phone Number  State  Zip Code  Their Federal Identifier (FID)  Their FDID

**C Case Status**

1  Investigation open  
 2  Investigation closed  
 3  Investigation inactive  
 4  Closed with arrest  
 5  Closed with exceptional clearance

**D Availability of Material First Ignited**

1  Transported to scene  
 2  Available at scene  
 U  Unknown

**E Suspected Motivation Factors** Check up to three factors

11 <input type="checkbox"/> Extortion	22 <input type="checkbox"/> Hate crime	42 <input type="checkbox"/> Vanity/recognition	54 <input type="checkbox"/> Burglary
12 <input type="checkbox"/> Labor unrest	23 <input type="checkbox"/> Institutional	43 <input type="checkbox"/> Thrills	61 <input type="checkbox"/> Homicide concealment
13 <input type="checkbox"/> Insurance fraud	24 <input type="checkbox"/> Societal	44 <input type="checkbox"/> Attention/sympathy	62 <input type="checkbox"/> Burglary concealment
14 <input type="checkbox"/> Intimidation	31 <input type="checkbox"/> Protest	45 <input type="checkbox"/> Sexual excitement	63 <input type="checkbox"/> Auto theft concealment
15 <input type="checkbox"/> Void contract/lease	32 <input type="checkbox"/> Civil unrest	51 <input type="checkbox"/> Homicide	64 <input type="checkbox"/> Destroy records/evidence
21 <input type="checkbox"/> Personal	41 <input type="checkbox"/> Fireplay/curiosity	52 <input type="checkbox"/> Suicide	00 <input type="checkbox"/> Other motivation
		53 <input type="checkbox"/> Domestic violence	UU <input type="checkbox"/> Unknown motivation

**F Apparent Group Involvement** Check up to three factors

1  Terrorist group  
 2  Gang  
 3  Anti-government group  
 4  Outlaw motorcycle organization  
 5  Organized crime  
 6  Racial/ethnic hate group  
 7  Religious hate group  
 8  Sexual preference hate group  
 0  Other group  
 N  No group involvement, acted alone  
 U  Unknown

**H Incendiary Devices** Select one from each category

**CONTAINER** NN  None

11  Bottle (glass) 14  Pressurized Container 17  Box  
 12  Bottle (plastic) 15  Can 00  Other Container  
 13  Jug 16  Gasoline or fuel can UU  Unknown

**IGNITION/DELAY DEVICE** NN  None

11  Wick or Fuse 17  Road flare/fuse  
 12  Candle 18  Chemical Component  
 13  Cigarette & Matchbook 19  Trailer/Streamer  
 14  Electronic Component 20  Open flame source  
 15  Mechanical Device 00  Other delay device  
 16  Remote Control UU  Unknown

**G1 Entry Method**

Entry Method

**FUEL** NN  None

11  Ordinary Combustibles 16  Pyrotechnic material  
 12  Flammable gas 17  Explosive material  
 14  Ignitable liquid 00  Other material  
 15  Ignitable solid UU  Unknown

**G2 Extent of Fire Involvement on Arrival**

Extent of Fire Involvement

**I Other Investigative Information** Check all that apply

1  Code violations  
 2  Structure for sale  
 3  Structure vacant  
 4  Other crimes involved  
 5  Illicit drug activity  
 6  Change in insurance  
 7  Financial problem  
 8  Criminal/Civil actions pending

**J Property Ownership**

1  Private  
 2  City, town, village, local  
 3  County or parish  
 4  State or province  
 5  Federal  
 6  Foreign  
 7  Military  
 0  Other

**K Initial Observations** Check all that apply

1  Windows ajar 5  Fire department forced entry  
 2  Doors ajar 6  Forced entry prior to FD arrival  
 3  Doors locked 7  Security system activated  
 4  Doors unlocked 8  Security present, (didn't activate)

**L Laboratory Used** Check all that apply

1  Local 3  ATF 5  Other 6  Private  
 2  State 4  FBI Federal N  None

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**K**

FDID <input type="text"/>	State <input type="text"/>	Incident Date <input type="text"/>	Station <input type="text"/>	Incident Number <input type="text"/>	Exposure <input type="text"/>
<input type="checkbox"/> Delete	<input type="checkbox"/> Change				

**NFIRS - 1S  
Supplemental****K1 Person/Entity Involved**

Local Option  Business name if applicable  Phone Number

Check this box if same address as incident location. Then skip these three duplicate address lines.

Mr., Ms., Mrs.  First Name  MI  Last Name  Suffix

Number  Prefix  Street or highway  Street Type  Suffix

Post office box  Apt./Suite/Room  City

State  Zip Code  -

**K2 Person/Entity Involved**

Business name if applicable  Phone Number

Check this box if same address as incident location. Then skip these three duplicate address lines.

Mr., Ms., Mrs.  First Name  MI  Last Name  Suffix

Number  Prefix  Street or highway  Street Type  Suffix

Post office box number  Apt./Suite/Room  City

State  Zip Code  -

**K3 Person/Entity Involved**

Business name if applicable  Phone Number

Check this box if same address as incident location. Then skip these three duplicate address lines.

Mr., Ms., Mrs.  First Name  MI  Last Name  Suffix

Number  Prefix  Street or highway  Street Type  Suffix

Post office box number  Apt./Suite/Room  City

State  Zip Code  -

**K4 Person/Entity Involved**

Business name if applicable  Phone Number

Check this box if same address as incident location. Then skip these three duplicate address lines.

Mr., Ms., Mrs.  First Name  MI  Last Name  Suffix

Number  Prefix  Street or highway  Street Type  Suffix

Post office box  Apt./Suite/Room  City

State  Zip Code  -

**K5 Person/Entity Involved**

Business name if applicable  Phone Number

Check this box if same address as incident location. Then skip these three duplicate address lines.

Mr., Ms., Mrs.  First Name  MI  Last Name  Suffix

Number  Prefix  Street or highway  Street Type  Suffix

Post office box number  Apt./Suite/Room  City

State  Zip Code  -

**L1**

**Supplemental Special Studies**

Local Option

**Page Number**

**NFIRS - 1S  
Supplemental**

**1**       
Special    Special  
Study ID#    Study Value

**2**       
Special    Special  
Study ID#    Study Value

**3**       
Special    Special  
Study ID#    Study Value

**4**       
Special    Special  
Study ID#    Study Value

**5**       
Special    Special  
Study ID#    Study Value

**6**       
Special    Special  
Study ID#    Study Value

**7**       
Special    Special  
Study ID#    Study Value

**8**       
Special    Special  
Study ID#    Study Value

**L2**

**Remarks:**

Local Option

**Appendix \_\_**

**NFIRS 5.0 Code Categories**



CodeCat	Use	CodeCatDesc	CodeGene	Code	LastUpdated
102	1	Actions Taken		2 A	11/18/1998 11:10:46 AM
155	1	Activity At Time of Injury		2 A	11/18/1998 10:03:36 AM
206	1	Activity of Person		2 A	4/24/1997 12:29:50 PM
143	1	Activity When Injured		1 A	4/24/1997 12:29:50 PM
129	1	AES Failure		1 A	4/24/1997 12:29:50 PM
128	1	AES Operation		1 A	4/24/1997 12:29:50 PM
126	1	AES Presence		1 A	2/3/1999 12:42:14 PM
127	1	AES Type		1 A	4/24/1997 12:29:50 PM
139	1	Affiliation		1 A	4/24/1997 12:29:50 PM
101	1	Aid Given or Received		1 A	11/18/1998 8:05:38 AM
177	1	Apparatus Actions Taken		2 A	4/24/1997 12:29:50 PM
175	1	Apparatus or Resource Type		2 A	11/18/1998 10:26:59 AM
176	1	Apparatus Use		1 A	4/24/1997 12:29:50 PM
227	1	Apparent Group Involvement		1 A	9/8/1998 9:17:15 AM
108	1	Area of Fire Origin		2 A	11/18/1998 11:11:12 AM
198	1	Area Type		1 A	4/24/1997 12:29:50 PM
183	1	Area Units		1 A	4/24/1997 12:29:50 PM
209	1	Aspect		1 A	4/24/1997 12:29:50 PM
238	1	Association		1 A	11/18/1998 10:50:26 AM
241	1	Availability of Material First Ignite		1 A	9/8/1998 9:08:43 AM
167	1	Body Site of Injury		1 A	4/24/1997 12:29:50 PM
118	1	Building Status		1 A	4/24/1997 12:29:50 PM
235	1	Canine Use		1 A	11/18/1998 11:09:14 AM
219	1	Cardiac Arrest		1 A	4/24/1997 12:29:50 PM
224	1	Case Status		1 A	4/24/1997 12:29:50 PM
157	1	Cause of FireFighter Injury		1 A	4/24/1997 12:29:50 PM
112	1	Cause of Ignition		1 A	4/24/1997 12:29:50 PM
169	1	Cause of Illness		2 A	4/24/1997 12:29:50 PM
141	1	Cause Of Injury		1 A	4/24/1997 12:29:50 PM
186	1	Cause Of Release		1 A	4/24/1997 12:29:50 PM
149	1	Civilian Casualty Disposition		1 A	11/18/1998 11:03:46 AM
140	1	Civilian Casualty Severity		1 A	4/24/1997 12:29:50 PM
180	1	Container Type		2 A	4/24/1997 12:29:50 PM
103	1	Detector Alerted Occupants		1 A	11/18/1998 11:11:02 AM
124	1	Detector Effectiveness		1 A	4/24/1997 12:29:50 PM
125	1	Detector Failure		1 A	4/24/1997 12:29:50 PM
123	1	Detector Operation		1 A	4/24/1997 12:29:50 PM
122	1	Detector Power		1 A	4/24/1997 12:29:50 PM
120	1	Detector Presence		1 A	4/24/1997 12:29:50 PM
121	1	Detector Type		1 A	4/24/1997 12:29:50 PM
210	1	DOT Hazard Classification		2 A	4/24/1997 12:29:50 PM
196	1	East or West Direction		1 A	5/1/2001 1:21:20 PM
174	1	EMS Disposition		1 A	11/18/1998 11:03:04 AM
216	1	EMS Procedures Used		2 A	4/24/1997 12:29:50 PM
228	1	Entry Method		2 A	4/24/1997 12:29:50 PM
114	1	Equipment Involved		3 A	4/24/1997 12:29:50 PM
130	1	Equipment Portability		1 A	4/24/1997 12:29:50 PM
131	1	Equipment Power Source		2 A	4/24/1997 12:29:50 PM
138	1	Ethnicity		1 A	4/24/1997 12:29:50 PM
233	1	Extent of Fire Involvement		1 A	4/24/1997 12:29:50 PM

