National Fire Incident Reporting System: Program Management

NFIRS: PM-Student Manual

5th Edition, 2nd Printing-June 2016

FEMA

FEMA/USFA/NFA
NFIRS: PM-SM
June 2016
5th Edition, 2nd Printing

National Fire Incident Reporting System: Program Management

FEMA

National Fire Incident Reporting System: Program Management

NFIRS: PM-Student Manual

5th Edition, 2nd Printing-June 2016

FEMA

This page intentionally left blank.

TABLE OF CONTENTS

This page intentionally left blank.

ACKNOWLEDGMENTS

The development of any National Fire Academy (NFA) course is a complex process aimed at providing students with the best possible learning opportunity we can deliver.

There are many players in course development, each of whom plays an equally important part in its success. We want to acknowledge their participation and contribution to this effort and extend our heartfelt thanks for making this quality product.

The following people participated in the creation of this course:

Colleen Heilig, Training Specialist
Leadership and Fire Risk Reduction Branch
U.S. Fire Administration, National Fire Academy
Emmitsburg, Maryland

Stacey Harmon, Instructional Systems Specialist/Contracting Officer's Representative
Leadership and Fire Risk Reduction Branch
U.S. Fire Administration, National Fire Academy
Emmitsburg, Maryland

Karen Kent, Program Manager
Advanced Technical and Educational Consultants, Inc.
Emmitsburg, Maryland

Shelly Kent, Instructional Systems Specialist
Advanced Technical and Educational Consultants, Inc.
Emmitsburg, Maryland

James Horton, Ph.D., Subject Matter Expert
Fort Worth, Texas

Virginia Garza, Subject Matter Expert
Austin, Texas

Kevin Lundy, Subject Matter Expert
Gulfport, Mississippi

This page intentionally left blank.

COURSE GOAL

The course goal is to enable students to use the National Fire Incident Reporting System (NFIRS) with evolving technologies to assist the fire service and information partners in making better data-driven decisions that address fire and life safety issues.

AUDIENCE, SCOPE AND COURSE PURPOSE

This course is for a broad audience that may include a range of titles, from administrative fire officers to firefighters, information technology (IT) personnel, systems operations and management, systems administration, systems analysts, and support staff. The class is designed for individuals who analyze jurisdictional data and provide or use comprehensive reports. This includes chief officers who need data for planning purposes and who also are not familiar with data tools and data entry.

The NFA's computer lab is used extensively for this course. Every day of the course, students will be expected to complete a lab assignment during the class time set aside for lab work. Skills learned during the lab will be applied to the student's own jurisdiction's data, with the ultimate outcome being an individual "action plan." Labs include:

- The Summary Output Reports Tool (SORT).
- The Federal Client Tool (FCT), administering user accounts and the Data Dictionary.
- Importing into Excel and creating PivotTables.
- Charting and graphing techniques.
- Mapping incidents and resources.

Class activities require knowledge of NFIRS coding, as well as familiarity with Microsoft Excel and individual state systems, which can be obtained by completing the pre-course assignment. Students will be directed in the Admissions Acceptance Letter to access the pre-course information and contact the NFIRS state program manager four weeks prior to the start of class to obtain permission for data access for use during the training.

The course units are:

- National Fire Incident Reporting System Overview.
- Incident Reporting.
- National Fire Incident Reporting System Modules.
- Data Analysis and the Decision-Making Process.
- Managing the National Fire Incident Reporting System.
- Action/Analysis Plan.
- Course Project.

At the end of this training, students will be able to:

- Describe how NFIRS can have an impact on fire and life safety decisions.
- Use NFIRS to complete an accurate incident report and populate an incident database for their jurisdiction.
- Apply an analysis process using NFIRS data to identify outcomes for a decision package.
- Evaluate their jurisdiction's current NFIRS program in order to improve the quality.
- Develop an individual action plan.

This page intentionally left blank.

GRADING METHODOLOGY

Quizzes

- Quiz 1 on Pre-Course.
- Quiz 2 on Unit 1.
- Quiz 3 on Unit 2.
- Quiz 4 on Unit 3.
- Quiz 5 on Unit 4.

Final Exam

Graded Lab Activities

- Activity 1.4: Using the Summary Output Reports Tool.
- Activity 2.4: Installation and Setup of Federal Client Tool.
- Activity 3.3: Managing Errors With Excel.
- Activity 3.4: Using PivotTable Templates.
- Activity 4.2: The PivotTable Analysis Process.
- Activity 4.3: Presenting Your Findings — Charting and Graphing Techniques.
- Activity 4.4: Mapping Incidents and Resources.
- Activity 6.1: Action/Analysis Plan.

Participation in Course Project

Long-Term Evaluation

Sign up, and complete the questionnaire. Students and supervisors both complete the questionnaire.

This page intentionally left blank.

SCORING RUBRICS

Each student will be scored on each of the following graded activities according to the scoring rubric. Activities are weighted differently because of their level of difficulty and the amount of time that is required for students to accomplish the course objectives associated with the activities.

- Activity 1.4: Using the Summary Output Reports Tool.
- Activity 2.4: Installation and Setup of Federal Client Tool.
- Activity 3.3: Managing Errors With Excel.
- Activity 3.4: Using PivotTable Templates.
- Activity 4.2: The PivotTable Analysis Process.
- Activity 4.3: Presenting Your Findings — Charting and Graphing Techniques.
- Activity 4.4: Mapping Incidents and Resources.
- Activity 6.1: Action/Analysis Plan.

This page intentionally left blank.

ACTIVITY 1.4 SCORING RUBRIC

Name: _____

Unit	Activity Number	Activity Title	Activity Time	Objectives
1	1.4	Using the Summary Output Reports Tool	60 min.	Provide students instruction and hands-on experience working with the Web-based reporting tool to create reports of interest to the jurisdiction. Use their NFIRS user account to generate a variety of summary reports from their online NFIRS data.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

This page intentionally left blank.

ACTIVITY 2.4 SCORING RUBRIC

Name: _____

Unit	Activity Number	Activity Title	Activity Time	Objective
2	2.4	Installation and Setup of Federal Client Tool	95 min.	Use the Federal Client Tool (FCT) to manage NFIRS user accounts and import data.

Scoring Rubric

0	Student did not attempt this task.
2	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
4	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
6	Student completed this task and attained the desired results.

This page intentionally left blank.

ACTIVITY 3.3 SCORING RUBRIC

Name: _____

Unit	Activity Number	Activity Title	Activity Time	Objective
3	3.3	Managing Errors With Excel	40 min.	Provide students a process to view and manage errors generated during a data transaction file import into the FCT using Excel.

Scoring Rubric

0	Student did not attempt this task.
2	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
4	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
6	Student completed this task and attained the desired results.

This page intentionally left blank.

ACTIVITY 3.4 SCORING RUBRIC

Name: _____

Unit	Activity Number	Activity Title	Activity Time	Objectives
3	3.4	Using PivotTable Templates	40 min.	Run the Pivot_NFIRS_PM query tool in Access on your own NFIRS data. Gain the knowledge and skills necessary for you to integrate the PivotTable Template with your own NFIRS data.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

This page intentionally left blank.

ACTIVITY 4.2 SCORING RUBRIC

Name: _____

Unit	Activity Number	Activity Title	Activity Time	Objective
4	4.2	The PivotTable Analysis Process	40 min.	Construct a PivotTable view to analyze complex multidimensional fire service problems.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

This page intentionally left blank.

ACTIVITY 4.3 SCORING RUBRIC

Name: _____

Unit	Activity Number	Activity Title	Activity Time	Objective
4	4.3	Presenting Your Findings — Charting and Graphing Techniques	60 min.	Construct a graph using proper guidelines to support the analysis of a problem or question.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

This page intentionally left blank.

ACTIVITY 4.4 SCORING RUBRIC

Name: _____

Unit	Activity Number	Activity Title	Activity Time	Objective
4	4.4	Mapping Incidents and Resources	60 min.	Use Microsoft Excel to conduct geospatial incident mapping and fire data analysis.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

This page intentionally left blank.

ACTIVITY 6.1 SCORING RUBRIC

Name: _____

Unit	Activity Number	Activity Title	Activity Time	Objectives
6	6.1	Action/Analysis Plan	180 min.	Develop an analysis plan to address a problem or question in your organization. Develop a PivotTable using extracted NFIRS data to support the analysis plan.

Scoring Rubric

0	Student did not attempt this task.
2	Student attempted the Analysis Plan but did not demonstrate the knowledge and skill to complete it.
4	Student demonstrated the knowledge and skill necessary to complete the Analysis Plan but was unable to finish.
6	Student completed the Analysis Plan and attained the desired results.
8	Student completed the Analysis Plan and the PivotTable using extracted NFIRS data.
9	Student completed the Analysis Plan and the PivotTable using extracted NFIRS data, and the extracted data clearly supports the Analysis Plan.

This page intentionally left blank.

COURSE EVALUATION PLAN

Summary Evaluation Plan and Scoring Sheet

The summary evaluation plan of the R0491 "National Fire Incident Reporting System: Program Management" (NFIRS: PM) course is as follows:

Assessment Tool	**Assignment**	**Point Score**	% of Final Grade	**Weighted Point Score Toward Final Grade**
1	Quiz 1 on Pre-Course		5%	
2	Quiz 2 on Unit 1		5%	
3	Quiz 3 on Unit 2		5%	
4	Quiz 4 on Unit 3		5%	
5	Quiz 5 on Unit 4		5%	
6	Activity 1.4: Using the Summary Output Reports Tool		3%	
7	Activity 2.4: Installation and Setup of Federal Client Tool		6%	
9	Activity 3.3: Managing Errors With Excel		6%	
10	Activity 3.4: Using PivotTable Templates		3%	
11	Activity 4.2: The PivotTable Analysis Process		3%	
12	Activity 4.3: Presenting Your Findings — Charting and Graphing Techniques		3%	
13	Activity 4.4: Mapping Incidents and Resources		3%	
14	Activity 6.1: Action/Analysis Plan		9%	
15	Final Exam		39%	
		Final Course Grade	100%	**___/100%**

To successfully complete the course, a minimum of 70 percent must be achieved. (A letter grade of "C" is required.) Enter the student's score in the Course Grade Record.

Numerical Score	Letter Grade
100-90	A
89-80	B
79-70	C
69 and below	F

SCHEDULE

TIME	DAY 1	DAY 2
8:00 - 9:00	Introduction, Welcome and Administrative	Quiz 2 on Unit 1 Unit 2: Incident Reporting
9:00 - 9:10	*Break*	*Break*
9:10 - 10:40	Unit 1: National Fire Incident Reporting System Overview Activity 1.1: Introductions	Unit 2: Incident Reporting (cont'd) Activity 2.1: National Fire Incident Reporting System Benefits Activity 2.2: Conquering the "Unknowns" — National Association of State Fire Marshals
10:40 - 10:50	*Break*	*Break*
10:50 - 12:00	Unit 1: National Fire Incident Reporting System Overview (cont'd) Quiz 1 on Pre-Course	Unit 2: Incident Reporting (cont'd)
12:00 - 1:00	*Lunch Break*	*Lunch Break*
1:00 - 2:15	Unit 1: National Fire Incident Reporting System Overview (cont'd) Activity 1.2: National Fire Incident Reporting System Management Functions	Unit 2: Incident Reporting (cont'd) Activity 2.3: Open Top Tank Explosion
2:15 - 2:30	*Break*	*Break*
2:30 - 5:00	Unit 1: National Fire Incident Reporting System Overview (cont'd) Lab Activity 1.3: National Fire Incident Reporting System Resources Lab Activity 1.4: Using the Summary Output Reports Tool	Unit 2: Incident Reporting (cont'd) Lab Activity 2.4: Installation and Setup of Federal Client Tool

Day 1 Homework:
Study for Quiz

Day 2 Homework:
A. Icebreaker at Pub
B. Study for Quiz

TIME	DAY 3	DAY 4
8:00 - 9:00	Quiz 3 on Unit 2 Unit 3: National Fire Incident Reporting System Modules	Quiz 4 on Unit 3 Unit 4: Data Analysis and the Decision-Making Process
9:00 - 9:10	*Break*	*Break*
9:10 - 10:20	Unit 3: National Fire Incident Reporting System Modules (cont'd) Activity 3.1: How Many Incidents, How Many Exposures, How Many Modules	Unit 4: Data Analysis and the Decision-Making Process (cont'd) Activity 4.1: Data and Decision-Making
10:20 - 10:30	*Break*	*Break*
10:30 - 12:00	Unit 3: National Fire Incident Reporting System Modules (cont'd)	Unit 4: Data Analysis and the Decision-Making Process (cont'd)
12:00 - 1:00	*Lunch Break*	*Lunch Break*
1:00 - 2:15	Unit 3: National Fire Incident Reporting System Modules (cont'd) Activity 3.2: Fire Scenario	Unit 4: Data Analysis and the Decision-Making Process (cont'd)
2:15 - 2:30	*Break*	*Break*
2:30 - 5:00	Unit 3: National Fire Incident Reporting System Modules (cont'd) Lab Activity 3.3: Managing Errors With Excel Lab Activity 3.4: Using PivotTable Templates	Unit 4: Data Analysis and the Decision-Making Process (cont'd) Lab Activity 4.2: The PivotTable Analysis Process Lab Activity 4.3: Presenting Your Findings — Charting and Graphing Techniques Lab Activity 4.4: Mapping Incidents and Resources

Day 3 Homework:
A. Activity 4.1: Data and Decision-Making
B. Study for Quiz

Day 4 Homework:
Study for Final Exam

TIME	DAY 5	DAY 6
8:00 - 9:00	Quiz 5 on Unit 4	Unit 7: Course Project
9:00 - 9:10	*Break*	*Break*
9:10 - 10:20	Unit 5: Managing the National Fire Incident Reporting System Activity 5.1: TurningPoint Exercise	Lab Activity 7.1: Data Analysis Course Project
10:20 – 10:30	*Break*	*Break*
10:30 - 12:00	Final Exam	Lab Activity 7.1: Data Analysis Course Project (cont'd)
12:00 - 1:00	*Lunch Break*	*Lunch Break*
1:00 - 2:15	Unit 6: Action/Analysis Plan	Lab Activity 7.1: Data Analysis Course Project (cont'd)
2:15 - 2:30	*Break*	*Break*
2:30 - 5:00	Unit 6: Action/Analysis Plan Activity 6.1: Action/Analysis Plan	Course Wrap Up Graduation

This page intentionally left blank.

FIREFIGHTER CODE OF ETHICS

Background

The Fire Service is a noble calling, one which is founded on mutual respect and trust between firefighters and the citizens they serve. To ensure the continuing integrity of the Fire Service, the highest standards of ethical conduct must be maintained at all times.

Developed in response to the publication of the Fire Service Reputation Management White Paper, the purpose of this National Firefighter Code of Ethics is to establish criteria that encourages fire service personnel to promote a culture of ethical integrity and high standards of professionalism in our field. The broad scope of this recommended Code of Ethics is intended to mitigate and negate situations that may result in embarrassment and waning of public support for what has historically been a highly respected profession.

Ethics comes from the Greek word ethos, meaning character. Character is not necessarily defined by how a person behaves when conditions are optimal and life is good. It is easy to take the high road when the path is paved and obstacles are few or non-existent. Character is also defined by decisions made under pressure, when no one is looking, when the road contains land mines, and the way is obscured. As members of the Fire Service, we share a responsibility to project an ethical character of professionalism, integrity, compassion, loyalty and honesty in all that we do, all of the time.

We need to accept this ethics challenge and be truly willing to maintain a culture that is consistent with the expectations outlined in this document. By doing so, we can create a legacy that validates and sustains the distinguished Fire Service institution, and at the same time ensure that we leave the Fire Service in better condition than when we arrived.

FIREFIGHTER CODE OF ETHICS

I understand that I have the responsibility to conduct myself in a manner that reflects proper ethical behavior and integrity. In so doing, I will help foster a continuing positive public perception of the fire service. Therefore, I pledge the following…

- Always conduct myself, on and off duty, in a manner that reflects positively on myself, my department and the fire service in general.
- Accept responsibility for my actions and for the consequences of my actions.
- Support the concept of fairness and the value of diverse thoughts and opinions.
- Avoid situations that would adversely affect the credibility or public perception of the fire service profession.
- Be truthful and honest at all times and report instances of cheating or other dishonest acts that compromise the integrity of the fire service.
- Conduct my personal affairs in a manner that does not improperly influence the performance of my duties, or bring discredit to my organization.
- Be respectful and conscious of each member's safety and welfare.
- Recognize that I serve in a position of public trust that requires stewardship in the honest and efficient use of publicly owned resources, including uniforms, facilities, vehicles and equipment and that these are protected from misuse and theft.
- Exercise professionalism, competence, respect and loyalty in the performance of my duties and use information, confidential or otherwise, gained by virtue of my position, only to benefit those I am entrusted to serve.
- Avoid financial investments, outside employment, outside business interests or activities that conflict with or are enhanced by my official position or have the potential to create the perception of impropriety.
- Never propose or accept personal rewards, special privileges, benefits, advancement, honors or gifts that may create a conflict of interest, or the appearance thereof.
- Never engage in activities involving alcohol or other substance use or abuse that can impair my mental state or the performance of my duties and compromise safety.
- Never discriminate on the basis of race, religion, color, creed, age, marital status, national origin, ancestry, gender, sexual preference, medical condition or handicap.
- Never harass, intimidate or threaten fellow members of the service or the public and stop or report the actions of other firefighters who engage in such behaviors.
- Responsibly use social networking, electronic communications, or other media technology opportunities in a manner that does not discredit, dishonor or embarrass my organization, the fire service and the public. I also understand that failure to resolve or report inappropriate use of this media equates to condoning this behavior.

Developed by the National Society of Executive Fire Officers

A Student Guide to End-of-course Evaluations

Say What You Mean ...

Ten Things You Can Do to Improve the National Fire Academy

The National Fire Academy takes its course evaluations very seriously. Your comments and suggestions enable us to improve your learning experience.

Unfortunately, we often get end-of-course comments like these that are vague and, therefore, not actionable. We know you are trying to keep your answers short, but the more specific you can be, the better we can respond.

Actual quotes from student evaluations:	Examples of specific, actionable comments that would help us improve the course:
1 "Update the materials."	• The (ABC) fire video is out-of-date because of the dangerous tactics it demonstrates. The available (XYZ) video shows current practices. • The student manual references building codes that are 12 years old.
2 "We want an advanced class in (fill in the blank)."	• We would like a class that enables us to calculate energy transfer rates resulting from exposure fires. • We would like a class that provides one-on-one workplace harassment counseling practice exercises.
3 "More activities."	• An activity where students can physically measure the area of sprinkler coverage would improve understanding of the concept. • Not all students were able to fill all ICS positions in the exercises. Add more exercises so all students can participate.
4 "A longer course."	• The class should be increased by one hour per day to enable all students to participate in exercises. • The class should be increased by two days so that all group presentations can be peer evaluated and have written abstracts.
5 "Readable plans."	• The plans should be enlarged to 11 by 17 and provided with an accurate scale. • My plan set was blurry, which caused the dotted lines to be interpreted as solid lines.
6 "Better student guide organization," "manual did not coincide with slides."	• The slide sequence in Unit 4 did not align with the content in the student manual from slides 4-16 through 4-21. • The instructor added slides in Unit 4 that were not in my student manual.
7 "Dry in spots."	• The instructor/activity should have used student group activities rather than lecture to explain Maslow's Hierarchy. • Create a pre-course reading on symbiotic personal relationships rather than trying to lecture on them in class.
8 "More visual aids."	• The text description of V-patterns did not provide three-dimensional views. More photographs or drawings would help me imagine the pattern. • There was a video clip on NBC News (date) that summarized the topic very well.
9 "Re-evaluate pre-course assignments."	• The pre-course assignments were not discussed or referenced in class. Either connect them to the course content or delete them. • The pre-course assignments on ICS could be reduced to a one-page job aid rather than a 25-page reading.
10 "A better understanding of NIMS."	• The instructor did not explain the connection between NIMS and ICS. • The student manual needs an illustrated guide to NIMS.

This page intentionally left blank.

UNIT 1: NATIONAL FIRE INCIDENT REPORTING SYSTEM OVERVIEW

TERMINAL OBJECTIVE

The students will be able to:

1.1 Describe how the National Fire Incident Reporting System (NFIRS) can have an impact on fire and life safety decisions.

ENABLING OBJECTIVES

The students will be able to:

1.1 Describe NFIRS and how NFIRS can be used at the national, state and local levels.

1.2 Identify the roles and responsibilities for managing the NFIRS program and how these are accomplished.

1.3 Locate resources that help manage NFIRS.

1.4 Use the Web-based reporting tool to create reports of interest to the jurisdiction.

This page intentionally left blank.

UNIT 1: NATIONAL FIRE INCIDENT REPORTING SYSTEM OVERVIEW

Slide 1-1

ENABLING OBJECTIVES

- Describe the National Fire Incident Reporting System (NFIRS) and how NFIRS can be used at the national, state and local levels.
- Identify the roles and responsibilities for managing the NFIRS program and how these are accomplished.

Slide 1-2

ENABLING OBJECTIVES (cont'd)

- Locate resources that help manage NFIRS.
- Use the Web-based reporting tool to create reports of interest to the jurisdiction.

Slide 1-3

This page intentionally left blank.

ACTIVITY 1.1

Introductions

Purpose

Provide you with an opportunity to get acquainted with each other and explore course expectations.

Directions

1. Complete the questions below, be prepared to introduce yourself, and provide information on your use and experience with National Fire Incident Management System (NFIRS). (You have 10 minutes to complete the questions.)

2. The information provided will be referenced later in the course.

   a. Name _____

   b. Fire Department/State _____

   c. Title _____

   d. NFIRS function served _____

   e. What software is used in your department/state? _____

   f. Why are you taking this course? _____

   _____

   _____

   g. What are your course expectations?

   _____

   _____

   _____

   _____

h. What issues, if any, are you having collecting NFIRS data?

_____

_____

_____

_____

i. Provide a brief description of a hobby or activity that you enjoy outside of work.

_____

_____

COURSE STRUCTURE

- Daily.
  - Morning quiz.
  - Lecture/Activities.
  - Lab.
- Final exam.
- Final project.
- Action/Analysis plan.

Slide 1-5

I. QUIZ ON PRE-COURSE

II. PRE-COURSE DEBRIEF

III. NATIONAL FIRE INCIDENT REPORTING SYSTEM OVERVIEW

A. A successful NFIRS program manager strives to incorporate continuous improvement in all functions performed. This course will focus on tools to assist you in that endeavor.

DEVELOPMENT OF NATIONAL FIRE INCIDENT REPORTING SYSTEM

- "America Burning" (The Commission on Fire Prevention and Control, 1972).
- The U.S. Fire Administration (USFA) was created to evaluate the nation's fire problem.
- Established a national fire data system.

Slide 1-6

B. The publication of "America Burning" (The Commission on Fire Prevention and Control) in 1972 includes a recommendation "... that a national fire data system be established to provide a continuing review and analysis of the entire fire problem."

C. It called for creation of the U.S. Fire Administration (USFA), which 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.

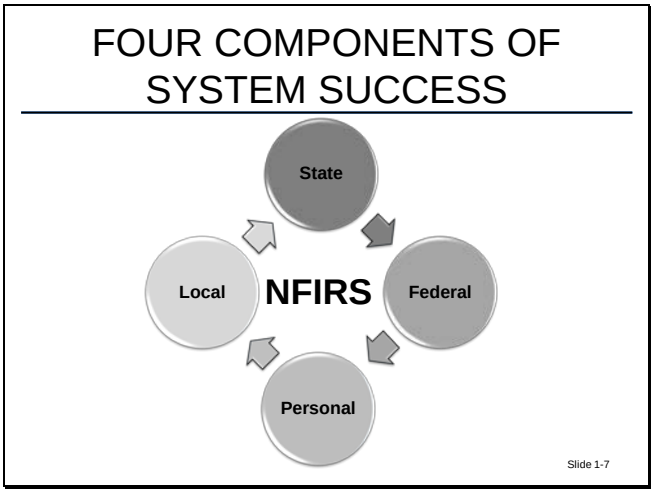
1. The program started in 1975 with the NFIRS Users Conference.

2. Version 2 software was completed between 1976 and 1978.

3. Version 3 development began in 1979.

4. Version 4 development began in 1985.

5. Version 5 occurred in 1999.



D. The success of the system is dependent on commitment at four levels.

1. Local — NFIRS success begins with the commitment of local fire departments to collect accurate data in a timely manner.

2. State — The state fire marshal, or another agency that manages NFIRS at the state level, must support the efforts of fire departments and encourage the participation of nonreporting departments.

3. Federal — The USFA and the National Fire Academy (NFA) provide NFIRS training opportunities and program support.

4. Personal — individual contribution.

a. Working at the state and local fire agency level, the NFIRS program manager is responsible for managing the system, ensuring quality reports, providing feedback to their department(s), and promoting NFIRS data use.

b. The local data champion using NFIRS data helps support fire prevention, focus training and direct funding.

c. A professional and knowledgeable clerical and administrative staff reflects a collaborative NFIRS assembly.

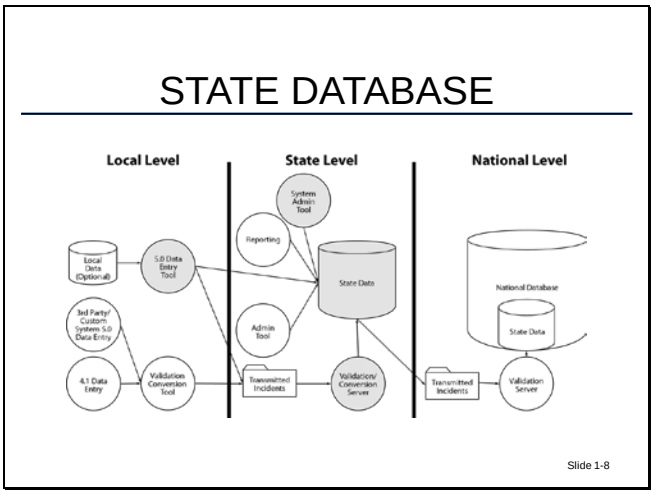
d. No matter what title you hold, to influence (and improve) NFIRS, you must understand the big picture.

E. NFIRS data at the local level:

1. Begins with initial receipt of the call by the dispatcher.

2. Company Officer (CO) and/or Incident Commander (IC) then completes the necessary report or reports when the incident ends.

3. Data entered is complete and as accurate as possible.



4. Data collection procedures can vary by state, county or fire department.

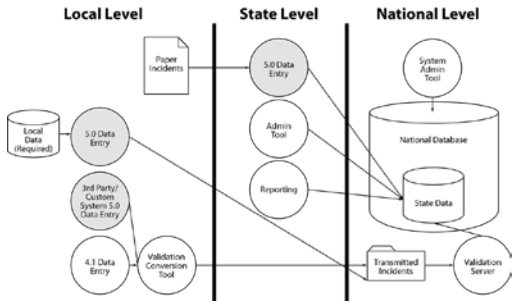
5. Reports may be submitted using third-party vendor software, the free federal NFIRS 5.0 software, paper reporting, or a combination.

6. Incident information may be kept and collected at the state level.

a. Fire departments submit their report to the state.

b. The state maintains a local database and forwards its data to the NFIRS National Database according to the established policies and procedures.

NATIONAL DATABASE



Slide 1-9

7. Or, all data is entered and processed directly into the NFIRS National Database.

   a. The state's data resides at the national level and is available to that state as requested.

   b. States may or may not hold a database copy locally.

8. Be sure you contact your state program manager or review your department's reporting policies and procedures.

9. The USFA recommends departments report on a monthly basis and encourages states to submit and release their data in a timely manner.

INCIDENT UPDATES

- Cause of the fire updates.
- Interviews with people who have been injured at the incident.
- Changes to the estimated dollar loss.
- Medical examiner or hospital follow-up reports on casualties.

Slide 1-10

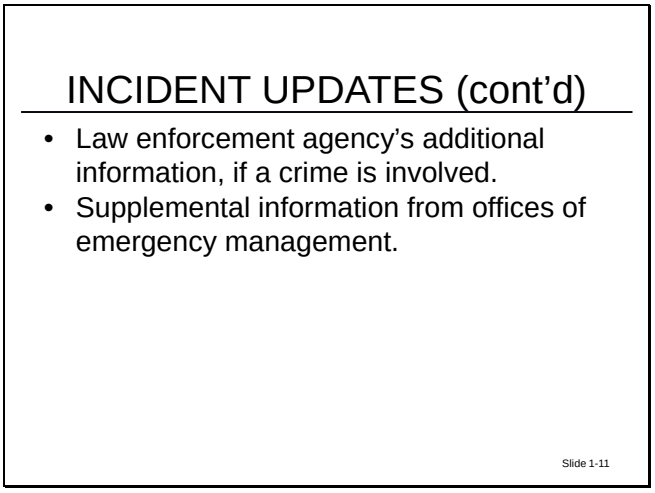
10. Incident updates and additional information on the incident can be submitted as it becomes available, such as:

    a. Cause of the fire updates.

    b. Interviews with people who have been injured at the incident.

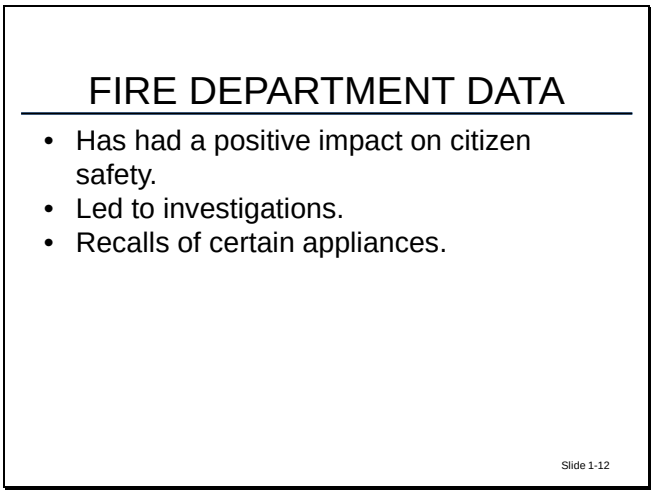
    c. Changes to the estimated dollar loss.

    d. Medical examiner or hospital follow-up reports on casualties.



    e. Law enforcement agency's additional information, if a crime is involved.

    f. Supplemental information from offices of emergency management.



11. Fire department data collection has had a positive impact on citizen safety. For example, reports of fires in consumer products have led to investigations and recalls of certain coffee makers, televisions and heating appliances.

F. NFIRS data at the state level.

SHARING YOUR DATA

Agency	Number of Stations	Department Size	Population Served	Area Served (sq. mi.)	Total Responses	90% Travel Time Fire	90% Travel Time Medical	Staffing Per Unit
Fire Department 1	41	1,164	726,284	299.2	93,139	5.11	5.30	4
Fire Department 2	30	775	563,916	151.6	67,000	7.10	6.18	4
Fire Department 3	36	844	602,672	260	88,508	5.47	6.02	3

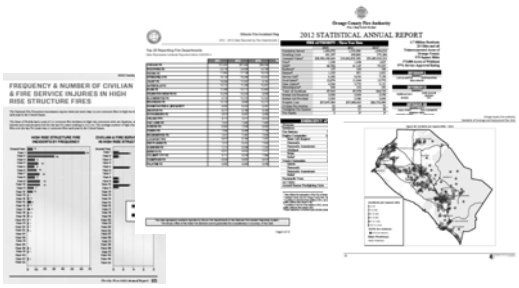
Slide 1-13

The state oversees the use and coordinates the collection of data. Data collection procedures and reporting requirements can vary by state.

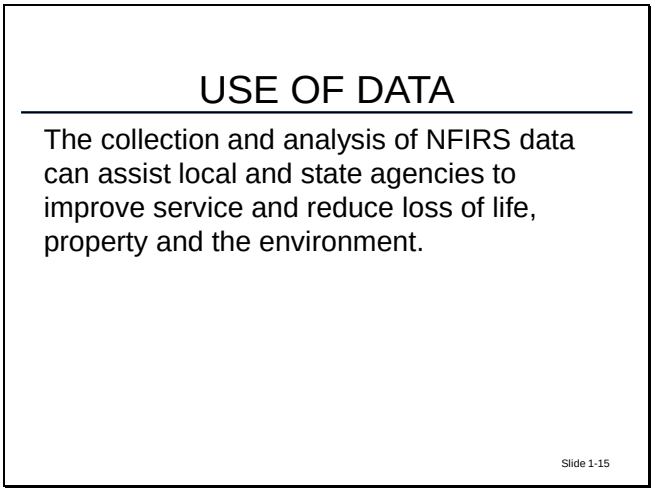
1. When data is submitted and released in a timely manner, access to this data can be a valuable asset when analyzing operations or conducting research studies.

2. The El Paso Fire Department reviewed similar sized departments and compared their resource use and response time.

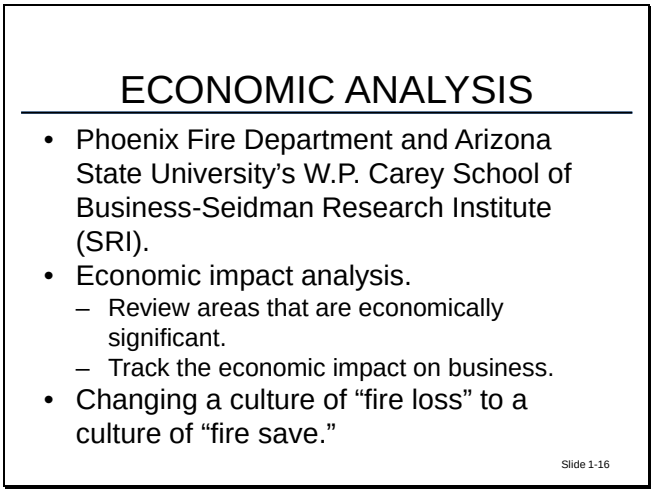
STATE AND LOCAL USE



Slide 1-14



3. The analysis of NFIRS data can serve as a valuable tool to help reduce the loss of life and property to fire.

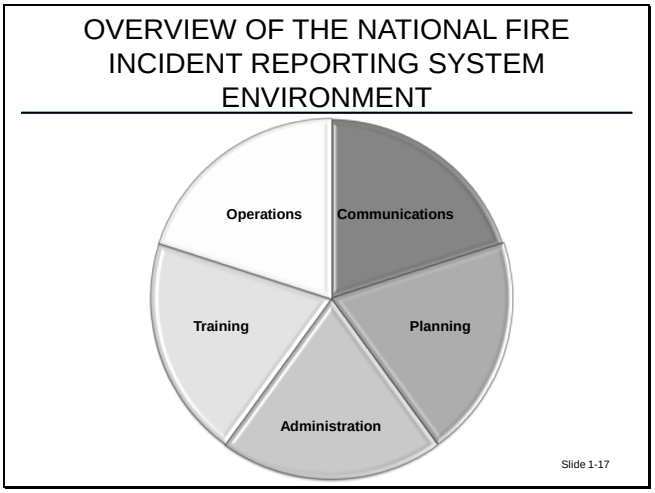


G. NFIRS data at the national level.

1. USFA makes available NFIRS data collection tools, provides oversight and funding for NFIRS, and makes NFIRS data available to those who need it.

2. The National Fire Data Center (NFDC), a branch within the USFA, coordinates and manages the collection, analysis and dissemination of NFIRS data. The NFDC encourages and assists state and local NFIRS program managers.

IV. NATIONAL FIRE INCIDENT REPORTING SYSTEM MANAGEMENT FUNCTIONS



Managing NFIRS successfully involves:

A. Planning.

B. Administration.

C. Training.

D. Operations.

E. Communications.

ACTIVITY 1.2

National Fire Incident Reporting System Management Functions

Purpose

Identify the roles and responsibilities for managing the NFIRS program and how these are accomplished.

Directions

1. Refer to your Activity Manual.

2. Complete the following NFIRS Management Functions Worksheet.

3. Identify who in your organization performs the tasks listed on the worksheet. If the tasks are not being done, make a note for future consideration to incorporate.

4. You will have 20 minutes to complete the worksheet.

5. Be prepared to share your answers with the large group.

This page intentionally left blank.

ACTIVITY 1.2 (cont'd)

National Fire Incident Reporting System Management Functions Worksheet

Communications		
Task	**Who Performs It?**	**Need to Incorporate/ Enhance**
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, the public and industry.		
Market NFIRS and NFIRS information to fire service organizations, the public, legislatures, industries and the media.		
Acquire appropriate data from the data processing shop, and compose reports in answer to requests received by agency staff, legislature, the 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 Chief Executive Officer (CEO) with current information from NFIRS data and data collected from other sources.		
Distribute/Publish standard output reports and an annual report.		
Publish reports on department/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.		

ACTIVITY 1.2 (cont'd)

National Fire Incident Reporting System Management Functions Worksheet

Administration		
Task	**Who Performs It?**	**Need to Incorporate/ Enhance**
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 quality assurance/quality control (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 the program.		
Establish guidelines/protocols for organizing the 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.		

This page intentionally left blank.

ACTIVITY 1.2 (cont'd)

National Fire Incident Reporting System Management Functions Worksheet

Planning		
Task	**Who Performs It?**	**Need to Incorporate/ Enhance**
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 district.		
Review operation of NFIRS program and develop a plan to improve areas falling short of goals.		

This page intentionally left blank.

ACTIVITY 1.2 (cont'd)

National Fire Incident Reporting System Management Functions Worksheet

Training		
Task	**Who Performs It?**	**Need to Incorporate/ Enhance**
Develop training for NFIRS data collectors.		
Train new fire departments/personnel on NFIRS data collection.		
Provide periodic refresher courses on NFIRS data 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 a 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.		
Develop software-specific training programs (Excel, PowerPoint, 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 laptops.		

This page intentionally left blank.

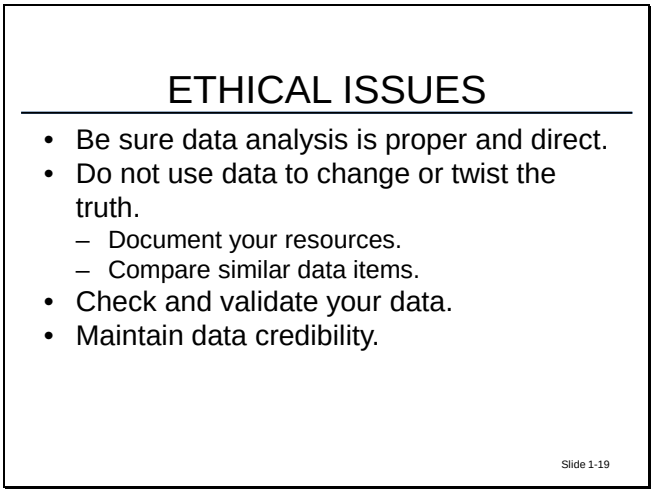
ACTIVITY 1.2 (cont'd)

National Fire Incident Reporting System Management Functions Worksheet

Operations		
Task	**Who Performs It?**	**Need to Incorporate/ Enhance**
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 commercial off-the-shelf software (COTS).		
Release data in a timely manner to USFA.		
Produce an annual report.		
Recognize NFIRS users.		
Generate standard output reports for managers.		
Generate ad hoc reports as requested.		
Review data to identify emerging trends in fire department responses.		
Review NFIRS/USFA websites for the latest news.		

This page intentionally left blank.

V. ETHICAL ISSUES



A. It is important that your application of the data analysis is proper and direct.

B. Make every attempt to ensure that data are used in a way that will not change or twist the truth.

1. Document your sources.

2. Adjust to changes in values, inflation, population and other items.

3. Compare similar data items.

a. Population (projected versus actual).

b. Value (current versus projected, actual value versus tax value).

c. Costs (purchase versus replacement).

d. Losses (current versus inflation).

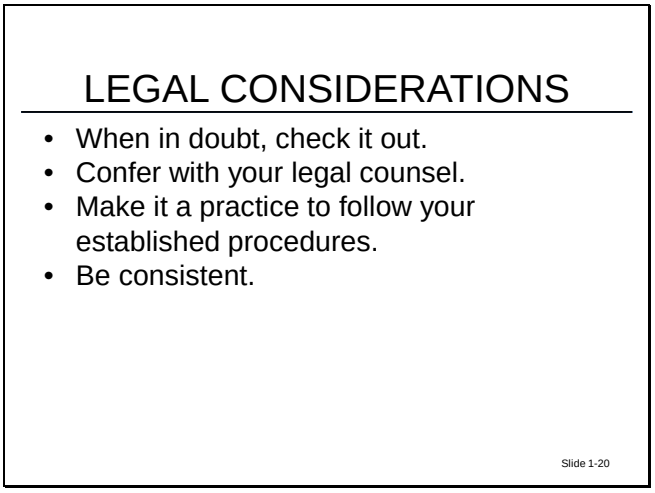
e. Incidents (volume versus rates).

C. Make every effort to check and validate your data before you display or report the information.

D. Your data is and will be reviewed and used by various parties, today and in the future.

E. Maintain credibility by practicing professional, ethical decisions.

VI. LEGAL CONSIDERATIONS



A. Confidentiality and accessibility of public records.

1. Americans are increasingly concerned about the privacy of personal data — yet more and more information is demanded for public decision-making.

2. 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.

3. 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."

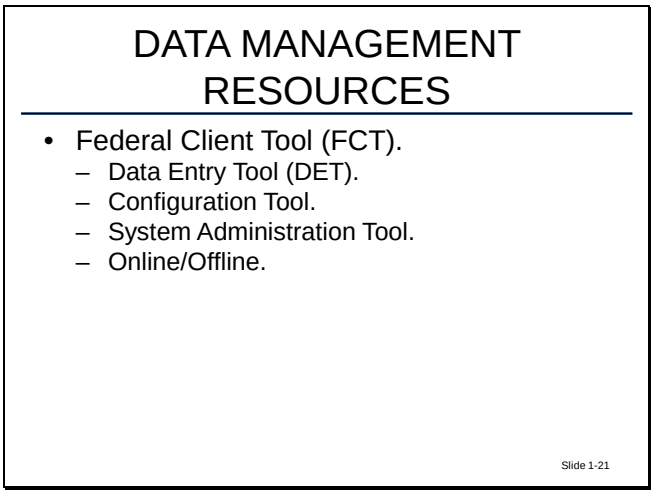
4. The Privacy Act of 1974 (PL 93-579) defines a statistical record to be "…a record in a system of records maintained by statistical research or reporting purposes only and not used in whole or in part in making any determination about an identifiable individual, except as provided by Section 9 (which authorizes certain kinds of data access, including for research activities by the Bureau of Census) of Title 13."

5. Laws protecting the confidentiality of public records vary markedly from state to state.

B. Check with your legal counsel if there is any question about disclosure and confidentiality.

C. Establish written policies and procedures and follow them. Be consistent.

VII. DATA MANAGEMENT RESOURCES

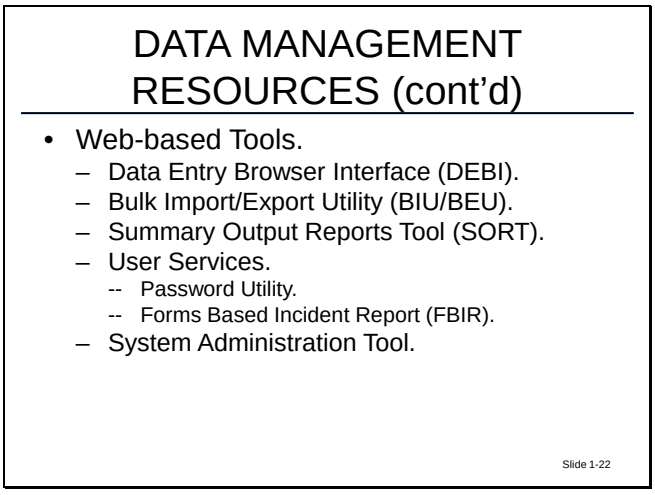


A. Federal Client Tool (FCT).

1. Data Entry Tool (DET)/Validation Tool: program for entering incidents, validating incidents, and printing incident reports.

2. Configuration Tool: program to set online/offline reporting.

3. System Administration Tool: program used to identify NFIRS 5.0 users, set up groups, and set user permissions. The user group assignment level and permissions assigned determine data access.



B. Web-based Tools.

1. Data Entry Browser Interface (DEBI): Web-based program for entering incidents, validating incidents and printing incidents.

2. Bulk Import/Export Utility (BIU/BEU): The BIU enables the automation of fire department and incident data processing into the national database. The BEU enables users to request a large amount of data to be exported from the national database.

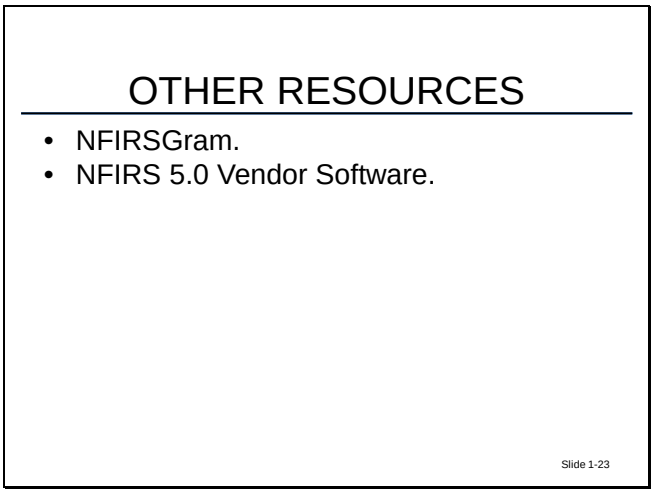
3. Summary Output Reports Tool (SORT): used to generate, retrieve and print various reports from data in the NFIRS National Database.

4. User Services.

   a. Password Utility: Manage your NFIRS user account password.

   b. Forms Based Incident Report (FBIR): Generate an incident report for a single incident or multiple incidents saved in the NFIRS National Database.

5. System Administration Tool: Manipulate incidents, fire departments or groups.



C. Coding Assistance NFIRSGram.

1. NFIRS News and Coding Bulletins.

   a. Short bulletins that provide coding help to fire department personnel using NFIRS.

b. NFIRSGrams address frequently asked questions and common mistakes made when completing incident forms.

2. Subscribe: https://public.govdelivery.com/accounts/USDHSFA/subscriber/new?pop=t&topic_id=USDHSFA_105.

D. NFIRS 5.0 Vendor Software.

1. Used in lieu of the federal NFIRS tools by many fire departments and states to capture data elements that meet their specific needs.

2. Fire departments should ensure their vendor software is maintained compatible with the latest NFIRS release. Active Vendors List: http://www.nfirs.fema.gov/system/activevendors.shtm.

3. Data exported from a vendor program is imported into a state's NFIRS database or the NFIRS National Database. Vendor NFIRS 5.0 compatible software is considered third-party software.

This page intentionally left blank.

ACTIVITY 1.3

National Fire Incident Reporting System Resources

Purpose

Locate resources that help manage NFIRS.

Directions

1. Follow along while the instructor demonstrates the various NFIRS program manager resources.

2. You will then have 20 minutes to individually complete the activity worksheet.

3. You should 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 answer.

4. You should be ready to report what you have found.

5. Worksheets will be collected at the end of the activity.

This page intentionally left blank.

ACTIVITY 1.3 (cont'd)

National Fire Incident Reporting System Resources

Demonstration

Go to https://www.usfa.fema.gov/data/nfirs/ and demonstrate how to access the following tools and explain their use.

- Documentation Section.
  - NFIRS 5.0 Complete Reference Guide.
  - Quick Start Tutorial.
  - Design documentation.
  - Software documentation.
- Training and Coding Help Section.
  - National Fire Academy's online NFIRS training.
  - Coding Question Guide.
  - NFIRS Grams.
- Reporting Guidelines Section.
- NFIRS Applications, user login, and Registration Section.
  - New User Section/login.
  - Active User Section.
  - How to download the Federal Client Tool.
  - Federal Client Tool documentation.
  - Bulk Import Utility (BIU).
  - Bulk Export Utility (BEU).
  - Report Incidents (DEBI).
  - Change Password Utility.
  - Form-Based Incident Reports (FBIR).
  - Summary Output Reports (SORT).
  - System Administration Tools.
- Vendor Information Section.
  - Active Vendor List.
  - NFIRS 5.0 software development procures section.
  - Monitoring and ensuring data quality section.
  - Help Desk.
- About NFIRS Section.

This page intentionally left blank.

ACTIVITY 1.3 (cont'd)

National Fire Incident Reporting System Resources Worksheet

1. List seven of the approved NFIRS 5.0 vendors.

2. Define and explain "Incident Type" codes.

   Definition: _____

   Explanation: _____

3. Note the number of modules and the titles of two of them.

   Number of modules: _____

   Two titles:

4. Identify the federal tool for reporting NFIRS 5.0 incidents.

Reporting tool: _____

5. Where would you find instructions to set the DET for online access?

6. Describe how to find the tutorial for using the DET.

Description: _____

7. Where would you go to run summary reports from the NFIRS National Database?

Explanation: _____

8. Provide two sources you can use to contact the NFIRS Help Desk.

Description: _____

9. Explain what NFIRSGrams are and where you get them.

Explanation: _____

10. Explain what the NFIRS Coding Questions Guide is and where you can find it online.

Explanation: _____

VIII. GENERATING SUMMARY REPORTS

GENERATING SUMMARY REPORTS

Generating and distributing summary and statistical calculations from your NFIRS data.

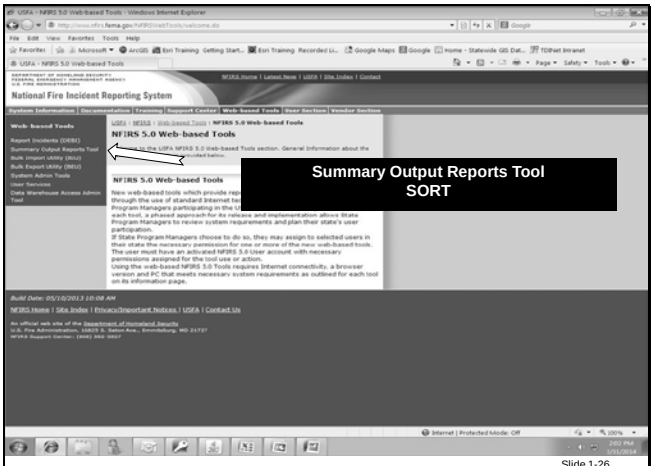
Slide 1-25

A. Generating and distributing summary and statistical calculations from your NFIRS data.

B. Communication is essential in managing NFIRS.

1. Generating useful information from your data and disseminating that information helps support participation and maintain dependable data.

2. The NFIRS 5.0 Web-based reports use actuate information delivery technology to provide registered users with access to summary and statistical information from fire departments and incident data saved to the national database.



Slide 1-26

C. USFA SORT.

1. Can be used to run summary reports from NFIRS data that have been submitted to the USFA NFIRS 5.0 National Database.

2. States participate in NFIRS in a variety of ways. Be sure to check with your state program manager and ensure your data is in the national database.

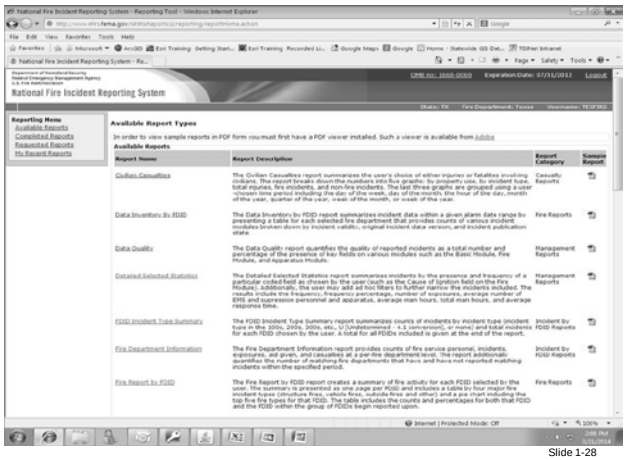
D. SORT.

1. SORT is one of the Web-based reporting tools available through the USFA website.

2. Only what is in the national database is available.

3. User accounts are set up by each state and may have different rules. Not all states allow user accounts.

4. State program managers should be sure to release their incidents in a timely manner so that all data is available when a report is generated.



5. Reports available.

   a. Various reports are available. A short description is posted along with a sample of the report in PDF format.

   b. It is recommended that users have access to or are familiar with NFIRS 5.0 codes before running their reports. The NFIRS 5.0 Complete Reference Guide can serve as a reference.

   c. Reports can help address data validation and quality issues.

6. Detailed reports.

   a. For more detailed reports, you have choices by using the Select Coded Field or the Ad hoc section.

   b. Both choices may not be available on all report types.

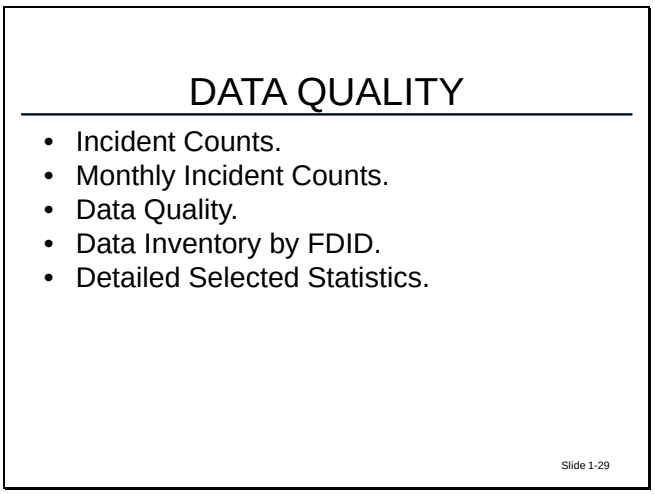
   c. Be sure you review and understand your codes before choosing your fields and parameters.

7. The Coded Field will be used to group the output of the report (i.e., incidents will be summarized at the level of the selected Coded Field).

   a. A pair of drop-down list boxes provides the user with the capability to select a Coded Field for the report.

   b. The first list box contains the various NFIRS 5.0 Modules.

   c. A selection of a module from this list box will repopulate the list box on the right with the Coded Field available for the selected NFIRS 5.0 Module.



E. Data quality.

1. Generate reports periodically to help review your data for accuracy and reliability.

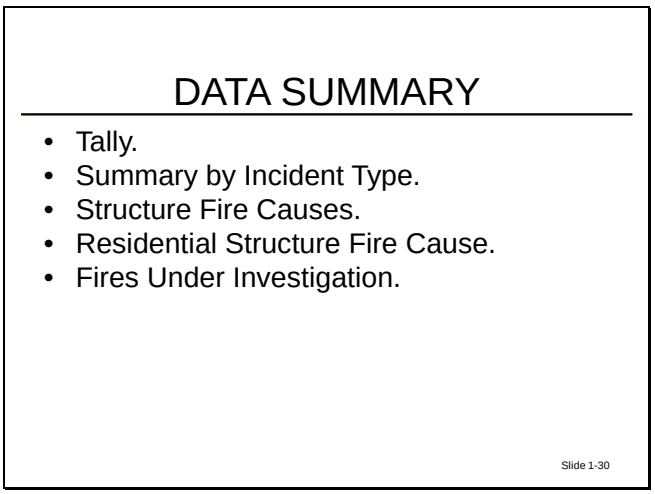
2. The Incident Counts report is a one-page summary of totals broken down by validity status, release status, exposure type, mutual-aid flag and general Incident Type. Incident release procedures should be addressed in your standard operating procedure (SOP).

3. Monthly Incident Counts report provides a monthly incident count, per fire department. Review for timely and complete fire department reporting status.

4. Data Quality report can be used to review key fields for missing data elements. Use to identity coding training or data reliability.

5. Data Inventory by FDID report provides counts of various incident modules, broken down by incident validity, for each fire department.

6. Detailed Selected Statistics report summarizes incidents by the presence and frequency of a particular coded field.



F. Data summary reports.

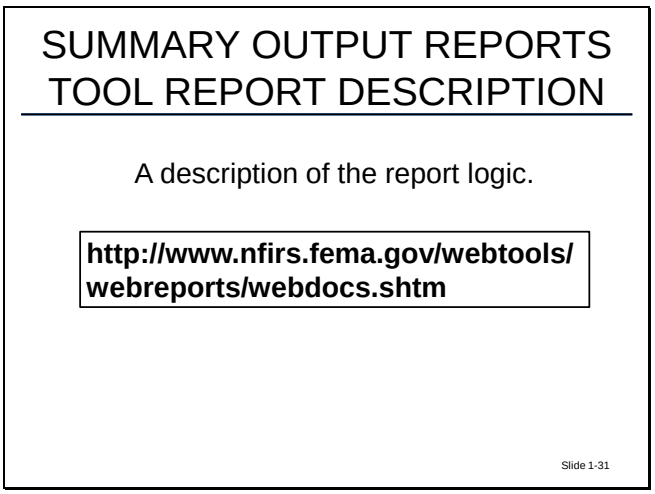
1. The Tally report lists several counts and percentages for a selected set of incidents that includes the frequency of occurrence, casualties and dollar loss.

2. The Summary by Incident Type report is a table of incidents categorized by general incident type. **May be generated and distributed to departments on an annual basis.**

3. The Structure Fire Causes report summarizes structure fires by cause in accordance with USFA's established Cause Category Methodology Matrix.

4. The Residential Structure Fire Incidents by Fire Cause Category report summarizes fire incidents in residential structures.

5. The Fires Under Investigation report provides a listing of the fire incidents with the cause of ignition coded as "under investigation." Encourage departments to update causes when available.



G. SORT report description.

1. A detailed description of the SORT report logic is available online.

2. A description of the report logic for each available Web-based report, including a report description, overviews of its Structured Query Language (SQL), field listings, and field calculation logic.

3. http://www.nfirs.fema.gov/webtools/webreports/webdocs.shtm.

ACTIVITY 1.4

Using the Summary Output Reports Tool

Purpose

Provide instruction and hands-on experience working with the Web-based reporting tool to create reports of interest to the jurisdiction.

Use your NFIRS user account to generate a variety of summary reports from your online NFIRS data.

Directions

1. Refer to your Lab Manual.

2. In this lab you will generate, retrieve and print the following reports for your department/ state for the latest year of complete data by following the step-by-step directions on the Student Activity Worksheet (SAW) pages. Be sure to include your name on each report.

   a. Report A: Summary by Incident Type.

   b. Report B: Tally.

      - Run by heat source for all structure fires in one- or two-family dwellings.

3. Submit completed reports.

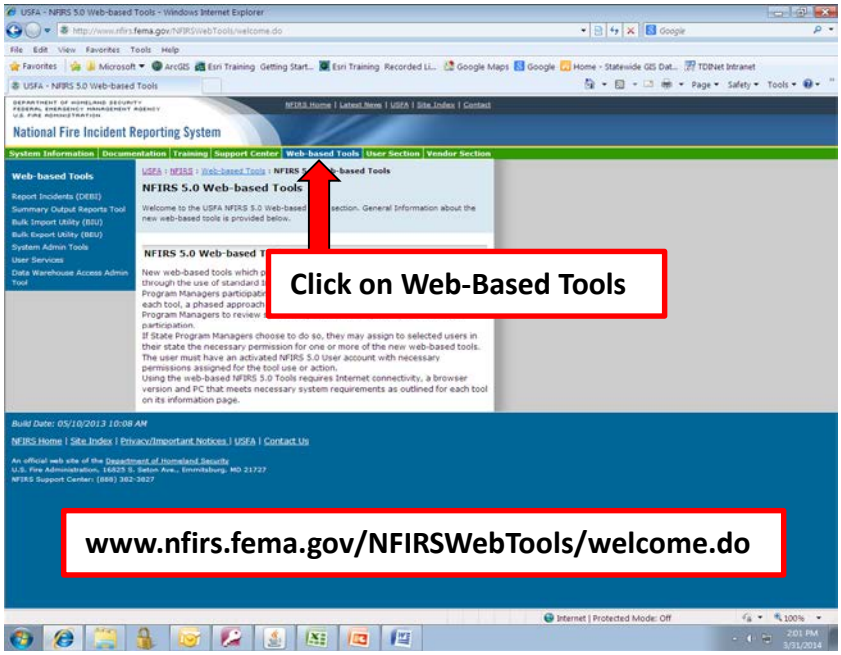
This page intentionally left blank.

ACTIVITY 1.4 (cont'd)

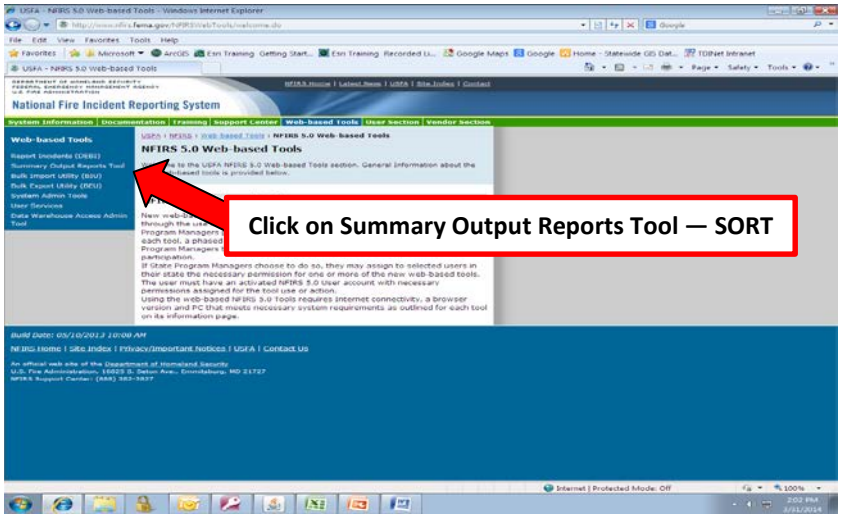
Using the Summary Output Reports Tool

Report A: Summary by Incident Type

1. At the NFIRS 5.0 home page, http://www.nfirs.fema.gov, the Web-based Tools tab will take you to the various Web-based tools, including the SORT login screen.

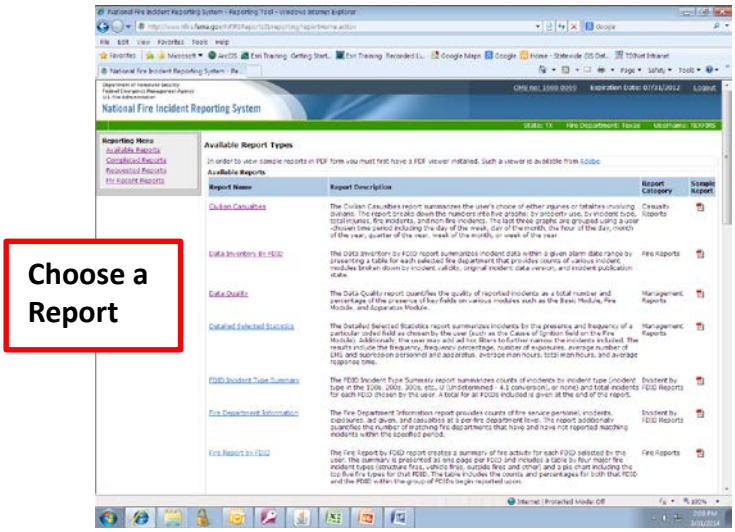


2. SORT is one of the Web-based reporting tools. The SORT User's Guide and report descriptions can be accessed under the Documentation tab.

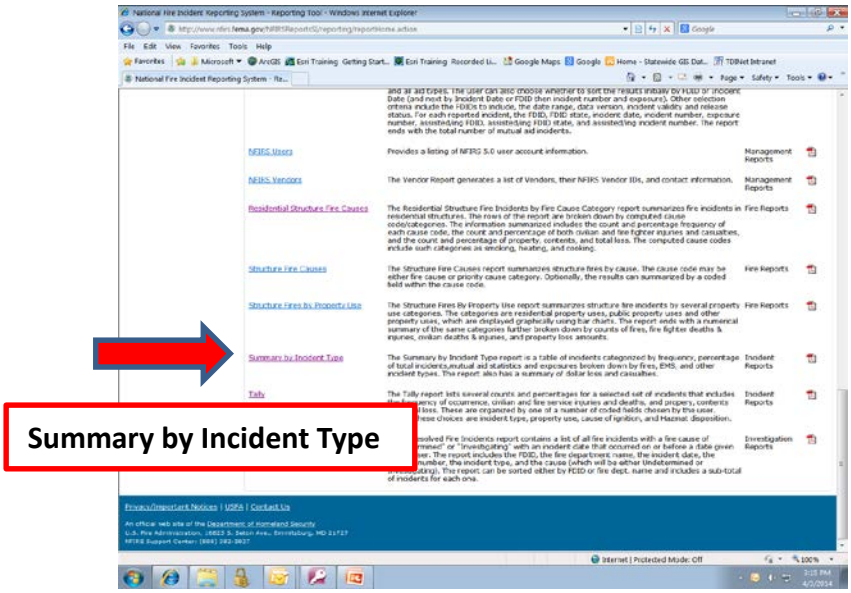


3. Only what is in the national database is available for the reports. User accounts are set up by each state. Rules of access to the tool may vary. Check with your state program manager.

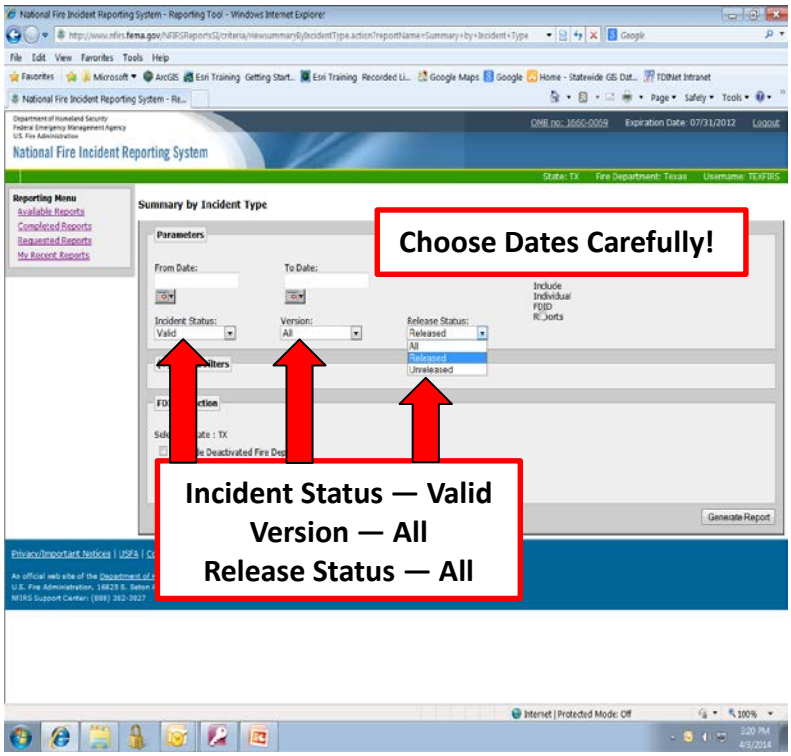
4. Various report options are available. Two types of reports can be run: management reports, which provide summary information as specified by the report query, and reports with user-specified parameters. A short description is posted along with a sample of the report in PDF format.



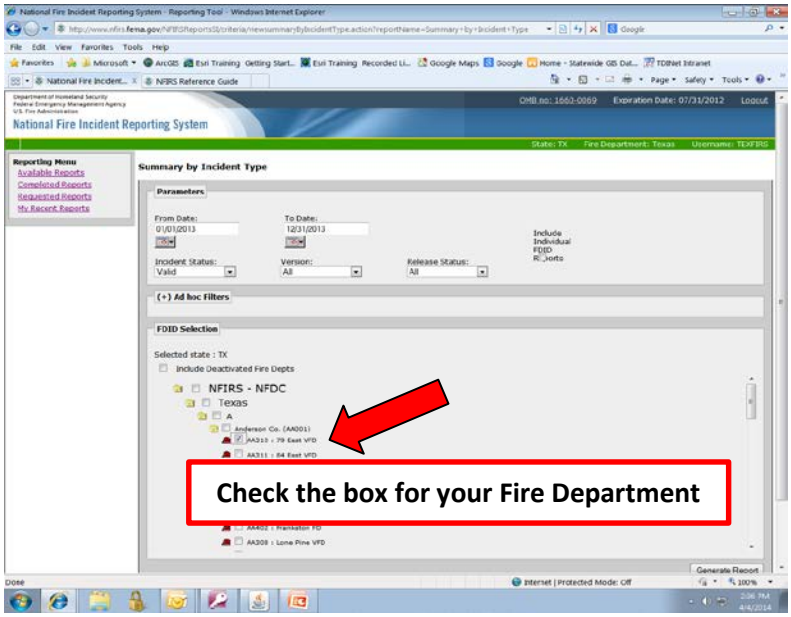
The Summary by Incident Type report provides a summary of NFIRS incidents categorized by frequency; percentage of total incidents; mutual-aid statistics and exposures broken down by fires, Emergency Medical Services (EMS), and other incident types; and provides summary information on casualties and the total dollar loss for fire incidents. **Note:** "No Activity" incidents (N status) are not included in any frequency count.



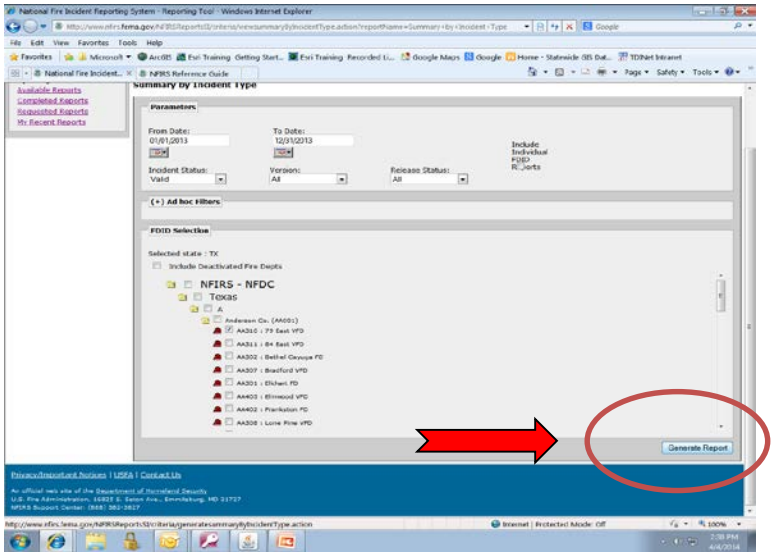
5. Choose report parameters. Enter your dates requested. Check the drop-down menus for the Incident Status, Version and Release Status. The default on Release Status is "Released." "All" Release Status is recommended. Most reports will not calculate against invalid incidents. Fire departments and state program managers should review data for invalid incidents. Updates to incidents can be submitted.



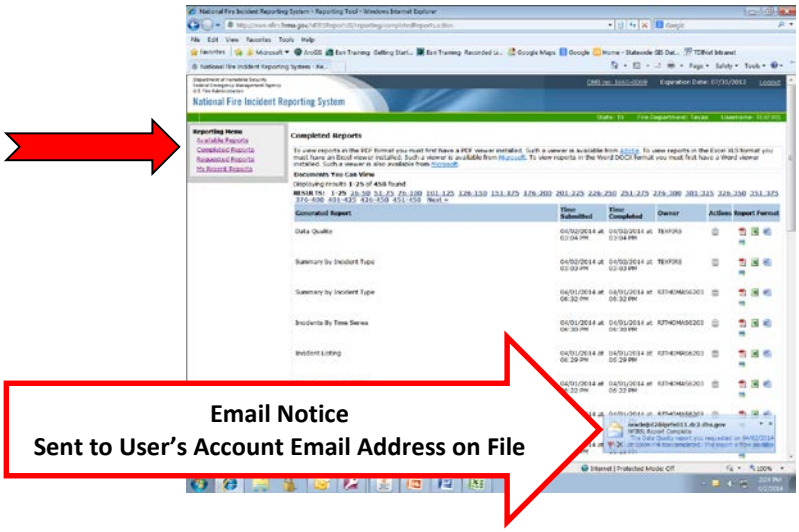
6. Choose your fire department. States list their Fire Department Identifications (FDIDs) in various ways. FDIDs also differ. If your user account permissions allow, you may be able to run reports for other fire departments, or statewide.

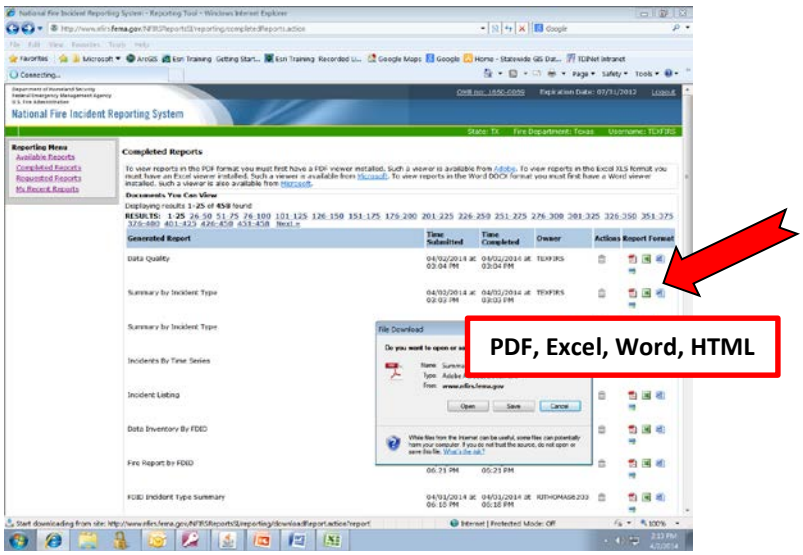


7. Generate the report.



8. When the report is complete, you will receive an email with your link to download the completed report. The email will be sent to the email address provided on the particular user account. Go to "Completed Reports" to find the list of completed reports, and download or print. The example is just one such notice provided to the user by the email program.

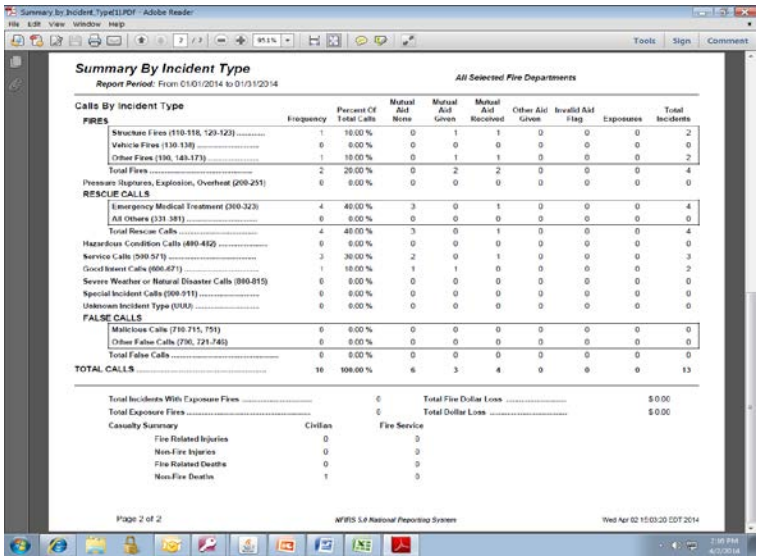




9. Once complete, you can save your reports in PDF, Excel, Word or HTML format.

10. Save and print your report.

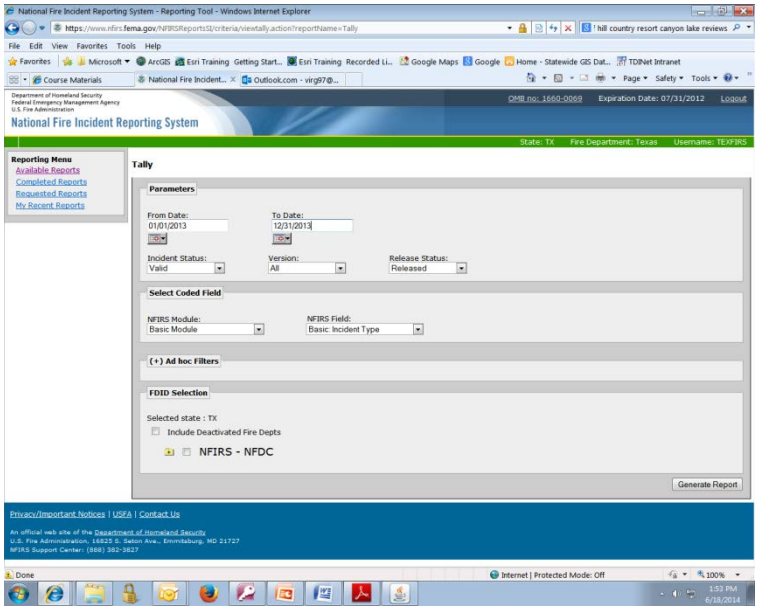
Below is a sample report in PDF format.



Report B: Tally

1. Enter your Parameters.

2. Use the NFIRS Module drop-down menu to choose a module and corresponding NFIRS field.



3. Choose your Ad hoc Filters.

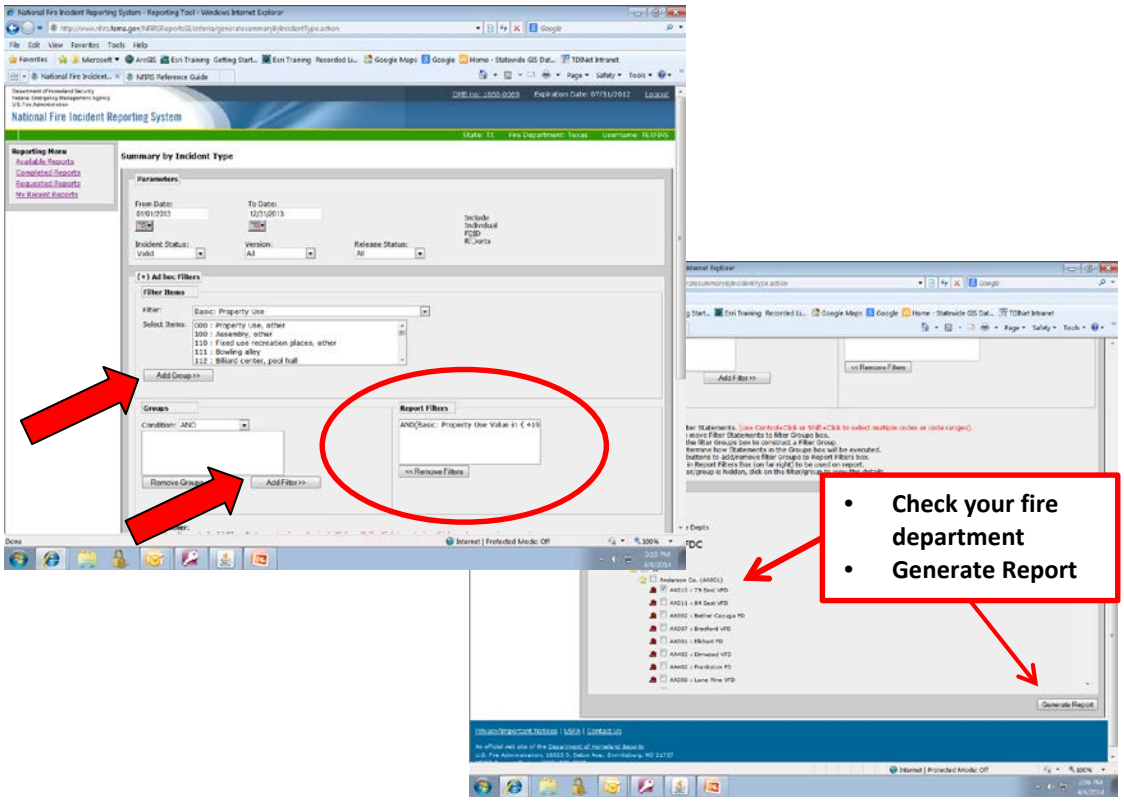
   The Ad hoc Filters may be available in combination with the Select Code Field option or may be a choice by itself, depending on the report. These filters enable the user to create additional filter parameters that will further limit the incidents that are retrieved for the report. The user may select from a list of available coded fields for filtering the incident content of the report. Incidents that match each filter's range will be included in the calculations for the report.

   Choose your filter items and corresponding codes. For available codes see the NFIRS 5.0 Complete Reference Guide, http://www.nfirs.fema.gov/documentation/reference/.

4. Complete Group, and Add Filter.

   - Select Items. (Hold the Shift or Ctrl key down to choose multiple items.)

- Add to your Group.
- Choose the Condition (AND/OR).
- Complete the Group, and add to your Report Filters.
- Be sure your fire department is chosen and checked.
- Generate your report.



5. Save and print your report.

IX. QUIZ ON UNIT 1

This page intentionally left blank.

APPENDIX A

NFIRS DATA ENTRY/VALIDATION TOOL USERS GUIDE

This page intentionally left blank.

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

TABLE OF CONTENTS

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 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.

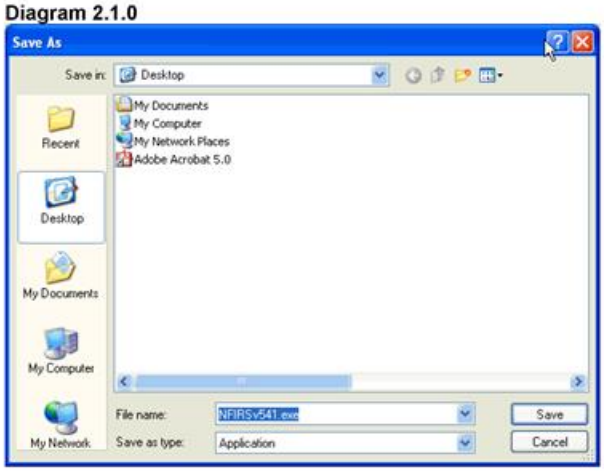
To generate, retrieve and print Forms Based Incident Reports, Adobe Acrobat Reader Version 3.02 or better must be installed on the user's PC. To download a cost free version of Adobe Acrobat Reader, go to:
http://www.adobe.com/products/acrobat/readstep/html

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.

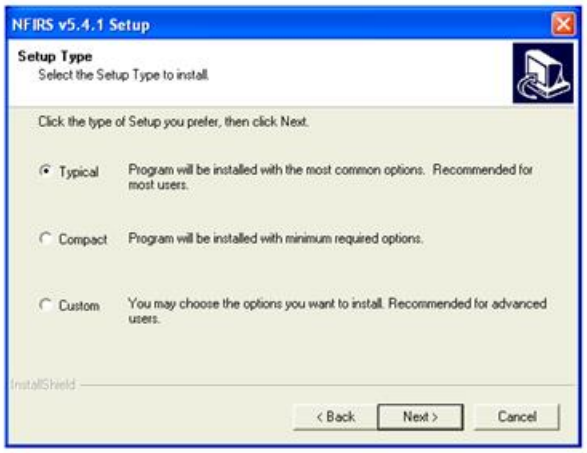
On the Download Software page, click the FTP link for **NFIRS 5.0 Client Version 5.4.1** and in the Download File pop up box that is displayed, specify a location to **Save** the file (for example: C:\Windows\Desktop) and click OK. When the download is complete, close the Download File pop up window,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

Step	Action	Response
1	Log onto the Internet and go to http://www.nfirs.fema.gov	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: http://www.adobe.com/products/acrobat/readstep.html to obtain a cost free download.

Download and installation Table: Using the Four Part Executables:

Step	Action	Response
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 http://www.nfirs.fema.gov	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.

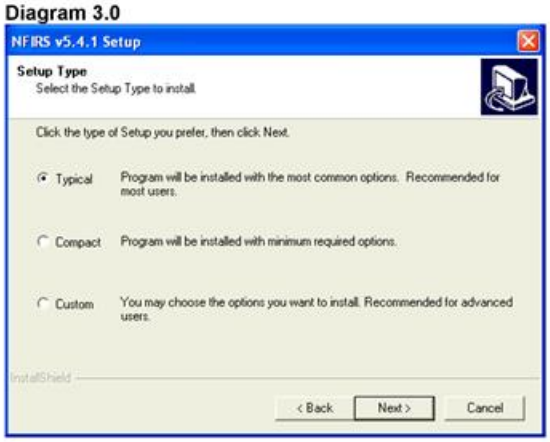
4	Click on Download Software.	User is now at NFIRS Download page.
5	Click on the FTP link for NFIRS 5.0 Version 5.4.1 PART 1 of 4	The Download File Notice dialog box opens. Click Download Now.
6	Choose the folder created for the executable files (C:\NFIRSinstall) to download the file to and click OK.	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:\NFIRSinstall) 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:\NFIRSInstall	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: http://www.adobe.com/products/acrobat/readstep.html 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.

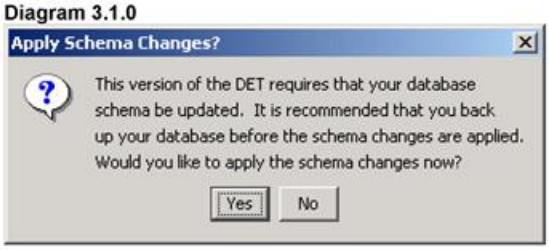
1. Make a back up copy of the NfirsdataV53.mdb database (NOT NfirsdataV53.ldb) and save it to your hard drive (default location: C:/Program Files/NFIRSv53/Database/)
2. Install Version 5.4.

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.

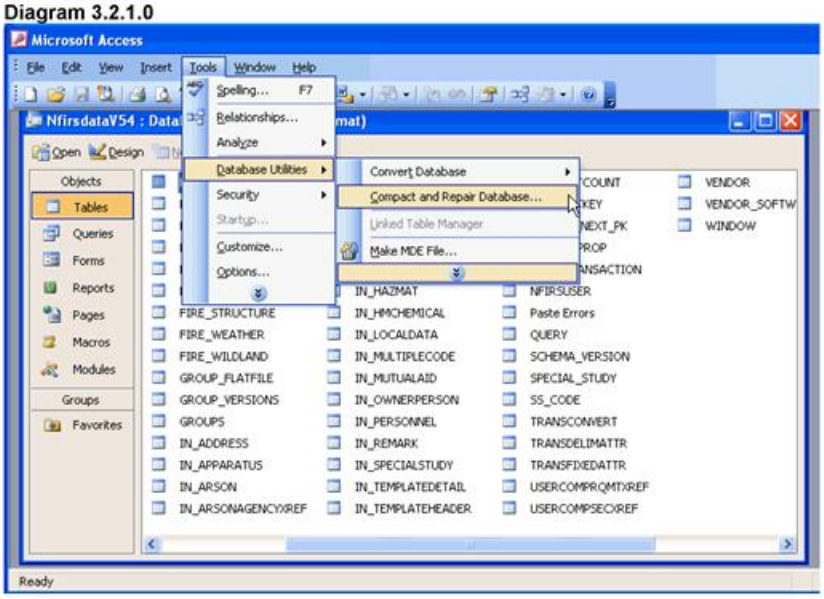
3.2.1 Compacting the Access Database – Off-Line Users Only

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 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 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 SQK 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 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.shtm). 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. **Reminder:** 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.

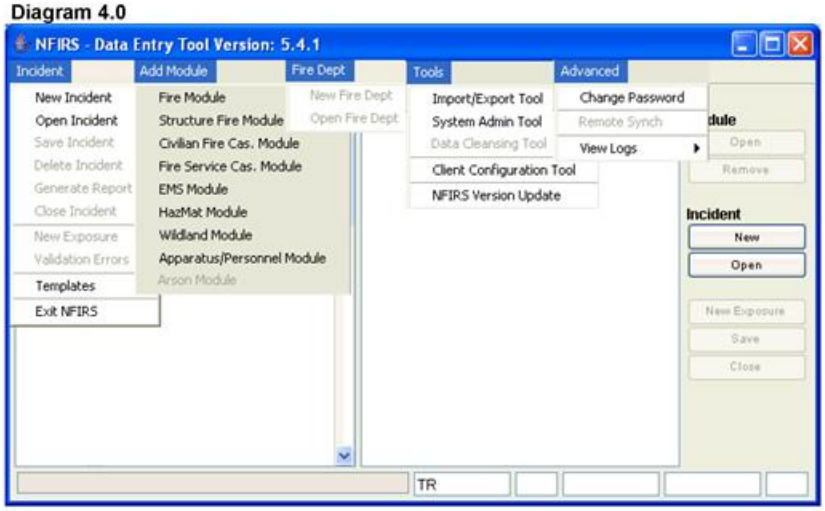
4. The Menu Bar

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.

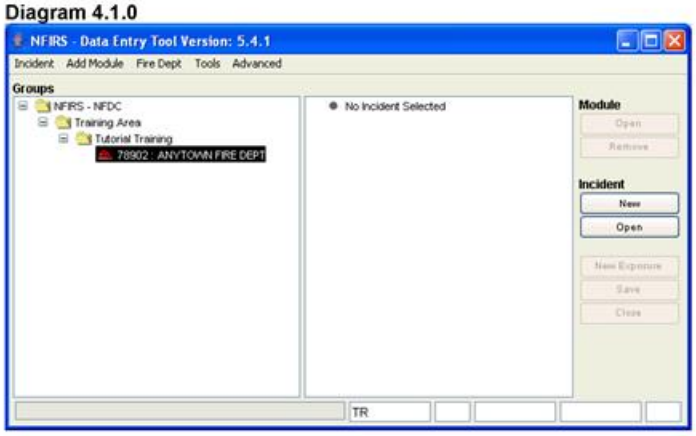
Diagram 4.0



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

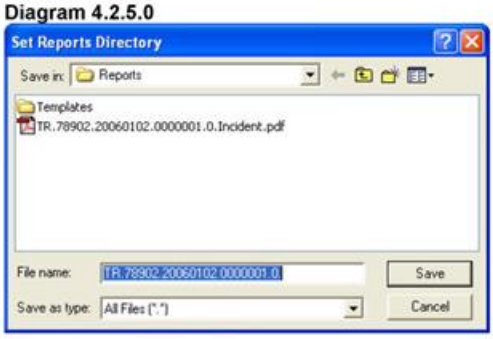
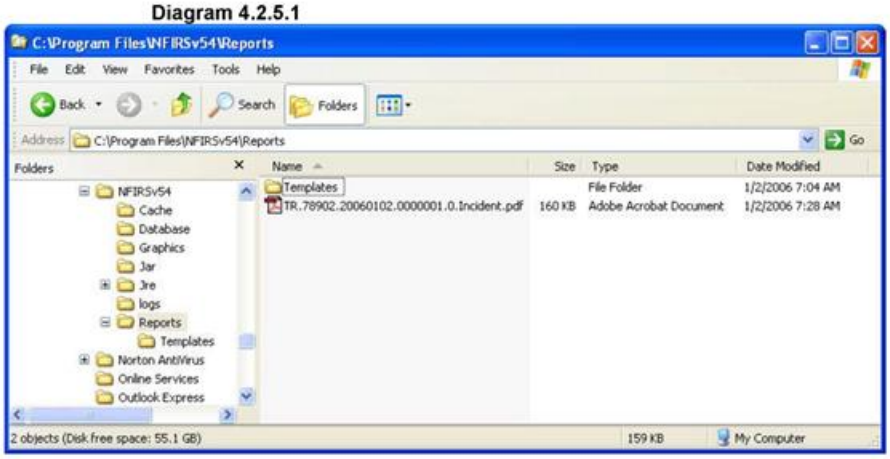


Diagram 4.2.5.1



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 Abode 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.

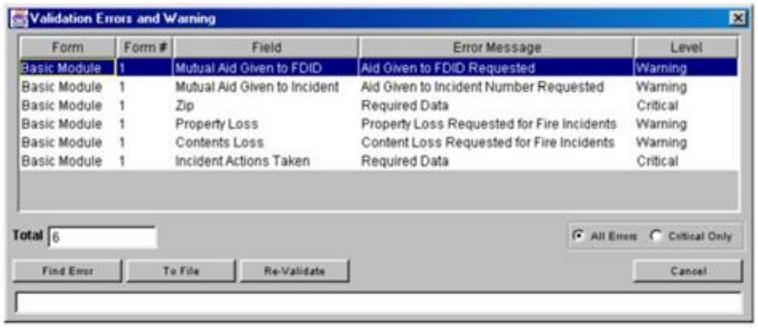
4.2.7 *New Exposure:*

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

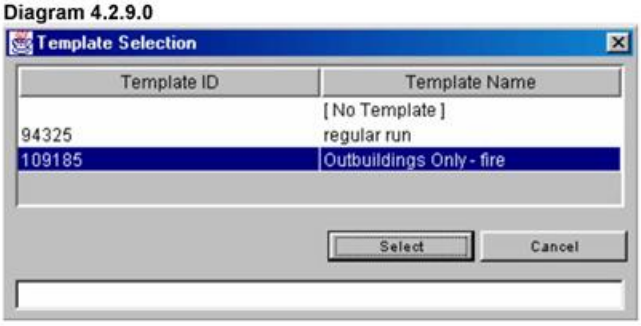


Diagram 4.2.9.1

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.