CodeCat	Use	CodeCatDesc	CodeGene	Code	LastUpdated
244	1	Eye Color		1 A	11/18/1998 10:59:36 AM
188	1	Factors Affecting Mitigation		2 A	11/18/1998 11:14:25 AM
158	1	Factors Contributing to Injury		2 A	4/24/1997 12:29:50 PM
113	1	Factors Contributing to Ignition		2 A	11/18/1998 8:07:26 AM
142	1	Factors Contributing to Injury		2 A	4/24/1997 12:29:50 PM
187	1	Factors Contributing To Release		2 A	4/24/1997 12:29:50 PM
239	1	Family Type		1 A	4/24/1997 12:29:50 PM
251	1	FIPS County Codes		3 A	4/24/1997 12:29:50 PM
246	1	Fire Cause Categories		1 A	4/24/1997 12:29:50 PM
250	1	Fire Confined To Area Of Origin		1 A	4/24/1997 12:29:50 PM
202	1	Fire Danger Rating		1 A	4/24/1997 12:29:50 PM
223	1	Fire Reports Attached		1 A	4/24/1997 12:29:50 PM
153	1	Fire Service Casualty Severity		1 A	4/24/1997 12:29:50 PM
150	1	Fire Service Personnel Employment		1 A	4/24/1997 12:29:50 PM
154	1	Fire Service Taken To		1 A	4/24/1997 12:29:50 PM
119	1	Fire Spread		1 A	4/24/1997 12:29:50 PM
115	1	Fire Suppression Factor		3 A	4/24/1997 12:29:50 PM
136	1	Gender		1 A	4/24/1997 12:29:50 PM
145	1	General Location At Time of Inju		1 A	4/24/1997 12:29:50 PM
243	1	Hair Color		1 A	11/18/1998 10:58:22 AM
104	1	Hazardous Material Released		1 A	4/24/1997 12:29:50 PM
184	1	HazMat Actions Taken		2 A	11/18/1998 11:18:25 AM
189	1	HazMat Disposition		1 A	11/18/1998 11:19:30 AM
185	1	HazMat Release Sequence		1 A	11/18/1998 11:19:12 AM
179	1	HazMat Units		2 A	11/18/1998 11:18:46 AM
109	1	Heat Source		2 A	4/24/1997 12:29:50 PM
172	1	Highest Level of Provider		1 A	11/18/1998 10:08:19 AM
212	1	Human Factors Contributing to I		1 A	11/18/1998 10:30:16 AM
214	1	Human Factors Contributing to I		1 A	11/18/1998 11:10:15 AM
225	1	Incendiary Devices - Container		2 A	9/8/1998 9:21:29 AM
229	1	Incendiary Devices - Delay Devic		2 A	9/8/1998 9:20:50 AM
231	1	Incendiary Devices - Fuel		2 A	9/8/1998 9:44:18 AM
211	1	Incident Location Type		1 A	11/18/1998 11:05:15 AM
237	1	Incident Relationship		2 A	11/18/1998 10:48:31 AM
100	1	Incident Type		3 A	8/25/2000 2:35:22 PM
170	1	Initial Arrest Rhythm		1 A	4/24/1997 12:29:50 PM
171	1	Initial Level of Provider		1 A	11/18/1998 10:08:04 AM
234	1	Initial Observations		1 A	4/24/1997 12:29:50 PM
168	1	Injury Type		2 A	4/24/1997 12:29:50 PM
110	1	Item First Ignited		2 A	4/24/1997 12:29:50 PM
242	1	Juvenile Disposition		1 A	11/18/1998 11:02:22 AM
236	1	Laboratory Used		1 A	4/24/1997 12:29:50 PM
144	1	Location At Time of Ignition		1 A	4/24/1997 12:29:50 PM
215	1	Location At Time of Incident		1 A	4/24/1997 12:29:50 PM
248	1	Meridian		2 A	4/24/1997 12:29:50 PM
105	1	Mixed Use		2 A	4/24/1997 12:29:50 PM
116	1	Mobile Property Involved		1 A	4/24/1997 12:29:50 PM
133	1	Mobile Property Make		2 A	3/9/2001 3:16:16 PM
132	1	Mobile Property Type		2 A	4/24/1997 12:29:50 PM
240	1	Motivation or Risk Factors		1 A	5/1/2001 1:22:00 PM

CodeCat	Use	CodeCatDesc	CodeGene	Code	LastUpdated
249	1	Multiple Arson Clearances	1	A	11/18/1998 11:01:27 AM
193	1	Name Prefix	0	A	4/24/1997 12:29:50 PM
194	1	Name Suffix	0	A	4/24/1997 12:29:50 PM
204	1	NFDRS Fuel Model	2	A	4/24/1997 12:29:50 PM
195	1	North or South Direction	1	A	5/1/2001 1:23:18 PM
159	1	Object Involved In Injury	2	A	4/24/1997 12:29:50 PM
213	1	On-Site Material Use	1	A	4/24/1997 12:29:50 PM
107	1	On-Site Materials	3	A	4/24/1997 12:29:50 PM
218	1	Other EMS Factors	1	A	11/20/1998 11:42:41 AM
230	1	Other Investigative Information	1	A	4/24/1997 12:29:50 PM
173	1	Patient Status	1	A	4/24/1997 12:29:50 PM
205	1	Person Responsible For Fire	1	A	4/24/1997 12:29:50 PM
178	1	Personnel Actions Taken	2	A	4/24/1997 12:29:50 PM
152	1	Physical Condition Prior To Injur	1	A	4/24/1997 12:29:50 PM
181	1	Physical State When Released	1	A	4/24/1997 12:29:50 PM
182	1	Population Density	1	A	4/24/1997 12:29:50 PM
220	1	Pre-Arrival Arrest Details	1	A	11/18/1998 10:12:53 AM
147	1	Primary Apparent Symptom	2	A	4/24/1997 12:29:50 PM
156	1	Primary Area of Body	2	A	4/24/1997 12:29:50 PM
148	1	Primary Part of Body Injured	1	A	4/24/1997 12:29:50 PM
203	1	Property Management Ownershi	1	A	4/24/1997 12:29:50 PM
232	1	Property Ownership	1	A	4/24/1997 12:29:50 PM
106	1	Property Use	3	A	4/24/1997 12:29:50 PM
164	1	Protective Equipment Item	2	A	4/24/1997 12:29:50 PM
165	1	Protective Equipment Problem	2	A	4/24/1997 12:29:50 PM
163	1	Protective Equipment was a Fact	1	A	11/20/1998 11:41:45 AM
166	1	Provider Impression or Assessm	2	A	5/1/2001 1:24:17 PM
221	1	Pulse on Transfer	1	A	11/18/1998 10:15:27 AM
137	1	Race	1	A	4/24/1997 12:29:50 PM
222	1	Relation To Structure	1	A	4/24/1997 12:29:50 PM
208	1	Relative Position on Slope	1	A	4/24/1997 12:29:50 PM
245	1	Released Into	1	A	4/24/1997 12:29:50 PM
252	1	Report Output Templates	1	A	8/25/2000 2:45:17 PM
207	1	Right of Way Type	3	A	4/24/1997 12:29:50 PM
217	1	Safety Equipment Used or Deplo	1	A	4/24/1997 12:29:50 PM
161	1	Specific Location	2	A	4/24/1997 12:29:50 PM
247	1	State Code	2	A	1/10/1999 8:52:22 PM
192	1	Street Prefix or Suffix	0	A	5/1/2001 1:20:37 PM
191	1	Street Type	0	A	4/24/1997 12:29:50 PM
117	1	Structure Type	1	A	4/24/1997 12:29:50 PM
197	1	Subsection	4	A	4/24/1997 12:29:50 PM
226	1	Suspected Motivation Factors	2	A	4/24/1997 12:29:50 PM
111	1	Type of Material First Ignited	2	A	4/24/1997 12:29:50 PM
151	1	Usual Assignment	1	A	11/18/1998 8:12:00 AM
162	1	Vehicle Type	1	A	4/24/1997 12:29:50 PM
190	1	Was Mobile Property Involved in	1	A	11/18/1998 11:15:34 AM
200	1	Weather Type	2	A	4/24/1997 12:29:50 PM
160	1	Where Injury Occurred	1	A	4/24/1997 12:29:50 PM
199	1	Wildland Fire Cause	1	A	4/24/1997 12:29:50 PM
201	1	Wind Direction	1	A	4/24/1997 12:29:50 PM



CodeCat	Use	CodeCatDesc	CodeGene	Code	LastUpdated
100	1	Incident Type		3 A	8/25/2000 2:35:22 PM
101	1	Aid Given or Received		1 A	11/18/1998 8:05:38 AM
102	1	Actions Taken		2 A	11/18/1998 11:10:46 AM
103	1	Detector Alerted Occupants		1 A	11/18/1998 11:11:02 AM
104	1	Hazardous Material Released		1 A	4/24/1997 12:29:50 PM
105	1	Mixed Use		2 A	4/24/1997 12:29:50 PM
106	1	Property Use		3 A	4/24/1997 12:29:50 PM
107	1	On-Site Materials		3 A	4/24/1997 12:29:50 PM
108	1	Area of Fire Origin		2 A	11/18/1998 11:11:12 AM
109	1	Heat Source		2 A	4/24/1997 12:29:50 PM
110	1	Item First Ignited		2 A	4/24/1997 12:29:50 PM
111	1	Type of Material First Ignited		2 A	4/24/1997 12:29:50 PM
112	1	Cause of Ignition		1 A	4/24/1997 12:29:50 PM
113	1	Factors Contributing to Ignition		2 A	11/18/1998 8:07:26 AM
114	1	Equipment Involved		3 A	4/24/1997 12:29:50 PM
115	1	Fire Suppression Factor		3 A	4/24/1997 12:29:50 PM
116	1	Mobile Property Involved		1 A	4/24/1997 12:29:50 PM
117	1	Structure Type		1 A	4/24/1997 12:29:50 PM
118	1	Building Status		1 A	4/24/1997 12:29:50 PM
119	1	Fire Spread		1 A	4/24/1997 12:29:50 PM
120	1	Detector Presence		1 A	4/24/1997 12:29:50 PM
121	1	Detector Type		1 A	4/24/1997 12:29:50 PM
122	1	Detector Power		1 A	4/24/1997 12:29:50 PM
123	1	Detector Operation		1 A	4/24/1997 12:29:50 PM
124	1	Detector Effectiveness		1 A	4/24/1997 12:29:50 PM
125	1	Detector Failure		1 A	4/24/1997 12:29:50 PM
126	1	AES Presence		1 A	2/3/1999 12:42:14 PM
127	1	AES Type		1 A	4/24/1997 12:29:50 PM
128	1	AES Operation		1 A	4/24/1997 12:29:50 PM
129	1	AES Failure		1 A	4/24/1997 12:29:50 PM
130	1	Equipment Portability		1 A	4/24/1997 12:29:50 PM
131	1	Equipment Power Source		2 A	4/24/1997 12:29:50 PM
132	1	Mobile Property Type		2 A	4/24/1997 12:29:50 PM
133	1	Mobile Property Make		2 A	3/9/2001 3:16:16 PM
136	1	Gender		1 A	4/24/1997 12:29:50 PM
137	1	Race		1 A	4/24/1997 12:29:50 PM
138	1	Ethnicity		1 A	4/24/1997 12:29:50 PM
139	1	Affiliation		1 A	4/24/1997 12:29:50 PM
140	1	Civilian Casualty Severity		1 A	4/24/1997 12:29:50 PM
141	1	Cause Of Injury		1 A	4/24/1997 12:29:50 PM
142	1	Factors Contributing to Injury		2 A	4/24/1997 12:29:50 PM
143	1	Activity When Injured		1 A	4/24/1997 12:29:50 PM
144	1	Location At Time of Ignition		1 A	4/24/1997 12:29:50 PM
145	1	General Location At Time of Inju		1 A	4/24/1997 12:29:50 PM
147	1	Primary Apparent Symptom		2 A	4/24/1997 12:29:50 PM
148	1	Primary Part of Body Injured		1 A	4/24/1997 12:29:50 PM
149	1	Civilian Casualty Disposition		1 A	11/18/1998 11:03:46 AM
150	1	Fire Service Personnel Employm		1 A	4/24/1997 12:29:50 PM
151	1	Usual Assignment		1 A	11/18/1998 8:12:00 AM
152	1	Physical Condition Prior To Injur		1 A	4/24/1997 12:29:50 PM

CodeCat	Use	CodeCatDesc	CodeGene	Code	LastUpdated
153	1	Fire Service Casualty Severity	1	A	4/24/1997 12:29:50 PM
154	1	Fire Service Taken To	1	A	4/24/1997 12:29:50 PM
155	1	Activity At Time of Injury	2	A	11/18/1998 10:03:36 AM
156	1	Primary Area of Body	2	A	4/24/1997 12:29:50 PM
157	1	Cause of FireFighter Injury	1	A	4/24/1997 12:29:50 PM
158	1	Factors Contributing to Injury	2	A	4/24/1997 12:29:50 PM
159	1	Object Involved In Injury	2	A	4/24/1997 12:29:50 PM
160	1	Where Injury Occurred	1	A	4/24/1997 12:29:50 PM
161	1	Specific Location	2	A	4/24/1997 12:29:50 PM
162	1	Vehicle Type	1	A	4/24/1997 12:29:50 PM
163	1	Protective Equipment was a Fact	1	A	11/20/1998 11:41:45 AM
164	1	Protective Equipment Item	2	A	4/24/1997 12:29:50 PM
165	1	Protective Equipment Problem	2	A	4/24/1997 12:29:50 PM
166	1	Provider Impression or Assessm	2	A	5/1/2001 1:24:17 PM
167	1	Body Site of Injury	1	A	4/24/1997 12:29:50 PM
168	1	Injury Type	2	A	4/24/1997 12:29:50 PM
169	1	Cause of Illness	2	A	4/24/1997 12:29:50 PM
170	1	Initial Arrest Rhythm	1	A	4/24/1997 12:29:50 PM
171	1	Initial Level of Provider	1	A	11/18/1998 10:08:04 AM
172	1	Highest Level of Provider	1	A	11/18/1998 10:08:19 AM
173	1	Patient Status	1	A	4/24/1997 12:29:50 PM
174	1	EMS Disposition	1	A	11/18/1998 11:03:04 AM
175	1	Apparatus or Resource Type	2	A	11/18/1998 10:26:59 AM
176	1	Apparatus Use	1	A	4/24/1997 12:29:50 PM
177	1	Apparatus Actions Taken	2	A	4/24/1997 12:29:50 PM
178	1	Personnel Actions Taken	2	A	4/24/1997 12:29:50 PM
179	1	HazMat Units	2	A	11/18/1998 11:18:46 AM
180	1	Container Type	2	A	4/24/1997 12:29:50 PM
181	1	Physical State When Released	1	A	4/24/1997 12:29:50 PM
182	1	Population Density	1	A	4/24/1997 12:29:50 PM
183	1	Area Units	1	A	4/24/1997 12:29:50 PM
184	1	HazMat Actions Taken	2	A	11/18/1998 11:18:25 AM
185	1	HazMat Release Sequence	1	A	11/18/1998 11:19:12 AM
186	1	Cause Of Release	1	A	4/24/1997 12:29:50 PM
187	1	Factors Contributing To Release	2	A	4/24/1997 12:29:50 PM
188	1	Factors Affecting Mitigation	2	A	11/18/1998 11:14:25 AM
189	1	HazMat Disposition	1	A	11/18/1998 11:19:30 AM
190	1	Was Mobile Property Involved in	1	A	11/18/1998 11:15:34 AM
191	1	Street Type	0	A	4/24/1997 12:29:50 PM
192	1	Street Prefix or Suffix	0	A	5/1/2001 1:20:37 PM
193	1	Name Prefix	0	A	4/24/1997 12:29:50 PM
194	1	Name Suffix	0	A	4/24/1997 12:29:50 PM
195	1	North or South Direction	1	A	5/1/2001 1:23:18 PM
196	1	East or West Direction	1	A	5/1/2001 1:21:20 PM
197	1	Subsection	4	A	4/24/1997 12:29:50 PM
198	1	Area Type	1	A	4/24/1997 12:29:50 PM
199	1	Wildland Fire Cause	1	A	4/24/1997 12:29:50 PM
200	1	Weather Type	2	A	4/24/1997 12:29:50 PM
201	1	Wind Direction	1	A	4/24/1997 12:29:50 PM
202	1	Fire Danger Rating	1	A	4/24/1997 12:29:50 PM

CodeCat	Use	CodeCatDesc	CodeGene	Code	LastUpdated
203	1	Property Management Ownershi		1 A	4/24/1997 12:29:50 PM
204	1	NFDRS Fuel Model		2 A	4/24/1997 12:29:50 PM
205	1	Person Responsible For Fire		1 A	4/24/1997 12:29:50 PM
206	1	Activity of Person		2 A	4/24/1997 12:29:50 PM
207	1	Right of Way Type		3 A	4/24/1997 12:29:50 PM
208	1	Relative Position on Slope		1 A	4/24/1997 12:29:50 PM
209	1	Aspect		1 A	4/24/1997 12:29:50 PM
210	1	DOT Hazard Classification		2 A	4/24/1997 12:29:50 PM
211	1	Incident Location Type		1 A	11/18/1998 11:05:15 AM
212	1	Human Factors Contributing to I		1 A	11/18/1998 10:30:16 AM
213	1	On-Site Material Use		1 A	4/24/1997 12:29:50 PM
214	1	Human Factors Contributing to I		1 A	11/18/1998 11:10:15 AM
215	1	Location At Time of Incident		1 A	4/24/1997 12:29:50 PM
216	1	EMS Procedures Used		2 A	4/24/1997 12:29:50 PM
217	1	Safety Equipment Used or Deplo		1 A	4/24/1997 12:29:50 PM
218	1	Other EMS Factors		1 A	11/20/1998 11:42:41 AM
219	1	Cardiac Arrest		1 A	4/24/1997 12:29:50 PM
220	1	Pre-Arrival Arrest Details		1 A	11/18/1998 10:12:53 AM
221	1	Pulse on Transfer		1 A	11/18/1998 10:15:27 AM
222	1	Relation To Structure		1 A	4/24/1997 12:29:50 PM
223	1	Fire Reports Attached		1 A	4/24/1997 12:29:50 PM
224	1	Case Status		1 A	4/24/1997 12:29:50 PM
225	1	Incendiary Devices - Container		2 A	9/8/1998 9:21:29 AM
226	1	Suspected Motivation Factors		2 A	4/24/1997 12:29:50 PM
227	1	Apparent Group Involvement		1 A	9/8/1998 9:17:15 AM
228	1	Entry Method		2 A	4/24/1997 12:29:50 PM
229	1	Incendiary Devices - Delay Devic		2 A	9/8/1998 9:20:50 AM
230	1	Other Investigative Information		1 A	4/24/1997 12:29:50 PM
231	1	Incendiary Devices - Fuel		2 A	9/8/1998 9:44:18 AM
232	1	Property Ownership		1 A	4/24/1997 12:29:50 PM
233	1	Extent of Fire Involvement		1 A	4/24/1997 12:29:50 PM
234	1	Initial Observations		1 A	4/24/1997 12:29:50 PM
235	1	Canine Use		1 A	11/18/1998 11:09:14 AM
236	1	Laboratory Used		1 A	4/24/1997 12:29:50 PM
237	1	Incident Relationship		2 A	11/18/1998 10:48:31 AM
238	1	Association		1 A	11/18/1998 10:50:26 AM
239	1	Family Type		1 A	4/24/1997 12:29:50 PM
240	1	Motivation or Risk Factors		1 A	5/1/2001 1:22:00 PM
241	1	Availability of Material First Ignite		1 A	9/8/1998 9:08:43 AM
242	1	Juvenile Disposition		1 A	11/18/1998 11:02:22 AM
243	1	Hair Color		1 A	11/18/1998 10:58:22 AM
244	1	Eye Color		1 A	11/18/1998 10:59:36 AM
245	1	Released Into		1 A	4/24/1997 12:29:50 PM
246	1	Fire Cause Categories		1 A	4/24/1997 12:29:50 PM
247	1	State Code		2 A	1/10/1999 8:52:22 PM
248	1	Meridian		2 A	4/24/1997 12:29:50 PM
249	1	Multiple Arson Clearances		1 A	11/18/1998 11:01:27 AM
250	1	Fire Confined To Area Of Origin		1 A	4/24/1997 12:29:50 PM
251	1	FIPS County Codes		3 A	4/24/1997 12:29:50 PM
252	1	Report Output Templates		1 A	8/25/2000 2:45:17 PM



**Appendix \_\_\_**

**Step-By-Step Pivot Table  
Quick Reference Guide**



## **Step-By-Step Pivot Table Quick Reference Guide**

1. With an existing NFIRS data list file already prepared, select a cell in the list file.
2. Open the Pivot Table Wizard with the Pivot Table Toolbar or the Data Menu Option.
3. Accept the default option on Step 1 of the Pivot Table Wizard (Input Excel List, Output Pivot Table), then select Next.
4. Accept range default in Step 2 of the Pivot Table Wizard (range determined because you had selected a cell in the NFIRS list file), then select Next.
5. Select Layout in Step 3 of the Pivot Table Wizard. DO NOT select Finish until you have completed the Pivot Table Layout Screen.
6. Drag the NFIRS List buttons to the appropriate place on the Pivot Table Layout screen. Based on your Analysis Plan, the dependent variable(s) go on the data section of the layout, and the independent variable(s) go on the row, column or page sections of the list. After the Pivot Table Layout is complete, select OK.
7. You are now returned back to Step 3 of the Pivot Table Wizard, select Finish.
8. The Pivot Table is now created on a new worksheet in the existing workbook.



Appendix \_

## Analysis Plan Format



## Sample Analysis Plan

### PROBLEM:

Delayed Fire response re: Fire at 1:30 am on July 13, 2000, took 10 minutes to respond. Is this an isolated problem or a department shortfall?

Dependent Variable(s) (Data Section)	Independent Variable(s) (Row, Column, Page Section)
Response Time (Arrival – Alarm TM) - AVG - %	Type of Incident Time of Day Year Shift Property Type Code Location (Zip)

### Assumptions:

Is there a delay in transferring call from call taker to time of alarm dispatched?

Were there suppression factors present?

Personnel issues?



## **MODULE 5 MANAGING NFIRS**

### **Prerequisites**

Students are required to meet the following prerequisites before participating in this module:

- *Successfully complete the two-day Introduction to NFIRS Course; or*
- *Successfully complete the Introduction to NFIRS Self-Study Course; or*
- *Successfully complete an equivalent course offered through their State NFIRS Program Manager*

### **Terminal Objectives**

The students will be able to:

- The students will be able to demonstrate an understanding of the five functions (communications, planning, training, operations, and administration) of managing the National Fire Incident Reporting System (NFIRS) and their relationships.