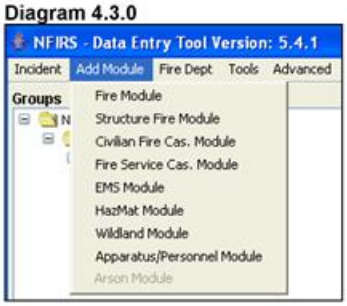
4.3 The Add Module Menu:

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

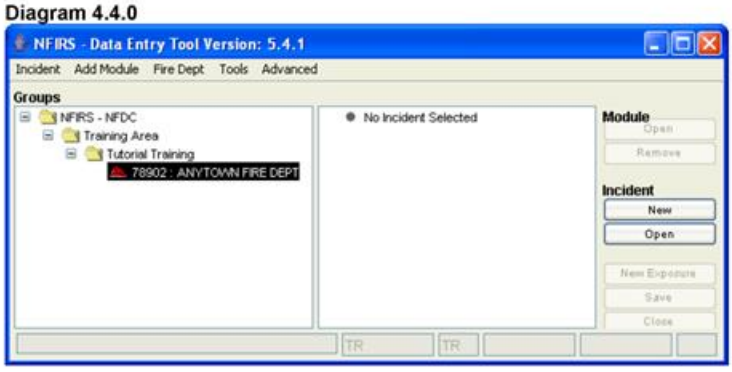
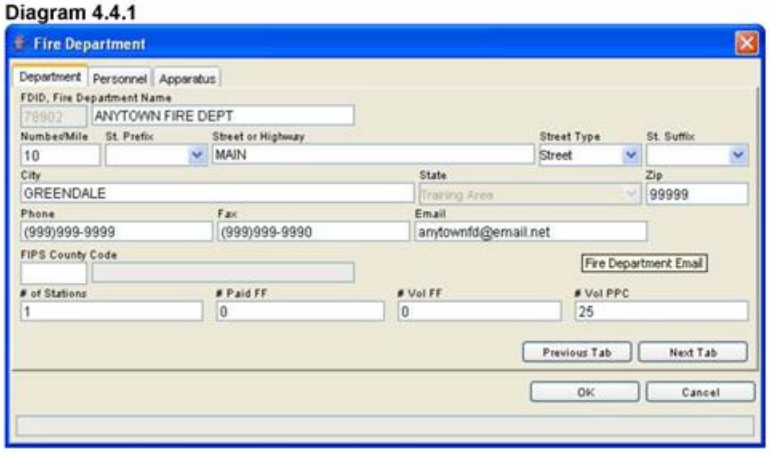


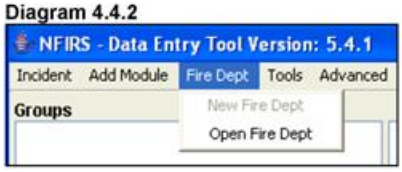
Diagram 4.4.1



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.

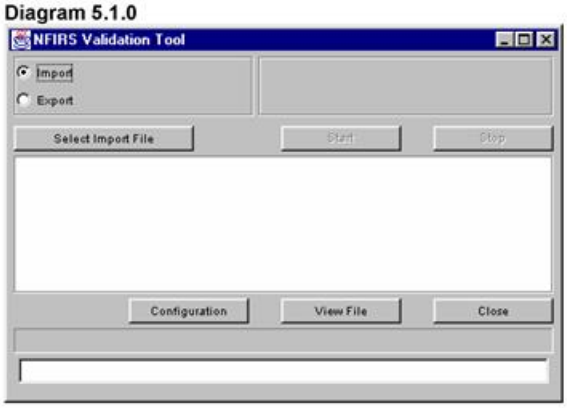
Users entering and saving Fire Department information and incidents in a local database will use the Import/ Export Tool to send their information to the National Database. A

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

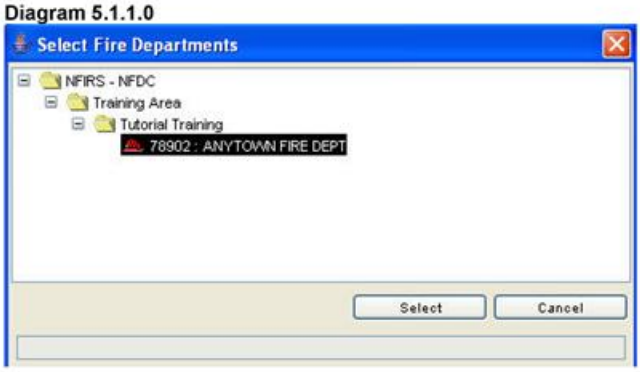
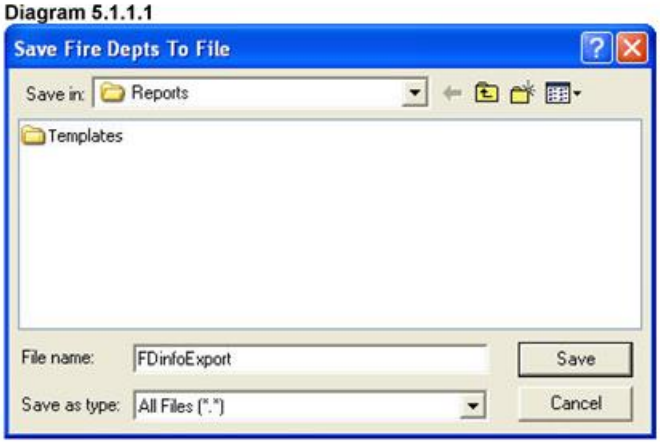


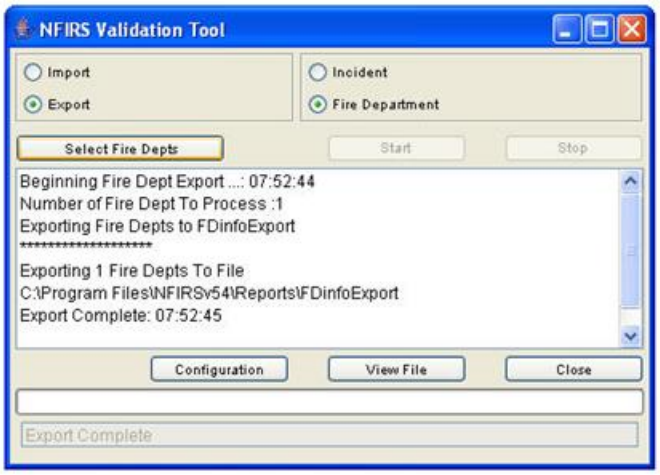
Diagram 5.1.1.1



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.

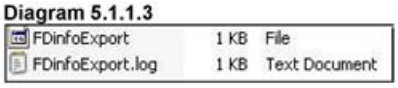
In the Validation Tool window, a summary of the export process will be listed when the Fire Dept export is finished (diagram 5.1.1.2). The beginning time of the export process, the number of Fire Depts processed, and the file to which the data will be stored is listed in the first section of the list.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



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	**Exporting a Fire Department:** 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.

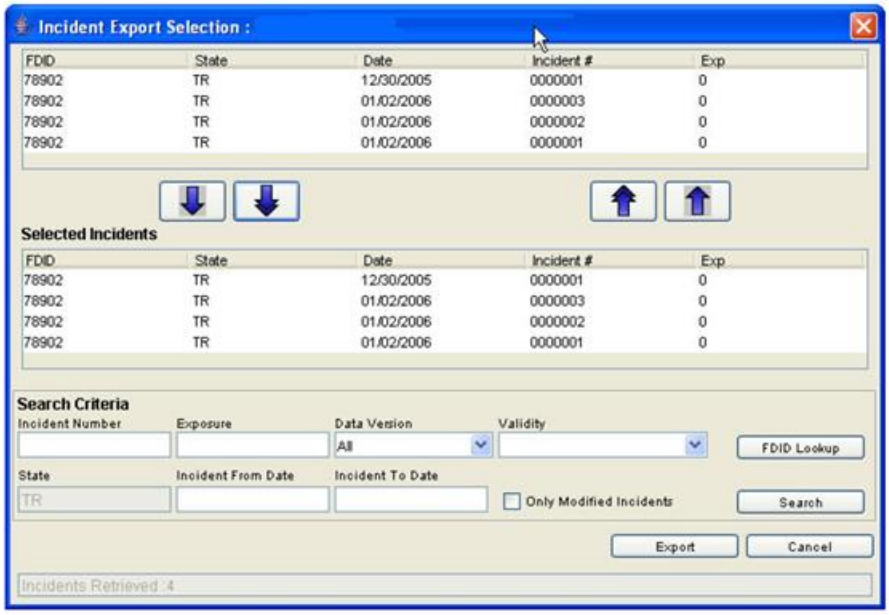
5.1.2 Exporting Incidents – 5.0 Data:

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	**Exporting NFIRS Incident Data:** 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.

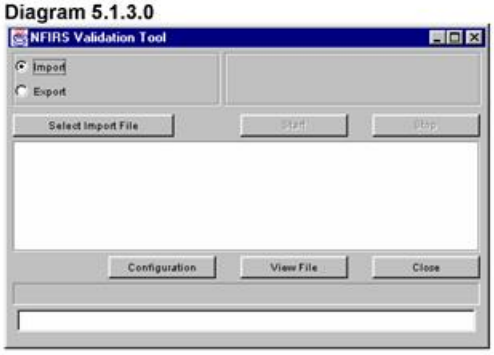
The export files can be imported into a spreadsheet, a local database, or into the National Database. To import the files into the National Database, the user must change the configuration to On-Line, close the Data Entry / Validation Tool, re-start the Tool, and establish an Internet connection. In 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:

Step		Response
1	**Importing Fire Departments Data:** 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

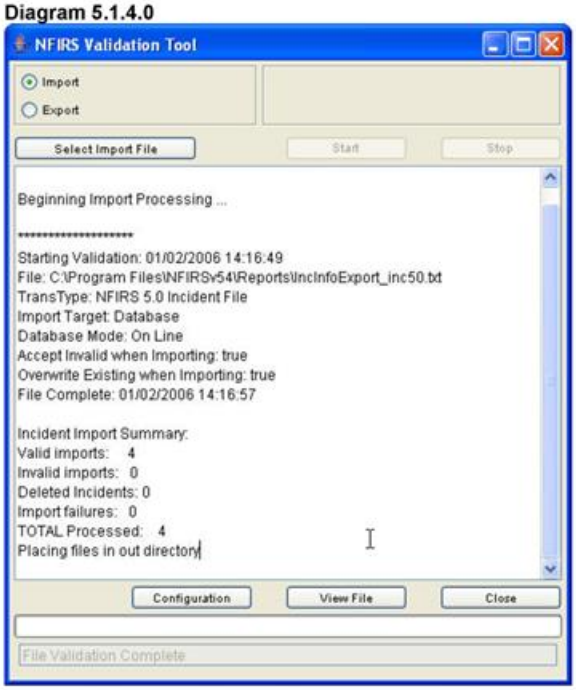
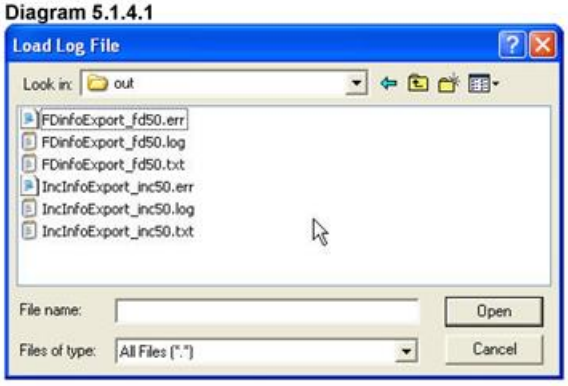


Diagram 5.1.4.1



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	**Importing Incidents:** 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.

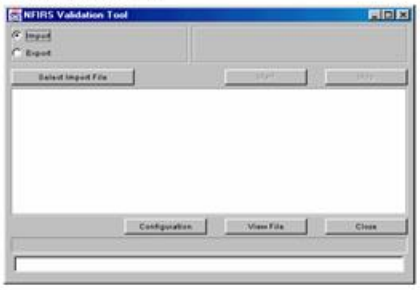
Note: With previous Version 5.2.1, a sort mechanism was added to ensure 4.1 master files in which incidents were not arranged by incident type to be sorted by record type prior to parse and import. If the file is sorted, it replaces the original file. **Users are recommended to save a backup copy of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

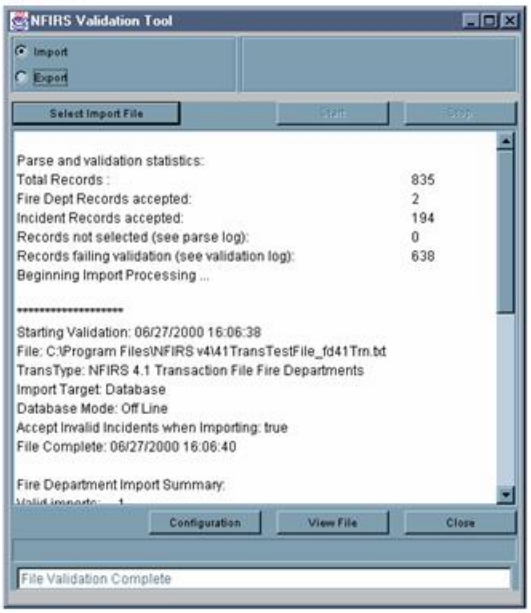
Upon completion of the parse and validation process, the Validation Tool dialog box will provide a summary of the Parse and Validation Statistics in the Validation Tool window. The scroll bar on the right of the Validation window allows the user to view the complete list. Below is an explanation and 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.

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

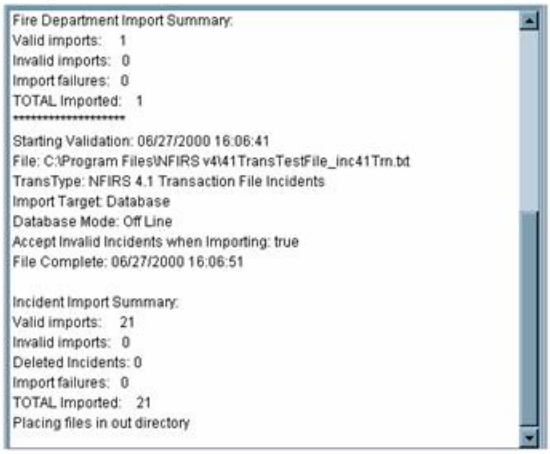
Line three provides the Transaction type (Master or Transaction file) and the information type (Fire Departments or Incidents). Line four states whether the user's Import Target was a Database or a Flat file. Line five states the Database Mode at the time of the process (either On Line or Off Line). 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



The Sub-Directory Folder "out"

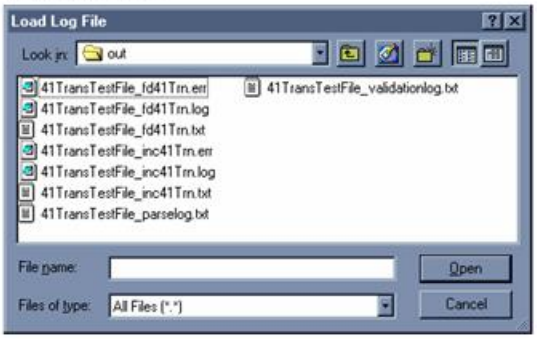
When the user closes the Validation Tool dialog box, the statistics will be cleared from the screen. The statistics and the import file processing information is documented and stored in the "out" sub-directory.

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.

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.

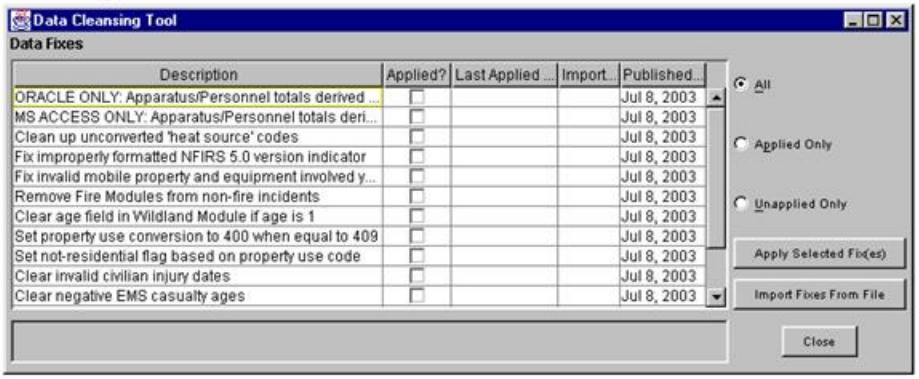
5.4.1 Using the Data Cleansing Tool

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).

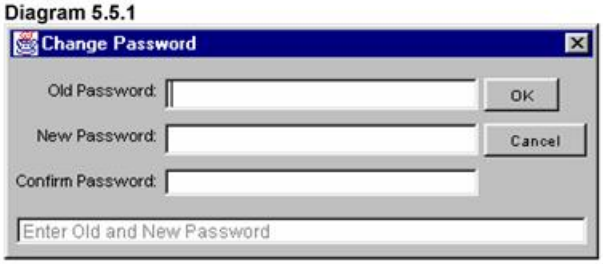
Since the release of previous Version 5.2.1, new passwords must meet the FEMA standard. Users must enter a password consisting of 8 - 15 alpha-numeric characters using this utility.

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:

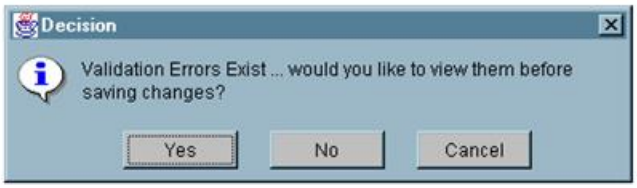
Each of the Modules will have an OK and Cancel button (diagram 6.2.0). If the user single clicks on the OK button, data entered will be validated and if validation is successful, saved. Clicking on the Cancel button will discard the entered data and exit the module.

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).

Data Entry Tool Users Guide

Diagram 6.4.0

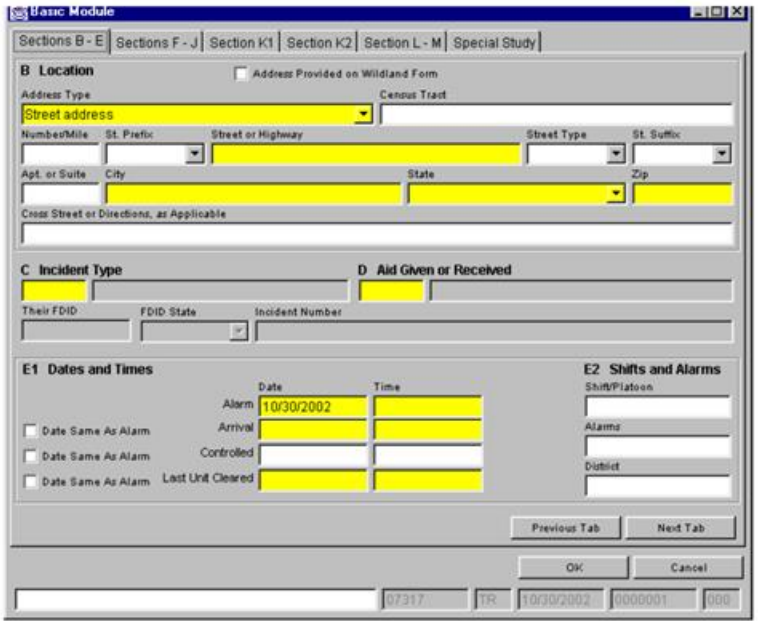


Diagram 6.4.1 shows the Code Lookup box for Incident Type which appears when the user either double clicks in the Incident Type field or presses F1 on the keyboard with the cursor entered in the Incident Type field. Diagram 6.4.2 shows a Multiple Code Selection box for the Actions Taken field of the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

Diagram 6.4.1

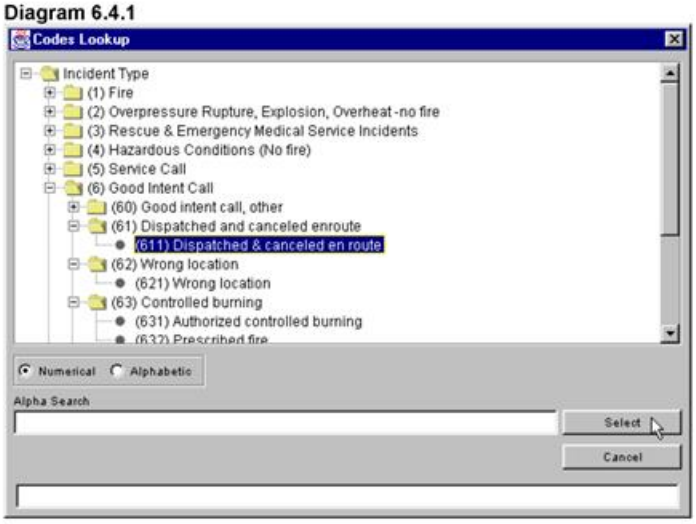
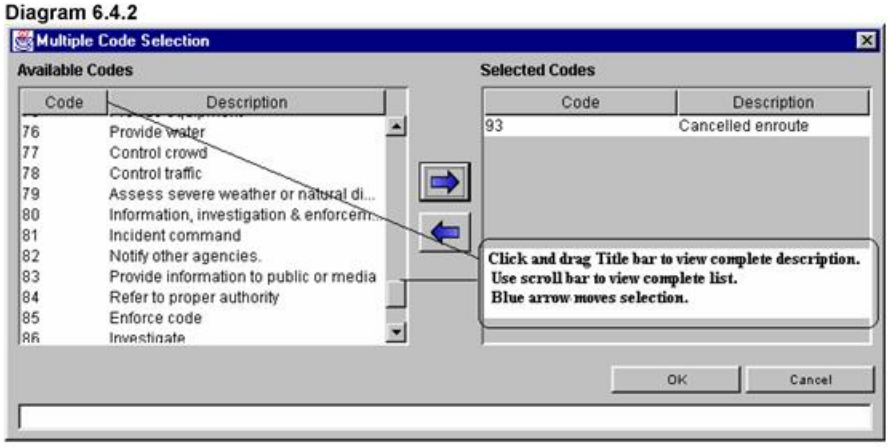


Diagram 6.4.2



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.

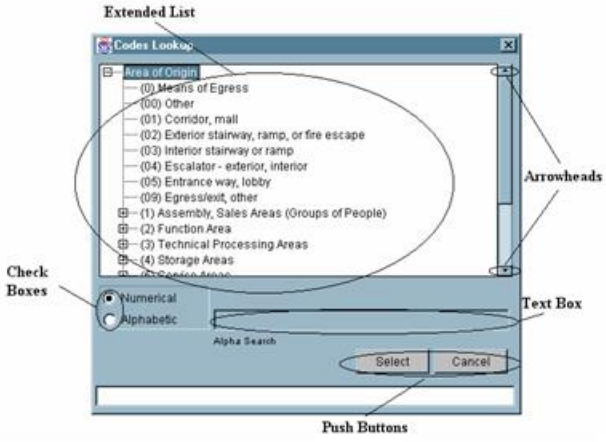
6.6 *Free Form Text Boxes:*

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.

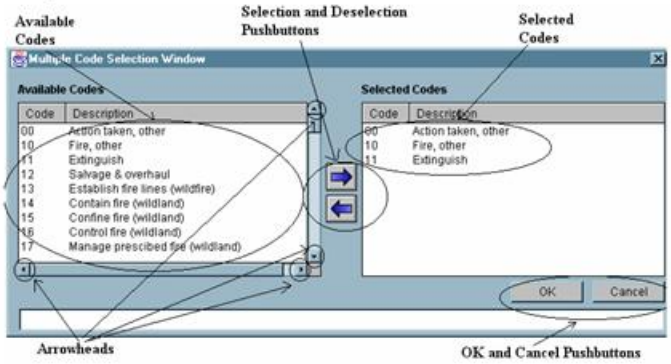
6.8.2 Double Clicking:

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

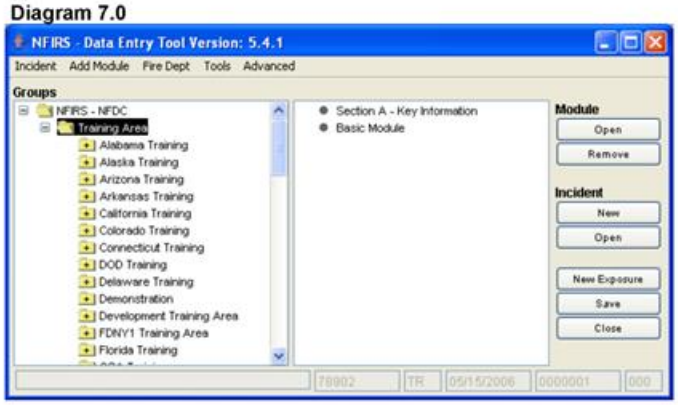
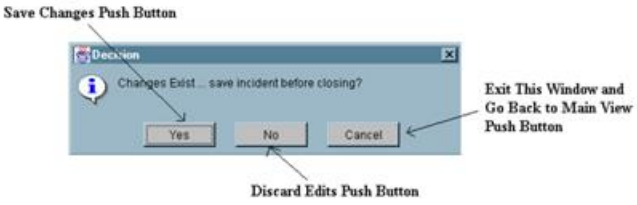


Diagram 7.1



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.

8.2 Download and Installation of the NFIRS Software

1. Go to 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.

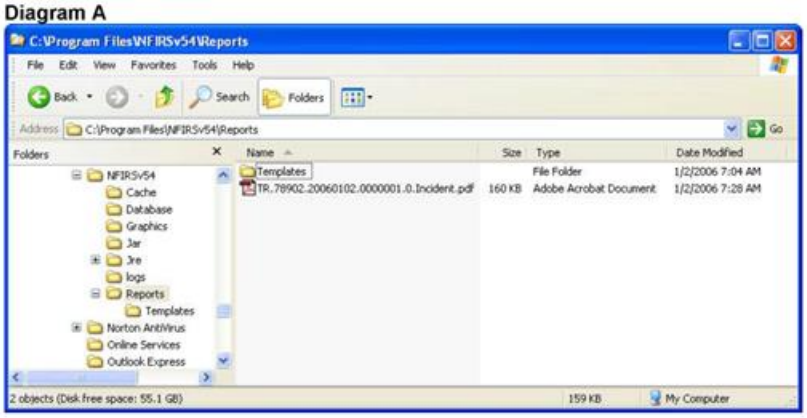
8.10 To Generate a Forms Based Incident Report (Local Report)

Adobe Acrobat Reader Required

1. Open an incident.

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 acrord32.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

re-enter?"		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.
When I enter the Data Entry Tool, my FDID Number is correct but it says "FDID not Found."	The name of your department has not been entered in the system.	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.

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_NumVolFF	less than -999
FD_HEADER	FD_NumVolFFPPC	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
Space bar to select and de-select Check Boxes
Esc – replaces previous deleted text
Arrow down to choose template
Space Bar – Selects Push Buttons

10. INDEX

This page intentionally left blank.

APPENDIX B

SYSTEM ADMINISTRATION TOOL USERS GUIDE

This page intentionally left blank.

National Fire Incident Reporting System

System Administration Tool Users Guide

NFIRS 5.0 Software Version 5.4

Prepared for:
FEMA
Round Hill, VA 20142

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

TABLE OF CONTENTS

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

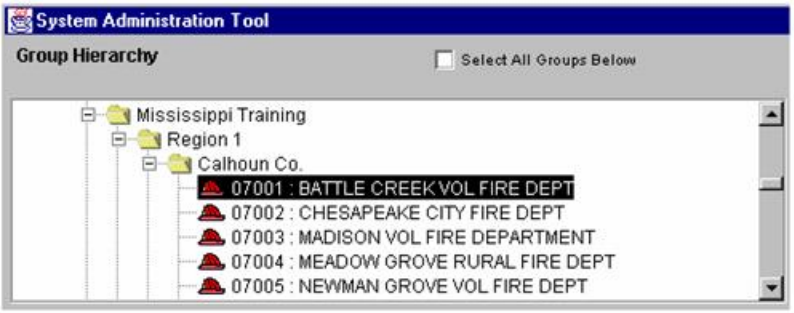
The hierarchical structure for group organization allows for ease in system administration maintenance, enforces security at group levels, and distributes administration privileges. The Group Hierarchy is in extended list form. Information in the Group Detail fields changes according to the highlighted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

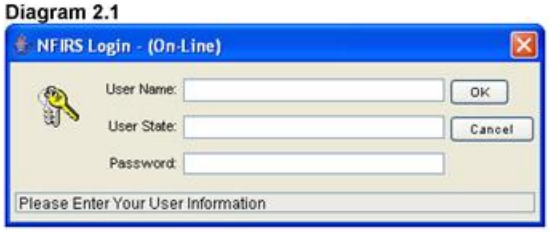
2. Starting the NFIRS System Administration Tool

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.

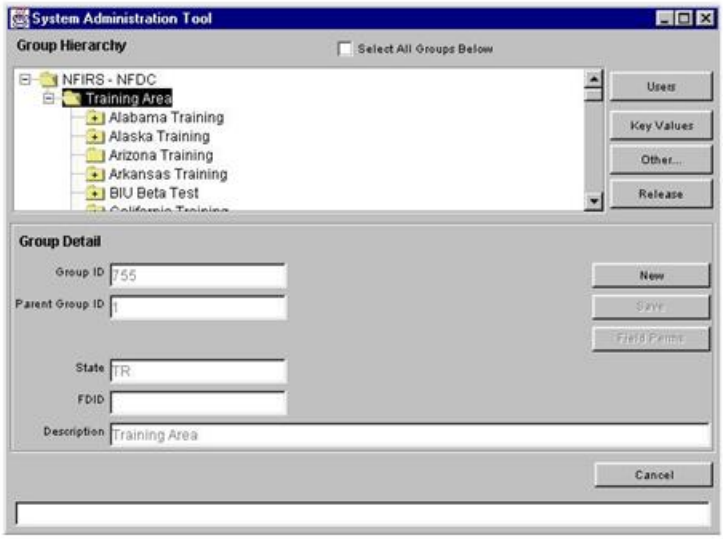
The Administrator is allowed up to five consecutive failed login attempts after which the system locks the Administrator's account. Successful login after less than five failed attempts will reset the failed login counter. If the Administrator's account becomes locked, another Administrator at the Administrator's 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



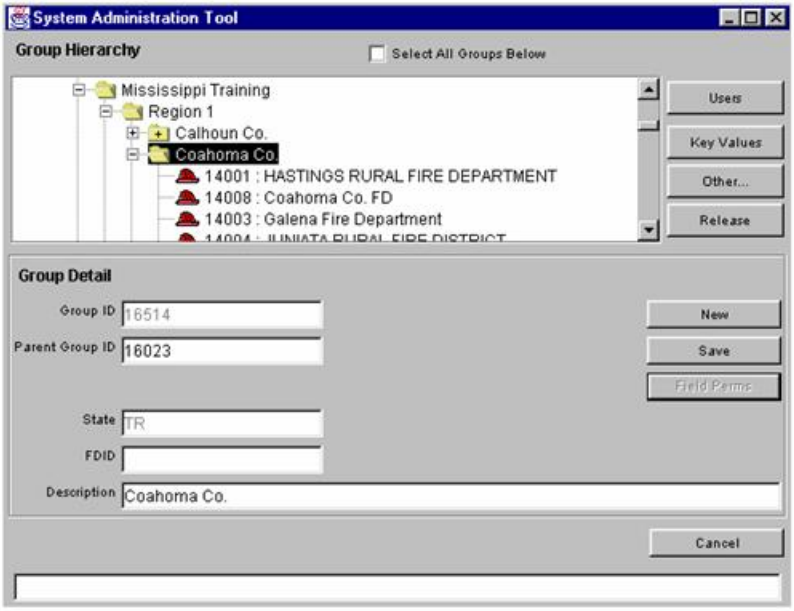
2.1 Creating a New Group

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 **New** push button.	The system retrieves next available Group ID number. The Description field clears.
3	Enter the Group's Descriptor in the Description field. **Note:** 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 **Save** 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

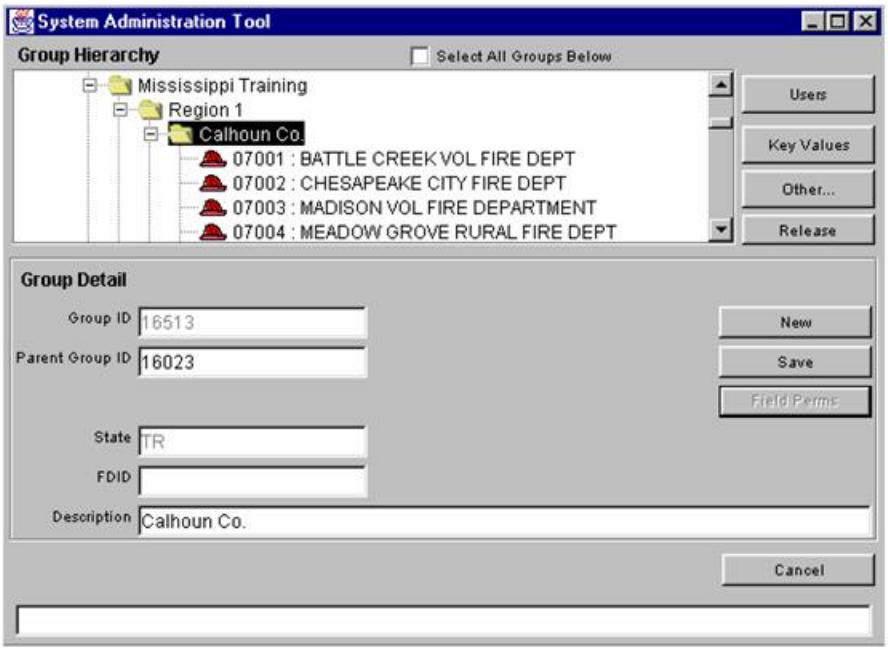
The **Group ID** is the number that distinguishes a group from all others in the hierarchy. The system assigns Group IDs when the administrator creates a new group. The Group ID field is not editable.

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.

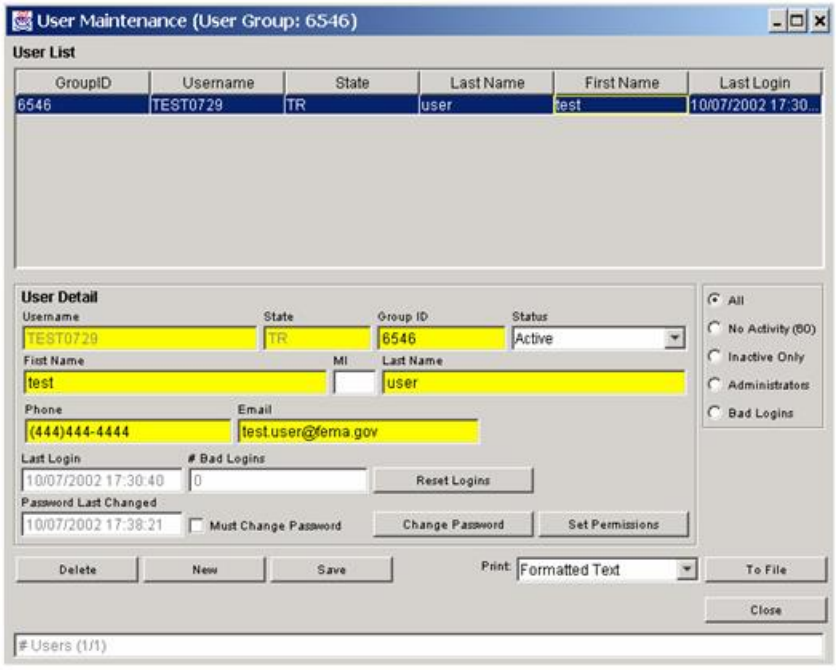
2.3.5 Description

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



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 confidentially 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.

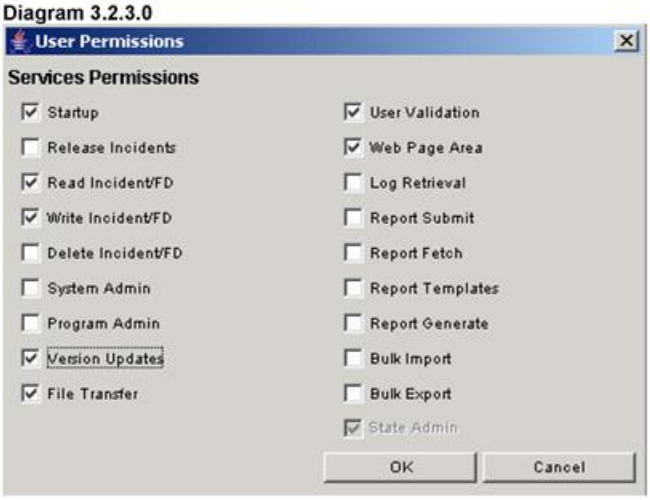
The **Bulk Import** permission should be reserved for those users who will be sending files to the National Database via the Bulk Import web interface. The USFA Client software is not necessary to use the Bulk Utility. The **Bulk Export** permission should be reserved for those users who must access 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:

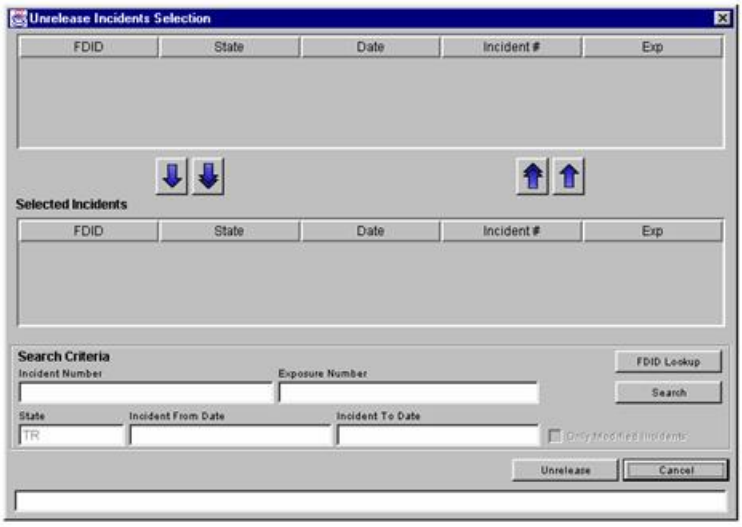
In the System Admin Tool, click on the Release button. Specify the incident's date or a range of dates for several incidents. Click on the Unrelease button. The Unrelease Incident Window will be displayed (diagram 5.3.0). Select (highlight) the desired incidents to be Unreleased and click on the blue 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.

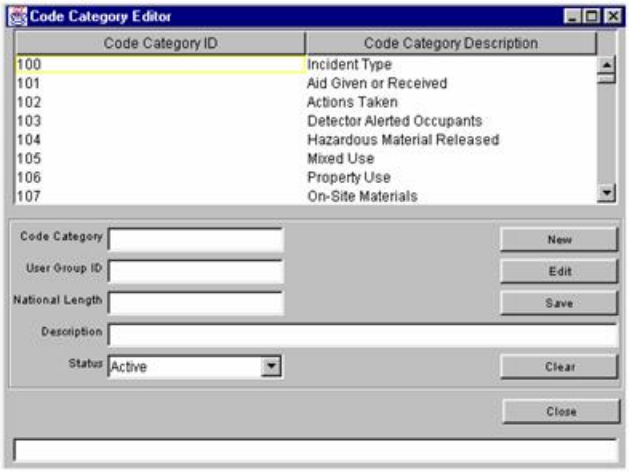
When the new plus code is first created, it may take fifteen to twenty minutes to be re-cached and appear in the Data Entry Tool.

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.

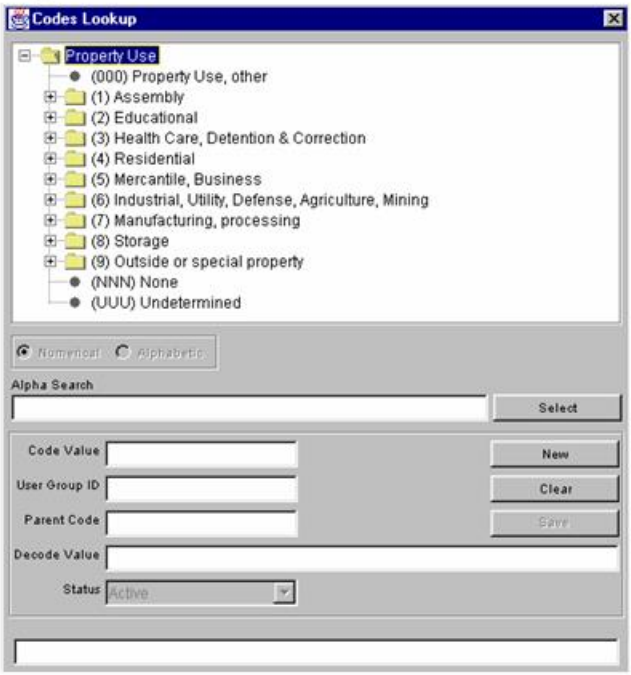
Diagram 6.1.0



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.

Step	Action	Result
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 **Codes** 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 **Edit** 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 **New** 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.

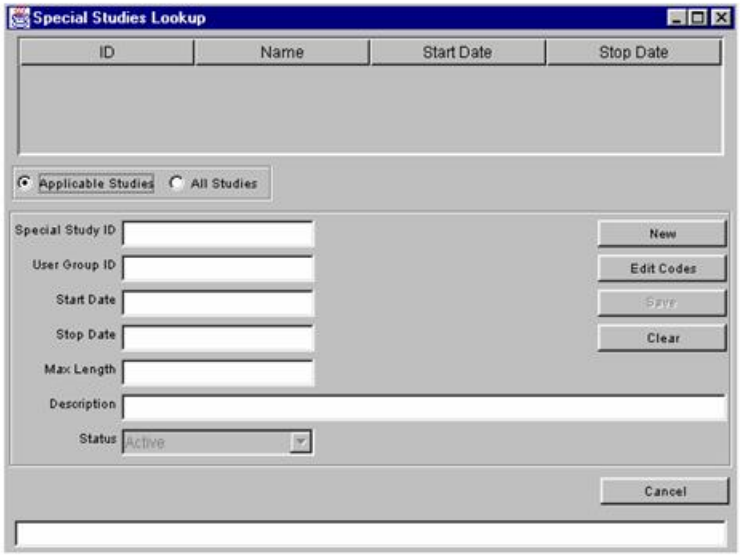
The System Administrator will first create the Special Study, and then create the codes that users will select to represent applicable data.

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

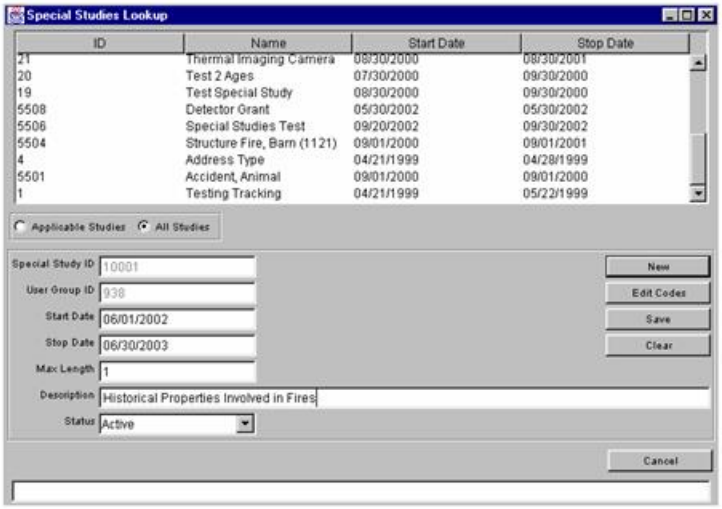


To create a Special Study, click the **New** button. The system assigned ID for the study will be entered automatically in the **Special Study ID** field. The **User Group ID** will be entered automatically in the User Group ID field (as shown in diagram 8.1.1). **Note:** each login level has a Key Value 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.

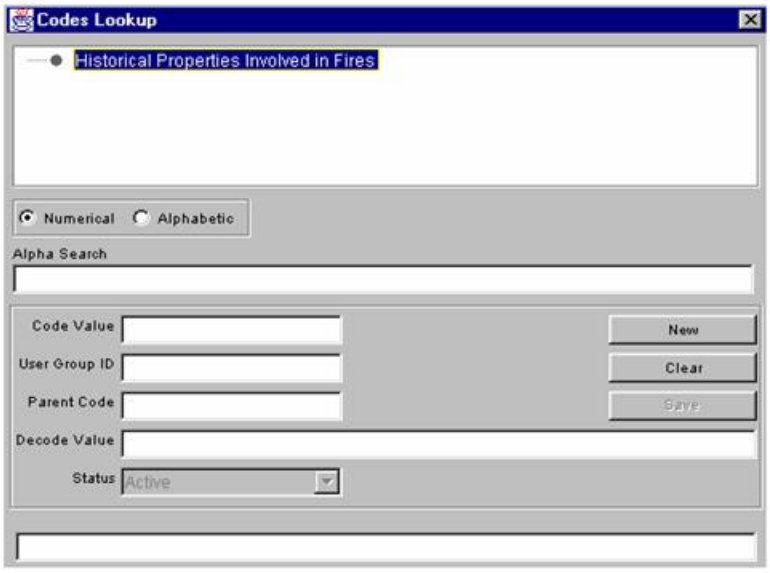
Diagram 8.1.1



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

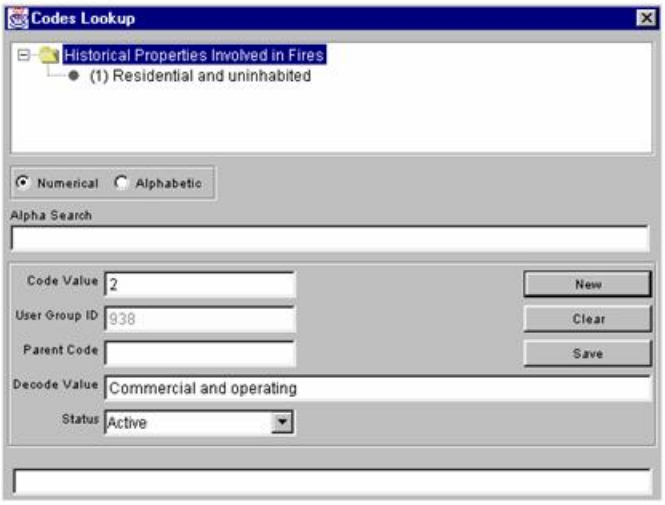


Highlight the Special Study name in the Codes Lookup window and click the **New** button. The User Group ID will be entered automatically. Enter a **Code Value**, This will be the numeric or alpha numeric code that is associated with the code value, and it must be length specified when the Special Study 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

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

Step	Action	Result
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 **New** 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 **Save** 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 **Edit Codes** 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 **New** 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.

12. Index

This page intentionally left blank.

APPENDIX C

CONFIGURATION TOOL USER'S GUIDE

This page intentionally left blank.

National Fire Incident Reporting System (NFIRS 5.0)

Configuration Tool User's Guide

NFIRS 5.0 Software Version 5.4

Prepared for:
FEMA
Round Hill, VA 20142

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

TABLE OF CONTENTS

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 compete 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.

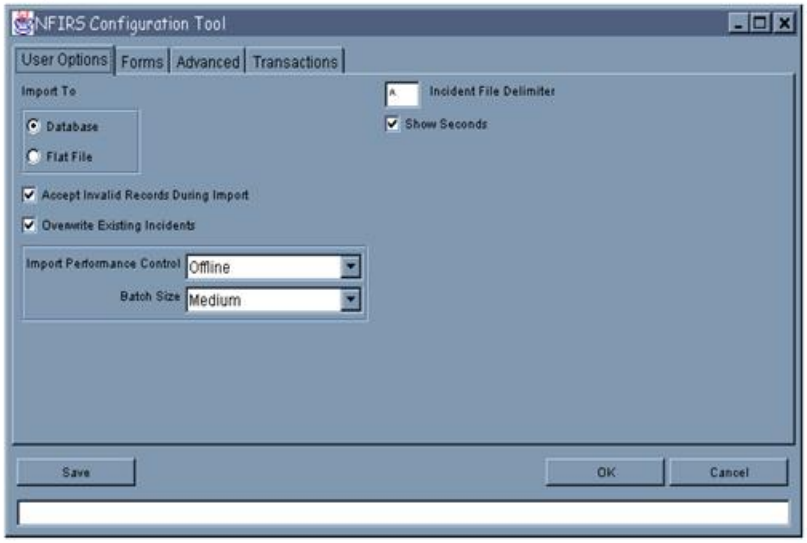
2. User Options Tab:

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.

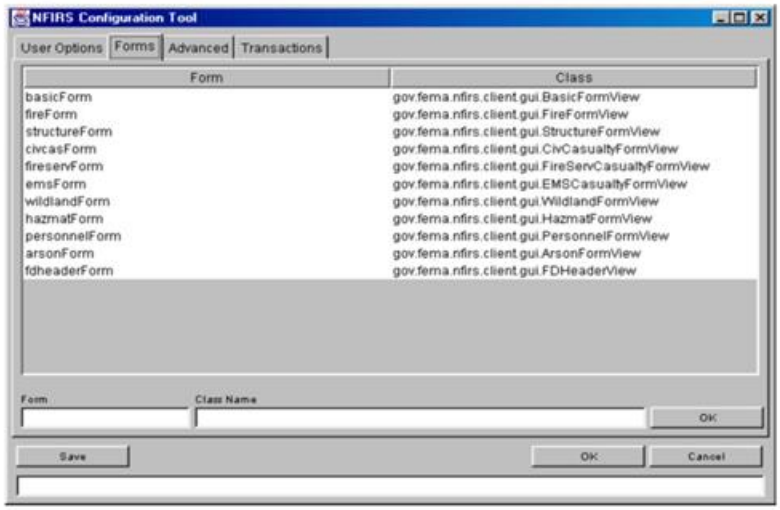
Diagram 2.5.0

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

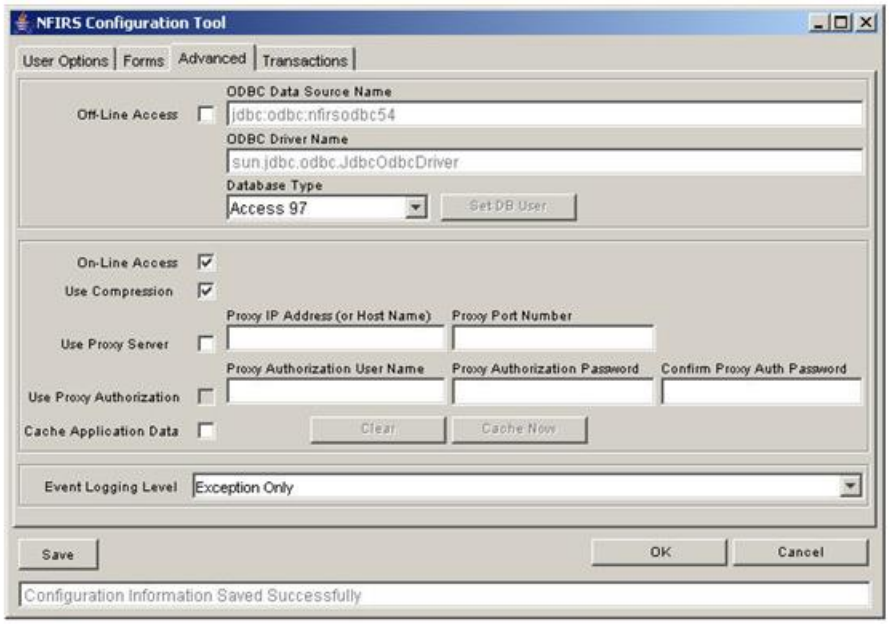


4. The Advanced Tab

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

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 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

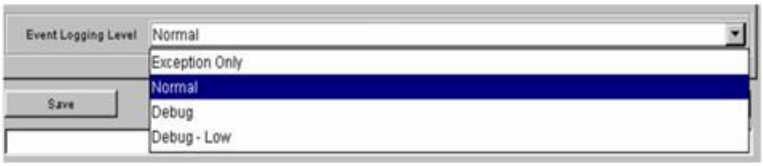
4.6 Event Logging Level

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

7. Index:

APPENDIX D

SUMMARY OUTPUT REPORTS TOOL USERS' GUIDE

This page intentionally left blank.

USFA
National Fire Incident Reporting System
(NFIRS 5.0)

Summary Output Reports Tool
Users' Guide

April 2004

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

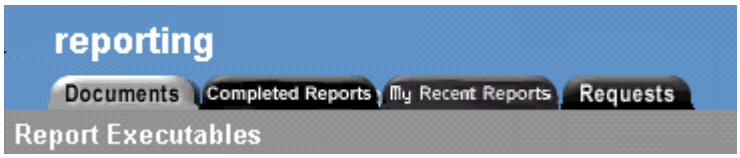
The sidebar links enable the user to return to the **NFIRS Homepage**, http://www.nfirs.fema.gov/ The **Refresh Reporting** sidebar link enables the user to return to the main view area if the session has been idle without requiring the users to login again. The **Documentation** link accesses the page 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.

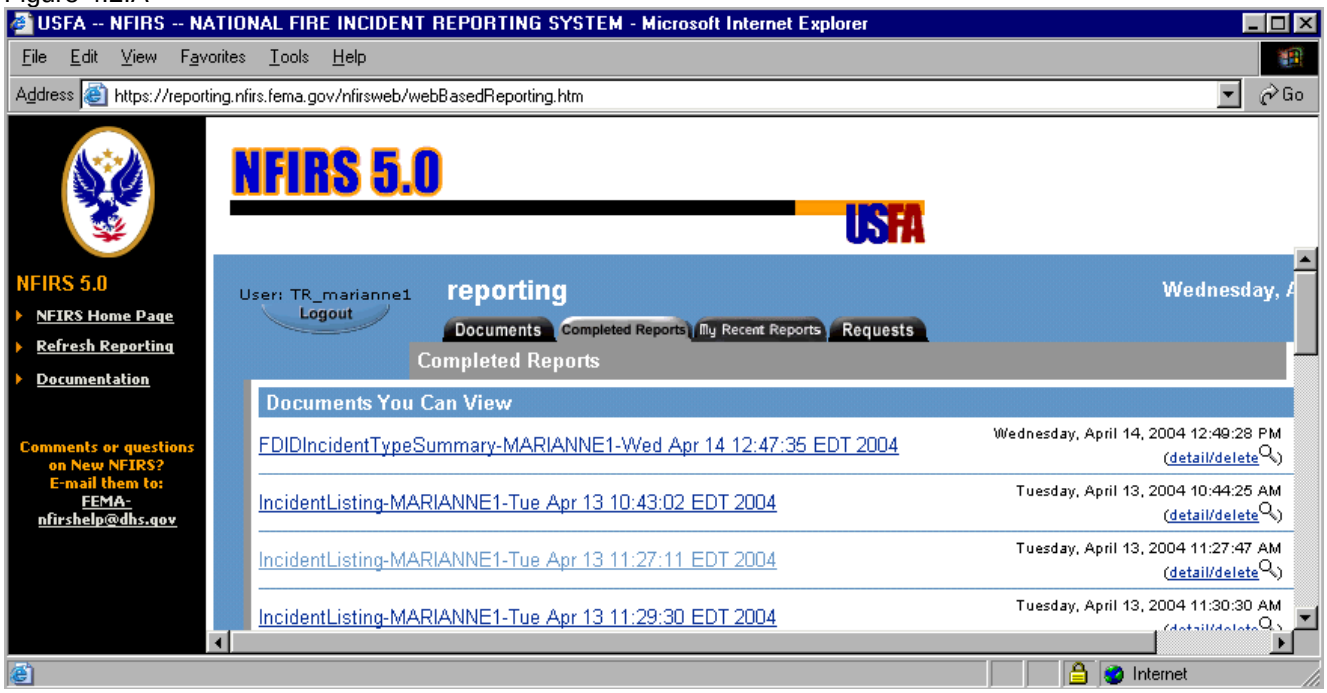
4.1 Documents Tab

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.

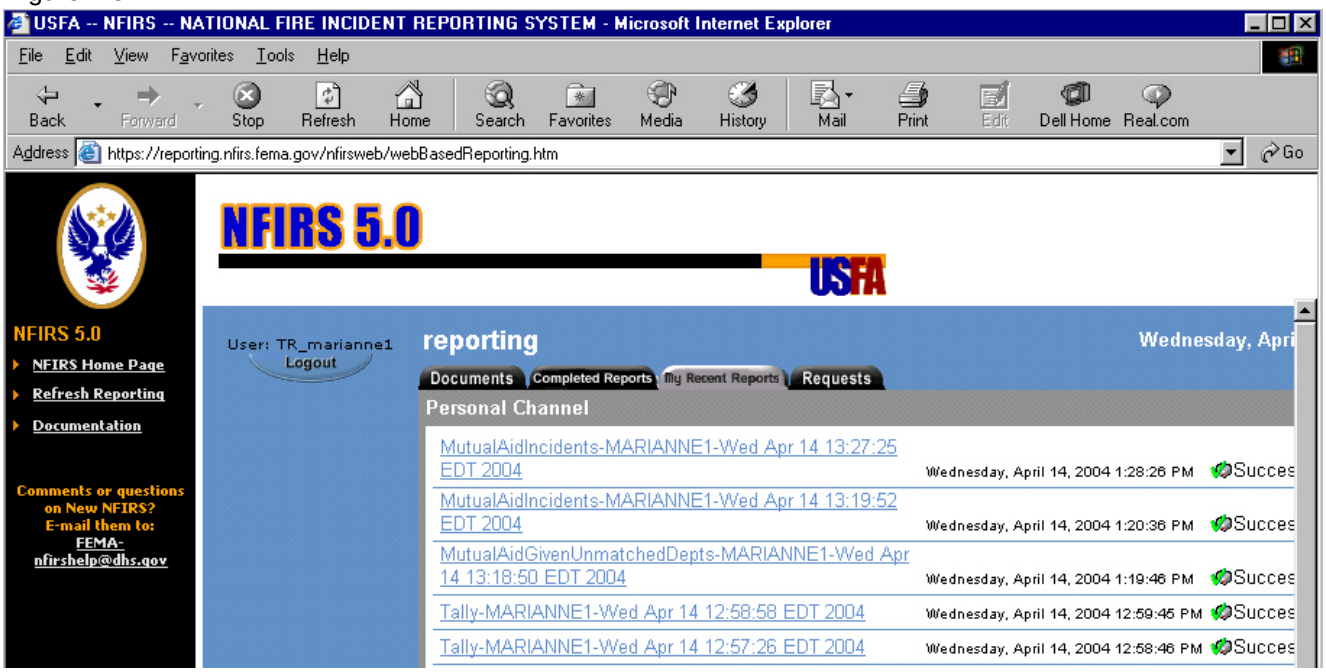
Reports stored in the Completed Reports Tab are deleted automatically after 10 days from the time they were generated.

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 and 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.

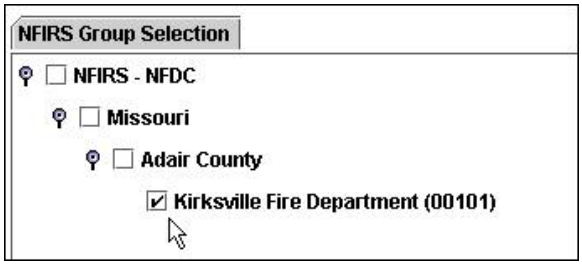
Figure 5.2 A, B, and C

A)  B)  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

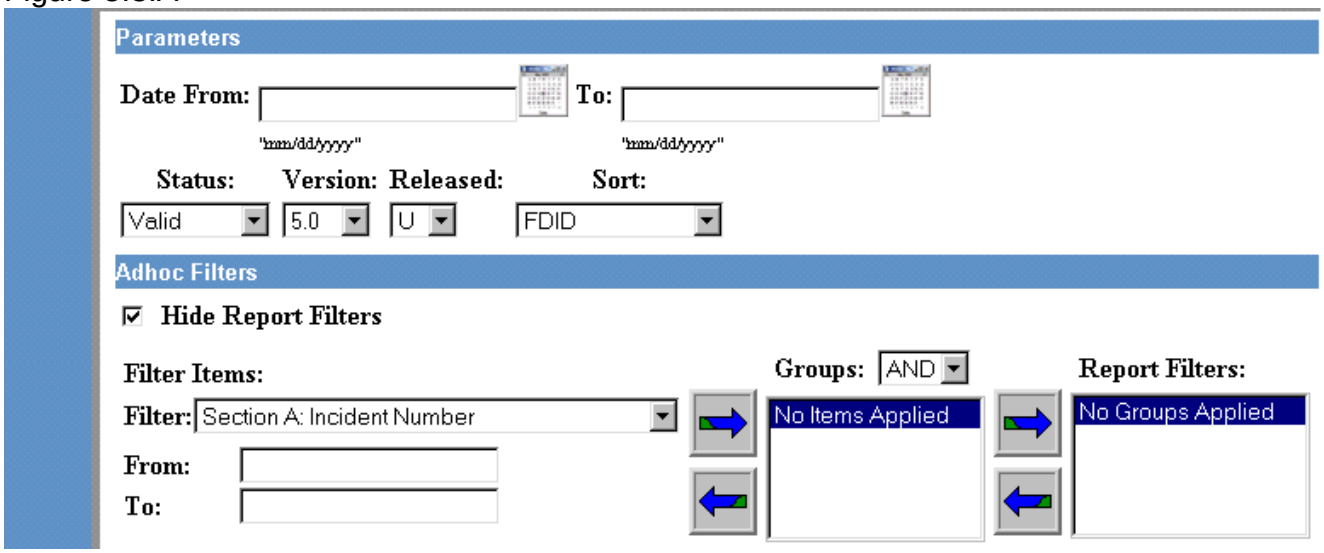
Most available reports provide the user the capability to add filters on selected codes fields, and specify a range for those codes or values. Information about the individual report’s SQL and how its frequencies and summaries are calculated are included in each report’s description section which can 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



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.

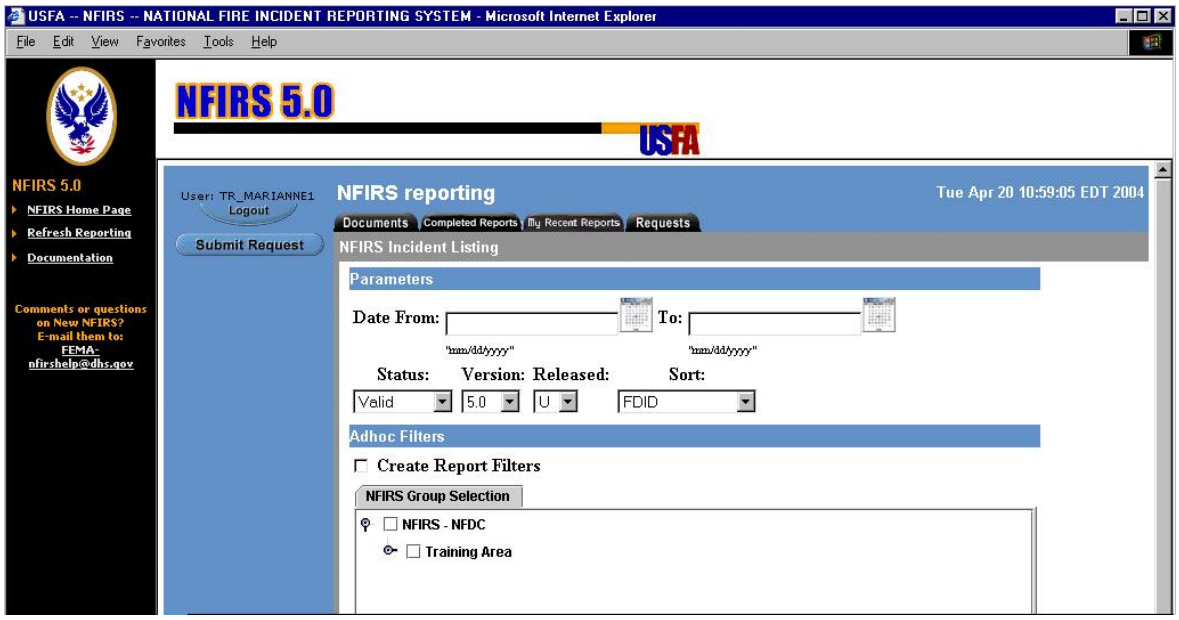
Each time the user adds criteria, the frame will reload to include the specified criteria. The criteria specified will be listed on the heading page of the completed report.

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

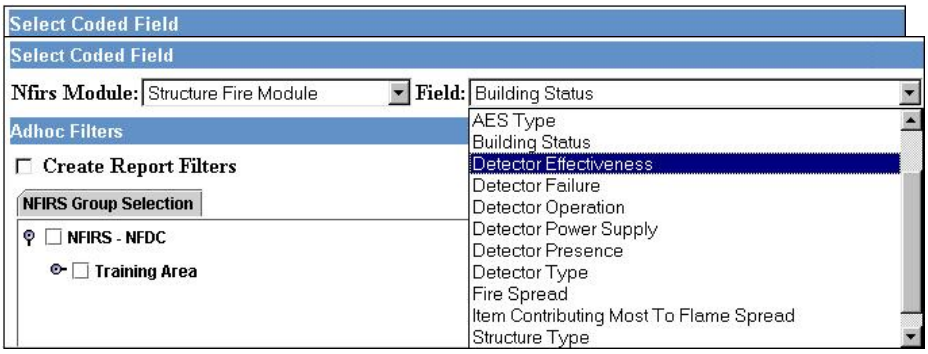


Figure 6.1.C

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.

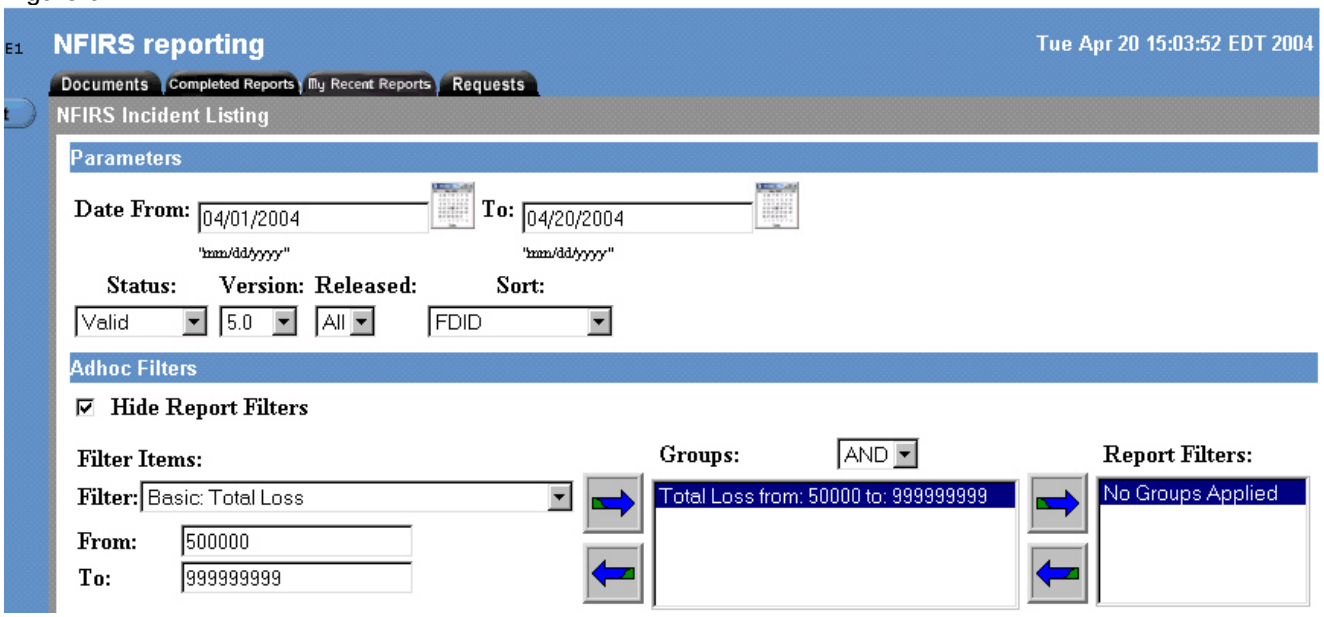
6. The new Interface displayed will contain the fields and drop boxes to be used when defining the ad hoc filters.

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).

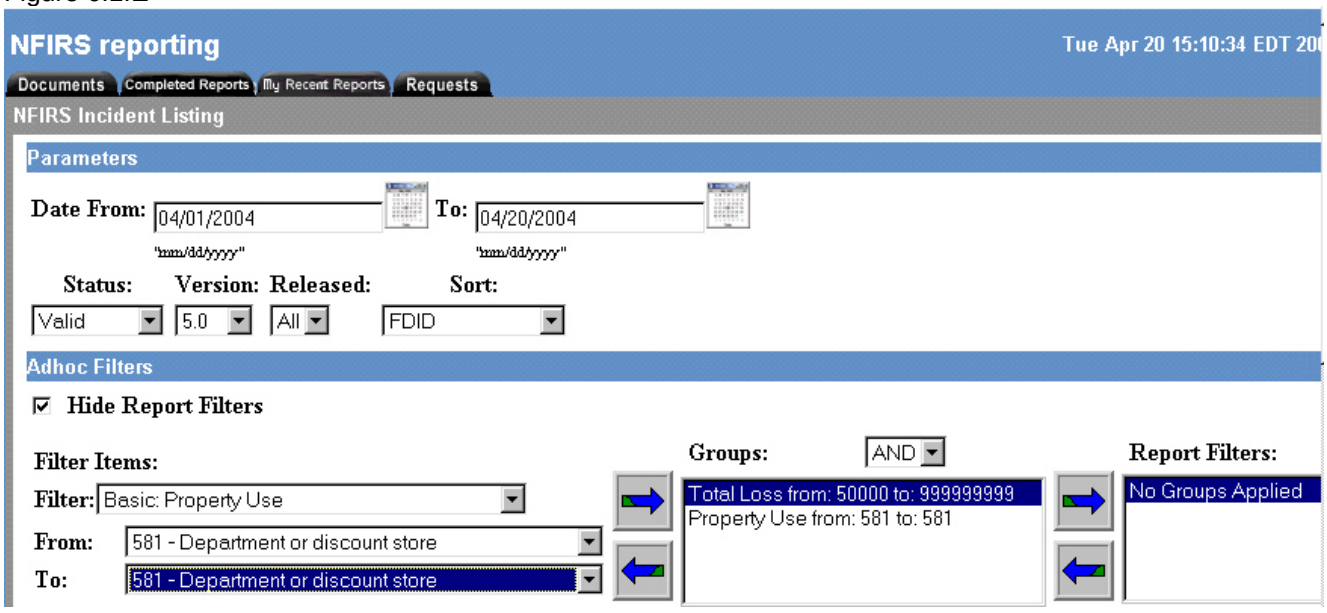
Figure 6.1.D



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



12. In the **Groups** Drop down box, select AND or OR to determine the use of the filters.

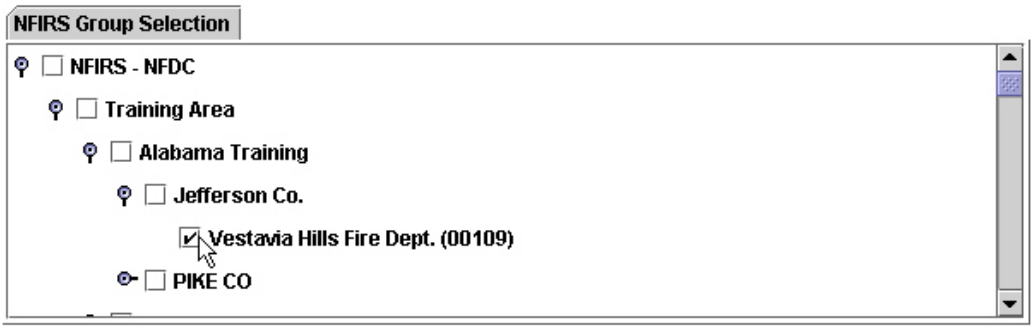
For example: A group filter of Total Dollar Losses From 500000 To 9999999 *AND* Property Use From 581 To 581 will include incidents with both the Property Use 581 and a Total dollar loss amount in that range. The group filter with an *OR* used will include all incidents with Property Use 581 and all 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.

This page intentionally left blank.

UNIT 2: INCIDENT REPORTING

TERMINAL OBJECTIVE

The students will be able to:

2.1 Determine best practices for quality assurance (QA) in the National Fire Incident Reporting System (NFIRS) incident reporting.

ENABLING OBJECTIVES

The students will be able to:

2.1 Review the benefits of NFIRS at the local, state and federal levels.

2.2 Identify best practices for QA.

2.3 Given a research report, analyze the results of the chronic problem of undetermined and missing data.

2.4 Differentiate between typical and special-case or consequential incidents.

2.5 Given an incident case study and a completed NFIRS-1 report form, evaluate the completeness of the NFIRS report.

2.6 Use the Federal Client Tool (FCT) to manage NFIRS user accounts and import data.

This page intentionally left blank.

UNIT 2:
INCIDENT REPORTING

Slide 2-1

ENABLING OBJECTIVES

- Review the benefits of the National Fire Incident Reporting System (NFIRS) at the local, state and federal levels.
- Identify best practices for quality assurance (QA).
- Given a research report, analyze the results of the chronic problem of undetermined and missing data.

Slide 2-2

ENABLING OBJECTIVES (cont'd)

- Differentiate between typical and special-case or consequential incidents.
- Given an incident case study and a completed NFIRS-1 report form, evaluate the completeness of the NFIRS report.
- Use the Federal Client Tool (FCT) to manage NFIRS user accounts and import data.

Slide 2-3

This page intentionally left blank.

ACTIVITY 2.1

National Fire Incident Reporting System Benefits

Purpose

Review the benefits of the National Fire Incident Reporting System (NFIRS) at the local, state and federal levels.

Directions

1. You will complete this activity individually.

2. Answer the following questions and be prepared to share your answers as part of a group discussion.

Questions

1. Identify one local, state and federal benefit that is a result of your fire department's participation in NFIRS.

   a. Local: _____

   b. State: _____

   c. Federal: _____

2. Identify a critical element that is not currently captured in NFIRS. Indicate whether it is a 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?

DVD PRESENTATION

"FIREHOUSE INCIDENT REPORTING SYSTEM — MOCK TRIAL — COBB COUNTY, GEORGIA"

Slide 2-5

I. QUALITY

WHAT IS QUALITY ABOUT?

- Quality is really nothing more than plain common sense.
  - The concepts of quality improvement are simple, honest, down-to-earth ideas about how to help departments, divisions and individual fire companies run more efficiently.

Slide 2-6

A. What is quality about?

1. Quality is really nothing more than plain common sense.

   a. The concepts of quality improvement are not a collection of confusing jargon meant to make you look and sound impressive (other than Six Sigma Black Belt).

   b. Instead, they are simple, honest, down-to-earth ideas about how to help departments, divisions and individual fire companies run more efficiently.

WHAT IS QUALITY ABOUT? (cont'd)

- Quality improvement is the actions taken to increase the value to the customer by improving the effectiveness and efficiency of processes and activities throughout the organizational structure.

Slide 2-7

2. Quality improvement is the actions taken to increase the value to the customer by improving the effectiveness and efficiency of processes and activities throughout the organizational structure.

3. Organizations that have implemented the quality improvement process (QIP) understand that an organizational commitment must be made to institutionalize the process if it is to succeed.

WHAT IS QUALITY ABOUT? (cont'd)

- Perhaps the central tenet of the quality revolution is that improvement must be continuous.
- The greatest benefit quality improvement can offer is the positive effects it will have on the people in your organization.
- You have to be able to measure what you do in customers' terms.

Slide 2-8

4. Perhaps the central tenet of the quality revolution is that improvement must be continuous.

   Quality improvement needs to be continuous because once you feel you have reached the best possible level of quality, your quality will have only one place to go which is down.

5. The greatest benefit quality improvement can offer is the positive effects it will have on the people in your organization and the service it provides.

a. Because it is based on teamwork, commitment and input, a good quality improvement program can build enthusiasm, excitement and involvement within your organization.

b. Cross-functional teaming means everyone involved in a particular process is connected directly with everyone else involved (no silos).

6. You have to be able to measure what you do in customers' terms.

a. Successful organizations have developed the mechanisms to determine what their customers' expectations are.

b. In many cases, the fire service does not realize the problem because we fail to ask the customer and fail to measure our performance.

c. A good quality program offers a way to manage those demands and match our resources to our customers' expectations.

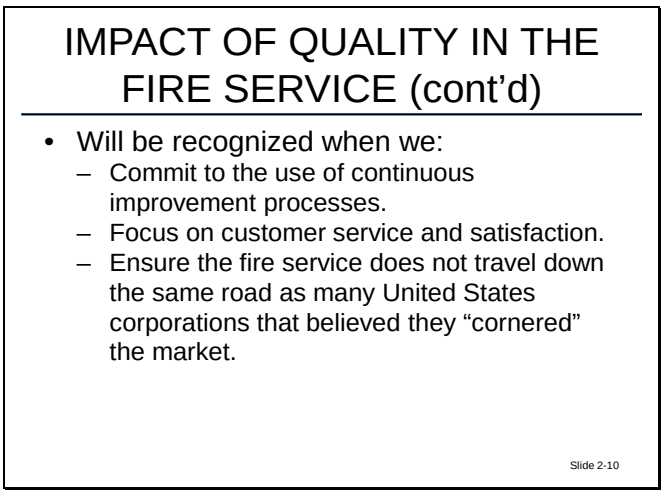
B. The impact of quality in the fire service.

1. Focus on customer service and satisfaction.

2. Realization that fire service must compete for funding.

3. A culture of quality management.

4. Not a focus on minimum standards but on continuous improvement.



5. The impact of quality initiatives will be recognized only when we:

   a. Commit to the use of continuous improvement processes.

   b. Focus on customer service and satisfaction.

   c. Ensure the fire service does not travel down the same road as many United States corporations that believed they "cornered" the market.

6. The realization that quality and customer satisfaction are woven into the fabric of today's customer expectations is an important fact that must also be integrated into the services provided by the public sector.

7. An objective for the fire service is to ensure that it does not travel down the same road as many U.S. corporations that believed they "cornered" the market. (Blockbuster Movies, 7-11).

   a. Although we may be the only local fire department, we compete for funding each and every day with other departments within the jurisdiction we serve.

   b. One of the first hurdles we must face in the fire service is to overcome the conventional wisdom that quality is not an important issue within our profession.

IMPACT OF QUALITY IN THE FIRE SERVICE (cont'd)

- Quality management is a means of institutionalizing a process within each of our organizations.
- A great theme for the fire service should be to "exceed the customers' expectations."

Slide 2-11

8. Quality management is a means of institutionalizing a process within each of our organizations.

   a. Quality management will help to provide the means to measure performance, facilitate needed internal change, and provide a higher level of service to our customers.

   b. Disney's whole focus is to provide a quality experience to the customers. Walt Disney believed in doing things right the first time and that "quality is just good business."

9. A great theme for the fire service should be to "exceed the customers' expectations."

PRINCIPLES OF TOTAL QUALITY MANAGEMENT

- Deming is the father of Total Quality Management (TQM).
  - Nothing improves until it is measured; as soon as something is measured, it provides the basis for improvement.
  - Quality is about meeting and exceeding customers' expectations.

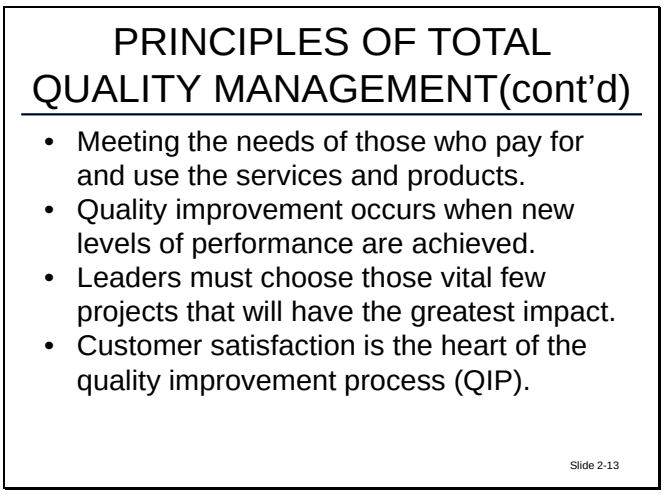
Slide 2-12

C. Principles of Total Quality Management (TQM).

1. Deming is the father of TQM. He assisted Japanese car makers with improving quality after WW II.

a. Nothing improves until it is measured; as soon as something is measured, it provides the basis for improvement.

b. Quality is about meeting and exceeding customers' expectations.



2. When talking about quality, the common thread is meeting the needs of those who pay for and use the services and products provided by an organization.

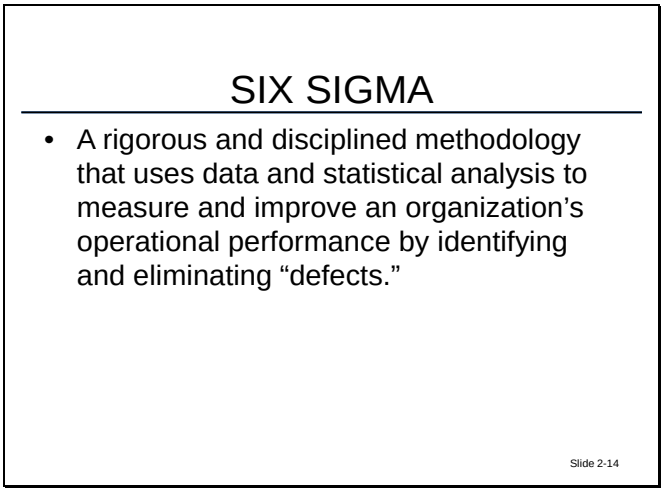
3. Quality improvement occurs when new, previously unattained levels of performance are achieved.

4. Leaders must choose those vital few projects that will have the greatest impact on improving ability to meet customers' needs.

5. Customer satisfaction is the heart of QIP.

   a. Customers evaluate us using their own expectations.

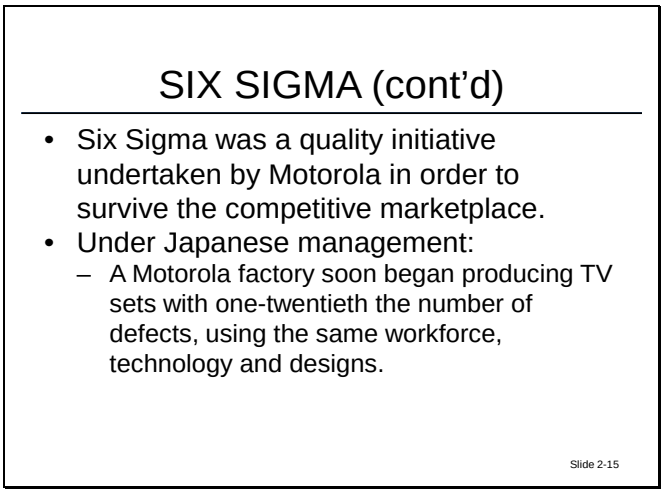
   b. The goal of a quality customer service program is that the customers should feel satisfied with the manner in which they are served, even when their specific wishes or demands are not met.



D. Six Sigma.

1. A rigorous and disciplined methodology that uses data and statistical analysis to measure and improve an organization's operational performance by identifying and eliminating "defects."

   The goal of Six Sigma is to produce no more than 3.4 errors per million opportunities.



2. History of Six Sigma.

   a. Six Sigma was a quality initiative undertaken by Motorola in order to survive the competitive marketplace.

      Motorola came to Six Sigma because it was being consistently beaten in the competitive marketplace by foreign firms that were able to produce higher quality products at a lower cost.

b. Under Japanese management, a Motorola factory soon began producing TV sets with one-twentieth the number of defects it had produced under Motorola management.

c. It did this using the same workforce, technology and designs, making it clear that the problem was Motorola's management.

SIX SIGMA (cont'd)

- Why Six Sigma?
  - Public sector must accept competition as a fact of doing business.
  - Fire service is in continuous competition at the local level to obtain sufficient tax dollars and budgets to operate our departments.
  - Maximum potential requires a focus on outcomes through quality measurements.

Slide 2-16

3. Why Six Sigma?

   a. Public sector must accept competition as a fact of doing business.

   b. Fire service is in continuous competition at the local level to obtain sufficient tax dollars and budgets to operate our departments.

   c. Maximum potential requires a focus on outcomes through quality measurements.

SIX SIGMA (cont'd)

Six Sigma	=	3.4 defects per million (99.9999999998 percent)
Five Sigma	=	230 defects per million
Four Sigma	=	6,210 defects per million
Three Sigma	=	66,800 defects per million
Two Sigma	=	308,000 defects per million
One Sigma	=	690,000 defects per million

Slide 2-17

4. The goal of quality improvement is zero defects.

a. Six Sigma = 3.4 defects per million (99.9999999998 percent).

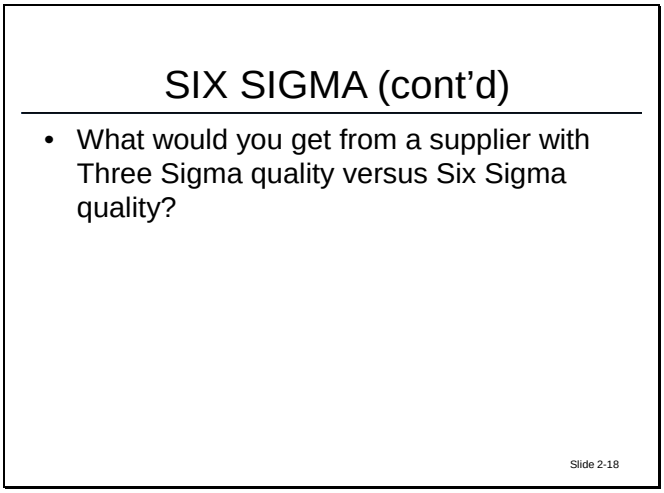
b. Five Sigma = 230 defects per million.

c. Four Sigma = 6,210 defects per million.

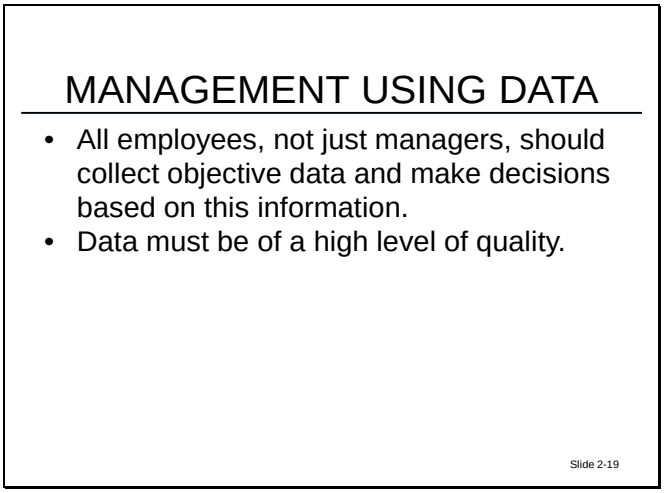
d. Three Sigma = 66,800 defects per million.

e. Two Sigma = 308,000 defects per million.

f. One Sigma = 690,000 defects per million.



5. Quality improvement is about zero defects — "a culture of do it right the first time."



E. Management using data.

1. All employees, not just managers, should collect objective data and make decisions based on this information.

   a. If the data that are captured are not of high quality, the information produced and the conclusions drawn will be neither accurate nor meaningful.

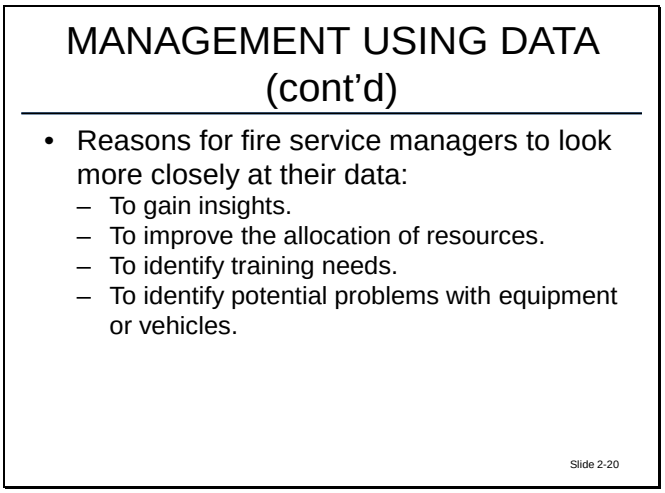
   b. In themselves, data are not meaningful; they must be analyzed, and the analyses of various databases can help managers make a number of important decisions.

2. Data must be of a high level of quality.

   a. Garbage data can be introduced in three ways: The data that firefighters input can be inaccurate or incomplete; every incident can be forced to fit a category; or the data collection system may be too complex.

   b. Ensuring that data are of high quality means ensuring that the database in question is a true and accurate representation of the situation being recorded.

   c. The only way to verify data quality is to look with a jaundiced eye at the reports generated from a database.



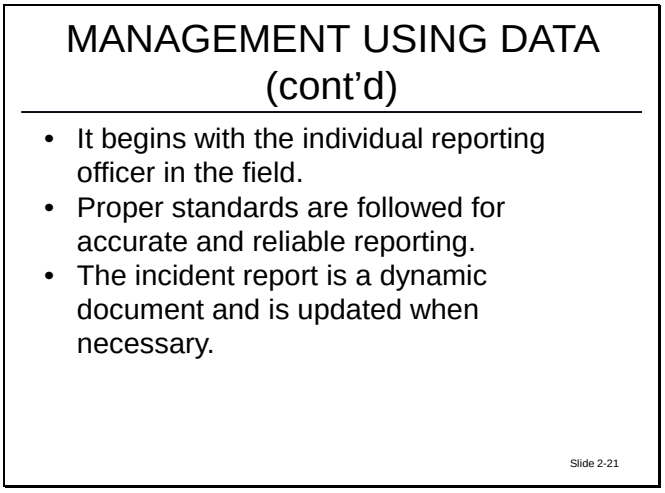
3. There are at least four good reasons for fire service managers to look more closely at their data.

   a. First, to gain insights into the pressures that various types of incidents place on the fire department.

b. Second, to improve the allocation of resources to correspond to the demands of the jurisdiction.

c. Third, to identify training needs necessary for meeting these demands.

d. Fourth, to identify potential problems with equipment or vehicles before the problems become real issues.



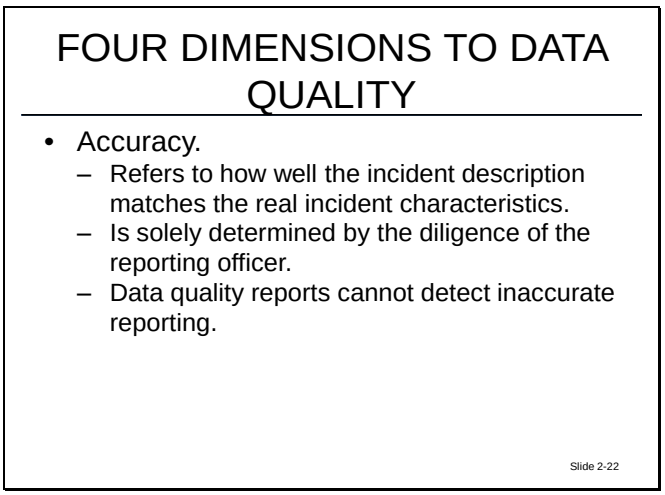
4. It begins with the individual reporting officer in the field.

5. Proper standards are followed for accurate and reliable reporting.

6. The incident report is a dynamic document and is updated when necessary.

   a. Typical incidents are those where there is a minimum dollar loss and no civilian or fire service casualties.

   b. However, we can have special-case or consequential incidents.



F. Four dimensions to data quality:

1. Accuracy.

a. Accuracy refers to how well the incident description matches the real incident characteristics.

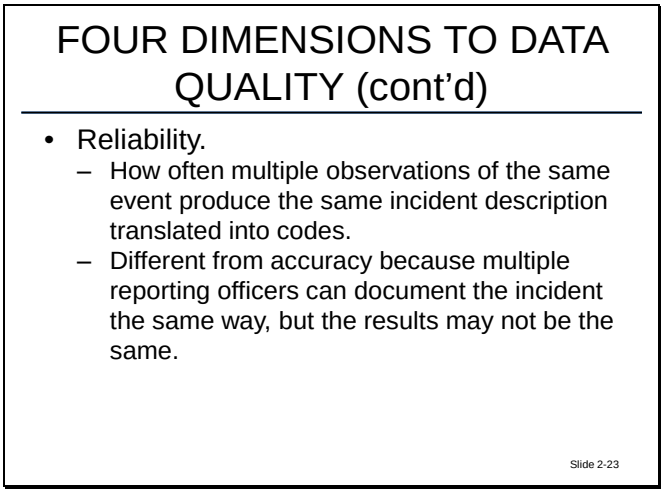
- It is very difficult to determine the accuracy of the incident report because an incident is composed of a multitude of factors, and individuals will see the same incident differently.

- Recording an incident is a subjective determination of the factual incident information.

b. Accuracy is solely determined by the diligence of the reporting officer.

- Training and feedback are the most effective ways to ensure accurate reporting.

c. Unfortunately, data quality reports cannot detect inaccurate reporting.



2. Reliability.

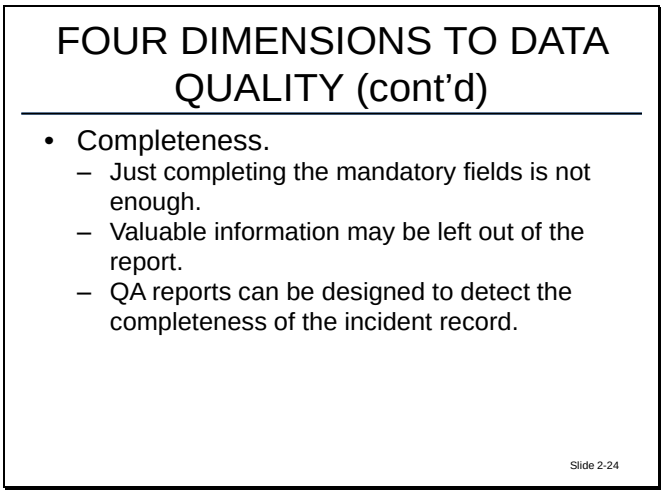
a. Reliability refers to how often multiple observations of the same event produce the same incident description translated into codes.

b. Reliability is different from accuracy because multiple reporting officers can document the incident the same way, but the results may not be the same.

- Again, training and feedback are the best ways to ensure reliable reporting.

- Quality control (QC) reports also have difficulty detecting problems with reliable reporting.

- Again, the best way to ensure reliable reporting is through training and feedback.