### **Enabling Objectives**

The students will:

- Explain the five functions as they relate to managing an NFIRS program and their interrelationships.
  - Develop an NFIRS 5.0 implementation strategy for their State or community.
  - Evaluate your jurisdiction's current NFIRS program in order to improve the quality.
-

## References

### *Student Manual*

Your Student Manual (SM) includes a narrative text for you to highlight key points for some of the content and also can be used to make notes. During several of the units, you will be using your SM as a guide (or map) to the source documents. The SM will be your primary reference material once you return to your department. Page references to the source documents you will be using throughout the course are included in the SM.

### *NFIRS Complete Reference Guide*

The *NFIRS Complete Reference Guide* is a line-by-line guide to the completion of the incident report modules. The handbook includes all of the code conventions.

### *NFIRS Data Entry Tool Guide*

The *NFIRS Data Entry Tool Guide* is a guide for the entry, maintenance, and validation of incidents, as well as a detailed explanation and steps on how to use each tool.

### *NFIRS System Administration Tool Guide*

The *NFIRS System Administration Tool Guide* is a guide for system administrators setting up and maintenance of group and users.

### *NFIRS Configuration Tool Guide*

The *NFIRS Configuration Tool Guide* is a guide for the setup of user options and local database access.

### *NFIRS Web-Based Reporting Tool Guide*

The *NFIRS Web-Based Reporting Tool Guide* includes step-by-step instructions to generate, retrieve, and print reports from the Web-Based Reporting Tool.

*NFIRS System Specification Guide*

A Complete reference that contains a complete description of the NFIRS System processing steps, implementation considerations, code tables, and hardware and software considerations.

NFIRS PROGRAM MANAGEMENT

*Module 5 – Managing NFIRS*

## **NFIRS PROGRAM MANAGEMENT RESPONSIBILITIES**

Depending upon a number of factors, NFIRS Program Managers may have different responsibilities. These variations may be attributed to the size of the State or metro area, the number and type of resources available for the program, the commitment of reporting jurisdictions, and the methods of data collection used in the jurisdiction.

No matter what the circumstances, the same five basic management functions must be accomplished whether they are done by the NFIRS Program Manager, accomplished by someone else in the jurisdiction, or farmed out to another part of the organization. The functions are:

- Communication
- Administration
- Planning
- Training
- Operations

We will discuss the management function in this unit.

## **COMMUNICATION**

Communication is a vital skill in any type of management. Accurate communication can play an important role in the success of a project, while inaccurate or inadequate communication may lead to failure. Managing an NFIRS program involves a number of activities that are part of the communication function.

Communication can be external to your office or internal. The latter involves communication with groups or individuals inside your office.

Whether communication is internal or external, your ability to get the job done depends on your ability to communicate. In fact, 80 percent of being an effective manager relates to communication skills, not technical skills. Effective communication must be accurate and be transmitted at the right level.

To help achieve **accuracy** in both transmission and reception, you might have someone familiar with NFIRS proofread your letters, memos, and other communications before they go out. The person should check for content as well as for spelling and grammar.

You also must ensure that you have said what you mean and that the other person has understood what you said.

Communication needs to be **transmitted at the right level**. For your message to have meaning, it must be written for the level of the audience. Talking or writing down to someone is as ineffective as writing above someone's level of knowledge.

### **Documentation Guidelines**

For written documents to be effective, you must have a clearly defined audience. Ask yourself: who needs to know the information? Your documents should be complete but with no extraneous details. A concise two-paragraph memo is easier to read than a rambling two-page memorandum. Your documents also should allow for feedback, for instance, "If you have any questions or suggestions, call me at...."

As you are writing, check your document against the following items:

- Has it been proofread for content and grammar?
- Is there a clear connection between ideas/paragraphs/sections?
- Does your document state the requested action? What do you want the reader to do? Be as specific as possible.
- Is the internal/external circulation correct?
- Are the style and tone appropriate? Sometimes we make faulty assumptions about people's knowledge, especially if we've been in the business a long time.
- Is the message clear? Grab your readers early with several key points.

## **External Communication**

### Groups, Agencies, Organizations

Some of the groups, agencies, and organizations outside your own office with whom you must communicate include those who collect and use data, data systems personnel, other NFIRS Program Managers, the National Fire Information Council (NFIC), and the United States Fire Administration (USFA). Depending on your particular situation, there may be others, including the following:

- Data collectors
- Data users
- Other NFIRS managers
- Fire chiefs
- Media
- Legislators
- Information partners
- Fire service organizations

Communication with these external entities is necessary: to explain the benefits of the program; to learn more about the overall NFIRS program by sharing lessons learned; to increase the motivation of those contributing data to NFIRS; and to standardize the data and formats as much as possible to make the workload easier and more effective. Communication also is necessary to search for patterns in data that may indicate a problem as well as a potential solution, to provide data, as well as information or analysis of the data, and to provide technical support.

We can communicate with these external groups through various means, including Coding bulletins, newsletters, personal visits, telephone calls, seminars and meetings, and reports and special studies. In this high-tech age, e-mail and computer bulletin boards are being used more frequently. The content of this communication can be information about how the data are collected and turned into practical information, resolution of coding problems, data processing policy issues, program successes, and even research or special studies.

## **Internal Communication**

Groups or individuals inside your office with whom you must communicate may include data analysts, administrative assistants, other members of your staff, personnel who enter the data, the State Fire Marshal, and other managers.

The reasons for communicating with those individuals include the need to arrive at accurate and complete job descriptions, to set goals that will mesh with the goals of your program, to increase their motivation, and to standardize the daily operating procedures. You may communicate with these groups and individuals within your office through staff meetings, newsletters, one-on-one meetings, personnel manuals, and other formal documentation.

Using these methods, you can provide information about what the person is expected to do and how his/her responsibilities fit into the big picture of the NFIRS program you are managing. You also can communicate long-range plans for the office and the program, standard operating procedures (SOP's), performance reviews with specific information about how the person could improve his/her performance, and praise and congratulations for a job well done.

## **ADMINISTRATION**

While the level of responsibility will differ among NFIRS Program Managers, someone in each jurisdiction must make decisions about each of the following aspects of administering the NFIRS program: leadership, budget (equipment acquisition and printing), staffing and staff supervision, coordination, and scheduling and dissemination of materials.

Some NFIRS policy determinations that must be made are

- Will the system be mainframe or PC-based, or a combination of the two?
- How will the data be transmitted/received? (Diskette, e-mail, file transfer protocol (FTP))
- What data will be collected?
- How often will output reports be generated?
- Which output reports will be disseminated automatically?

- Will output reports be generated on request?
- What kind of training will be provided, how often, and by whom?

## **Budget**

Whether or not you are involved in preparing or implementing the budget, understanding the budget process is useful. A critical, but often overlooked, aspect of the budget process is marketing. Preparing a budget involves more than the equipment, services, and personnel needed for the NFIRS program. You also must be able to explain and defend **why** you need items.

Justification for funding must be done at both the current level (to include units of service and personnel, as well as other line items) and for new initiatives that must address line-item budgets for personnel services (retirement and Social Security), equipment, printing, postage, travel, contractual services, data processing charges, and perhaps even operation of automobiles. The key to good budget preparation is proactive planning. Document your current costs and make sure that the equipment and services you use are allocated to your budget.

One aspect to consider when developing or contributing to the development of a budget might be previous funding levels. If funding levels have not been developed, you need to start from scratch. This might be done by estimates based on your best judgment or you might conduct a needs assessment to determine costs of individual items involved in the program. Another aspect you would have to consider is anticipated growth. Contacting another NFIRS Program Manager may be useful. Of course, if a program has been mandated, it tends to be justified more easily.

When seeking to acquire equipment, you would investigate whether or not it is available through an existing government contract. If so, the cost can be from 25 to 60 percent less than over-the-counter purchasing. If it is unavailable through a government contract, you might have to develop individual specifications for the procurement officer. This will take much longer.

NFIRS PROGRAM MANAGEMENT

*Module 5 – Managing NFIRS*

### Activity 5.1 Financial Support

#### Purpose

Provide the instruction, tools and necessary skills to justify additional budget support for the upcoming year.

#### Directions

1. You will work in groups of four to develop a budget request for additional NFIRS Introduction training funds.
2. **The following table provides some useful** statistics that can be used to justify the budget request.

Year	Reporting Departments	Trainings
2000	125	12
2001	200	19
2002	140	13
2003	212	20
2004	130	13
2005	225	22

#### Discussion

1. What is the relationship between the number of training sessions and the total number departments reporting for that year?
2. Given that there are 250 departments in the state, how many sessions would be required to achieve a maximum participation level?
3. Why does training increase departmental participation?
4. Select a graphic technique that clearly shows the relationship between training sessions and number of reporting departments

NFIRS PROGRAM MANAGEMENT

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## **Staff Supervision**

You cannot manage NFIRS in a vacuum. The viability of the system depends on a committed staff. Setting goals and objectives, a crucial aspect of management, is best done when the employee can work with you during the process. This is often called "participative management." While this type of management involves a lot of time and energy by the manager, it can be the most fruitful over the long term.

The goals you set with an employee must be both realistic and attainable. If your employees are in a union, it is imperative that you know the terms of the contract and work within them at all times. Management personnel must know the merit, compensation, and personnel rules or whatever rules govern this group of employees.

### Monitoring Performance

Effective supervision and monitoring of performance are based on an accurate and realistic job description that includes all the required duties and specifies the levels of accountability and supervision.

Quarterly reviews often are done to provide feedback to the employee. It is better to catch a problem in the making than to wait until it becomes a crisis at an annual evaluation. Positive feedback is needed, and criticism should be constructive. Too many times the relationship between staff and supervisors is adversarial, **so change it!** Remember, too, that supervisors need positive feedback.

Performance evaluations might be different when the employee is probationary, already certified, or union contract versus management/ merit compensation.

### Motivation

Attitudes are contagious. It makes sense to keep your attitude positive, since a negative attitude can permeate a section or an entire organization quickly. Staff development and training are necessary for employees to feel "pride in ownership" of the program. Professionalism at all levels of the NFIRS program ensures a

comfort zone in their performance levels, and changes "just a job" into a "position."

### Staffing Levels

In times of fiscal constraint, staffing levels are sometimes difficult. One question that needs to be considered is whether the proposed headcount has been approved. If so, at what grade or level can the individual be started? Justification for the positions must be written, and the interview process must be completed.

### **Coordination**

Internal and external coordination is a necessity. For instance, coordination with the data processing personnel who process the numbers (if your staff does not do so) is crucial. They must understand your requirements and you need to be aware of their limitations in time or capabilities to plan an appropriate workload. Interaction with other divisions and feedback among divisions are essential to complete agency or organizational goals. You can provide other divisions with ancillary information from NFIRS data.

Also, you must coordinate your actions with other fire service organizations to develop support for NFIRS and to provide feedback to their organization. Ad hoc support often can be provided in the development and updating of the program.

### **Scheduling and Dissemination of Materials**

As an NFIRS Program Manager, scheduling is one of your most important administrative tasks. You will need to schedule such activities as training sessions, data processing time, and report generation and dissemination. Scheduling can be crucial at certain times within a budget cycle.

## **PLANNING**

Planning is the process of setting objectives and determining in advance who, what, where, when, and how those objectives will be met. Planning is a dynamic process in which you must adapt to ongoing changes in the organization and provide flexibility needed to meet objectives.

Reasons for planning include the following.

- To achieve your organizational mission.
- To give the organization direction.
- To provide a blueprint for management.
- To provide measures for evaluating progress.
- To provide a shared goal which leads to cohesion within the program?

### **Future Assumptions**

You must consider future implications when managing your program. Since planning prepares the organization for the future, many decisions are based on assumptions about the future, realistic as well as pie-in-the-sky judgments. The future of computers and technology is changing all the time. Environmental scanning is one of many techniques that provide guidance about the future. It is a process of looking at economic, technological, social, and political information inside and outside the organization. It is a scholarly word for keeping your eyes and ears open to changes that may affect the NFIRS program. It is important not to limit yourself to examining changes in the fire service or management information fields only. Sometimes changes outside your field may have a profound effect on the future of your program.

**Needs assessment** is a technique used to identify and define the problems or needs that must be addressed. To start a needs assessment, you must determine which problems you are going to address. You then must make sure you are working with a root problem instead of a symptomatic problem. A root problem is the origin of the dysfunction, while a symptomatic problem is the indication of the existence of an underlying problem. For example, submitting incomplete or inaccurate data may be the symptom of the root problem of a lack of motivation.

Following are the steps in needs assessment:

- Defining the focus of the study (looking at the entire organization or a unit within the organization).
- Collecting all existing data and information, both objective and subjective.
- Generating data by using focused interviews, surveys, and other research techniques.
- Organizing data for ease of analysis.
- Analyzing information by comparing and contrasting data to identify trends and patterns in information.
- Interpreting data by translating results into useful information and then relating the results to the needs of the target group.
- Determining actions once problems are identified and planning what can be done to solve the problems.
- Setting priorities and deciding which need is most critical, while remembering to schedule the steps to take to address the most critical problems first.

### **Action Planning**

There are eight steps for action planning.

- 1) **Identify the problem** through needs assessment or other techniques.
- 2) **Set goals** that are clear yet broad statements that describe general outcomes (generally determined at the top of the organization).
- 3) **Determine objectives** that are clear, concise, time-specific, and measurable statements that lead to accomplishment of the goals. People responsible for achieving the objectives must have input into setting them.
- 4) **Identify evaluation criteria** to measure the results of your planning.

- 5) Identify proposed alternatives.
- 6) **Estimate the cost of each alternative** in terms of time, money, and morale.
- 7) Estimate the effectiveness of each alternative.
- 8) **Select** the alternative to be used.

One of the most important, and often overlooked, steps is feedback on how the alternative you have chosen is working. As stated before, planning is a dynamic process. Continually evaluating the alternatives and checking to see if the chosen alternative is working; taking in new information; and modifying your plan to meet changing circumstances are critical for success.

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## **Activity 5.2**

### **Individual Action Plan**

#### **Purpose**

To create an action plan and a follow-up status report to:

- Ensure that you apply knowledge you have learned during this course;
- Help us build a repository of case study information that will be kept at the USFA and may be helpful to new NFIRS Program Managers; and
- Help USFA and NFA judge the usefulness and applicability of the information in the *NFIRS Program Management* course.

#### **Directions**

1. Review the NFIRS PM worksheet that you completed in Unit 1 and select an NFIRS-related problem or an area in which you would like to improve where you work. To succeed, it is crucial to pick an area or problem over which you have the control to exercise change.
  - Pick a problem that is small enough, simple enough, and reasonable enough that you have a high probability of solving it. However, what you choose to address should not be trivial.
  - Choose an important area or problem of reasonable scope and magnitude so that you can solve it without spending every waking moment over the next few months struggling with it.
2. You will develop your Individual Action Plan (IAP) in class and implement it when you return to work. Keep track of your progress, the hurdles you faced, and how you overcame them.
3. Your instructor will approve your IAP on the agreement sheet and the USFA will keep a copy. Please leave enough time for your instructor to review your work in class.
4. 90 days after the end of the course, you will submit a brief Status Report to the USFA that contains the following information:
  - Background and description of your problem or area of improvement (draft is done in class).
  - Identification of the people and/or organizations that might help or hinder your efforts (draft is done in class).

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- Action plan for accomplishing the tasks to address the problem or area of improvement (draft is done in class).
  - Status of the action plan (can be developed largely by answering the questions below).
    - > What tasks did you accomplish?
    - > What factors helped you to complete those tasks?
    - > What tasks were you not able to accomplish?
    - > Why did that occur?
    - > What would you do next time to relieve those blocks to your progress?
    - > What is the next step or have you completed the action?
5. This is **not** a research report; it is merely a brief documentation of an improvement you want to make regarding NFIRS as well as your progress toward that end.
6. The solution you implement does not need to be successful for your Status Report to be a success. If you learn something concrete from the failure, and can explain why it failed, the Status Report will be a success.
7. If the solution requires more than 90 days to evaluate the results fully, report on the state of results available at the time of the report.
8. Style standards.
- The IAP Status Report should be three to five, double-spaced, typed pages. Number the pages at the bottom.
  - Use the IAP Cover Sheet that follows as the cover page, or design your own as long as it contains all of the necessary information.
  - Make sure the Report contains clear and grammatically correct writing.
9. Evaluation criteria for the Status Report.
- Topic/Project identified clearly.
  - Action Plan addresses goal, objectives, and tasks.
  - All tasks and activities are documented.
  - Clear summary of lessons learned.
10. Be prepared to discuss your plan during the course wrap up.

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**Individual Action Plan Agreement  
NFIRS Program Management**

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Date of Class: \_\_\_\_\_

Due Date: \_\_\_\_\_

- 
1. One-sentence description of the area/problem you have decided to address.
  2. List the people and/or organizations that might help or hinder your efforts.
  3. Write a goal statement to address the problem.
  4. List three objectives that will help you meet the goal.

I will submit my Status Report regarding this Individual Action Plan to USFA by the due date indicated above.

\_\_\_\_\_  
*Student signature*

I approve this Individual Action Plan.

\_\_\_\_\_  
*Instructor signature*



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**Individual Action Plan Cover Sheet  
NFIRS Program Management**

Date of Class: \_\_\_\_\_

Due Date: \_\_\_\_\_

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

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

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

- I. Background and description of the area/problem you have decided to address.
- II. Analysis of people and/or organizations who might help or hinder your efforts.
- III. Action Plan.
- IV. Status Report.

*As noted during class, USFA is collecting these Status Reports for use by other NFIRS Program Managers. USFA will send out copies of Status Reports that may be helpful, if requested. Please initial one of the following statements regarding the use of your name and address with reprints of your Status Report.*

\_\_\_\_\_ Please do not keep (or use) my name or address with this Status Report.

\_\_\_\_\_ I give permission for you to keep (and use) my name and address with this Status Report.

Send Action Plan to:  
Mark Whitney  
United States Fire Administration  
16825 S. Seton Avenue  
Emmitsburg, MD 21727  
mark.whitney@dhs.gov



## TRAINING

Training is a continual process that occurs during everyday activities as well as in a formal training setting. Training is necessary to ensure accurate and timely reporting of the data, understand the logic of NFIRS, and check for consistency--quality control or quality assurance. Training also can answer questions about the accuracy of the scenario depicted by the "incident package," including

- Incident form
- Casualty forms (civilian and firefighter)
- Haz Mat form
- Narrative description of the incident

As an NFIRS Program Manager, you must realize that the NFIRS report form and narrative are legal documents. The NFIRS form does not replace the narrative, and the latter should not be destroyed until a specified length of time has elapsed.

No one likes paperwork. Errors in reporting only create more paperwork. However, it is better to control for errors up front through training and communication than to react to errors found later. Checking and editing are better when done subjectively by someone not at the scene who is well trained and informed about NFIRS.

While training can solve a lot of problems, too often managers assume that training is **always** the solution to any problem. Use the needs assessment discussed earlier to determine if training is really the problem.

For instance, an NFIRS Program Manager is receiving incomplete data that are weeks late. The program manager believes training is the solution to the problem and sets up a training class for the entire department. After spending time and money on the training, the data still are coming in late and are inaccurate. After interviewing several of the firefighters, it turns out that the problem is that the fire chief does not think NFIRS is important and is always assigning the firefighters to other tasks.

## **Types of Program Training**

In this section, we will discuss three types of training: orientation, initial, and refresher.

**Orientation training** has the following goals.

- To help fire departments or new employees get their bearings so they can function effectively
- To provide a resource to new fire departments or employees that will assist them in accomplishing tasks
- To reinforce positive feelings about the job (i.e., that they are important, part of a team, part of a well-organized effort)

Components of a successful orientation to the NFIRS organization include the purpose and goals of the program, procedures/issues, a welcome/teambuilding, and motivation for continued participation. Components of an orientation to a particular job include specific responsibilities of the position as well as the levels of authority and accountability involved. Also included in a job-specific orientation are limits on what action(s) an employee can take without explicit direction, the immediate supervisor's expectations, reporting procedures and times, work schedules, and the roles and responsibilities of other team members. Tools and resources available, policies, recordkeeping, evaluation/performance appraisal, career development opportunities, and methods of reporting and communicating are other important elements in this type of orientation. Since feedback about job performance is so important in supervising and motivating employees, the NFIRS Program Manager should explain how feedback is given.

Remember, orientation should be the first step in an ongoing communication about NFIRS or the job in your NFIRS office. Once orientation has been provided, there is still a need for regular information and policy updates, recognition and regular evaluation, and the opportunity for fire departments to provide feedback about policy and procedures.

## **Initial Training**

Training should develop or upgrade skills, knowledge, and attitudes to enhance operations of the NFIRS program. There is an important correlation between training and effectiveness of the organization in accomplishing its goals as well as continued support from fire departments.

Whether the initial training is for a new fire department or employee, training classes should use lesson plans, audiovisuals, and training aids; employ fully qualified instructors; and encourage practice of lessons learned. Training also includes evaluation, whether this is done through examinations or criteria-based activities. As the technology becomes widely accessible, interactive video and computer courses will make training less dependent on an instructor and typical classroom setting.

Training programs must be planned in advance to ensure that a potential shortfall in work force has been addressed. They also must be worked into ongoing activities and accomplished on a daily basis by the fire service and other government agencies.

## **Refresher Training/Program Reinforcement**

Once orientation has been provided and fire departments have received their initial training, there is still a need to provide them with regular information, policy updates, recognition of their efforts, and regular evaluation of their skills.

Training records should reflect the courses completed, the date(s) and number of hours, results of any tests or examinations, and the dates on which refresher training was conducted. These records should be updated periodically to provide a historical record.

## **Media Support for Training**

Fire service personnel (and adults in general) tend to be hands-on, visually oriented learners. Be sure to include many "see and do" combinations for longer retention of skills learned and to introduce relevancy. Ensure that you provide "practical" information. "If it isn't used, we don't need it" is a prevalent attitude.

For further information about training, consider such NFA courses as *Fire Service Course Development* and *Challenges for Local*

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*Training Officers*, use the International Fire Service Training Association (IFSTA) *Fire Service Instructor* course or read resource books on adult instruction and learning theory.

**Activity 5.3**  
**Meeting Your Training Needs**

**Purpose**

Identify a specific training need by examination of your NFIRS data. The training need can be in the area of public education for prevention purposes, high risk but infrequent operations and procedures, targeted department training on NFIRS data collection and entry, etc.