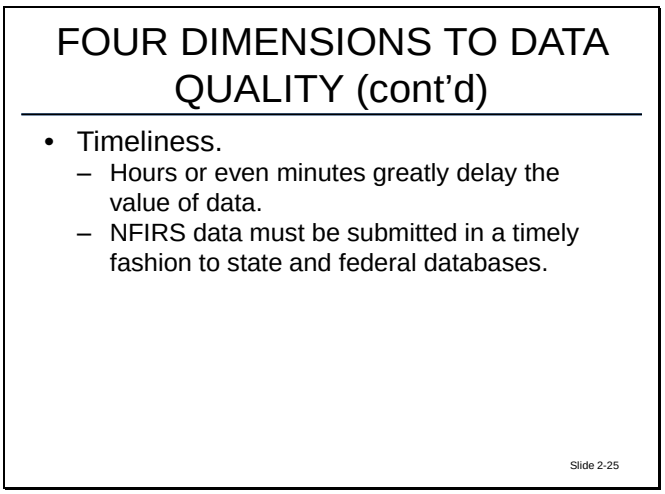


3. Completeness.

   a. As indicated in the earlier discussion of consequential and special-case incidents, just completing the mandatory fields is not enough.

   b. Too often valuable information is left off the report because the reporting officer just fills out the mandatory fields. This information, when aggregated with other incident data from similar incidents, can paint a picture that reveals critical prevention information.

   c. Quality assurance (QA) reports can be designed to detect the completeness of the incident record, especially for the consequential and special-case incidents.



4. Timeliness.

   a. In today's world, hours, or even minutes, can greatly delay the acquisition of valuable data.

      - For example, a few years ago the stock market's closing numbers were sufficient for traders to profitably invest in the market. Now, "day traders" require real-time access to stock market data.

      - Daily newspapers and the nightly news were sufficient to meet the public's need for information. Now, news is blasted at the speed of light in real time from all over the world to cellphones, personal digital assistants (PDAs) and the Internet.

   b. For NFIRS data to have value, it must be submitted in a timely fashion to state and federal databases.

ACTIVITY 2.2

Conquering the "Unknowns" — National Association of State Fire Marshals

Purpose

Given a research report, analyze the results of the chronic problem of undetermined and missing data.

Directions

1. You should have read the report, Conquering the "Unknowns," by the NASFM Fire Research and Education Foundation.

2. Take 10 minutes to discuss the report in the small group at your table.

    a. Does this report accurately portray concerns regarding NFIRS reporting and the quality of NFIRS reports?

    b. Do you agree or disagree with the section titled "Why are undetermined responses and missing data in the causal factors sections of NFIRS reports so prevalent (pp. 18-20)?" Which reasons do you think are most prevalent?

    c. Which reasons do you think are most prevalent for the reporting of unknowns?

    d. What changes can be made at the federal, state and local levels to reduce the reporting of unknowns or undetermined?

3. Participate in a large group discussion to share your group's work.

4. As a large group, take 15 minutes to discuss your policies, guidelines and procedures for reporting.

5. Share your organizational policies for report completion and QA.

This page intentionally left blank.

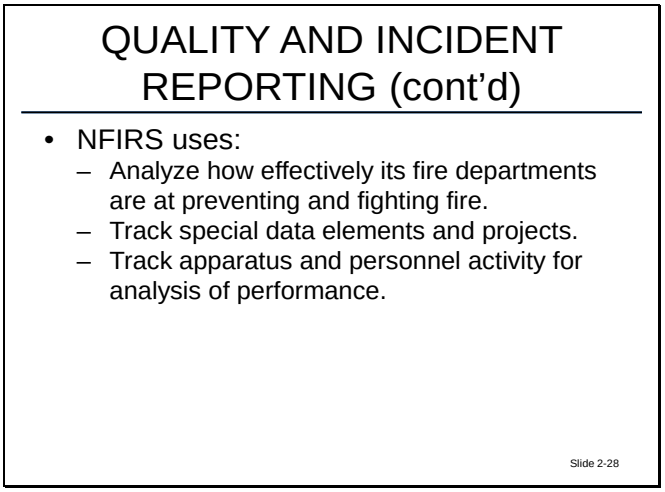
II. QUALITY AND INCIDENT REPORTING

A. NFIRS is not software; it is a powerful system used by the fire service to document its incidents.

The NFIRS:

1. Gives the fire service the ability to collect standardized fire incident data across the country.

2. Gives the fire service free tools to collect data, store data, report its data, and analyze its data.



3. Gives the fire service the ability to track the fire problem in its communities and analyze how effectively its fire departments are at preventing and fighting fire.

4. Allows fire departments to track special data elements and projects.

5. Gives fire departments the ability to track apparatus and personnel activity for analysis of performance.

QUALITY AND INCIDENT REPORTING (cont'd)

- Local and state regulations determine the minimum data that is required.
- Complex, consequential incidents require in-depth reporting.

Slide 2-29

6. Local and state regulations determine the minimum data that is required.

7. Complex, consequential incidents require in-depth reporting.

QUALITY AND INCIDENT REPORTING (cont'd)

- At a minimum, the report should include:
  - Causal factors contributing to the magnitude of the incident.
  - Actions taken by the fire department to mitigate the incident.
  - Description of the casualties or the damage resulting from the incident.

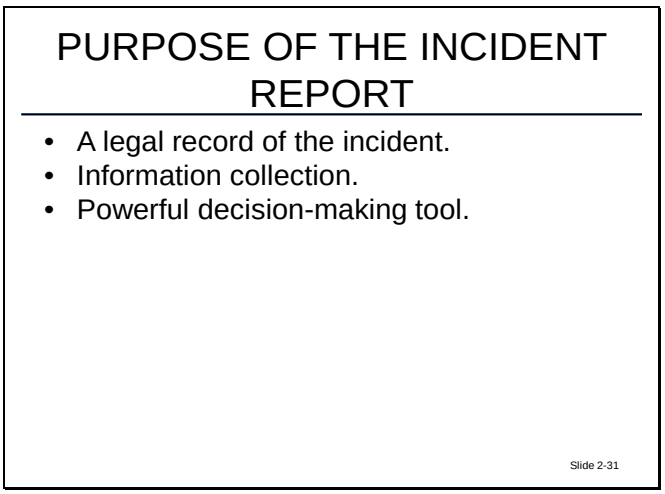
Slide 2-30

8. At a minimum, the report should include:

   a. Causal factors contributing to the magnitude of the incident.

   b. Actions taken by the fire department to mitigate the incident.

   c. Description of the casualties or the damage resulting from the incident.



B. Purpose of the incident report.

1. It is the legal record of the incident, providing official notification to those who may be legally required to know of the incident, such as the state fire marshal.

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

3. It provides fire service leaders with up-to-date, comprehensive data for decision-making.

   a. The first two purposes can be served by any report that is an accurate description of the incident.

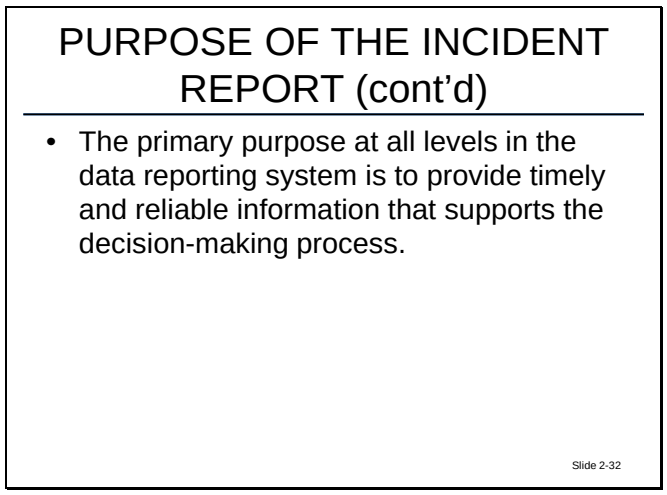
   b. The third purpose, however, requires that information be collected in a consistent format that will permit a meaningful aggregation of the data from reports on many incidents.

   c. It also is important that a single report serve the basic data needs of several types of potential users.

   d. The data needed at the state and national levels must be provided from what is collected locally.

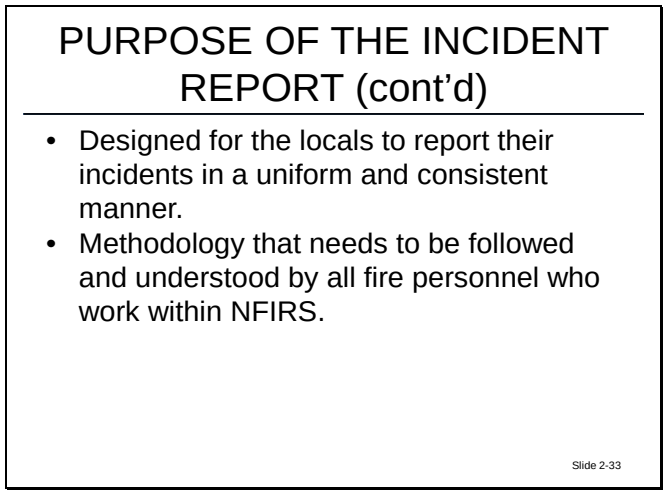
   e. At the same time, it is important that the locally collected data also have a visible, significant use at the local fire service level.

f. 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.



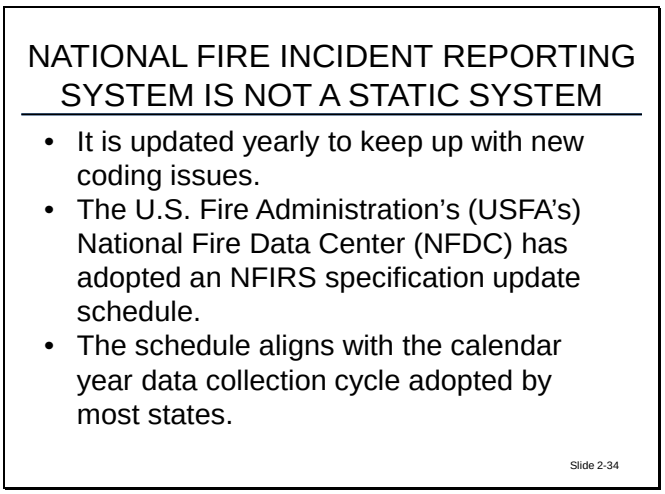
C. The primary purpose at all levels in the data reporting system is to provide timely and reliable information that supports the decision-making process.

We need to be making data-driven decisions!



1. NFIRS was designed for the locals to report their incidents in a uniform and consistent manner.

2. There is a methodology that needs to be followed and understood by all fire personnel who work within NFIRS, including the line firefighters, Company Officers (COs), chief officers, administrative officers, and any support administrative staff.



D. NFIRS is not a static system.

1. It is updated yearly to keep up with new coding issues.

2. The U.S. Fire Administration's (USFA's) National Fire Data Center (NFDC) has adopted an NFIRS specification update schedule that allows for changes to the codes and edits to occur on an annual basis.

3. The schedule aligns with the calendar year data collection cycle adopted by most states.

4. The Annual Specification Cycle.

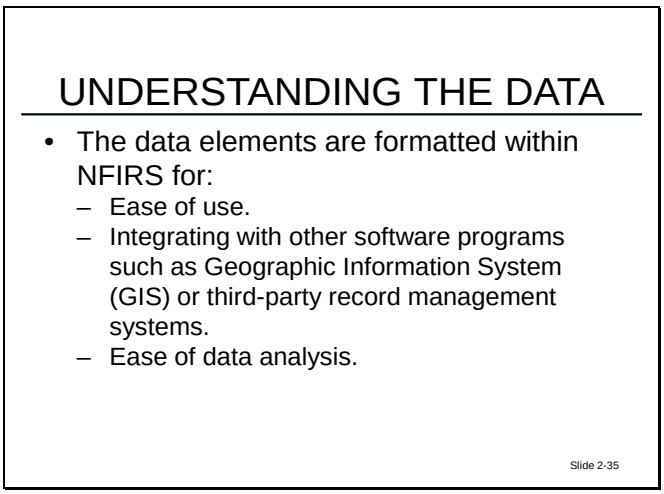
   a. The change process would be managed so that everyone affected would have the changes prior to their effective date (to allow time for them to be incorporated into software).

   b. A means to ensure that incidents that have been validated by the FCT would remain valid regardless of subsequent changes in the rules.

5. There is a process in place to implement changes. These changes usually take effect on Jan. 1. This schedule will give vendors three months to make the necessary changes and distribute software updates.

6. 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.

7. The design documentation is posted on the NFIRS design documentation page at https://www.nfirs.fema.gov/documentation/design.



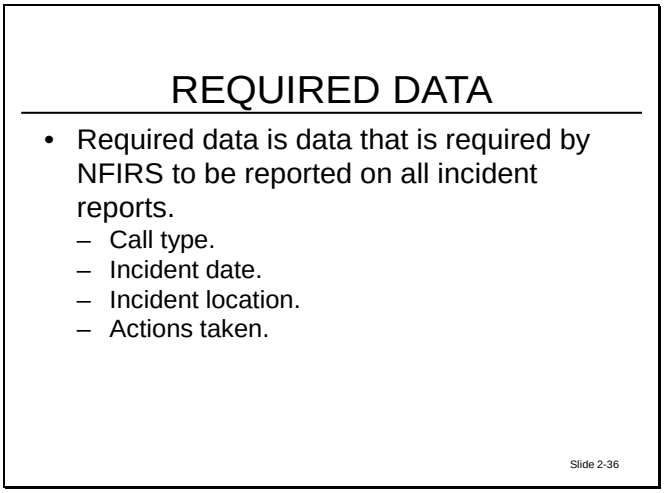
E. Understanding the data.

The data elements are formatted within NFIRS for:

1. Ease of use.

2. Integrating with other software programs such as Geographic Information System (GIS) or third-party record management systems.

3. Ease of data analysis.

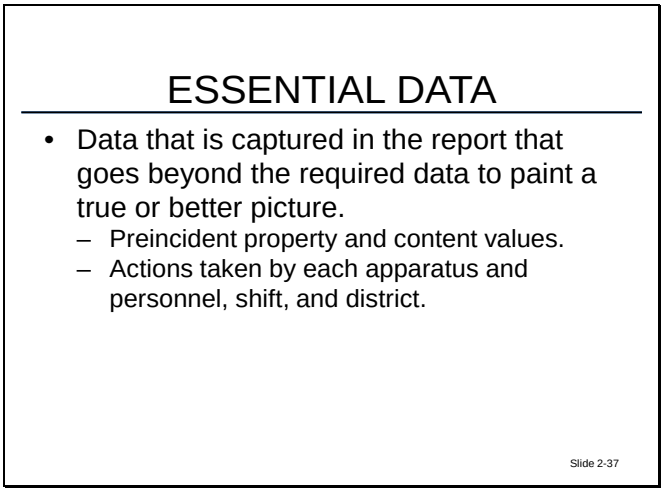


F. Required data.

1. Required data is data that is required by NFIRS to be reported on all incident reports, such as call type, incident date, incident location, and actions taken.

2. This data only captures the basics of each incident.

3. If an agency is only capturing the required data of each incident, it greatly hampers the agency's ability to get a true picture of what the agency is doing, when it does it, how it does it, how often it is doing it, how effective its rescores are.

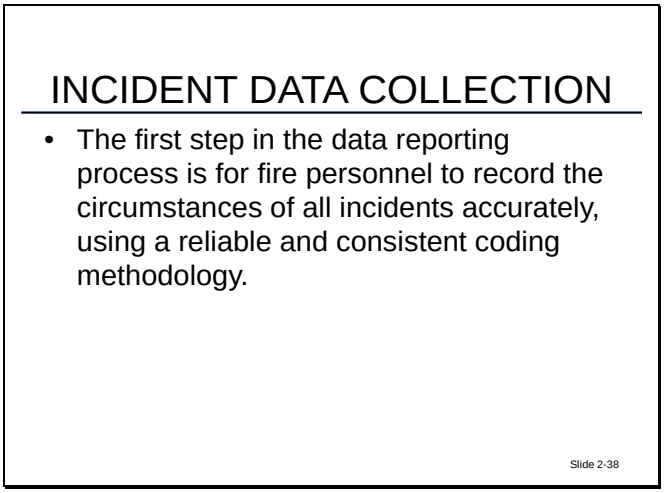


G. Essential data.

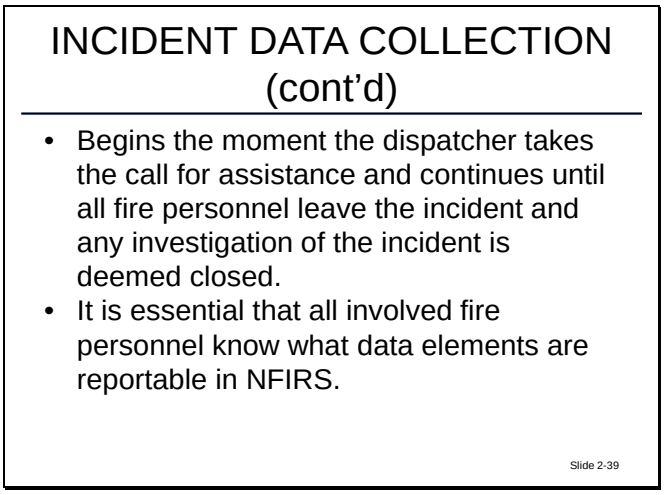
1. Essential data is data that is captured in the report that goes beyond the required data to paint a true or better picture of what happened at an incident.

2. Some examples of essential data are preincident property and content values, actions taken by each apparatus and personnel, shift, and district.

III. INCIDENT DATA COLLECTION



A. 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.



1. Data collection begins the moment the dispatcher takes the call for assistance and continues until all fire personnel leave the incident and any investigation of the incident is deemed closed.

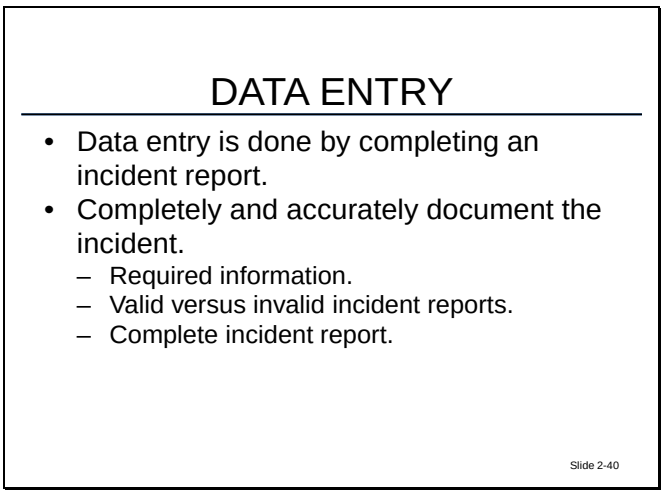
2. It is essential that all involved fire personnel know what data elements are reportable in NFIRS.

   a. Each apparatus should have field reporting sheets that contain all NFIRS data elements so no data is left back at the incident.

   b. The incident data is not static.

      - Data should be updated in the incident report as more information is received or if the data changes (i.e., fire cause is found by the investigator).

      - The data should be changed at the local, state and federal level.



B. Data entry.

1. Data entry is done by completing an incident report.

2. You want to completely and accurately document the incident and not just capture what is required by NFIRS, your state or your agency.

a. Required information.

- Required information is information that your agency, state and/or NFIRS requires to be entered on an incident report.

b. Valid versus invalid incident reports.

- An invalid incident report is an incident report that does not pass all validation checks on the basic required information.

- A valid incident report is an incident report that passes all basic validation checks on the required information.

c. Complete incident report.

- A complete incident report is an incident report that contains all required information and all essential information about an incident. All optional modules will be filled out on a complete incident report.

DATA ENTRY (cont'd)

- Data entry should be done by the most experienced fire personnel involved in the incident and as soon as possible.
- Should not be a delay in completing the incident report.

Slide 2-41

3. Data entry should be done by the most experienced fire personnel involved in the incident and as soon as possible.

4. There should not be a delay in completing the incident report. The longer the time is from the incident being completed and the incident report being completed, the more likely data will be lost.

DATA ENTRY METHODOLOGY

- If the methodology is not followed, then the agency's data analysis will not accurately reflect or paint a picture of the agency's:
  - Fire problem.
  - Response times.
  - Call types.
  - Incident complexity.
  - Effectiveness at an incident.

Slide 2-42

C. Data entry methodology.

1. There is a methodology to completing an incident report. If the methodology is not followed, then the agency's data analysis will not accurately reflect or paint a picture of the agency's:

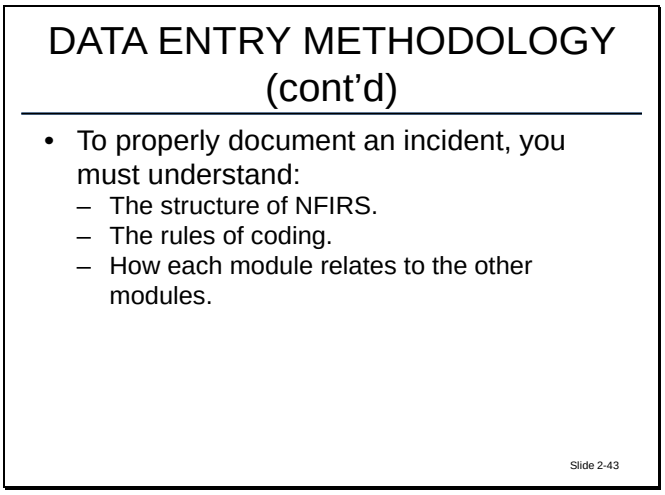
   a. Fire problem.

   b. Response times.

   c. Call types.

d. Incident complexity.

e. Effectiveness at an incident.



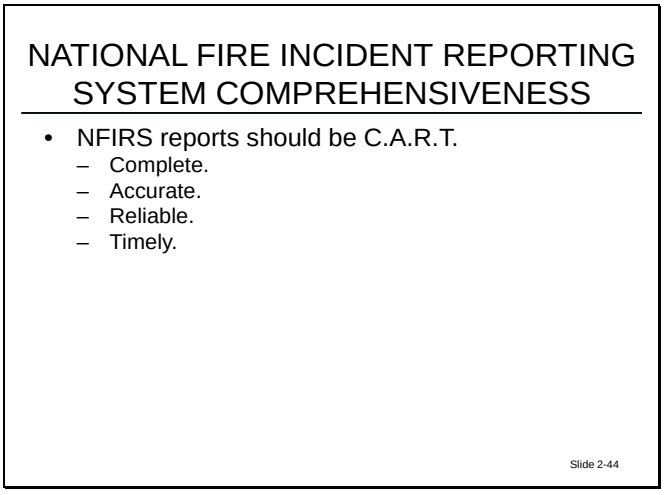
2. To properly document an incident, you must understand:

a. The structure of NFIRS.

b. The rules of coding.

c. How each module relates to the other modules.

IV. NATIONAL FIRE INCIDENT REPORTING SYSTEM COMPREHENSIVENESS



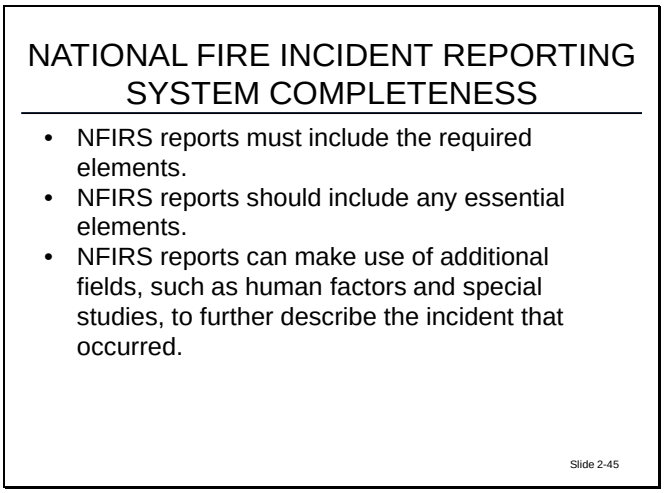
A. NFIRS reports should be C.A.R.T.

1. Complete.

2. Accurate.

3. Reliable.

4. Timely.

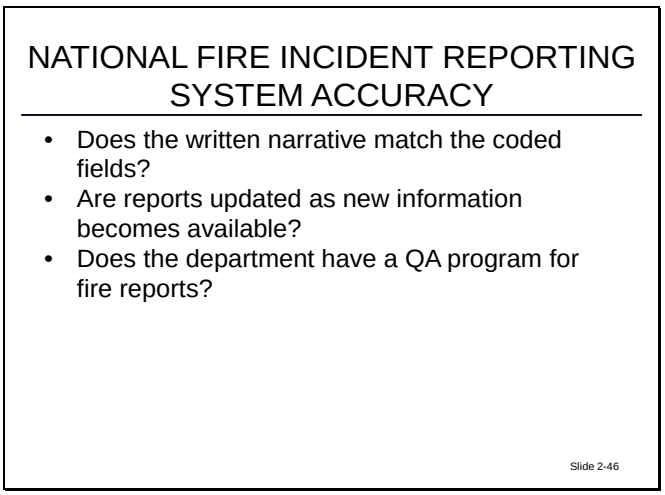


B. NFIRS completeness.

1. NFIRS reports must include the required elements.

2. NFIRS reports should include any essential elements.

3. NFIRS reports can make use of additional fields, such as human factors and special studies, to further describe the incident that occurred.



C. NFIRS accuracy.

1. NFIRS reports should match between coded fields and the narrative.

a. Departments should update their reports as new information becomes available.

b. Examples include loss amounts, injuries or fatalities.

2. Many departments have a QA program for Emergency Medical Services (EMS) yet do not have a similar program for fire reports.

a. Should we be checking them?

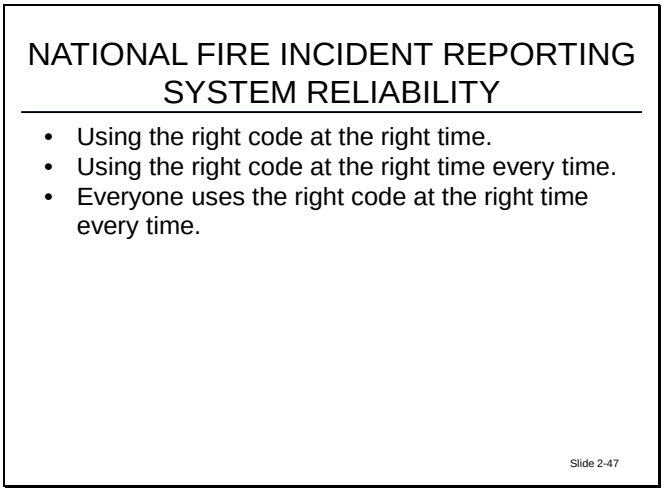
b. Can we learn anything from our fire reports?

c. How many multialarm fires did your jurisdiction have last year?

d. Is this a common or an uncommon event?

e. Is there anything to learn from the limited amount of multialarm incidents a jurisdiction has?

f. "Other" should not be an option except in limited circumstances.



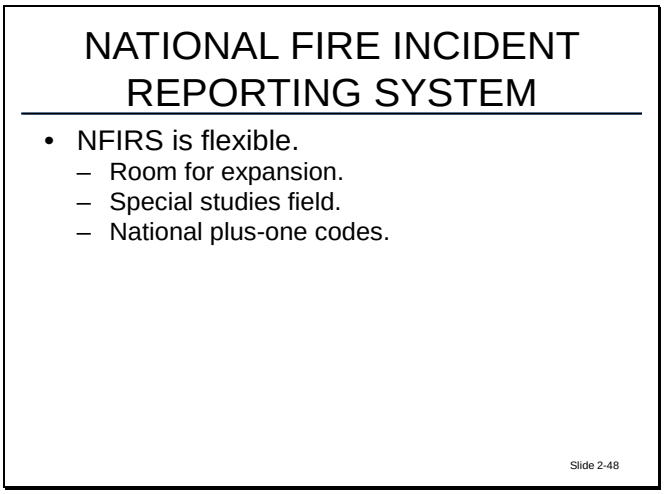
D. NFIRS reliability.

1. Reliability is concerned with not only accurately coding the incident, but ideally, coding the same type of incident the same way every time.

2. Some departments develop summary sheets ("cheat sheets") for their personnel to use.

3. Although this may increase reliability (everyone is coding incidents the same way), NFIRS program managers should make sure that summary sheets are all inclusive and simply assist personnel in finding the right code.

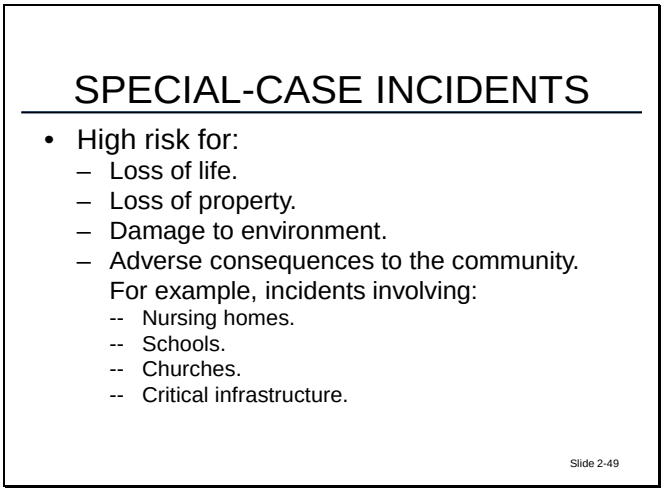
4. If a cheat sheet only displayed two types of property use codes, then every incident would probably be listed as one of those two property types, especially if one of the choices was "other."



E. NFIRS is flexible.

Organizations have the ability to work within the system to obtain the information they need through special studies and plus-one codes.

V. DIFFERENTIATING BETWEEN TYPICAL AND SPECIAL-CASE OR CONSEQUENTIAL INCIDENTS



A. Special-case incidents are incidents that have a high risk for:

1. Loss of life.

2. Loss of property.

3. Damage to environment.

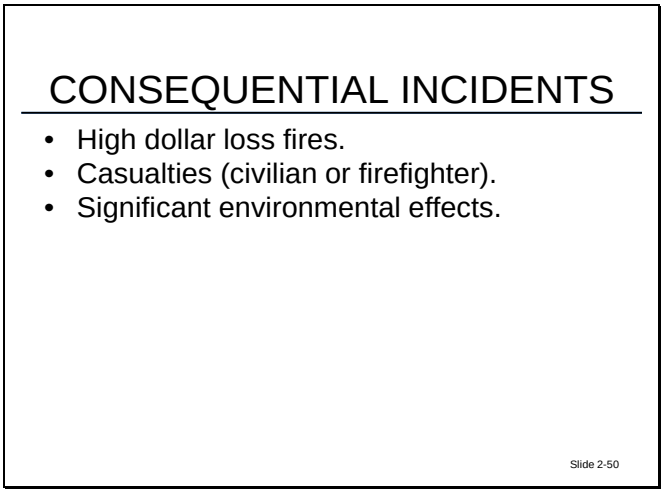
4. Adverse consequences to the community. For example, incidents involving:

   a. Nursing homes.

   b. Schools.

   c. Churches.

   d. Other critical infrastructure components, such as power plants and dams.

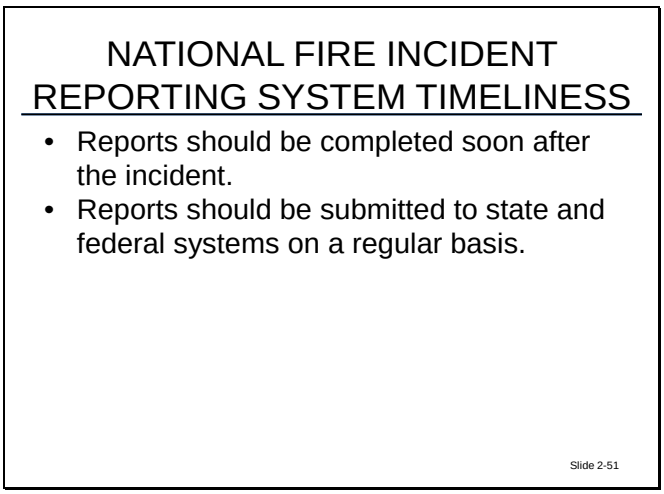


B. Consequential incidents.

   1. High dollar loss fires.

   2. Casualties (civilian or firefighter).

   3. Significant environmental effects.



C. NFIRS timeliness.

1. Reports should be completed soon after the incident.

2. Reports should be submitted to state and federal systems on a regular basis.

ACTIVITY 2.3

Open Top Tank Explosion

Purpose

Given an incident and a completed NFIRS-1 form, evaluate the completeness of the report.

Directions

1. You should have read the report on this case study last night. Your instructor will hand out a completed incident report. Refer to the blank set of NFIRS forms.

2. You will participate in a group discussion about what information should be reported.

   a. Do you think this study describes an incident that would have required a completed incident report?

   b. What do we know about this incident?

   c. What modules would you have completed?

   d. Was the NFIRS-1 form complete?

e. Would the U.S. Chemical Safety & Hazard Investigation Board (CSB) investigators or others have been interested in the department's report?

f. What steps should have been taken to make sure the report was complete?

g. Is there someone in your jurisdiction who is responsible for quality control? Who reviews incident reports to make sure that the reports are being coded properly?

h. If the media had done an open records request for the department's report, would this report have reflected positively on the department?

ACTIVITY 2.4

Installation and Setup of Federal Client Tool

Purpose

Use the FCT to manage NFIRS user accounts and import data.

Directions

1. Using the FCT, perform a user injection.
2. Import your data transaction file.
3. Complete the following and submit for a grade:
   a. Valid imports _____
   b. Invalid imports _____
   c. Deleted incidents_____
   d. Import failures _____
   e. Total processed _____
4. Using the FCT, do a search and verify incidents processed as valid.

This page intentionally left blank.

ACTIVITY 2.4 (cont'd)

Installation and Setup of Federal Client Tool

Lab Overview

Instruction and information on the NFIRS 5.0 FCT — Data Entry Tool (DET).

1. Updating the Access database.
2. Processing a user injection.
3. Importing a data file.
4. Processing errors.
5. Searching data.
6. Exporting data.
7. Managing user accounts.

Lab Directions

1. Download and install the FCT:

   http://www.nfirs.fema.gov/NFIRSWebTools/UserServices/home/download.do.

   Install the software using the "Typical" settings.

   Refer to the Readme.txt file downloaded with the software and the NFIRS Configuration Tool Guide for complete instructions at https://www.nfirs.fema.gov/users/usersdocs.shtm.

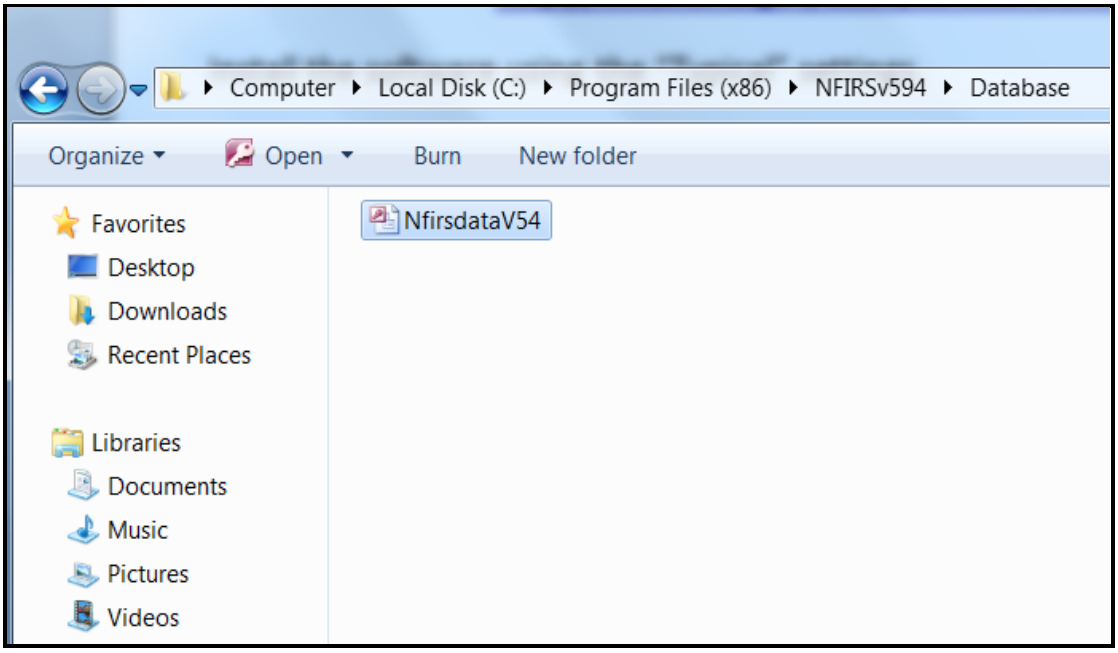
   Users whose PC is behind a firewall or who must access the Internet through a proxy server will need to enter their firewall or proxy server's IP address and port number in the Configuration Tool's Advanced tab On-line Access section. An Internet connection is required to work online or perform a user injection before you can work offline.

   The FCT installation defaults to the online mode where your program is directed to the national NFIRS 5.0 database.

2. Update the Access database.

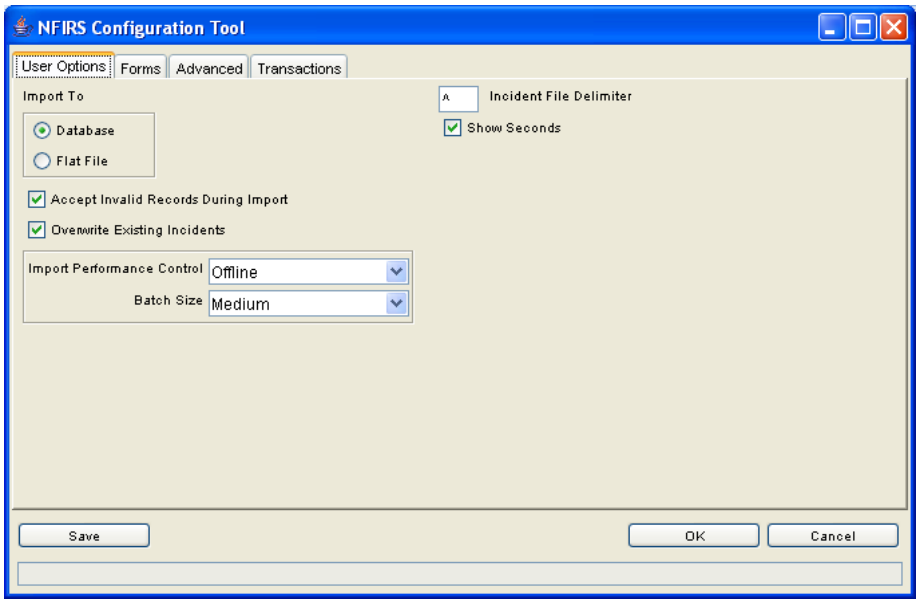
Update/Convert the NfirsdataV54 Access database that came with the NFIRS software to a more current Access version. This is necessary to work with your data in Excel PivotTables or query your local Access database.

Replace the 1997 NfirsdataV5xx.mdb file installed in your NFIRS V5xx/database folder "C:\Program files \NFIRSv5xxx\database\" with the converted 2000 NfirsdataV5xx.mdb file you received in the "National Fire Incident Reporting System: Program Management" (NFIRS: PM) class.

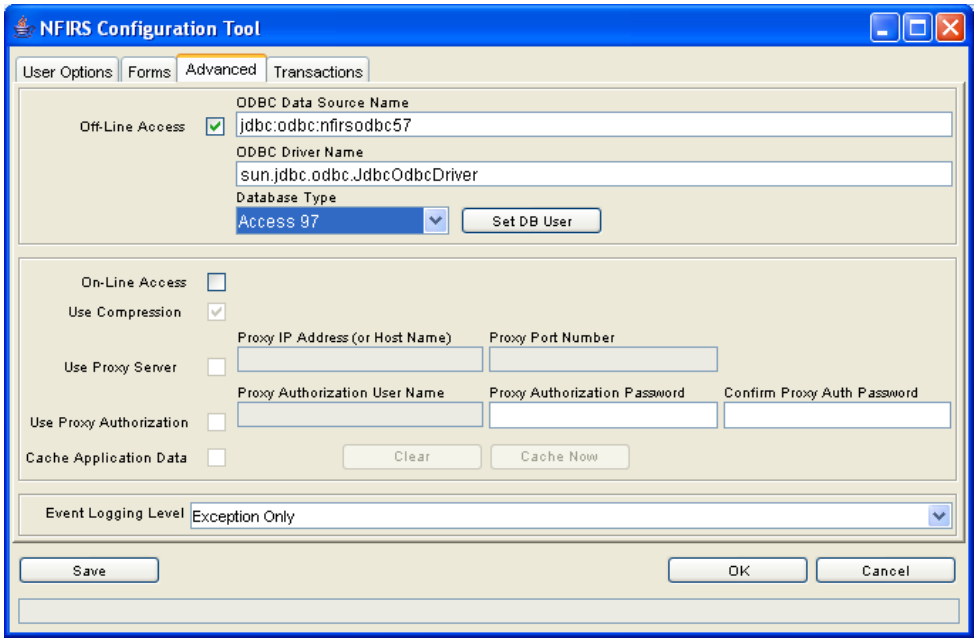


Once you update the database in your NFIRS software folder, you will have to update the Configuration Tool settings to recognize the updated database.

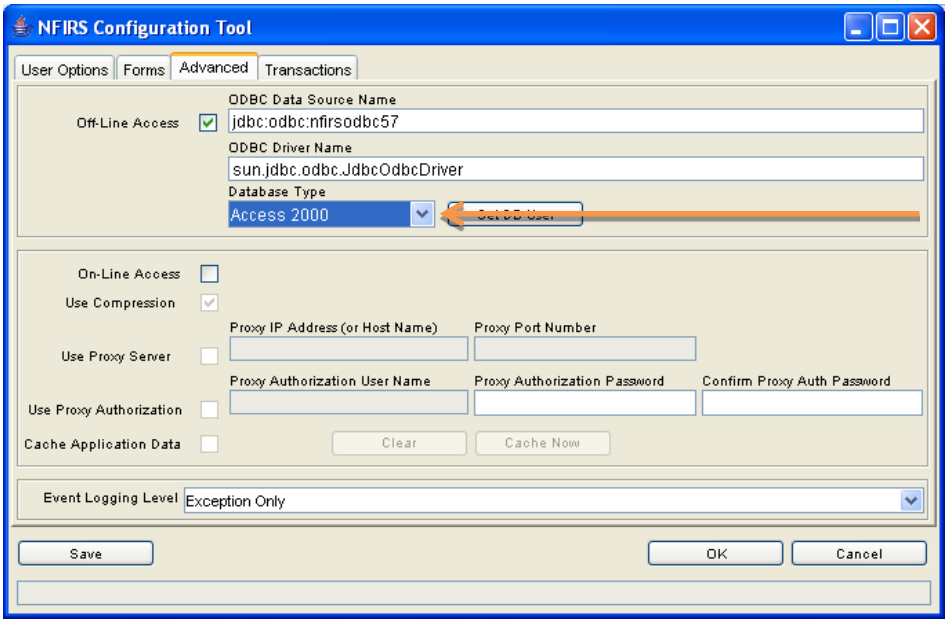
Open the NFIRSv594 program — Configuration Tool.



Under the Advanced tab, check the box for Off-Line Access.



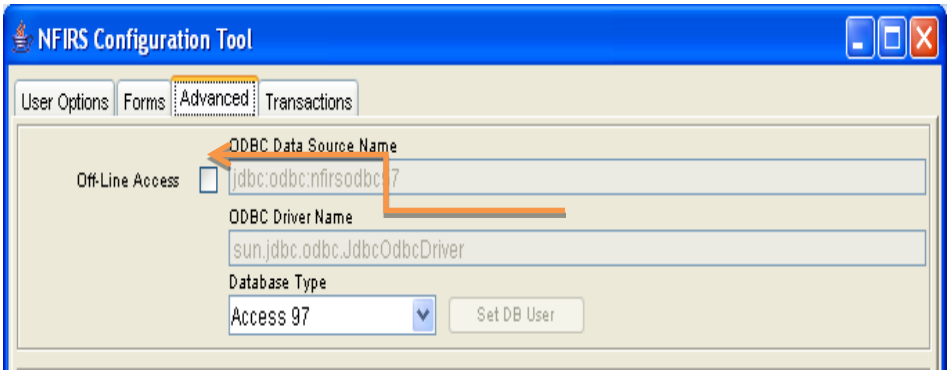
Change the Database Type from Access 97 to Access 2000.



Save your settings, and exit the Configuration Tool.

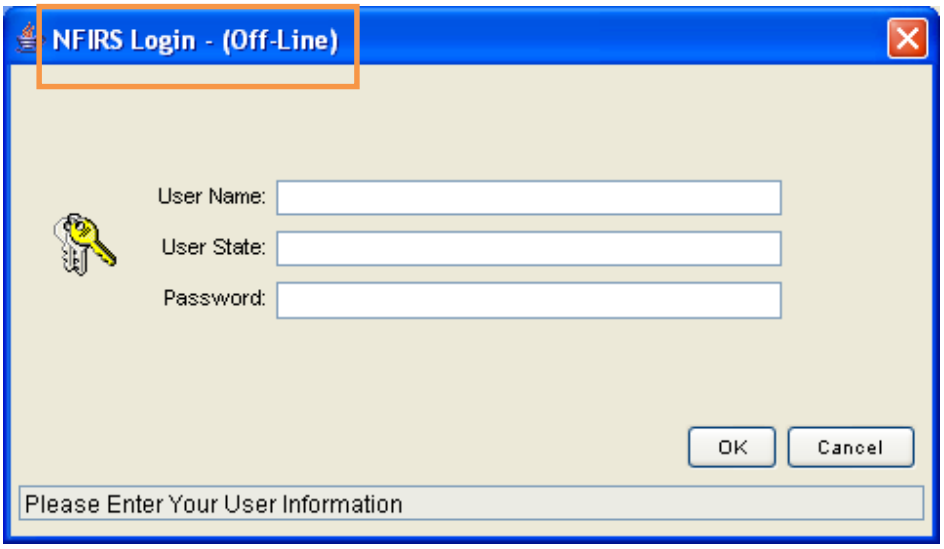
3. Processing a user injection.

To work with an offline (local) database, you need to set your Access to offline and perform a user injection. The user injection process infuses your local database with fire department and user account information.

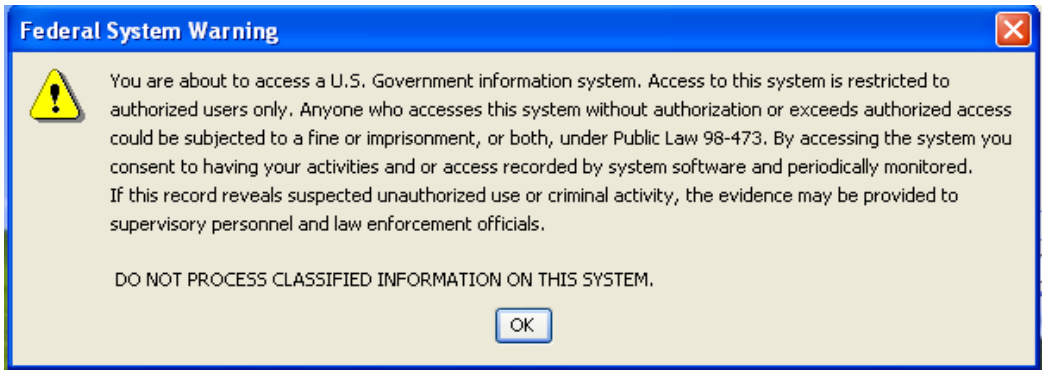


Be sure your Configuration Tool is set to **Off-Line Access**.

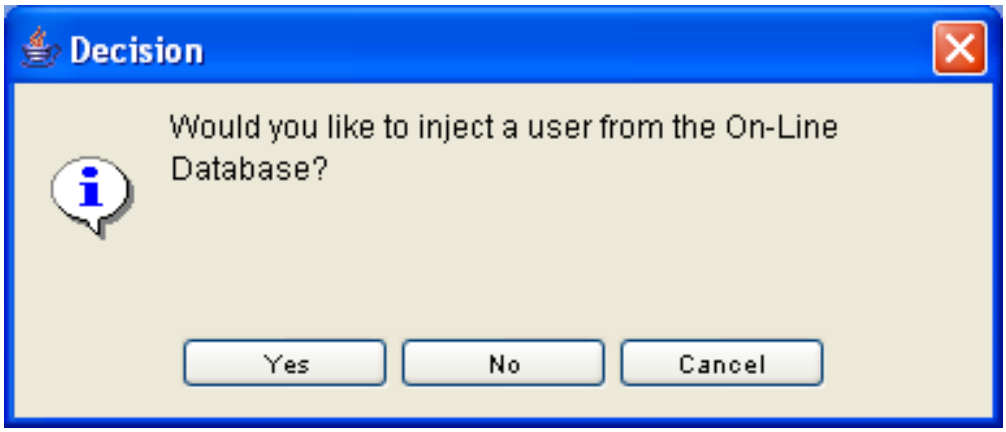
Open the NFIRSv594 program — DET. When the **NFIRS Login - (Off-Line)** screen appears, leave the login fields **blank** and click **OK**.



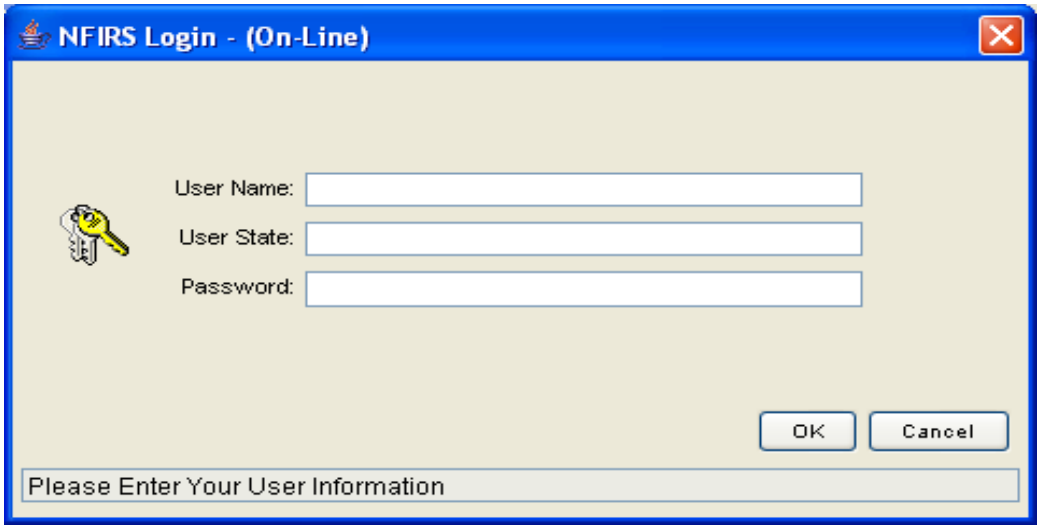
The Federal System Warning message window will be displayed; read and click OK to agree to its terms.



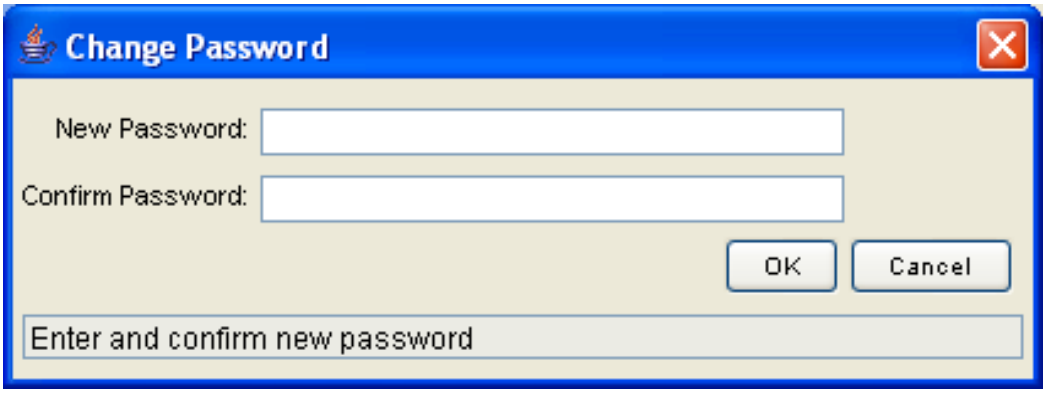
The message window will appear: “Would you like to inject a user from the On-Line Database?”



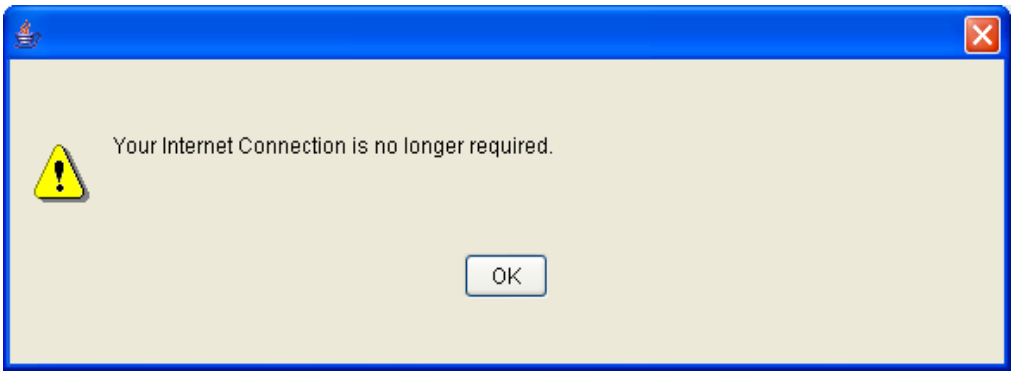
Click **Yes**. At this point, the application will load information from the offline database, and an Internet connection will be required. When the **NFIRS Login - (On-Line)** screen appears, enter the User Name, User State abbreviation, and Password.



After logging in to the online database, the user will be prompted to **Change Password**.



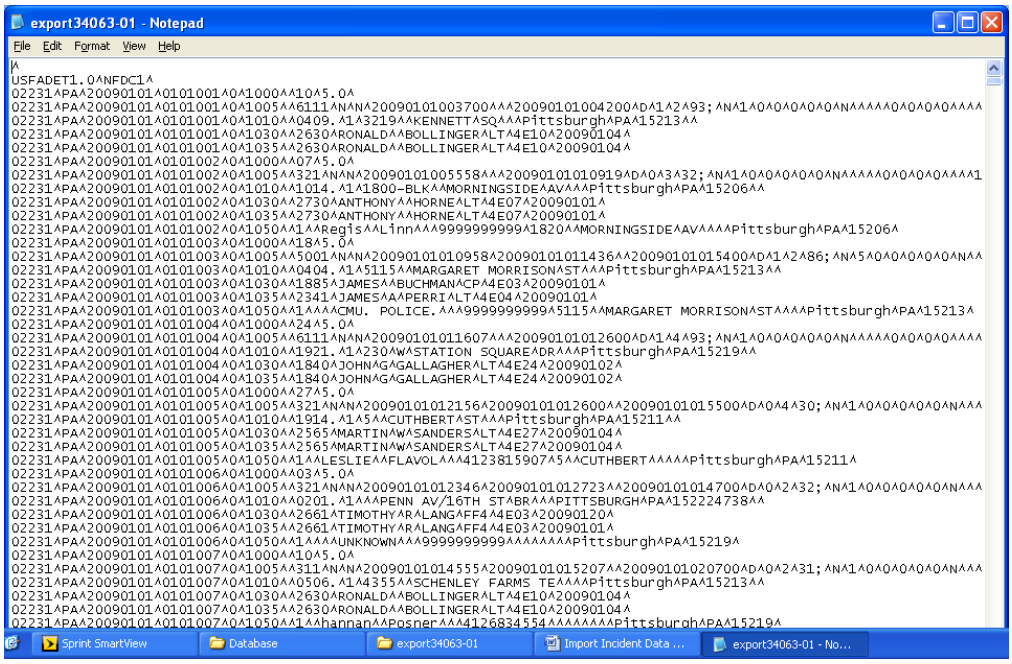
In this Change Password box, the user may enter a new password specifically for the offline login (to the offline database) or enter the same online password to maintain a single password for both online and offline databases. After clicking **OK** to submit the password, the user injection process will proceed. When the user injection/remote synch process is complete, a pop-up window will display the message: "Your Internet Connection is no longer required." Click "OK," then exit and close the NFIRS Client Tool.



4. Import data into your offline database.

To import data into your database, it must be in the correct format. Data you have exported from an NFIRS 5.0 compatible vendor software program or the NFIRS Bulk Export Utility (BEU) must be in the approved transaction file format.

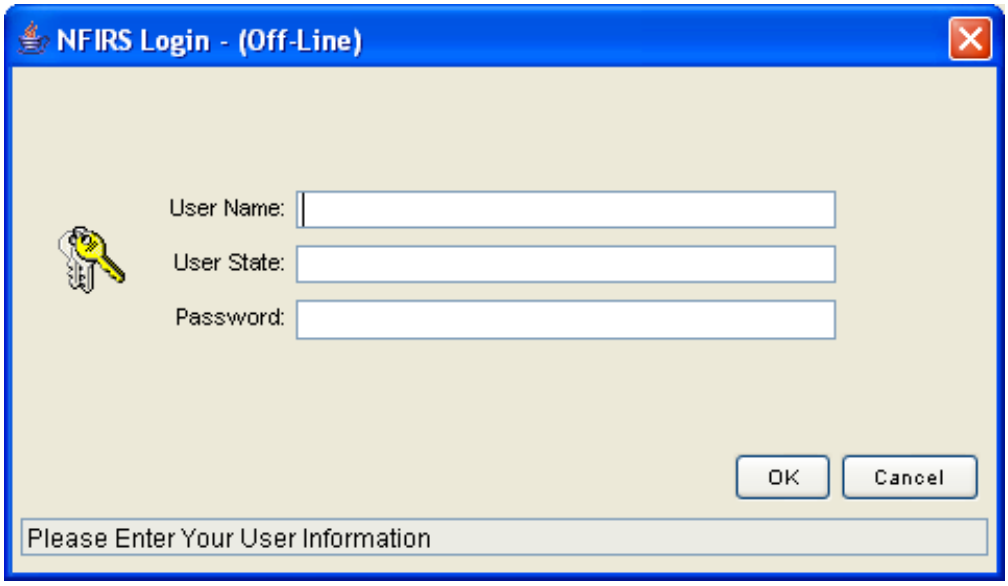
Transaction file sample. Note: A “record” is one row of data in a transaction file. A single incident report may include several record types (rows) of data.

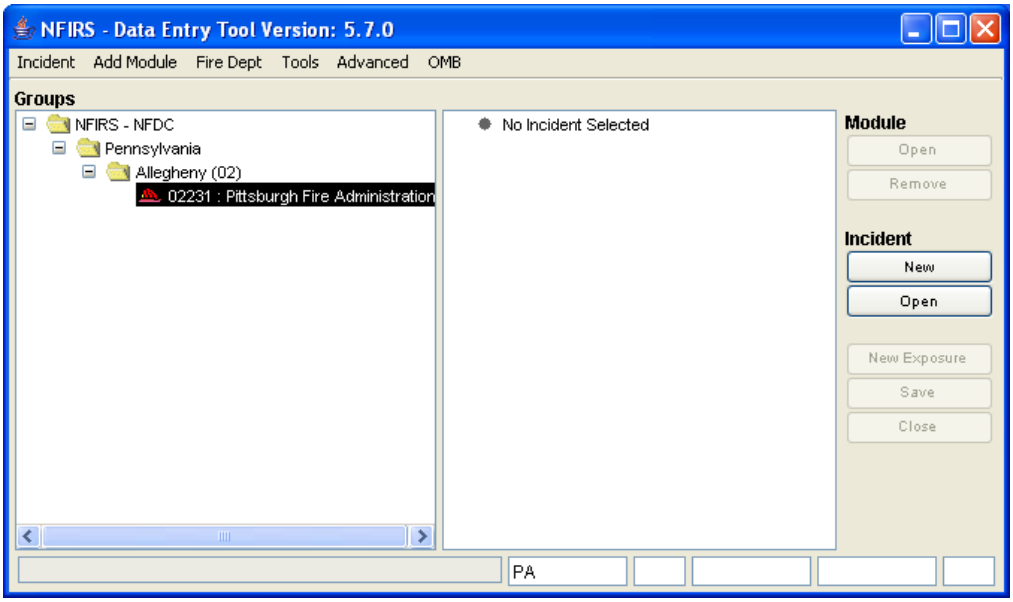


The NFIRS Design Documentation, Incident Flat File Transfer Format section, provides detailed information on the file layout and can help identify data file processing errors (https://www.nfirs.fema.gov/documentation/design/).

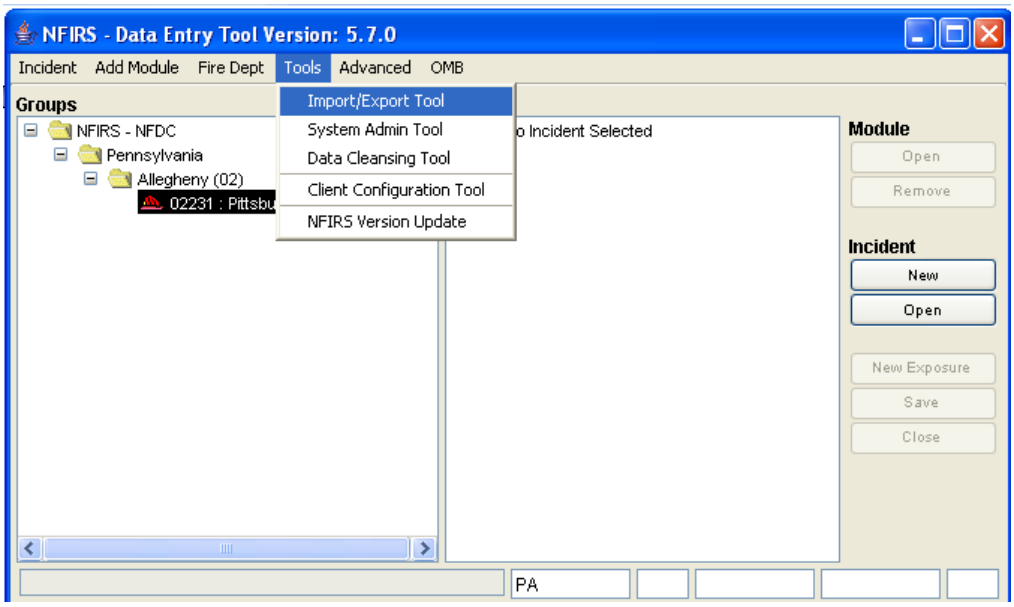
Open your Configuration Tool and Advanced tab and set to Off-Line Access. Save setting and close tool.

Open the NFIRS – DET, and log in to the offline database.

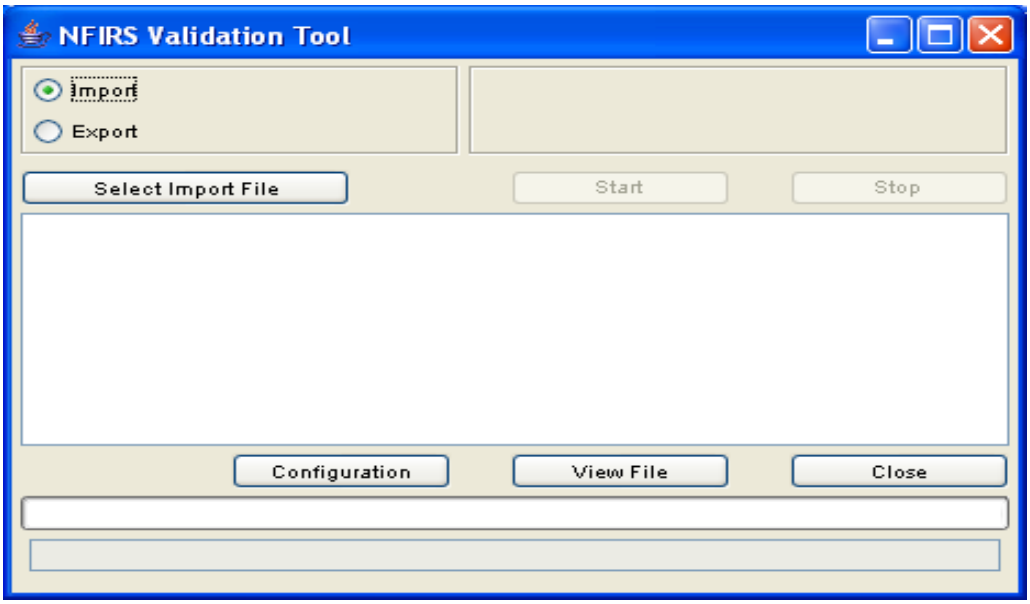




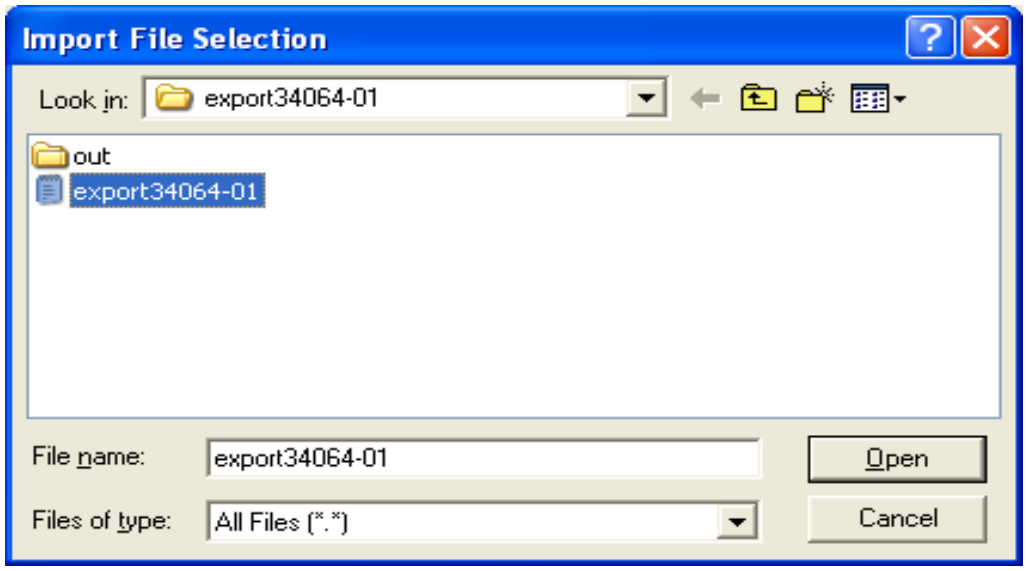
Open the “Import/Export Tool” from the Tools drop-down tab.



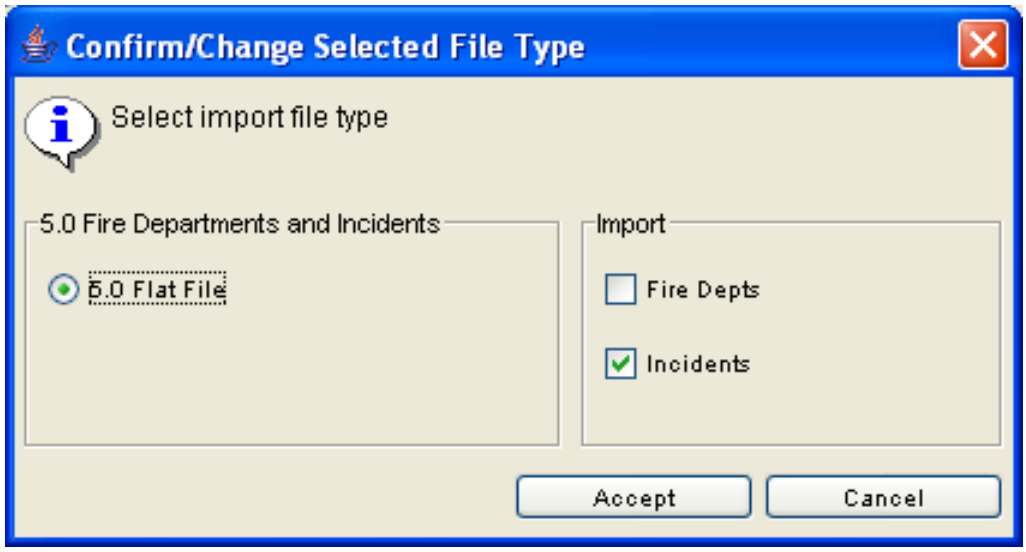
Select Import.



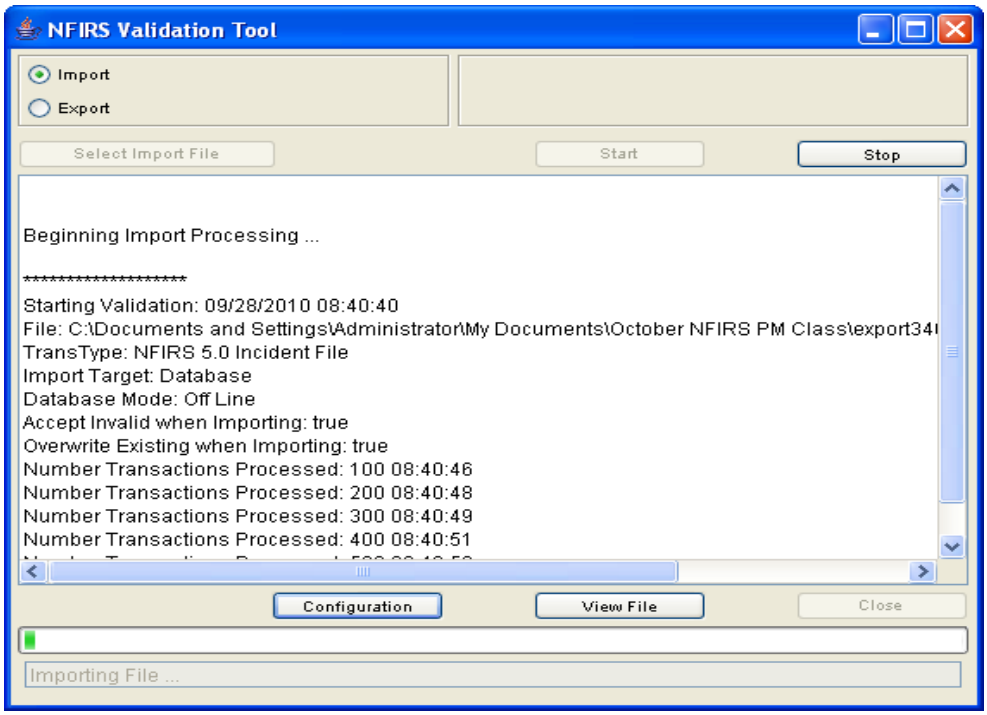
Choose your Import file. (File naming convention is up to state/fire department; sample below is export34064-01.)



Select Import Incidents.



Import processing will begin. Incidents will be processed against the NFIRS edit and validation rules as they are imported.

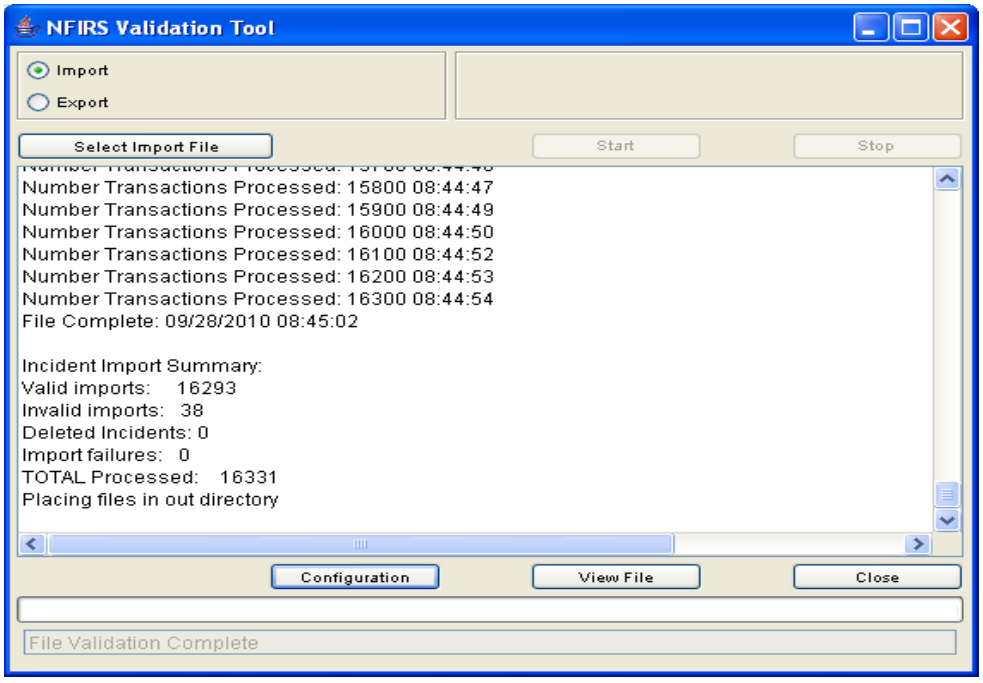


An “Incident Import Summary” is created when the Import has completed.

- Valid imports.
- Invalid imports.
- Deleted Incidents.
- Import failures.
- TOTAL Processed.

The message “File Complete” will be generated when the processing is complete. Take note of any invalids or failures. An “out” folder is created when you process a transaction file. This out folder will include any incident errors and failure information.

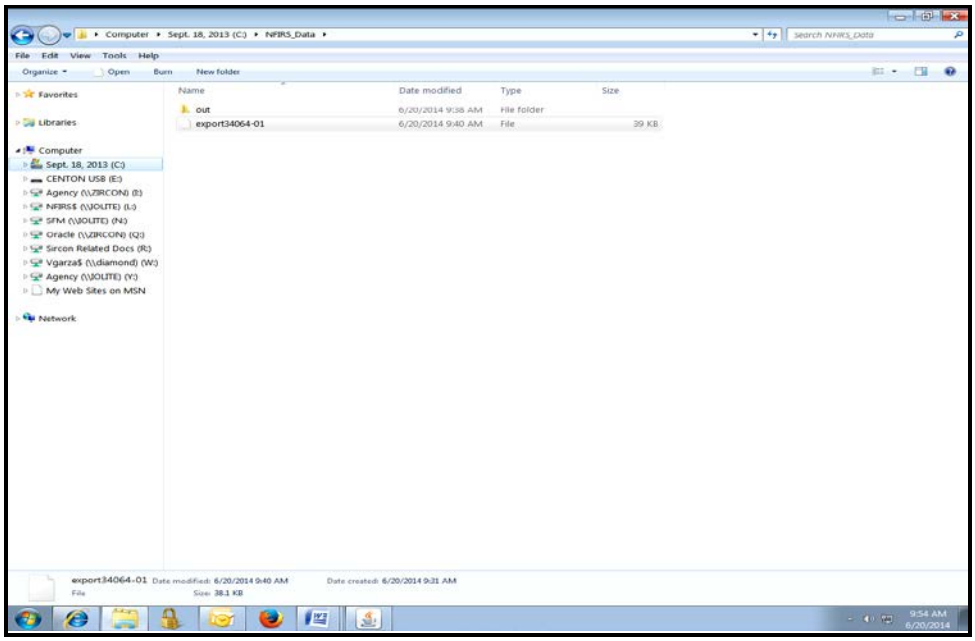
You can now close the NFIRS Validation Tool.



5. Processing Errors.

An “out” folder is created when you process a transaction file. That file is in the folder that contained the (raw) NFIRS data transaction file you imported.

Example below lists our transaction file export34063-01 and the “out” folder.



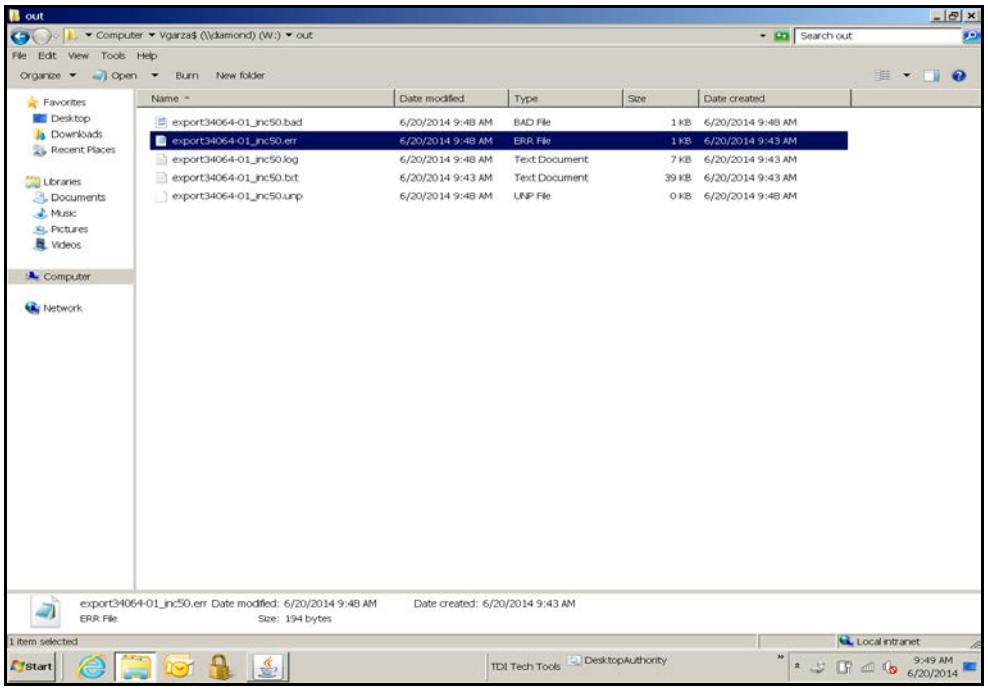
The “out” folder contains files that we will use to identify and correct errors created when the transaction file was imported.

Files created with each transaction file import:

xxx.bad	Includes any incidents that did not process because they did not meet the edit and validation rules. The incidents are in a flat file form.
xxx.err	Includes the specific incidents and their edit/validation errors.
xxx.log	Copy of validation file generated when the transaction file was processed.
xxx.txt	Copy of the transaction file in txt format.
xxx.unp	Internal software processing file.

The xxx.log file should be reviewed for errors and file processing problems.

The xxx.err file should be reviewed to identify the particular incidents and their errors. The file can be imported into an Excel sheet and forwarded to the fire department for correction.



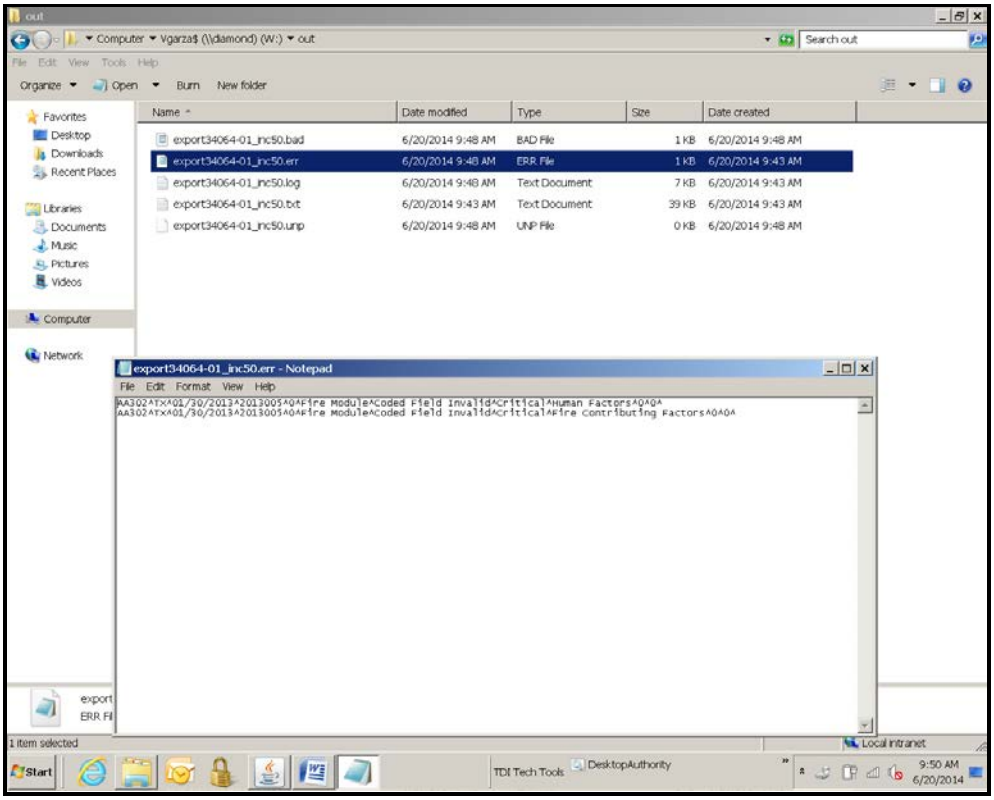
6. Searching data.

To verify your data has imported properly, run an incident search with the FCT DET.

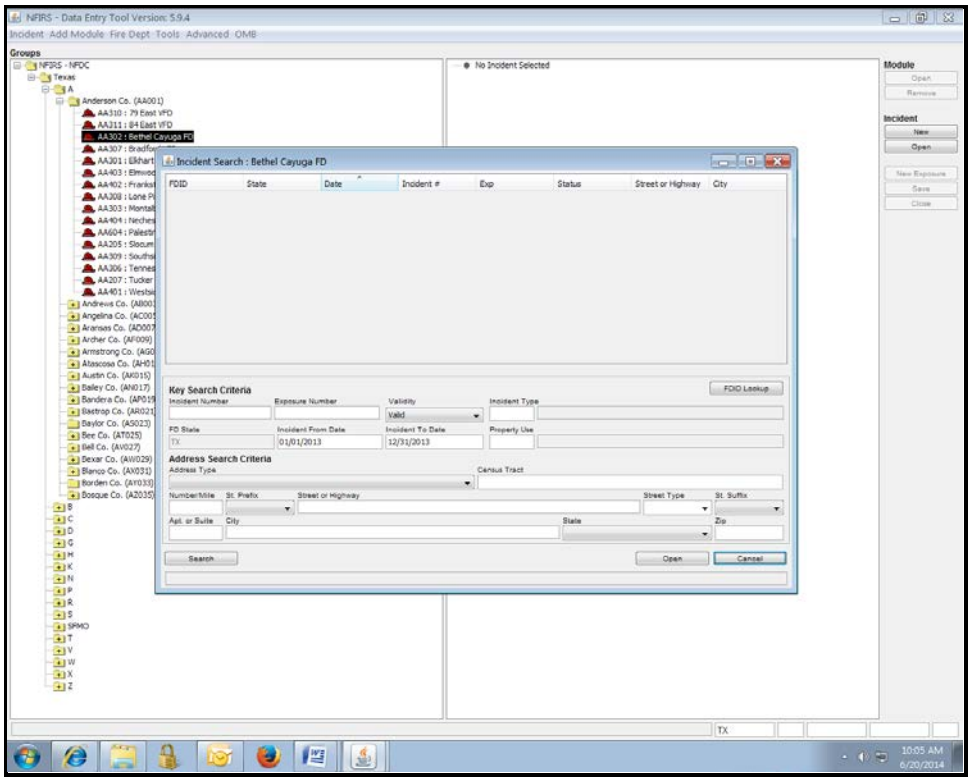
Open your DET.

Click on Incident, Open.

Enter your search parameters in the Incident Search window.

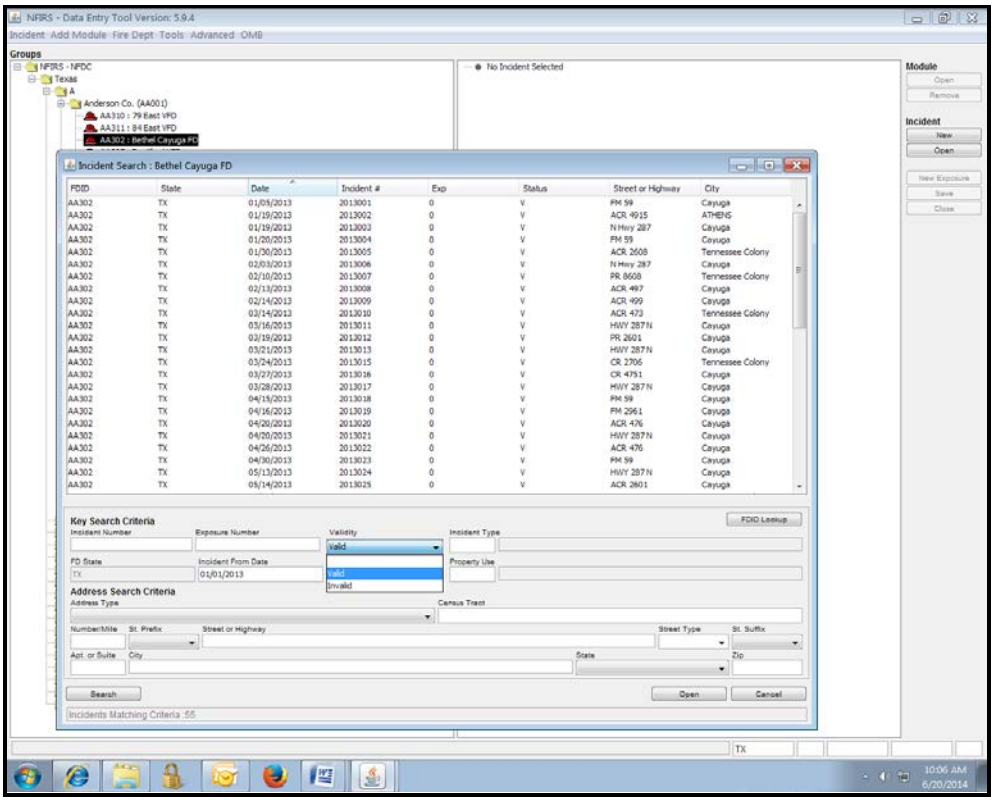


Search by date is recommended.



The status field should be reviewed and any “Invalids” addressed.

Double click on an incident to open in the DET window. Only one incident at a time can be opened.



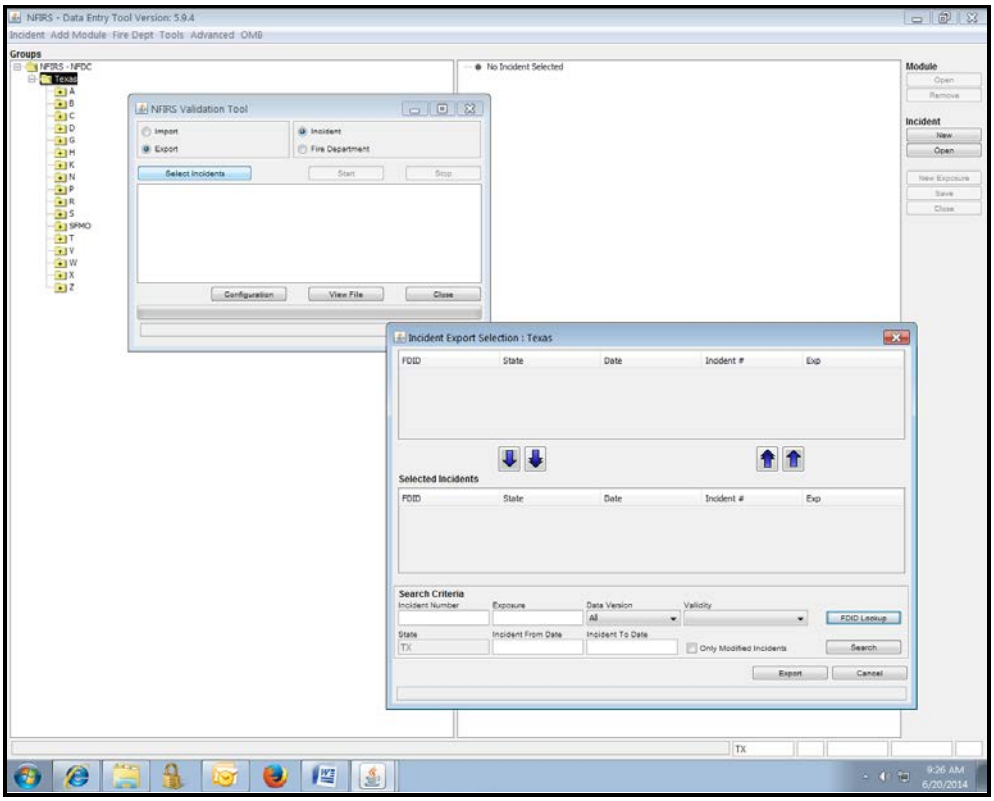
7. Exporting data.

To export data from your FCT:

Open the DET.

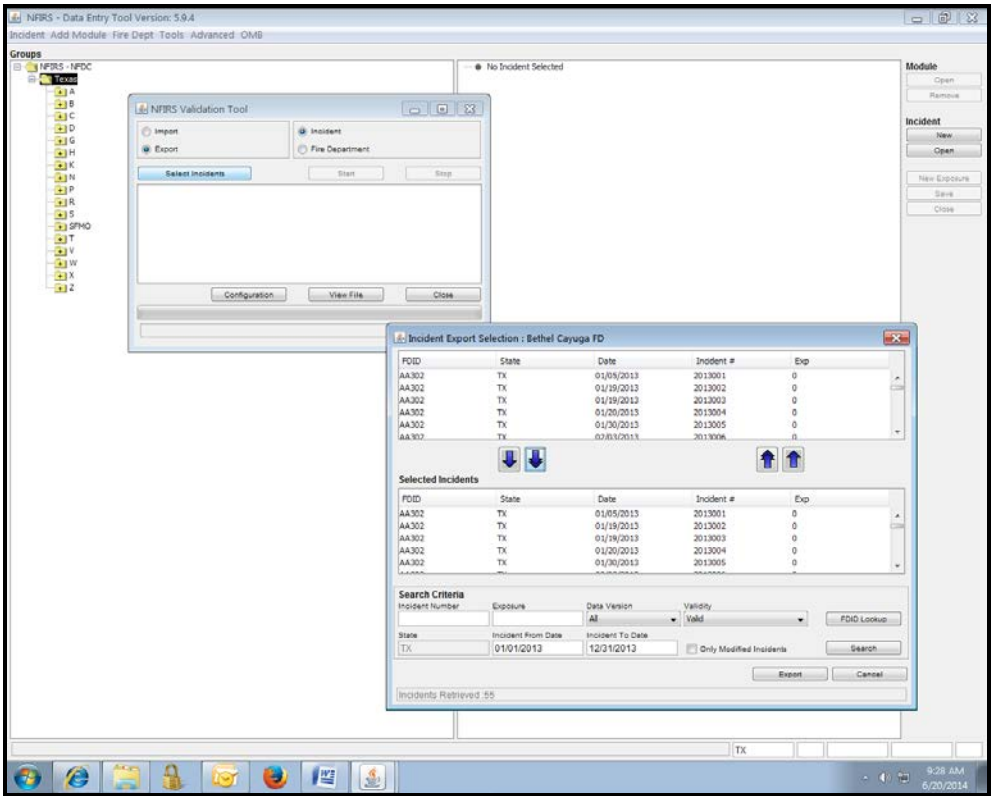
On the Tools tab drop-down menu, choose Import/Export.

Click on Export.



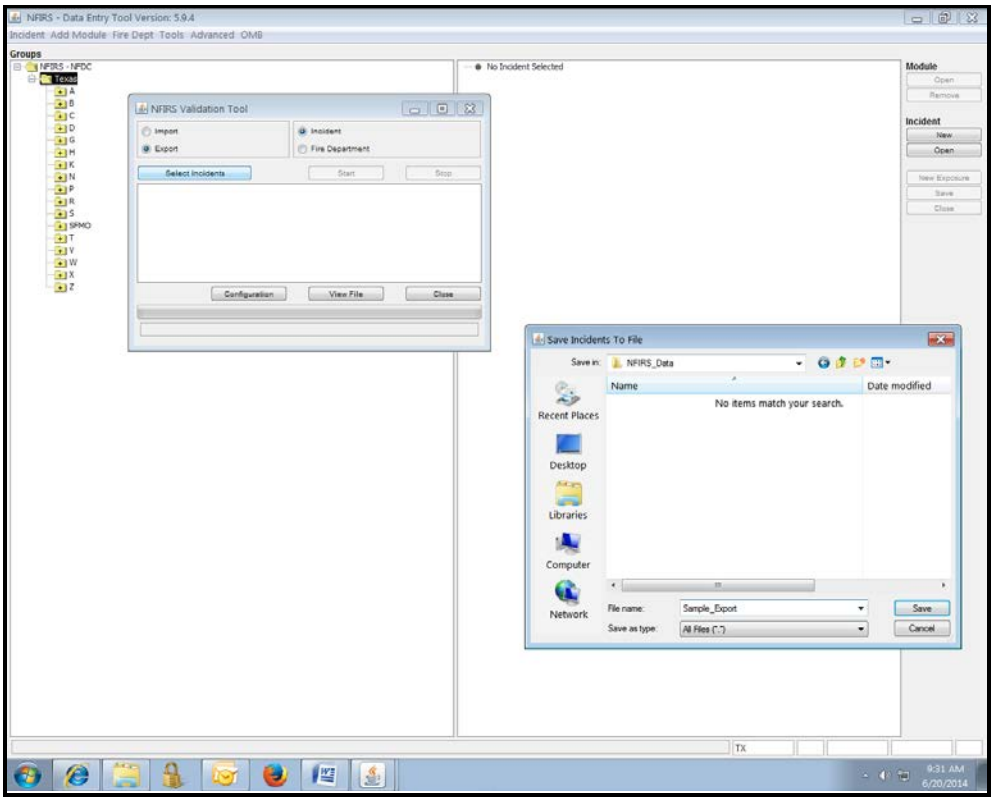
Choose your FDID.

Choose your search criteria parameters.