**Directions**

1. Using the “Incident Summary” analysis tool, evaluate your data to detect a pattern or trend in the outcome (loss) or data quality areas.
2. Select one area of interest where the benefits of intervention can be measured with a 6 month period.
3. Determine the appropriate type of training necessary to correct this need (orientation, regular, refresher).
4. Determine the training methodology (classroom instruction, handout, video/web-based).
5. Prepare an Action Plan to accomplish this training project.

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## **OPERATING THE SYSTEM**

Operating the NFIRS program should result in a department's ability to use data in the decision-making process successfully. Operating the NFIRS incorporates the areas that already have been discussed (Administration, Planning, Training, and Communication). Operating the system also includes the hardware and software for the data collection effort.

The USFA developed a series of tools for States to manage their system. This material will be covered in a later unit. In certain cases States may make this software available for local use, with the State providing technical support to departments which use the program. Both the USFA and the NFIC recommend that fire departments use a software package that is approved by the USFA.

You can go to the vendor certification area on the NFIRS Web site to get the latest information on approved vendors. It also may be possible to visit specific sites from there.

### **Which System is Right for You?**

Operating the NFIRS requires these decisions to be made.

- Will the system be networked or standalone PC-based, or a combination of the two?
- What software will be used?
- How will the data be transmitted/received? (Diskette, e-mail, FTP).
- What data will be collected?
- How often will output reports be generated?
- Which output reports will be disseminated automatically?
- Will output reports be generated on request?
- What kind of training will be provided, how often, and by whom?

## **ETHICAL ISSUES**

### **Ethical Considerations**

As the NFIRS Program Manager, it is your responsibility to ensure that data are used ethically and properly. Make every attempt to ensure that data are used in a way that will not change or twist the truth.

It is important that your application of the data analysis is proper and direct. It is equally important in the display of data through charts, graphs, and other visuals. Be sure that you are able to document sources of your data and that you adjust the data for changes in values, inflation, population, and other items. Always attempt to compare similar items. Try to ensure that you use similar data on:

- Population (projected versus actual)
- Value (current versus projected, actual value versus tax value)
- Costs (purchase versus replacement)
- Losses (current versus inflation)
- Incidents (volume versus rates)

This is as important to your professional credibility as it is to the credibility of the program. Make every effort to check and to validate your data before you display, or report, the information.

### **Why "Good" Managers Make Bad Ethical Choices**

Why do managers do things that ultimately inflict great harm on their agencies, themselves, and people on whose patronage or tolerance their organizations depend? Examples in each day's newspaper supply ample evidence of the motivations and instincts that underlie official misconduct in both the public and private sector. Although the particulars may vary, the motivating beliefs are pretty much the same. We may examine these in the context of the organization, but we know that these feelings are prevalent throughout society; we find them wherever we go because we take them with us.

When we look more closely at the specific situations, we can delineate four commonly held rationalizations that can lead to misconduct:

- 1) A belief that the activity is within reasonable ethical and legal limits--that is, that it is not "really" illegal or immoral
- 2) A belief that the activity is in the individual's or the agency's best interests--that the individual would somehow be expected to undertake the activity
- 3) A belief that the activity is "safe" because it will never be found out or publicized; the classic crime-and-punishment issue of discovery
- 4) A belief that because the activity helps the agency--senior management will condone it and even protect the person who engages in it

The idea that an action is not really wrong is an old issue. How far is too far? Exactly where is the line between smart and too smart? Between sharp and shady? Between maximizing resources and illegal conduct? The issue is complex; it involves interplay between top management's goals and middle managers' efforts to interpret those aims.

Put enough people in an ambiguous, ill-defined situation, and some will conclude that whatever isn't labeled specifically wrong must be okay--especially if they are rewarded for certain acts.

Top executives seldom ask their subordinates to do things that both of them know are against the law or imprudent. Agency leaders sometimes leave things unsaid or give the impression that there are things they don't want to know about. In other words, they can seem, whether deliberately or otherwise, to be distancing themselves from their tactical decisions in order to keep their own hands clean if things go awry (plausible deniability). Often they lure ambitious lower-level managers by implying that rich rewards await those who can produce certain results--and that the methods for achieving them will not be examined too closely.

How can managers avoid crossing a line that is seldom precise? Unfortunately, most know that they have overstepped it only when they have gone too far. They have no reliable guidelines about what will be overlooked or tolerated or what will be condemned or

attacked. When managers must operate in murky borderlands, their most reasonable guideline is an old principle: when in doubt, don't.

The difference between becoming a success and becoming a statistic lies in knowledge--including self-knowledge--not daring. Contrary to popular mythology, managers are not paid to take risks; they are paid to know which risks are worth taking.

All managers risk giving too much because of what their organizations demand from them. But the same superiors who keep pressuring you to do more, or do it better, or faster, or less expensively, will turn on you should you cross that fuzzy line between right and wrong. They will blame you for exceeding instructions or for ignoring their warnings. The smartest managers already know that the best answer to the question, "How far is too far?" is don't try to find out.

### **Ethics and Decision-making**

Decisions may pose ethical dilemmas whenever profit or personal gain might reasonably cause harm or loss for another. Laura Nash of the Harvard Business School lists the following 12 questions managers should ask when making decisions:

- 1) Have you defined the problem accurately?
- 2) How would you define the problem if you stood on the other side of the fence?
- 3) How did this situation occur in the first place?
- 4) To whom and to what do you give your loyalty as a person and as a member of the corporation?
- 5) What is your intention in making this decision?
- 6) How does this intention compare with the probable results?
- 7) Whom could your decision or action injure?
- 8) Can you discuss the problem with the affected parties before you make your decision?
- 9) Are you confident that your position will be as valid over a long period of time as it seems now?
- 10) Could you disclose without qualm your decision or action to your boss, your CEO, the board of directors, your family, society as a whole?
- 11) What is the symbolic potential of your action if understood? If misunderstood?
- 12) Under what conditions would you allow exceptions to your stand?

You can't readily answer any of these questions with black and white pronouncements: there are too many gray areas and the issues are complex. Managers can't always know with certainty what might result from their decisions since each case may carry unforeseen ramifications. But discussing Nash's list of questions in a management-development session will certainly provide managers and executives with a spirited educational experience.

Source: An exhibit from "Ethics Without the Sermon" by Laura L. Nash (*Harvard Business Review*, November-December 1981). As used in Herb Genfan, "Formalizing Business Ethics," *Training and Development Journal*, November 1987.

Turning to the second reason why people take risks that get their organizations into trouble, believing that ethical conduct is in a person's or organization's best interests nearly always results from a parochial view of what those interests are.

Ambitious managers look for ways to attract favorable attention, something to distinguish them from other people. So they try to outperform their peers. Some may see that it is not difficult to look remarkably good in the short run by avoiding things that pay off only in the long run. For example, you can skimp on maintenance or training or customer service, and you can get away with it--for a while.

The sad truth is that many managers have been promoted on the basis of "great" results obtained in just those ways, leaving unfortunate successors to inherit the inevitable whirlwind. Since this is not necessarily a just world, the problems that such people create are not always traced back to them. Organizations cannot afford to be hoodwinked in this way. They must be concerned with more than just results. They have to look very hard at how results are obtained.

This brings up another dilemma: management quite naturally hopes that any of its borderline actions will be overlooked or at least interpreted charitably if noticed.

The third reason why a risk is taken, believing that one can probably get away with it, is perhaps the most difficult to deal with because it is often true. A great deal of proscribed behavior escapes detection. We know that conscience alone does not deter everyone.

How can we deter wrongdoing that is unlikely to be detected? Make it more likely to be detected. The most effective deterrent is not to increase the severity of punishment for those caught but to heighten the perceived probability of being caught in the first place.

A trespass detected should not be dealt with discreetly. Managers should announce the misconduct and how the individuals involved were punished. Since the main deterrent to illegal or unethical behavior is the perceived probability of detection, managers should make an example of people who are detected.

Let's look at the fourth reason why agency misconduct tends to occur, a belief that the organization will condone actions that are taken in its interest and will even protect the managers responsible. The question we have to deal with here is: How do we keep agency loyalty from going berserk?

Top management has a responsibility to exert a moral force within the organization. Senior executives are responsible for drawing the line between loyalty to the agency and action against the laws and values of the society in which the agency must operate. Further, because the line can be obscured in the heat of the moment, the line has to be drawn well short of where reasonable men and women could suspect their rights had been violated. The organization has to react long before a prosecutor, for instance, would have a strong enough case to seek an indictment.

Executives have a right to expect loyalty from employees, against antagonists and detractors, but not loyalty against the law, or against common morality, or against society itself. Managers must warn employees that a disservice to customers, and especially to innocent bystanders, cannot be a service to the organization. Finally, and most important of all, managers must stress that excuses of agency loyalty will not be accepted for acts that place its good name in jeopardy.

The most extreme examples of agency misconduct were due, in hindsight, to managerial failures. In the end, it is up to top management to send a clear and pragmatic message to all employees that good ethics is still, the foundation of good service.

## LEGAL CONSIDERATIONS

### Confidentiality and Accessibility of Public Records

*Privacy is the most comprehensive of all rights and the most cherished by citizens of a free nation.*

- Justice Louis Brandeis, 1928

*A people who mean to be their own Governours, must arm themselves with the power to which knowledge gives.*

- James Madison, 1822

Americans are increasingly concerned about the privacy of personal data--yet we demand more and more information for public decision-making. This chapter explores the seeming conflicts between privacy and data access, an issue of concern to governmental agencies collecting the data, research organizations using the data, and individuals providing the data.

Reading the Brandeis and Madison quotations above in conjunction with one another reveals a basic tension in the stewardship of governmental statistical agencies. Such agencies seek, on one hand, to ensure private lives for the citizenry. On the other hand, they seek to provide the data on which public policies are based. Yet, because of concerns about data confidentiality, there is a large, unmet need for greater access to data. Data users, whether in government agencies, academe, trade associations, businesses, market research organizations, political interest groups, or the media, have persistently asked for increased access to data.

How can governmental statistical agencies serve data users better by providing more access to useful data, and at the same time, serve data providers by better ensuring privacy and confidentiality? What principles must guide their actions? What are the key problems? Because facts are the lifeblood of a free society, answers to these questions concern many people. In particular, they are of concern to data users and data providers.

## Key Definitions

A lack of general agreement on terminology has caused some confusion in discussions of the issues involved in data protection and data access. The following definitions for certain key terms may prove to be helpful.

### Data Subjects and Data Providers

**Data subjects** are persons, households, or organizations for which data are obtained and presented in statistical form. The data subjects are not always the **data providers**, however. One person in a household may respond to a survey questionnaire that asks for information about all members of that household. Data providers are often called **respondents**. When respondents provide information for data subjects other than themselves, they are called **proxy respondents**.

### Informational Privacy

Privacy has multiple definitions, depending on what aspect of this broad concept is being stressed. **Informational privacy** encompasses an individual's freedom from excessive intrusion in the quest for information and an individual's ability to choose the extent and circumstances under which his or her beliefs, behaviors, opinions, and attitudes will be shared with or withheld from others.

### Confidentiality and Data Protection

**Confidentiality** refers broadly to a quality or condition accorded to information as an obligation not to transmit that information to an unauthorized party. This has implications that range over religious confessionals, national security, private business "whistle-blowing," and disclosures of crimes. Our concern is, more narrowly, with the promises, explicit or implicit, made to a data provider by a data gatherer regarding the extent to which the data provided will allow others to gain specific information about the data provider or data subject. Confidentiality has meaning only when the promises made to a data provider can be delivered, that is, the data gatherer must have the will, technical ability, and moral and legal authority to protect the data.

Our definition of confidential data is consistent with the position of the President's Commission on Federal Statistics (1971:222):

*Confidential should mean that dissemination of data in a manner that would allow public identification of the respondent or would in any way be harmful to him is prohibited and that the data are immune from legal process.*

**Data protection** refers to the set of privacy-motivated policies and procedures that ensure minimal intrusion by data collection and maintenance of data confidentiality. The term is generally used in the context of protecting personal information. Unlike privacy, however, which is an individual right, confidentiality is not restricted to data on individuals and is often extended to data on organizations.

### Informed Consent and Notification

**Informed consent** and **notification** are related, but distinct, ethical and legal concepts. From our perspective, informed consent refers to a person's agreement to allow personal data to be provided for research and statistical purposes. Agreement is based on full exposure of the facts the person needs to make the decision intelligently, including any risks involved and alternatives to providing the data. Informed consent describes a condition appropriate only when data providers have a clear choice. They must not be, nor perceive themselves to be, subject to penalties for failure to provide the data sought.

Notification also involves a condition of data provision under full exposure of pertinent facts. Unlike informed consent, however, the elements of choice and agreement are absent. Notification is the more appropriate concept when data provision for stated purposes is mandatory, as it is in the decennial census of population.

### Disclosure

**Disclosure** relates to inappropriate attribution of information to data subject, whether an individual or an organization. Disclosure occurs when a data subject is identified from a released file (**identity disclosure**), sensitive information about a data subject is revealed through the released file (**attribute disclosure**), or the released data make it possible to determine the value of some characteristic of an

individual more accurately than otherwise would have been possible (**inferential disclosure**).

### Administrative and Statistical Data

One purpose of data collection concerns a course of action that affects a particular person or business. The purpose can be regulatory, administrative, legislative, or judicial. Examples include: tax audits of a person, couple, or corporation; a criminal investigation into a report of arson; license renewal for a liquor store; and determination of welfare benefits. We refer to these purposes generically as **administrative**.

Another purpose of collecting data is to generate an aggregate description of a group of persons or businesses. No direct action is taken for or against a specific individual or business, although as a result of the information, policy changes based on such information could result in benefits or costs to persons or business. Examples include development of a formula for determining which tax returns should be audited, investigating geographical patterns of arson in a large city, and researching the relationship between the incidence of liquor law violations by stores and store characteristics of how the duration of welfare benefits varies with the educational level of the recipient. We refer to these purposes generically as **statistical**. Consistent with the distinction between administrative and statistical data, the Privacy Act of 1974 (PL 93-579) defines a statistical record to be

*...a record in a system of records maintained by statistical research or reporting purposes only and not used in whole or in part in making any determination about an identifiable individual, except as provided by Section 9 (which authorizes certain kinds of data access, including for research activities by the Bureau of Census) of Title 13.*

Laws protecting the confidentiality of public records vary markedly from State to State. In some States there are little or no statutory requirements for government agencies to protect the confidentiality of individuals identified in public records. Other States' statutes protect some or many types of information that is held by government agencies.

It is beyond the scope of this course to provide specific statutory guidance or legal advice concerning the collection, use and disclosure of information; to delineate the circumstances in which disclosure is permissible; or to make determination as to which audiences disclosure is appropriate. Instead, this course will examine the issues surrounding public records in a more general context. Where specific statutory citations are provided, these should not be relied upon for any legal purpose. Any statutes cited are provided strictly as a reference.

## **POLICIES AND PROCEDURES**

The following are sample policies and procedures that can be adapted for use in your department:

- Appendix A – *Freedom of Information Act*
- Appendix B – *Public Records Retention Schedule*

## **SUMMARY**

No matter who has the responsibility in your State or metro area, someone must make the following decisions about the NFIRS program:

- Planning
- Policy development
- Training
- Staff supervision and motivation
- Resource use

In this unit, we have discussed briefly the five management functions: communication, administration, planning, training, and operations. We also pointed out that management skills can be learned and improved with practice.

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# **APPENDIX A**

## **THE FREEDOM OF INFORMATION ACT**

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## THE FREEDOM OF INFORMATION ACT

**The Freedom of Information Act** (FOIA) was enacted by Congress in 1966 to give the public access to information held by the Federal government. The Act gives any person the right to request and receive any document, file or other record in the possession of any agency of the Federal government, subject to exceptions. The Act does not require the government to create documents in response to your request, but simply to provide documents that already exist. While the Federal Act does not apply to State governments, each State has its own laws governing disclosure of records held by State and local government bodies.

### **The Nine Exemptions**

If the agency withholds some or all of the records you seek it must do so under one or more of the nine exemptions listed below. You may challenge an agency's decision to withhold the records by appealing any denial. In some cases, you may also ask the agency to use its discretion to release the records even if the records are covered by an exemption.

#### (1) National Security

The documents exempt under this section are those that are properly classified pursuant to a Presidential Executive Order. If you are requesting a document which the agency tells you is classified, you may want to ask that the reasons for classification be re-examined, as the agency may determine there is no longer a need for secrecy, at least as to some parts of the records in question.

#### (2) Internal Agency Rules

This exemption protects rules and practices of agency personnel that are "predominantly internal" in nature and, where disclosure serves no substantial public interest and significantly risks circumvention of agency regulations or statutes. Thus, minor employee matters such as employee parking and cafeteria regulations are exempt.

#### (3) Information Exempted by Another Federal Statute

This exemption honors mandatory nondisclosure provisions in other laws.

#### (4) Trade Secrets

Agencies withhold trade secrets or confidential commercial or financial information. This exemption is often invoked by the EPA, FDA and other regulatory agencies which receive information from companies. Information which can be proven to be a trade secret is absolutely protected. For commercial or financial information, the government must prove that the information is not customarily disclosed to the public by the company and that its disclosure would be likely either to impair the agency's ability to obtain information in the future or to cause substantial competitive injury to the submitter. Confidential or financial information that companies give voluntarily to the government may be exempt, whether or not the government could compel submission of the information.

#### (5) Internal Agency Memoranda

This exemption protects information about an agency's decision-making process. Thus, advice and recommendations involving a "deliberative process" on legal and policy matters may be withheld, but the segregable, factual portions of documents should be disclosed. Preliminary drafts and unfinished reports may be withheld, but final decisions and memos on which they are based generally must be disclosed. Thus, a memo from a staff person to a supervisor recommending that a particular policy be established would be exempt from disclosure. But the factual portions of this memo would not be exempt unless they reveal the deliberative decision-making process of the agency.

#### (6) Personal Privacy

This exemption involves a balancing of the public's interest in disclosure against the degree of invasion of privacy which would result from disclosure. If the request involves this exemption, a brief explanation of the public benefits from disclosure, particularly how disclosure sheds light on government activities should be provided, so that it can be determined whether any invasion of privacy resulting from disclosure would be "clearly unwarranted."

#### (7) Investigatory Records

This exemption protects information compiled for law enforcement purposes which could reasonably be expected to interfere with enforcement proceedings, to identify a confidential source, to disclose techniques and procedures for law enforcement investigations or to invade personal privacy.

### (8) & (9) Other Exemptions

These are two special-interest exemptions relating to banking and oil well information and they are not relevant to most FOIA requests.

### **Withholding Records**

If an agency withholds records based on one of these nine exemptions, it must (1) release portions of the records that are not exempt and that can be separated from the exempt portions; (2) indicate where the withheld portions appear on the records; and (3) if records are withheld in their entirety, provide a reasonable estimate of the amount of information that is being withheld, unless giving an estimate would harm an interest protected by the exemption invoked. Under certain circumstances an agency may state that it has no records subject to a request, even though it does in fact have some relevant records. For example, under exemption 1 (national security), the government can refuse to acknowledge the existence of classified records if the mere existence of records is classified. Under exemption 7 (investigatory records) where a subject is not aware of a criminal investigation and disclosure could interfere with law enforcement proceedings, the government can refuse to state whether such records exist.

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**APPENDIX B**

**SAMPLE PUBLIC RECORDS**

**RETENTION SCHEDULE**

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## **Local Schedule PS**

### **Retention Schedule for Records of Public Safety Agencies**

Effective October 20, 1997

**This schedule establishes mandatory minimum retention periods for the records listed. No local government office may dispose of a record listed in this schedule prior to the expiration of its retention period. A records control schedule of a local government may not set a retention period for a record that is less than that established for the record on this schedule. The originals of records listed in this schedule may be disposed of prior to the expiration of the stated minimum retention period if they have been microfilmed or electronically stored pursuant to the provisions of the Local Government Code, Chapter 204 or Chapter 205, as applicable, and rules of the Texas State Library and Archives Commission adopted under authority of those chapters. Actual disposal of such records by a local government or an elective county office is subject to the policies and procedures of its records management program.**

Destruction of local government records contrary to the provisions of the Local Government Records Act of 1989 and administrative rules adopted under its authority, including this schedule, is a Class A misdemeanor and, under certain circumstances, a third degree felony (Penal Code, Section 37.10). Anyone destroying local government records without legal authorization may also be subject to criminal penalties and fines under the Open Records Act (Government Code, Chapter 552).

#### **Introduction**

The Government Code, Section 441.158, provides that the Texas State Library and Archives Commission shall issue records retention schedules for each type of local government, including a schedule for records common to all types of local government. The law provides further that each schedule must state the retention period prescribed by federal or state law, rule of court, or regulation for a record for which a period is prescribed; and prescribe retention periods for all other records, which periods have the same effect as if prescribed by law after the records retention schedule is adopted as a rule of the commission.

Local Schedule PS sets mandatory minimum retention periods for records series (identified in the Records Series Title column) commonly found in law enforcement agencies, fire departments and rural fire prevention districts, emergency medical departments, emergency communications agencies and districts, county medical examiner departments, county and district attorneys offices, and community supervision and corrections departments. In addition to counties and cities, this

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schedule should also be used by other local governments, such as junior college districts and river authorities, who employ law enforcement officers or fire fighting personnel. If the retention period for a record is established in a federal or state law, rule of court, or regulation, a citation to the relevant provision is given; if no citation is given, the authority for the retention period is this schedule.

The retention period for a record applies to the record regardless of the medium in which it is maintained. Some records listed in this schedule are maintained electronically in many offices, but electronically stored data used to create in any manner a record or the functional equivalent of a record as described in this schedule must be retained, along with the hardware and software necessary to access the data, for the retention period assigned to the record, unless backup copies of the data generated from electronic storage are retained in paper or on microfilm for the retention period.

Unless otherwise stated, the retention period for a record is in calendar years from the date of its creation. The retention period, again unless otherwise noted, applies only to an official record as distinct from convenience or working copies created for informational purposes. Where several copies are maintained, each local government should decide which shall be the official record and in which of its divisions or departments it will be maintained. Local governments in their records management programs should establish policies and procedures to provide for the systematic disposal of copies.

If a record described in this schedule is maintained in a bound volume of a type in which pages are not designed to be removed, the retention period, unless otherwise stated, dates from the date of last entry.