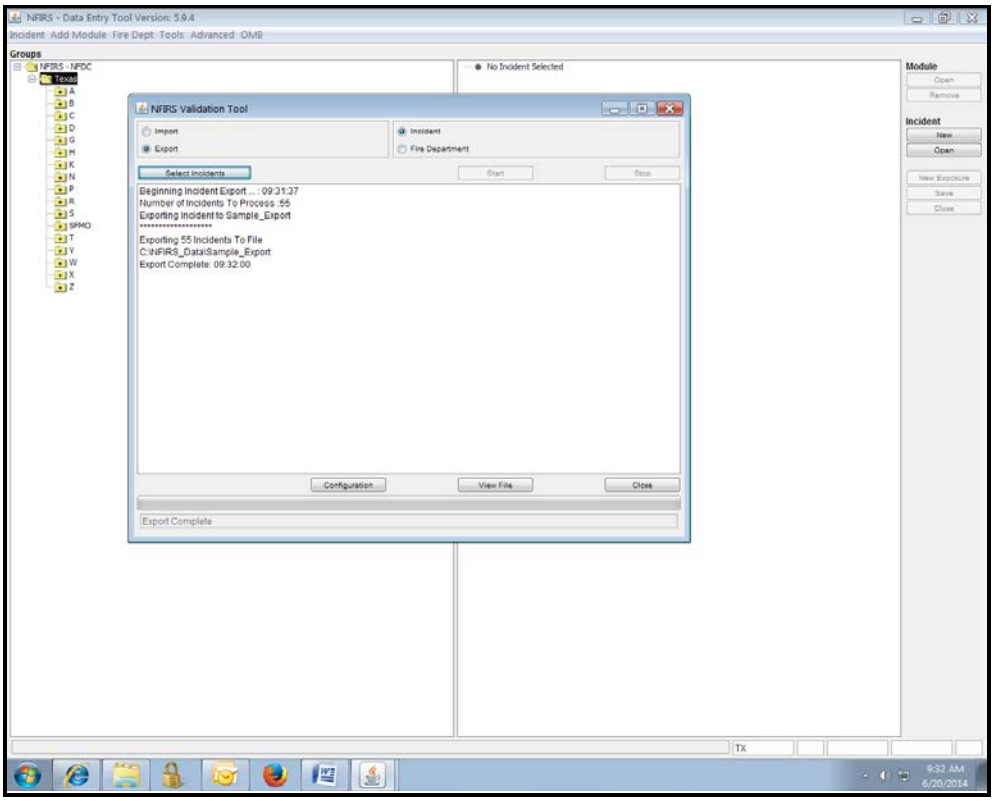


Use the down arrows to choose the incidents to export. Start the export.

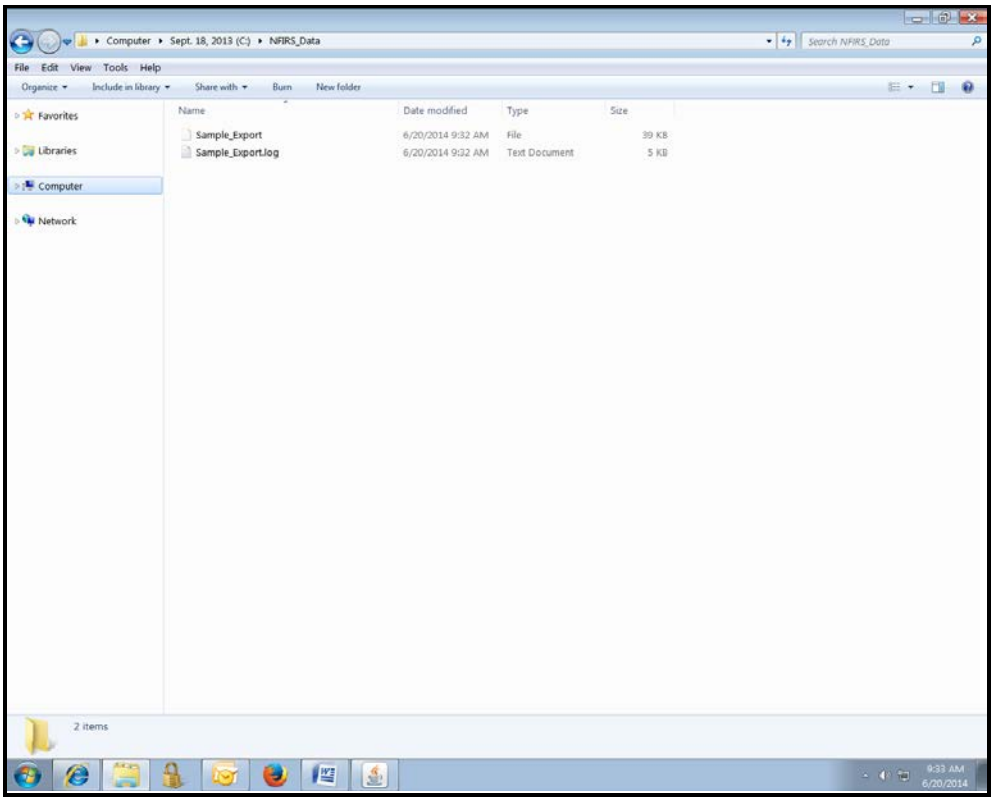
Save your exported file.



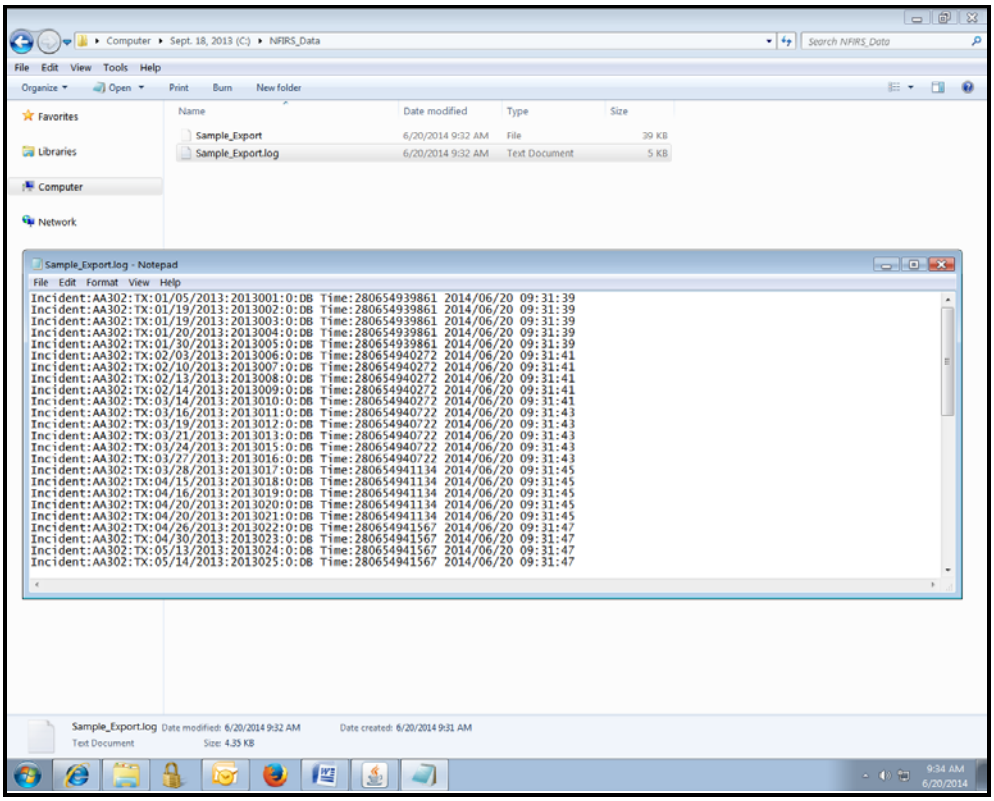
Close the Validation Tool. The export is complete.



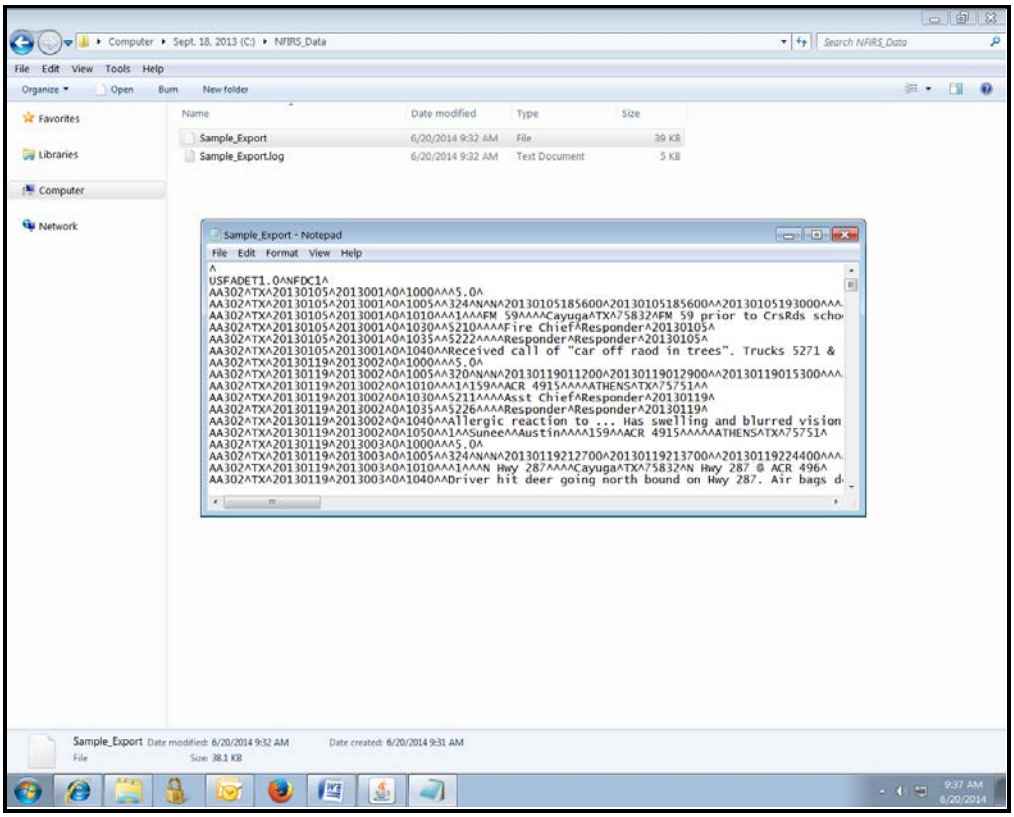
The export process creates two files: the processing log and the data file.



The processing log will display a summary of the incidents exported.



The data file is a text delimited transaction file of your incidents.



8. Managing user accounts.

User accounts are managed by the state program manager in accordance with the state's established policies and procedures. 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 hierarchical structure for group organization is set by the state and allows for ease in system administration maintenance, enforces security at group levels, and distributes administration privileges.

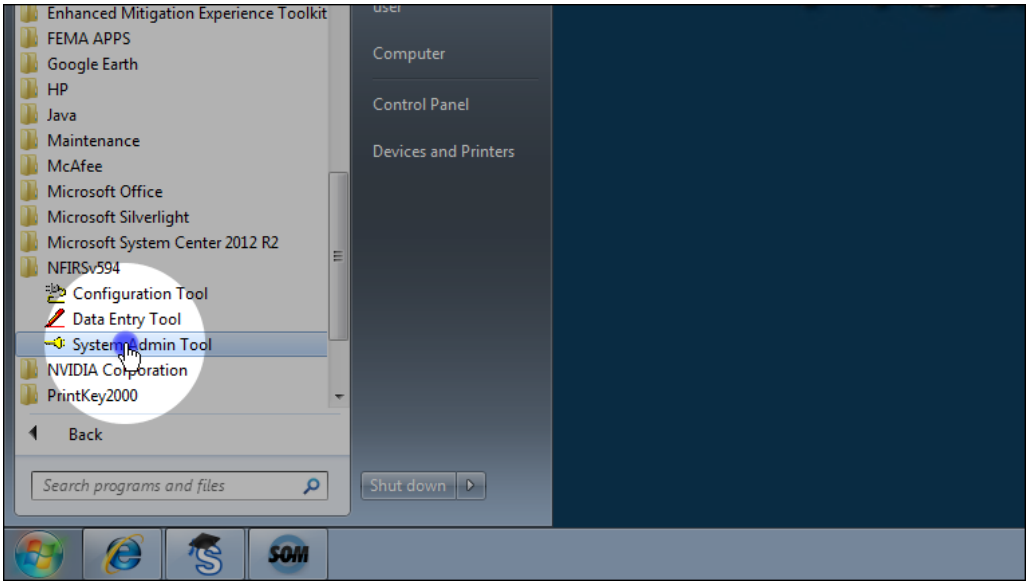
The system administrator will need to create groups first, assign registered users to the appropriate group, then activate each user's status and set their permissions. The state program manager can assign administrative permissions at the fire department level and allow departments to create and manage their own user accounts.

The System Administration Tool can be used to:

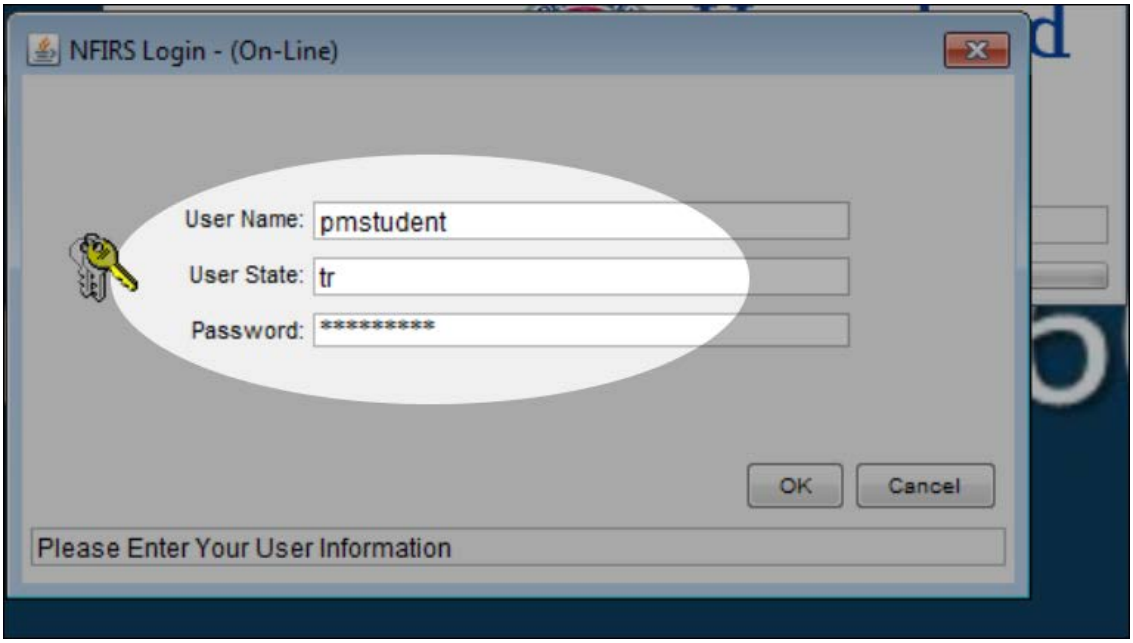
- Activate or create user accounts.
- Set user permissions.
- Reactivate accounts.
- Manage passwords.
- Update user contact information.

Demonstration: System Administration Tool

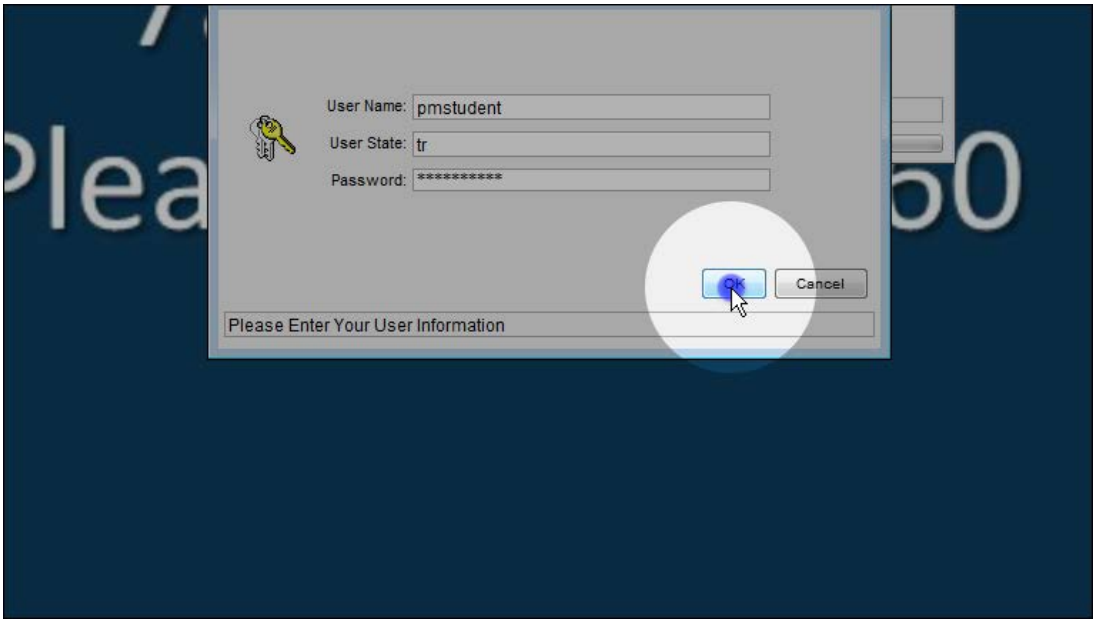
1. Open System Admin Tool.



2. Login using the tr state information provided by the instructor.

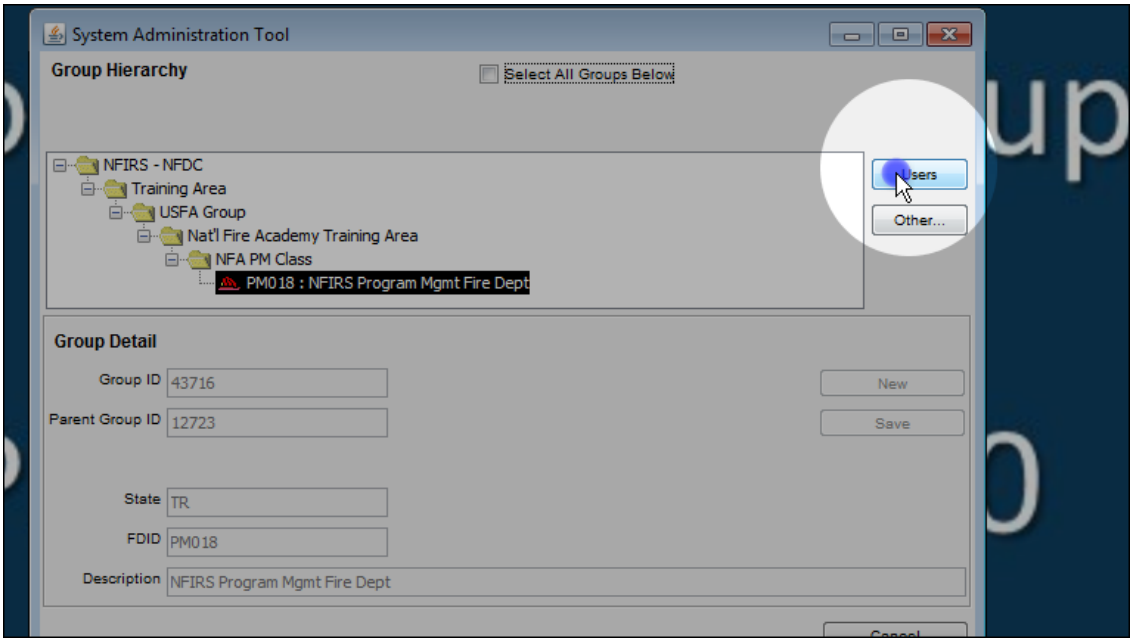


3. Click OK.

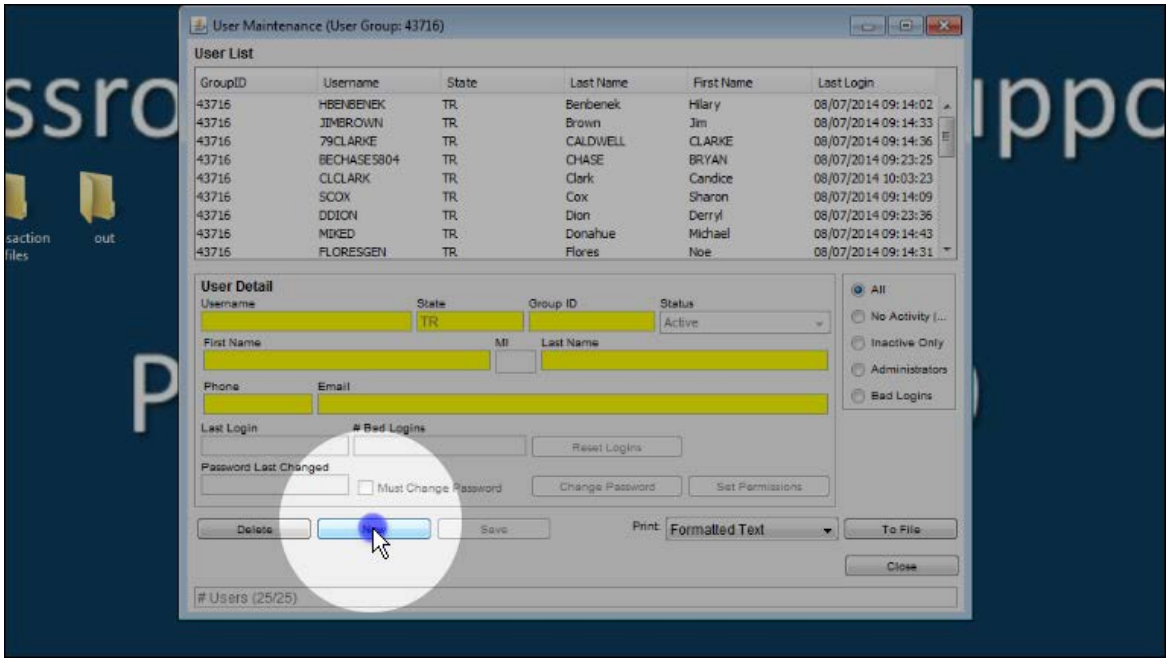


4. Click OK on the Federal System Warning.

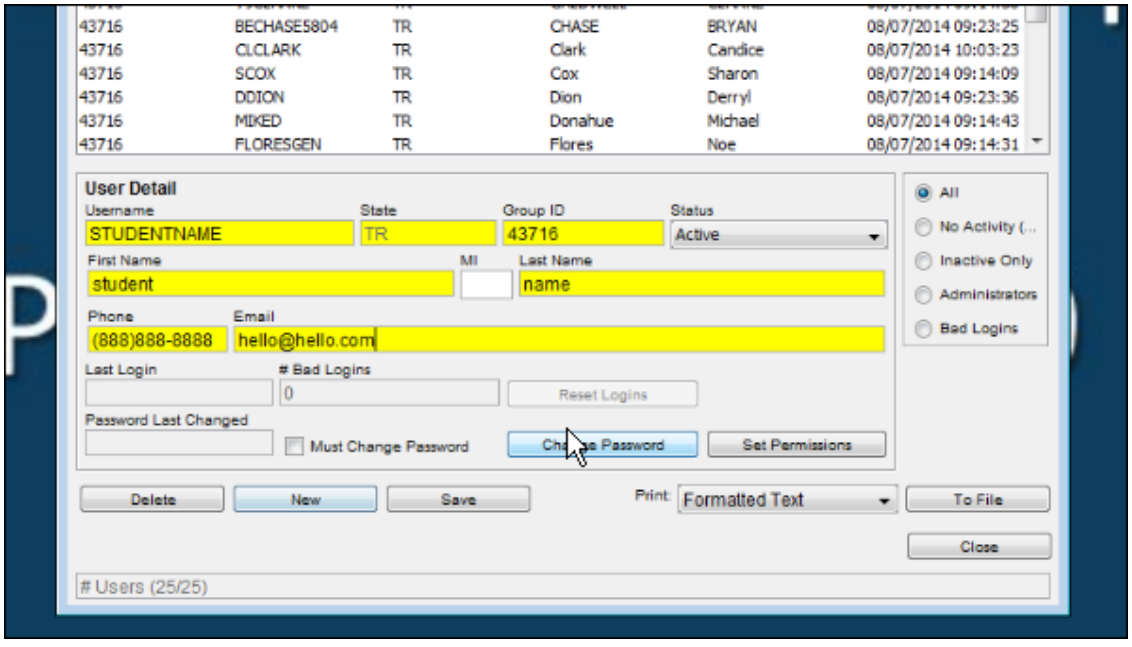
5. Click on Users.



6. Click on New.

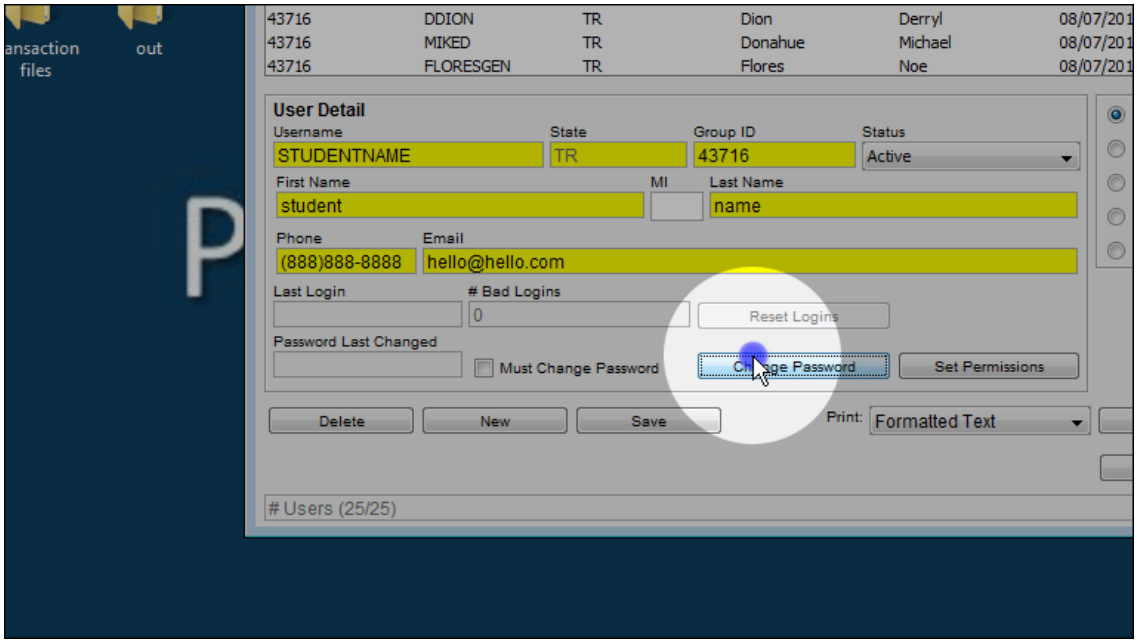


7. Fill in the information in the yellow boxes.

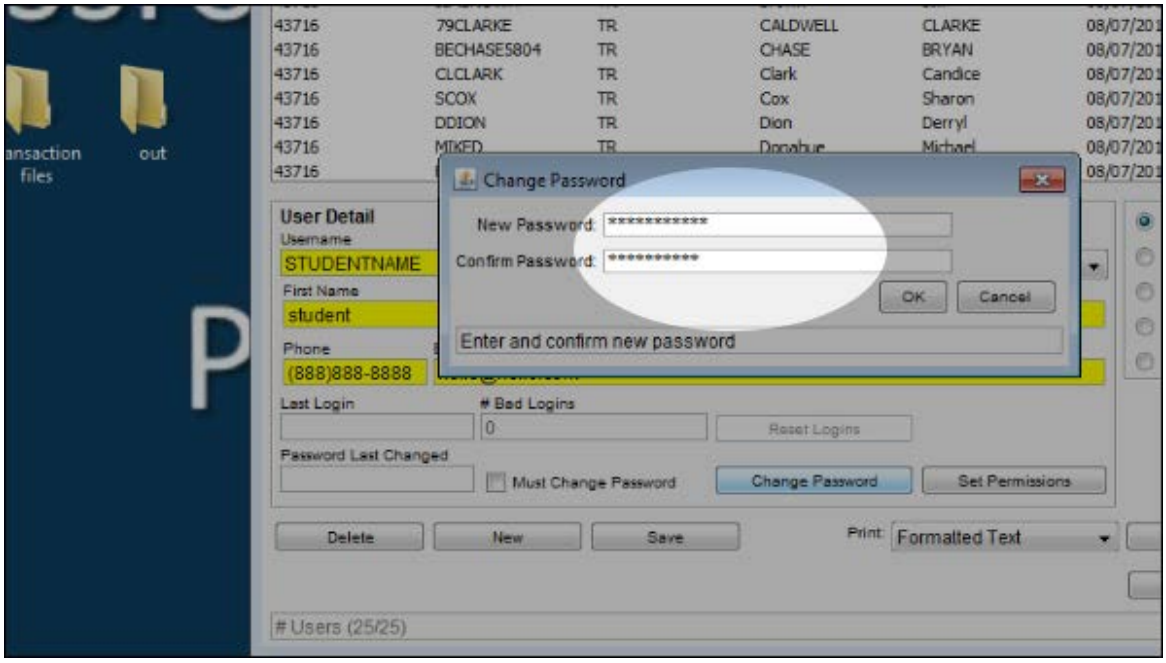


Note: You can use a generic phone number and email.

8. Click on Change Password.



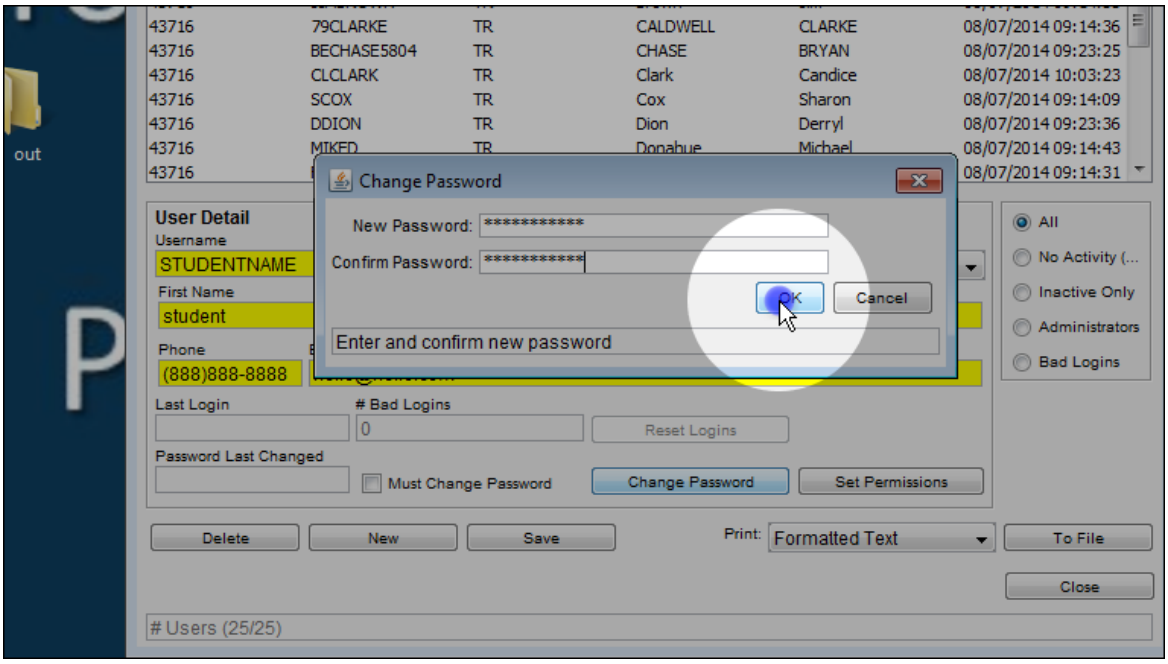
9. Enter a password. **(Please use "Password1!")** This is for class purposes only.



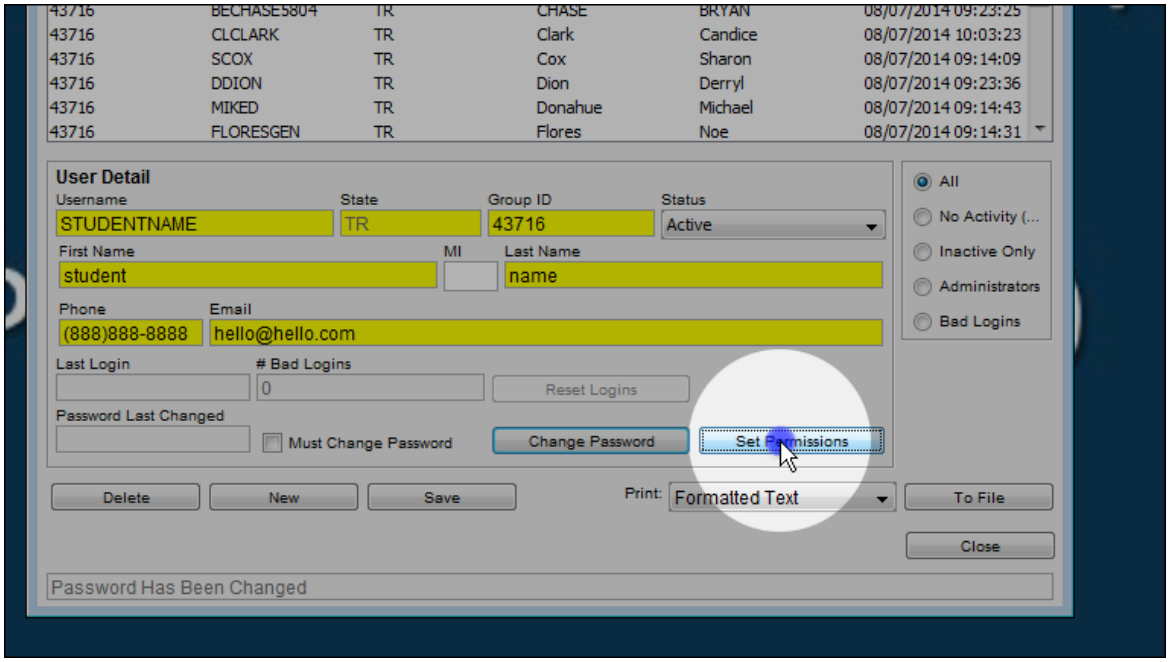
Password rules:

Your new password must:
Be between eight and 15 characters in length.
Contain a combination of alphabetic, numeric and special characters.
Not be the same as your last eight passwords.
Not begin with a number.
The special characters accepted by the system are: ~ ! $ % * ( ) - _ = [ ] ; : . / < >

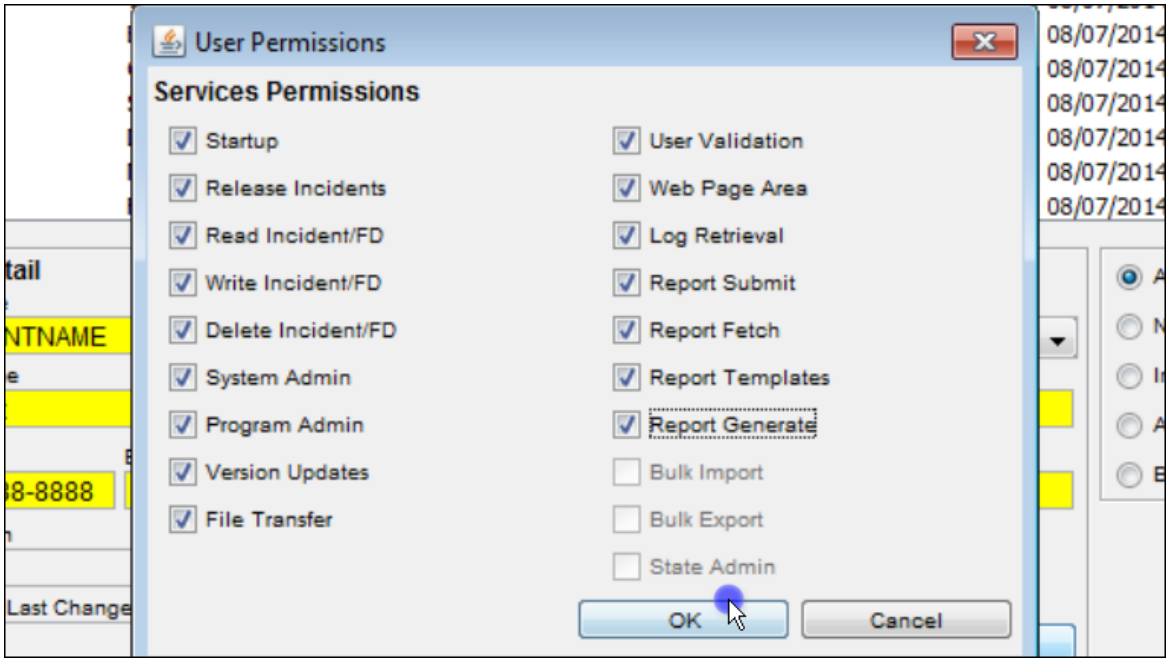
10. Click OK.



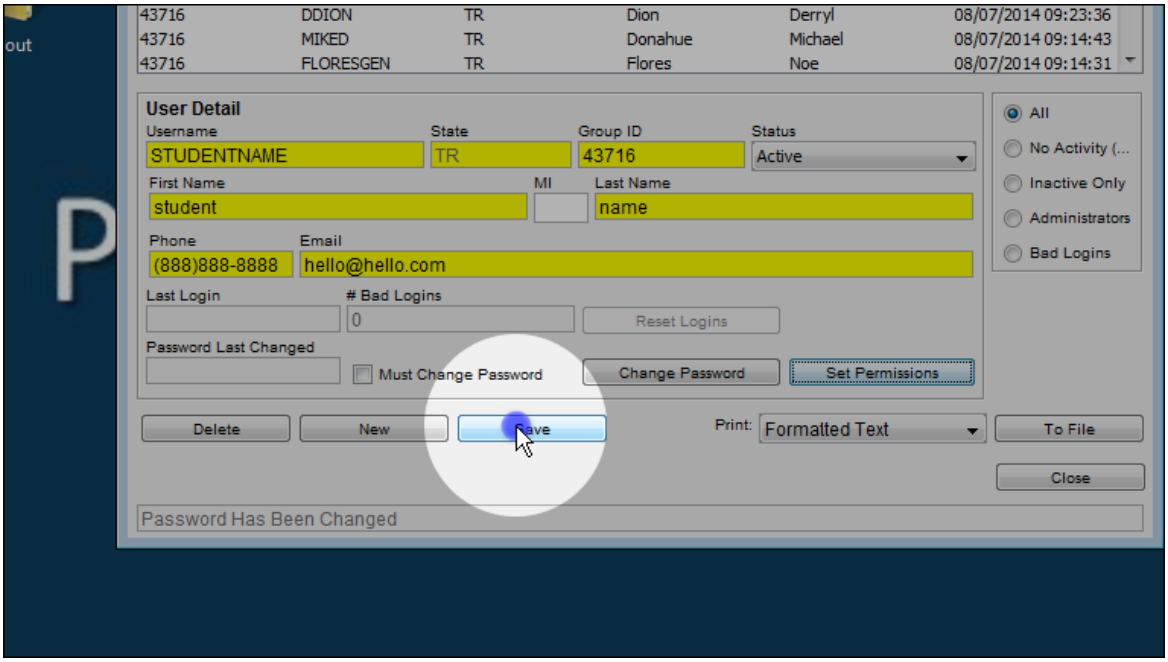
11. Click on Set Permissions.



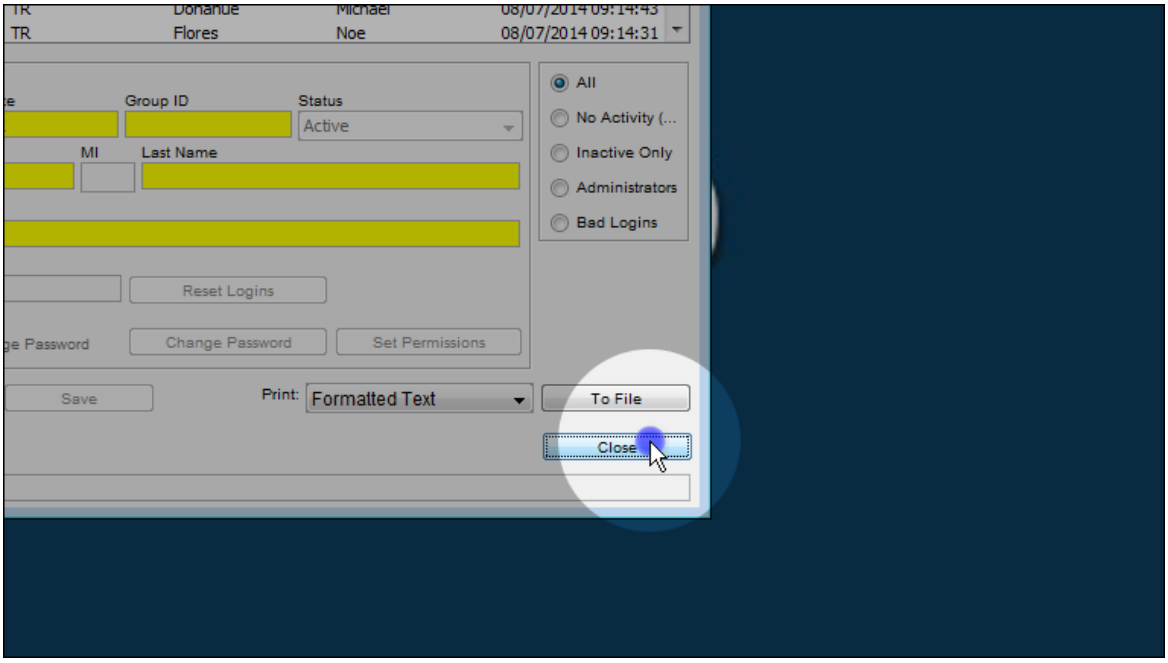
12. Check all boxes, and click OK.



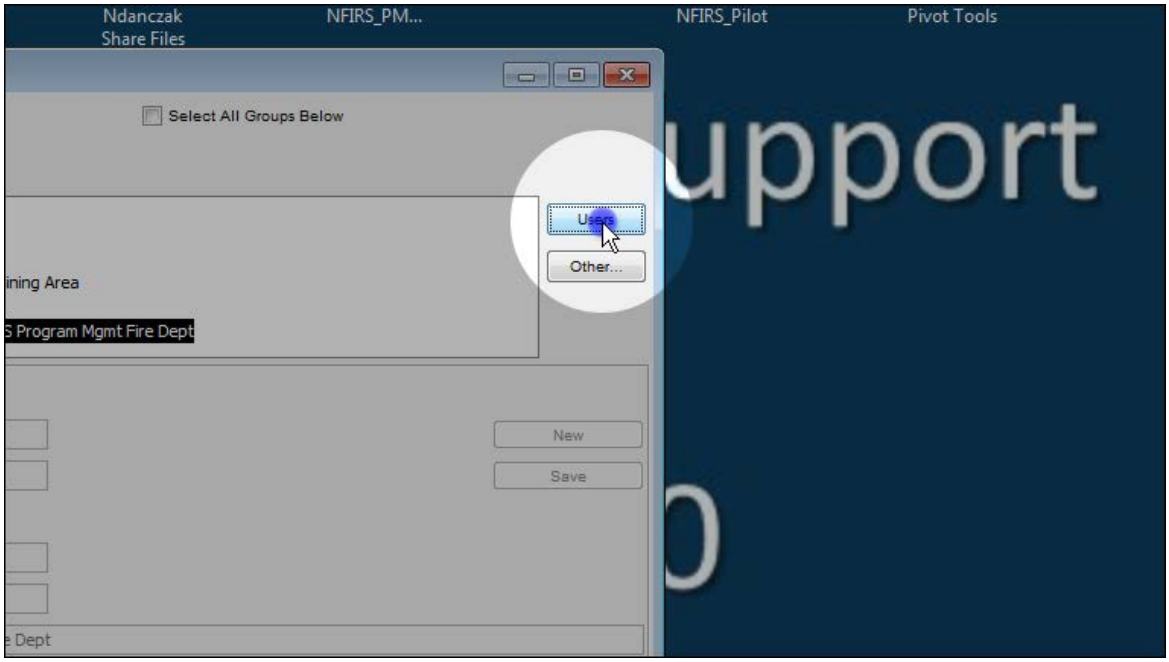
13. Click on Save.



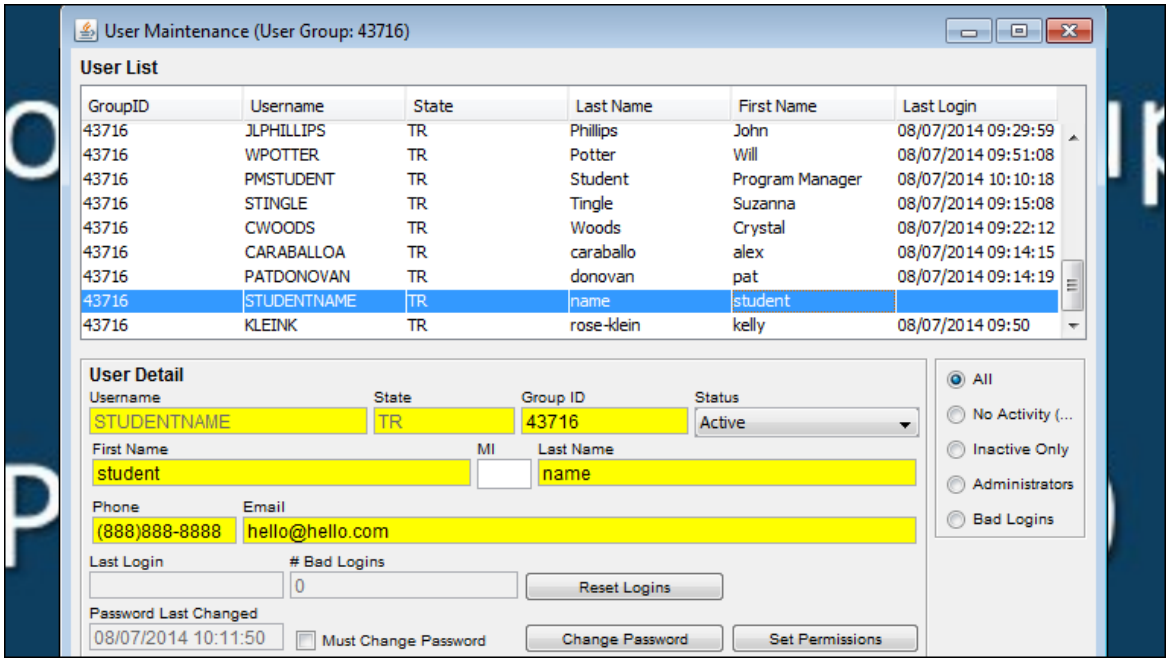
14. Click Close.



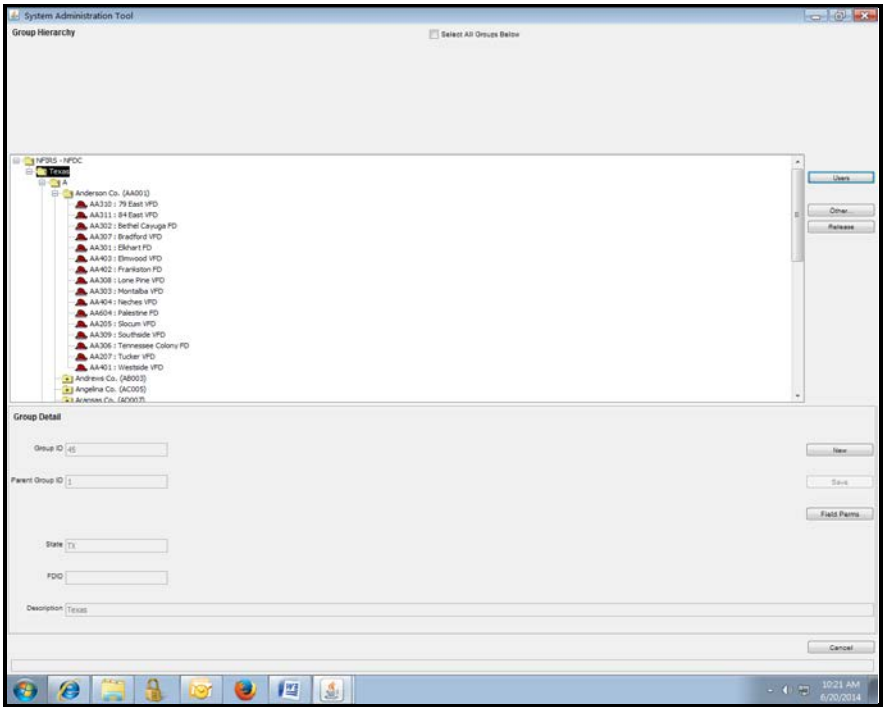
15. Click on Users again.



16. Make sure your information is in the User List.



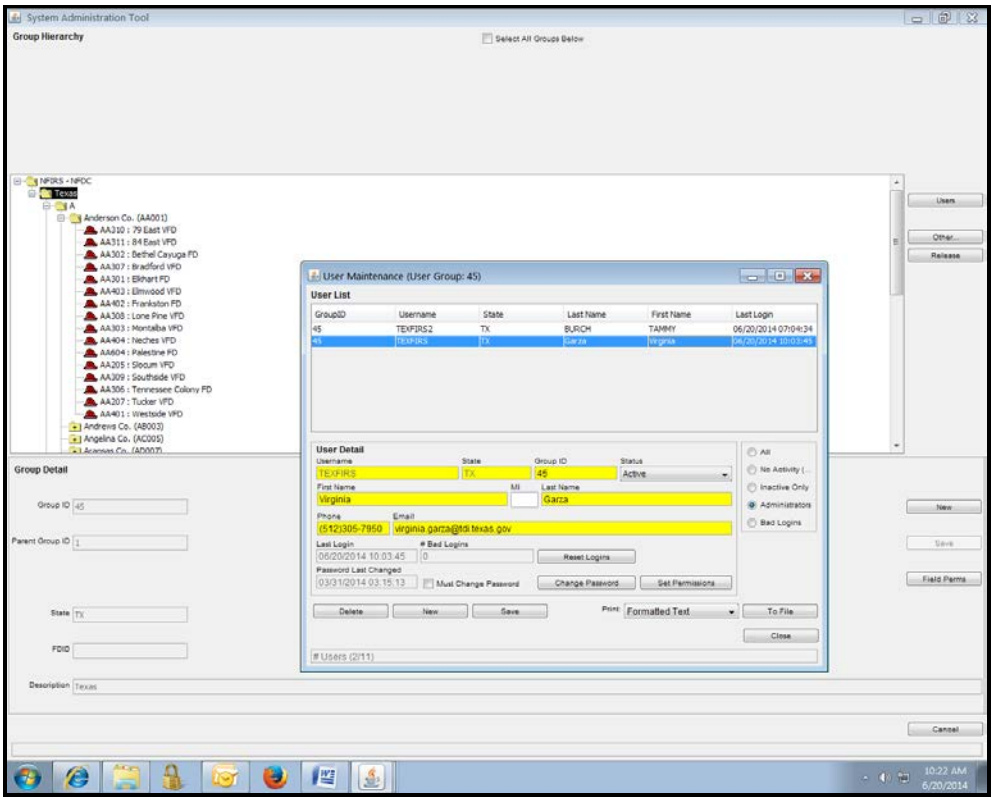
User accounts can also be created by completing an online registration on the NFIRS website.



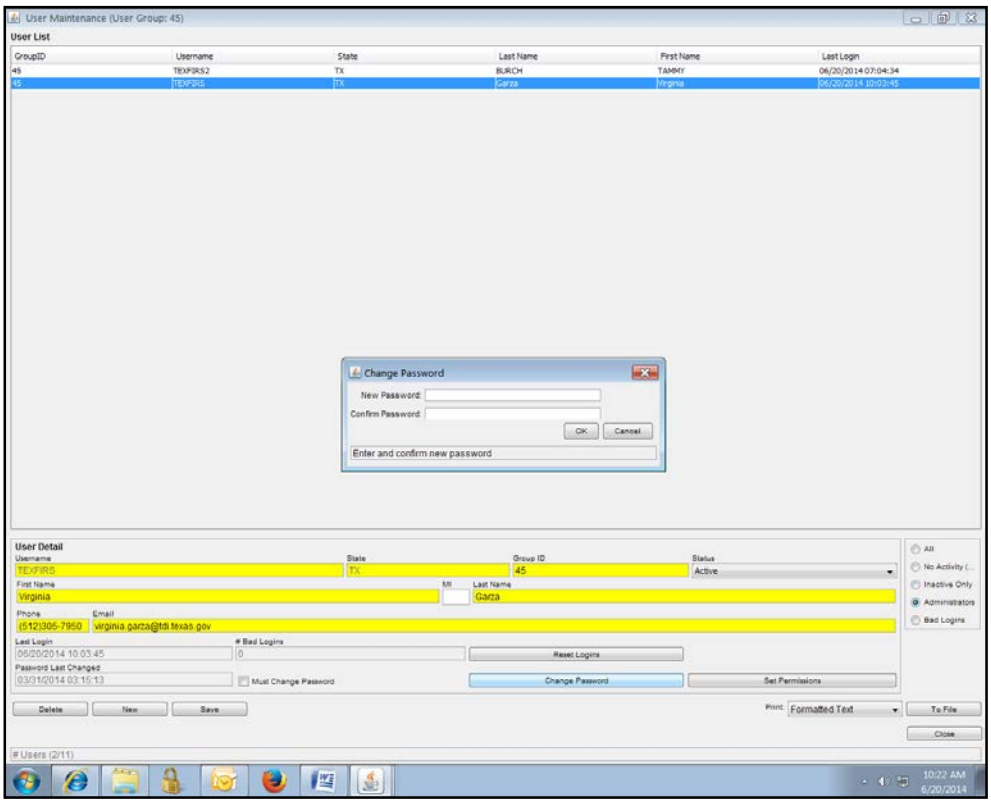
Accounts have to be activated before they can be used.

Users must log in with their account at least once every 45 days to keep the account active. Only the systems administrator can reactivate an account.

User contact information should be updated as it becomes available.



Passwords must be changed once every 90 days.



Note: When you change or create a password, be sure you enter the password, click on OK, then Save. The message bar at the bottom of the screen will display a confirmation that the new password has been accepted.

Your new password must:

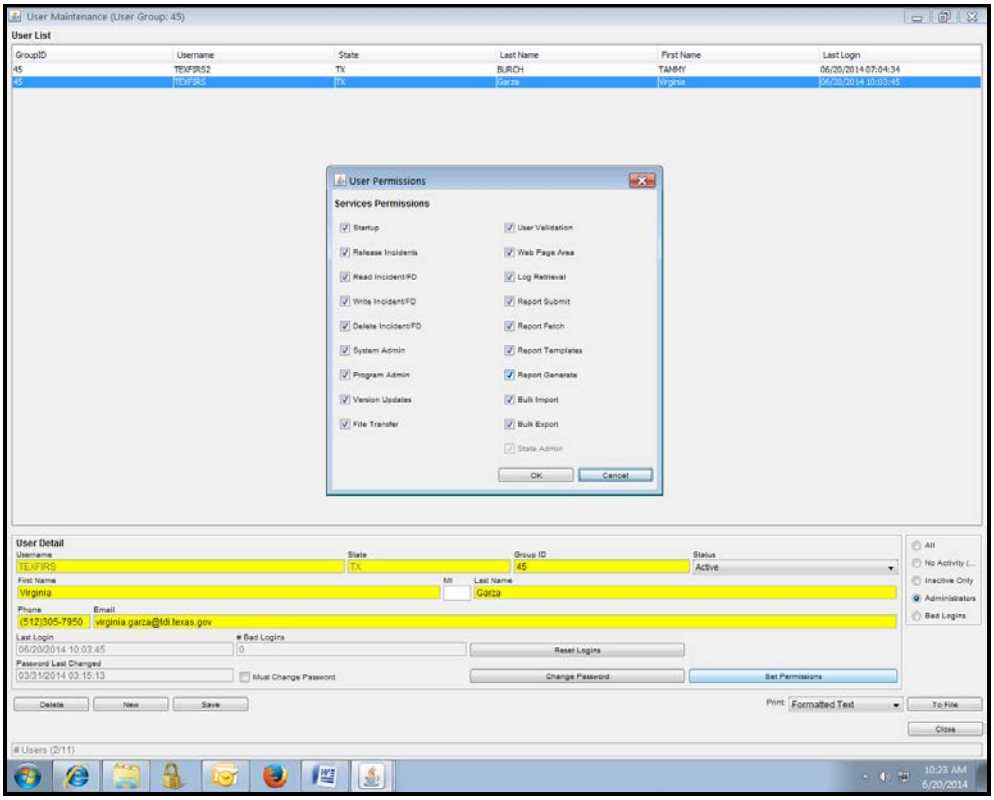
- Be at least eight characters in length.
- Contain a combination of alphabetic, numeric and special characters.
- Not be the same as your last eight passwords.

Your new password should also:

- Not contain any dictionary word in any language.
- Not contain any proper noun or name of any person, pet, child or fictional character.

- Not contain any employee serial number, Social Security number, birth date, phone number, or any information that could be readily guessed about you.
- Not contain any simple pattern of numbers, such as “qwerty” or “xyz123.”
- Not contain any word, noun or name spelled backward or appended with a single digit or a two-digit year string such as “98xyz123.”
- Not all special characters are accepted.

User Permissions must be assigned when activating the account.



VI. QUIZ ON UNIT 2

This page intentionally left blank.

UNIT 3: NATIONAL FIRE INCIDENT REPORTING SYSTEM MODULES

TERMINAL OBJECTIVE

The students will be able to:

3.1 Use the National Fire Incident Reporting System (NFIRS) to complete an accurate Incident Report and populate an incident database for their jurisdiction.

ENABLING OBJECTIVES

The students will be able to:

3.1 Explain the rationale for complete reporting.

3.2 Given incident descriptions, list how many incidents, how many exposures, and how many modules must be completed.

3.3 Given a scenario, identify what is needed to accurately document the incident, including critical elements, Incident Type, coding strategy and needed updates.

3.4 View and manage errors generated during a data transaction file import into the Federal Client Tool (FCT) using Excel.

3.5 Create a PivotTable, and navigate within a PivotTable.

This page intentionally left blank.

UNIT 3: NATIONAL FIRE INCIDENT REPORTING SYSTEM MODULES

Slide 3-1

ENABLING OBJECTIVES

- Explain the rationale for complete reporting.
- Given incident descriptions, list how many incidents, how many exposures, and how many modules must be completed.
- Given a scenario, identify what is needed to accurately document the incident, including critical elements, Incident Type, coding strategy and needed updates.

Slide 3-2

ENABLING OBJECTIVES (cont'd)

- View and manage errors generated during a data transaction file import into the Federal Client Tool (FCT) using Excel.
- Create a PivotTable, and navigate within a PivotTable.

Slide 3-3

I. OVERVIEW OF THE NATIONAL FIRE INCIDENT REPORTING SYSTEM MODULAR FORMAT

Overview of the National Fire Incident Reporting System Modular Format

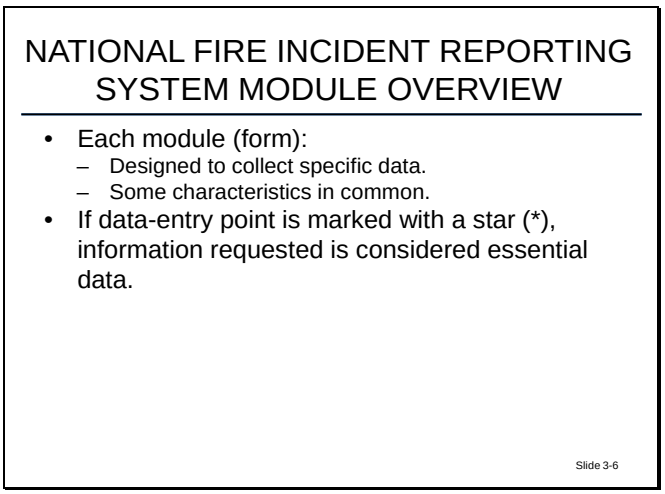
Slide 3-4

Slide 3-5

A. National Fire Incident Reporting System (NFIRS) Complete Reference Guide.

1. The NFIRS Complete Reference Guide is a line-by-line guide to the completion of the Incident Report modules. The guide includes all of the code conventions.

2. Every user of NFIRS should have access to the Complete Reference Guide and review the guide regularly.



B. NFIRS module overview.

1. Each module (form) in the system is designed to collect specific data. The modules do, however, have some characteristics in common.

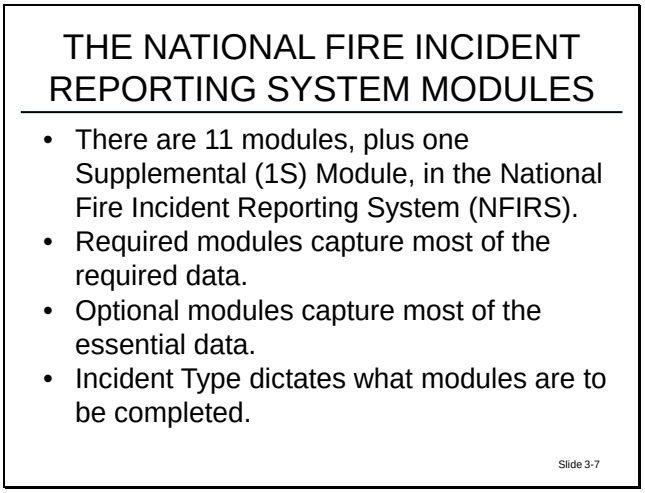
   a. Any portion of a module identified by a letter — A, B, etc. — is called a section.

   b. Sections may be subdivided into blocks, such as A1, A2, etc.

   c. A block can contain one or more lines, and each entry within a line is called a field.

   d. Codes are used, in some cases, to capture data within a field.

2. 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.



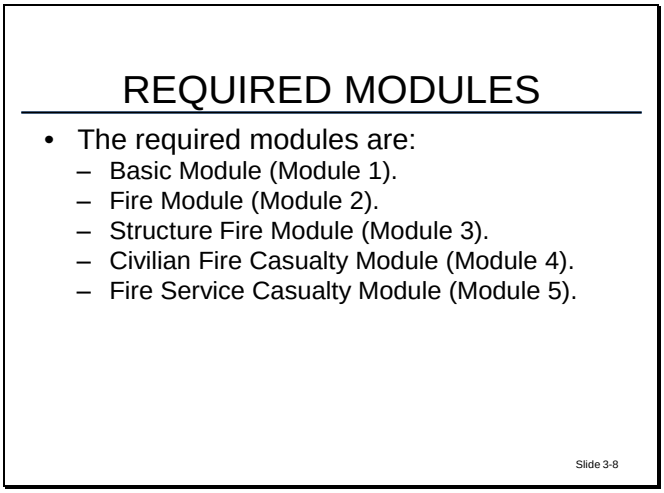
C. The NFIRS modules.

1. There are 11 modules, plus one Supplemental (1S) Module, in NFIRS. Within the 11 modules, there are modules that are considered required and modules that are considered optional.

2. Required modules capture most of the required data, while the optional modules capture most of the essential data.

3. There are data elements in every module that are considered essential, however.

4. The Incident Type will dictate what modules are to be completed.



D. Required modules.

The required modules are:

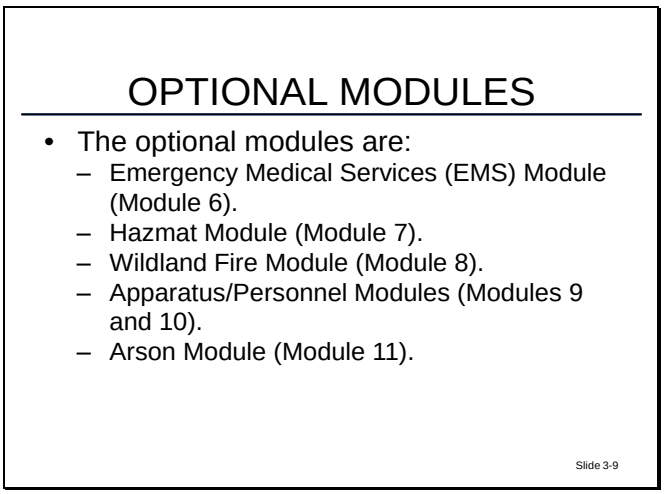
1. Basic Module (Module 1).

2. Fire Module (Module 2).

3. Structure Fire Module (Module 3).

4. Civilian Fire Casualty Module (Module 4).

5. Fire Service Casualty Module (Module 5).



E. Optional modules.

The optional modules are:

1. Emergency Medical Services (EMS) Module (Module 6).
2. Hazmat Module (Module 7).
3. Wildland Fire Module (Module 8).
4. Apparatus/Personnel Modules (Modules 9 and 10).
5. Arson Module (Module 11).

F. The optional modules may be required by a jurisdiction even though they are not required at a federal level.

1. A state program manager can make an optional module required for all the agencies in his or her state.
2. A local agency can make an optional module required for its department even though it is not required at the state and federal levels.

II. BASIC MODULE

A. The purpose of the Basic Module is to collect information common to all incidents. The Basic Module is required for every type of incident to which a department responds.

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

C. For certain Incident Types, NFIRS-1 is the only module that must be completed.

1. Confined fires (i.e., food on stove).

2. Small vegetation fires.

3. Outside rubbish fires.

4. Explosions.

5. Some "other" fire types.

6. Nonfires.

D. Basic Module Section A.

Areas to discuss:

1. Station field.

2. Exposure.

a. Exposure is defined as 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.

b. For example, if the building fire ignites a truck parked outside, the truck fire is an exposure fire.

c. Heat damage on another building is not considered an exposure.

d. Each exposure has its own set of complete NFIRS forms starting with the Basic Module.

e. The original incident is exposure number "000."

f. The first exposure report starts at "001."

g. Each set of exposure reports has the same incident number as the original report.

h. You do not capture chemical, smoke, water or medical exposures in this field.

ACTIVITY 3.1

How Many Incidents, How Many Exposures, How Many Modules

Purpose

Given an incident description, accurately document an incident.

Directions

1. You will complete this activity as a small group at your table.

2. Each table will discuss its answers with the class.

3. Read each incident description, and list how many incidents, how many exposures, and how many modules must be completed for each incident description.

This page intentionally left blank.

ACTIVITY 3.1 (cont'd)

How Many Incidents, How Many Exposures, How Many Modules

Incident Description	Number of Incidents	Number of Exposures	Number of Modules
1. An earthquake causes two train cars with fuel tanks to rupture. The product spills, finds an ignition source, and ignites the product. Twelve homes burn as a result of the initial fire.			
2. A tanker truck traveling down the interstate wrecks, and product spills into a waterway. A 5-block area near the accident is evacuated. The truck is carrying a nonflammable, compressed gas and has a catastrophic failure, hurling the tank into a neighborhood. It damages 12 homes. There are no fires. The fire department assists life safety activities and damage assessment.			

3.	During a fog and ice storm, a 100-vehicle accident occurs on an interstate highway. There are no fires as a result of the accident. While responding to the accident from its station 10 miles away, a state trooper loses control of his vehicle and causes another 10-car accident. Again here, there are no fires. Marionville Fire Department responds to both incidents and requests mutual aid from four other departments to assist.			
4.	A wildland fire starts in a resort area. There are 25 cabins in the resort. All cabins have fire damage. There are 25 different owners.			
5.	An earthquake strikes Southern California. The fire department receives no calls for assistance but sends resources to do a damage assessment. There was no property damage.			

6.	A tornado touches down in a rural area of Florida. The fire department receives one call for assistance and sends resources to repair a roof on a home. It also sends resources to check the rest of the town, but there were no other buildings damaged.			
7.	A severe thunderstorm rolls through southern Mississippi. The fire department receives 12 calls for assistance and sends resources to each of the addresses. Fire department personnel do a variety of activities to assist the property owners.			
8.	A single-story structure catches on fire, and the heat from the fire causes $5,000 of damage to the neighboring house's vinyl siding.			

9. An apartment building catches on fire. The apartments are separated by rated fire walls. The fire started in Apartment B and extended to Apartment A. Apartments C and D sustained $12,000 of smoke damage.			

II. BASIC MODULE (cont'd)

E. Basic Module Section B.

1. Make sure the appropriate location is selected, such as:

   a. Street address.

   b. Intersection.

   c. In front of.

2. This is a frequently missed area in a quality assurance (QA) check and can greatly skew a data analysis.

3. The address fields are formatted to be easily imported into a Geographic Information System (GIS) mapping software.

4. If you use the Wildland Module, you can document the location on that module and not the Basic Module.

F. Basic Module Section C — Incident Type Coding Methodology.

1. There is a methodology to coding Incident Types. You must know the rules to code incidents accurately.

2. This is the actual situation that emergency personnel found on the scene when they arrived.

   a. The type of incident reported here is not always the same as the Incident Type initially dispatched.

   b. These codes include the entire spectrum of fire department activities from fires to EMS to public service.

3. The codes are organized in a series: Incident Types are coded from 100 to 999.

   a. 100: Fire.

   b. 200: Overpressure Rupture, Explosion, Overheat (No Fire).

   c. 300: Rescue and EMS Incidents.

   d. 400: Hazardous Condition (No Fire).

   e. 500: Service Call.

f. 600: Good Intent Call.

g. 700: False Alarm and False Call.

h. 800: Severe Weather and Natural Disaster.

i. 900: Special Incident Type.

4. Always use the lowest numbered series that applies to the incident if you have multiple Incident Types present.

5. If you have a fire with other types of incidents, such as a fire with a hazmat release and medical, always use the 100 "Fire" series codes.

6. Code the incident as the actual situation found and not the type of call you were dispatched to.

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

8. For fires in buildings that are **confined** to noncombustible containers, use Codes 113-118 of the structure fire codes when there is no flame damage beyond the noncombustible container. You can complete more information than required to get a better picture of the incident.

9. Appliances and equipment are not coded as confined fires with the exception of chimneys and commercial compactors. A fire with a death or with property loss more than $5,000 is considered a consequential incident; therefore, the fire is not coded as a confined fire. Some examples of equipment fires that should not be coded as confined fires are:

   a. Fires in clothes dryers.

   b. Microwave oven fires.

   c. Fires in toaster ovens.

10. If you do not make it to an incident, it is coded as a 611 regardless of what the situation/call was.

11. You should always use the optional modules to completely document the incident.

12. Stay away from codes ending in "0" because "0" means "other." It is hard to do an analysis on incidents coded as other.

G. Plus-one coding.

1. Custom codes created by adding an additional character to a valid code.

2. Departments can add plus-one codes to capture call types unique to their agencies.

3. Always check with your state program manager before implementing a plus-one code to make sure it is not in use already.

4. The fields that support a plus-one code have a fixed maximum size, which allows the potential extra digit of the new code.

5. 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.

6. When a plus-one code is imported to the U.S. Fire Administration's (USFA's) national database, only the national-length code is used for analysis.

H. Section D: Mutual Aid.

1. Many departments offer aid or have automatic mutual-aid agreements with surrounding departments.

2. This is great for the fire service but can bring confusion when reporting to NFIRS. Aiding departments and departments receiving aid will report very differently for the same run.

3. In order to be considered as mutual aid, two criteria have to be met.

   a. Your department must be assisting another fire department.

   b. Both fire departments must be on-scene.

4. Report this as mutual aid none — if you are assisting police, ambulance services, etc., do not report mutual aid given on the Basic Module in Block D — mutual aid given or received.

5. Report this as mutual aid none — if you are canceled en route (Incident Type 611 — dispatched and canceled en route) and do not make the scene with the other fire department, do not report mutual aid given in Block D, either.

6. Aiding departments report:

    a. If nobody from your department is injured or worse, stop at G1 — Resources.

    b. If someone from your department is injured or worse, complete Block H1 — casualties on Basic and complete the Fire Service Casualty Module. Do not enter any civilian casualty information!

    c. Ask the other department for its Fire Department Identification (FDID) and incident number.

    d. Enter FDID and incident number under Block D — mutual aid given or received.

    e. Optional but recommended — complete Apparatus/Resources Module.

7. Aiding departments do not complete:

    a. Fire Module.

    b. Structure Fire Module.

    c. Wildland Fire Module.

    d. Arson Module.

    e. EMS Module.

    f. Civilian Fire Casualty Module.

    g. Hazmat Module.

8. The fire department **receiving the aid** will complete an entire NFIRS report with any applicable modules (Fire, Structure Fire, Civilian Fire Casualty, etc.).

    a. The department receiving aid should also ask for the FDID and the incident number from the aiding department.

    b. You cannot enter the assisting department's FDID when you are receiving aid. You need to include this in the narrative.

    c. It is important that both departments get this information and report it.

d. This allows the NFIRS database to link both reports together in the system and provide an accurate number of total resources, time spent on the call, and all around makes a more complete program.

I. Basic Module Section E.

1. Date and Time — do not make up an arrival time on an incident if you did not make it to the incident. Use Code 611.

2. Shift and Station — not required, but it is strongly recommended to use these fields to get complete and accurate information about the incident.

3. Special Study — used to temporarily track an activity, equipment or function of your department. This is not intended to be a permanent data entry field.

J. Basic Module Section F — Actions Taken.

Always try to track all actions taken on an incident. You can only capture three actions taken on the Basic Module. You can use the Apparatus/Personnel Modules to capture more actions taken.

K. Basic Module Section G1 — Resources.

Use this field if you do not use Module 9 or 10. It is recommended that you use Modules 9 and 10.

L. Basic Module Section G2 — Estimated Dollar Loss.

1. Collecting property and content losses illustrates the magnitude of the fire problem, provides an additional indicator of the incident severity, and can be used to evaluate progress in fire protection.

2. This information can help local communities, states and the country determine the amount of money that should be spent on fire protection.

3. Estimated property and content losses are also crucial for identifying types of situations where high monetary losses are common.

a. This information helps target fire prevention programs.

b. Loss estimates also can be used to evaluate the cost-effectiveness of various equipment and fire protection practices.

4. Enter the best estimates of dollar losses (required for all fires when obtainable) and preincident values (local option) that are practical to make or obtain.

a. Monetary losses should be estimated as accurately as possible; it is understood that the estimates may be rough approximations.

b. If there was no loss or no preincident value, check or mark the appropriate "none" boxes.

5. It is recommended documenting the content loss also. Content loss has a big impact on your community and helps describe your fire problem.

6. Capturing the preincident values can help show your department's value by describing how much property your department has saved.

7. Entering a $0 and leaving the field blank mean two different things.

a. A $0 means there was no loss.

b. A blank field means you did not input any data into the field and there could be a dollar loss.

8. There are many resources available to help with this estimate.

a. Kelley Blue Book for vehicle fires.

b. Some state fire marshals' websites have resources available to fire departments.

c. http://www.zillow.com/.

d. National Fire Information Council (NFIC) at http://www.nfic.org/resources.html.

e. Texas Fire Incident Reporting System (TEXFIRS) at http://www.tdi.texas.gov/fire/fmtexfaq.html#Building Value.

M. Basic Module Section I — Mixed Use Property.

1. This data element captures the overall use of a property. If a property has two or more uses, then the Mixed Use Property designation applies.

2. For example, a restaurant in an office building would be a structure with two or more property uses — assembly use and office use. The Mixed Use Property designation would be Office Use (Code 59).

3. A warehouse on the property of an amusement park would have a designation of Assembly Use (10).

4. A stand-alone service station would not be a Mixed Use Property, although it has a driveway and parking area.

5. An electrical fire in the store of a hotel lobby, Residential (40).

N. Basic Module Sections J through K2.

1. The rest of the Basic Module should be completed as required. It is important to gather the information at the incident, so it is not forgotten.

2. Smoke detector information is a common data element that is typically overlooked at the incident and marked as unknown.

O. Section L — Remarks.

1. Every report should have a detailed narrative. The narrative should contain all pertinent details of the incident and any data not captured by the NFIRS codes.

2. A report should not be considered complete until a detailed narrative is done.

III. FIRE MODULE

A. The Fire Module is used for any fire that extends beyond a noncombustible container.

B. It is used to record information on incidents involving fires including:

1. Buildings.

2. Outside storage fires.

3. Vehicle fires.

C. You can use the Wildland Module for larger vegetation fires. If you use the Wildland Module, you do not use the Fire Module.

D. Building fires require the use of the Structure Fire Module.

E. Main highlights of the Fire Module.

1. Stay away from codes ending in "0."

2. It is OK to use "unknown" or still "under investigation" as a data entry at the time the report is being entered.

a. Always go back and update the information once it is known.

b. It is important to include your fire investigators in your department's NFIRS training so that they know how vital it is to pass along the information to the person responsible for updating the reports.

3. Once the information is updated, you need to resubmit the report to the state.

a. There is a vast amount of incident data at the national level that is coded as unknown because agencies are not updating the incident reports at a state or federal level.

b. If an agency is using the Data Entry Tool (DET) in the offline mode or using a third-party software, it needs to resend the report back to the state if the report is modified.

c. A common misconception is that a third-party software will automatically resend a report if it is changed. Some have this as an option. You need to check with your software administrator to see if your software is doing this.

d. Always notify the state program manager prior to updating a report, especially if you change an incident number or delete an incident.

e. When this data is known at a local level, it is updated at a state and national level.

4. If there is equipment involved in the ignition, it is extremely important to gather as much information on the equipment as possible.

5. USFA receives numerous requests from businesses for this information for product recalls.

6. Once again, field reporting sheets and check-off sheets are a valuable tool for collecting information at the incident so no data is left behind or missed.

IV. STRUCTURE FIRE MODULE

A. The Structure Fire Module is used in conjunction with the Fire Module for building fires that extend beyond a noncombustible container (Incident Types 111 and 120s).

B. The Fire Module provides greater detail 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.

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

D. Structure fire highlights.

1. Just as in the Fire Module, stay away from codes ending in "0."

2. It is okay to use "unknown" or still "under investigation" as a data entry at the time the report is being entered.

3. Always go back and update the information once it is known.

4. Make sure the data entered in Block J3 tells the same story as the dollar loss entered in the Basic Module.

    a. For example, if you have a structure that had a preincident value of $150,000 and had $120,000 worth of damage, you would not show the structure only having 1 to 24 percent damage.

    b. Also, if the same structure had $150,000, you would want Block J3 to reflect 100 percent damage.

5. Be sure to gather the detector and extinguishment information at the incident.

    a. This data is left behind frequently.

    b. Once again, field reporting sheets and check-off sheets are a valuable tool for collecting information at the incident so that no data is left behind or missed.

V. CIVILIAN FIRE CASUALTY MODULE

A. The Civilian Fire Casualty Module captures data regarding any civilian casualty **nonfire service** associated with fire-related incidents.

1. Civilians.

2. Emergency medical technician (EMT).

3. Law enforcement.

4. National Guard.

B. When you go to the Civilian Fire Casualty Module, you have an option to indicate what category of civilian.

C. An entry in H1 of the Basic Module will initiate the completion of this module.

D. 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, EMS responders (not fire department), and police.

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

F. NFIRS-4 includes information on:

1. Person's identification.

2. Demographic information.

3. Injury causes, including human and contributing factors.

4. Activity when injured.

5. Location when injured.

6. Symptoms and portion of body injured.

7. Disposition.

VI. FIRE SERVICE CASUALTY MODULE

A. This module is completed anytime a firefighter is injured or involved in an exposure on the job. This includes training, routine station details, cooking, cleaning, etc.

B. You need to create a new incident if you have a firefighter injured while not on an actual incident, for example, if a firefighter is injured while cooking.

C. When the Fire Service Casualty Module is used, at a minimum, the Basic Module also must be completed. Other modules also may be required depending on the Incident Type.

D. 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.

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

VII. EMERGENCY MEDICAL SERVICES MODULE

A. In its infancy, fire department activity reporting was limited to fires only — at least on a national level.

B. 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.

C. 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.

D. Recognizing that EMS-type activities are a significant portion (well over 80 percent) of what fire departments currently are doing, the NFIC encouraged the USFA to include an EMS Module in the reporting system.

E. USFA acknowledged that EMS was integral to the needs of local fire departments and that the data were critical to management of those departments.

F. An EMS reporting committee was formed with representation from local fire departments providing EMS, state fire marshals' offices, a state EMS director, and a physician advisor.

G. For a copy of the 80 EMS data points and definitions, see the National Highway Traffic Safety Administration (NHTSA) website at www.nhtsa.gov/people/injury/EMS/products.htm.

H. 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.

I. 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.

J. Use.

1. The optional EMS Module is used to report all medical incidents to which a department responds.

2. 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.

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

4. The EMS Module may be completed when an Incident Type is 100-243, 311, 321-323, 351-381, 400-431, 451 or 900.

5. 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.

VIII. HAZMAT MODULE

A. The optional Hazmat Module is used when the Basic Module (Block H3 — Hazardous Materials Release) indicates "other" for hazardous material. Its purpose is to document **reportable** hazmat incidents.

B. Generally speaking, a reportable hazmat incident is one in which:

1. Specialized hazmat resources were dispatched or used, or should have been dispatched or used, for assessing, mitigating or managing the situation.

2. There are releases or spills of hazardous materials exceeding 55 gallons.

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

1. Hazardous materials identification.

2. Container information.

3. Release amounts and location.

4. Actions taken.

5. Mitigating factors.

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

IX. WILDLAND FIRE MODULE

A. This module is to be used in place of the Fire Module, if you choose to use it.

B. The purpose of the Wildland Fire Module is to document reportable wildland fires.

C. Generally speaking, a reportable wildland fire is any fire involving vegetative fuels that occurs in the wildland or wildland urban interface (WUI) areas, including those fires that threaten or consume structures.

D. If a wildland fire catches a structure on fire, that structure needs to be reported as an exposure fire. You need to report every structure that catches on fire as a separate exposure fire.

E. If your agency is providing mutual aid to another agency on a wildland fire and the fire crosses into your jurisdiction, you no longer are providing mutual aid and need to start a new incident for your jurisdiction.

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

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

1. Prescribed fire — any fire ignited by management actions to meet specific objectives. A written, approved and prescribed fire plan must exist prior to ignition (Incident Type 632).

2. WUI area — the geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

3. WUI 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 intermingle with wildland or vegetative fuels (Incident Type 141).

4. 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).

5. Wildland — an area in which development is essentially nonexistent, except for roads, railroads, powerlines and similar facilities.

H. The Wildland Fire Module permits wildland fires to be profiled in-depth for resource allocation, incident management and fire impact analysis.

I. In addition, aggregated data on wildland fires will provide invaluable information that can be used by policymakers developing codes and standards, zoning ordinances, and forest management plans.

J. Wildland Fire Module use.

1. 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).

2. In these cases, the Wildland Fire Module would be used in lieu of the Fire Module.

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

a. 140: Vegetation Fire, Other.

b. 142: Brush, or Brush and Grass Mixture Fire.

c. 143: Grass Fire.

d. 160: Special Outside Fire.

e. 170: Cultivated Vegetation, Crop Fire, Other.

f. 171: Cultivated Grain, Crop Fire.

g. 172: Cultivated Orchard or Vineyard Fire.

h. 173: Cultivated Trees or Nursery Stock Fire.

i. 561: Unauthorized Burning.

j. 631: Controlled Burning (Authorized).

K. Controlled burning versus prescribed fire.

1. Incident Type 631 (Controlled Burning) is used for fires where the burning is authorized and under control.

a. Controlled burns are typically “agricultural” in nature and managed by the property owner.

b. In order to meet the definition of a prescribed fire (Incident Type 632), a written, approved and prescribed fire plan must exist prior to ignition.

c. These fires typically are carried out by a wildland management agency.

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

3. A prescribed fire that escapes management is a hostile fire — Incident Type 141 (Wildland Fire).

4. A hostile fire cannot become a prescribed fire, but the management strategy (actions taken) may change.

5. If it does not have a written, approved and 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.

X. APPARATUS/RESOURCES MODULE

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

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

XI. PERSONNEL MODULE

A. The Personnel Module is 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.

B. The Apparatus/Resources Module and the Personnel Module can provide administrators with data that is useful for management strategy development.

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

1. The Personnel Module covers the apparatus information, so there is no need to complete the Apparatus Module if you use the Personnel Module.

2. You can capture more actions taken on the incident by using the Apparatus and Personnel Modules.

3. You are limited to three actions taken if you only use the Basic Module. You can capture up to three actions taken per personnel on the incident if you use this module.

XII. ARSON MODULE

A. The Arson Module may be used whenever the cause of ignition (NFIRS-2 E1) is coded as "intentional" or "under investigation."

B. No distinction is made as to whether or not a crime has occurred, nor is there a determination of criminal intent.

C. The Arson Module also may be used when the fire is under investigation or in cases where the cause is "undetermined after investigation."

D. 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.

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

F. Nothing in this definition is meant to alter or affect compliance with state or local incident reporting requirements.

G. In states with mandatory reporting, the state program manager determines which optional modules (EMS, Hazmat, Wildland, Arson, etc.) are to be submitted to the state.

H. The Arson Module consists of two sections: a local investigation section, 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.

I. Many arson investigators use an "arson information management system" to collect and compile information on arson incidents.

J. This module is not intended to replace such systems, but rather to identify those data elements that could be exported to NFIRS and included as an integral part of USFA's national fire database and the Bureau of Alcohol, Tobacco, Firearms and Explosives' (ATF's) National Repository.

ACTIVITY 3.2

Fire Scenario

Purpose

Given a scenario, identify what is needed to accurately document the incident, including modules, critical elements, Incident Type, coding strategy and needed updates.

Directions

1. You will be reading a fire scenario that will be followed up by injects and filling out your worksheets.

2. Work in groups at your table, and be prepared to discuss your answers.

Section 1

1. What modules must be completed?

2. What modules should you complete?

3. What are the critical elements that should be captured?

4. What type of incident would you code this as?

5. What code would you use on the Fire Module for heat source?

6. What code would you use on the Fire Module for first item ignited?

7. What box would you check for cause of ignition on the Fire Module?

Section 2

1. Are there any other modules you should fill out with this additional information?

2. What information would you update with this additional information?

3. What should you do after updating your report?

4. Would the casualty be classified as a civilian fire casualty or a fire service casualty? Why or why not?

This page intentionally left blank.

ACTIVITY 3.3

Managing Errors With Excel

Purpose

Provide you with a process to view and manage errors generated during a data transaction file import into the Federal Client Tool (FCT) using Excel.

Directions

1. Using Excel, import the course-assigned error log found in your student folder.

2. Set up filters for your columns, and adjust fields for best presentation.

3. Build a simple PivotTable.

4. Save your Excel sheet to your student folder.

5. If your previous transaction file import resulted in an error file, import that file into Excel, and set up filters and adjust fields.

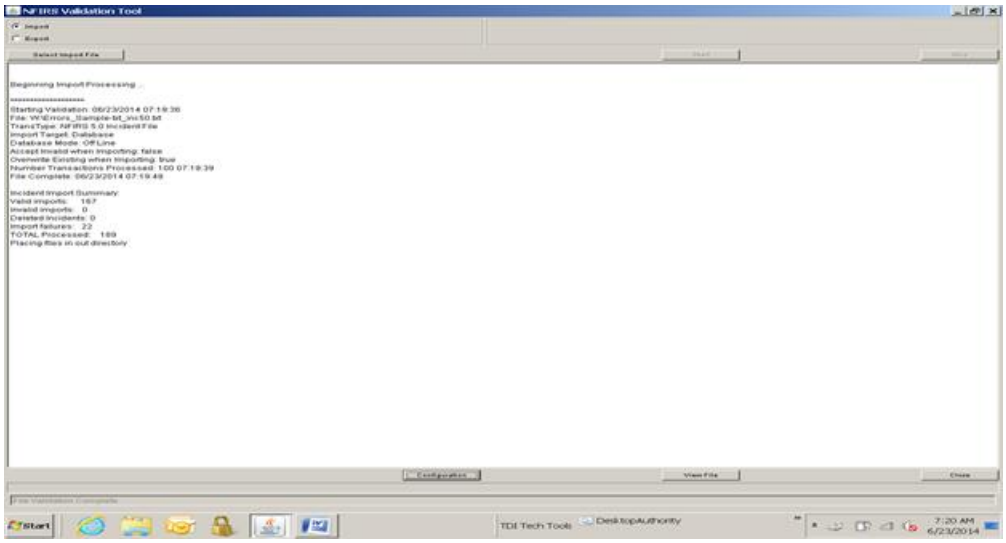
6. Save to your student folder.

This page intentionally left blank.

ACTIVITY 3.3 (cont'd)

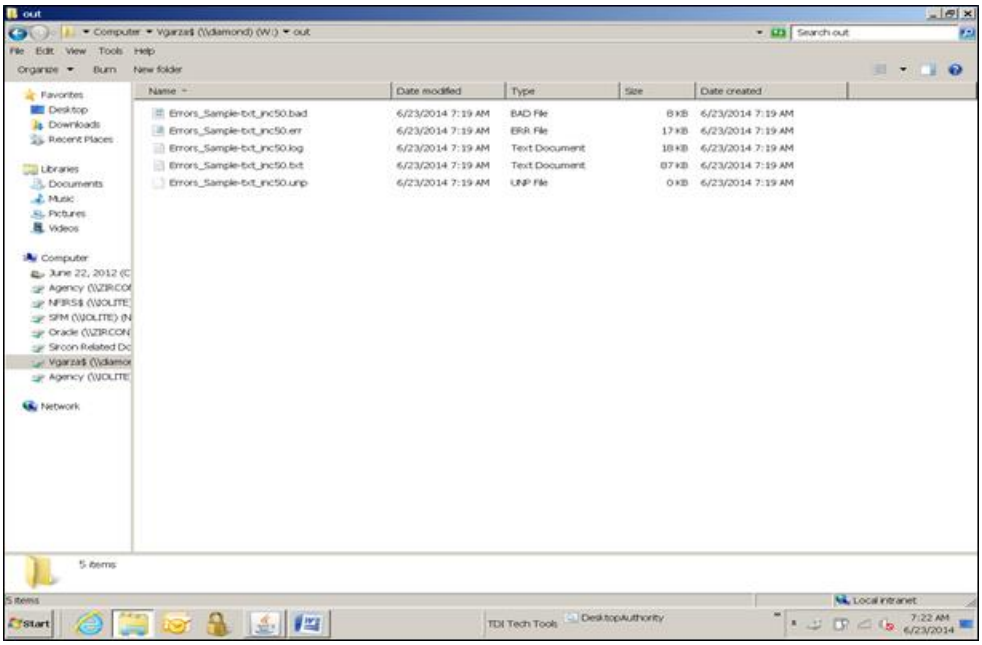
Managing Errors With Excel

When you import a data transaction file with the FCT, verify all incidents processed as valid, and address any errors, if necessary. Using your Configuration Tool, you can set the FCT to either accept invalids or not.



The "out" directory that NFIRS Validation created will be located in the folder that contained the (raw) NFIRS Data. This directory contains files that we will use to identify and correct Invalid Incidents.

1. Go to the "out" folder created during your data transaction file import.

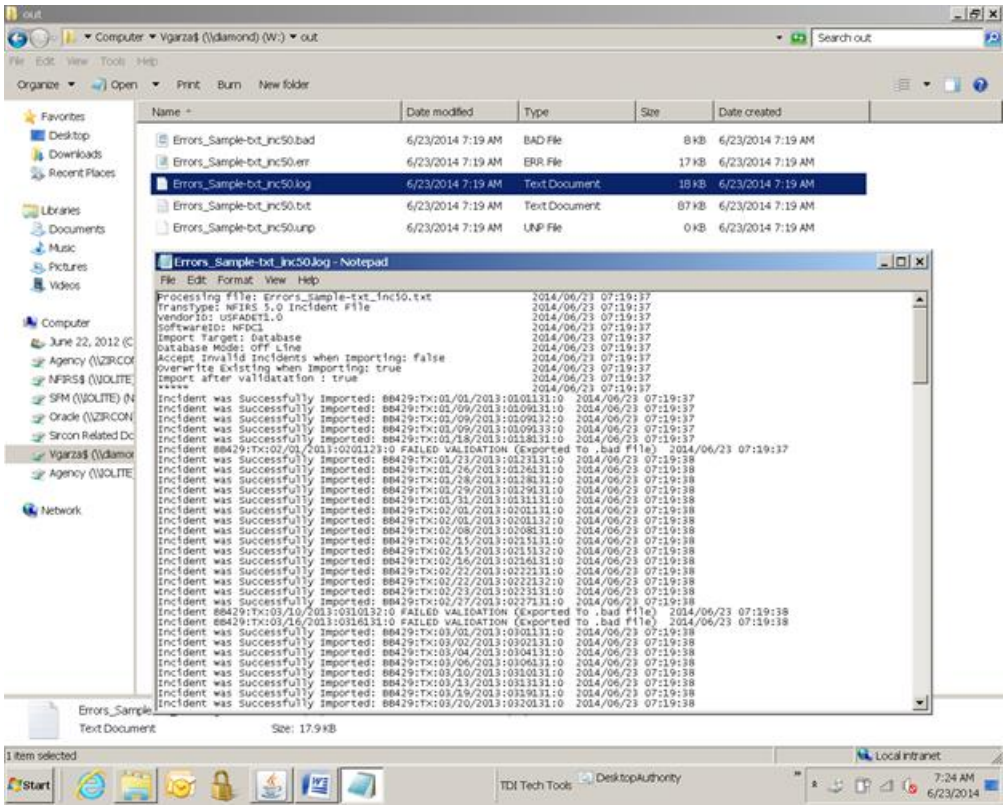


Files created during an import: BAD, ERR, LOG, TXT and UNP. (The file extensions may not be visible on all systems; see file type.)

If your data file did not have any errors during import, a BAD file was not created, and the ERR file will be empty. (Use student folder ERR file sample if necessary.)

2. Open the log file with Notepad.

   The log file lists each processed incident and will note any errors or failures in the summary. Be sure you scroll through all this log file carefully for any importing problems that may not be reflected in the summary.