If two or more records listed in this schedule are maintained together by a local government and are not severable, the combined record must be retained for the length of time of the component with the longest retention period. A record whose minimum retention period on this schedule has not yet expired and is *less than permanent* may be disposed of if it has been so badly damaged by fire, water, or insect or rodent infestation as to render it unreadable, or if portions of the information in the record have been so thoroughly destroyed that remaining portions are unintelligible. If the retention period for the record is *permanent* on this schedule, authority to dispose of the damaged record must be obtained from the director and librarian of the Texas State Library. The Request for Authority to Destroy Unscheduled Records (Form SLR 501) should be used for this purpose.

Requests for Authority to Destroy Unscheduled Records (SLR 501), whose submission to the director and librarian of the Texas State Library is required by the Local Government Code, Section 203.045, need not be filed for records shown as exempt from the requirement.

Certain records listed in this schedule are assigned the retention period of AV (as long as administratively valuable). This retention period affords local governments the maximum amount of discretion in determining a specific retention period for the record described. Although AV may be used as a retention period on a records control schedule of a local government, it is in the

best interests of any records management program that fixed retention periods be assigned for each records series. AV records tend to accumulate and go unmanaged.

### **Amendment Notice**

**An item number that is preceded by an asterisk (\*) indicates either that the retention period or the description of the record series has been changed from that which appeared in the edition of Local Schedule PS, effective November 1, 1994, or the records series is new to this schedule. An asterisk is also used before a retention note that has been amended or added at the beginning of the schedule or any of its parts or sections. Changes to legal citations or non-substantive editorial changes are not noted.**

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Section 4-1: Fire and Emergency Medical Response Records

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Section 4-5: Miscellaneous Records

#### **Section 4-1: Fire and Emergency Medical Response Records**

**4450-01 Arson Investigation Records** - Investigative, laboratory, and insurance reports; affidavits; depositions; photographs; and similar records used to determine the cause, origin, and circumstances of fires or other incidents.

- a) Investigations in which it is determined that a fire was not caused by arson. RETENTION: Date of determination + 5 years.
- b) Investigations in which it is determined that a fire was caused by arson. RETENTION: Follow retention periods for item numbers 4125-02 or 4125-05, as applicable.

**\*4450-02 Emergency Medical Service Run Reports** - Emergency ambulance run activity reports, advanced life support report forms, and similar records pertinent to documenting the condition and treatment of sick or injured persons by emergency medical personnel. RETENTION: 6 years, 3 months from date service rendered, or until the patient's 20th birthday, whichever later.

4450-03 **Fire Record** - A log, register, consolidated daily or other periodic report, or any other form of record that provides in summary form information on each fire or other incident to which fire or emergency medical personnel have responded, including at a minimum the date, time, location, and nature of the incident. RETENTION: 2 years; or 2 years after last entry if in bound volume.

4450-04 **Incident Reports** - Reports, including those completed on Texfirs or other incident reporting system forms, of each fire or other incident to which a fire fighting or other fire agency unit has responded, detailing the type of incident, units responding, action taken, equipment used, and other pertinent data. RETENTION: 5 years.

#### **Section 4-2: Fire Prevention and Inspection Records**

##### **4475-01 Alarm Permits and Associated Documentation**

- a) Installation certificates for fire detection and fire alarm devices or systems filed with fire agencies by rule (37 TAC 531.17) of the Texas Commission on Fire Protection. RETENTION: Life of device or system.
- b) Applications for fire detection and alarm permits, copies of permits or other documentation evidencing issuance, and any inspection or evaluation reports prepared during a permit period, if permits are required by local policy. RETENTION: Expiration or revocation of permit + 3 years for granted permits; date of denial + 1 year for denied permits. (Documentation on denied permits is exempt from destruction request to the Texas State Library.)

##### **4475-02 Automatic Sprinkler System Permits and Associated Documentation**

- a) Automatic sprinkler material and test certificates filed with fire agencies by rule (37 TAC 541.16) of the Texas Commission on Fire Protection. RETENTION: Life of system.
- b) Applications for automatic sprinkler system permits, copies of permits or other documentation evidencing issuance, and any inspection or evaluation reports prepared during a permit period, if permits are required by local policy. RETENTION: Expiration or revocation of permit + 3 years for granted permits; date of denial + 1 year for denied permits. (Documentation on denied permits is exempt from destruction request to the Texas State Library.)

\*4475-03 **Certificates of Occupancy** - Copies of certificates of occupancy or record of their issuance used to certify final approval for the occupancy of new structures or old structures that have been remodeled to the extent that a certificate of occupancy is required by local policy. RETENTION: AV, but see retention note. (AV records are exempt from destruction request to the Texas State Library.)

**Retention Note:** In a municipality or in any other local government that has authority to certify occupancy, certificates of occupancy must be retained in accordance with item number 5250-06 in Local Schedule PW (Records of Public Works and Services), if it is the fire agency rather than a

building inspection, planning, or other department that issues the official certificate of occupancy or its equivalent.

**4475-04 Complaints** - Complaints regarding possible violations of the fire code or potential fire hazards. RETENTION: Resolution of the complaint + 3 years.

**4475-05 Controlled Burn Records** - Applications for permits for controlled burning and copies of or comparable record of permits issued. RETENTION: 1 year. (Exempt from destruction request to the Texas State Library)

**4475-06 Drill and Simulation Records** - Reports and related documentation of drills, simulations, and triage exercises conducted or participated in by fire, emergency medical, or emergency communications personnel. RETENTION: 5 years.

**4475-07 Hazardous Materials Records**

- a) Lists of names of representatives of employers and manufacturing employers knowledgeable about hazardous chemicals used or stored, facility and workplace chemical lists, and material safety data sheets (MSDS) submitted to fire chiefs under authority of Health and Safety Code, Title 6, Subtitle D. RETENTION: US. (Exempt from destruction request to the Texas State Library)

**Retention Note:** When it is known with reasonable certainty that an employer or manufacturing employer has ceased business and that hazardous chemicals have been removed from the place of former business, the records listed in (a) may be disposed of and are exempt from the destruction notice requirement.

- b) Applications, copies of permits or documentation evidencing issuance, and pertinent supplemental documentation relating to the issuance of permits for the sale, use, storage, manufacture, or transport of flammable, corrosive, explosive, or other hazardous materials and chemicals as may be required by local policy. RETENTION: Expiration or revocation of permit + 3 years for granted permits; 1 year for denied permits. (Denied permits are exempt from destruction request to the Texas State Library.)

**4475-08 Inspection Reports and Logs** - Documentation concerning the inspection of structures and other property by fire agency personnel for fire hazards, conformity with codes and regulations, and for such other reasons permitted by state law or local policy.

- a) Inspection reports of commercial, mercantile, and industrial structures; day care centers and foster homes; hospitals and nursing homes; schools; and other structures or property whose periodic inspection is required by state law or local policy. RETENTION: US + 3 years, but see retention note.
- b) Inspection reports on an as-needed basis of any structure or property whose periodic inspection is not required by state law or local policy. RETENTION: 3 years.

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- c) Inspection reports of private residences done as part of fire prevention and safety programs. RETENTION: AV. (Exempt from destruction request to the Texas State Library)
- d) Logs or similar records, arranged by date, address, or name of inspector, listing inspections carried out by the agency. RETENTION: 3 years.
- e) Master card or comparable record on each structure described in (a) providing the location and description of the property and containing summary data on inspections and code violations. RETENTION: Life of structure.

**Retention Note:** If a master record is not maintained, then the inspection reports described in (a) must be maintained for the life of the structure.

#### 4475-09 Notification of Violations Records

- a) Copies of notifications sent or given to the owner, agent, or occupant of a structure or property to correct a violation found during an inspection, including documentation verifying that the violation has been corrected. RETENTION: Verification of correction + 3 years.

**Retention Note:** Verification of correction means the date of a follow-up inspection or the receipt of documentation, sufficient in terms of local policy, showing proof of correction.

- b) Records relating to the certification of a structure as substandard. RETENTION: Verification that structure has been brought up to code + 3 years or until demolition + 3 years, as applicable.

**4475-10 Plan Review Records** - Documentation relating to the review of construction plans by fire agency personnel as may be required by local policy. RETENTION: AV. (Exempt from destruction request to the Texas State Library)

**4475-11 Pre-Fire Planning Records** - Planning and survey reports, building plans, and similar records of individual structures or building complexes used to plan fire fighting strategies. RETENTION: US or AV, as applicable. (Exempt from destruction request to the Texas State Library)

### **Section 4-3: Apparatus and Equipment Records**

**Retention Note:** For aircraft and vehicle maintenance records see Section 1-2 of this schedule.

#### 4500-01 Alarm and Hydrant Records

- a) Reports on the inspection, test, and maintenance of agency alarm and alarm boxes (including private alarms linked to department master systems) and of fire hydrants. RETENTION: US + 3 years
  - b) Inventories of alarms and hydrants, showing location, type of equipment, etc. RETENTION: US. (Exempt from destruction request to the Texas State Library)
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\*4500-02 **Breathing Apparatus Inspection Records** - Reports, as required by the Texas Commission on Fire Protection, of the inspection and testing of self-contained breathing apparatus, including reports of all tests required by the commission. RETENTION: 3 years. [By regulation - 37 TAC 435.3(6).]

**4500-03 Protective Clothing Records**

- a) Daily or other periodic reports on the inspection of protective clothing. RETENTION: 3 years.
- b) Inventories of protective clothing. RETENTION: US. (Exempt from destruction request to the Texas State Library)

4500-04 **Texas Commission on Fire Protection Records** - Copies of inspection and follow-up inspection reports by inspectors of the Texas Commission on Fire Protection, including notices of non-compliance with commission standards. RETENTION: 5 years.

**Section 4-4: Training Records**

Retention Note: This part supplements and should be used in conjunction with Part 3 of Local Schedule GR (Records Common to All Governments).

4525-01 **Emergency Medical Service Training Records** - Records relating to the training (including continuing education) of emergency medical personnel sufficient to document who was trained and when, in what subject, and by whom; scores received in academic achievement and performance tests (including copies of all written tests), and similar records of the training and achievement of individual students. RETENTION: 5 years.

**Retention Note:** It is an exception to the retention periods given in this record group, that records documenting the training and educational achievement of employees as described in item number 1050-28(a) of Local Schedule GR (Records Common to All Governments) must be retained for date of separation + 5 years for emergency medical personnel employed by the local government that conducts the training.

4525-02 **Firefighter Recruit Training Facility Records** - Records relating to recruit training, certified by the Texas Commission on Fire Protection, for structural fire, aircraft crash, and rescue personnel sufficient to document who was trained and when, in what subject, and by whom; scores received in academic achievement and performance tests (including copies of all written tests); and similar records of the training and achievement of individual students. RETENTION: 3 years. [By regulation - 37 TAC 427.13]

**Retention Note:** It is an exception to the retention periods given in this record group, that records documenting the training and educational achievement of employees as described in item number 1050-28(a) of Local Schedule GR (Records Common to All Governments) must be retained for date of separation + 5 years for fire personnel employed by the local government that operates the training facility.

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**Section 4-5: Miscellaneous Records**

4550-01 **County Fire Marshal Expense and Collections Reports** - Annual, monthly, or other periodic reports to the commissioners court or the county auditor of office expenses incurred or of fines, costs, judgments, claims, and commissions collected for the county. RETENTION: AV. (Exempt from destruction request to the Texas State Library)