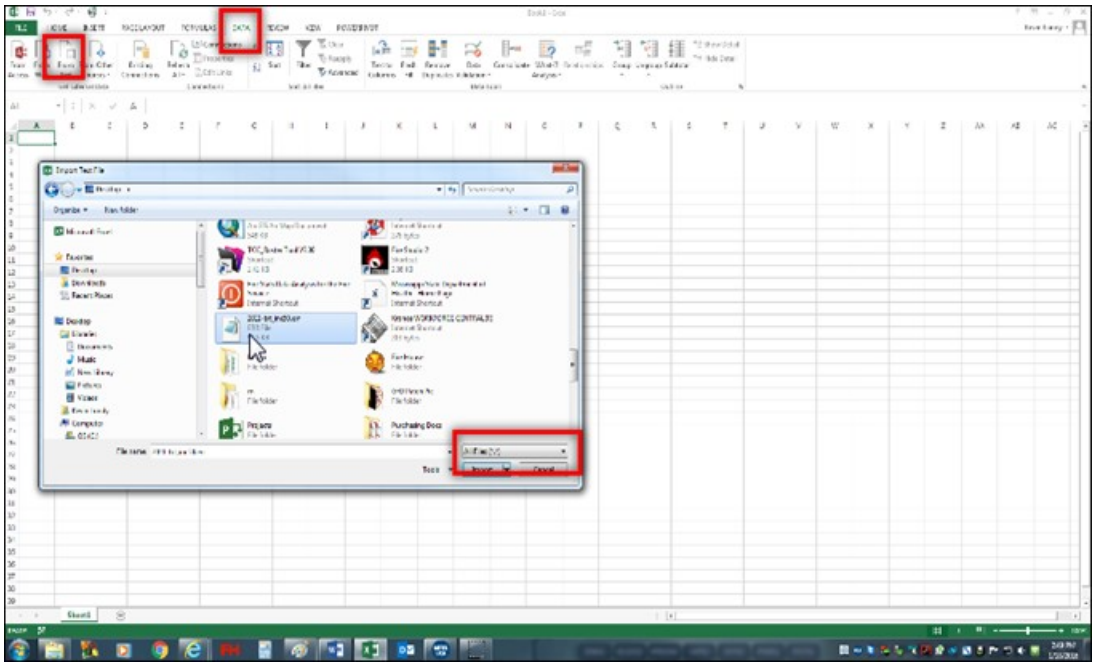


   The ERR file lists the specifics on validation errors for each incident. Can you read the errors?

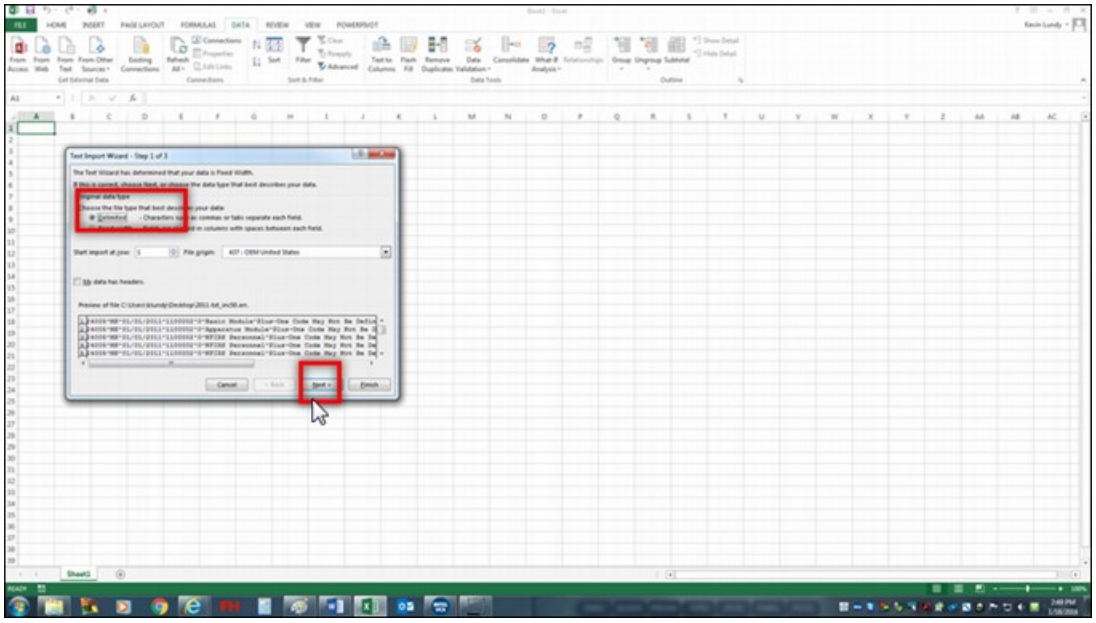
   We'll use Excel to view and present these errors.

3. Close the ERR file.

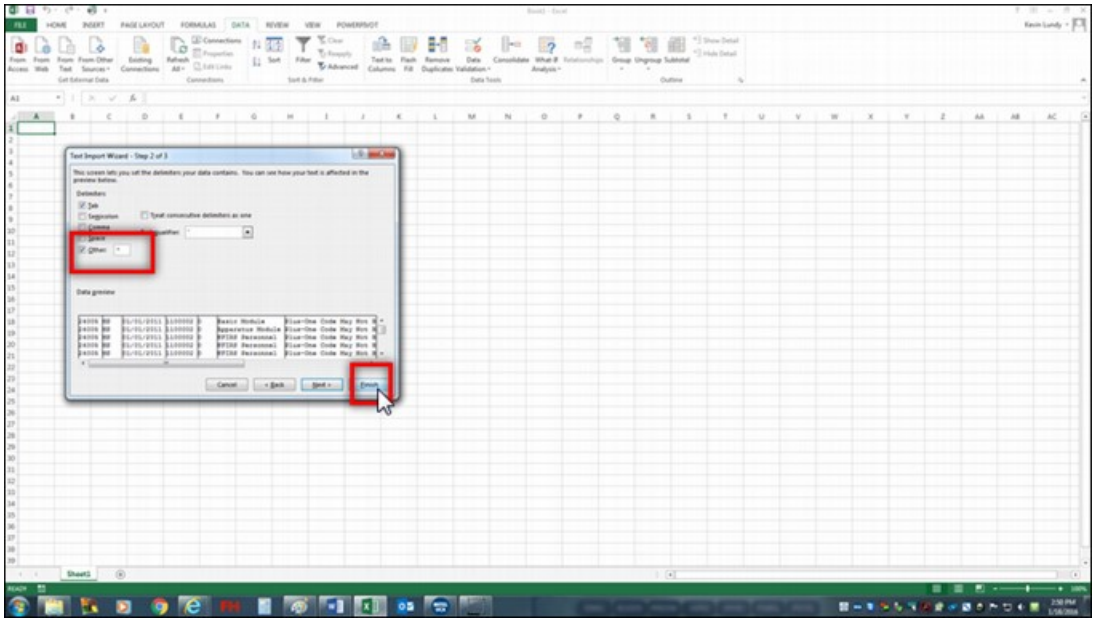
4. Go to the Data tab, and choose “From Text” to import your ERR file. **Note:** Since the extensions on these files vary, search “All Files” when you are importing your ERR file.



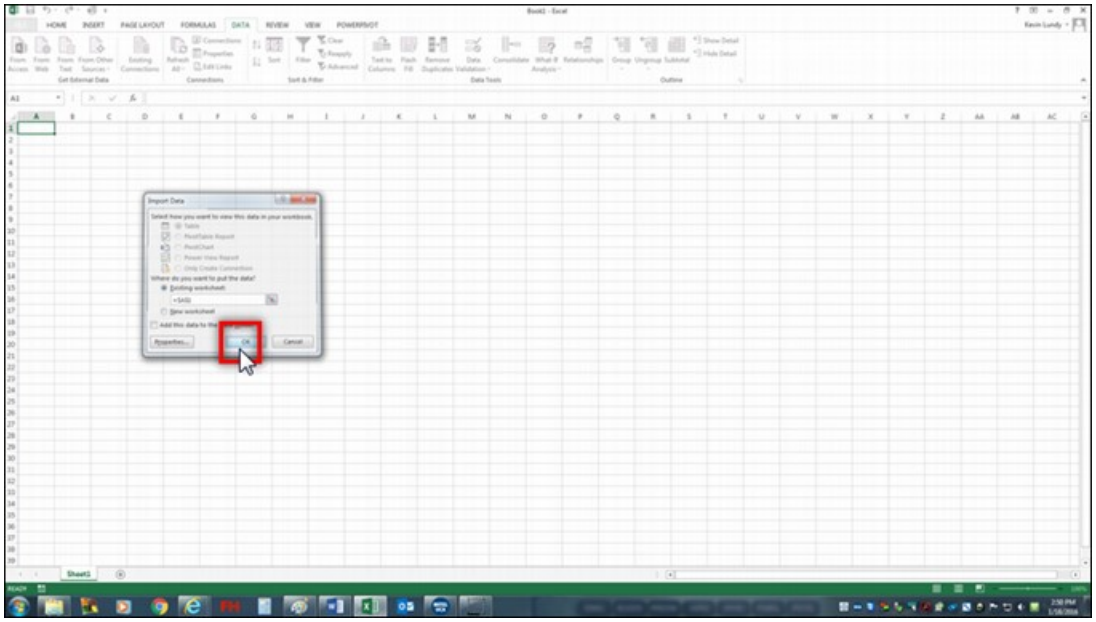
5. Check the box for “Delimited” for file type. Click Next.



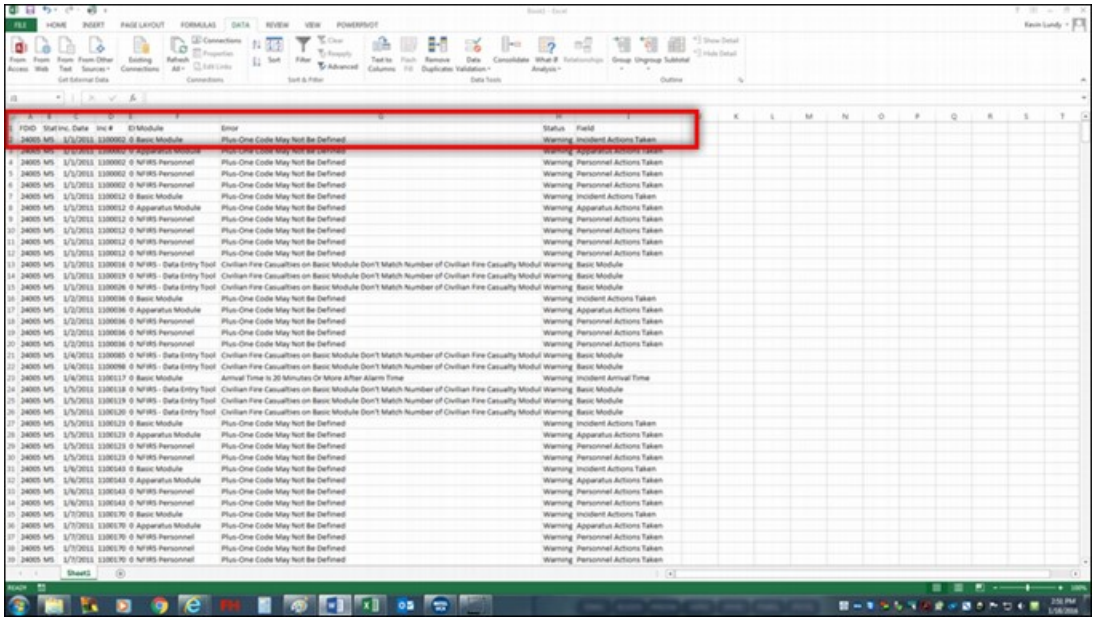
6. Under Delimiters, choose Other and enter the "^" character.



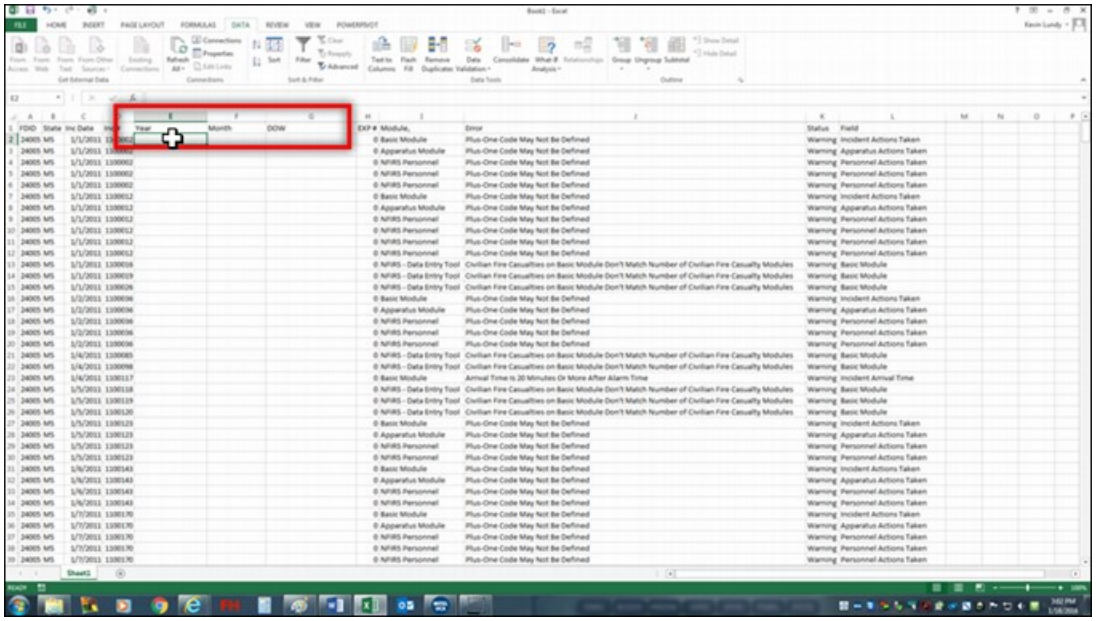
7. Accept the General Column data format, and place your data on the sheet.



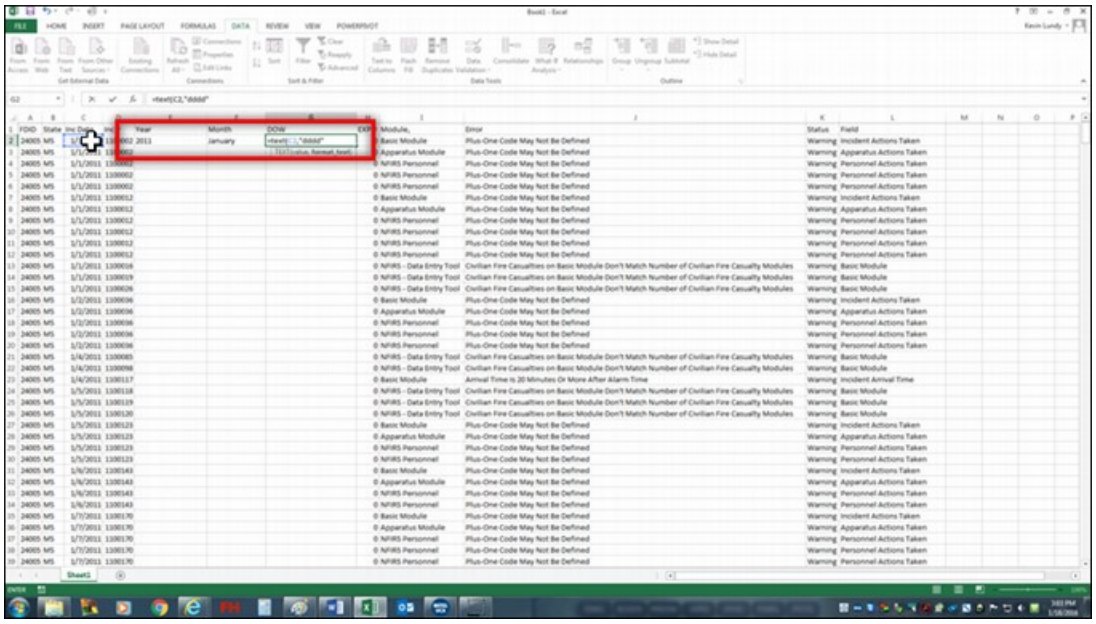
8. At the top of your sheet, row 1, insert a row and add column names: FDID, State, Inc Date, Inc #, EXP #, Module, Error, Status and Field. Set the column to Bold, and resize all columns.



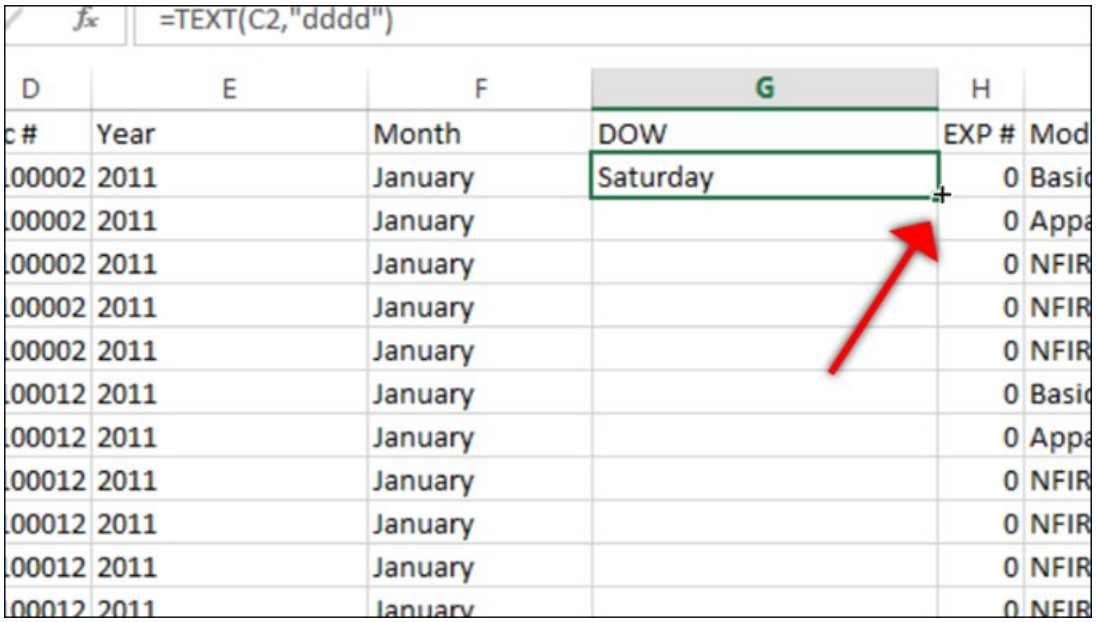
9. Add three columns to the left of Inc#. Name them “Year,” “Month,” and “DOW” for day of week.



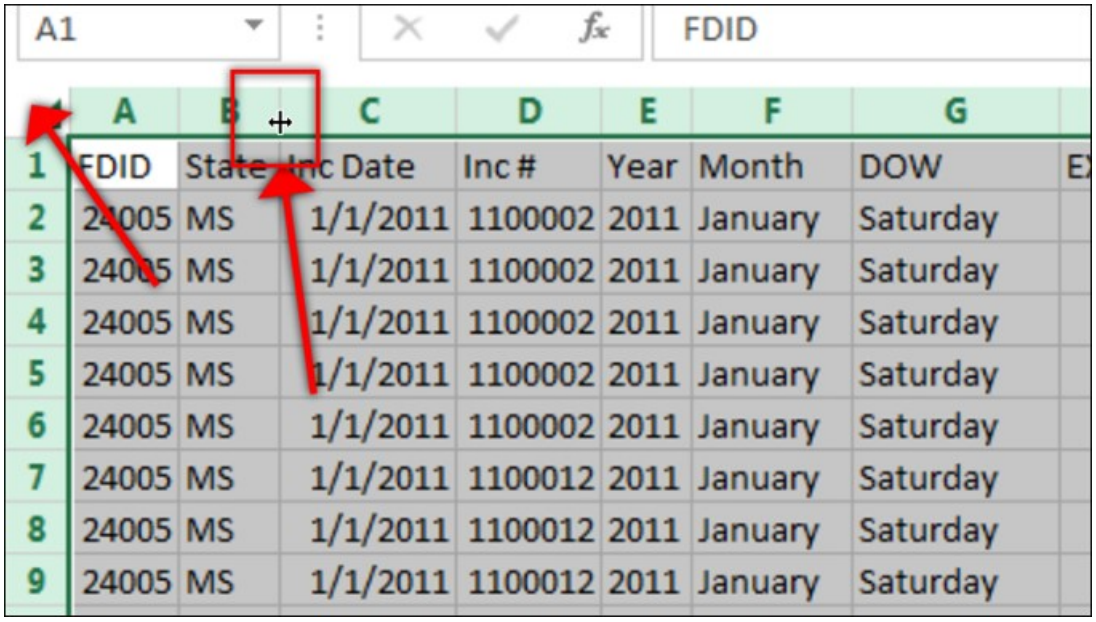
10. Type the following formulas: Under Year “=text(C2,”yyyy”), under Month “=text(C2,”mmmm”), under DOW “=text(C2,”dddd”).



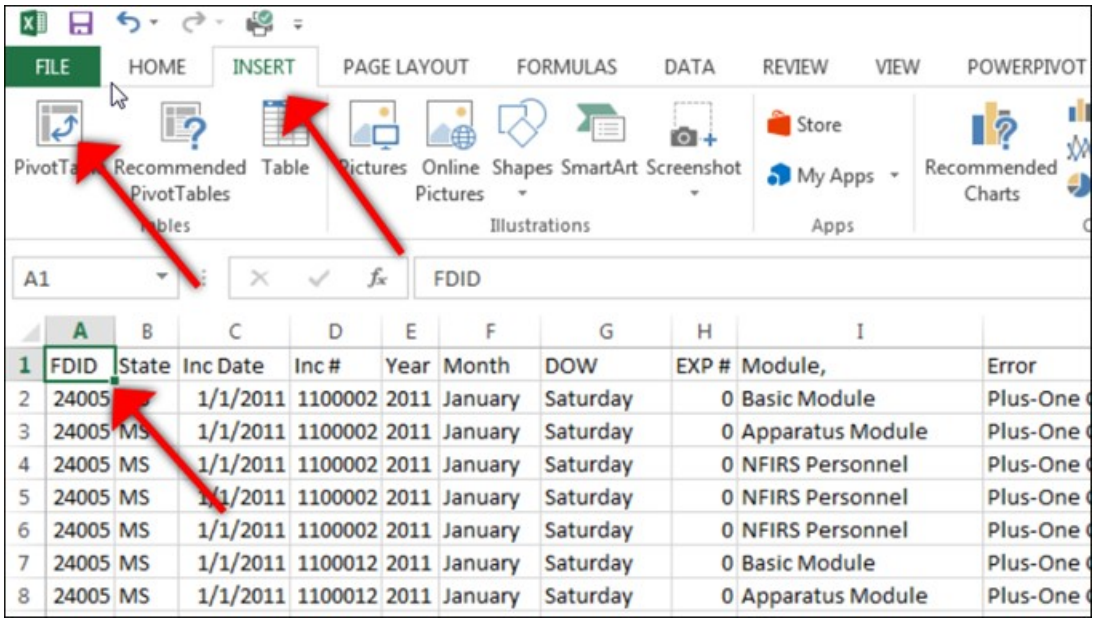
11. Copy the formulas in all three columns to the end of your last row. You can do this by putting your cursor at the bottom right of the cell. When your cursor changes to a “+” double click.



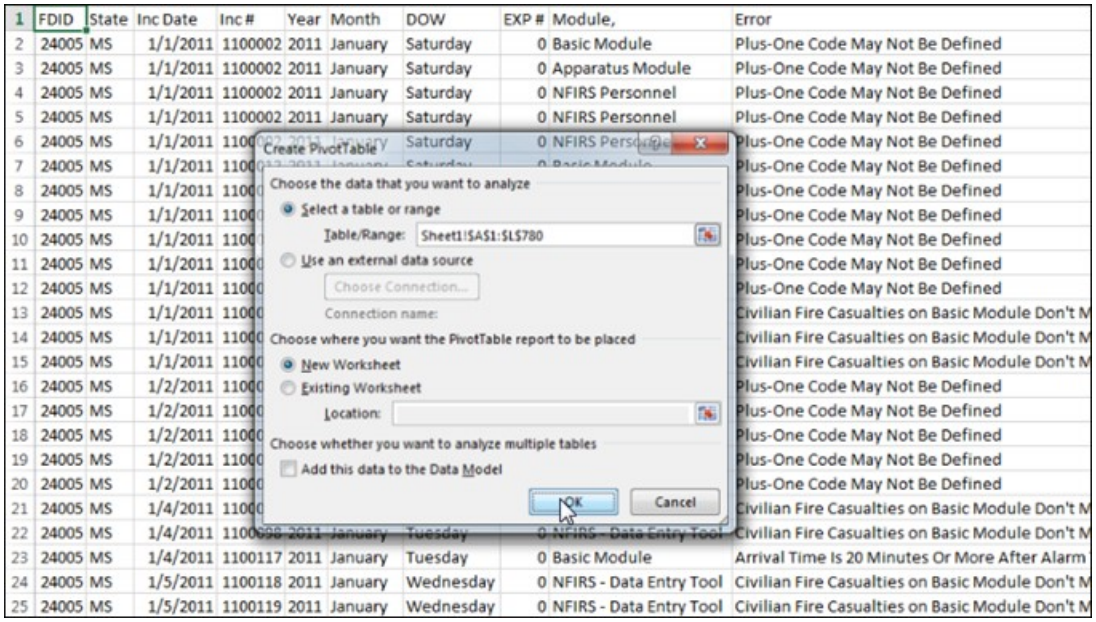
12. Expand all of your columns to fit the data contained in them by clicking on the box above your first row and to the left of column "A." Once all your cells are highlighted, put your cursor in between two columns, and double click.



13. Next we will insert a simple PivotTable. Click on cell "A1." Click on the Insert tab, and then select PivotTable.

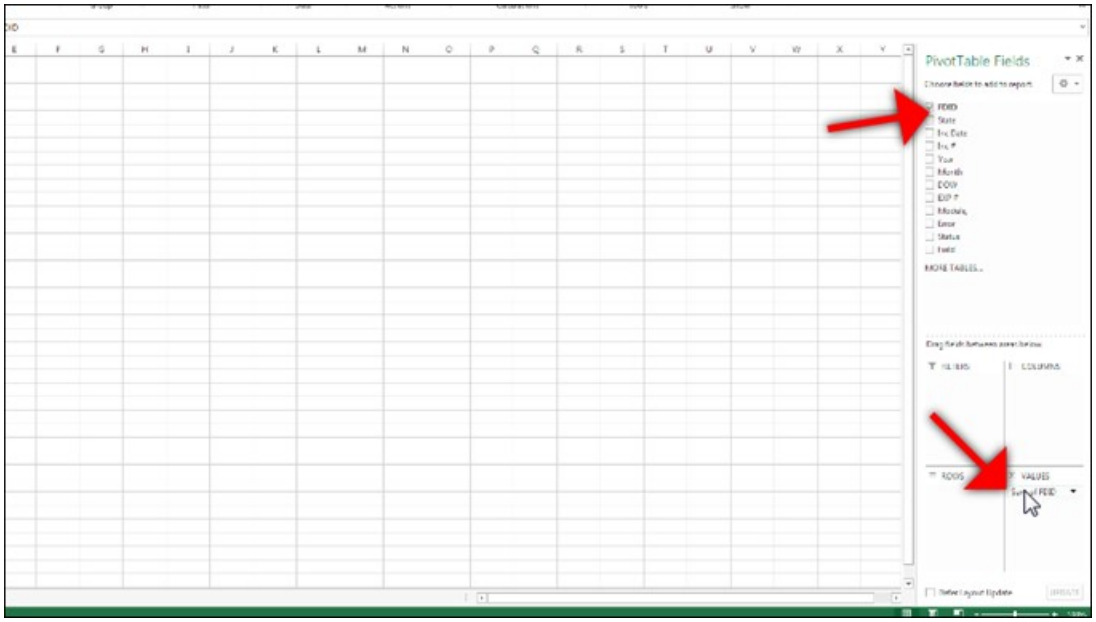


14. Click on the OK button.

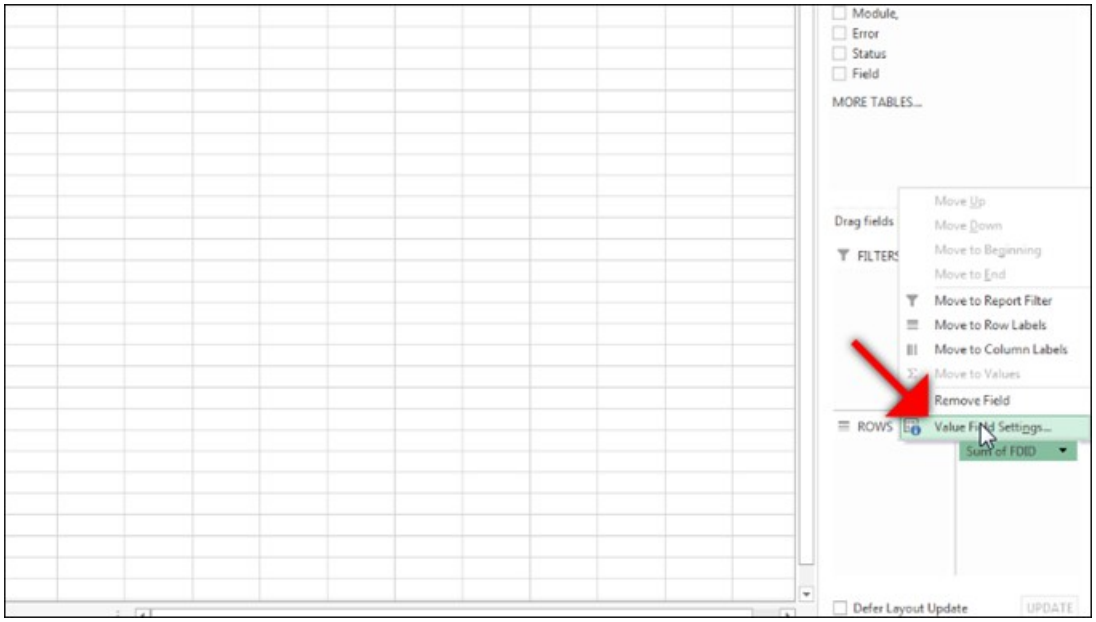


	FDID	State	Inc Date	Inc #	Year	Month	DOW	EXP #	Module,	Error
2	24005	MS	1/1/2011	1100002	2011	January	Saturday	0	Basic Module	Plus-One Code May Not Be Defined
3	24005	MS	1/1/2011	1100002	2011	January	Saturday	0	Apparatus Module	Plus-One Code May Not Be Defined
4	24005	MS	1/1/2011	1100002	2011	January	Saturday	0	NFIRS Personnel	Plus-One Code May Not Be Defined
5	24005	MS	1/1/2011	1100002	2011	January	Saturday	0	NFIRS Personnel	Plus-One Code May Not Be Defined
6	24005	MS	1/1/2011	1100			Saturday	0	NFIRS Perso	Plus-One Code May Not Be Defined
7	24005	MS	1/1/2011	1100						Plus-One Code May Not Be Defined
8	24005	MS	1/1/2011	1100						Plus-One Code May Not Be Defined
9	24005	MS	1/1/2011	1100						Plus-One Code May Not Be Defined
10	24005	MS	1/1/2011	1100						Plus-One Code May Not Be Defined
11	24005	MS	1/1/2011	1100						Plus-One Code May Not Be Defined
12	24005	MS	1/1/2011	1100						Plus-One Code May Not Be Defined
13	24005	MS	1/1/2011	1100						Civilian Fire Casualties on Basic Module Don't M
14	24005	MS	1/1/2011	1100						Civilian Fire Casualties on Basic Module Don't M
15	24005	MS	1/1/2011	1100						Civilian Fire Casualties on Basic Module Don't M
16	24005	MS	1/2/2011	1100						Plus-One Code May Not Be Defined
17	24005	MS	1/2/2011	1100						Plus-One Code May Not Be Defined
18	24005	MS	1/2/2011	1100						Plus-One Code May Not Be Defined
19	24005	MS	1/2/2011	1100						Plus-One Code May Not Be Defined
20	24005	MS	1/2/2011	1100						Plus-One Code May Not Be Defined
21	24005	MS	1/4/2011	1100						Civilian Fire Casualties on Basic Module Don't M
22	24005	MS	1/4/2011	1100			Tuesday	0	NFIRS - Data Entry Tool	Civilian Fire Casualties on Basic Module Don't M
23	24005	MS	1/4/2011	1100117	2011	January	Tuesday	0	Basic Module	Arrival Time Is 20 Minutes Or More After Alarm
24	24005	MS	1/5/2011	1100118	2011	January	Wednesday	0	NFIRS - Data Entry Tool	Civilian Fire Casualties on Basic Module Don't M
25	24005	MS	1/5/2011	1100119	2011	January	Wednesday	0	NFIRS - Data Entry Tool	Civilian Fire Casualties on Basic Module Don't M

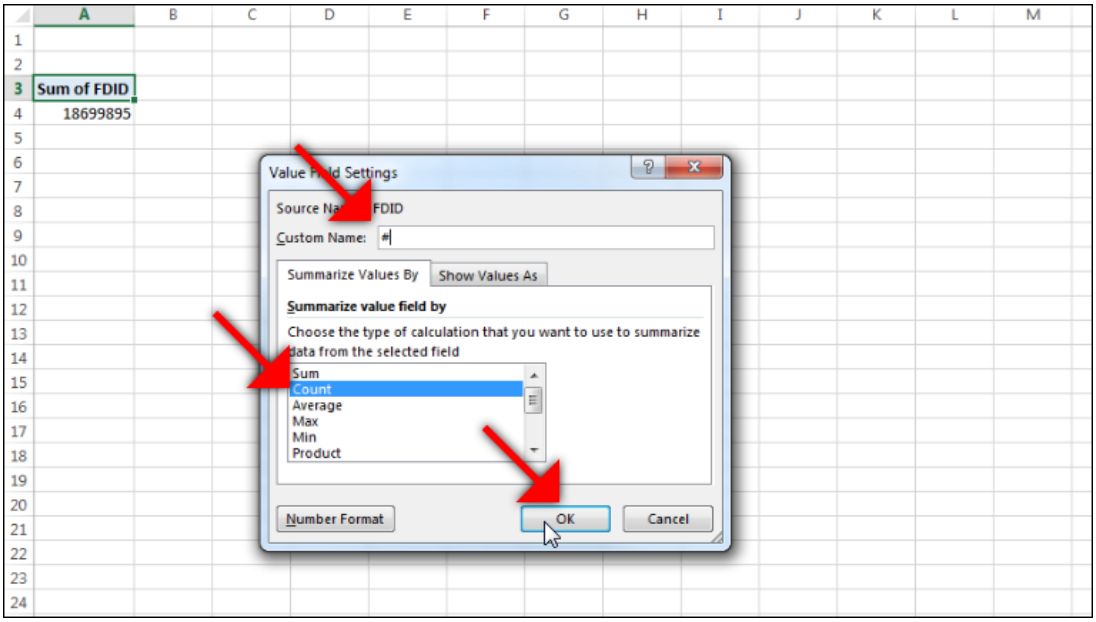
15. Pull the “FDID” down to the VALUES box at the bottom right of the screen.



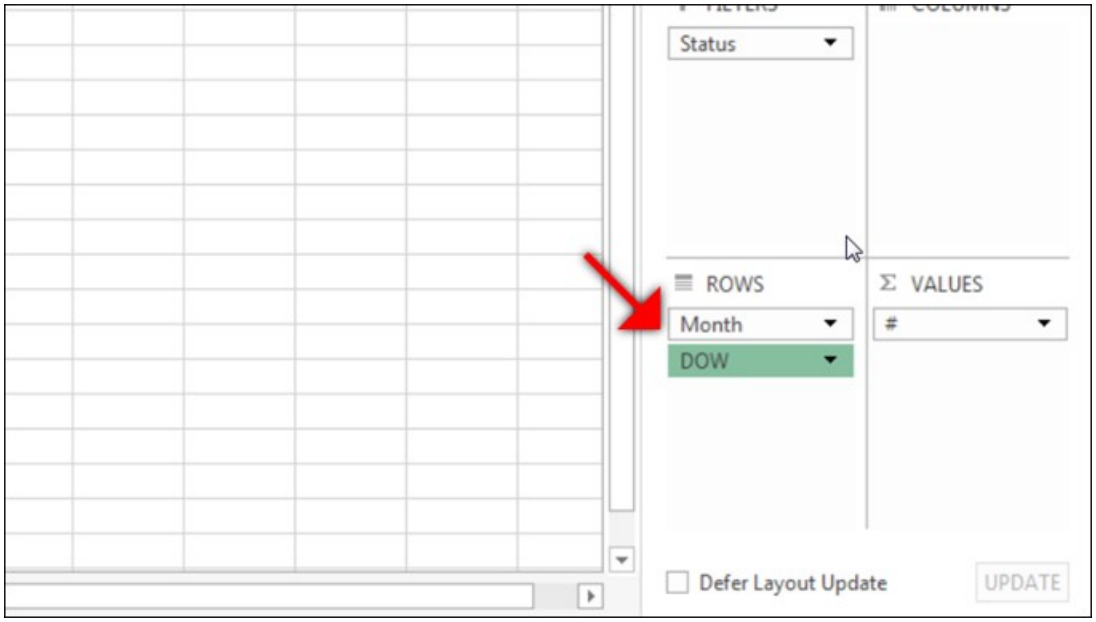
16. Click on the “Sum of FDID” field, and then choose “Value Field Settings” option.



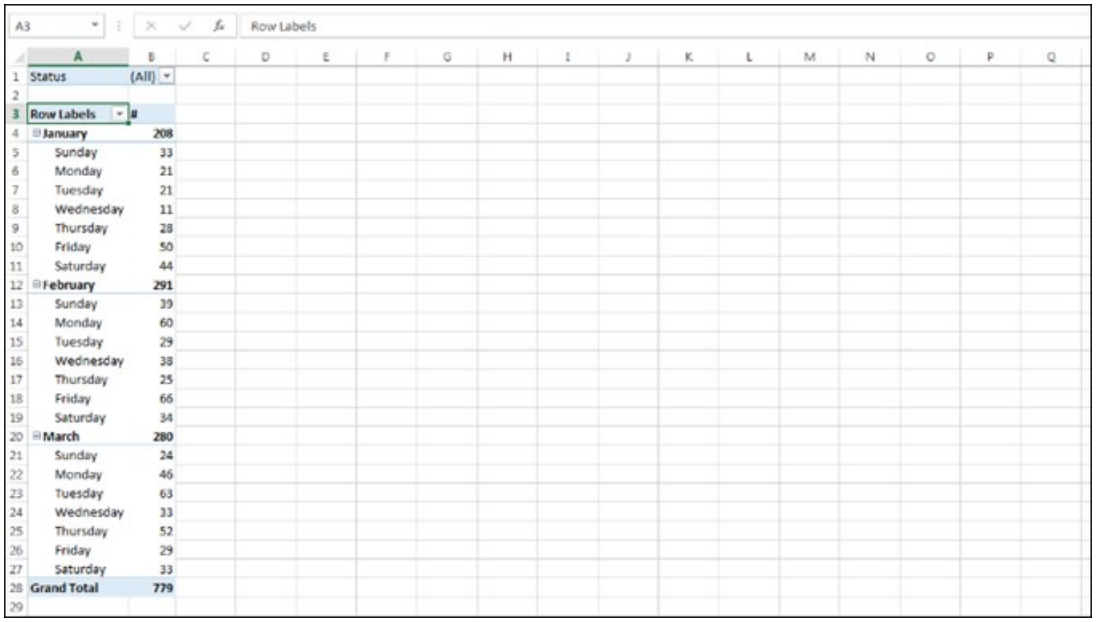
17. Change the name to “#” — then choose “Count,” and click the OK button.



18. Move the “Month” and “DOW” fields into the “ROWS” box.

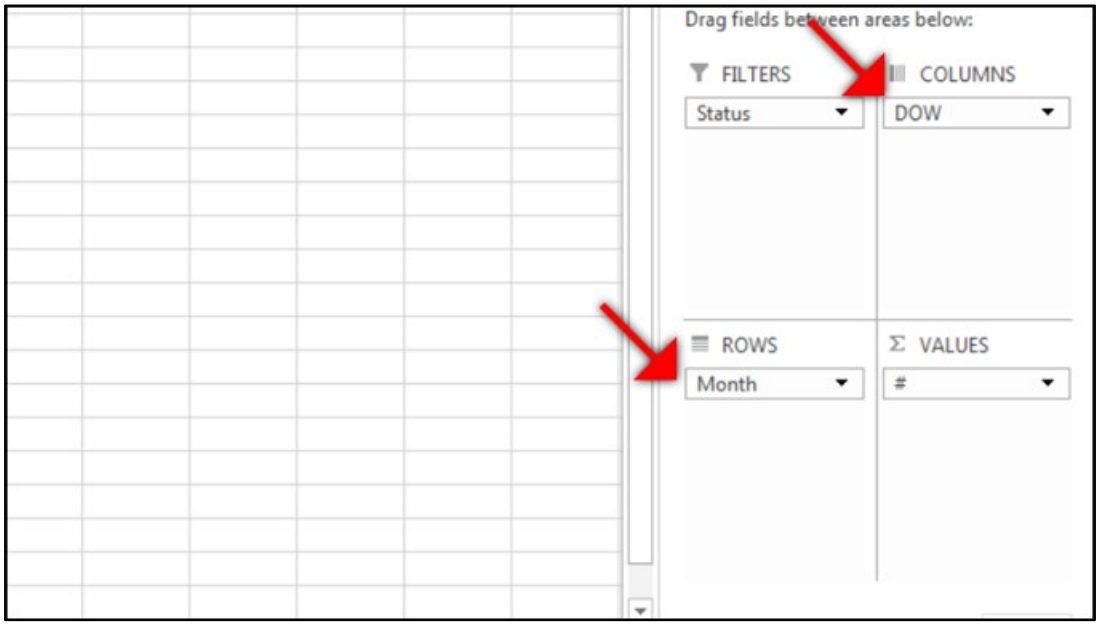


19. You will see how many errors you had for each month and what days they occurred on.

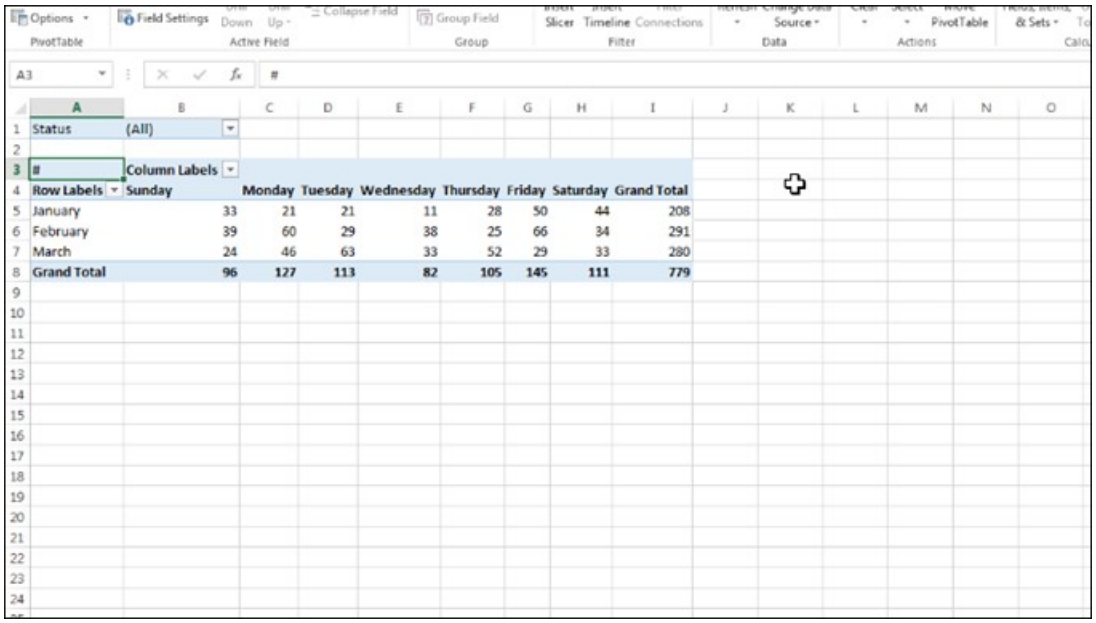


Status	(All)
Row Labels	#
January	208
Sunday	33
Monday	21
Tuesday	21
Wednesday	11
Thursday	28
Friday	50
Saturday	44
February	291
Sunday	39
Monday	60
Tuesday	29
Wednesday	38
Thursday	25
Friday	66
Saturday	34
March	280
Sunday	24
Monday	46
Tuesday	63
Wednesday	33
Thursday	52
Friday	29
Saturday	33
Grand Total	779

20. Move the “DOW” field to the “COLUMNS” box.

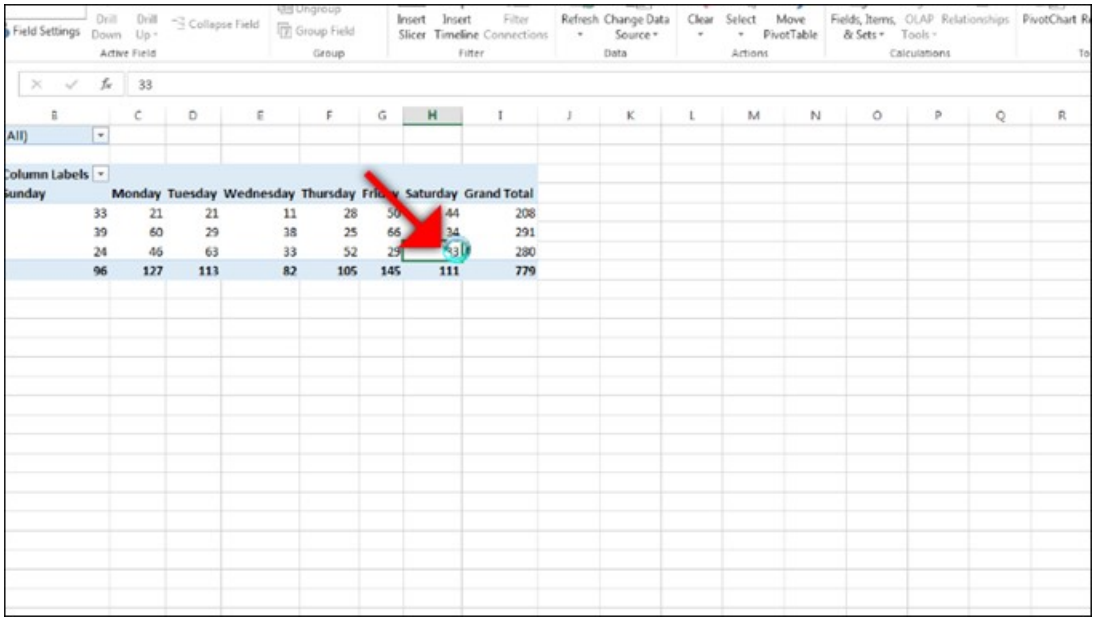


21. You now have the same information but in a different view.



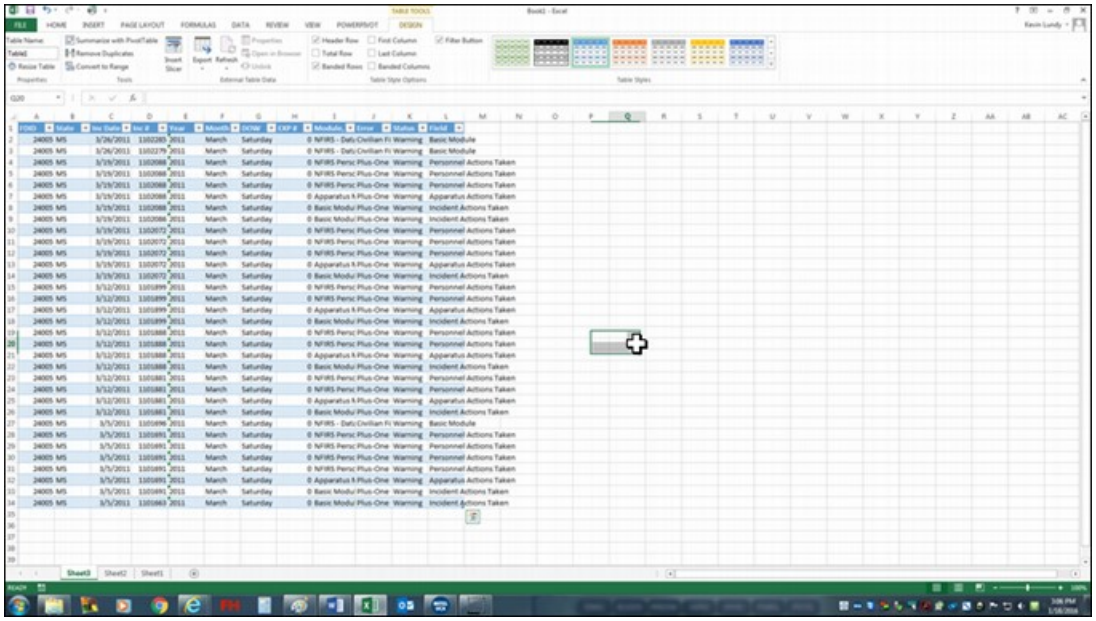
Status	(All)							
#	Column Labels							
Row Labels	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Grand Total
January	33	21	21	11	28	50	44	208
February	39	60	29	38	25	66	34	291
March	24	46	63	33	52	29	33	280
Grand Total	96	127	113	82	105	145	111	779

22. To see the information that makes up any value, you can double click on that value. Choose any cell with a value, and double click on it.



Column Labels	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Grand Total
Sunday							
33	21	21	11	28	50	44	208
39	60	29	38	25	66	34	291
24	46	63	33	52	29	33	280
96	**127**	**113**	**82**	**105**	**145**	**111**	**779**

23. You now see the errors that made up the value for the cell you click on.



24. Save your file, and close Excel.

Critical errors must be corrected for a valid incident.

Warnings should be reviewed and addressed when possible.

Note: The Web-based Bulk Import Utility (BIU) also generates processing files when you submit a data transaction file import. Be sure these files are reviewed and errors addressed.

This page intentionally left blank.

ACTIVITY 3.4

Using PivotTable Templates

Purpose

Run the Pivot_NFIRS_PM query tool in Access on your own NFIRS data.

Gain the knowledge and skills necessary for you to integrate the PivotTable Template with your own NFIRS data.

Directions

1. Open the Lab Manual so it will display on your second monitor. Navigate to your NFIRS Access Database, and open it.

2. Run the Pivot_NFIRS_PM query on your data.

3. Close your Access Database, and open up your Excel Summary Template file.

4. Redefine the Open Database Connectivity (ODBC) connection.

5. The instructor will give you a few tasks to run with your data using the PivotTable in the Excel Summary Template file.

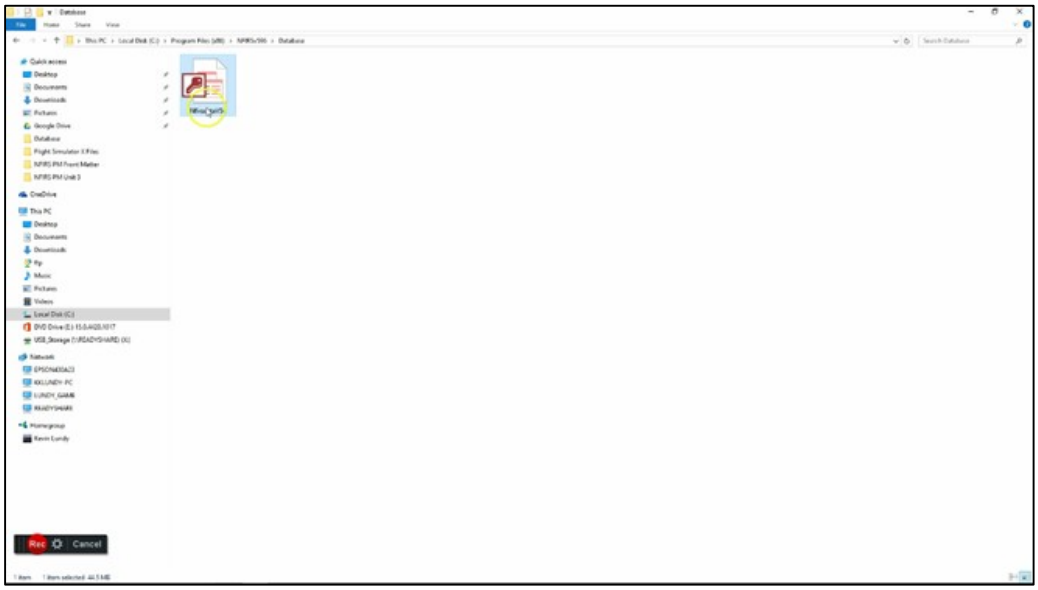
This page intentionally left blank.

ACTIVITY 3.4 (cont'd)

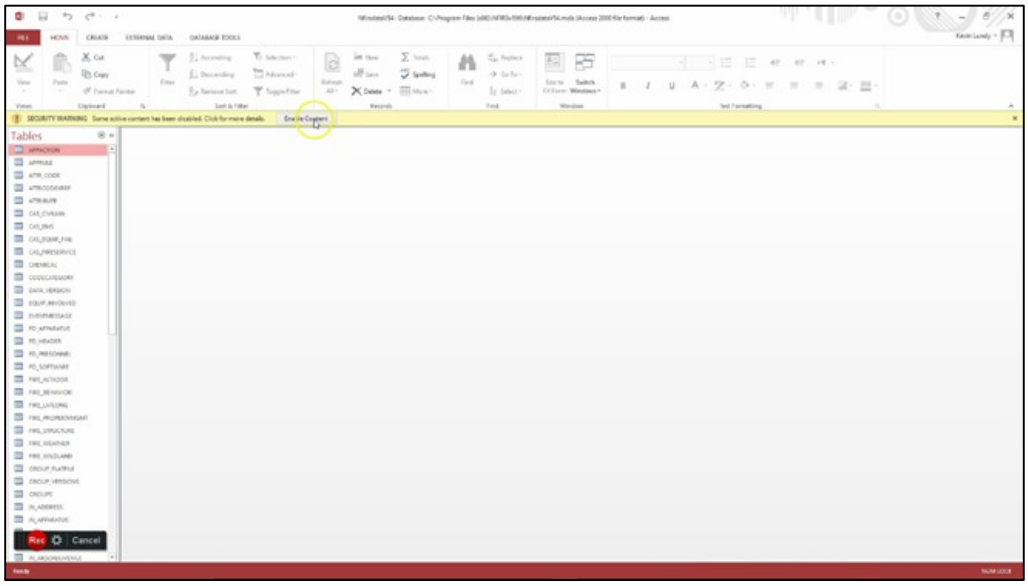
Using PivotTable Templates

Part 1: Demonstration — Running Your Query Tool

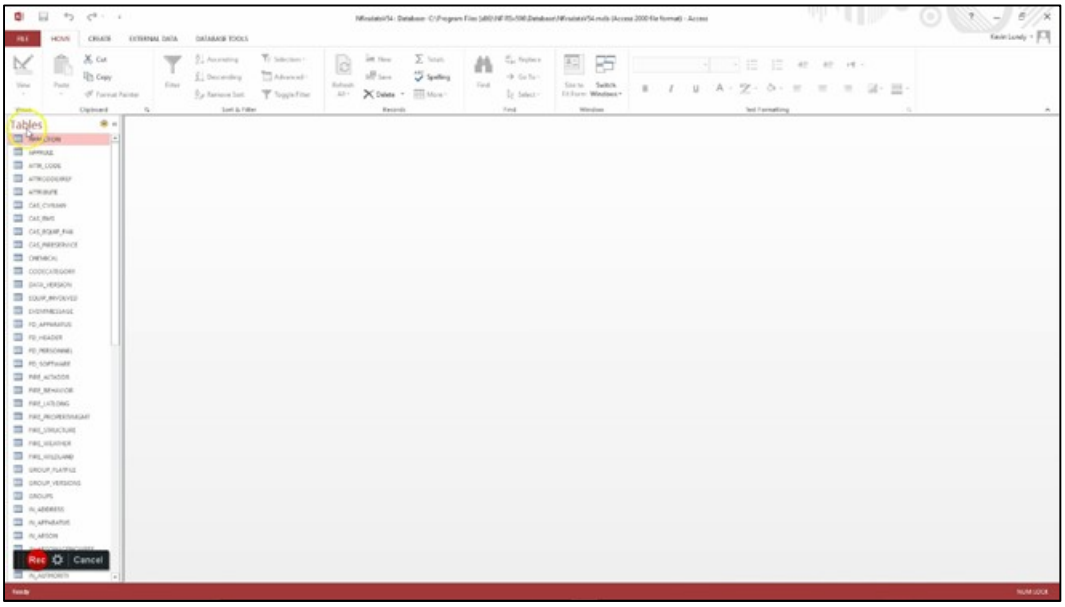
1. Open up your Access Database located at c:\computer\program files(x86)\NFIRSv594\ database.



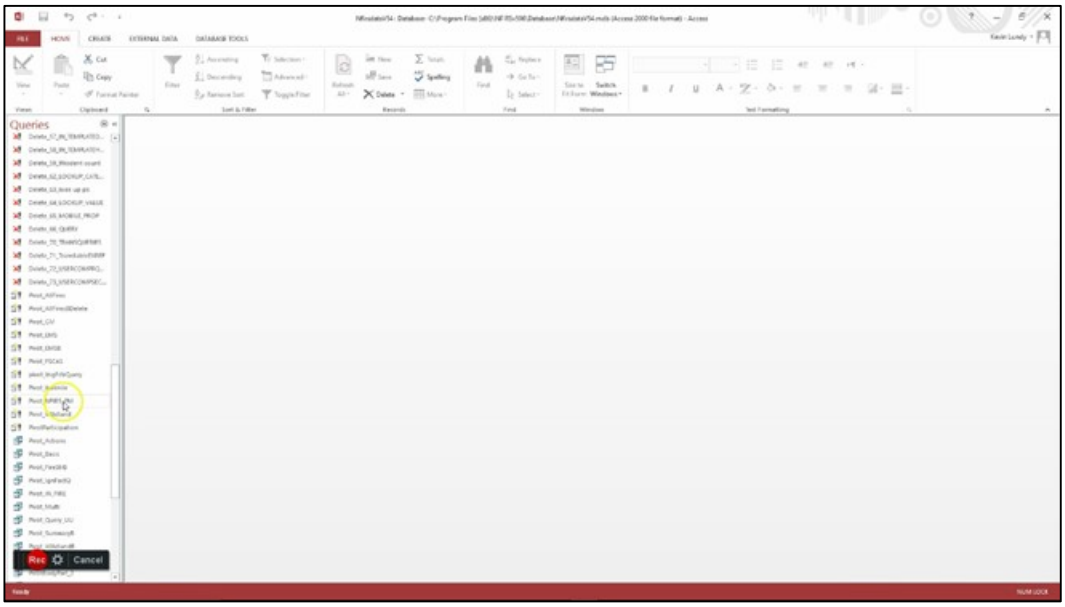
2. Click on the Options button located in the Security Warning tab.



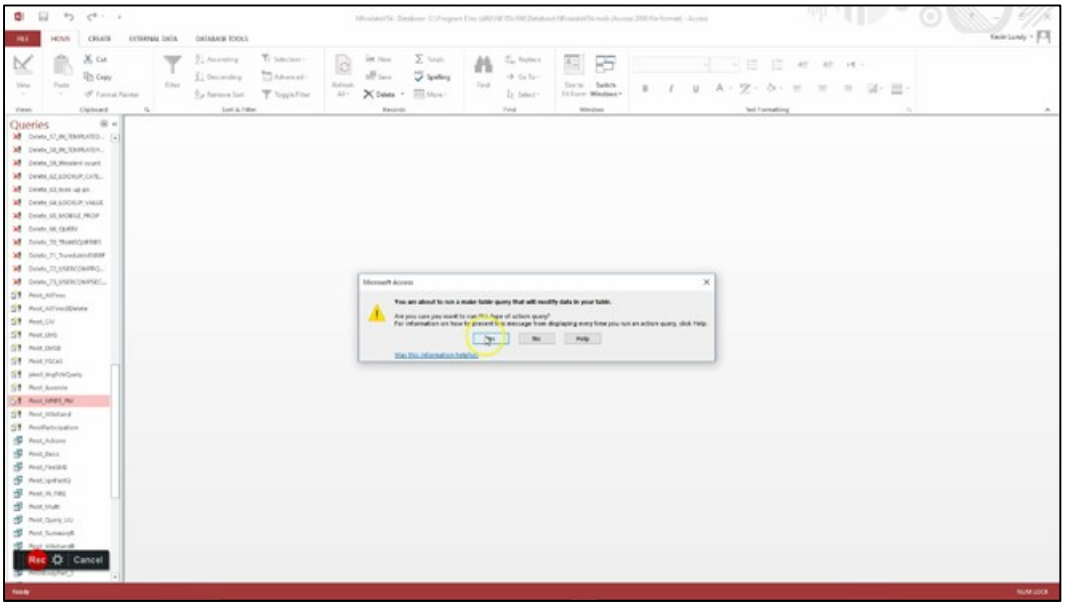
3. Click on the “Tables” heading on the left side of your screen, and choose “Queries.”



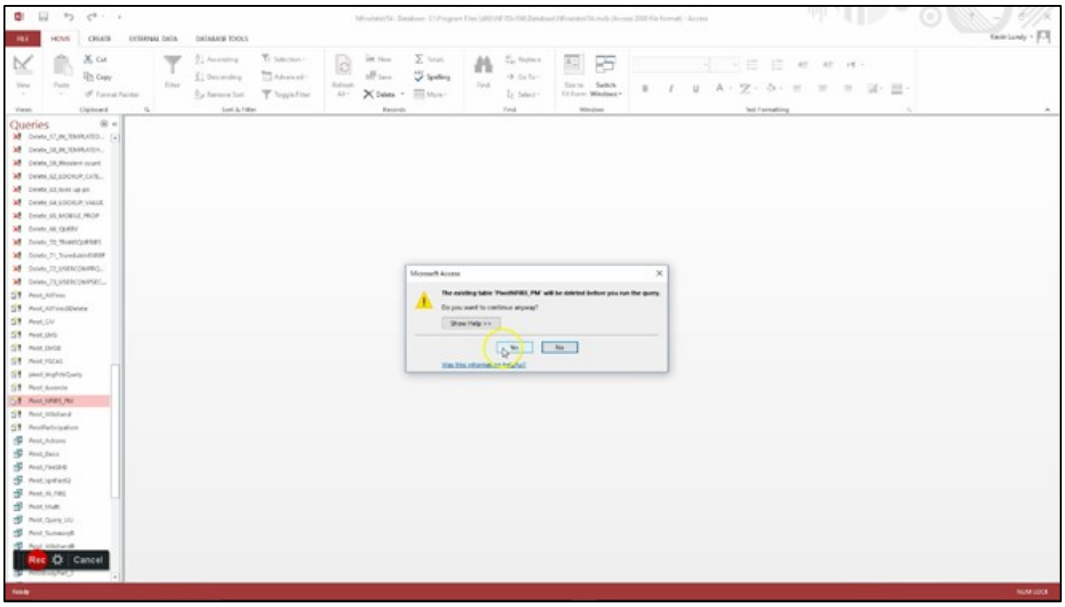
4. Scroll down, and double click the “Pivot_NFIRS_PM” query to run it.



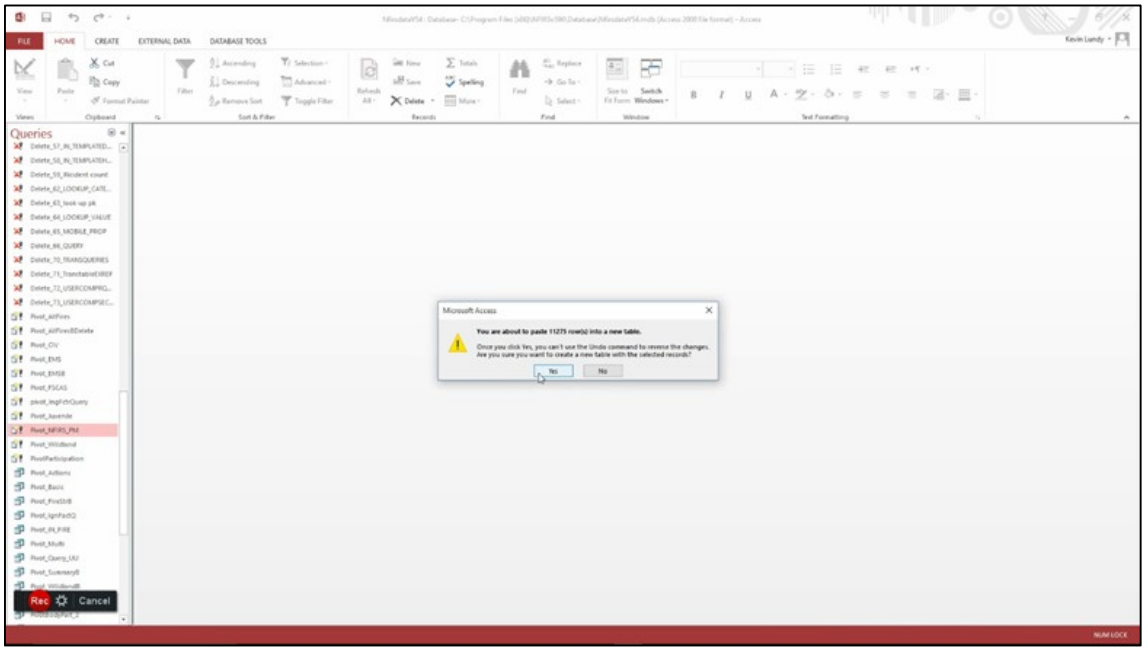
5. Click on Yes.



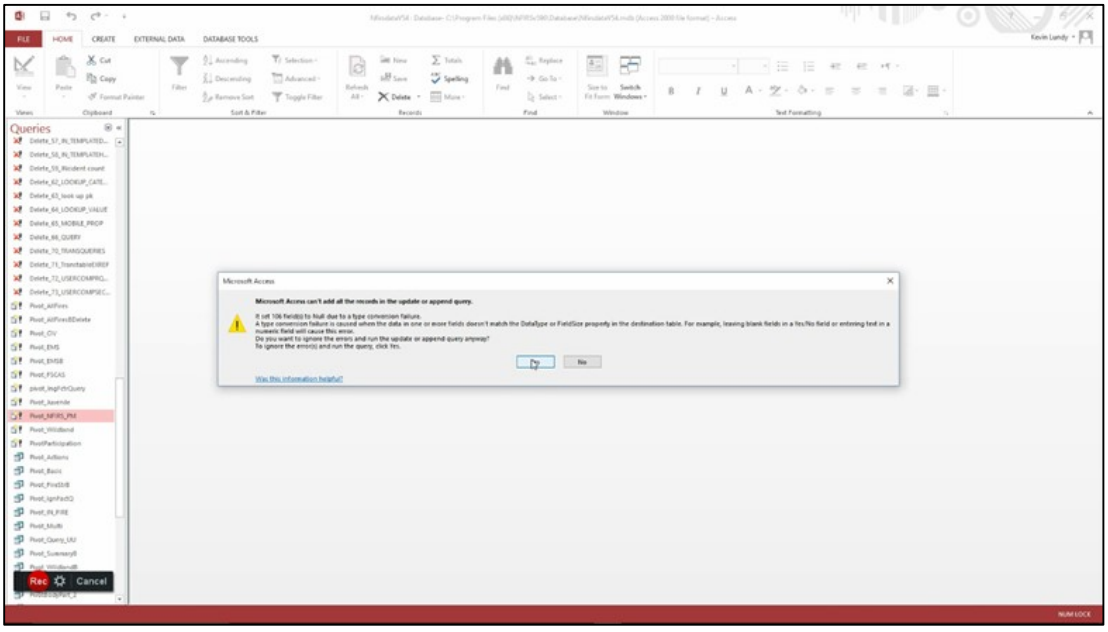
6. Click on Yes again.



7. Click on Yes again.

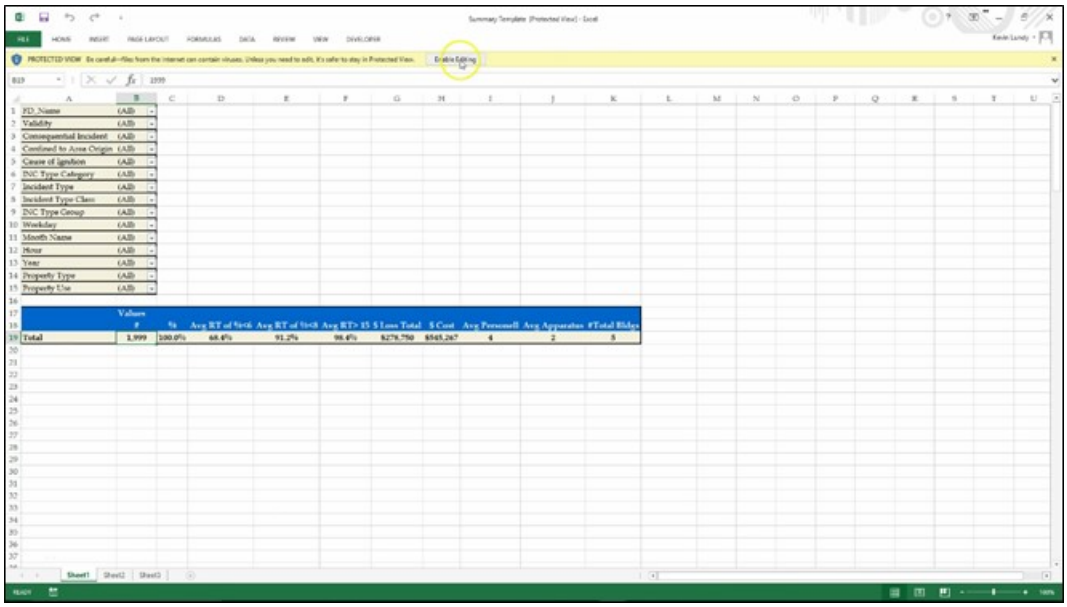


8. Click on Yes again. Your query is now done running.

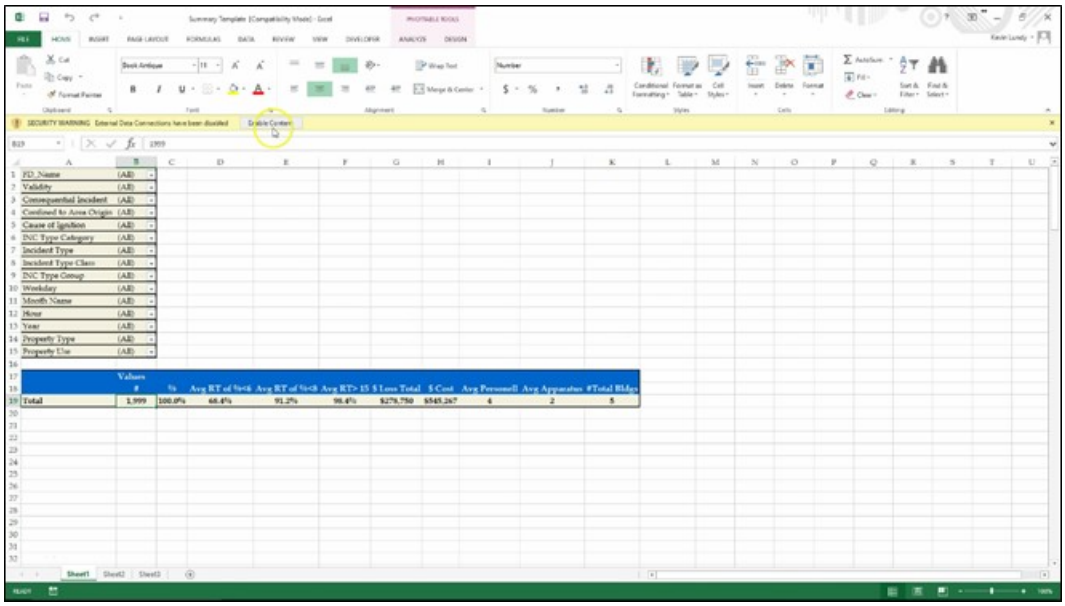


Part 2: Demonstration — Redefine Your Data Connection in Your Excel Summary Template File

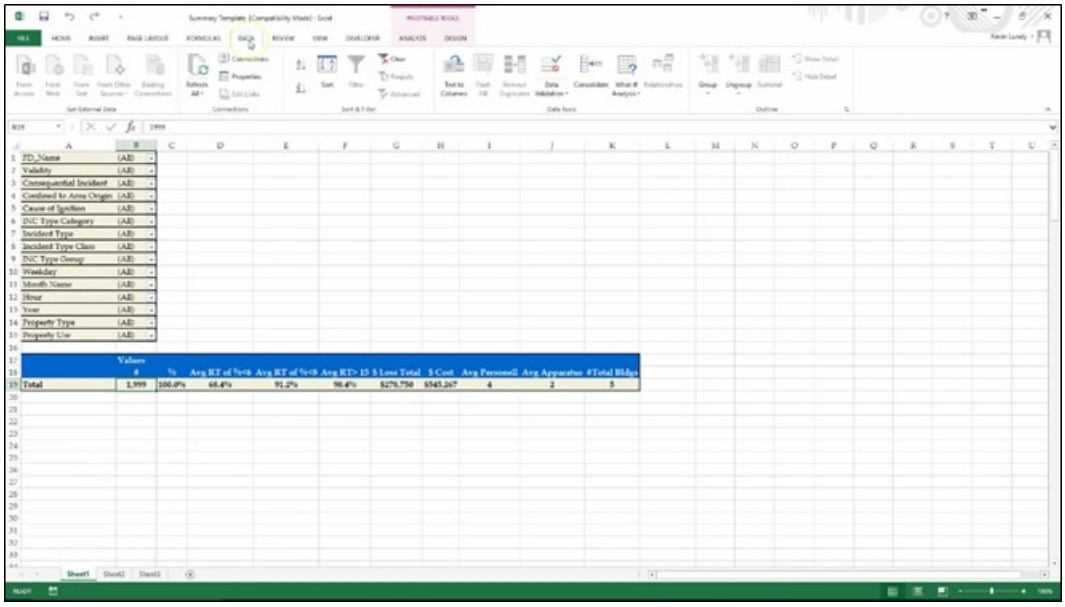
1. Open your Summary Template File, and click on the Enable Editing button in the Protected View tab.



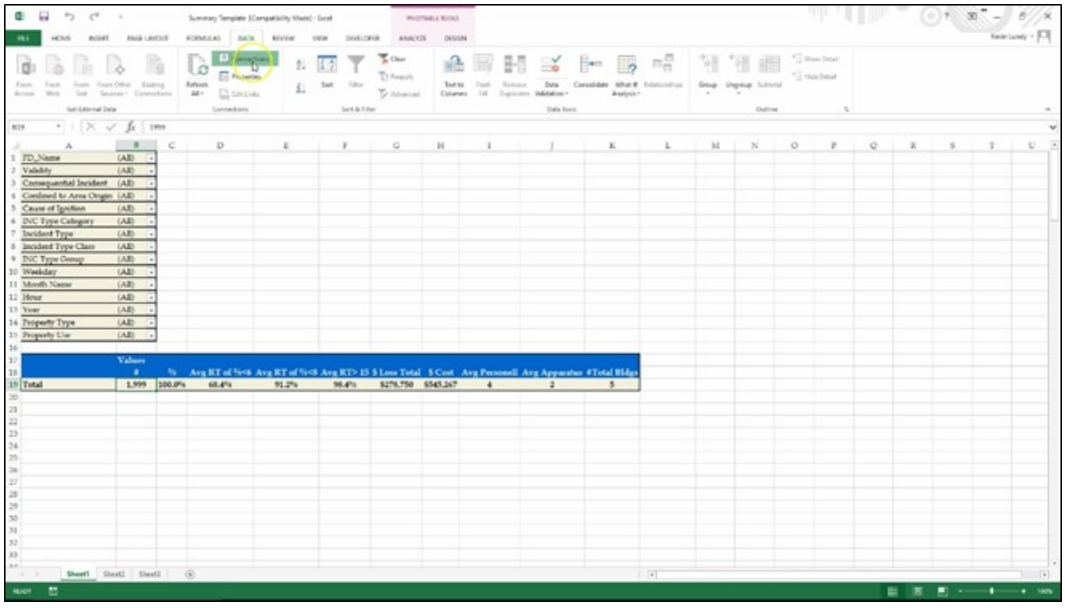
2. Click on the Enable Content button on the Security Warning tab.



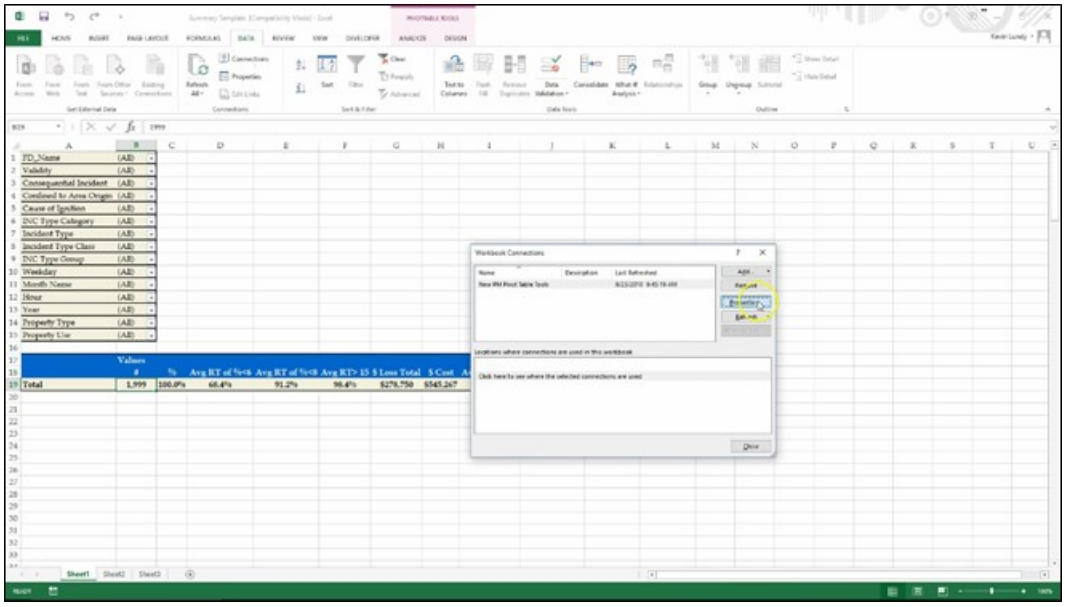
3. Click on the Data tab.



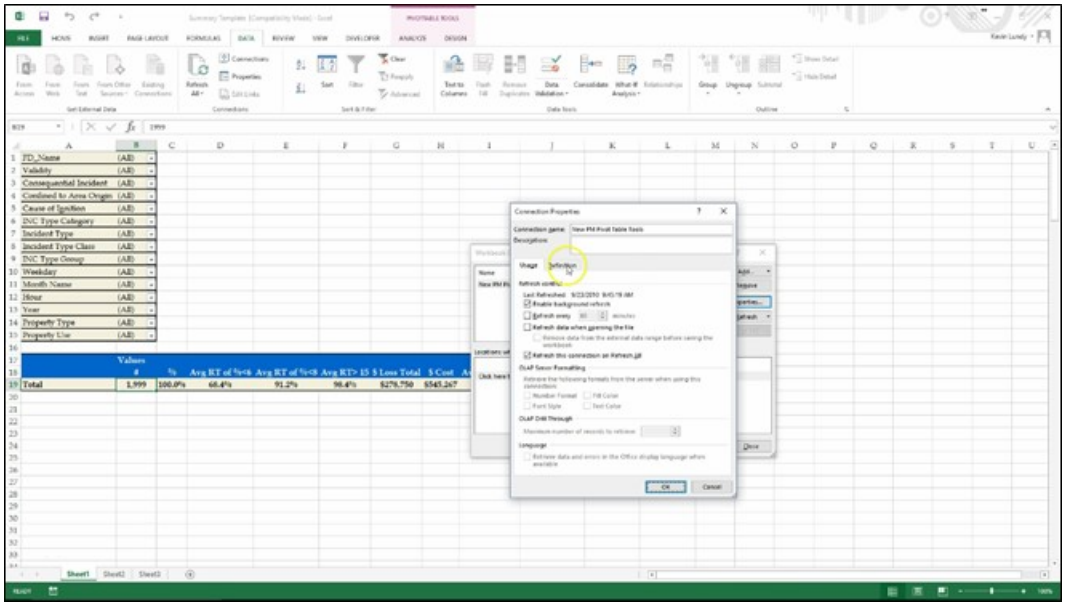
4. Click on the Connections button.



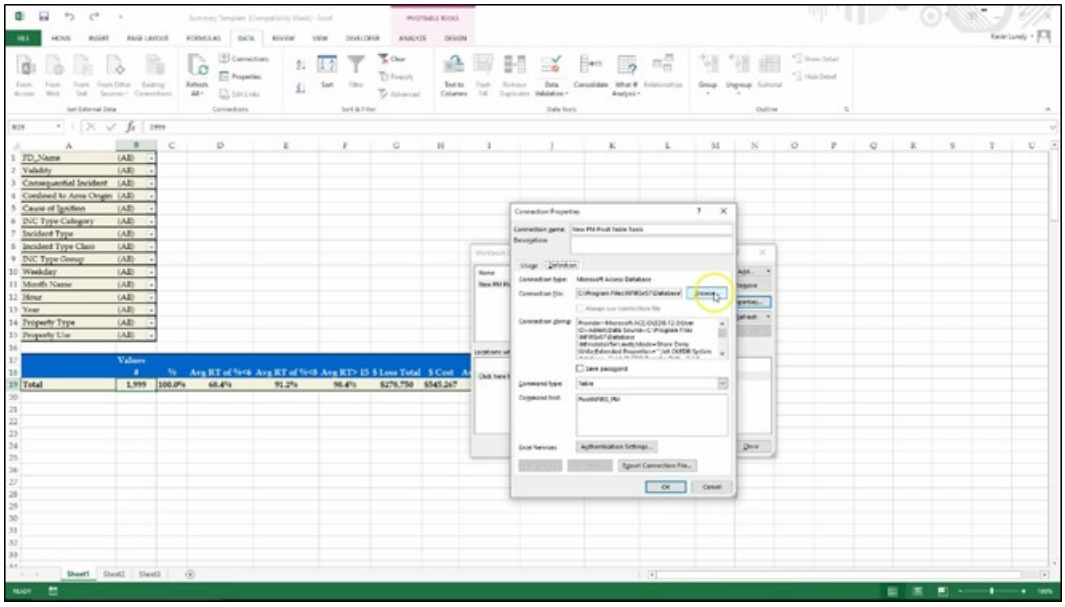
5. Click on the Properties button.



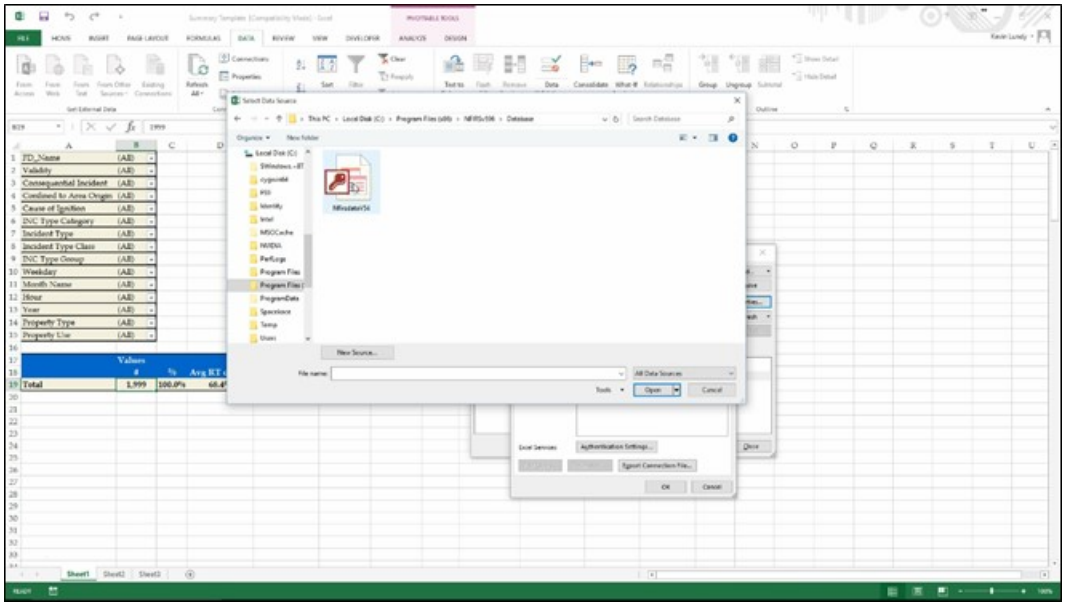
6. Click on the Definition tab.



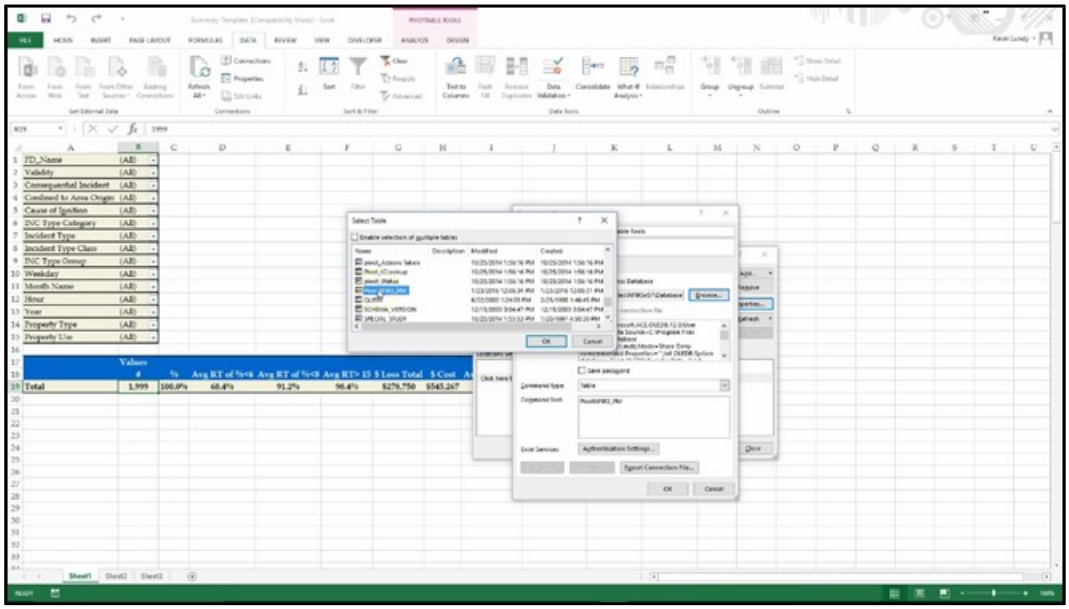
7. Click on the Browse button.



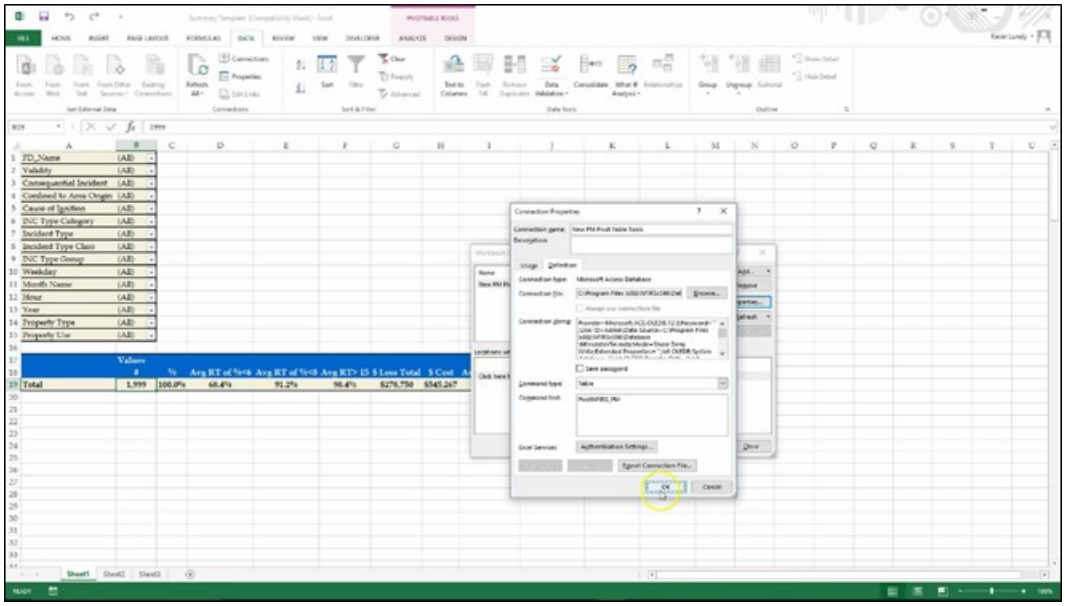
8. Navigate to your Access Database located at C:\programs files(x86)\NFIRSV594\ database folder.



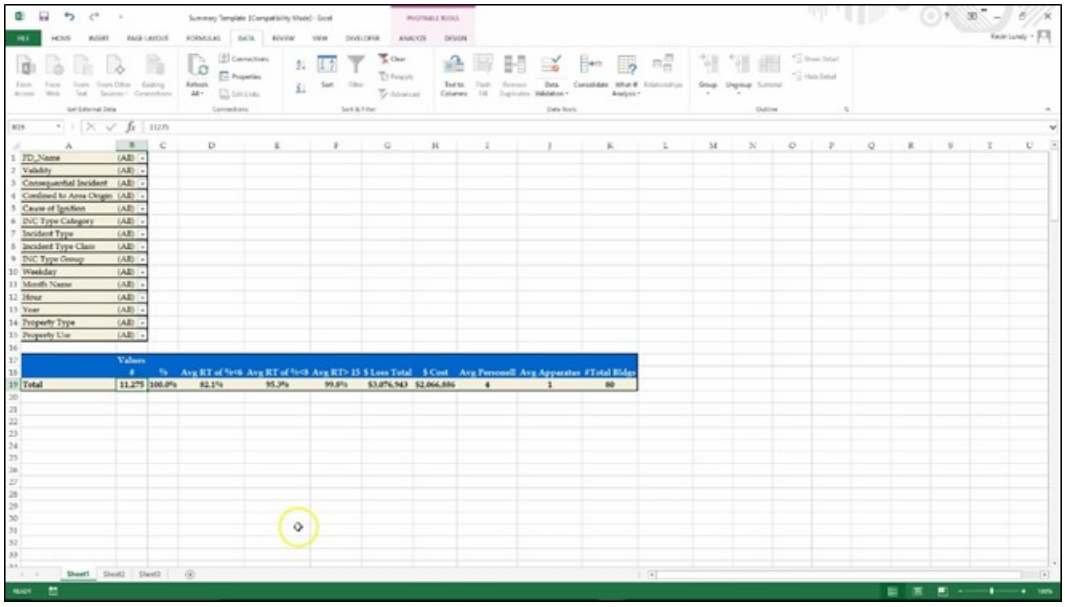
9. Scroll down to the PivotNFIRS_PM table, and double click it.



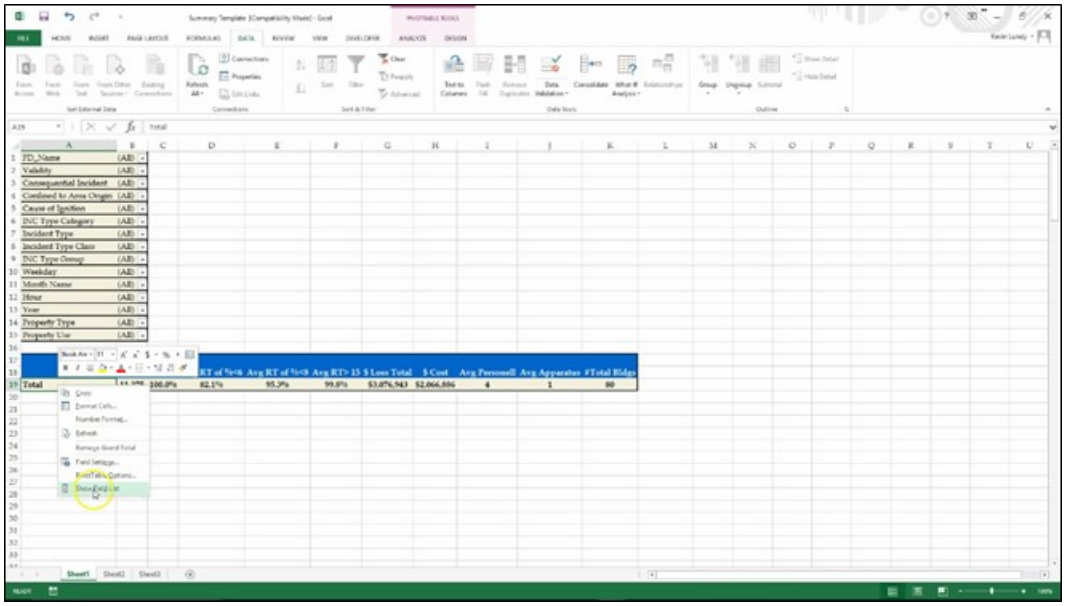
10. Click the OK button.



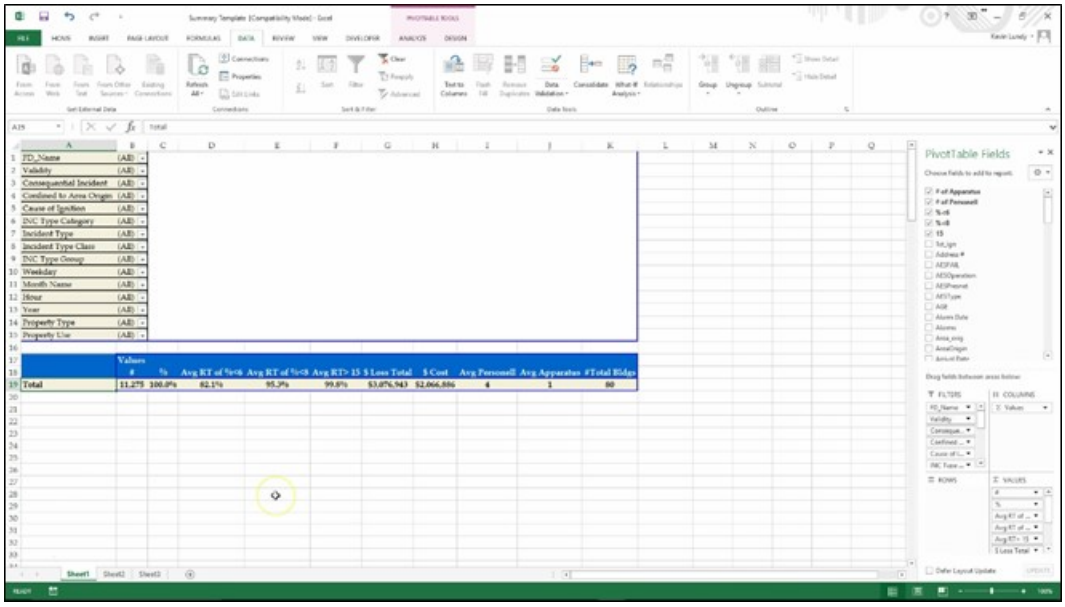
11. You will see the total number of Incidents change in cell B19.



12. Right click in the cell that says "Total," and then click on the Show Field List button.



13. You are now ready to start using your PivotTable.



This page intentionally left blank.

XIII. QUIZ ON UNIT 3

This page intentionally left blank.

APPENDIX A

PIVOTNFIRS_PM DATA DICTIONARY

This page intentionally left blank.

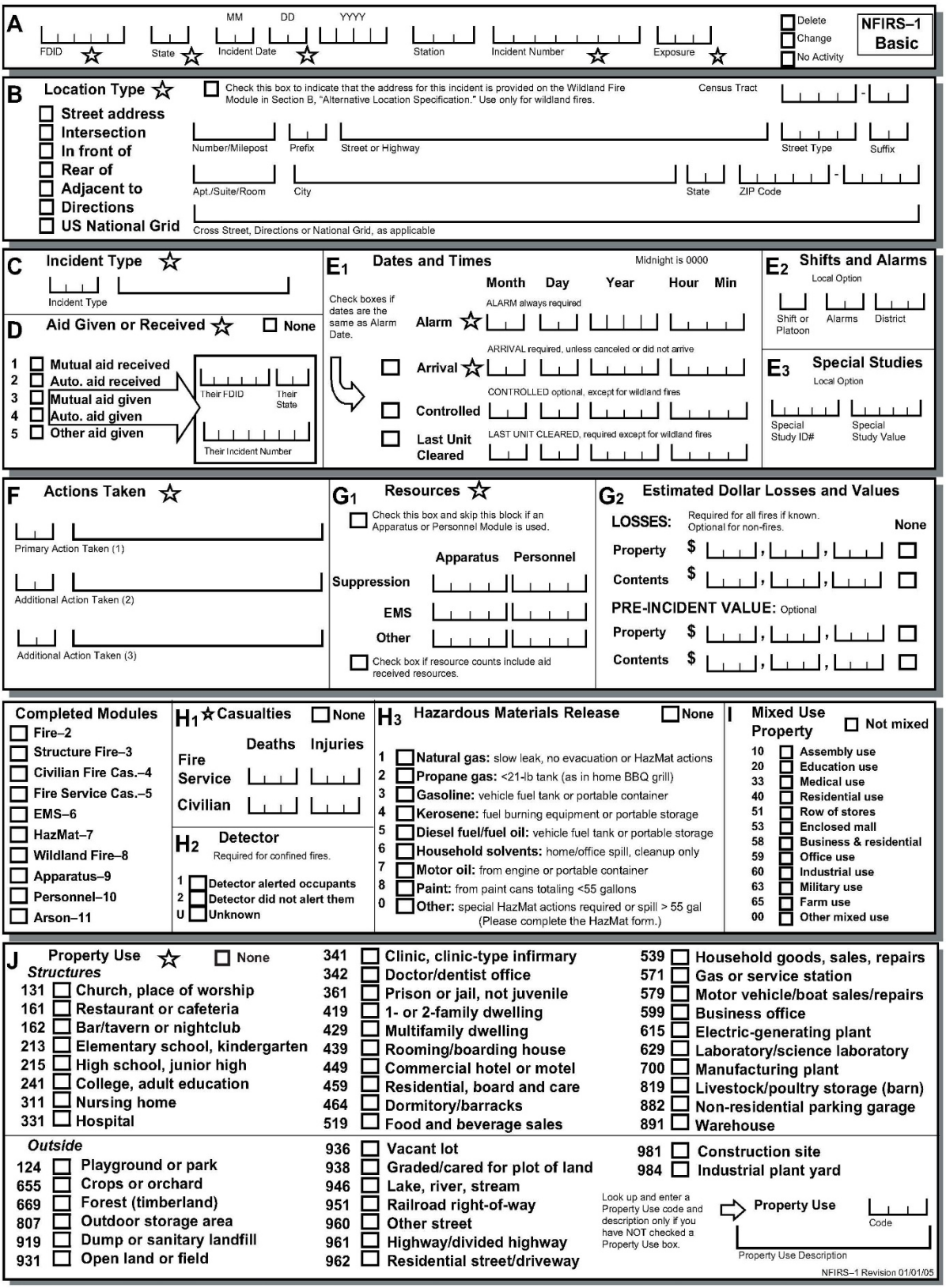
Title	Description
Incident ID	Assigned by program to identify incident
IN_Num	Incident # (ex. 1100001)
Validity	Valid or invalid
County Code	
FDID	FDID
FD_Name	FD name
Station	FD station
Prefix	Address prefix
Address #	Street/Highway number
Street Name	Street name
Street Type	Street type (St., Ave., etc.)
Suffix	Street suffix
ZIP Code	ZIP code
Incident Type	Digit incident code (111, 321)
ITC	1-digit code classification (1 = fire, 3 = EMS, etc.)
INC Type Group	2-digit code group (11 = str. fire, 13 = veh. fire, 32 = EMS, 52 = water prob.
INC Type Category	Fire, explosion, EMS, hazmat, service, good intent, false, weather, other
Incident Type Class	Specific code definition
Primary Action Taken	Action taken description
Response Time	Average response time
RT	1 or 0 less than 8 minutes
Incident Duration	Alarm time to back-in-service time
%<6	% of calls where RT is less than 6 minutes
Title	Description
%<8	% of calls where RT is less than 8 minutes
%<15	% of calls where RT is less than 15 minutes
Shift	Shift
Alarm	# Alarms
District	District
# of Apparatus	Apparatus
# of Personnel	Personnel
Mutual Aid	Mutual aid
Property Loss	$ Loss of property
Loss Other	$ Loss of contents
Loss Total	Total $ loss
FS Fatality	FS fatalities
Other Fatality	Civilian fatalities
FS Injury	FS injuries
Other Injury	Civilian injuries
Detector	Detector operation

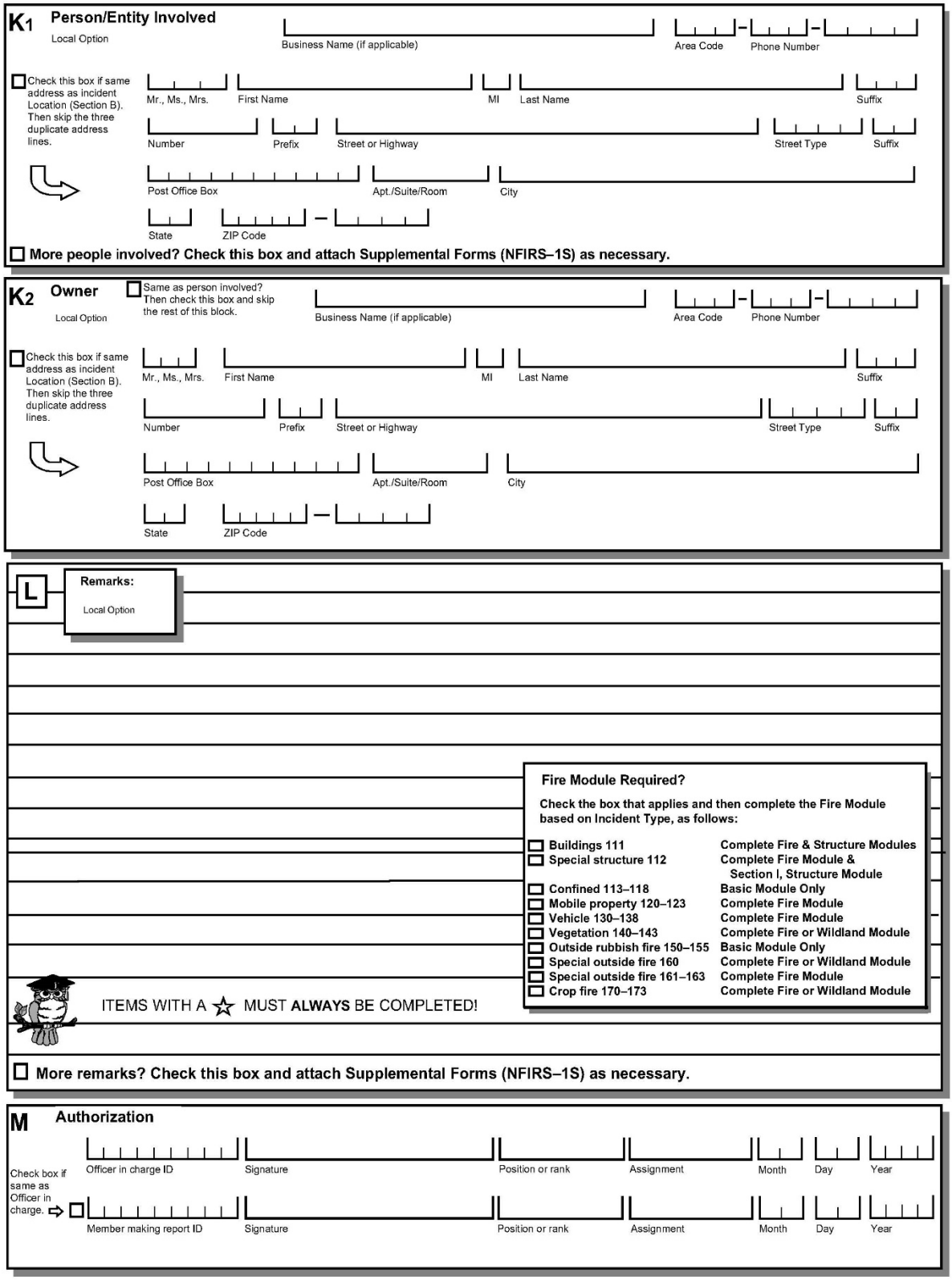
Title	Description
Hazmat	Was hazmat present?
Property Use	Property use code
Property Category	First 2 digits of the property use code
Fire Cause	USFA fire cause summary definition
IN_Fatal EMS	Fatal EMS incident
IN_NonFatalEMS	Nonfatal EMS incident
Total Bldgs	# Bldgs. involved in fire
Consequential Incident	
Cost	Cost of Incident calculated with fed formula
Civ Cas/10k Inc	Civ casualties/10,000 incidents
CivFatal/10K inc	Civ fatalites/10,000 incidents
FR_NumBuildings	# of buildings involved in fire (from Fire Module)
FR_NumResidential	# of residential units involved in building (from Fire Module)
FR_NotResidential	# of nonresidential buildings involved in fire (from Fire Module)
FR_AcresBurned	# acres burned (from Fire Module)
AreaOrigin	Description
Heat Source	Description
Item First Ignited	Description
Confined to Area Origin	Y or N
Type Material	Type of material first ignited
Cause of Ignition	Description
Human Factor 1, 2, or 3	Human factors involved in ignition
Primary Ign Factor	Factors contributing to ignition
Age	Age of person involved
Gender	Gender of person involved
EquipInvolved	Equipment involved in ignition
Mobile Property Type	Mobile property type involved
STR_DectPresence	Presence of detectors
DetectType	Type of detector
Detect Pwr	Detector power
DetectOp	Detector operation
Detect Effect	Detector effectiveness
DetectFail	Detector fail
AESPresent	Sprinkler present
AESType	Sprinkler type
AESOperation	Sprinkler operation
AESFAIL	Sprinkler failure
FR_PreFirePlan	Was there a prefire plan attached?
Area_orig	Area of fire origin (code)
Heat_Src	Heat source (code)
1st_ign	Item first ignited (code)
Conf_Orig	Fire confined to object of origin (code)
Cause_Ign	Cause of ignition (code)

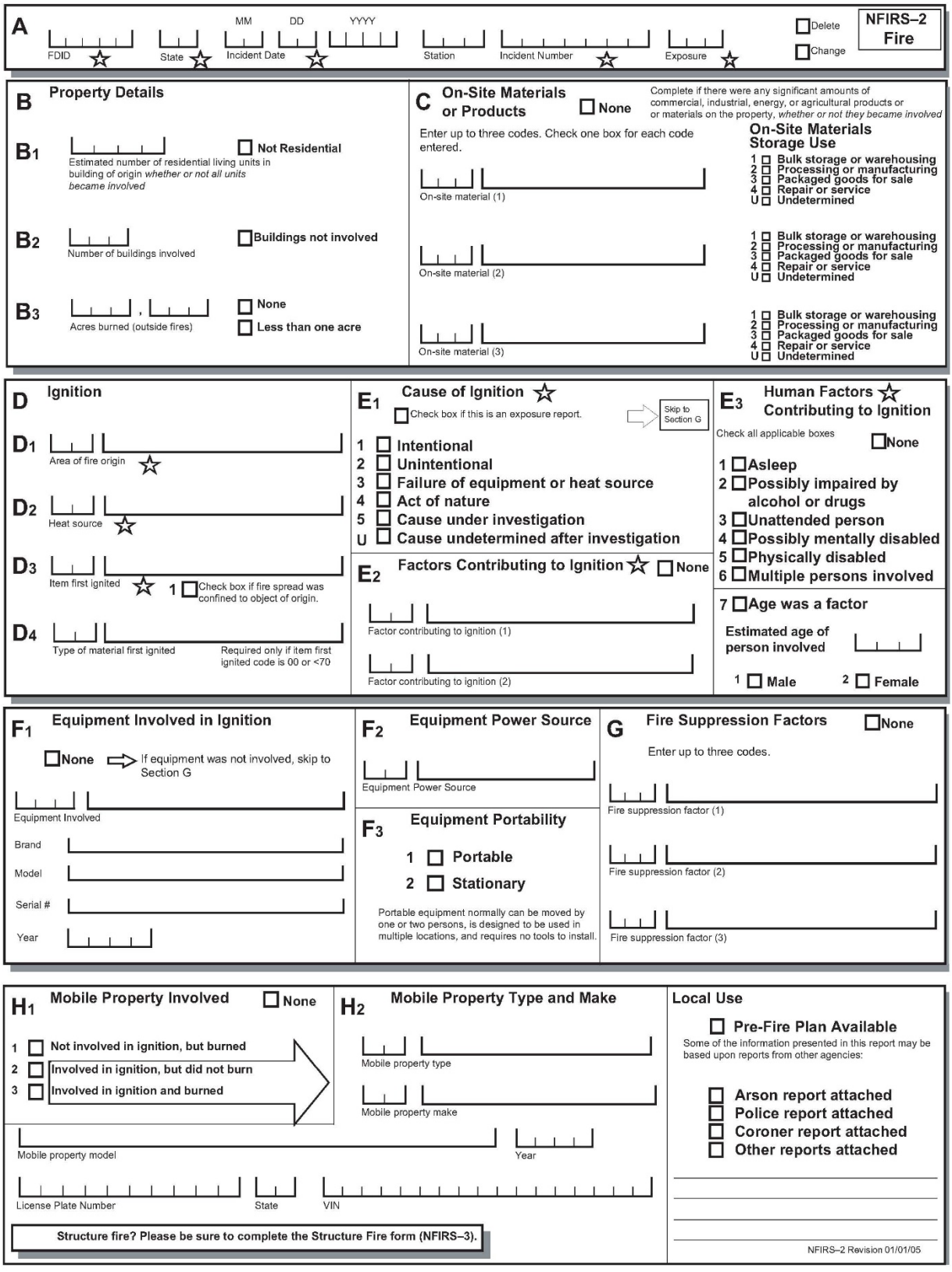
APPENDIX B

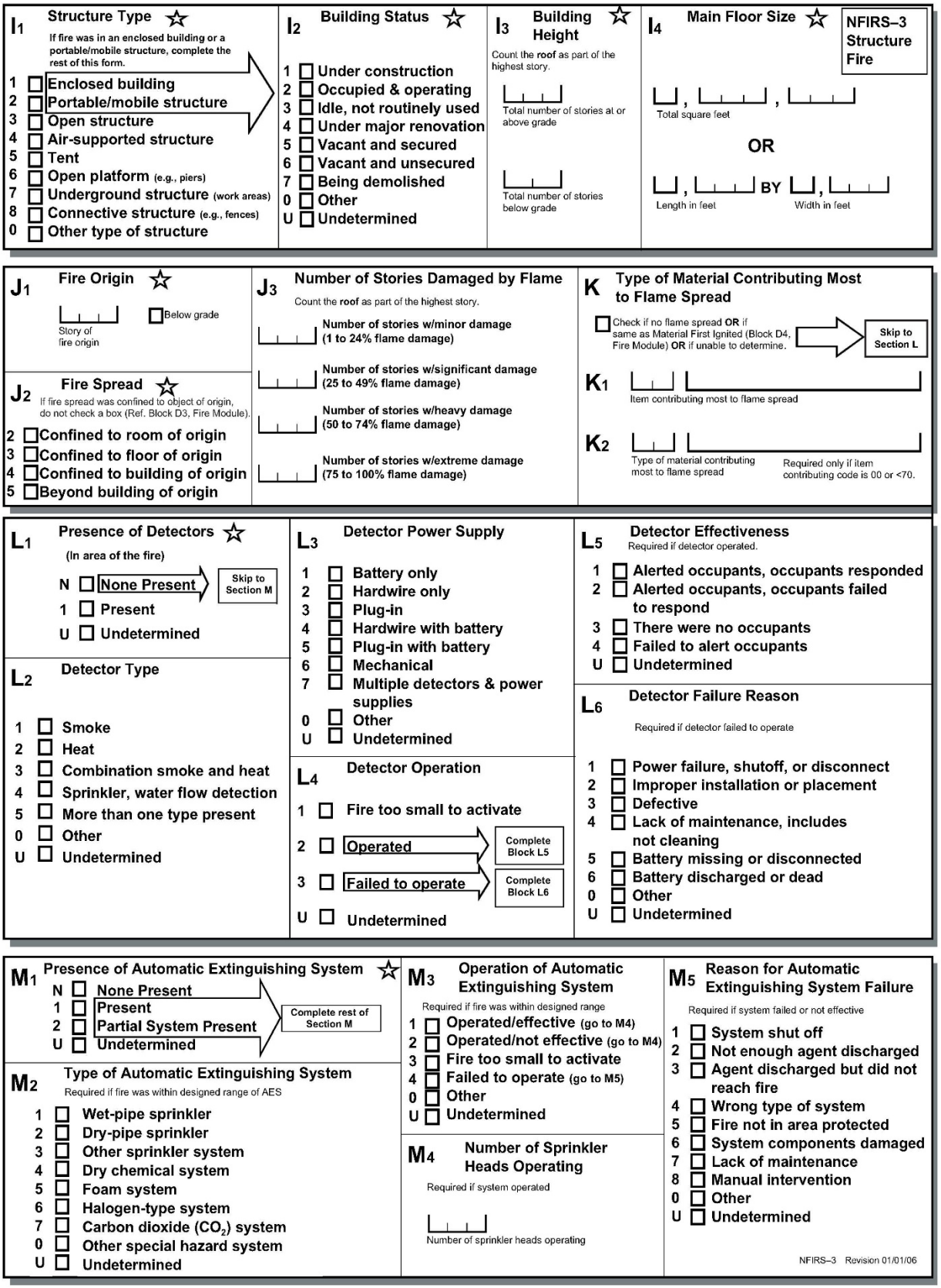
NATIONAL FIRE INCIDENT REPORTING SYSTEM FORMS

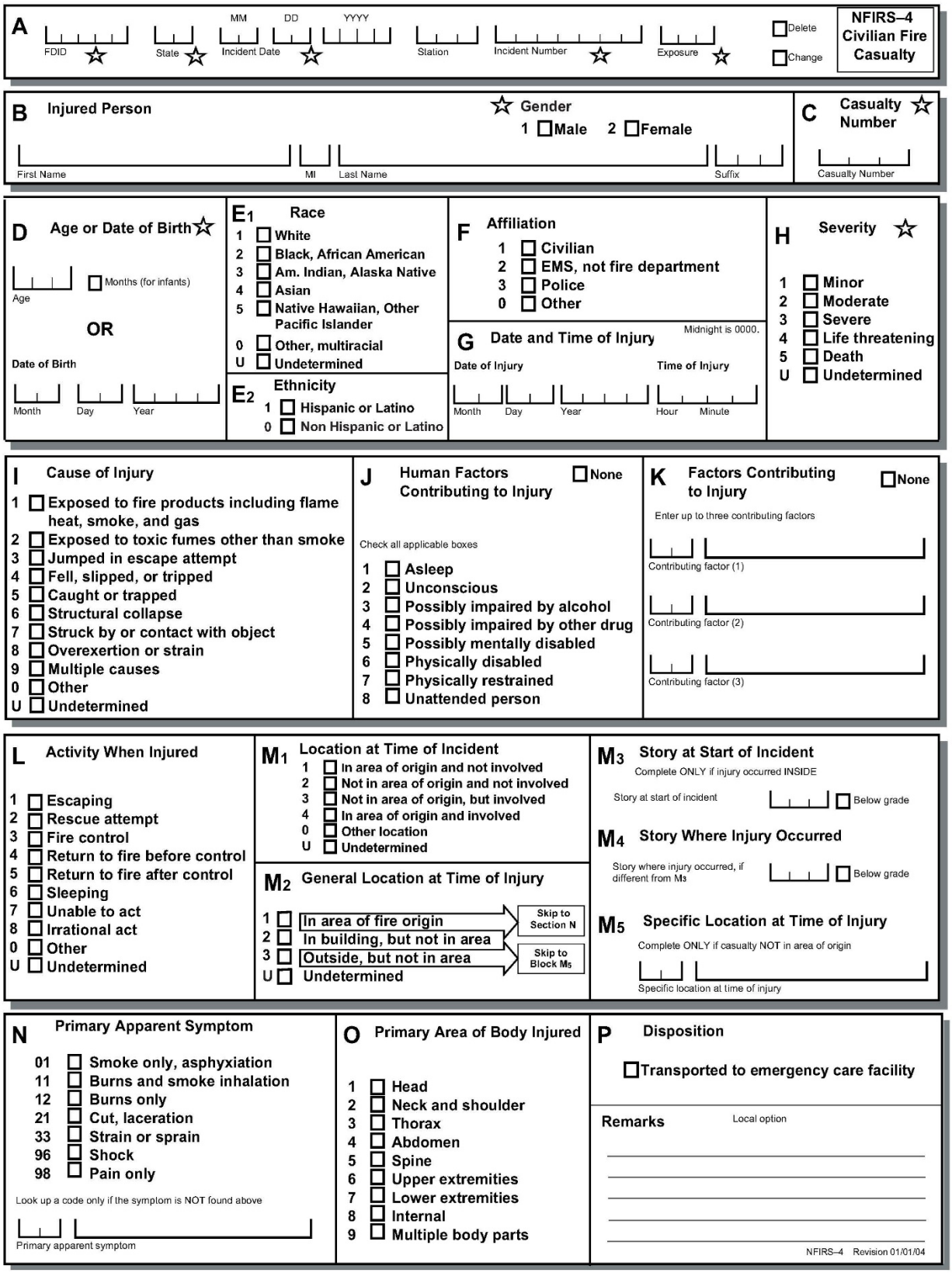
This page intentionally left blank.

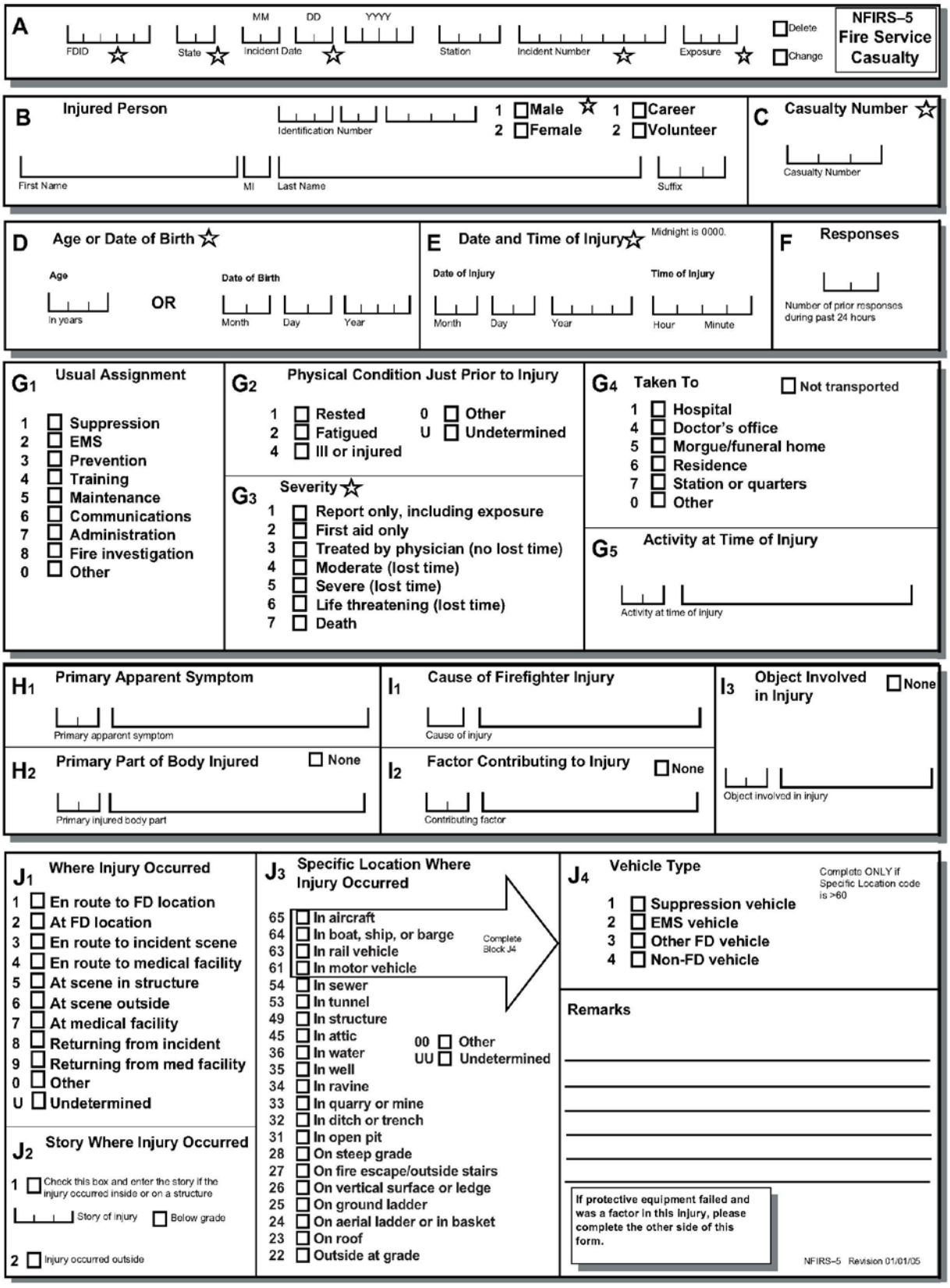

A
FDID
State
MM
DD
YYYY
Incident Date
Station
Incident Number
Exposure
Delete
Change
No Activity
NFIRS–1 Basic
B
Location Type
Street address
Intersection
In front of
Rear of
Adjacent to
Directions
US National Grid
Check this box to indicate that the address for this incident is provided on the Wildland Fire Module in Section B, "Alternative Location Specification." Use only for wildland fires.
Census Tract
Number/Milepost
Prefix
Street or Highway
Street Type
Suffix
Apt./Suite/Room
City
State
ZIP Code
Cross Street, Directions or National Grid, as applicable
C
Incident Type
Incident Type
D
Aid Given or Received
None
1 Mutual aid received
2 Auto. aid received
3 Mutual aid given
4 Auto. aid given
5 Other aid given
Their FDID
Their State
Their Incident Number
E1
Dates and Times
Midnight is 0000
Month
Day
Year
Hour
Min
Check boxes if dates are the same as Alarm Date.
Alarm
ALARM always required
Arrival
ARRIVAL required, unless canceled or did not arrive
Controlled
CONTROLLED optional, except for wildland fires
Last Unit Cleared
LAST UNIT CLEARED, required except for wildland fires
E2
Shifts and Alarms
Local Option
Shift or Platoon
Alarms
District
E3
Special Studies
Local Option
Special Study ID#
Special Study Value
F
Actions Taken
Primary Action Taken (1)
Additional Action Taken (2)
Additional Action Taken (3)
G1
Resources
Check this box and skip this block if an Apparatus or Personnel Module is used.
Apparatus
Personnel
Suppression
EMS
Other
Check box if resource counts include aid received resources.
G2
Estimated Dollar Losses and Values
LOSSES:
Required for all fires if known. Optional for non-fires.
None
Property
Contents
PRE-INCIDENT VALUE: Optional
Property
Contents
Completed Modules
Fire–2
Structure Fire–3
Civilian Fire Cas.–4
Fire Service Cas.–5
EMS–6
HazMat–7
Wildland Fire–8
Apparatus–9
Personnel–10
Arson–11
H1
Casualties
None
Deaths
Injuries
Fire Service
Civilian
H2
Detector
Required for confined fires.
1 Detector alerted occupants
2 Detector did not alert them
U Unknown
H3
Hazardous Materials Release
None
1 Natural gas: slow leak, no evacuation or HazMat actions
2 Propane gas: <21-lb tank (as in home BBQ grill)
3 Gasoline: vehicle fuel tank or portable container
4 Kerosene: fuel burning equipment or portable storage
5 Diesel fuel/fuel oil: vehicle fuel tank or portable storage
6 Household solvents: home/office spill, cleanup only
7 Motor oil: from engine or portable container
8 Paint: from paint cans totaling <55 gallons
0 Other: special HazMat actions required or spill > 55 gal (Please complete the HazMat form.)
I
Mixed Use Property
Not mixed
10 Assembly use
20 Education use
33 Medical use
40 Residential use
51 Row of stores
53 Enclosed mall
58 Business & residential
59 Office use
60 Industrial use
63 Military use
65 Farm use
00 Other mixed use
J
Property Use
None
Structures
131 Church, place of worship
161 Restaurant or cafeteria
162 Bar/tavern or nightclub
213 Elementary school, kindergarten
215 High school, junior high
241 College, adult education
311 Nursing home
331 Hospital
341 Clinic, clinic-type infirmary
342 Doctor/dentist office
361 Prison or jail, not juvenile
419 1- or 2-family dwelling
429 Multifamily dwelling
439 Rooming/boarding house
449 Commercial hotel or motel
459 Residential, board and care
464 Dormitory/barracks
519 Food and beverage sales
539 Household goods, sales, repairs
571 Gas or service station
579 Motor vehicle/boat sales/repairs
599 Business office
615 Electric-generating plant
629 Laboratory/science laboratory
700 Manufacturing plant
819 Livestock/poultry storage (barn)
882 Non-residential parking garage
891 Warehouse
Outside
124 Playground or park
655 Crops or orchard
669 Forest (timberland)
807 Outdoor storage area
919 Dump or sanitary landfill
931 Open land or field
936 Vacant lot
938 Graded/cared for plot of land
946 Lake, river, stream
951 Railroad right-of-way
960 Other street
961 Highway/divided highway
962 Residential street/driveway
981 Construction site
984 Industrial plant yard
Look up and enter a Property Use code and description only if you have NOT checked a Property Use box.
Property Use
Code
Property Use Description
NFIRS–1 Revision 01/01/05


K1 Person/Entity Involved
Local Option
Business Name (if applicable)
Area Code
Phone Number
Check this box if same address as incident Location (Section B). 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 block.
Business Name (if applicable)
Area Code
Phone Number
Check this box if same address as incident Location (Section B). 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
L
Remarks:
Local Option
Fire Module Required?
Check the box that applies and then complete the Fire Module based on Incident Type, as follows:
Buildings 111 — Complete Fire & Structure Modules
Special structure 112 — Complete Fire Module & Section I, Structure Module
Confined 113–118 — Basic Module Only
Mobile property 120–123 — Complete Fire Module
Vehicle 130–138 — Complete Fire Module
Vegetation 140–143 — Complete Fire or Wildland Module
Outside rubbish fire 150–155 — Basic Module Only
Special outside fire 160 — Complete Fire or Wildland Module
Special outside fire 161–163 — Complete Fire Module
Crop fire 170–173 — Complete Fire or Wildland Module
ITEMS WITH A ☆ MUST ALWAYS BE COMPLETED!
More remarks? Check this box and attach Supplemental Forms (NFIRS–1S) as necessary.
M Authorization
Officer in charge ID
Signature
Position or rank
Assignment
Month
Day
Year
Check box if same as Officer in charge.
Member making report ID
Signature
Position or rank
Assignment
Month
Day
Year


A
FDID
State
MM DD YYYY
Incident Date
Station
Incident Number
Exposure
Delete
Change
NFIRS–2 Fire
B Property Details
B1
Estimated number of residential living units in building of origin whether or not all units became involved
Not Residential
B2
Number of buildings involved
Buildings not involved
B3
Acres burned (outside fires)
None
Less than one acre
C On-Site Materials or Products
None
Complete if there were any significant amounts of commercial, industrial, energy, or agricultural products or or materials on the property, whether or not they became involved
Enter up to three codes. Check one box for each code entered.
On-site material (1)
On-site material (2)
On-site material (3)
On-Site Materials Storage Use
1 Bulk storage or warehousing
2 Processing or manufacturing
3 Packaged goods for sale
4 Repair or service
U Undetermined
D Ignition
D1
Area of fire origin
D2
Heat source
D3
Item first ignited
1 Check box if fire spread was confined to object of origin.
D4
Type of material first ignited
Required only if item first ignited code is 00 or <70
E1 Cause of Ignition
Check box if this is an exposure report.
Skip to Section G
1 Intentional
2 Unintentional
3 Failure of equipment or heat source
4 Act of nature
5 Cause under investigation
U Cause undetermined after investigation
E2 Factors Contributing to Ignition
None
Factor contributing to ignition (1)
Factor contributing to ignition (2)
E3 Human Factors Contributing to Ignition
Check all applicable boxes
None
1 Asleep
2 Possibly impaired by alcohol or drugs
3 Unattended person
4 Possibly mentally disabled
5 Physically disabled
6 Multiple persons involved
7 Age was a factor
Estimated age of person involved
1 Male
2 Female
F1 Equipment Involved in Ignition
None
If equipment was not involved, skip to Section G
Equipment Involved
Brand
Model
Serial #
Year
F2 Equipment Power Source
Equipment Power Source
F3 Equipment Portability
1 Portable
2 Stationary
Portable equipment normally can be moved by one or two persons, is designed to be used in multiple locations, and requires no tools to install.
G Fire Suppression Factors
None
Enter up to three codes.
Fire suppression factor (1)
Fire suppression factor (2)
Fire suppression factor (3)
H1 Mobile Property Involved
None
1 Not involved in ignition, but burned
2 Involved in ignition, but did not burn
3 Involved in ignition and burned
H2 Mobile Property Type and Make
Mobile property type
Mobile property make
Mobile property model
Year
License Plate Number
State
VIN
Structure fire? Please be sure to complete the Structure Fire form (NFIRS–3).
Local Use
Pre-Fire Plan Available
Some of the information presented in this report may be based upon reports from other agencies:
Arson report attached
Police report attached
Coroner report attached
Other reports attached
NFIRS–2 Revision 01/01/05


I1 Structure Type ☆
If fire was in an enclosed building or a portable/mobile structure, complete the rest of this form.
1 Enclosed building
2 Portable/mobile structure
3 Open structure
4 Air-supported structure
5 Tent
6 Open platform (e.g., piers)
7 Underground structure (work areas)
8 Connective structure (e.g., fences)
0 Other type of structure
I2 Building Status ☆
1 Under construction
2 Occupied & operating
3 Idle, not routinely used
4 Under major renovation
5 Vacant and secured
6 Vacant and unsecured
7 Being demolished
0 Other
U Undetermined
I3 Building Height ☆
Count the roof as part of the highest story.
Total number of stories at or above grade
Total number of stories below grade
I4 Main Floor Size ☆
NFIRS–3 Structure Fire
Total square feet
OR
Length in feet
BY
Width in feet
J1 Fire Origin ☆
Below grade
Story of fire origin
J2 Fire Spread ☆
If fire spread was confined to object of origin, do not check a box (Ref. Block D3, Fire Module).
2 Confined to room of origin
3 Confined to floor of origin
4 Confined to building of origin
5 Beyond building of origin
J3 Number of Stories Damaged by Flame
Count the roof as part of the highest story.
Number of stories w/minor damage (1 to 24% flame damage)
Number of stories w/significant damage (25 to 49% flame damage)
Number of stories w/heavy damage (50 to 74% flame damage)
Number of stories w/extreme damage (75 to 100% flame damage)
K Type of Material Contributing Most to Flame Spread
Check if no flame spread OR if same as Material First Ignited (Block D4, Fire Module) OR if unable to determine.
Skip to Section L
K1
Item contributing most to flame spread
K2
Type of material contributing most to flame spread
Required only if item contributing code is 00 or <70.
L1 Presence of Detectors ☆
(In area of the fire)
N None Present
Skip to Section M
1 Present
U Undetermined
L2 Detector Type
1 Smoke
2 Heat
3 Combination smoke and heat
4 Sprinkler, water flow detection
5 More than one type present
0 Other
U Undetermined
L3 Detector Power Supply
1 Battery only
2 Hardwire only
3 Plug-in
4 Hardwire with battery
5 Plug-in with battery
6 Mechanical
7 Multiple detectors & power supplies
0 Other
U Undetermined
L4 Detector Operation
1 Fire too small to activate
2 Operated
Complete Block L5
3 Failed to operate
Complete Block L6
U Undetermined
L5 Detector Effectiveness
Required if detector operated.
1 Alerted occupants, occupants responded
2 Alerted occupants, occupants failed to respond
3 There were no occupants
4 Failed to alert occupants
U Undetermined
L6 Detector Failure Reason
Required if detector failed to operate
1 Power failure, shutoff, or disconnect
2 Improper installation or placement
3 Defective
4 Lack of maintenance, includes not cleaning
5 Battery missing or disconnected
6 Battery discharged or dead
0 Other
U Undetermined
M1 Presence of Automatic Extinguishing System ☆
N None Present
1 Present
2 Partial System Present
U Undetermined
Complete rest of Section M
M2 Type of Automatic Extinguishing System
Required if fire was within designed range of AES
1 Wet-pipe sprinkler
2 Dry-pipe sprinkler
3 Other sprinkler system
4 Dry chemical system
5 Foam system
6 Halogen-type system
7 Carbon dioxide (CO_2) system
0 Other special hazard system
U Undetermined
M3 Operation of Automatic Extinguishing System
Required if fire was within designed range
1 Operated/effective (go to M4)
2 Operated/not effective (go to M4)
3 Fire too small to activate
4 Failed to operate (go to M5)
0 Other
U Undetermined
M4 Number of Sprinkler Heads Operating
Required if system operated
Number of sprinkler heads operating
M5 Reason for Automatic Extinguishing System Failure
Required if system failed or not effective
1 System shut off
2 Not enough agent discharged
3 Agent discharged but did not reach fire
4 Wrong type of system
5 Fire not in area protected
6 System components damaged
7 Lack of maintenance
8 Manual intervention
0 Other
U Undetermined
NFIRS–3 Revision 01/01/06


A
FDID
State
MM
DD
YYYY
Incident Date
Station
Incident Number
Exposure
Delete
Change
NFIRS–4
Civilian Fire
Casualty
B
Injured Person
Gender
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, African American
3 Am. Indian, Alaska Native
4 Asian
5 Native Hawaiian, Other Pacific Islander
0 Other, multiracial
U Undetermined
E2
Ethnicity
1 Hispanic or Latino
0 Non Hispanic or Latino
F
Affiliation
1 Civilian
2 EMS, not fire department
3 Police
0 Other
G
Date and Time of Injury
Midnight is 0000.
Date of Injury
Time of Injury
Month
Day
Year
Hour
Minute
H
Severity
1 Minor
2 Moderate
3 Severe
4 Life threatening
5 Death
U Undetermined
I
Cause of Injury
1 Exposed to fire products including flame heat, smoke, and 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 or strain
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 and not involved
3 Not in area of origin, but involved
4 In area of origin and involved
0 Other location
U Undetermined
M2
General Location at Time of Injury
1 In area of fire origin
2 In building, but not in area
3 Outside, but not in area
U Undetermined
Skip to Section N
Skip to Block M5
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 and 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 and 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
NFIRS–4 Revision 01/01/04


A
FDID
State
MM
DD
YYYY
Incident Date
Station
Incident Number
Exposure
Delete
Change
NFIRS–5
Fire Service
Casualty
B
Injured Person
Identification Number
1 Male
2 Female
1 Career
2 Volunteer
First Name
MI
Last Name
Suffix
C
Casualty Number
Casualty Number
D
Age or Date of Birth
Age
In years
OR
Date of Birth
Month
Day
Year
E
Date and Time of Injury
Midnight is 0000.
Date of Injury
Month
Day
Year
Time of Injury
Hour
Minute
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
2 Fatigued
4 Ill or injured
0 Other
U Undetermined
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
Not transported
1 Hospital
4 Doctor's office
5 Morgue/funeral home
6 Residence
7 Station or quarters
0 Other
G5
Activity at Time of Injury
Activity at time of injury
H1
Primary Apparent Symptom
Primary apparent symptom
H2
Primary Part of Body Injured
None
Primary injured body part
I1
Cause of Firefighter Injury
Cause of injury
I2
Factor Contributing to Injury
None
Contributing factor
I3
Object Involved in Injury
None
Object involved in injury
J1
Where Injury Occurred
1 En route to FD location
2 At FD location
3 En route to incident scene
4 En route 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
U Undetermined
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
J3
Specific Location Where Injury Occurred
65 In aircraft
64 In boat, ship, or barge
63 In rail vehicle
61 In motor vehicle
Complete Block J4
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
UU Undetermined
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
Remarks
If protective equipment failed and was a factor in this injury, please complete the other side of this form.
NFIRS–5 Revision 01/01/05

K1 Did protective equipment fail and contribute to the injury? Yes Y ☐ No N ☐

Please complete the remainder of this form ONLY if you answer YES.

Equipment Sequence Number ⌊__⌋

NFIRS–5 Fire Service Casualty

K2 Protective Equipment Item

Head or Face Protection

- 11 ☐ Helmet
- 12 ☐ Full face protector
- 13 ☐ Partial face 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 ☐ Coveralls
- 28 ☐ Apron or gown
- 20 ☐ Other

Boots or Shoes

- 31 ☐ Knee length boots with steel baseplate and steel toes
- 32 ☐ Knee length boots with steel toes only
- 33 ☐ 3/4 length boots with steel baseplate and steel toes
- 34 ☐ 3/4 length boots with steel toes only
- 35 ☐ Boots without steel baseplate and steel toes
- 36 ☐ Safety shoes with steel baseplate and steel toes
- 37 ☐ Safety shoes with 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 with 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 ☐ Special equipment, other
- 00 ☐ Protective equipment, 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
- UU ☐ Undetermined

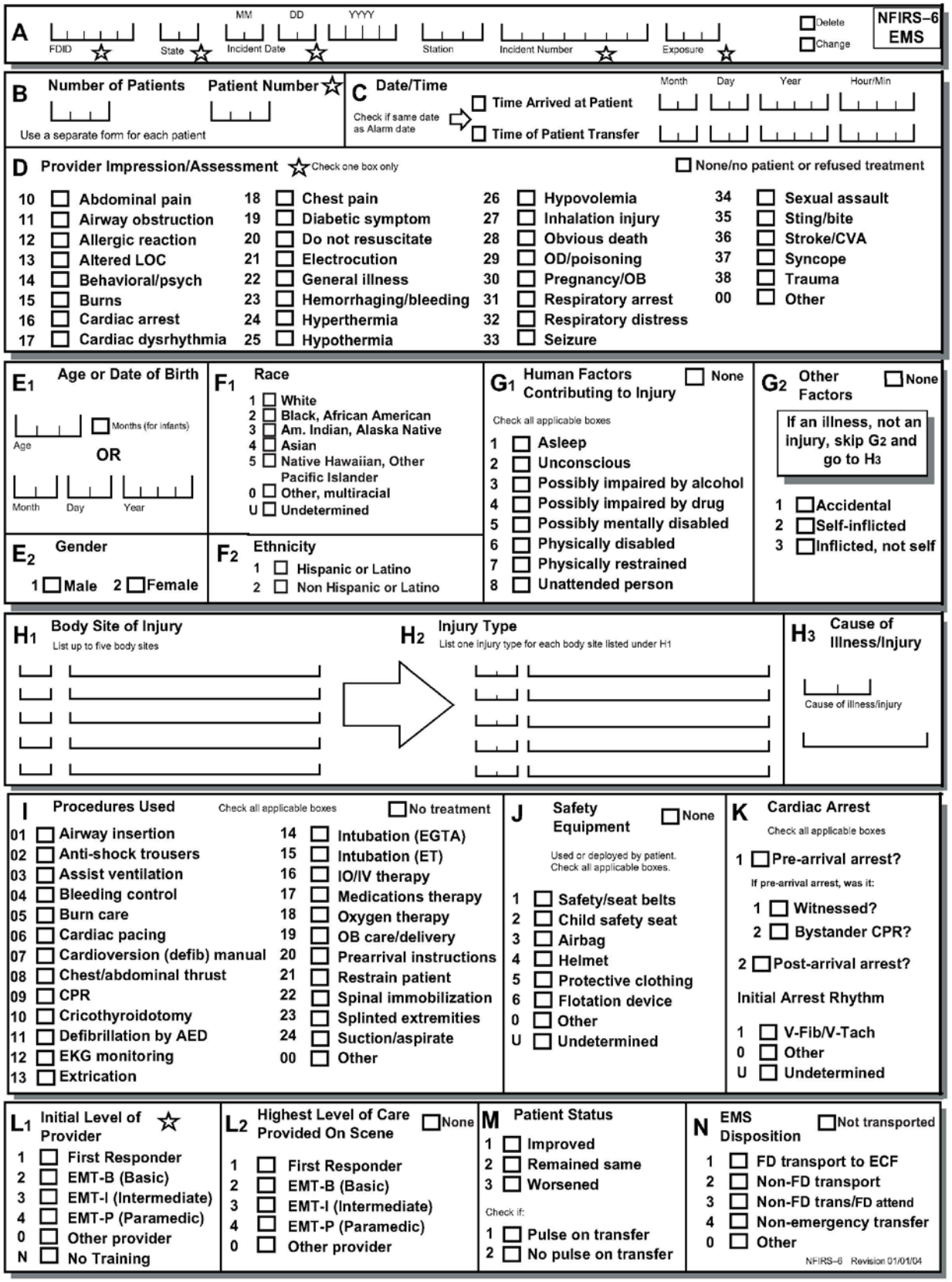
K4 Equipment Manufacturer, Model and Serial Number

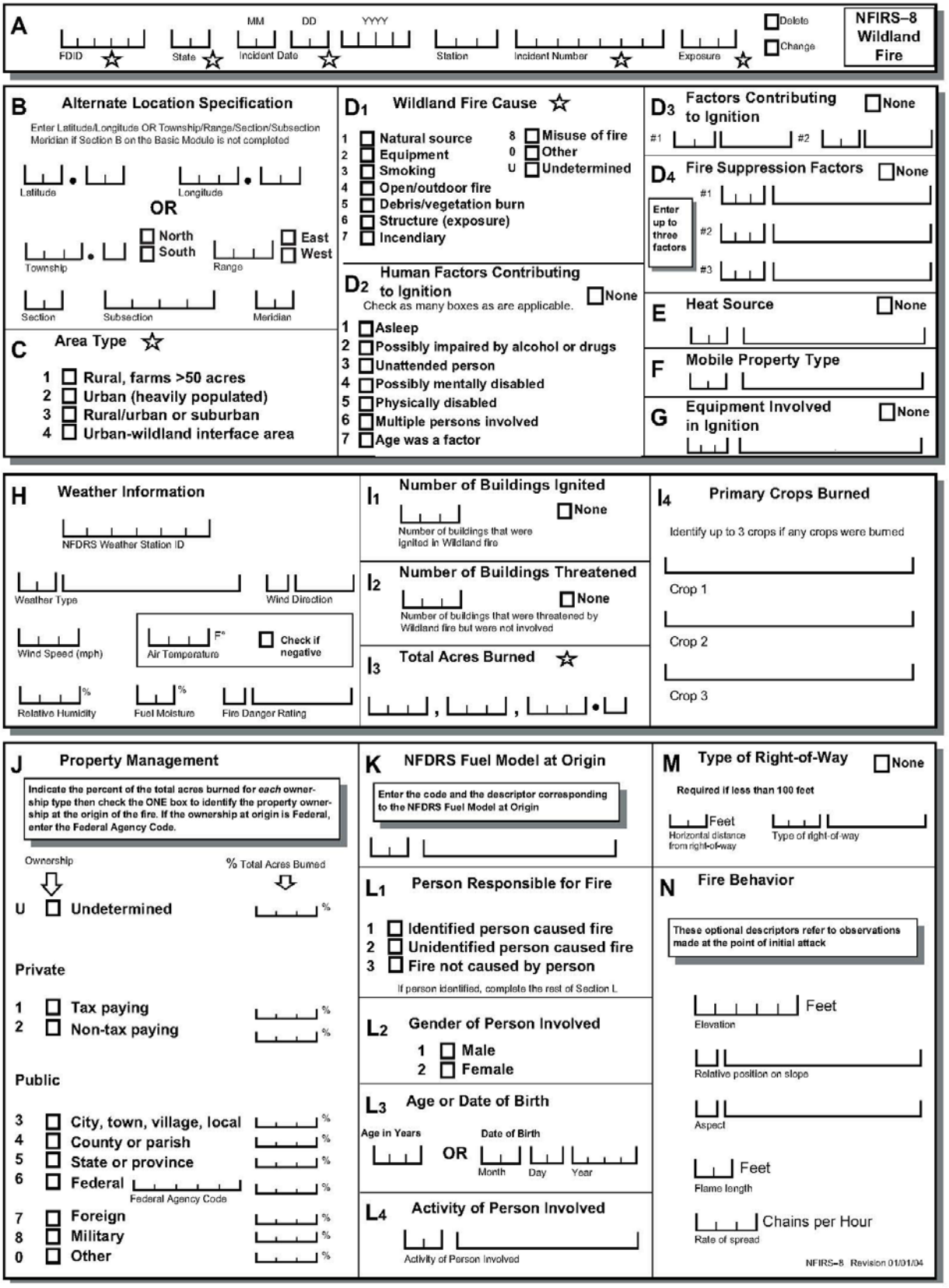
⌊_____⌋ Manufacturer

⌊_____⌋ Model

⌊_____⌋ Serial Number

NFIRS–5 Revision 05/01/03


A
FDID
State
MM
DD
YYYY
Incident Date
Station
Incident Number
Exposure
Delete
Change
NFIRS–6
EMS
B
Number of Patients
Patient Number
Use a separate form for each patient
C
Date/Time
Check if same date as Alarm date
Time Arrived at Patient
Time of Patient Transfer
Month
Day
Year
Hour/Min
D
Provider Impression/Assessment
Check one box only
None/no patient or refused treatment
10 Abdominal pain
11 Airway obstruction
12 Allergic reaction
13 Altered LOC
14 Behavioral/psych
15 Burns
16 Cardiac arrest
17 Cardiac dysrhythmia
18 Chest pain
19 Diabetic symptom
20 Do not resuscitate
21 Electrocution
22 General illness
23 Hemorrhaging/bleeding
24 Hyperthermia
25 Hypothermia
26 Hypovolemia
27 Inhalation injury
28 Obvious death
29 OD/poisoning
30 Pregnancy/OB
31 Respiratory arrest
32 Respiratory distress
33 Seizure
34 Sexual assault
35 Sting/bite
36 Stroke/CVA
37 Syncope
38 Trauma
00 Other
E1
Age or Date of Birth
Months (for infants)
Age
OR
Month
Day
Year
F1
Race
1 White
2 Black, African American
3 Am. Indian, Alaska Native
4 Asian
5 Native Hawaiian, Other Pacific Islander
0 Other, multiracial
U Undetermined
G1
Human Factors Contributing to Injury
None
Check all applicable boxes
1 Asleep
2 Unconscious
3 Possibly impaired by alcohol
4 Possibly impaired by drug
5 Possibly mentally disabled
6 Physically disabled
7 Physically restrained
8 Unattended person
G2
Other Factors
None
If an illness, not an injury, skip G2 and go to H3
1 Accidental
2 Self-inflicted
3 Inflicted, not self
E2
Gender
1 Male
2 Female
F2
Ethnicity
1 Hispanic or Latino
2 Non Hispanic or Latino
H1
Body Site of Injury
List up to five body sites
H2
Injury Type
List one injury type for each body site listed under H1
H3
Cause of Illness/Injury
Cause of illness/injury
I
Procedures Used
Check all applicable boxes
No treatment
01 Airway insertion
02 Anti-shock trousers
03 Assist ventilation
04 Bleeding control
05 Burn care
06 Cardiac pacing
07 Cardioversion (defib) manual
08 Chest/abdominal thrust
09 CPR
10 Cricothyroidotomy
11 Defibrillation by AED
12 EKG monitoring
13 Extrication
14 Intubation (EGTA)
15 Intubation (ET)
16 IO/IV therapy
17 Medications therapy
18 Oxygen therapy
19 OB care/delivery
20 Prearrival instructions
21 Restrain patient
22 Spinal immobilization
23 Splinted extremities
24 Suction/aspirate
00 Other
J
Safety Equipment
None
Used or deployed by patient.
Check all applicable boxes.
1 Safety/seat belts
2 Child safety seat
3 Airbag
4 Helmet
5 Protective clothing
6 Flotation device
0 Other
U Undetermined
K
Cardiac Arrest
Check all applicable boxes
1 Pre-arrival arrest?
If pre-arrival arrest, was it:
1 Witnessed?
2 Bystander CPR?
2 Post-arrival arrest?
Initial Arrest Rhythm
1 V-Fib/V-Tach
0 Other
U Undetermined
L1
Initial Level of Provider
1 First Responder
2 EMT-B (Basic)
3 EMT-I (Intermediate)
4 EMT-P (Paramedic)
0 Other provider
N No Training
L2
Highest Level of Care Provided On Scene
None
1 First Responder
2 EMT-B (Basic)
3 EMT-I (Intermediate)
4 EMT-P (Paramedic)
0 Other provider
M
Patient Status
1 Improved
2 Remained same
3 Worsened
Check if:
1 Pulse on transfer
2 No pulse on transfer
N
EMS Disposition
Not transported
1 FD transport to ECF
2 Non-FD transport
3 Non-FD trans/FD attend
4 Non-emergency transfer
0 Other
NFIRS–6 Revision 01/01/04


A
FDID
State
MM
DD
YYYY
Incident Date
Station
Incident Number
Exposure
Delete
Change
NFIRS–8 Wildland Fire
B Alternate Location Specification
Enter Latitude/Longitude OR Township/Range/Section/Subsection Meridian if Section B on the Basic Module is not completed
Latitude
Longitude
OR
North
South
East
West
Township
Range
Section
Subsection
Meridian
C Area Type
1 Rural, farms >50 acres
2 Urban (heavily populated)
3 Rural/urban or suburban
4 Urban-wildland interface area
D1 Wildland Fire Cause
1 Natural source
2 Equipment
3 Smoking
4 Open/outdoor fire
5 Debris/vegetation burn
6 Structure (exposure)
7 Incendiary
8 Misuse of fire
0 Other
U Undetermined
D2 Human Factors Contributing to Ignition
None
Check as many boxes as are applicable.
1 Asleep
2 Possibly impaired by alcohol or drugs
3 Unattended person
4 Possibly mentally disabled
5 Physically disabled
6 Multiple persons involved
7 Age was a factor
D3 Factors Contributing to Ignition
None
#1
#2
D4 Fire Suppression Factors
None
Enter up to three factors
#1
#2
#3
E Heat Source
None
F Mobile Property Type
G Equipment Involved in Ignition
None
H Weather Information
NFDRS Weather Station ID
Weather Type
Wind Direction
Wind Speed (mph)
Air Temperature
F°
Check if negative
Relative Humidity
%
Fuel Moisture
%
Fire Danger Rating
I1 Number of Buildings Ignited
None
Number of buildings that were ignited in Wildland fire
I2 Number of Buildings Threatened
None
Number of buildings that were threatened by Wildland fire but were not involved
I3 Total Acres Burned
I4 Primary Crops Burned
Identify up to 3 crops if any crops were burned
Crop 1
Crop 2
Crop 3
J Property Management
Indicate the percent of the total acres burned for each ownership type then check the ONE box to identify the property ownership at the origin of the fire. If the ownership at origin is Federal, enter the Federal Agency Code.
Ownership
% Total Acres Burned
U Undetermined
%
Private
1 Tax paying
2 Non-tax paying
Public
3 City, town, village, local
4 County or parish
5 State or province
6 Federal
Federal Agency Code
7 Foreign
8 Military
0 Other
K NFDRS Fuel Model at Origin
Enter the code and the descriptor corresponding to the NFDRS Fuel Model at Origin
L1 Person Responsible for Fire
1 Identified person caused fire
2 Unidentified person caused fire
3 Fire not caused by person
If person identified, complete the rest of Section L
L2 Gender of Person Involved
1 Male
2 Female
L3 Age or Date of Birth
Age in Years
OR
Date of Birth
Month
Day
Year
L4 Activity of Person Involved
Activity of Person Involved
M Type of Right-of-Way
None
Required if less than 100 feet
Feet
Horizontal distance from right-of-way
Type of right-of-way
N Fire Behavior
These optional descriptors refer to observations made at the point of initial attack
Feet
Elevation
Relative position on slope
Aspect
Feet
Flame length
Chains per Hour
Rate of spread
NFIRS–8 Revision 01/01/04

A FDID ☆ | State ☆ | Incident Date (MM DD YYYY) ☆ | Station | Incident Number ☆ | Exposure ☆ | ☐ Delete ☐ Change

NFIRS–9 Apparatus or Resources

B Apparatus or Resources (Use codes listed below)	Dates and Times (Midnight is 0000; Check if same date as Alarm date on the Basic Module (Block E1); Month Day Year Hour/Min)	Sent [X]	Number of People ☆	Apparatus Use ☆ (Check ONE box for each apparatus to indicate its main use at the incident.)	Actions Taken (List up to 4 actions for each apparatus.)
1 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
2 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
3 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
4 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
5 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
6 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
7 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
8 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	
9 ID ☆ Type	Dispatch ☐ / Arrival ☐ / Clear ☐	☐		☐ Suppression ☐ EMS ☐ Other	

Apparatus or Resource Type

Ground Fire Suppression

- 11 Engine
- 12 Truck or aerial
- 13 Quint
- 14 Tanker and pumper combination
- 16 Brush truck
- 17 ARFF (aircraft rescue and firefighting)
- 10 Ground fire suppression, other

Heavy Ground Equipment

- 21 Dozer or plow
- 22 Tractor
- 24 Tanker or tender
- 20 Heavy ground equipment, other

Aircraft

- 41 Aircraft: fixed-wing tanker
- 42 Helitanker
- 43 Helicopter
- 40 Aircraft, other

Marine Equipment

- 51 Fire boat with pump
- 52 Boat, no pump
- 50 Marine equipment, other

Support Equipment

- 61 Breathing apparatus support
- 62 Light and air unit
- 60 Support apparatus, other

Medical and Rescue

- 71 Rescue unit
- 72 Urban search and rescue unit
- 73 High-angle rescue unit
- 75 BLS unit
- 76 ALS unit
- 70 Medical and rescue unit, other

Other

- 91 Mobile command post
- 92 Chief officer car
- 93 HazMat unit
- 94 Type I hand crew
- 95 Type II hand crew
- 99 Privately owned vehicle
- 00 Other apparatus/resources

More apparatus? Use additional sheets.

NN None
UU Undetermined

NFIRS–9 Revision 01/01/04

A FDID ☆ | State ☆ | Incident Date (MM DD YYYY) ☆ | Station | Incident Number ☆ | Exposure ☆ | ☐ Delete ☐ Change | **NFIRS–10 Personnel**

B Apparatus or Resources	Dates and Times (Midnight is 0000; Check if same date as Alarm date on the Basic Module (Block E1); Month Day Year Hour/Min)	Sent [X]	Number of People ☆	Apparatus Use ☆ (Check ONE box for each apparatus to indicate its main use at the incident.)	Actions Taken (List up to 4 actions for each apparatus and each personnel.)
1 ID ☆Type	Dispatch ☐ Arrival ☐ Clear ☐	Sent ☐		☐ Suppression ☐ EMS ☐ Other	

Personnel ID ☆	Name	Rank or Grade	Attend [X]	Action Taken	Action Taken	Action Taken	Action Taken
			☐				
			☐				
			☐				
			☐				
			☐				
			☐				

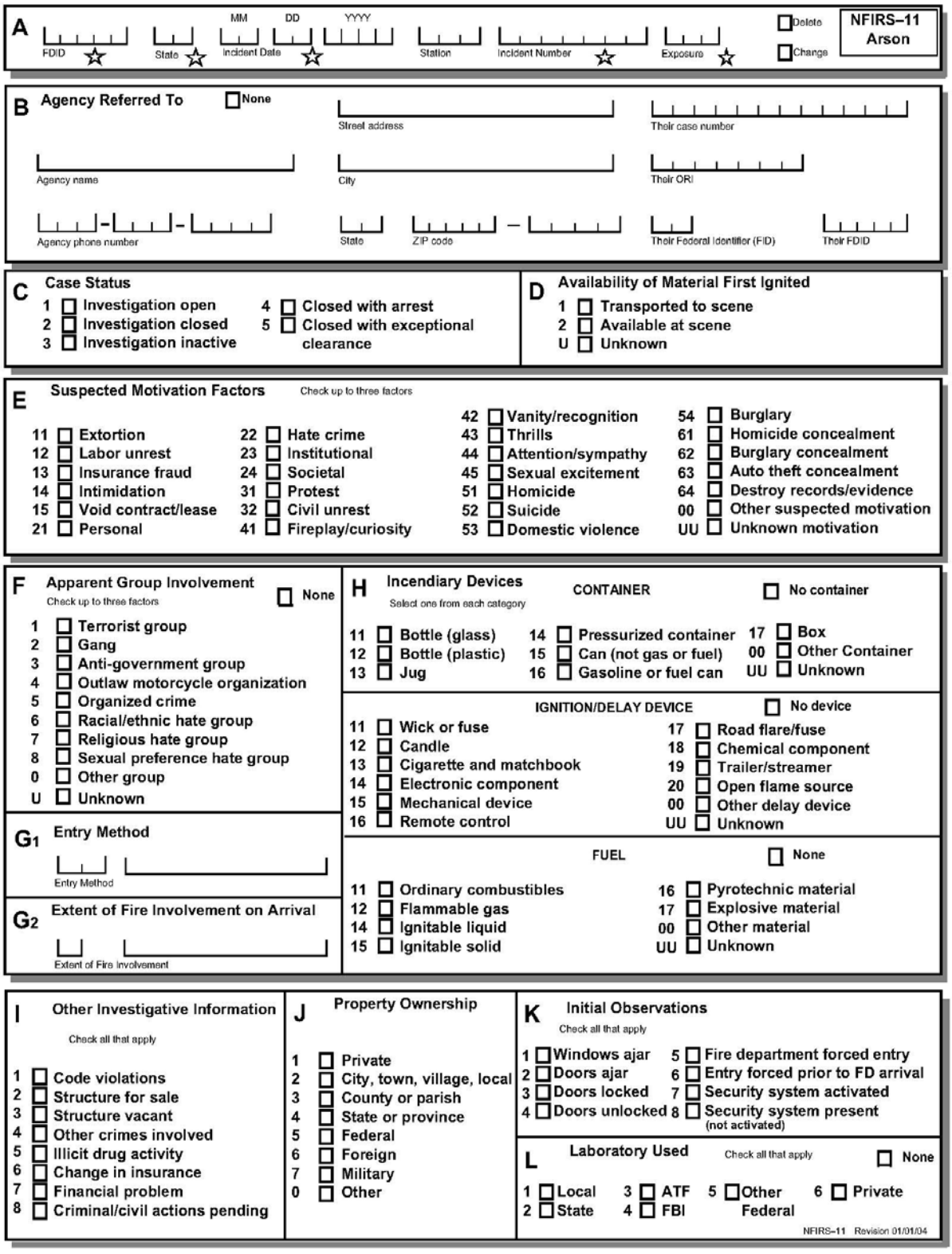
2 ID ☆Type	Dispatch ☐ Arrival ☐ Clear ☐	Sent ☐		☐ Suppression ☐ EMS ☐ Other	

Personnel ID ☆	Name	Rank or Grade	Attend [X]	Action Taken	Action Taken	Action Taken	Action Taken
			☐				
			☐				
			☐				
			☐				
			☐				
			☐				

3 ID ☆Type	Dispatch ☐ Arrival ☐ Clear ☐	Sent ☐		☐ Suppression ☐ EMS ☐ Other	

Personnel ID ☆	Name	Rank or Grade	Attend [X]	Action Taken	Action Taken	Action Taken	Action Taken
			☐				
			☐				
			☐				
			☐				
			☐				
			☐				

NFIRS–10 Revision 01/01/04


A
FDID
State
MM
DD
YYYY
Incident Date
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 Extortion
12 Labor unrest
13 Insurance fraud
14 Intimidation
15 Void contract/lease
21 Personal
22 Hate crime
23 Institutional
24 Societal
31 Protest
32 Civil unrest
41 Fireplay/curiosity
42 Vanity/recognition
43 Thrills
44 Attention/sympathy
45 Sexual excitement
51 Homicide
52 Suicide
53 Domestic violence
54 Burglary
61 Homicide concealment
62 Burglary concealment
63 Auto theft concealment
64 Destroy records/evidence
00 Other suspected motivation
UU Unknown motivation
F Apparent Group Involvement
Check up to three factors
None
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
U Unknown
G1 Entry Method
Entry Method
G2 Extent of Fire Involvement on Arrival
Extent of Fire Involvement
H Incendiary Devices
Select one from each category
CONTAINER
No container
11 Bottle (glass)
12 Bottle (plastic)
13 Jug
14 Pressurized container
15 Can (not gas or fuel)
16 Gasoline or fuel can
17 Box
00 Other Container
UU Unknown
IGNITION/DELAY DEVICE
No device
11 Wick or fuse
12 Candle
13 Cigarette and matchbook
14 Electronic component
15 Mechanical device
16 Remote control
17 Road flare/fuse
18 Chemical component
19 Trailer/streamer
20 Open flame source
00 Other delay device
UU Unknown
FUEL
None
11 Ordinary combustibles
12 Flammable gas
14 Ignitable liquid
15 Ignitable solid
16 Pyrotechnic material
17 Explosive material
00 Other material
UU Unknown
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
2 Doors ajar
3 Doors locked
4 Doors unlocked
5 Fire department forced entry
6 Entry forced prior to FD arrival
7 Security system activated
8 Security system present (not activated)
L Laboratory Used
Check all that apply
None
1 Local
2 State
3 ATF
4 FBI
5 Other Federal
6 Private
NFIRS–11 Revision 01/01/04

A FDID ☆ State ☆ MM DD YYYY Incident Date ☆ Station Incident Number ☆ Exposure ☆ ☐ Delete ☐ Change

NFIRS–11 Juvenile Firesetter

Complete this section if the person involved in the ignition of the fire was a child or Juvenile under the age of 18

M1 Subject Number
Complete a separate Section M form for each juvenile
Subject Number

M2 Age or Date of Birth
Age (in years)
OR
Month Day Year

M3 Gender
1 ☐ Male 2 ☐ Female

M4 Race
1 ☐ White
2 ☐ Black, African American
3 ☐ American Indian, Alaska Native
4 ☐ Asian
5 ☐ Native Hawaiian, Other Pacific Islander
0 ☐ Other, multiracial
U ☐ Undetermined

M5 Ethnicity
1 ☐ Hispanic or Latino
0 ☐ Non Hispanic or Latino

M6 Family Type
1 ☐ Single parent
2 ☐ Foster parent(s)
3 ☐ Two-parent family
4 ☐ Extended family
N ☐ No family unit
0 ☐ Other family type
U ☐ Unknown

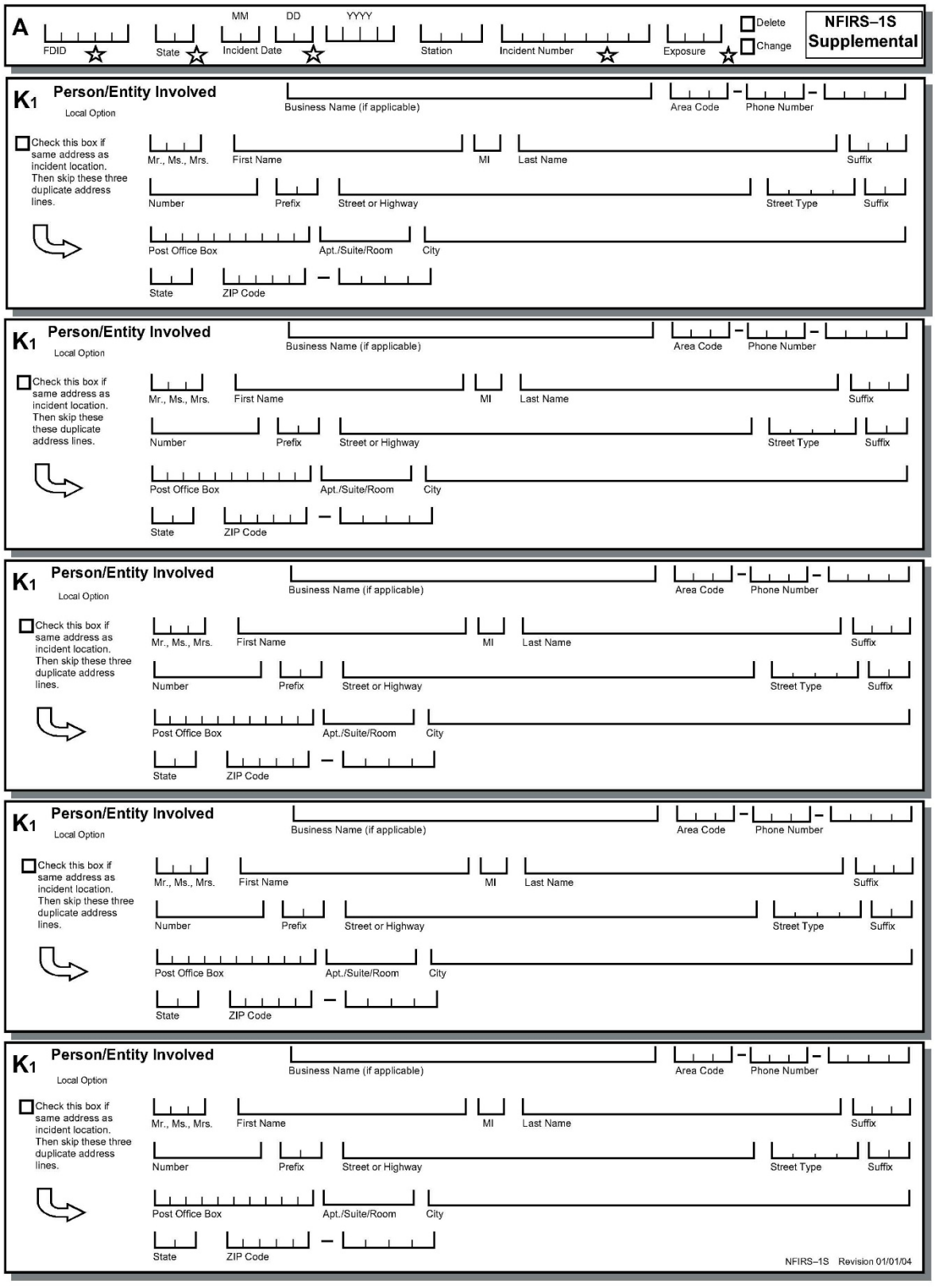
M7 Motivation/Risk Factors Check only one of codes 1–3 and then all others (4–9) that apply

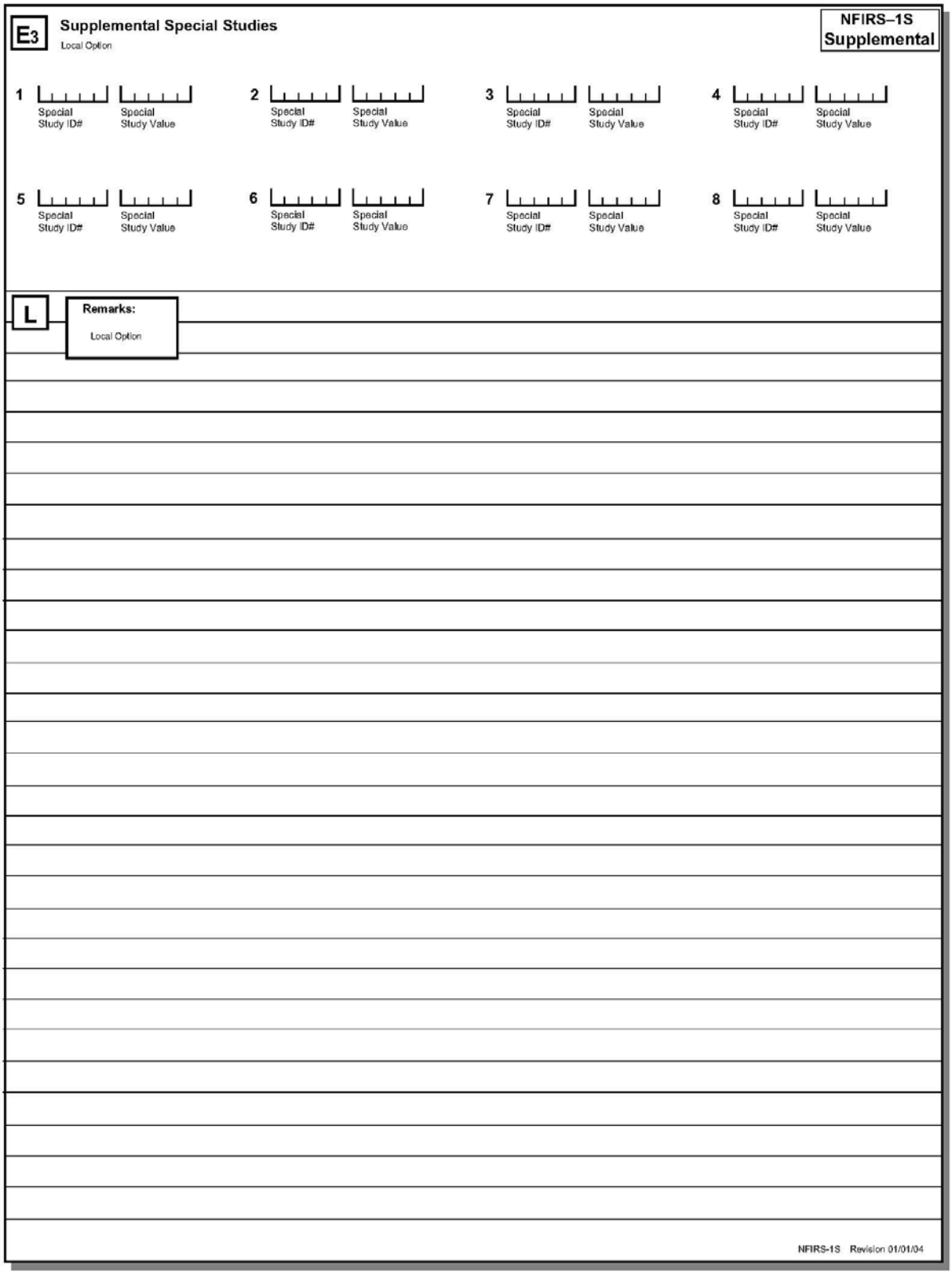
1 ☐ Mild curiosity about fire
2 ☐ Moderate curiosity about fire
3 ☐ Extreme curiosity about fire
4 ☐ Diagnosed (or suspected) ADD/ADHD
5 ☐ History of trouble outside school
6 ☐ History of stealing or shoplifting
7 ☐ History of physically assaulting others
8 ☐ History of fireplay or firesetting
9 ☐ Transiency
0 ☐ Other
U ☐ Unknown

M8 Disposition of Person Under 18

1 ☐ Handled within department
2 ☐ Released to parent/guardian
3 ☐ Referred to other authority
4 ☐ Referred to treatment/counseling program
5 ☐ Arrested, charged as adult
6 ☐ Referred to firesetter intervention program
0 ☐ Other
U ☐ Unknown

N Remarks (local use)


A
FDID
State
MM
DD
YYYY
Incident Date
Station
Incident Number
Exposure
Delete
Change
NFIRS–1S
Supplemental
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 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
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 these these 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
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 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
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 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
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 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
NFIRS–1S Revision 01/01/04


E3
Supplemental Special Studies
Local Option
NFIRS–1S
Supplemental
1
Special Study ID#
Special Study Value
2
Special Study ID#
Special Study Value
3
Special Study ID#
Special Study Value
4
Special Study ID#
Special Study Value
5
Special Study ID#
Special Study Value
6
Special Study ID#
Special Study Value
7
Special Study ID#
Special Study Value
8
Special Study ID#
Special Study Value
L
Remarks:
Local Option
NFIRS-1S Revision 01/01/04

This page intentionally left blank.

UNIT 4: DATA ANALYSIS AND THE DECISION-MAKING PROCESS

TERMINAL OBJECTIVE

The students will be able to:

4.1 Apply an analysis process using National Fire Incident Reporting System (NFIRS) data to identify outcomes for a decision package.

ENABLING OBJECTIVES

The students will be able to:

4.1 Explain the impact of the social, political, economic and demographic environment on the fire service.

4.2 Describe the impact of local government and community expectations on the fire service.

4.3 Compare performance measurement models.

4.4 Identify the justifications for using fire data analysis techniques as part of the decision-making process.

4.5 Construct a PivotTable view to analyze complex multidimensional fire service problems.

4.6 Identify techniques for transforming data into useful information using charts, graphs, maps, and descriptive and inferential statistics.

4.7 Construct a graph using proper guidelines to support the analysis of a problem or question.

4.8 Construct a map indicating incidents and resources.

This page intentionally left blank.

UNIT 4:
DATA ANALYSIS AND THE DECISION-MAKING PROCESS

Slide 4-1

ENABLING OBJECTIVES

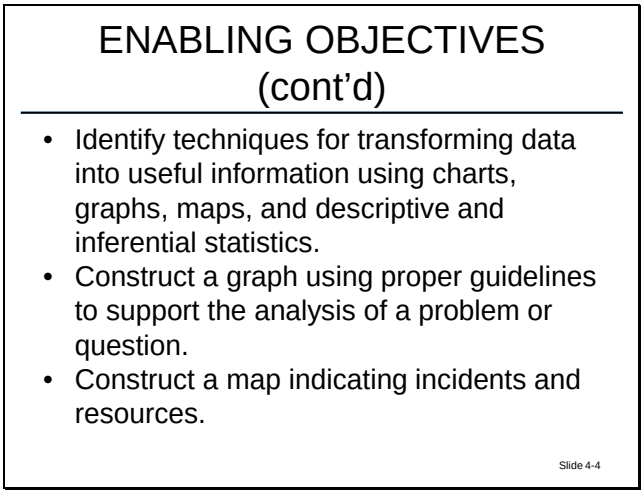
- Explain the impact of the social, political, economic and demographic environment on the fire service.
- Describe the impact of local government and community expectations on the fire service.
- Compare performance measurement models.

Slide 4-2

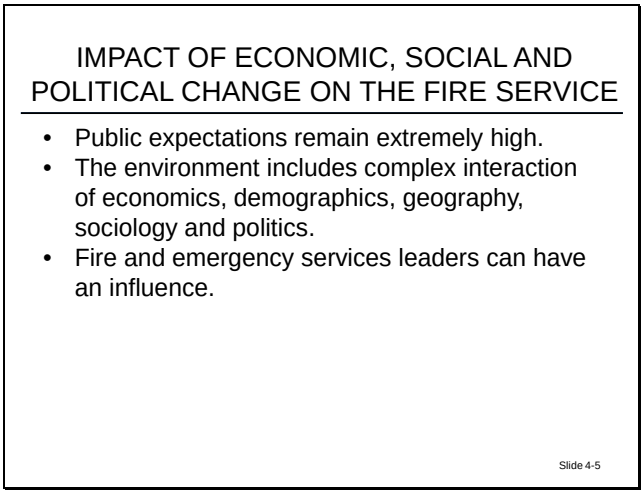
ENABLING OBJECTIVES (cont'd)

- Identify the justifications for using fire data analysis techniques as part of the decision-making process.
- Construct a PivotTable view to analyze complex multidimensional fire service problems.

Slide 4-3



I. IMPACT OF ECONOMIC, SOCIAL AND POLITICAL CHANGE ON THE FIRE SERVICE



A. Public expectations for fire and emergency services remain extremely high.

In a 2009 international survey performed by GfK Group, firefighters in 16 of 17 countries worldwide (including the United States) received respondents' highest marks for trustworthiness.

B. The environment where 21st century fire and emergency service departments operate is characterized by the complex interaction of economics, demographics, geography, sociology and politics.

C. A fire and emergency services leader can influence his or her elected body's own style of governing by observing the governing process and determining the needs, style and goals of elected officials.

D. Economics.

1. Cost of fire.

a. According to the National Fire Protection Association (NFPA), for 2011, the total economic cost of fire is estimated to be $329 billion.

b. This includes direct and indirect costs, as well as the cost of insurance and career fire departments.

c. The direct economic loss is estimated at $14.9 billion.

d. Local governments are estimated to spend $42.3 billion in their efforts to protect the population from fire.

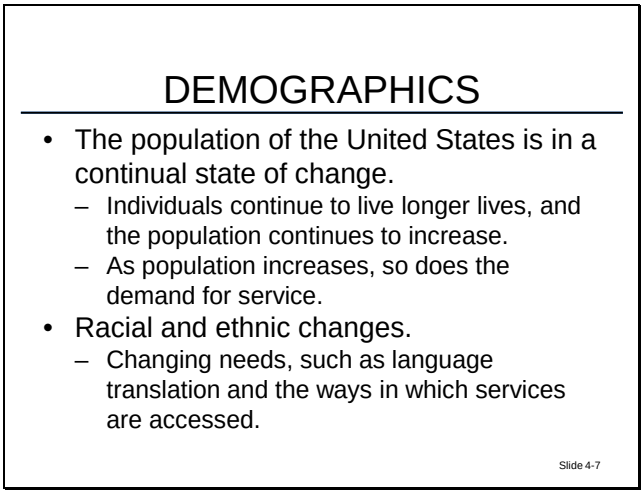
e. Furthermore, the economic downturn that recently occurred has made funding difficult and budgets tight.

2. Fire departments are in direct competition with other local government agencies for budget dollars, and local governments continue to use privatization and collaborative efforts as ways to streamline their budgets.

3. Fire department managers must be able to produce hard evidence of the costs and benefits of their services.

a. Under these budgetary strains, some departments are looking for ways to produce revenue.

b. Some examples include increased fees for commercial inspections, increased fees for ambulance transportation, or charging citizens an extra fee for the use of extrication tools.



E. Demographics.

1. The population of the U.S. is in a continual state of change.

   a. Individuals continue to live longer lives, and the population continues to increase.

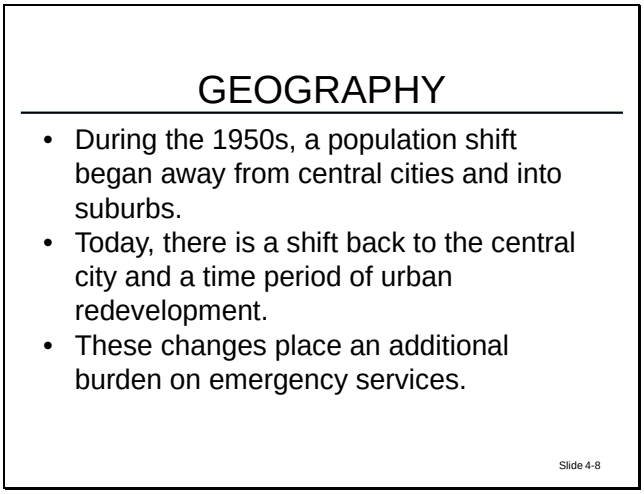
   b. The changing population will affect the delivery of services for fire and emergency service departments.

   c. Generally speaking, as population increases, so does the demand for service.

2. The U.S. is becoming a much more diverse society.

   a. Hispanics are currently the fastest growing demographic, but the U.S. also sees immigration from many other countries.

   b. Fire departments must be proactive in their efforts to provide services to a diverse and aging population.



F. Geography.

1. During the 1950s, a population shift began away from central cities and into suburbs.

   As individuals moved farther and farther away from central cities, not all development was planned for or occurred according to plan, resulting in urban sprawl.

2. Today, we are beginning to see a shift back to the central city and a time period of urban redevelopment.

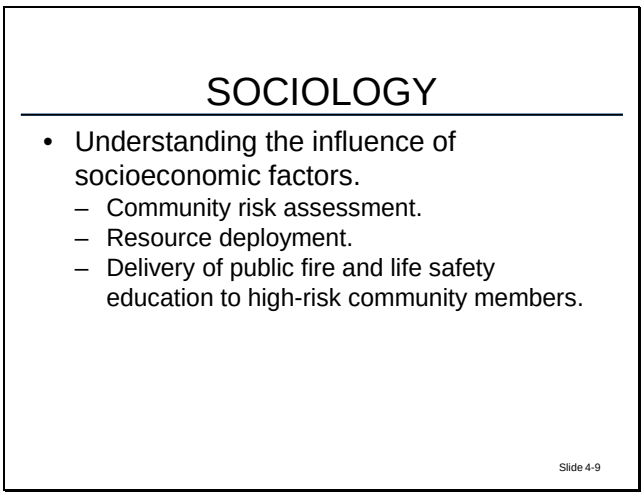
   a. The importance of the central city and its effect on the region has been realized by many communities.

   b. Generally speaking, we see geographic shifts every 50 years.

   c. These shifts in place affect station location, apparatus placement and service levels.

   d. Whereas in the past, an urban downtown would have been near vacant after 5 p.m., we now see residential high-rise buildings and many restaurants and other venues that keep an urban downtown vibrant for many hours.

3. These changes place an additional burden on fire and emergency services.



G. Sociology.

1. The societal impact of fire, while difficult to quantify, is no less important than the economic impact.

2. Burned-out buildings can lead to neighborhood blight, families are displaced from their friends and neighbors, and burn victims wear their scars forever.

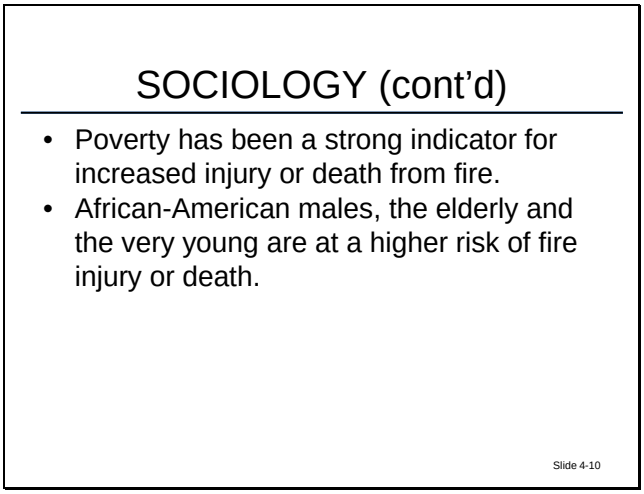
3. Fire losses affect all groups and races, but the problem is greater for some groups than for others.

   a. African-American and American Indian males have much higher fire death rates that the national average.

   b. African-Americans comprise a large and disproportionate share of total fire deaths — nearly twice as high as their share of the overall population.

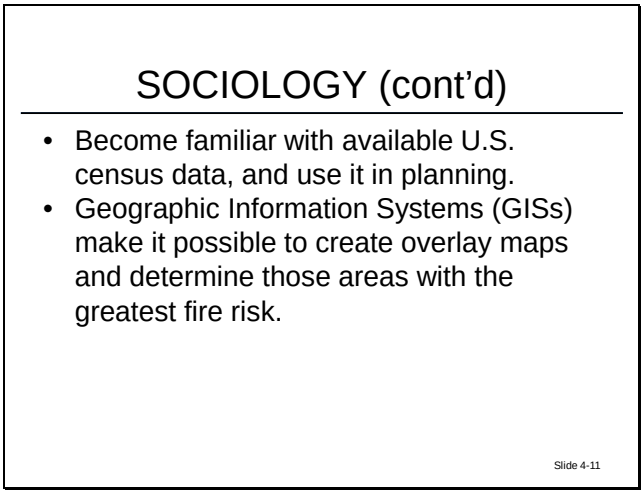
   c. In addition, there is a higher probability of death for those ages 65 and older.

4. Understanding the socioeconomic factors influencing fire losses and deaths can help fire and emergency service departments with community risk assessment, resource deployment, and delivery of public fire and life safety education to high-risk community members.



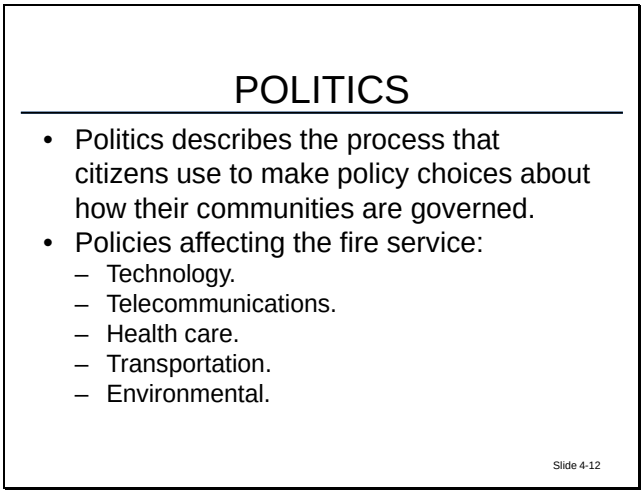
5. Poverty has been a strong indicator for increased injury or death from fire.

6. The elderly and the very young are at a higher risk of fire injury or death.



7. Departments must take time to become familiar with available U.S. census data and use it in the planning phases of risk reduction and public education.

8. The availability of such tools as Geographic Information Systems (GISs) makes it possible to create overlay maps and determine those areas with the greatest fire risk.



H. Politics.

1. Politics describes the process that citizens use to make policy choices about how their communities are governed.

2. Fire and emergency service departments must evaluate their external environment and determine how it may affect them.

3. Departments need to remain current, but they must also be cautious not to invest in something that will be outdated in a year or two.

   a. Health care policy has an obvious impact as organizations struggle to understand the Affordable Care Act.

   b. Transportation policy affects fire and emergency services in terms of traffic congestion and regulations governing hazmat transport.

   c. Environmental policy has also become important as organizations seek ways to reduce global warming and become more “green.”

MAJOR FIRE SERVICE ISSUES

- Mission and range of services.
- Funding.
- Regional cooperation.
- Privatization and contracting.
- Entrepreneurship.

Slide 4-13

I. Major fire service issues.

1. Mission and range of services.
2. Funding.
3. Regional cooperation.
4. Privatization and contracting.
5. Entrepreneurship.

MAJOR FIRE SERVICE ISSUES (cont'd)

- Diversity.
- Facilities.
- Equipment and technology.
- Staffing, compensation and work hours.
- Working conditions and safety.

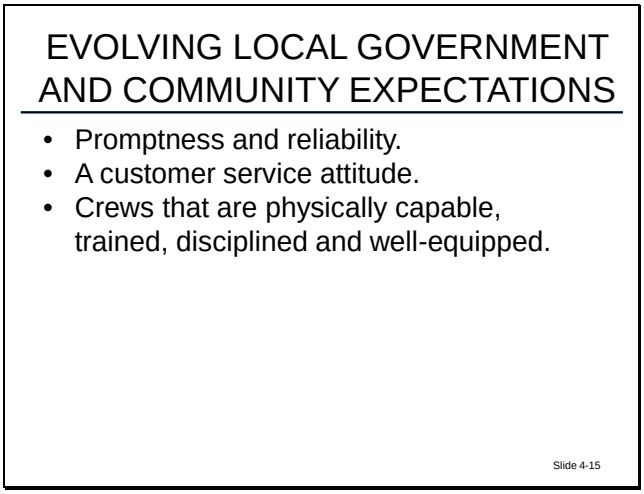
Slide 4-14

6. Diversity.
7. Facilities.
8. Equipment and technology.

9. Staffing, compensation and work hours.

10. Working conditions and safety.

II. EVOLVING LOCAL GOVERNMENT AND COMMUNITY EXPECTATIONS



A. Promptness and reliability; a customer service attitude; and crews that are physically capable, trained, disciplined and well-equipped.

1. The fire service is looked upon as a model of government efficiency and effectiveness.

2. When an individual calls for help, there is no lengthy discussion concerning the merits of their needs and no passing them off on another agency.

3. If an individual calls, the fire and emergency service responds.

4. This has placed the fire service high among favored government agencies.

5. Along with that admiration also comes high expectations.

B. The public has now come to expect prompt and reliable service, positive attitudes, and capable crews.

C. However, in today's environment of decreasing budgets and expanding missions, it can become increasingly difficult to live up to expectations.

EVOLVING LOCAL GOVERNMENT AND COMMUNITY EXPECTATIONS (cont'd)

- Prior to and during the 1960s, public expectation of the fire service was one of efficiency.
  - Professional service of competent bureaucrats.
  - Wide latitude to determine services and how they should be provided.

Slide 4-16

D. Prior to and during the 1960s, the public expectation of the fire service, and government in general, was one of efficiency.

1. Government was expected to be a professional service of competent bureaucrats carrying out their orders.

2. As the professionals, governments were given wide latitude to determine services and how they should be provided.

EVOLVING LOCAL GOVERNMENT AND COMMUNITY EXPECTATIONS (cont'd)

- During the 1960s, there was:
  - A separation of politics and administration.
  - Centralization of organizational processes.
  - The development of professionally based standards.
  - Limitation of citizen involvement to large formal committees or public hearings.

Slide 4-17

E. During the 1960s, most local governments tried to attain and sustain a professional approach to governing in the face of increasing demand and expanding services. This resulted in:

1. A separation of politics and administration.

2. Centralization of organizational processes.

3. The development of professionally based standards.

4. Limitation of citizen involvement to large formal committees or public hearings.

EVOLVING LOCAL GOVERNMENT AND COMMUNITY EXPECTATIONS (cont'd)

- By the 1980s, the emphasis of government had shifted from that of efficiency to one of equity.
  - Citizens were beginning to get more involved in politics, and a quality movement was beginning to sweep the private sector.

Slide 4-18

F. By the 1980s, the emphasis of government had shifted from that of efficiency above all else to one of equity.

1. Leaders had recognized the error of their ways when efficiency was placed above all other concerns.

2. Citizens were beginning to get more involved in politics, and a quality movement was beginning to sweep the private sector.

EVOLVING LOCAL GOVERNMENT AND COMMUNITY EXPECTATIONS (cont'd)

- During the 1990s.
  - Expectations remained high.
  - Osborne and Gaebler introduced the entrepreneurial bureaucrat in their book "Reinventing Government."
  - Government was expected to be transparent and efficient.
  - The role of the community was emphasized.

Slide 4-19

G. During the 1990s.

1. Expectations of governments remained high, and there was increased pressure to perform more like the public sector.

2. Osborne and Gaebler introduced the entrepreneurial bureaucrat in their book "Reinventing Government."

3. Government was expected to be transparent, efficient, effective and equitable, all while remaining competitive with the private sector.

4. The role of the community was emphasized, and collaborative public/ private ventures began to take place, along with contracting out certain services altogether.

H. Today.

1. The fire service has lived through the eras previously mentioned and changed for the better.

2. Today, the fire and emergency service is a highly specialized professional service.

3. There is an increased demand for information from the fire service, and we have many customers.

DVD PRESENTATION

"DID YOU KNOW"

Slide 4-20

INCREASED DEMAND FOR INFORMATION

Slide 4-21

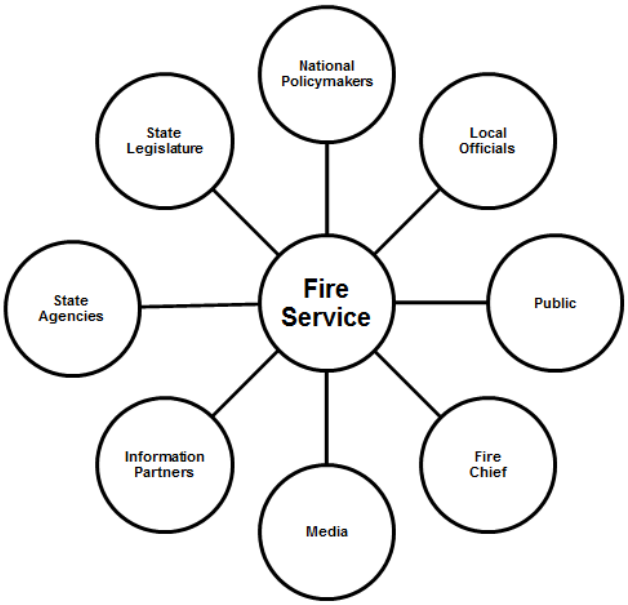


Figure 4-1

Increased Demand for Information

III. IMPROVING PERFORMANCE

IMPROVING PERFORMANCE

- Have a clear picture of where you want to go.
- Perform a gap analysis to determine where you are.
- Set realistic goals and objectives for an implementation plan to close the gap.
- Put the implementation plan into practice, and measure performance along the way.

Slide 4-22

A. Performance measurement captures data about programs, activities and processes, and it displays the data in fairly standardized ways that are useful for managing programs to their peak performance levels.

B. Performance management takes performance measurement to the next level.

1. Have a clear picture of where you want to go.

If a fire and emergency services department measures the right things, and regularly and accurately reports the results to managers and first-line supervisors so they can track performance, then the people in a position to make needed changes will be aware of what is happening and will be able to take steps to affect it.

2. Perform a gap analysis to determine where you are.

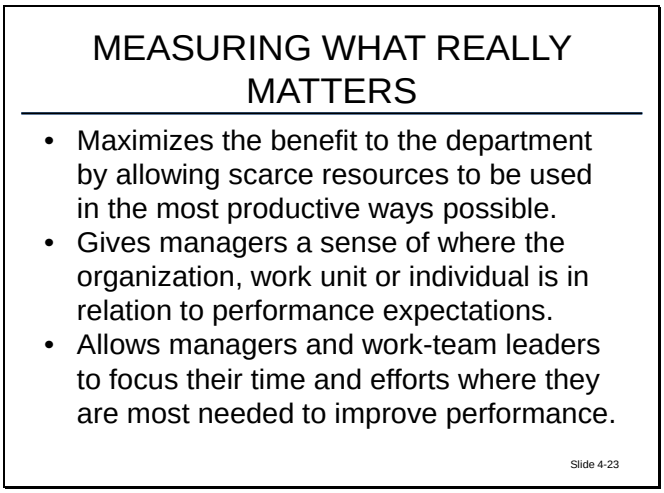
   Performance measurement identifies the causes of gaps in performance and explains the effects that changes in business practices, staff deployment, and additional budgetary expenditures or reductions will have on achieving performance goals and objectives.

3. Set realistic goals and objectives for an implementation plan to close the gap.

4. Put the implementation plan into practice, and measure performance along the way.

   Simply put, what gets measured gets done.

5. The hardest aspect of performance measurement is measuring the right things in the right ways.

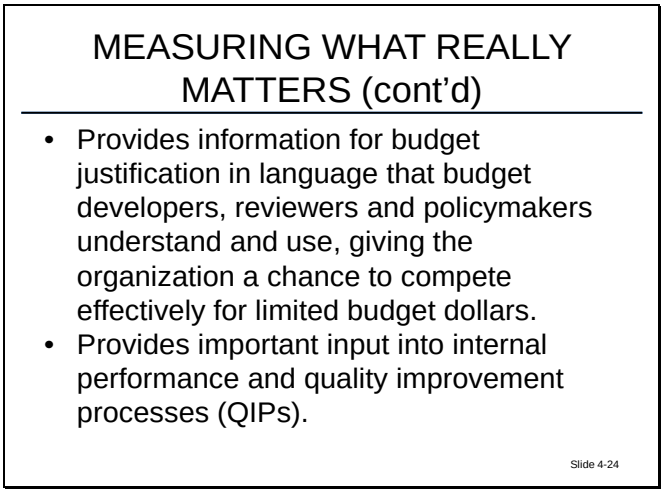


C. Measuring what really matters.

   1. Maximizes the benefit to the department by allowing scarce resources to be used in the most productive ways possible.

   2. Gives managers a sense of where the organization, work unit or individual is in relation to performance expectations.

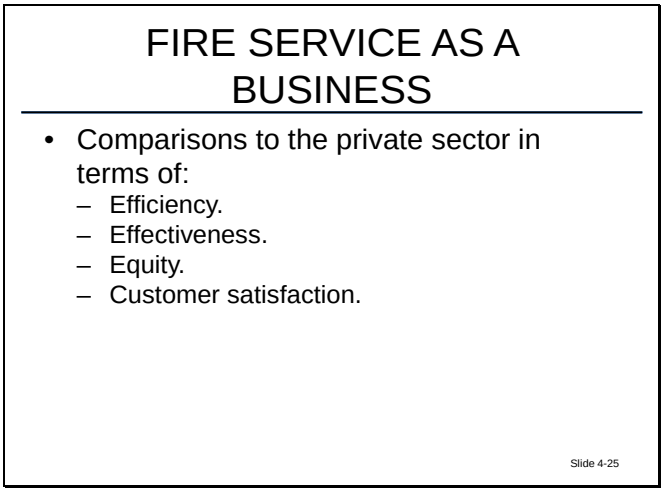
3. Allows managers and work-team leaders to focus their time and efforts where they are most needed to improve performance.



4. Provides information for budget justification in language that budget developers, reviewers and policymakers understand and use, giving the organization a chance to compete effectively for limited budget dollars.

5. Provides important input into internal performance and quality improvement processes (QIPs).

IV. CRITERIA FOR BEST PRACTICES IN QUALITY ASSURANCE



A. Fire service as a business.

1. Many individuals compare the fire service, or the government, to private sector businesses and believe that the fire service should adopt more businesslike practices.

2. Many business practices do end up in the public sector, such as performance budgeting and Total Quality Management (TQM) to name a few.

3. Comparisons to the private sector often involve complaints of efficiency, effectiveness and customer satisfaction.

   a. When evaluating private sector practices, we must also remember that in the fire service, we are bound to provide a service to all citizens — we do not get to pick who our customers are.

   b. Therefore, there is always a trade-off between efficiency, effectiveness and equity.

   c. The fire service could be more efficient with fewer fire stations, but response times may not be effective.

4. Not all private sector innovations are bad, but they often must be judged and adapted to work in the public sector.

5. Many private sector businesses would love to have the level of customer satisfaction that the fire service obtains.

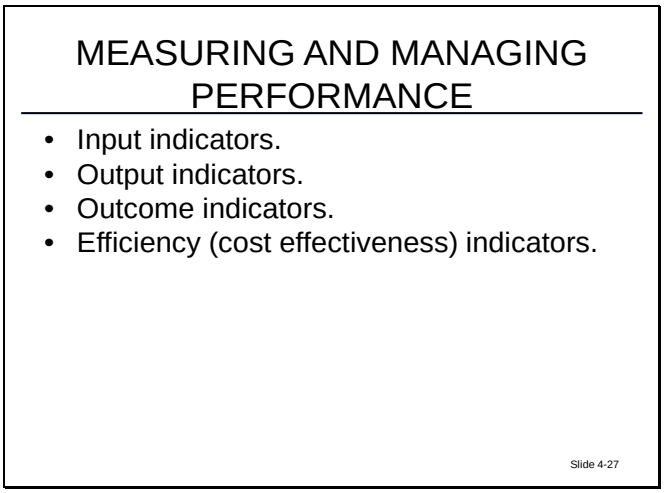
B. Broad-based performance efforts.

1. Insurance Services Office (ISO) updated its grading schedule in 2012 with a focus on current standards and performance citing many NFPA standards.

2. Commission on Fire Accreditation International (CFAI) establishes criteria for departments to self-assess in 10 categories. When a department believes it has met the criteria, an independent evaluation team visits and audits the results.

3. International City Management Association (ICMA) developed a group of agreed upon measures across multiple city departments.

4. Governmental Accounting Standards Board (GASB) studied the use of performance measures by state and local governments.



C. Measuring and managing performance outcomes.

1. GASB defines five categories of measurement information.

2. Inputs measure the monetary and nonmonetary resources expended or consumed to produce outputs of the department's activities.

3. Output measures count the number of activities produced.

4. Outcome indicators are the most important and most difficult measures to capture. They address the effect that the program, process or activity has had.

5. Efficiency measures are useful for managers to track changes in the cost of a process over time and compare one organization with another.

LOGIC MODELS

Measure	Inputs	Activities	Outputs	Outcomes
Number of structure fires	Personnel, equipment, $	Public education	Number of classes	Decreased property loss
Number of fire injuries	Personnel, equipment, $	Smoke detector drive	Number of detectors dispersed	Reduced injuries
Response time	Personnel, equipment, $	Reaction time, travel time	Average time	Improved % confined to room of origin

Slide 4-28

D. Logic models.

1. Logic models are useful for summarizing performance information.

2. Efficiency is determined by dividing the number of outputs by the number of inputs.

3. When performance measures are reported, explanatory information should be included wherever necessary to draw attention to variations from expected results in data displays or to changes in measurement results. These changes are caused by modifications in the way data are defined or collected or by the removal or addition of data elements.

   a. It is important to explain to the reader what special circumstances might have had an impact on the performance measure.

   b. Footnotes should connect the explanatory notes to the relevant data elements.

BENCHMARKING

- How do we keep score in the fire service?
  - Establish a baseline.
  - Establish a benchmark.
  - Evaluate your performance compared to others.
  - One of the most important aspects of quality improvement is measurement.

Slide 4-29

E. Benchmarking means searching for and identifying best practices in organizations that perform functions that are either the same as or similar to the function of one's own organization. This enables managers to adapt or adopt the methods used by the best practitioners to improve the performance of their own organization.

1. Benchmarking is the continuous process of measuring products, services or practices against the toughest competitors or those companies recognized as industry leaders (best in class).

2. In the fire service, the opposing sides are often the demand for services and the delivery of those services versus the efficiency and effectiveness of those services.

3. A foundational step in improving your quality of service is the development of two score cards: One is a baseline; the other is a benchmark.

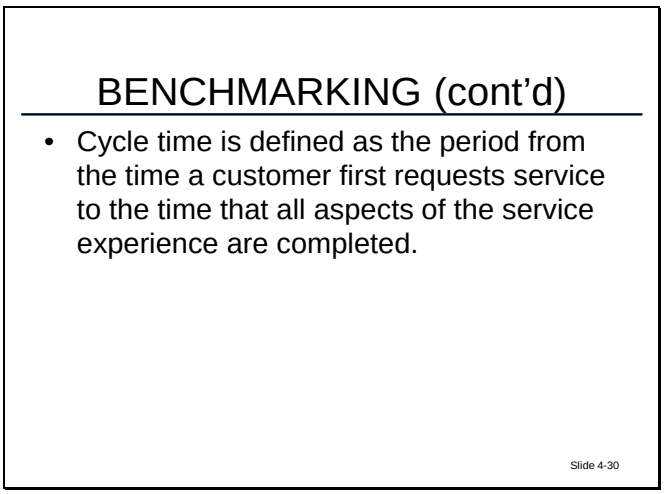
4. Baselines consist of the current level of performance at which a department, process or function is operating. We begin by choosing to measure the one that will promote value-added service to the customer.

5. A benchmark is defined as a standard from which something can be judged. Searching for the best practices will help define what superior performance is.

6. Therefore, a benchmark is the best performance that can be found by a department or others performing similar services or functions.

7. Much of what the private sector has experienced with quality improvement during the last two decades will be faced by the public sector during the next 10 to 15 years.

8. Much of what the fire service has to deal with today is cultural change, and from a leadership perspective, measurement will help drive positive cultural change.



9. Cycle time.

   a. Cycle time is defined as the period from the time a customer first requests service to the time that all aspects of the service experience are completed.

   b. Total cycle time includes time for all escaping defects, so one of the imperatives of reducing cycle time is to do it right the first time.

   c. Reducing overall cycle time raises the customer's perception of quality and, at the same time, drives up productivity.

10. The customer is not necessarily interested in each individual time for each company, only that one company got there and completely solved his or her problem.

11. The basic idea behind benchmarking is two or more organizations of similar size and makeup can work together to build a common set of performance measurements.

12. Benchmarking can be defined as the search for the best practices that lead to superior performance.

BALANCED SCORECARD

The Balanced Scorecard (BSC) is a methodology for aligning strategy with performance objectives and measurement.

Slide 4-31

F. The Balanced Scorecard (BSC) is a methodology for aligning strategy with performance objectives and measurement.

1. Initially developed for business, the BSC has four areas of focus (finance, customer, internal business process, and learning and growth), which have been redefined for use in the public sector.

2. Charlotte, North Carolina, uses the methodology to align department performance with organizational strategy in four areas: serving the customer, running the business, managing resources, and developing employees.

SIX SIGMA AND LEAN SIX SIGMA

- Methods of Continuous Process Improvement (CPI).
  - Used in improving business operations.
  - Judgmental and analytical problem-solving techniques.
  - Used to improve speed, quality and cost.
  - CPI must become a way of doing business.

Slide 4-32

G. Six Sigma and Lean Six Sigma are each methods of Continuous Process Improvement (CPI).

1. CPI is based on the quality movement (TQM).

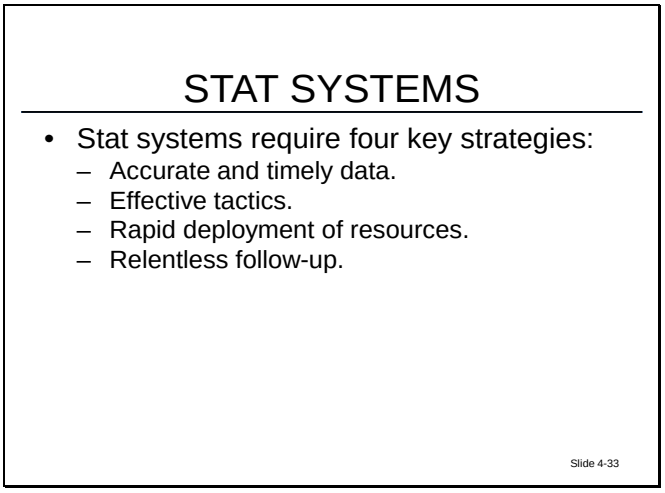
2. The latest manifestation of the quality movement is in Six Sigma.

3. CPI was developed for use in improving business operations.

4. CPI uses judgmental and analytical problem-solving techniques to improve work processes.

5. Lean Six Sigma can be used to improve speed, quality and cost to provide services in fire and emergency services, as well as in other public sector organizations.

6. To maximize its results, CPI must become a way of doing business rather than a special program for quality improvement.



H. Stat systems began with the New York Police Department (NYPD) (Compstat) and city of Baltimore (Citistat).

1. Stat systems require four key strategies:

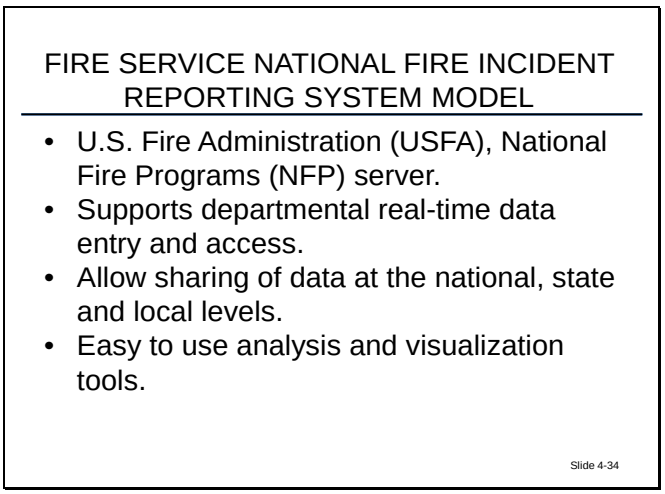
a. Accurate and timely data.

b. Effective tactics.

c. Rapid deployment of resources.

d. Relentless follow-up.

2. In every stat system, agency program managers first develop performance measures that are meaningful and then analyze, report and manage the causes of performance that does not meet the target sets.



I. Fire service National Fire Incident Reporting System (NFIRS) model.

1. The U.S. Fire Administration (USFA), National Fire Programs (NFP) server.

   a. Currently, the fire service is working with a program developed in the 1970s.

   b. The program has undergone many revisions to keep current, but it will always be challenged by technological improvements.

   c. Although police agencies may get more credit for their crime analysis numbers, it wasn't until recently that agencies and the FBI began collecting sociological data as part of crime reporting.

2. Supports departmental real-time data entry and access.

   a. While NFIRS has served the fire service well, improvements can be made.

   b. Primarily, the fire service must learn to use its own data to make management decisions, which should begin to clean up the quality issues.

3. Allow sharing of data at the national, state and local levels.

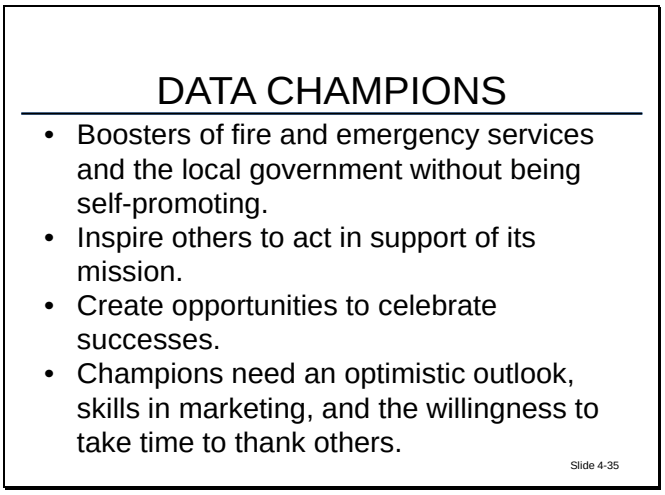
   a. Second, the fire service must establish partnerships with other organizations to develop a consistent data stream.

   b. NFPA and ICMA should be partners in the data environment.

4. Easy to use analysis and visualization tools.

   a. Finally, one size can fit all. NFIRS has done a remarkable job of adapting to the needs of its customers.

   b. Organizations such as the National Fire Information Council (NFIC) and USFA continue to listen to customers and make recommendations for improvements.



J. Data champions.

1. Champions are boosters of fire and emergency services and the local government without being self-promoting.

   Rather than claiming personal credit, champions thank partners and supporters and share successes with others.

2 They look at ways of getting others to believe in the department and inspiring others to act in support of its mission.

3. They seek or create opportunities to celebrate successes in the community, the local government and the department — successes such as the completion of projects and the accomplishment of established goals.

4. Champions need an optimistic outlook, skills in marketing, and the willingness to take time for the little niceties of thanking others.

This page intentionally left blank.

ACTIVITY 4.1

Data and Decision-Making

Purpose

Identify the justifications for using fire data analysis techniques as part of the decision-making process.

Directions

1. Read the Los Angeles Fire Department Case Study 2014.

2. Be prepared to discuss this case with the class.

   a. Was data from the Los Angeles City Fire Department (LAFD) used in the decision-making process? If yes, by whom (who are the key players)?

   _____

   _____

   _____

   b. Were there concerns with the response time data? What were some of these concerns?

   _____

   _____

   _____

   c. Did the LAFD perform at a level consistent with the public's expectations?

   _____

   _____

   _____

3. You have 15 minutes to discuss the report as a large group.

   a. What are some of the underlying problems in the LAFD that led to concerns with the department's response time data?

   b. Could the fire chief have done anything differently? Who is responsible for the questionable response time data?

   c. What are some lessons that can be learned from this case study? Are there any ethical dilemmas or leadership issues?

4. You have 15 minutes to discuss how (and if) fire department data is used in the decision-making process in your department.

ACTIVITY 4.1 (cont'd)

Los Angeles Fire Department Case Study 2014

Following a 30 year career with the Los Angeles City Fire Department (LAFD), Brian Cummings was appointed Fire Chief on Sept. 7, 2011 by then Mayor Antonio Villaraigosa. The LAFD is comprised of approximately 3,500 personnel with 106 stations to protect nearly four million people across 471 square miles in the second largest U.S. city. After a turbulent two years, Cummings announced his resignation Nov. 1, 2013. This case study details the events that eventually led to the fire chief's departure.

Beginning in March 2012 the Los Angeles Times newspaper wrote a story about an online complaint filed by a candidate running for city council. Austin Beutner aired a complaint about delayed response times to medical emergencies as a result of fire department budget cuts. Beutner blamed the current mayor and city council. However, quite unexpectedly, the fire department admitted it had been publishing misleading performance data for a number of years. The Times article cites federal guidelines requiring first responders to arrive on scene in under five minutes 90 percent of the time and describes the fire department's statistician as an individual "who crunched the data with a hand calculator." The fire department had instead been counting all responses within six minutes as meeting the standard. When the analysis was completed using a computer and the corrected response time standard, the fire department had only met the response time goal 60 percent of the time in 2011. Chief Cummings countered that his department has seen a 16 percent reduction to its budget and the average response time has only increased "several seconds."

By March 22 Mayor Villaraigosa responded with a memorandum to the members of the city council. Citing "an untenable situation," the mayor stated "We need an emergency response system that is reliable and accountable. We need monitoring procedures to ensure that all response time data are accurate, and transparent." Villaraigosa then briefly detailed a five-part plan including: 1) ensure reliability of LAFD statistics, 2) evaluate response time data, 3) enhance oversight, 4) enhance reliability of emergency response and 5) provide additional emergency response resources. Most notably within this plan, Villaraigosa appointed Jeff Godown as an interim director of statistical analysis and review for the LAFD. Godown had previously served with the LAPD as the officer in charge of their Compstat Bureau. Compstat uses real time data to more efficiently deploy resources. Godown helped implement Compstat systems in Los Angeles and San Francisco. Godown's initial report to the city indicated that fire department employees assigned to the statistical analysis unit did not have the knowledge, skills or abilities to conduct analysis of response times. Additionally, he noted the department was hampered by the use of two different systems to conduct statistical analysis.

In May 2012 City Controller Wendy Gruel released her analysis of fire department response times. Gruel discovered average response times had increased from four minutes 45 seconds to four minutes 57 seconds between Jan. 2007 and July 2009 for Emergency Medical Services (EMS) incidents. Furthermore, Gruel stated she was not able to compare LAFD statistics to NFPA standards because department dispatchers used their own discretion to code incidents as emergency or nonemergency. In her report she stated, "Our independent analysis of LAFD noted

that public perception and trust was compromised due to the fire department's poor communication of revising their standard of performance measurement and their use of inconsistent methodology in calculating reported results." City council member Mitch Englander commented "it is ridiculous; it makes absolutely no sense not to have real-time data to analyze every single day."

One year later the LAFD continued to struggle with making improvements. New city council members stressed the importance of improving technology in the department, developing a master plan and improving the way the department analyzes its performance. Newly elected Mayor, Eric Garcetti, was also requiring all department heads to reapply for their job. During this time Fire Chief Cummings struggled to restore confidence in the management of his department. In October 2013, Mayor Garcetti announced he was not satisfied with the pace of improvement in the fire department and that Cummings would be replaced.

A consultant report released in early 2014 called for major changes to the LAFD. Principal among them were to replace many sworn positions with civilians in the dispatch office, consolidate the dispatch function with the police department and use private ambulances to transport patients. Furthermore the report called for improved leadership and described a "cultural aversion to change" by members of the department. The overall goal moving forward should be to improve service, control costs and better utilize fire department resources.

V. TRANSFORMING DATA INTO USEFUL INFORMATION

TRANSFORMING DATA INTO USEFUL INFORMATION

- Analysis and use of performance data to explain what is happening should take place at three levels:
  - The internal customer/tactical level.
  - The department senior management level.
  - The elected officials and public level.

Slide 4-37

A. Analysis and use of performance data to explain what is happening should take place at three levels:

1. The internal customer/tactical level.

2. The department senior management level.

3. The elected officials and public level.

B. Managers should develop performance measures and collect performance data for their respective pieces of the puzzle.

C. The format for display of the data needs to drill down to the level of the work unit being evaluated.

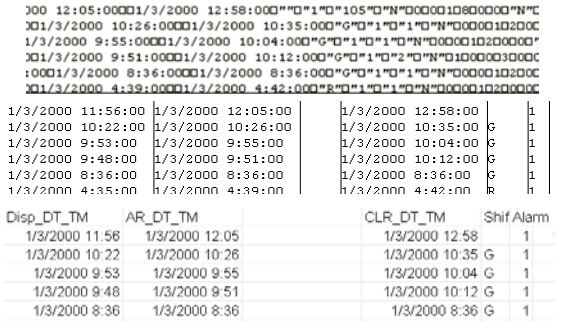
TRANSFORMING DATA INTO USEFUL INFORMATION (cont'd)

```
LIST TEST.INC
"81000",        "503512","00","2",              "07","01","92","4",0252,0300,0312,"64","3"," ","411",       "
,               ,                       ,000,000,000,000","07","01","92","4",0252,0300,0312,"64","3"," ","411", 2
,001,           ,000,000,000,000","07","01","92","4",0837,0843,0849,"11","3"," ","411",  1
,               ,                       ,000,000,000,000","07","01","92","4",1328,1334,1411,"13","1"," ","962",  1
,               ,                       ,000,000,000,000","07","01","92","4",1505,1517,1520,"45","3"," ","962",  1
,               ,                       ,000,000,000,000","07","01","92","4",1522,1532,1552,"16","3"," ","411",  1
,               ,                       ,000,000,000,000","07","01","92","4",1525,1532,1544,"69","3"," ","411",  1
,001,           ,000,000,000,000","07","01","92","4",1528,1530,1540,"73","3"," ","331",  1
,               ,                       ,000,000,000,000","07","01","92","4",1536,1539,1555,"45","4"," ","521",  1
,               ,011,000,000,000,000","07","01","92","4",1621,1621,1746,"41","3"," ","946",            4
,001,004,000,000,000,000","07","01","92","4",1730,1734,2048,"11","4"," ","591",        1
,001,           ,000,000,000,000","07","01","92","4",1850,1854,1859,"73","3"," ","161",  1
,               ,                       ,000,000,000,000","07","01","92","4",2228,2234,2256,"14","1"," ","411",  2
,001,001,000,000,000,000","07","01","92","4",2328,2338,0001,"11","3"," ","414",        1
,001,           ,000,000,000,000","07","02","92","5",0159,0202,0221,"69","3"," ","443",  1
,               ,                       ,000,000,000,000","07","02","92","5",0322,0328,0344,"59","9"," ","962",  1
,               ,                       ,000,000,000,000","07","02","92","5",0600,0605,0623,"55","3"," ","585",  1
,               ,                       ,000,000,000,000","07","02","92","5",1130,1139,1155,"11","3"," ","411",  4
,001,006,000,001,000,000","07","02","92","5",1227,1232,1522,"11","1"," ","411",        1
,               ,                       ,000,000,000,000","07","02","92","5",1257,1303,1318,"51","9"," ","422",  1
,               ,                       ,000,000,000,000","07","02","92","5",1427,1434,1455,"73","3"," ","411",  1
,               ,                       ,000,000,000,000","07","02","92","5",1433,1437,1441,"74","3"," ","963",  1
Command:   *** End-of-file ***    Keys: PgUp PgDn Arrows F10=exit ?=Help
```

Slide 4-38

1. Organizing the data brings out information content.

TRANSFORMING DATA INTO USEFUL INFORMATION (cont'd)



Disp_DT_TM	AR_DT_TM	CLR_DT_TM	Shif	Alarm
1/3/2000 11:56	1/3/2000 12:05	1/3/2000 12:58		1
1/3/2000 10:22	1/3/2000 10:26	1/3/2000 10:35	G	1
1/3/2000 9:53	1/3/2000 9:55	1/3/2000 10:04	G	1
1/3/2000 9:48	1/3/2000 9:51	1/3/2000 10:12	G	1
1/3/2000 8:36	1/3/2000 8:36	1/3/2000 8:36	G	1

Slide 4-39

2. Information content can also be extracted when the data are summarized (statistics are applied).

TRANSFORMING DATA INTO USEFUL INFORMATION (cont'd)

- Information is useful for making decisions, while data may not be useful.
- Data must be converted to information.

Slide 4-40

D. The key distinction is that information is useful for making decisions, while data may not be useful.

E. For data to become useful for decision-making or problem-solving, it must be converted to information.

F. Transforming data involves three distinct steps:

1. The first is the data. We obtain this from NFIRS or our third-party records management system.

2. The second piece is analysis. We use PivotTables to conduct our analysis of the data.

3. The final piece is the presentation. How do we want to present the data? Imagine each piece as a separate page in your computer workbook.

TRANSFORMING DATA INTO USEFUL INFORMATION (cont'd)

- Process evaluation is a foundation of quality assurance (QA), Total Quality Management (TQM), and other process improvement methodologies.
  - Two-step process:
    - -- Organize using charts and graphs.
    - -- Summarize using statistics.

Slide 4-41

G. Process evaluation is a foundation of quality assurance (QA), TQM, and other process improvement methodologies.

1. This is a two-step process.

   a. Organizing the data using charts, graphs and tables.

   b. Summarizing the data using statistics (count, sum, percent, average, etc.).

2. Process evaluation does not explain why the pattern is there but merely reveals that it exists and that further study is needed to identify the cause.

TRANSFORMING DATA INTO USEFUL INFORMATION (cont'd)

- The data analysis process.
  - Organizing the raw data into columns.
  - Adding labels.
  - Summarize the data using simple and complex statistics.
- Data must be organized and summarized to support the decision process.

Slide 4-42

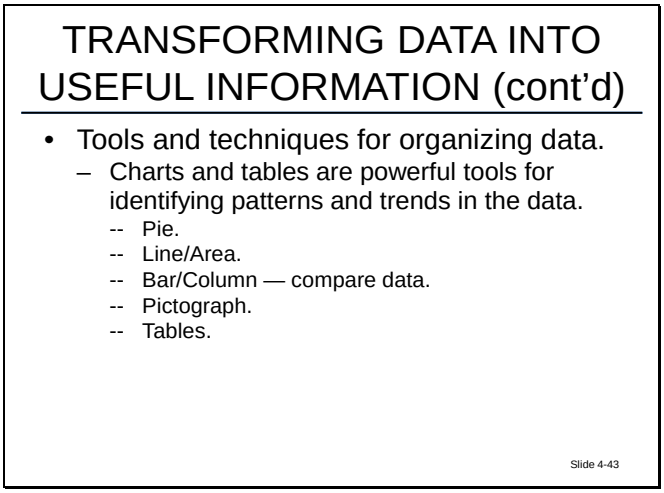
H. The data analysis process.

1. Organizing the raw data into columns increases the information content of the data.

2. Further organization of the data by adding labels also increases information content.

3. The final step in converting data into useful information is to summarize the data using simple and complex statistics (counts, percents, ratios, rates, averages, linear regression techniques, etc.).

I. Regardless of the source of the planning data, to make it useful information, it must be organized and summarized to support the decision process.



J. Tools and techniques for organizing data.

1. The basic analytic techniques for organizing data involve the use of charts and tables.

2. It has been said that "a picture is worth a thousand words."

3. Charts and tables paint a picture that is a very powerful tool for identifying patterns and trends in the data.

   a. Pie.

   b. Line/Area.

   c. Bar/Column — compare data.

   d. Pictograph.

   e. Tables.

4. Do not try to put too much into a chart or graph, otherwise the viewer will become confused.

   The primary purpose of the bar chart is to compare "one to another."

5. A Dynamic Report will let you see who, what, when, where, and why all at the same time. A PivotTable is an example of a Dynamic Report.

FIVE COMMON
GRAPHIC TECHNIQUES

Slide 4-44

VI. DESCRIPTIVE STATISTICS

DESCRIPTIVE STATISTICS

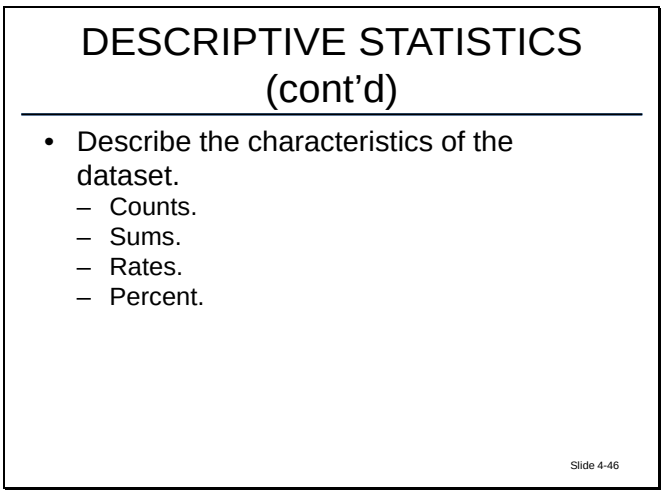
- Summarize the frequency of occurrence or distribution of the data with a single measure or statistic.
- These single measures represent the underlying data.
- Provide an empirical way to evaluate and compare two or more series of data.

Slide 4-45

A. Provide a numeric calculation to summarize the frequency of occurrence or distribution of the data with a single measure or statistic.

B. These single measures represent the underlying data.

C. Provide an empirical way to evaluate and compare two or more series of data.



D. The following are simple "descriptive" statistics because they provide a single measure or number to describe the data being analyzed.

1. Counts.

   a. Definition: 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.

   b. Example: count of fire incidents, count of fatal fires, etc.

   c. Excel function: = count (0).

2. Sums.

   a. Definition: the arithmetic sum of an interval or ration data.

   b. Example: number of fire fatalities, number of firefighters responding, total dollar loss, etc.

   c. Excel function: = sum ( ).

3. Rates.

   a. Definition: a count or sum of a variable per unit of measure (10,000 population, 1,000 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.

b. Examples: 15 residential fires/10,000 population/year, 1.5 fire deaths/10,000 fires/year, 0.15 fire death/10,000 fires/year.

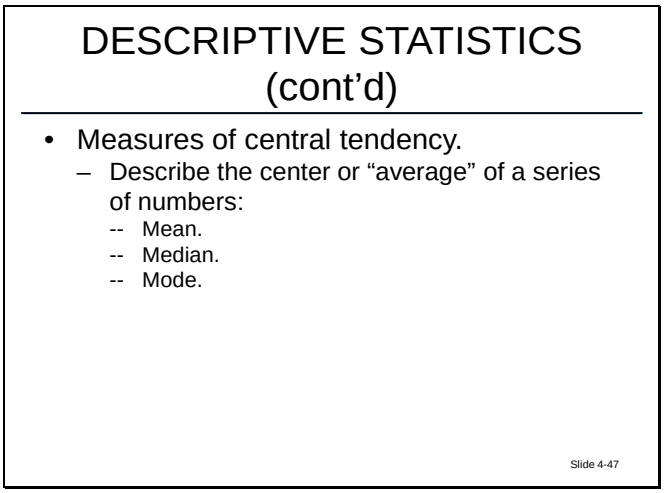
c. Excel formula: = Number of occurrences/population x rate (e.g., 100,000).

4. Percent.

a. 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.

b. Example: out of all fires, 40 percent are cooking-related.

c. Excel formula: = component/total x 100.



E. Measures of central tendency.

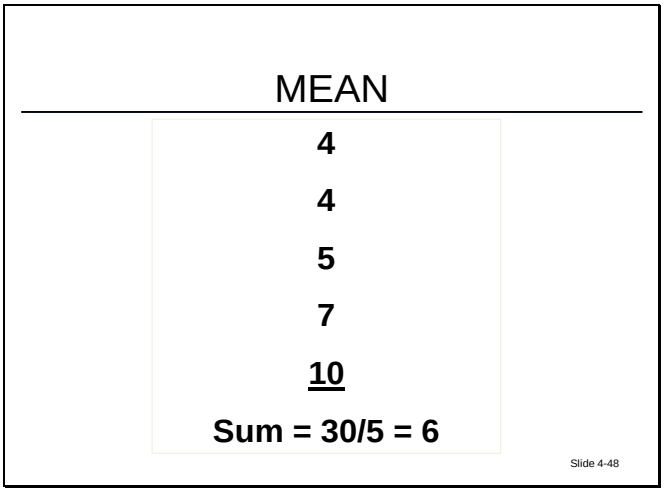
1. Definition: The three measures that describe the center or "average" of a series of numbers are the mean, median and mode.

2. 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, and it is the most influenced by outliers.

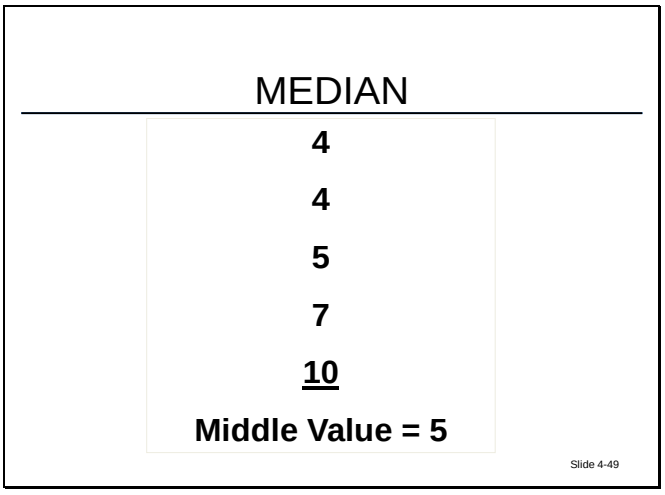
3. The **median** is the middle term of a distribution. It is the point at which half of the terms fall above it and half of the terms fall below it. The median is not as robust as the mean, but it is not influenced by outliers.

4. The **mode** is the term that appears most frequently in the distribution.

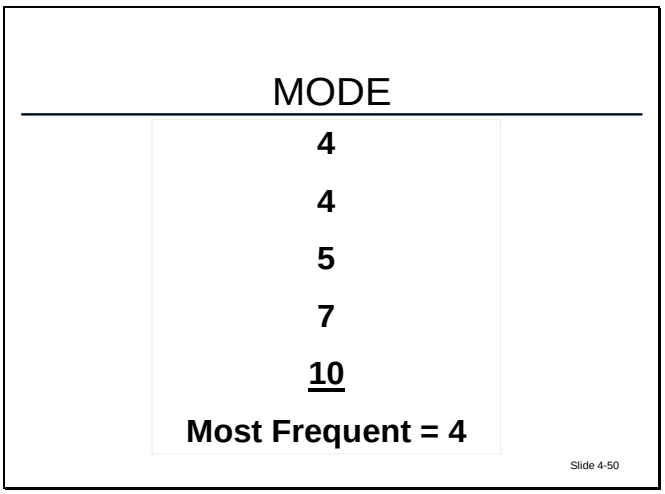
5. Summary.



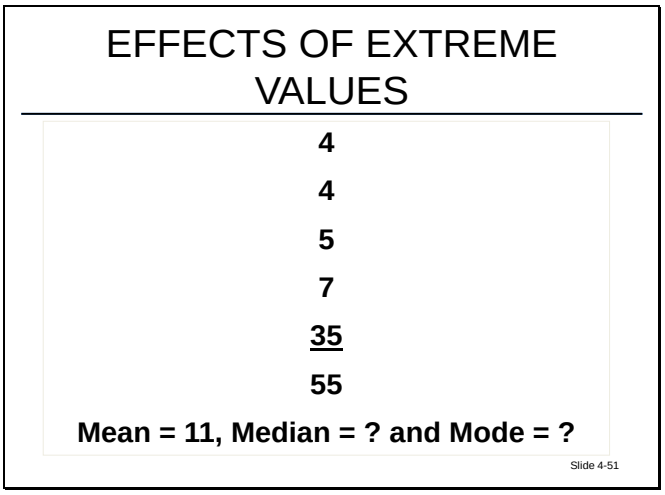
a. Mean = 6 (30 divided by 5).



b. Median = 5 (the middle value in the sorted series).



c. Mode = 4 (the most frequently occurring number).



6. Effects of extreme values.

a. Example:

4
4
5
7
35
55

b. Mean = 11, Median = ? and Mode = ?

WHICH AVERAGE TO USE?

Mean	=	Ordinal data + Extreme effect
Median	=	Ordinal data + No extreme effect
Mode	=	Nominal data

Slide 4-52

F. Which average to use?

1. Ordinal data — qualitative data in categories that can be ordered, such as small, medium, large or agree, neutral, disagree.

2. Nominal data — qualitative data in categories where there is no natural ordering, such as gender, race, religion.

MEASURES OF DISPERSION

- Provide a summary of the variability of spread of values in a distribution.
  - Express the extent to which the values in a distribution scatter about or cluster together.
  - Data clustered close to the mean indicates accuracy and reliability.

Slide 4-53

G. Measures of dispersion.

1. While measures of central tendency provide a summary of the values in a distribution, measures of dispersion provide a summary of the variability of spread of values in a distribution.

   a. Measures of dispersion express quantitatively the extent to which the values in a distribution scatter about or cluster together.

b. Ideally, we do not want data that is scattered about; instead, it should be clustered close to the mean as we strive for accuracy and reliability.

MEASURES OF DISPERSION (cont'd)

- The range is the most basic measure of dispersion.
- Its definition is simply the difference between the lowest and highest value in a distribution.

4
4
5
7
10
10 - 4 = 6

Slide 4-54

2. Range.

a. The range is the most basic measure of dispersion.

b. Its definition is simply the difference between the lowest and highest value in a distribution.

MEASURES OF DISPERSION (cont'd)

- Variance is the difference between the values in a distribution and its mean.

Travel time	Travel-mean	Squared
4	4 - 6 = -2	4
4	4 - 6 = -2	4
5	5 - 6 = -1	1
7	7 - 6 = 1	1
10	10 - 6 = 4	16
Total	0.0	26/4
Variance		6.5

Slide 4-55

3. Variance.

a. Variance, or deviation values, is the difference between the values in a distribution and its mean.

b. Since the mean is the balance point of the values in a distribution, the total of the deviation values would be zero.

c. Therefore, in order to calculate the variance, it is necessary to square the deviation values to eliminate the negative values.

d. Remember to divide variance by (n-1) for sample. Since the variation is a large number, it indicates that not all values are clustered near the mean (it is also affected by a small sample size).

MEASURES OF DISPERSION (cont'd)

- The standard deviation is obtained by taking the square root of the variance.
- A small square root indicates that the spread (variability) around the mean is not very large.

Travel time	Travel-mean	Squared
4	4 - 6 = -2	4
4	4 - 6 = -2	4
5	5 - 6 = -1	1
7	7 - 6 = 1	1
10	10 - 6 = 4	16
Total	0.0	26/4
Variance		6.5
Standard Deviation		√6.5 = 2.5

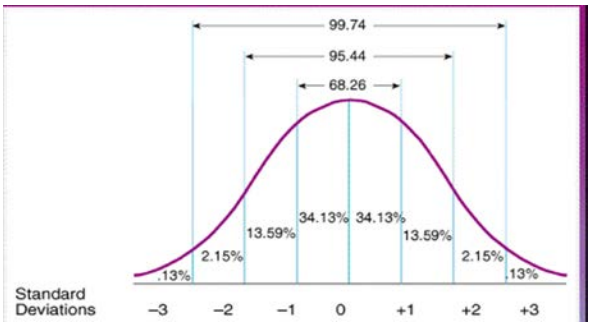
Slide 4-56

4. Standard deviation.

a. The standard deviation is obtained by taking the square root of the variance.

b. A small square root indicates that the spread (variability) around the mean is not very large.

NORMAL DISTRIBUTION



Slide 4-57

H. Normal distribution.

1. Unless there is a compelling reason otherwise, statisticians usually assume a normal distribution for any given set of values.

2. A normal distribution is in the general shape of a bell and is also known as the bell curve.

3. In a normal distribution, the mean, median and mode are the same.

   a. Most of the values, 68 percent, fall within one standard deviation on either side of the mean. Within two standard deviations, 95 percent of the distribution is represented, and within three standard deviations, 99.7 percent of the distribution is represented.

   b. When we talk about an outlier, we are talking about an extreme value in the tails of the normal distribution.

4. The standard deviation is responsive to the exact position of every value in a distribution.

   a. Because it is calculated by using deviations from the mean, the standard deviation increases or decreases as the individual values shift away from or toward the mean (accuracy and reliability).

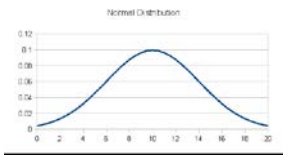
   b. Like the mean, it is influenced by extreme scores, especially with distributions that have a small amount of values.

   c. As the number of values increase, each individual value has less ability to shift the mean and the standard deviation.

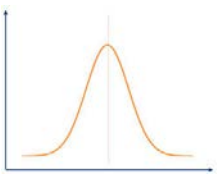
   d. If the mean and standard deviation of a distribution are known, a fairly accurate picture of the distribution can be obtained.

NORMAL DISTRIBUTION (cont'd)

Wide Dispersion



Narrow Dispersion



Slide 4-58

5. A flattened curve indicates a wide dispersion of the data (less accuracy and reliability).

6. A narrow curve indicates less dispersion of the data. The data are more clustered about the mean (more accuracy and reliability).

7. In order to narrow our curve (increase accuracy and reliability), we must study the outliers (those data outside the 95 percent). As we correct those errors, our data will become more accurate and reliable, and our curve will narrow.

SIX SIGMA

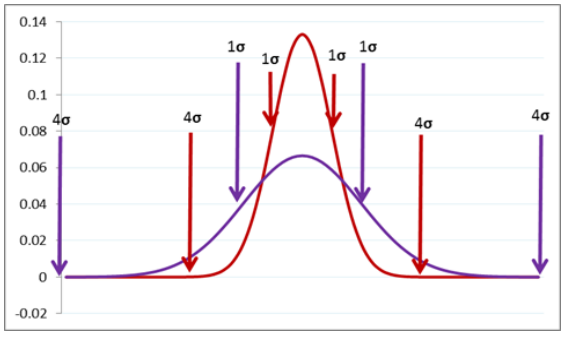
- To improve quality, we must:
  - Identify our baseline.
  - Determine what our benchmark (goal) will be.
  - Analyze the outlier data to shift our baseline to our benchmark.
  - Narrow our curve (improve accuracy and reliability).

Slide 4-59

I. Six Sigma.

1. To improve quality, we must identify our baseline (represented by target line), determine what our benchmark (goal) will be, and then analyze the outlier data to shift our baseline to our benchmark and narrow our curve (improve accuracy and reliability).

SIX SIGMA (cont'd)



Slide 4-60

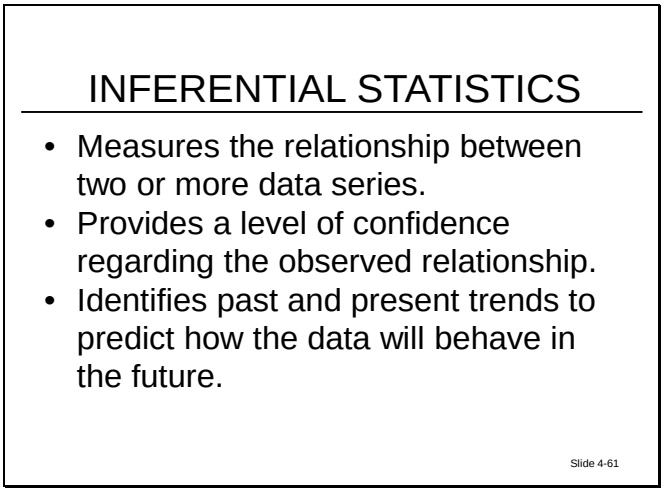
2. Once you have identified your outlier data, Six Sigma offers a range of quantitative analysis tools to help you study your data, but that is beyond the scope of this class.

3. Our important point is to identify the outliers.

4. We will use the power of Excel and our PivotTables to conduct our own analysis and identify those values in the 90th and 95th percentiles.

5. The industry standard is a benchmark of 90 percent per NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*.

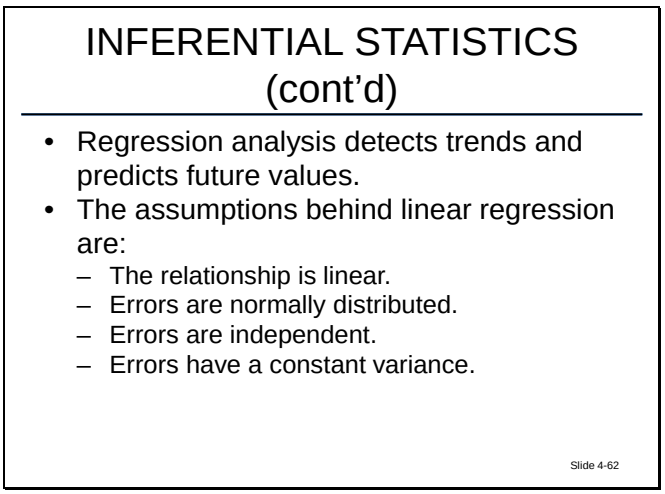
VII. INFERENTIAL STATISTICS



A. Measures the relationship between two or more data series.

B. Provides a level of confidence regarding the observed relationship.

C. A major task in emergency planning is identifying past and present trends to predict how the data will behave in the future.



1. Regression analysis, an inferential statistical procedure, is useful for detecting trends and developing a mathematical equation to predict future values.

    a. For example, the decreasing trend in fires and fire deaths over time or the increasing trend in services provided by EMS professionals over time.

    b. Regression analysis develops a mathematical equation that provides a "best fit" solution that minimizes the difference between the predicted and actual observations.

    c. The strength of the relationship is measured by a correlation coefficient, which varies from (-1), an inverse relationship, to (+1), a perfect relationship.

    d. The resulting mathematical model can be used to predict future values based on the strength of this relationship.

2. The assumptions behind linear regression are:

    a. The relationship is linear.

    b. Errors are normally distributed.

    c. Errors are independent.

    d. Errors have a constant variance.

ACTIVITY 4.2

The PivotTable Analysis Process

Purpose

Construct a PivotTable view to analyze complex multidimensional fire service problems.

Directions

1. Open the lab manual so it will display on your second monitor.

2. Use your own NFIRS data.

3. Insert a new PivotTable, and connect to your Access database.

4. Construct the PivotTable view, and make the following:

    a. Values.

        - Sum — compute sum of "loss total" for each "incident type category."

        - Average — compute average of "response time" for each "incident type category."

        - Count — use "incidentID" to determine the number of incidents for each "incident type category."

        - Percent of column.

    b. Grouping.

    c. Filtering, including top 10.

5. Identify patterns and trends in your data.

    a. Keep the columns for count, sum and average. Now add additional filters to your row labels to include month, weekday, shift and station. You may want to look at more than one "incident type category" or a specific category (such as fires) when using additional row labels.

    b. Display a table containing month and incident type category — fire in the rows and an incident count, sum of total loss and average response time in the columns. Be sure your values are displayed properly (currency, time, etc.).

6. Print a summary table and turn in.

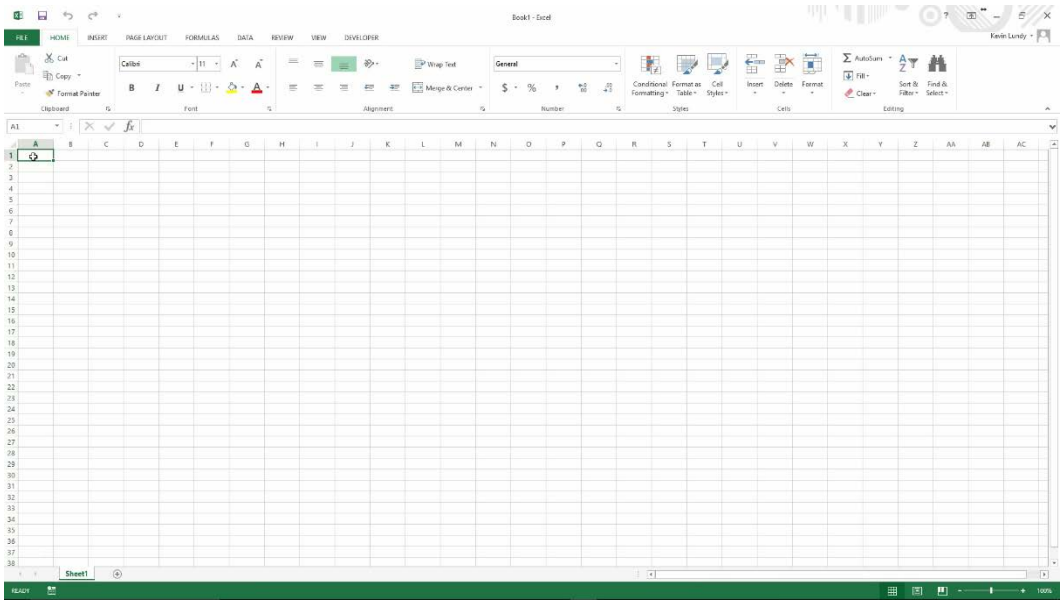
Row Labels	Values Count of IncidentID	Sum of Loss Total	Average of Response Time
Fire	**2,379.00**	**$16,028,334**	**04:47.1**
Jan	221.00	$1,285,296	04:25.1
Feb	197.00	$1,283,552	04:27.1
Mar	235.00	$1,329,594	04:30.4
Apr	178.00	$760,690	05:13.3
May	164.00	$1,114,339	04:27.9
Jun	191.00	$1,731,670	04:48.7
Jul	360.00	$3,704,242	05:13.3
Aug	280.00	$1,057,380	04:58.5
Sep	226.00	$1,206,715	04:58.8
Oct	146.00	$1,689,651	04:42.8
Nov	181.00	$865,205	04:26.3
Grand Total	**2,379.00**	**$16,028,334**	**04:47.1**

7. Be prepared to show and discus your PivotTable findings with the class. What trends did you find in your data?

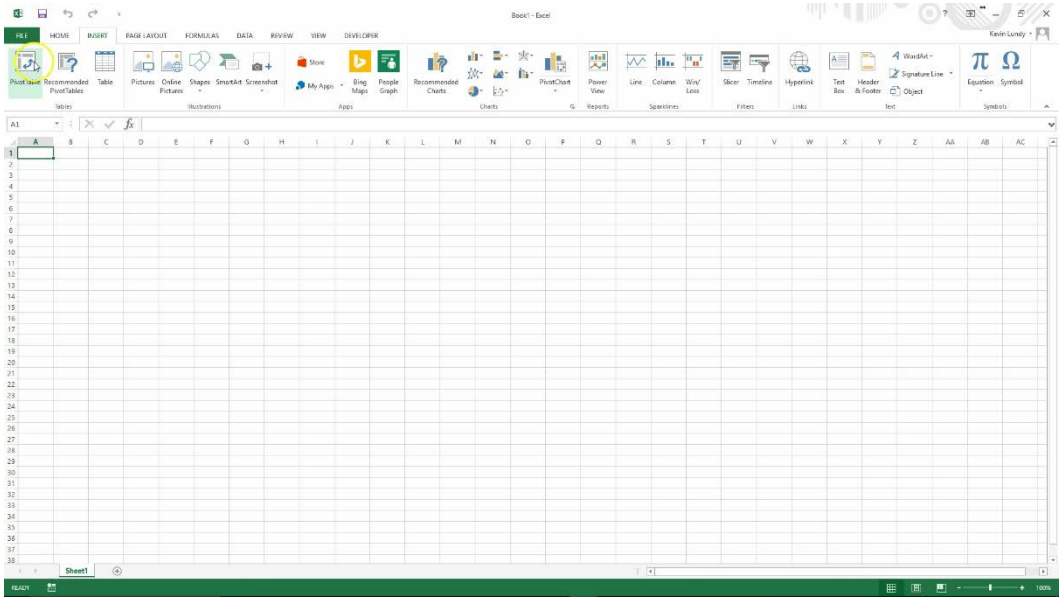
ACTIVITY 4.2 (cont'd)

The PivotTable Analysis Process

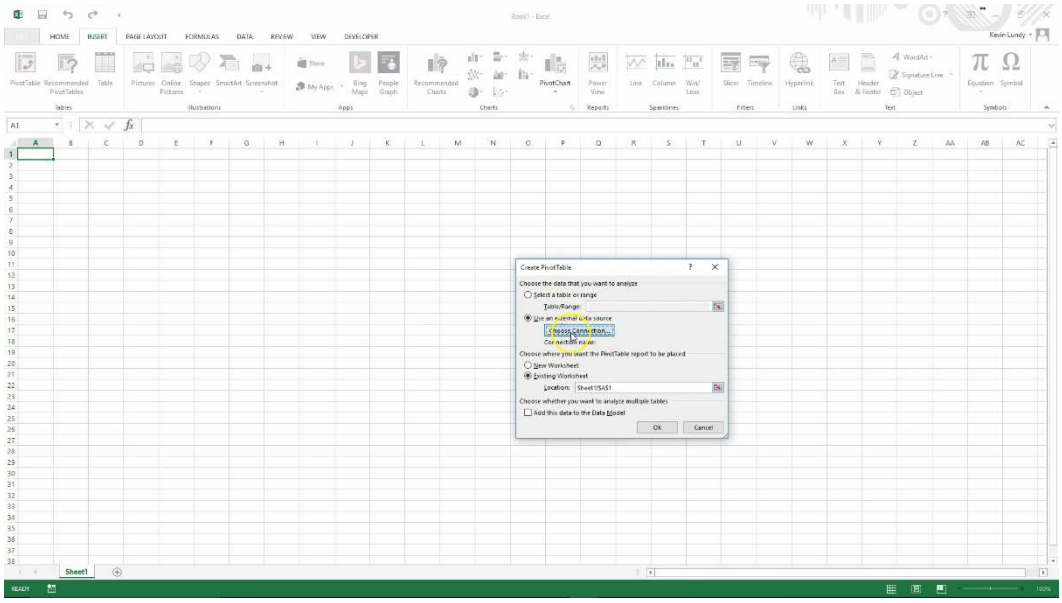
1. Open a new Excel spreadsheet.



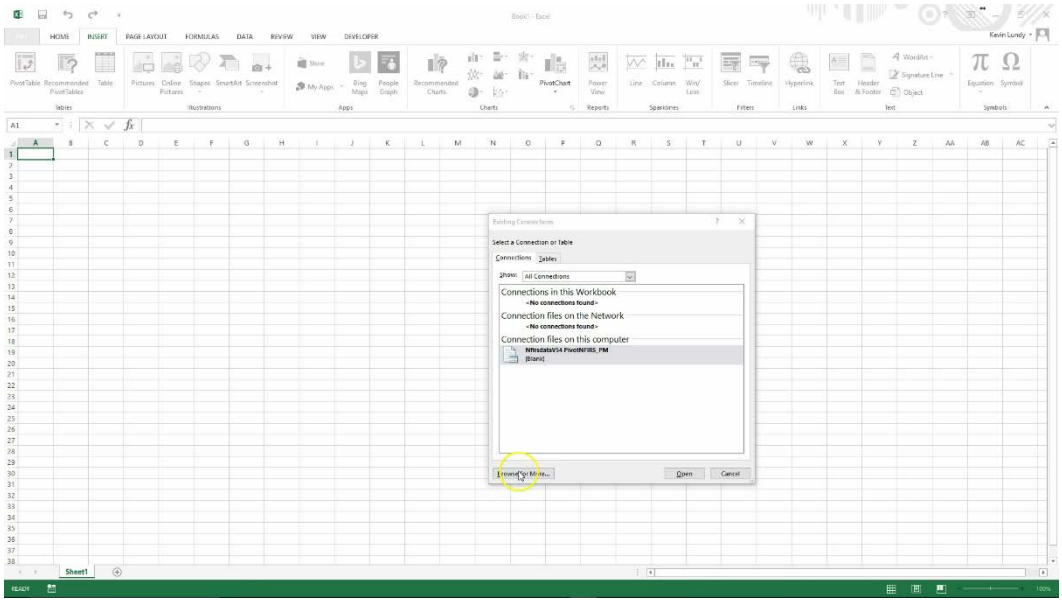
2. Click in the A1 cell, then click on the PivotTable icon under the Insert tab.



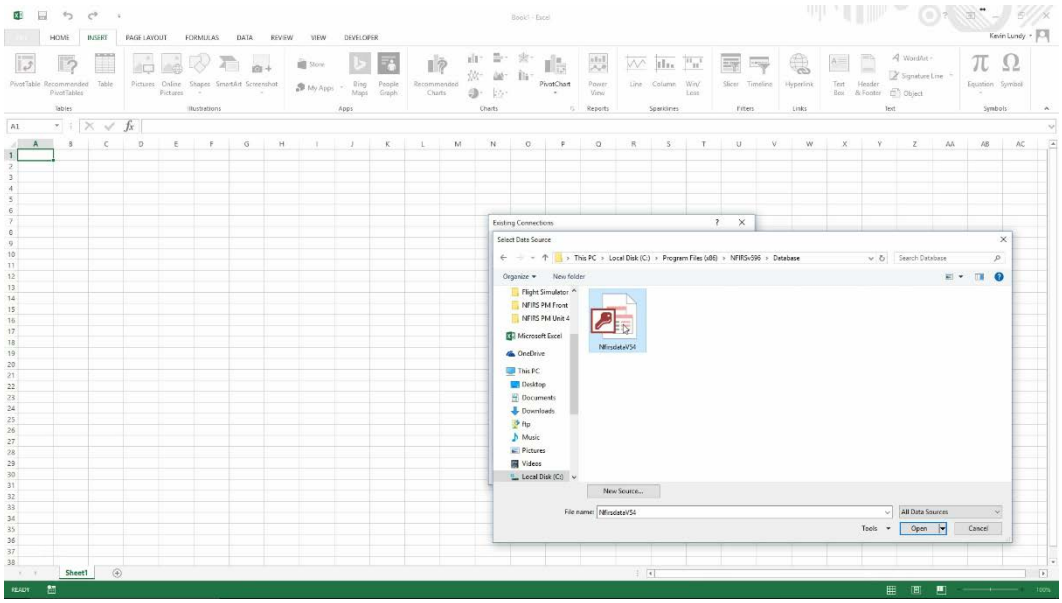
3. Click on the Choose Connection button.



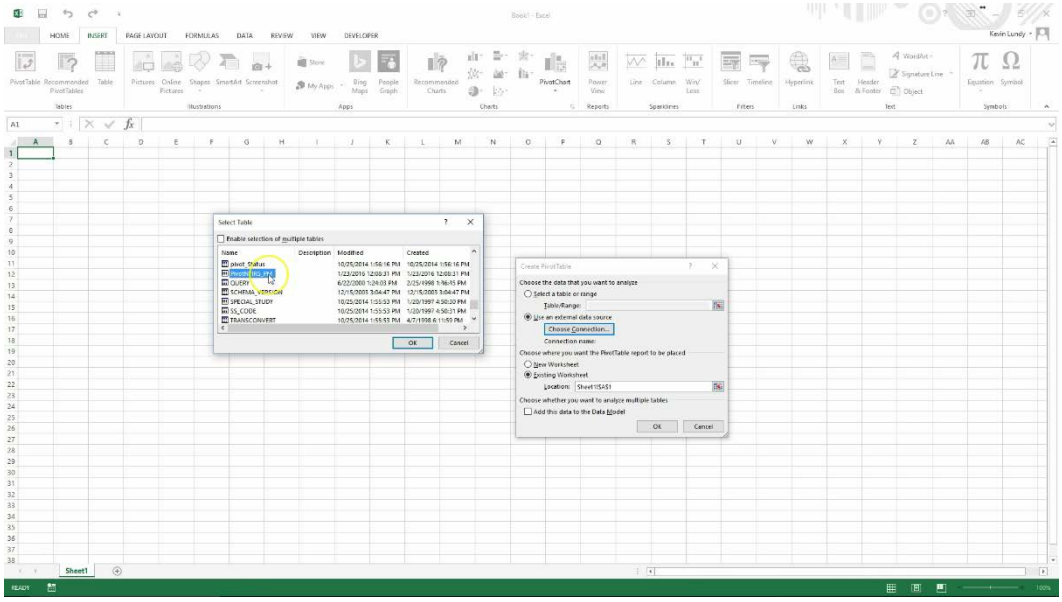
4. Click on the Browse For More button.



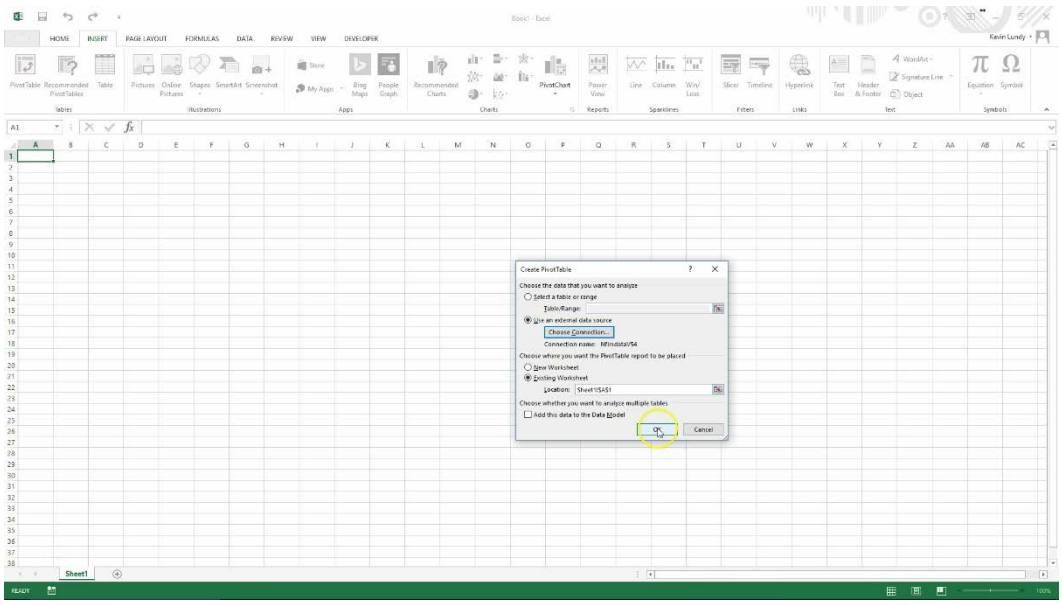
5. Browse to your database at c:\programfiles(x86)\NFIRSv594\database, and double click on the database.



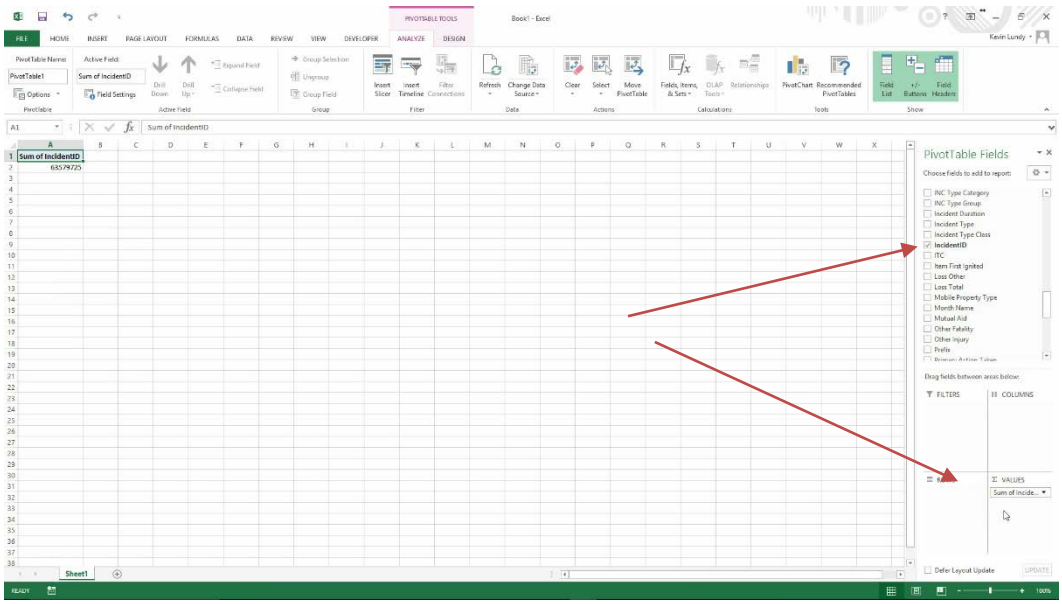
6. Scroll down, and double click on the PivotNFIRS_PM table (near the bottom of the list).



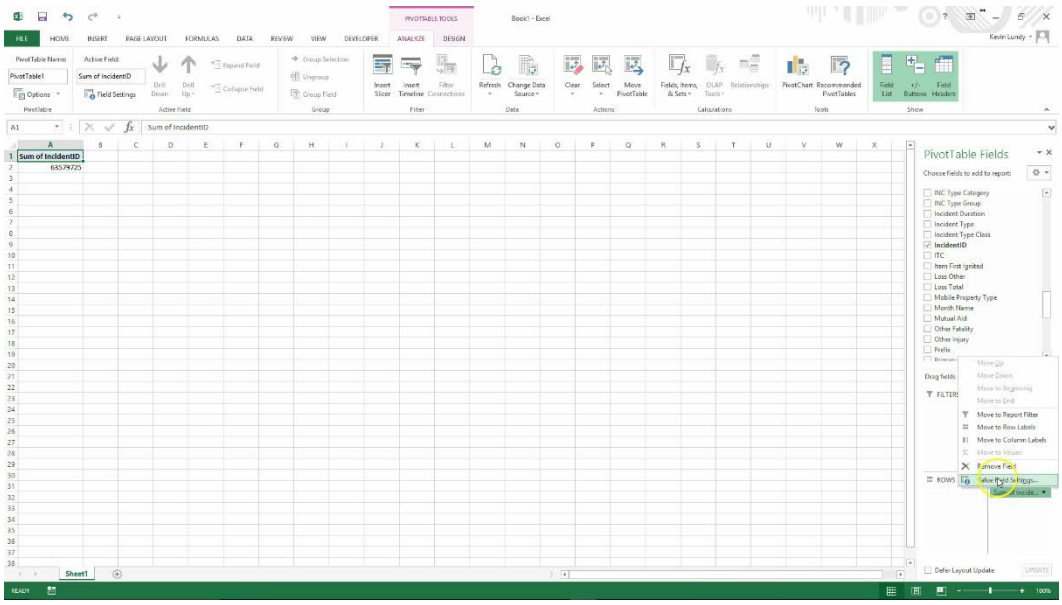
7. Click OK.



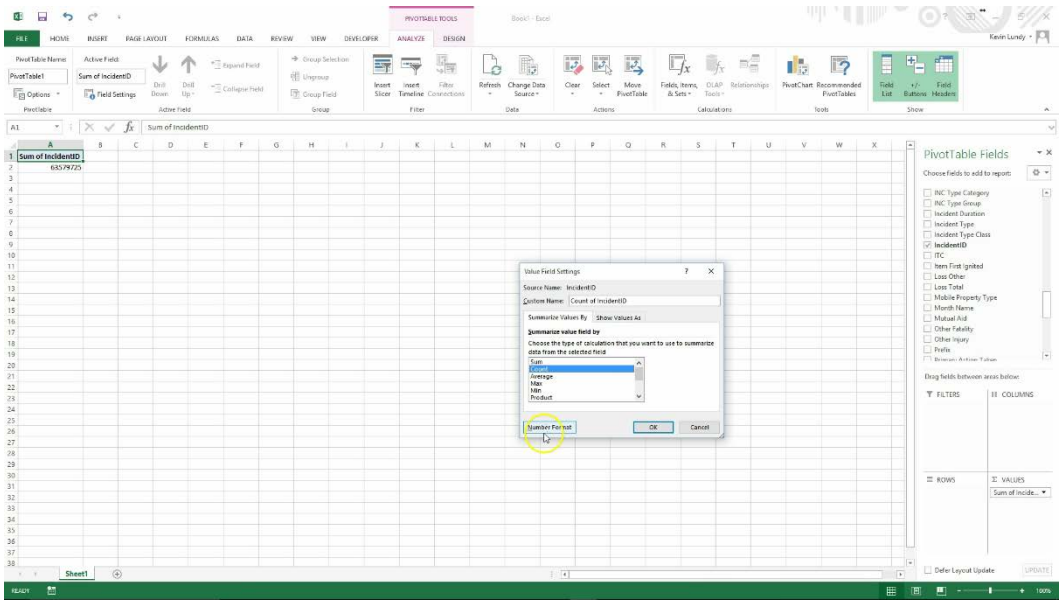
8. Pull the IncidentID field down to the VALUES box.



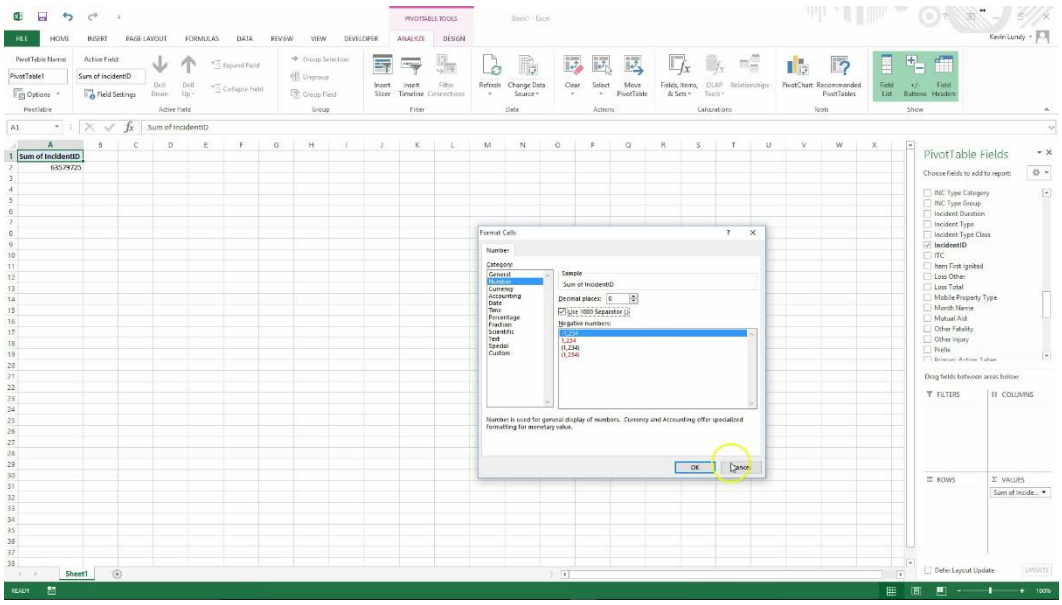
9. Click on the Sum of IncidentID box, then click on the Value Field Settings box.



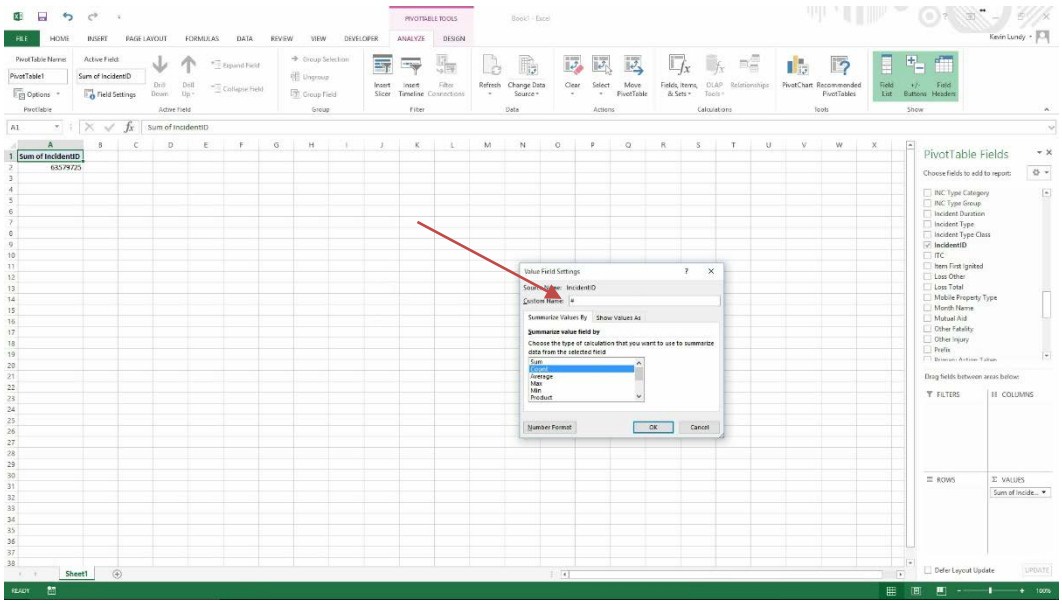
10. Click on the Count field, then click on the Number Format button.



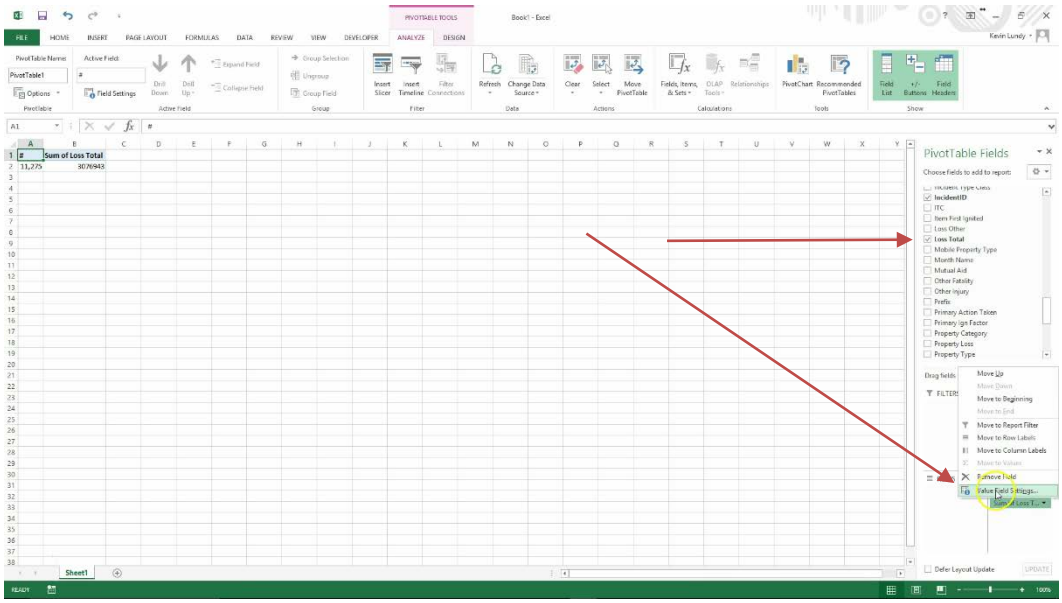
11. Choose Number, and set the decimal places to 0, then check the 1,000 separator box.



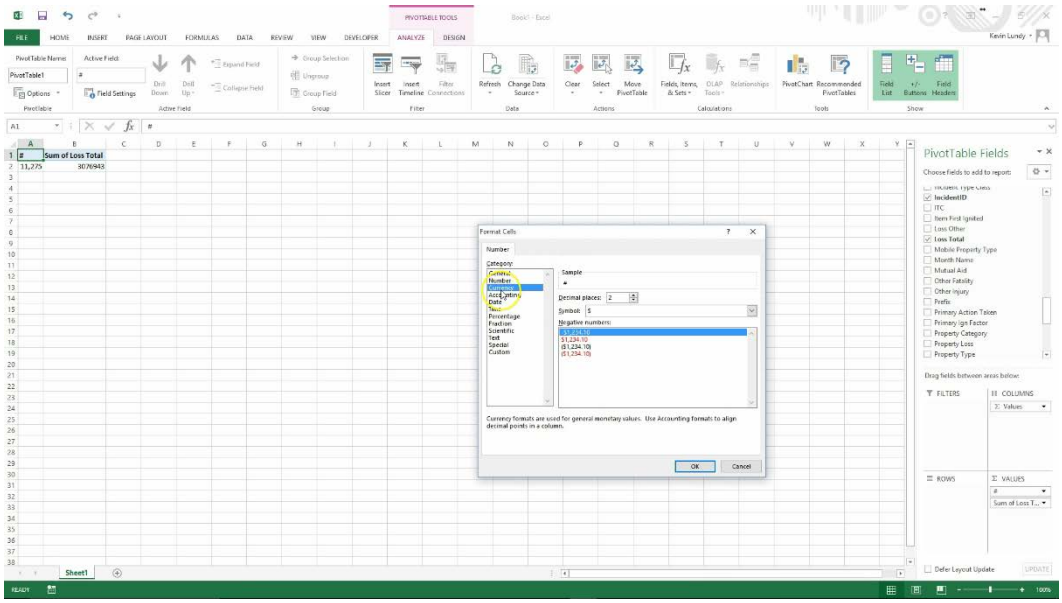
12. Change the name to # then click the OK button.



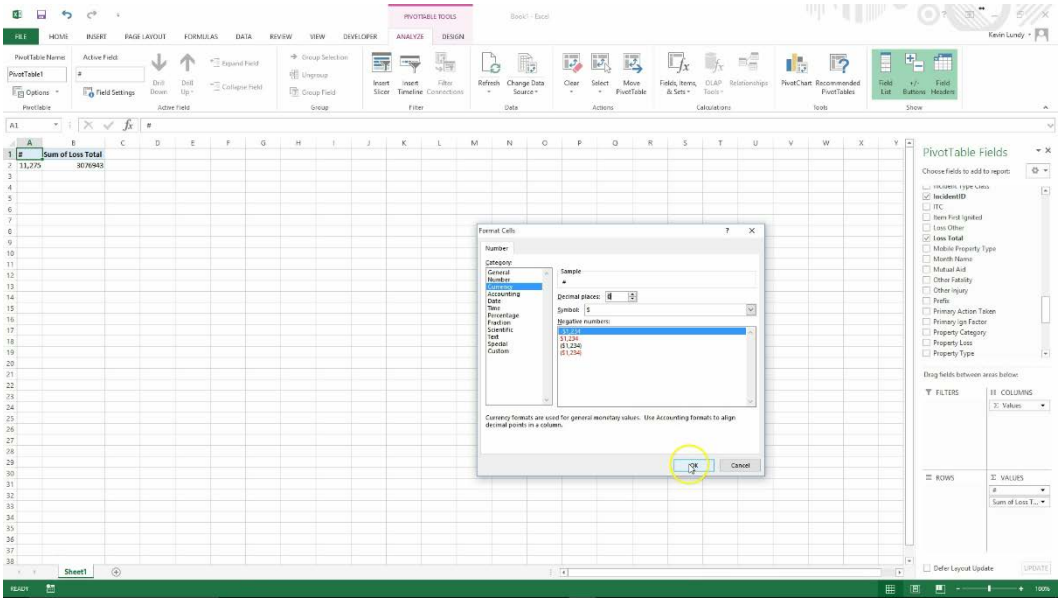
13. To make a sum, pull the Loss Total field down into the VALUES box. Click on the Value Field Settings box.



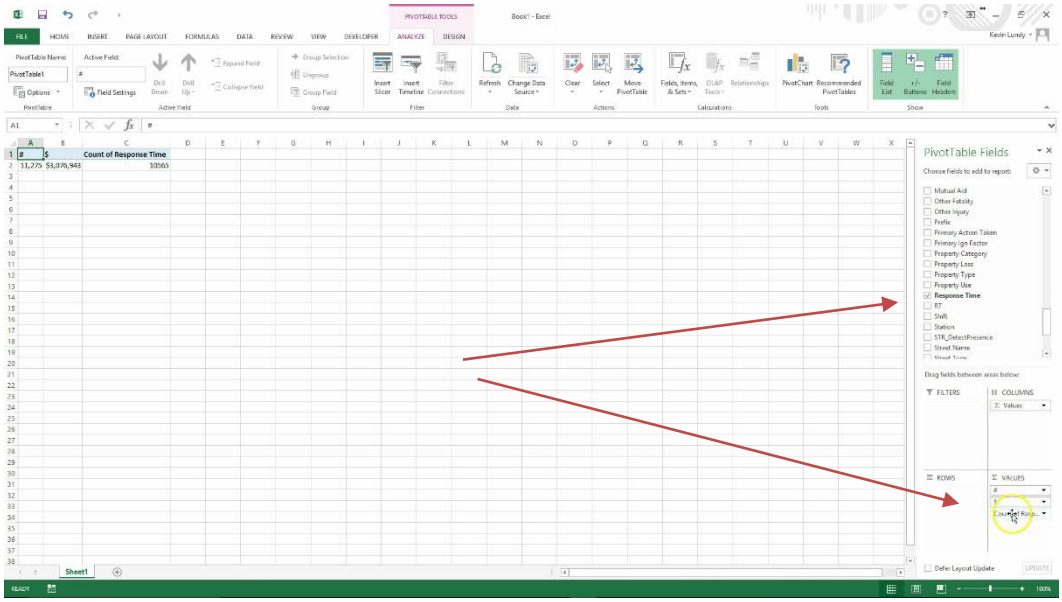
14. Click on the Number Format button, and then choose Currency.



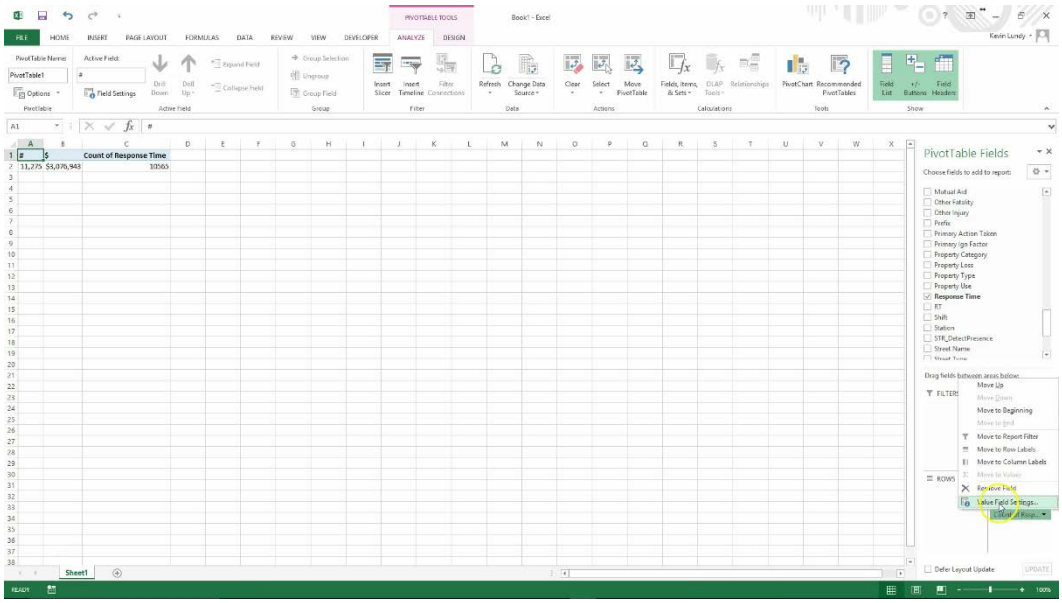
15. Set decimal places to 0, and click the OK button.



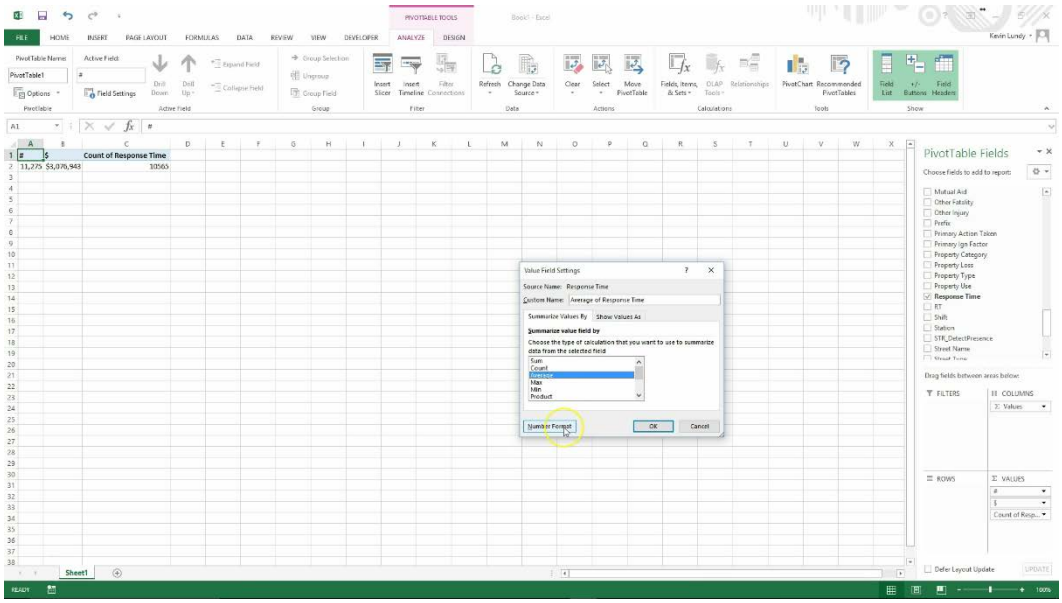
16. To make an average, pull the “Response Time” field down to the VALUES field box.



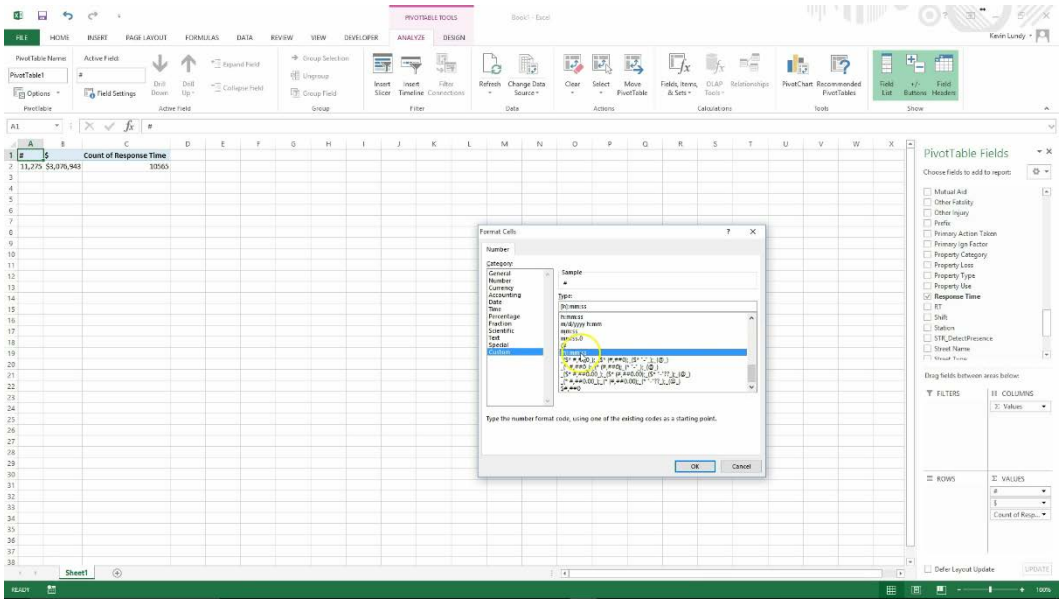
17. Click on the Count of Value Field Setting Response Time field in the VALUES field box, and choose settings.



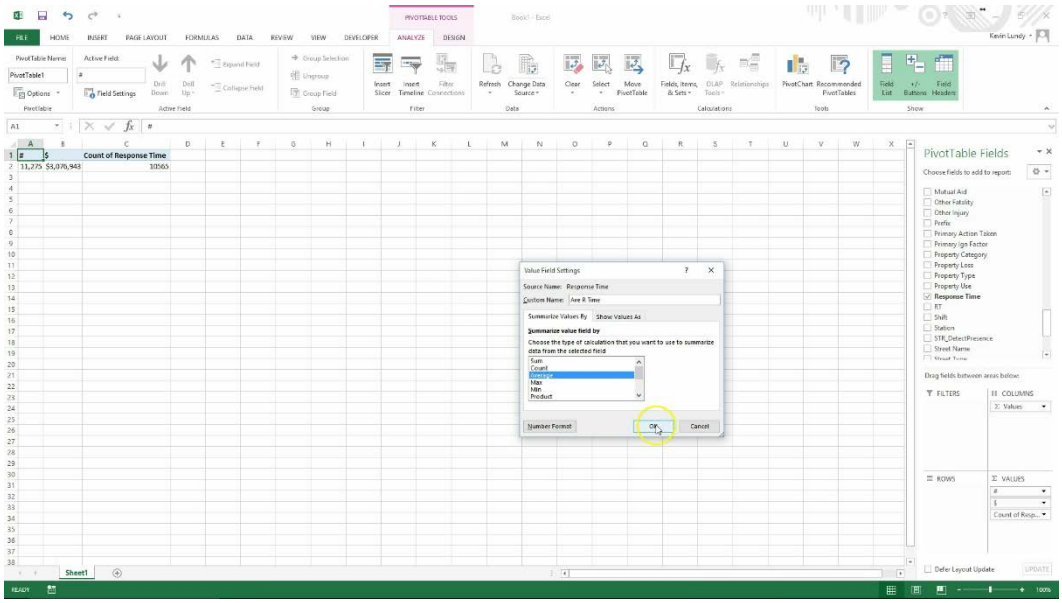
18. Click on Average, and then click on the Number Format button.



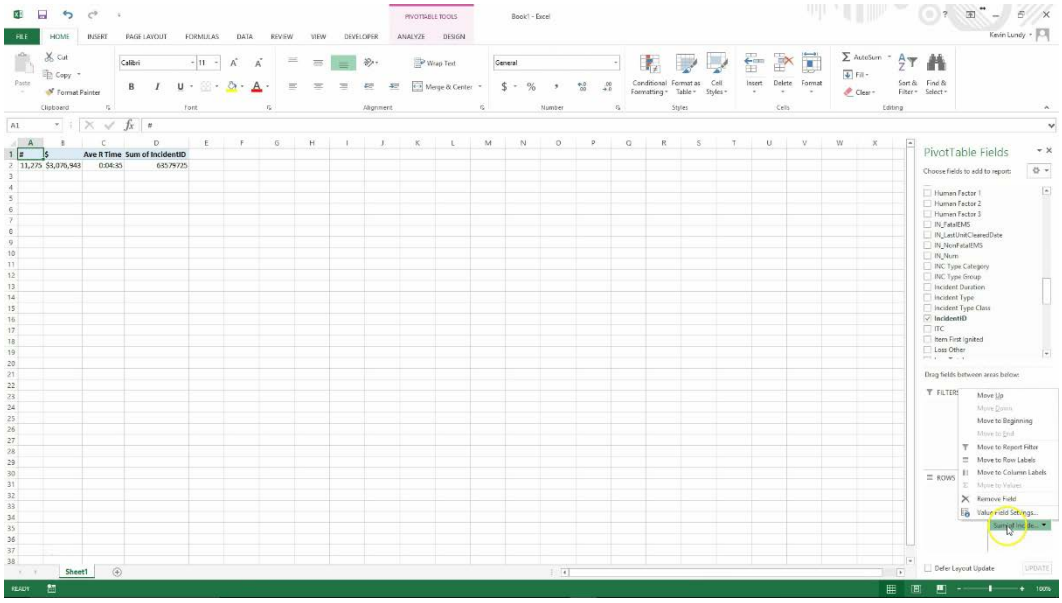
19. Click on Custom, and choose [h]:mm:ss. You need to choose this because NFIRS uses Julian time, and you need Excel to keep counting after midnight.



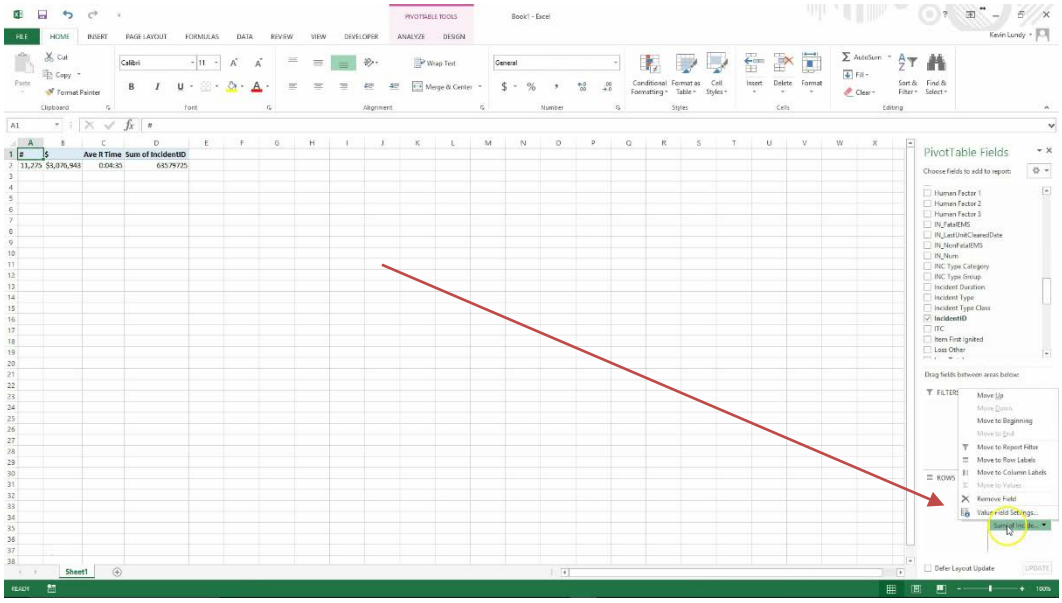
20. Click on OK.



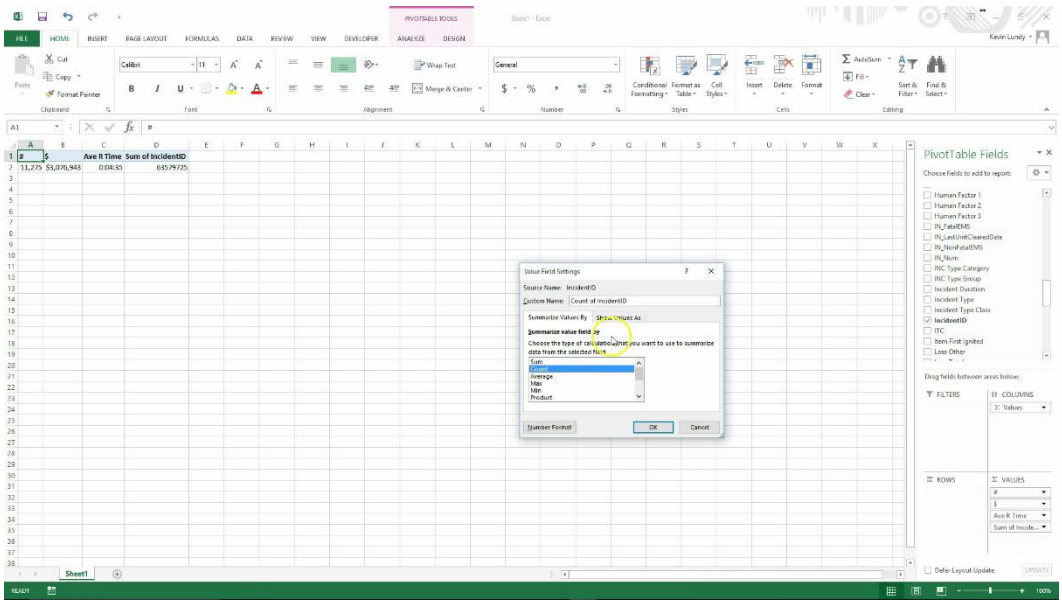
21. To make a percent of column value, move your IncicentID into the Values box. You can use the same field multiple times in the Values Box. We are using IncidentID twice for this example.



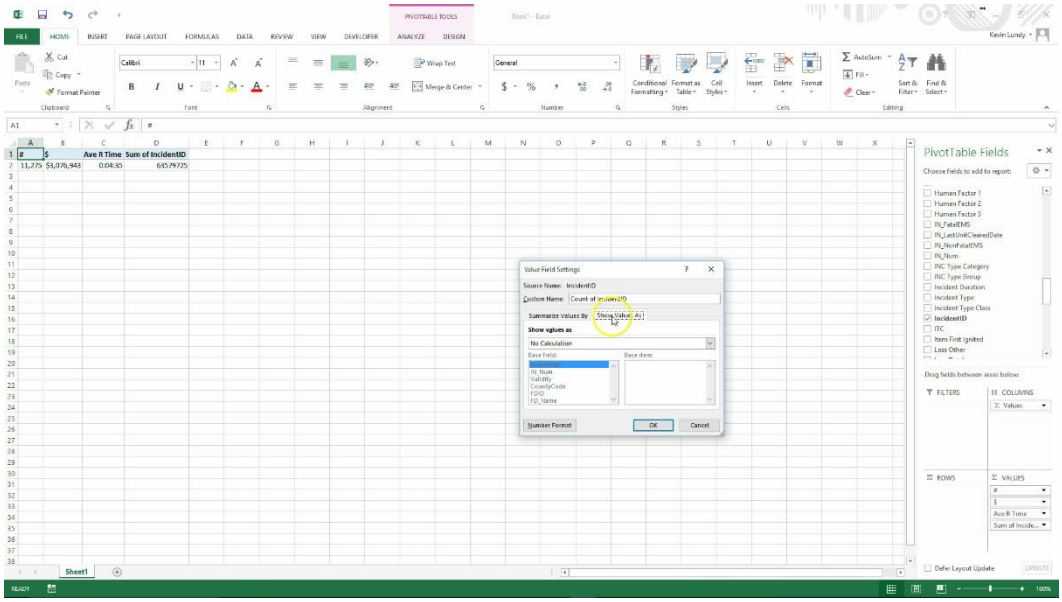
22. Go to your Value Field Settings.



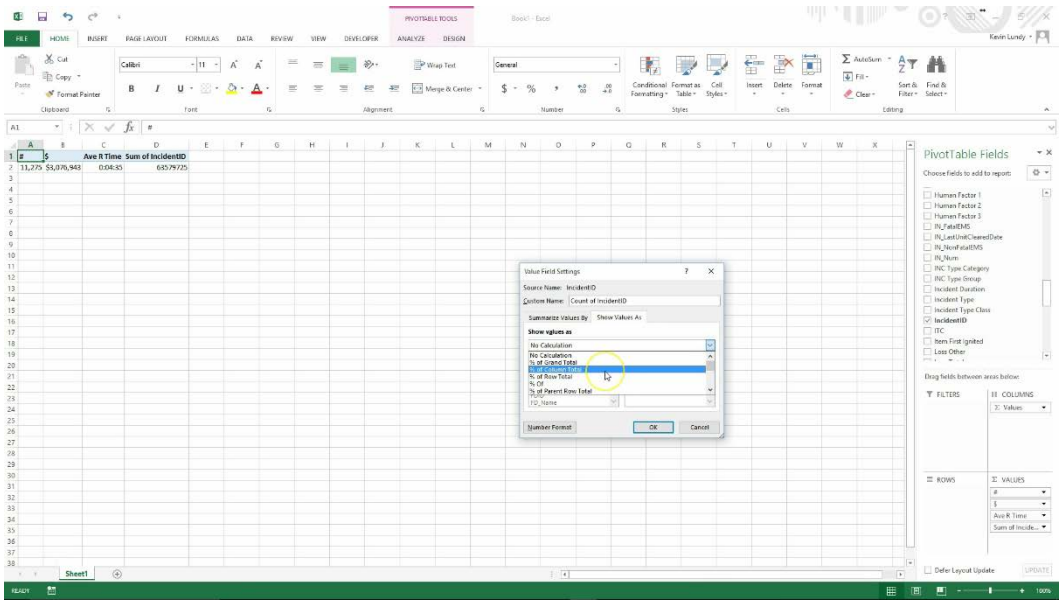
23. Choose Count.



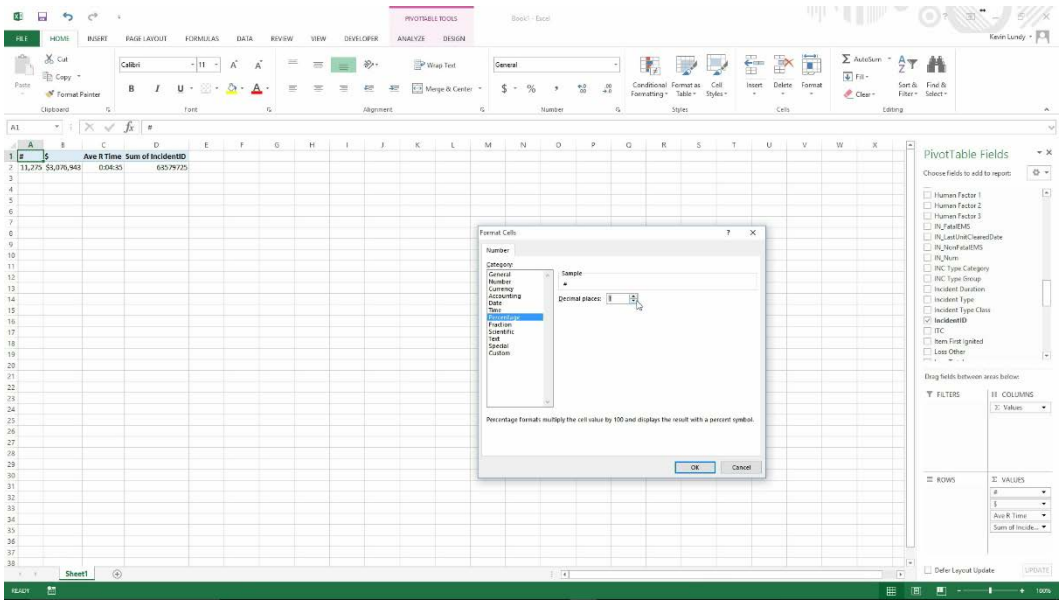
24. Click on the Show Value As tab.



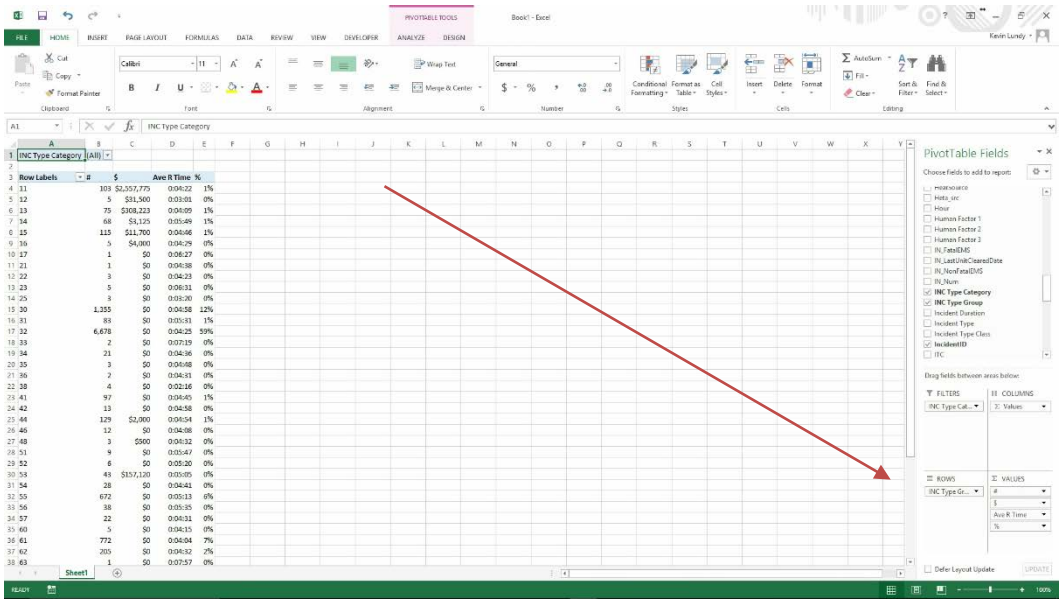
25. Choose % of Column Total.



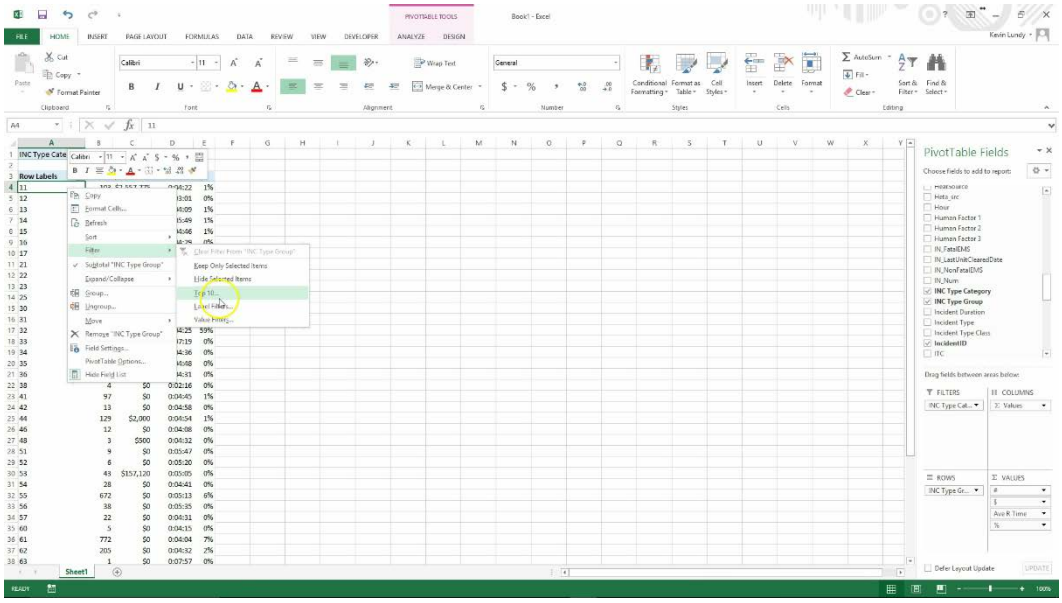
26. Set decimal places to 0 then click the OK button.



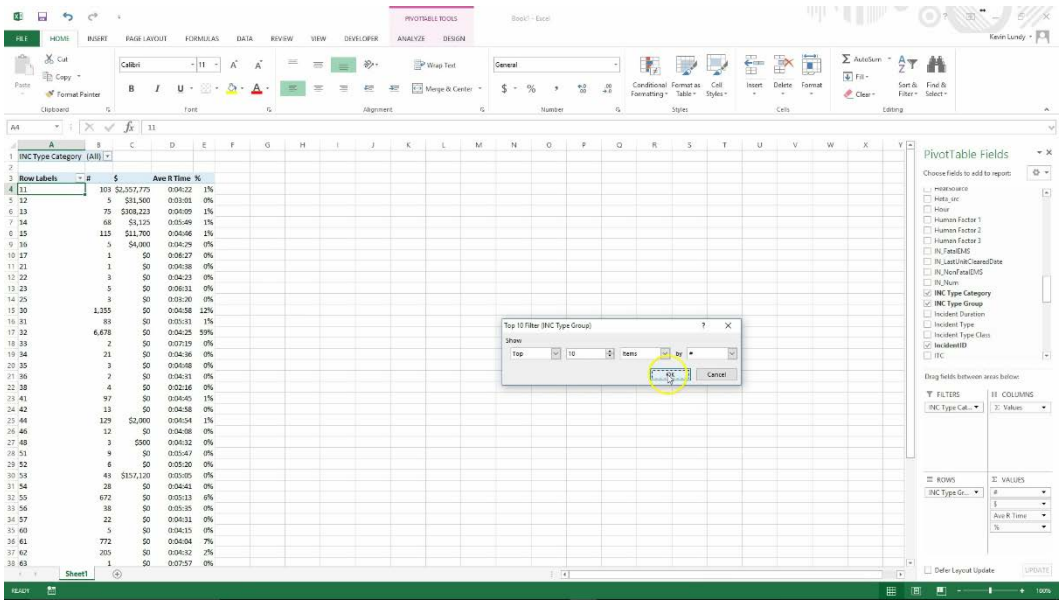
27. To show the top 10, you will use the Top 10 filter. Pull the INC Type Category into the ROWS box.



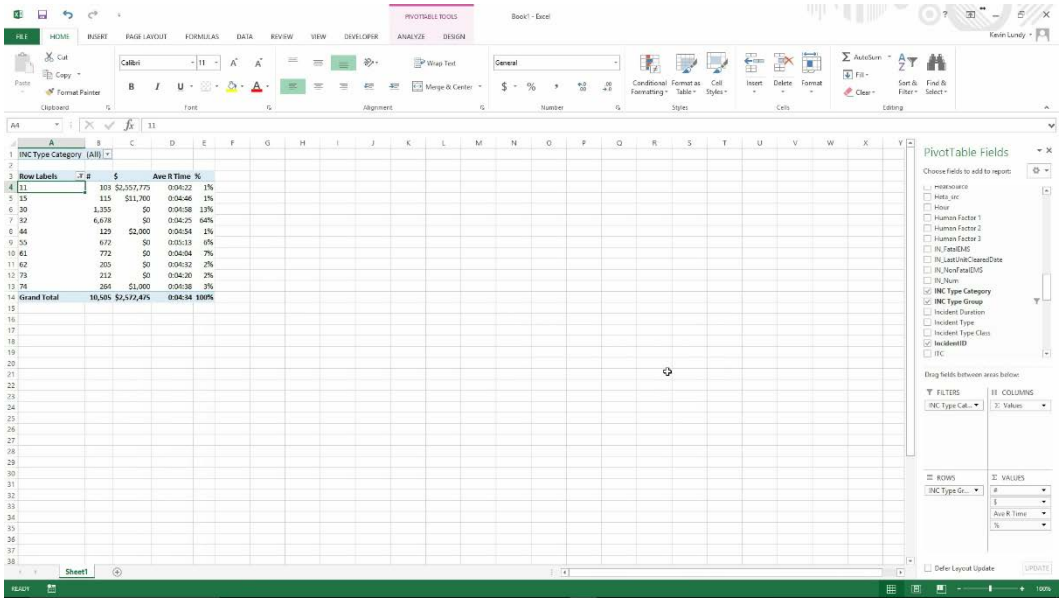
28. Right click in the PivotTable calculation area, and choose Filter and then Top 10.



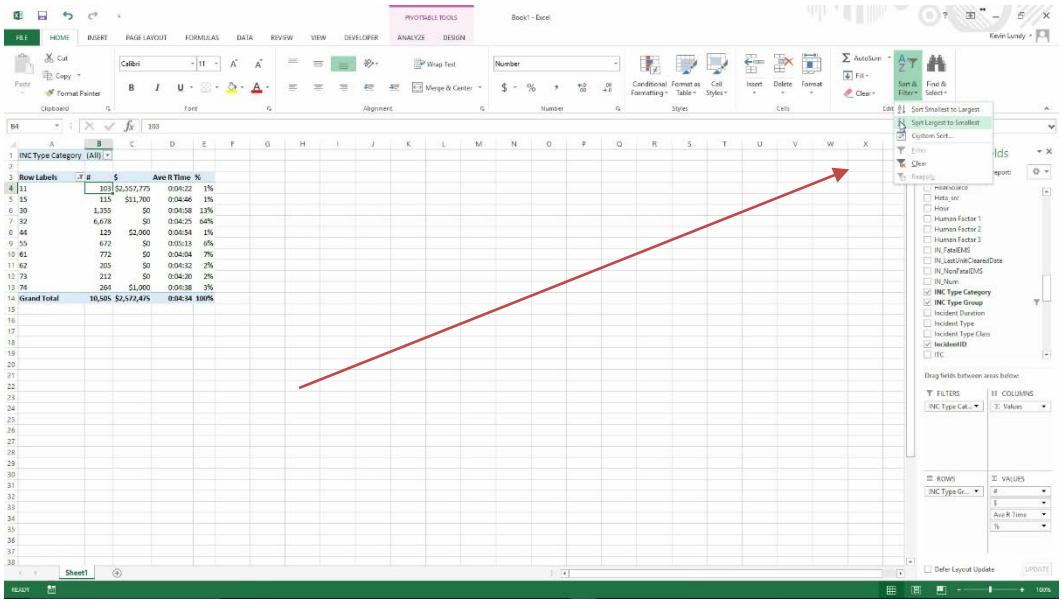
29. Click on the OK button.



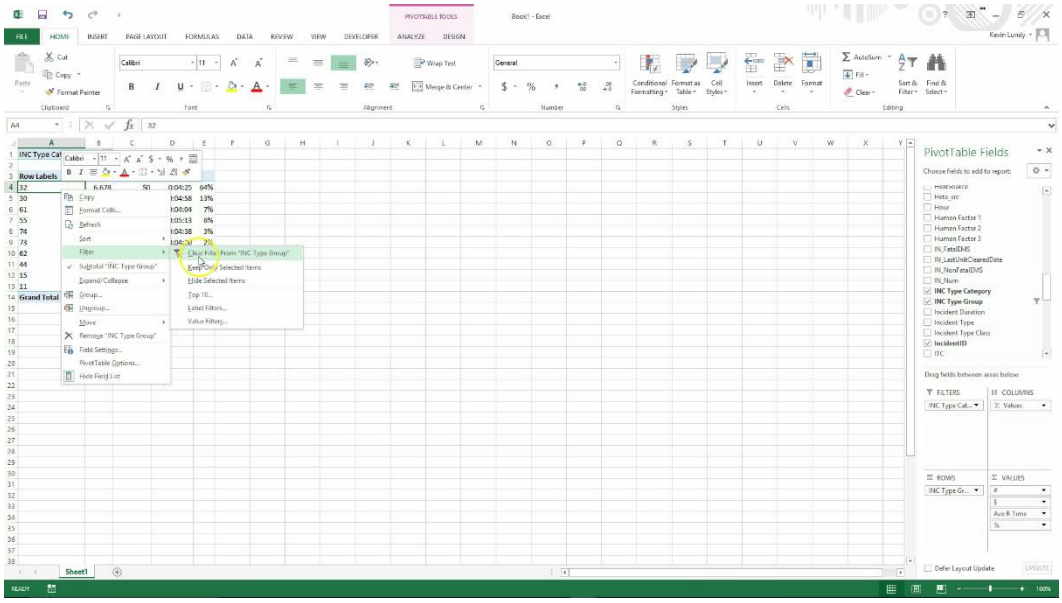
30. You now see the Top 10 values in your Row categories.



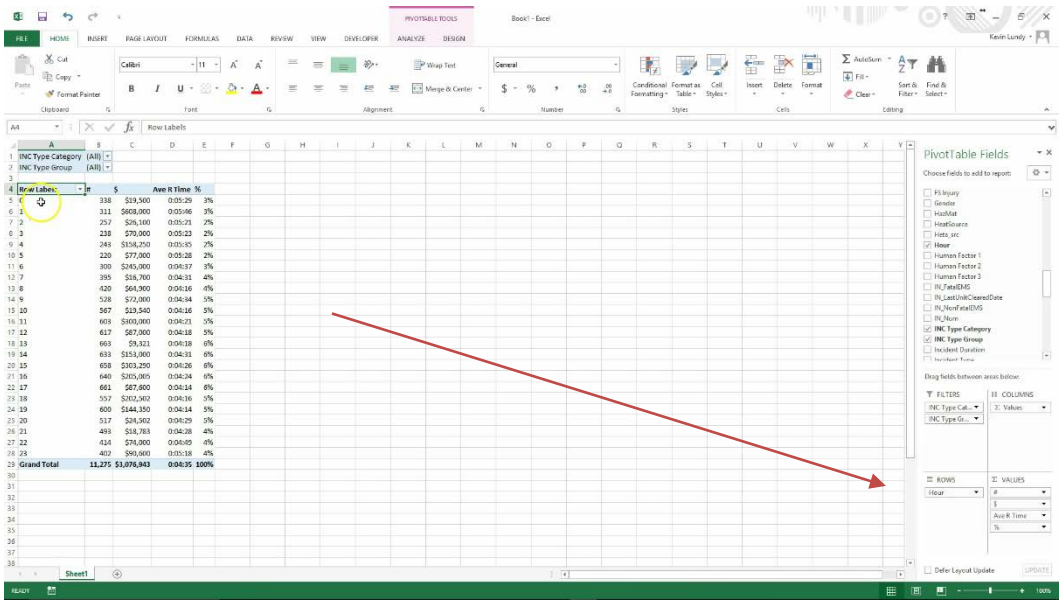
31. To sort them from highest to lowest, click on the A-Z Sort & Filter icon on the ribbon bar. Choose Z to A.



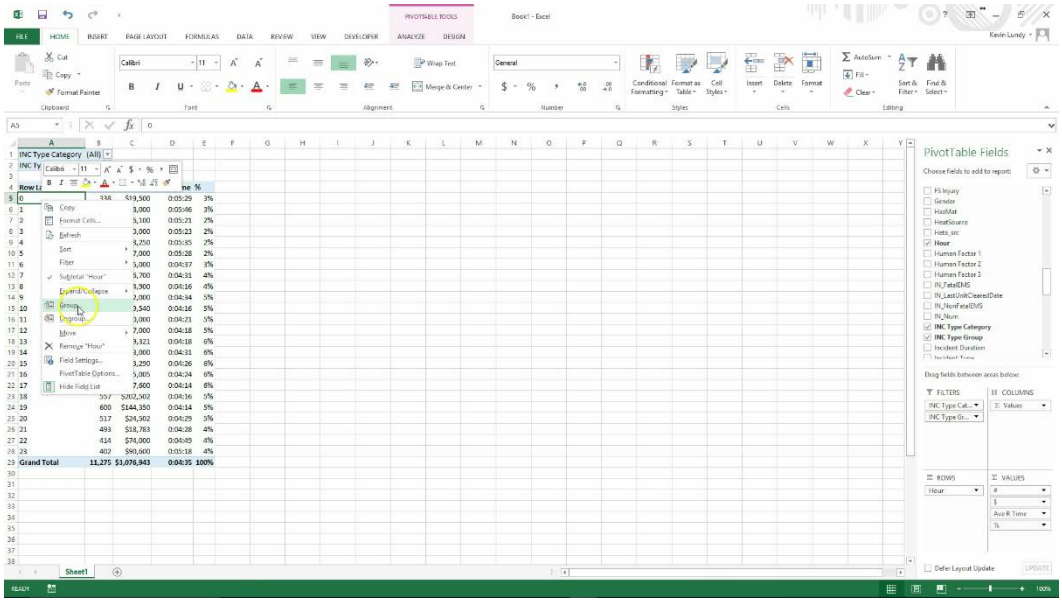
32. To clear the Top 10 filter, right click in the calculations area, and choose Clear Filter.



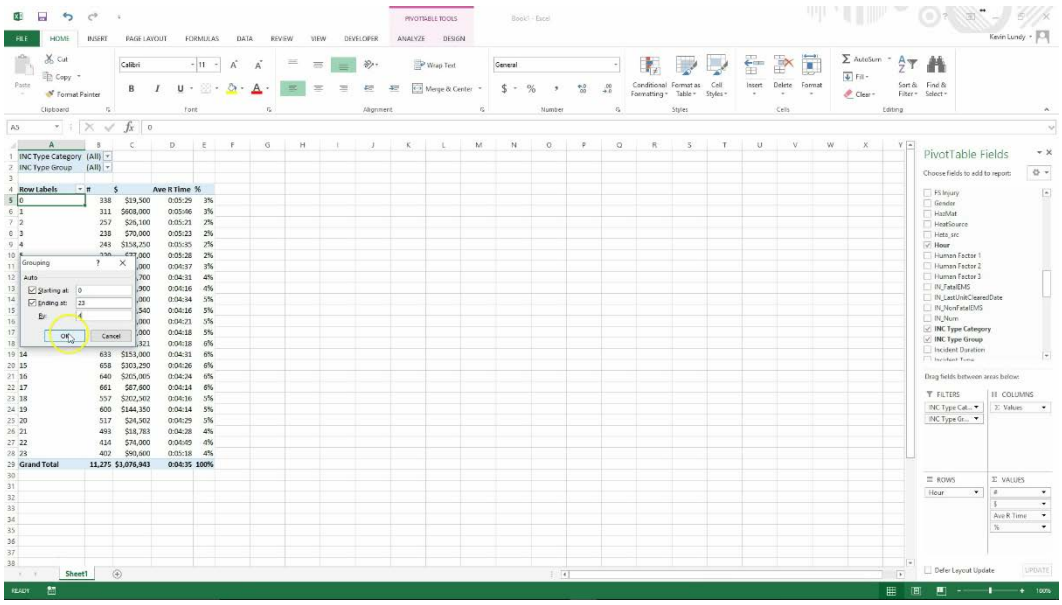
33. To group the data, pull the Hour of Day field into the ROWS box.



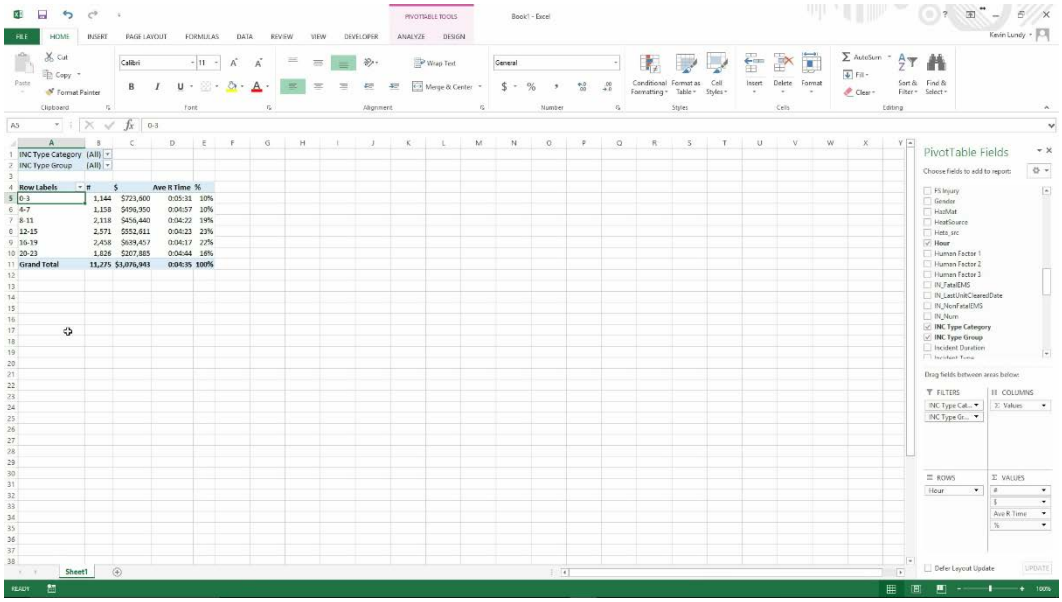
34. Right click in the calculations area, and choose Group.



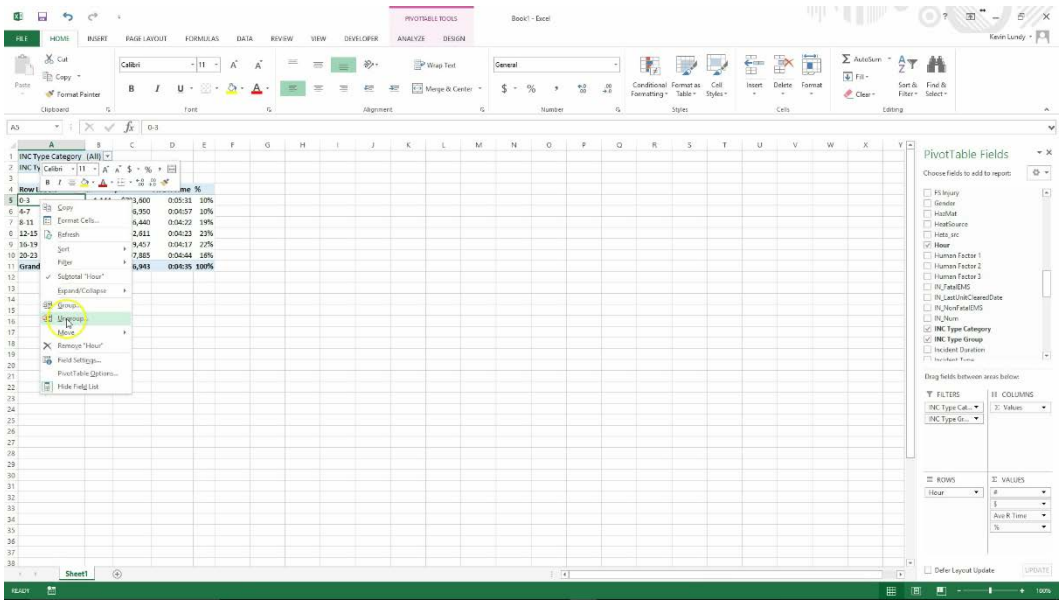
35. Select start at 0, end at 23, and group by 4 hours. Click on OK.



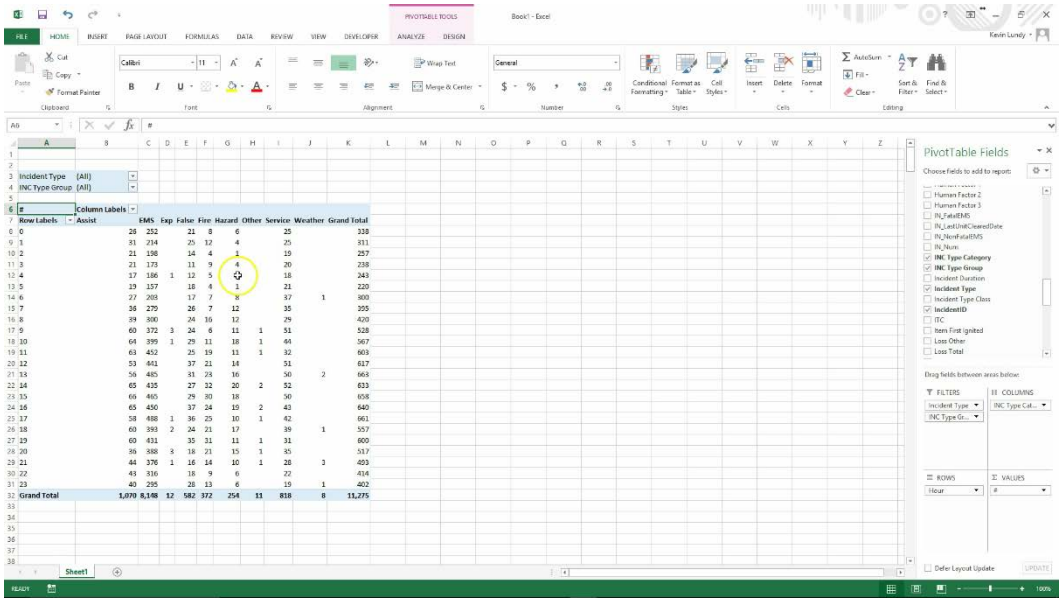
36. Now you are seeing hour of day grouped by four-hour increments.



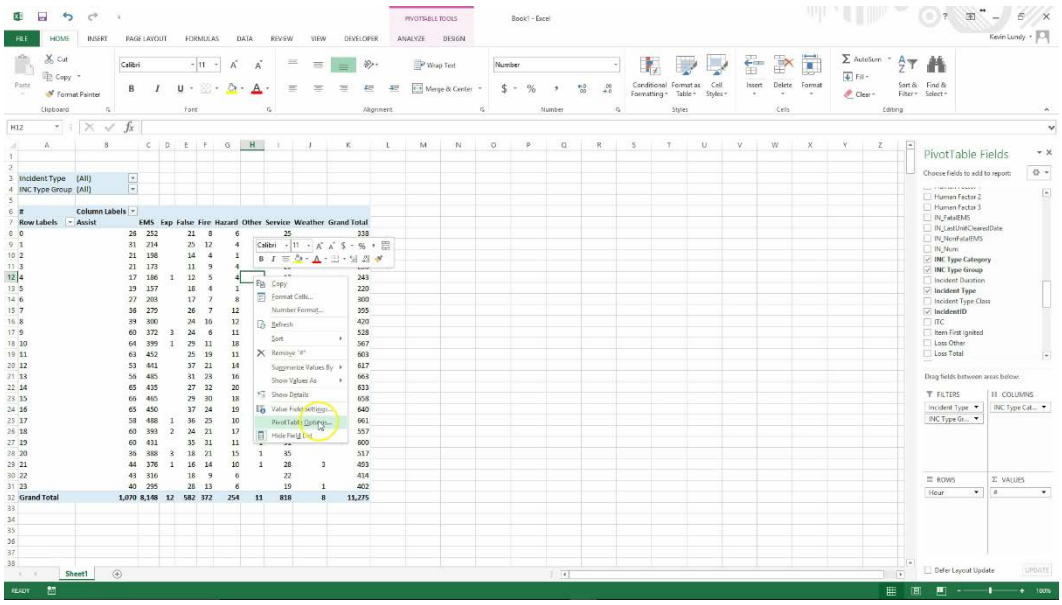
37. To ungroup the data, right click in the calculations area, and choose Ungroup.



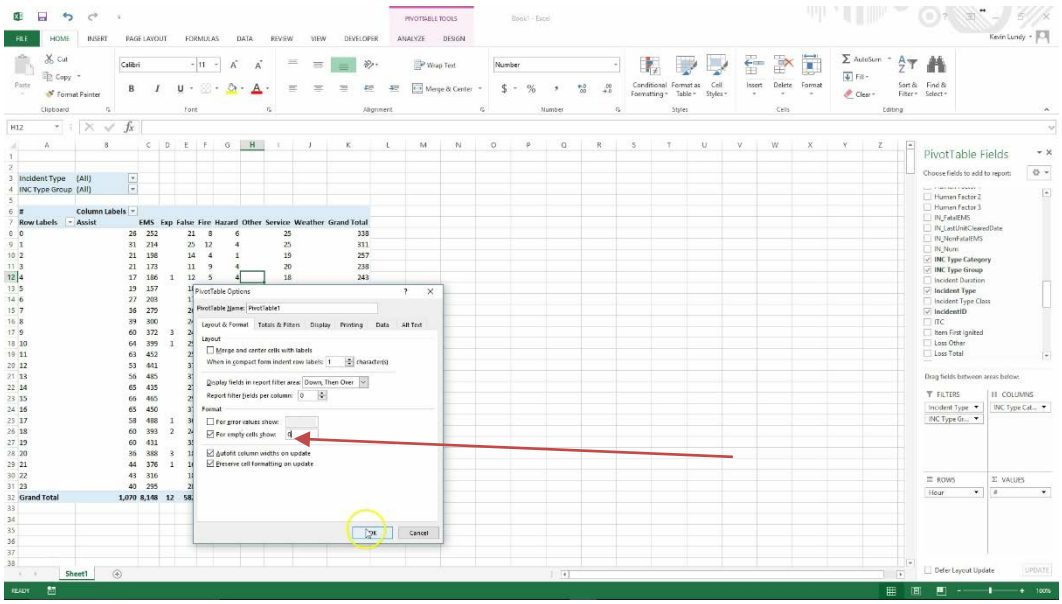
38. To insert “0” in blank fields in the calculations area, right click in the area.



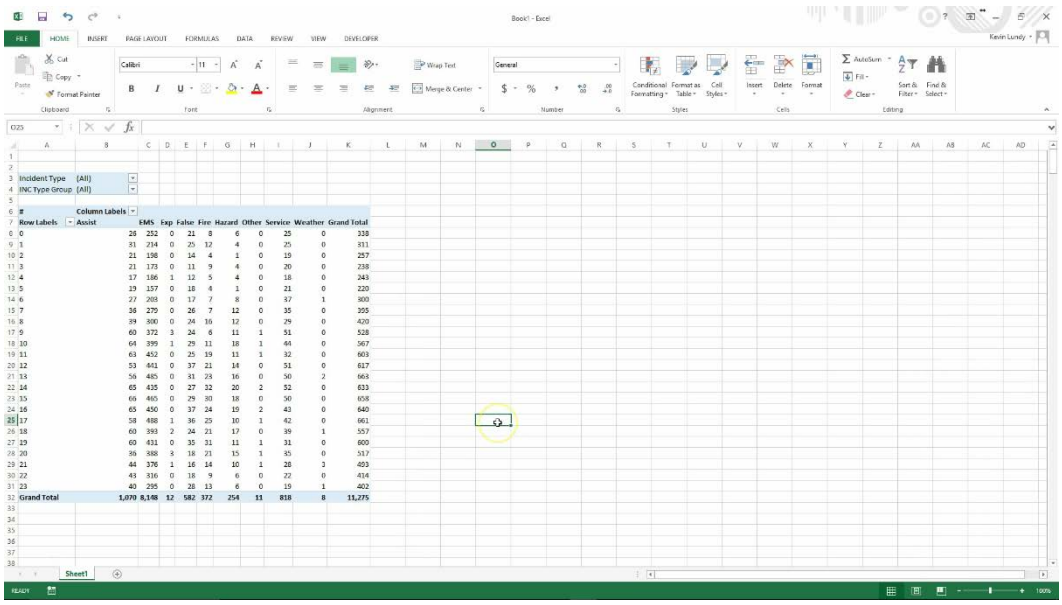
39. Click on the PivotTable Options tab.



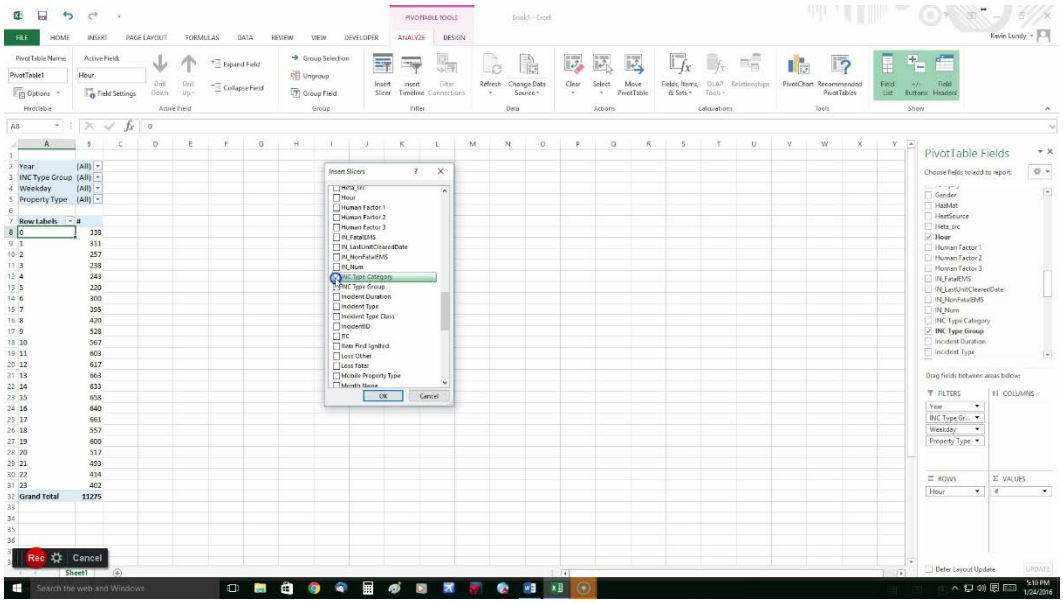
40. Enter a “0” in the box next to the “For empty cells show:” option. Then click on OK.



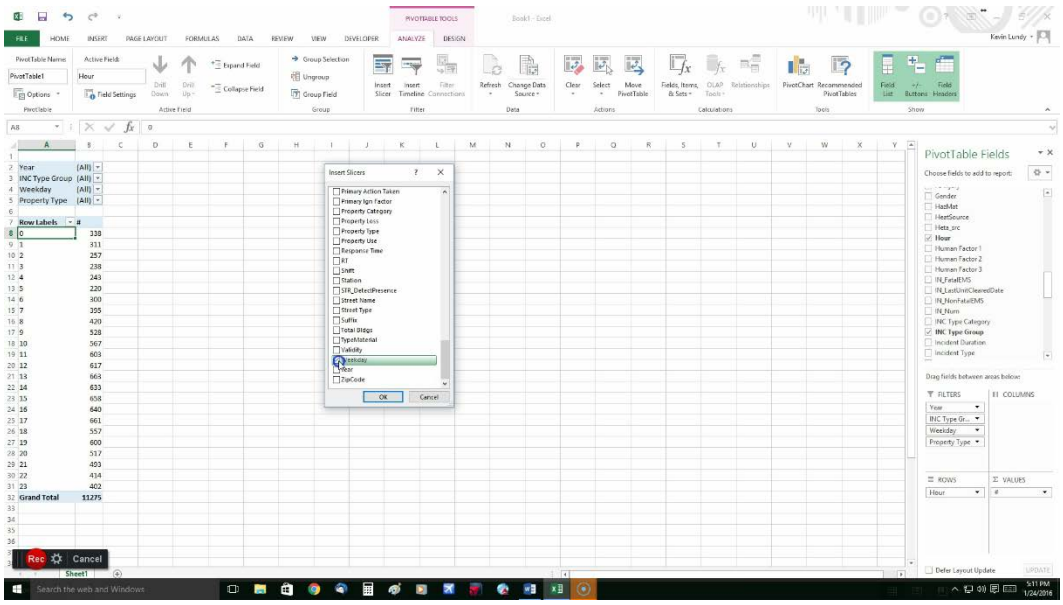
41. You now have the "0" in all the blank cells.



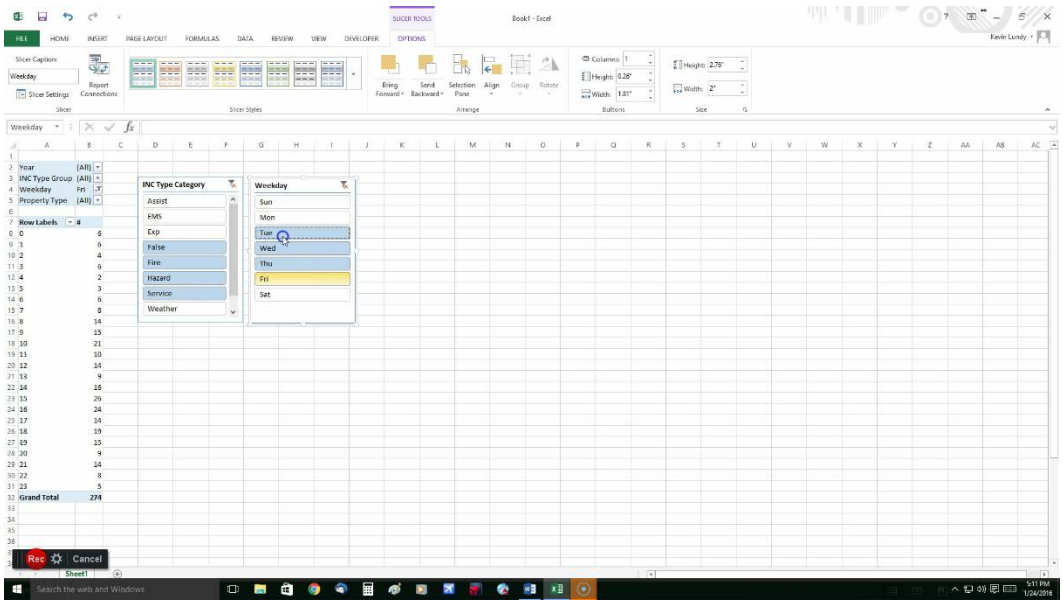
42. Another powerful tool in Excel is the slicer. Click on the Analyze tab at the top of the page then click on the Insert Slicer icon.



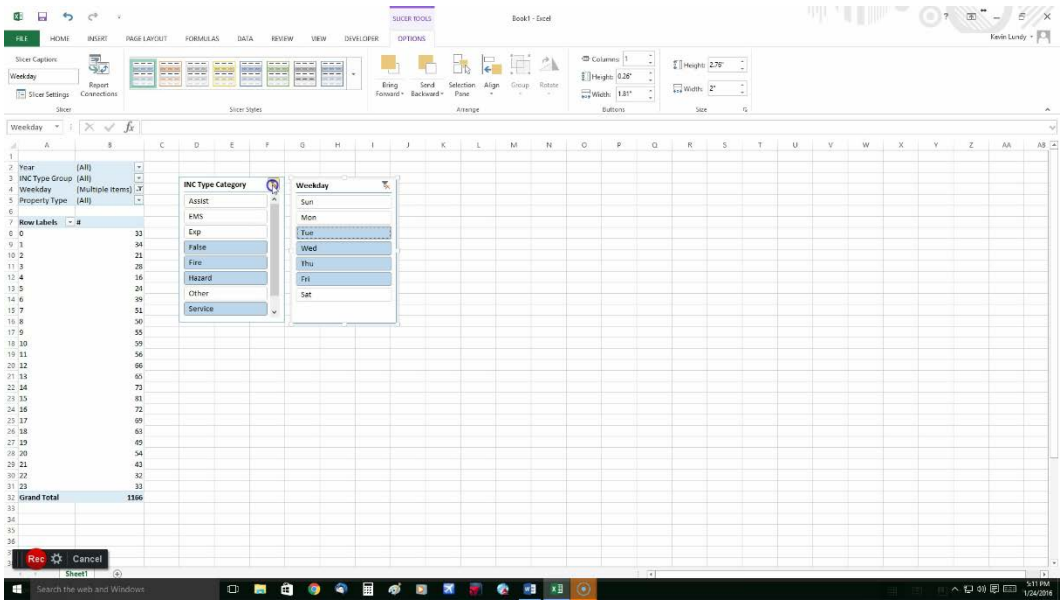
43. Then select Hour and Weekday in the check box. Click OK.



44. You can quickly pick what you want to filter by clicking on the tabs in the slicers.



45. You can clear the filters by clicking on the top right icon in the slicer boxes.



46. Now all empty fields will show 0.

6	Incident Type	(All)			
7	Incident Type Class	(All)			
8					
9	**Count of IncidentID**	**Column Labels**			
10	**Row Labels**	**Mutual aid given**	**None**	**Other aid given**	**Grand Total**
11	Sun	0	2165	0	2165
12	Mon	2	2427	0	2429
13	Tue	0	2377	1	2378
14	Wed	1	2245	0	2246
15	Thu	0	2344	0	2344
16	Fri	3	2517	0	2520
17	Sat	0	2479	1	2480
18	**Grand Total**	**6**	**16554**	**2**	**16562**
19					
20					
21					
22					

This page intentionally left blank.

ACTIVITY 4.3

Presenting Your Findings — Charting and Graphing Techniques

Purpose

Construct a graph using proper guidelines to support the analysis of a problem or question.

Directions

1. The instructor will demonstrate the use of Excel to create interactive and static charts as well as demonstrate the use of the most effective chart types previously covered in this unit.

2. Using your PivotTables, you will choose a chart or graphic to communicate the results from the analysis of an issue or problem in your department. You should use your own data to create charts and practice editing.

3. At a minimum, you must produce the following types of charts and print them off for instructor grading.

    a. Pie chart.

    b. Bar chart.

    c. Line graph — trend line.

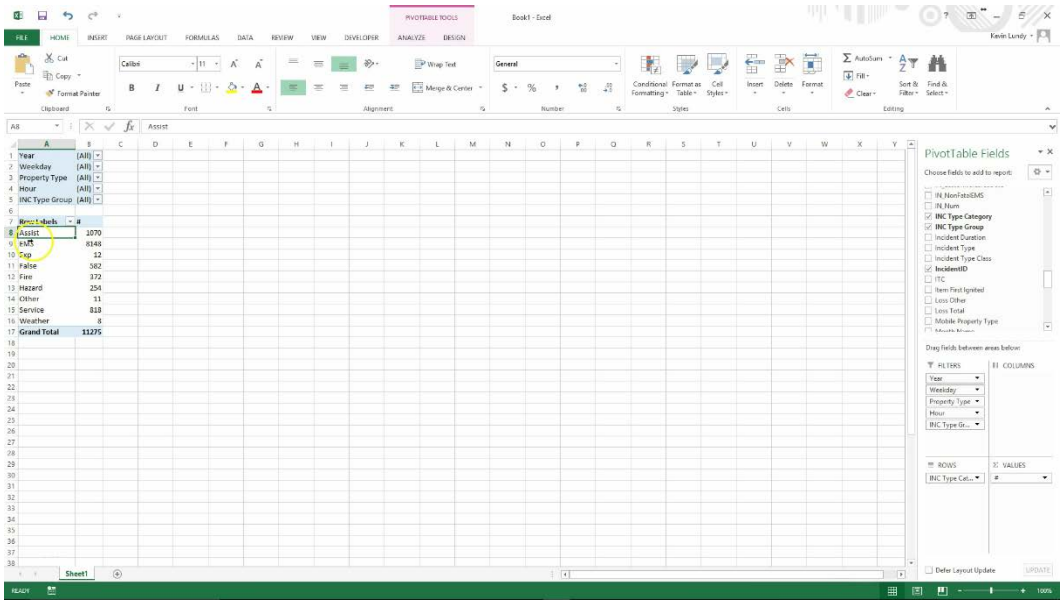
4. Be prepared to share results with the class and discuss any alternative strategies that may increase the informational value of the presentation.

This page intentionally left blank.

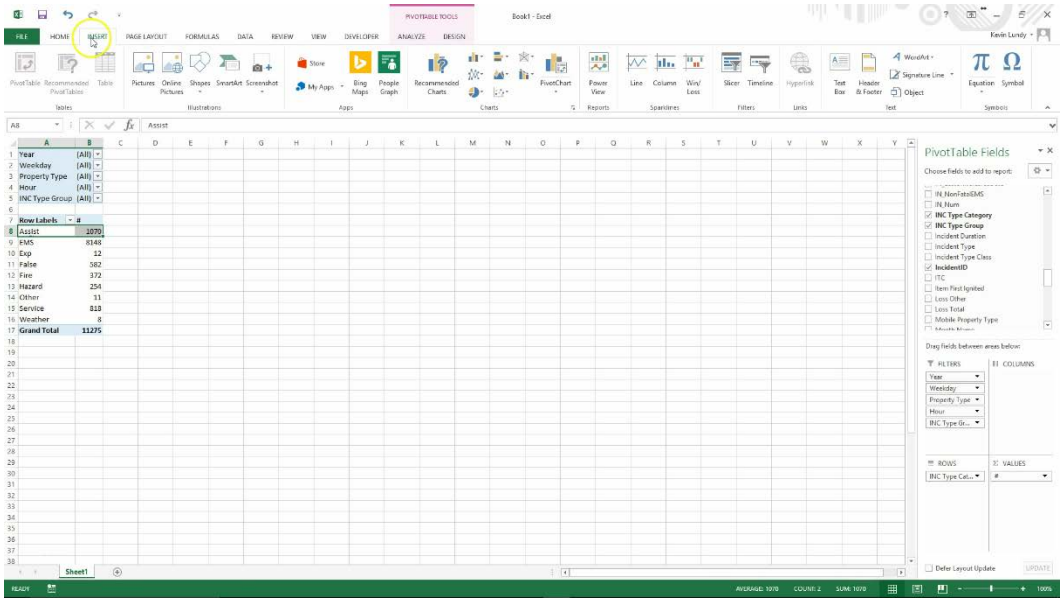
ACTIVITY 4.3 (cont'd)

Presenting Your Findings — Charting and Graphing Techniques

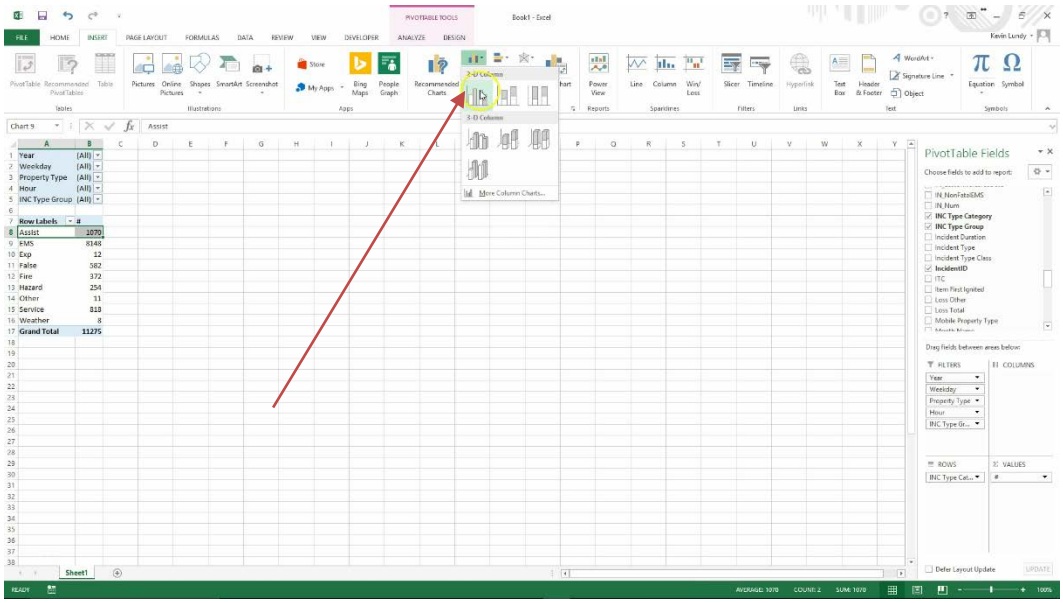
1. Put INC Type Category in the ROWS box then click in the PivotTable.



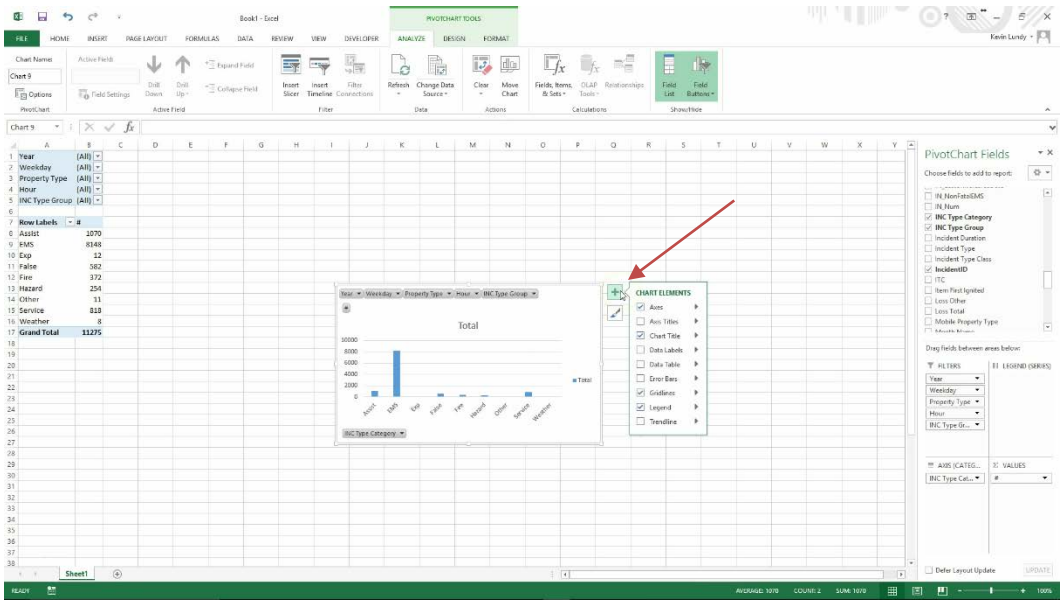
2. Click on the Insert tab.



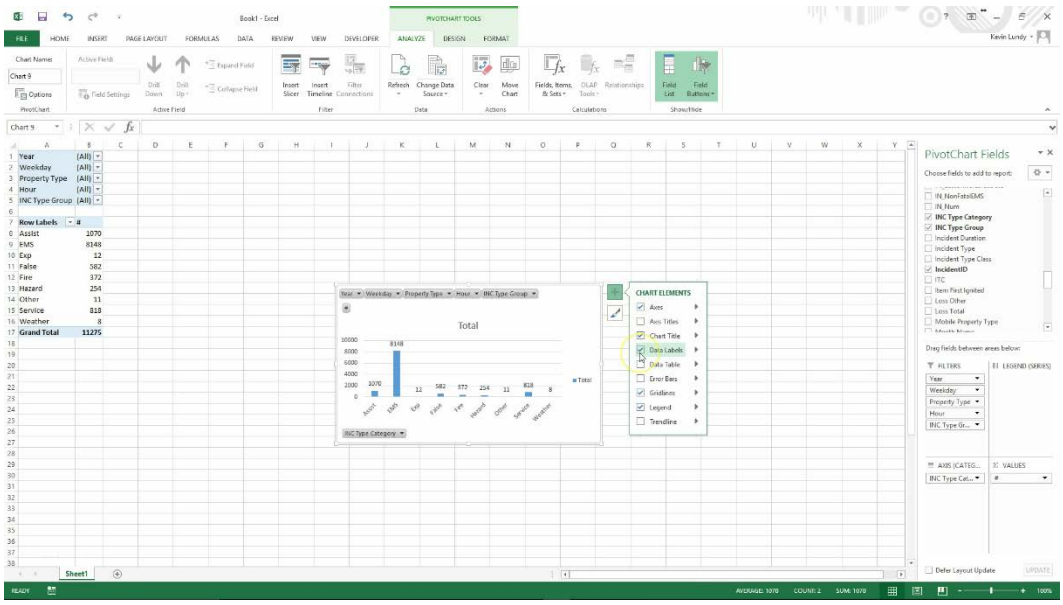
3. Go to the chart area in the ribbon bar, click on the Insert Column Chart icon, and choose the 2-D cluster column chart.



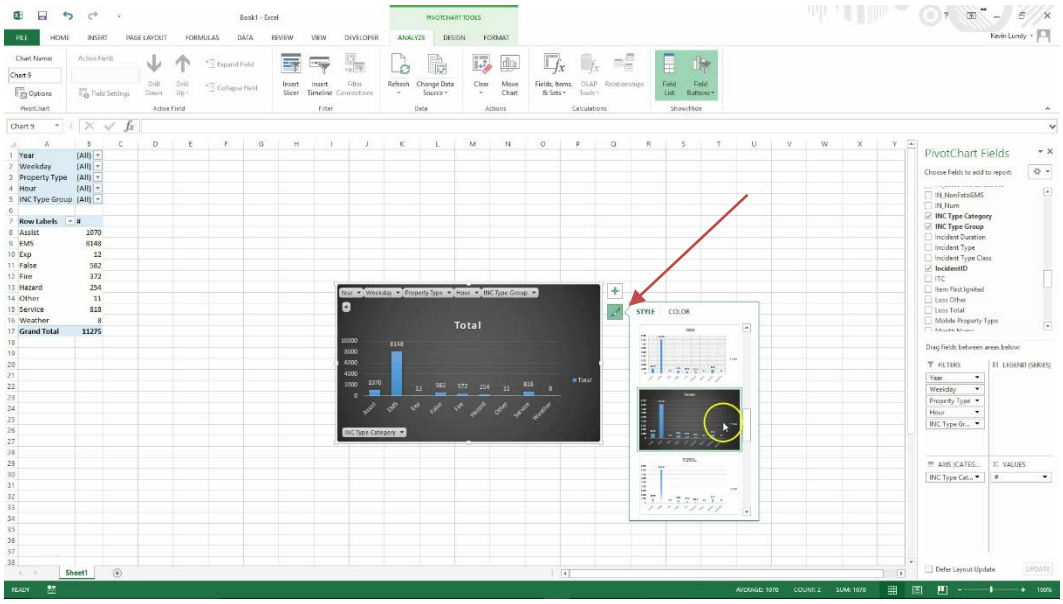
4. Click on the "+" icon next to the chart. You can select what elements you want to add to the chart.



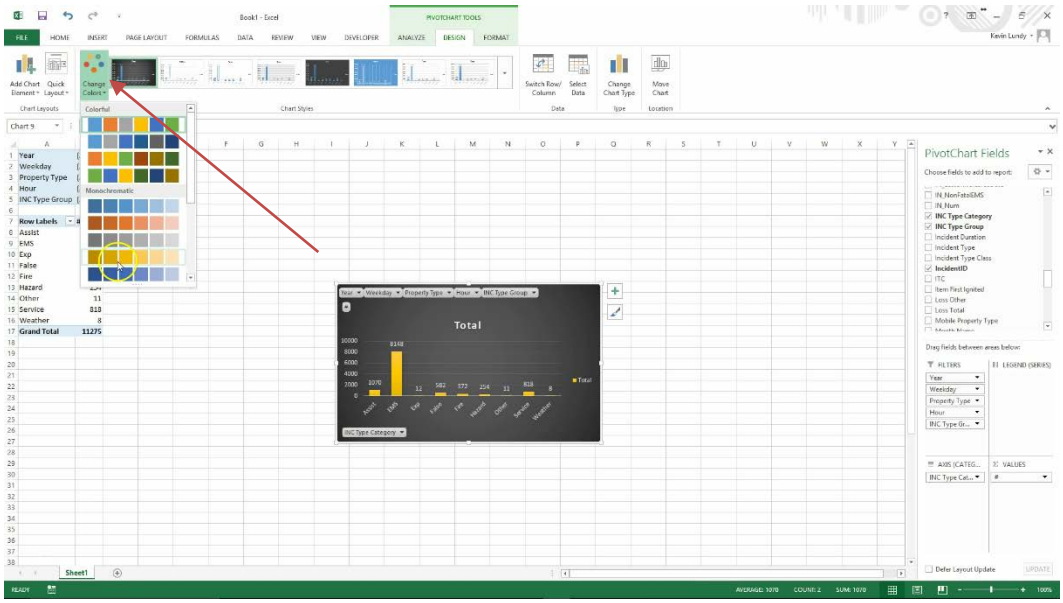
5. Choose the Data Labels option.



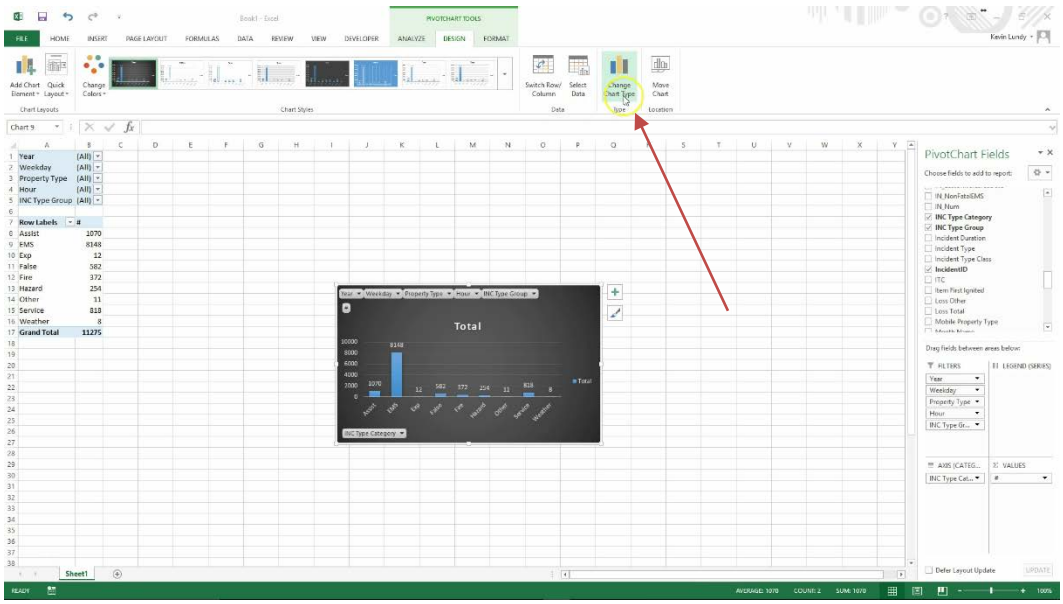
6. Click on the paint brush icon next to the chart. You can quickly choose another color scheme. Choose the black background with blue columns option.



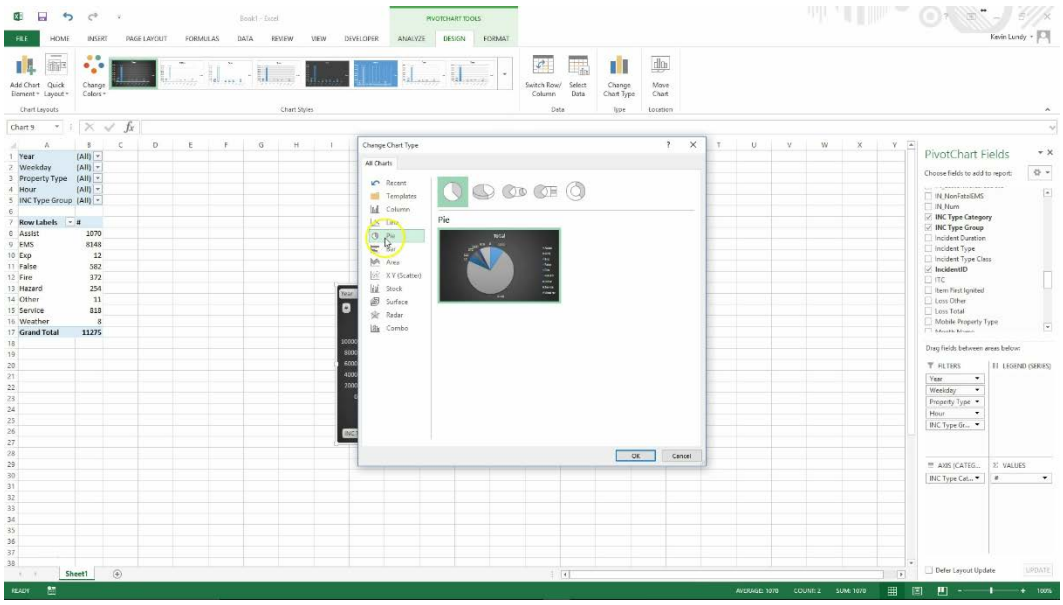
7. Click on the Design tab on the ribbon bar. You can then click on the Change Colors icon. You can also choose a color scheme here.



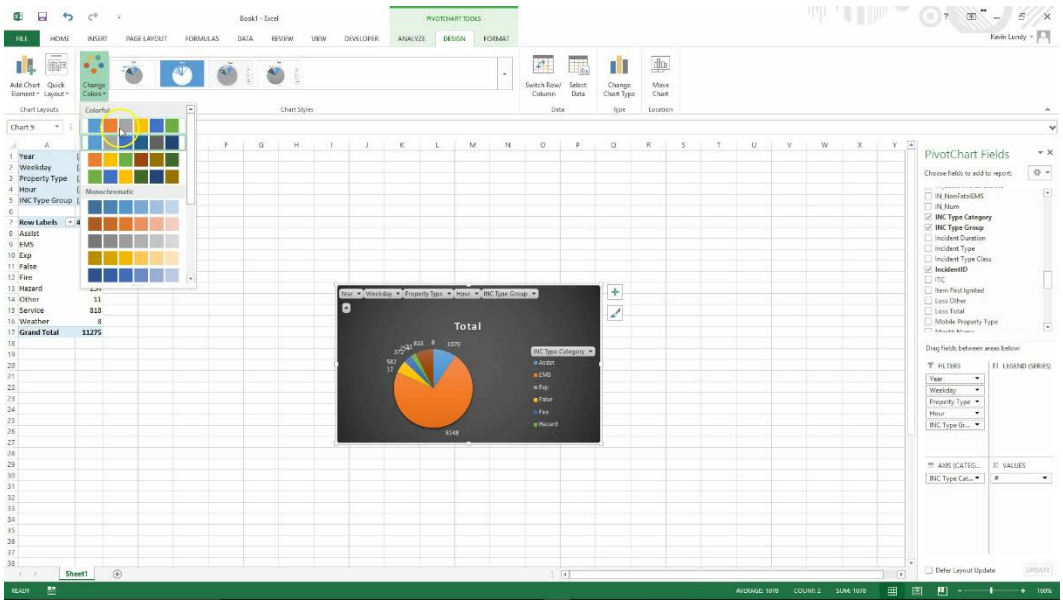
8. You can easily change the chart type. Click on the Change Chart Type icon under the Design tab.



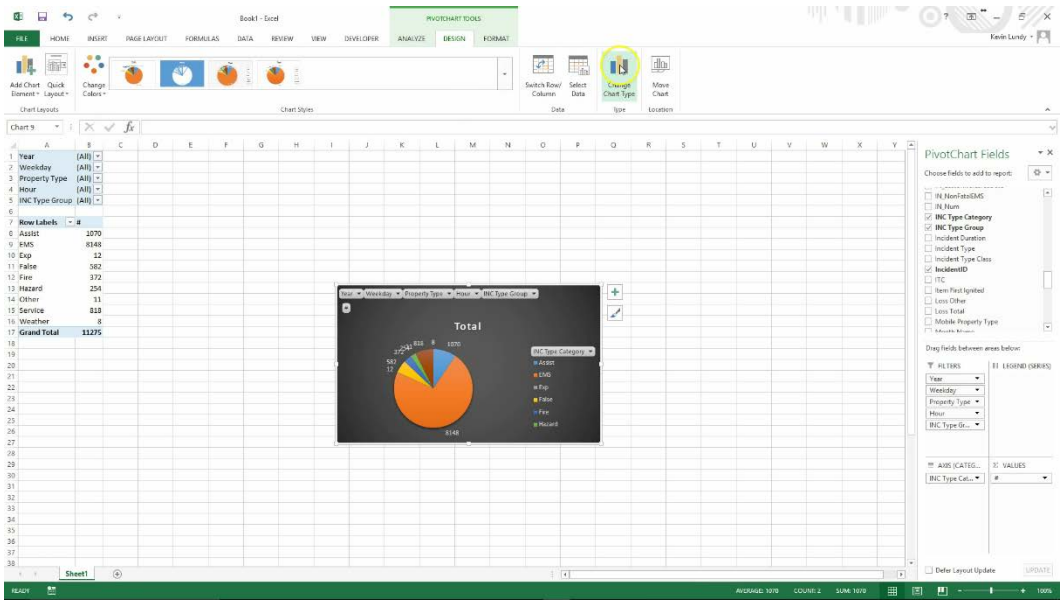
9. Choose the Pie Chart.



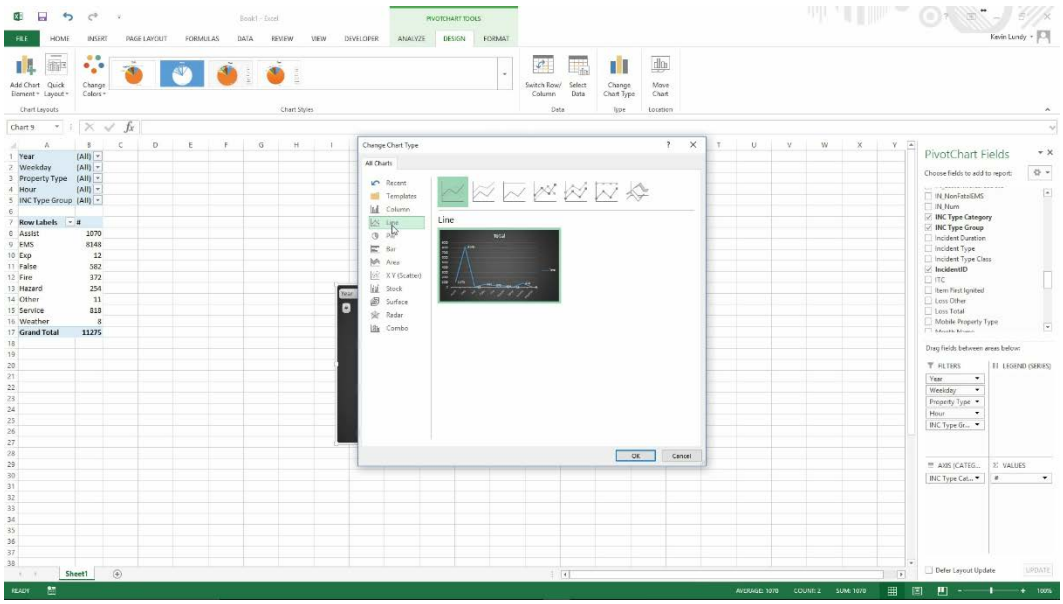
10. Click on the Change Colors icon, and change the color scheme.



11. Click on the Change Chart Type icon.



12. Choose the Line Chart option.



ACTIVITY 4.4

Mapping Incidents and Resources

Purpose

Use Microsoft Excel to conduct geospatial incident mapping and fire data analysis.

Directions

1. The instructor will demonstrate the proper technique for extracting incidents and building a Power Map in Excel.

2. Once the data have been mapped, the instructor will show you how to arrange your fire incident data and conduct an analysis of heat sources and smoke detector effectiveness in your jurisdiction.

3. Following the demonstration, you will map your own data and create the following:

    a. A map showing the incident type categories.

    b. A map showing heat sources.

    c. A map showing detector effectiveness.

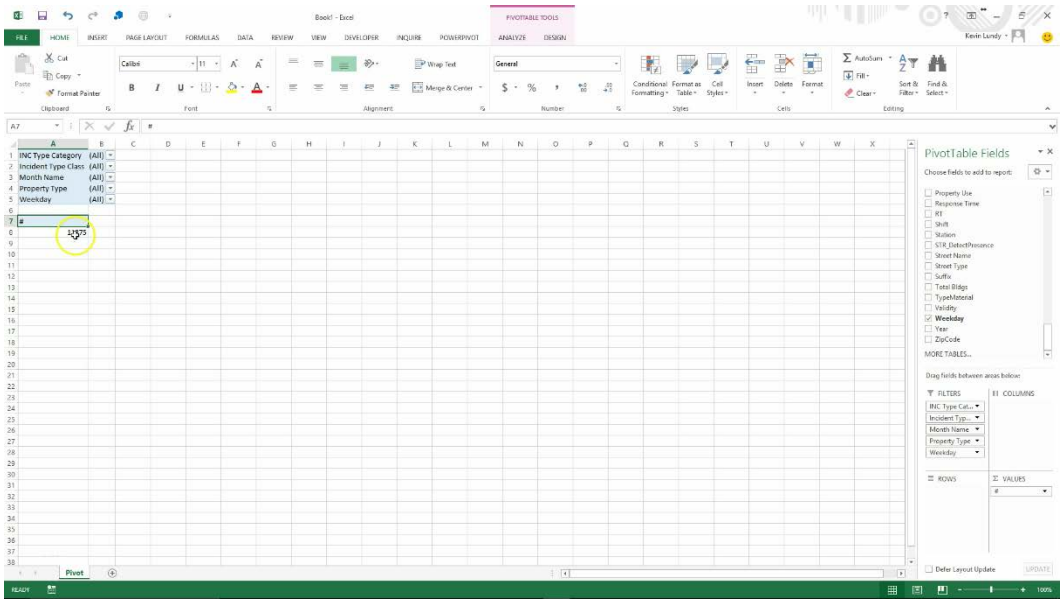
4. Be prepared to share your results with the class.

This page intentionally left blank.

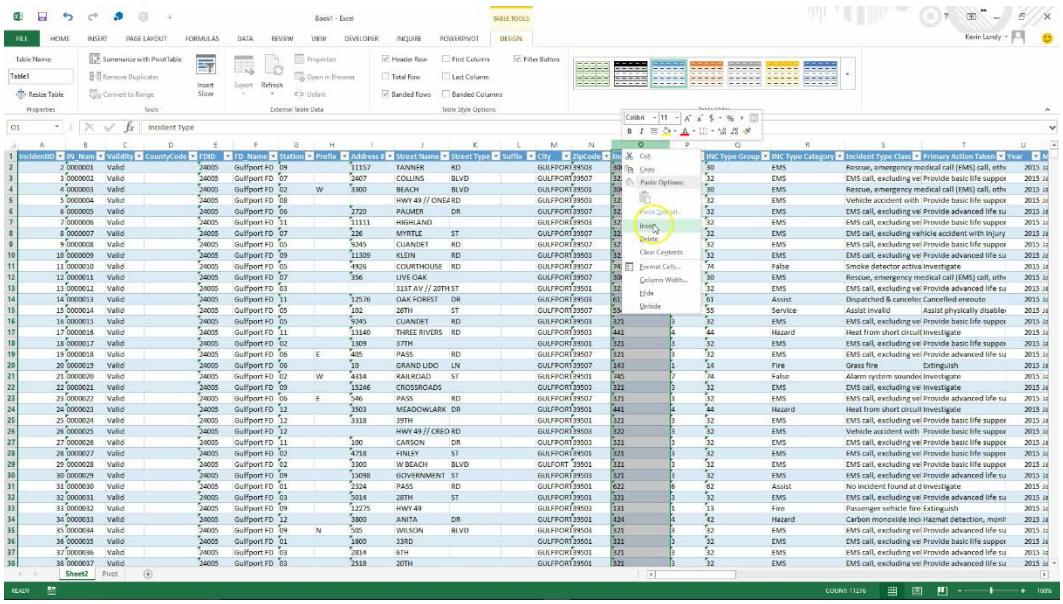
ACTIVITY 4.4 (cont'd)

Mapping Incidents and Resources

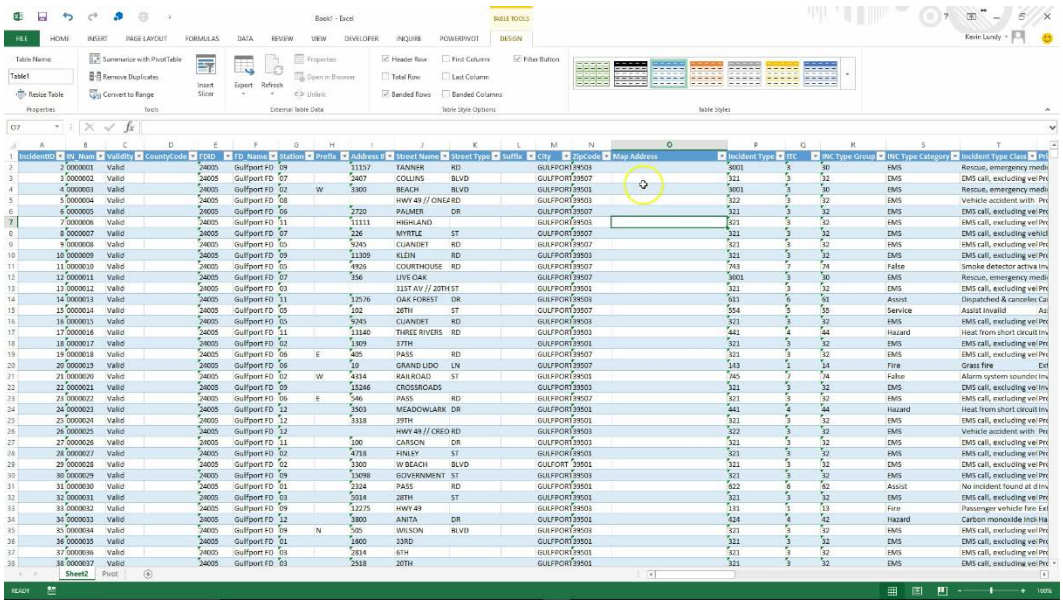
1. Start in a PivotTable with a count of all your incident IDs. Make sure all filters are turned off. Double click the total of all your incidents to display all your data in a new worksheet.



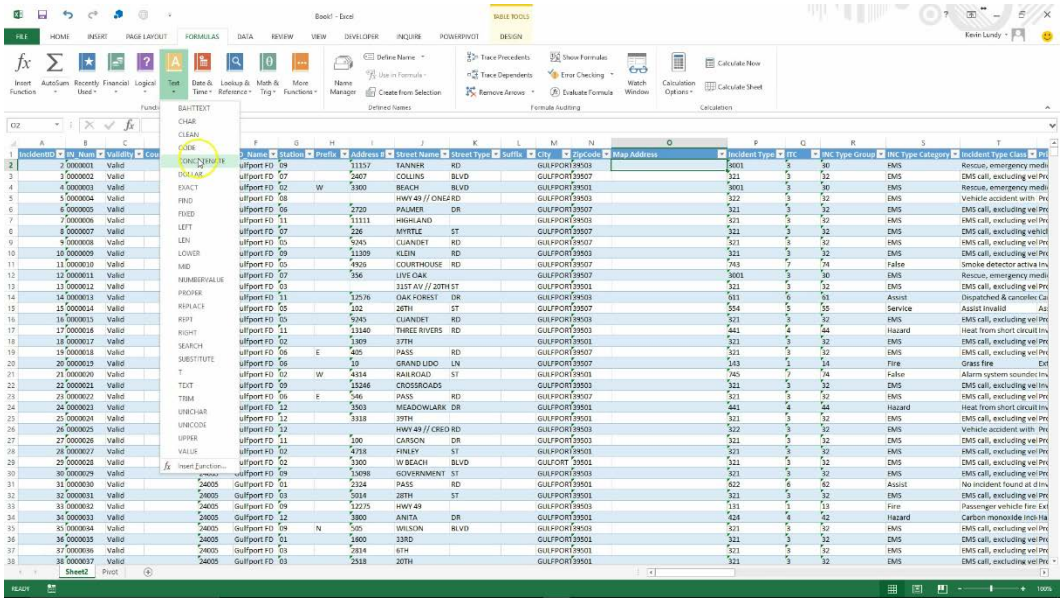
2. Right click on column "O," and insert a new column.



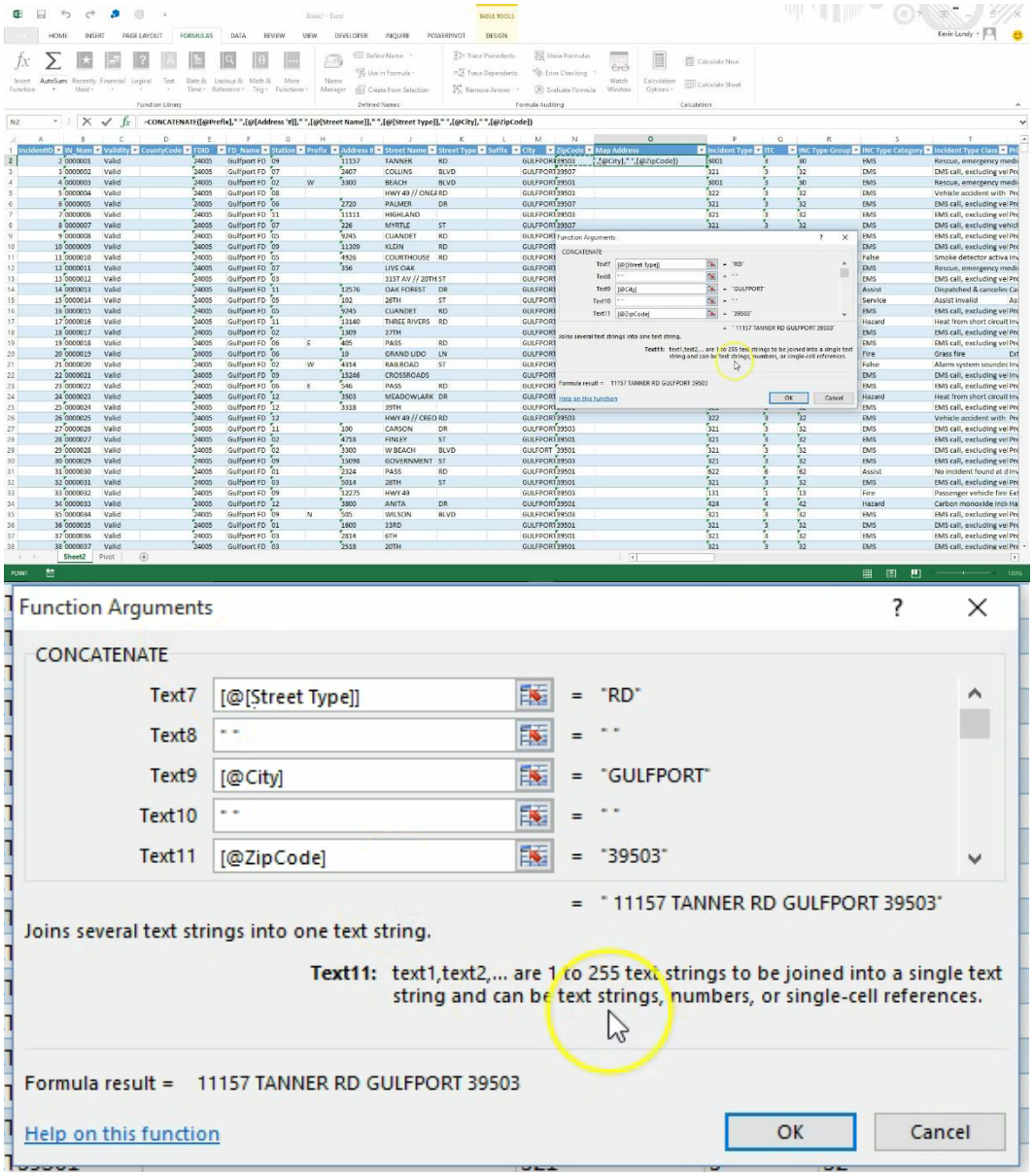
3. Change the column header name to “Map Address.”



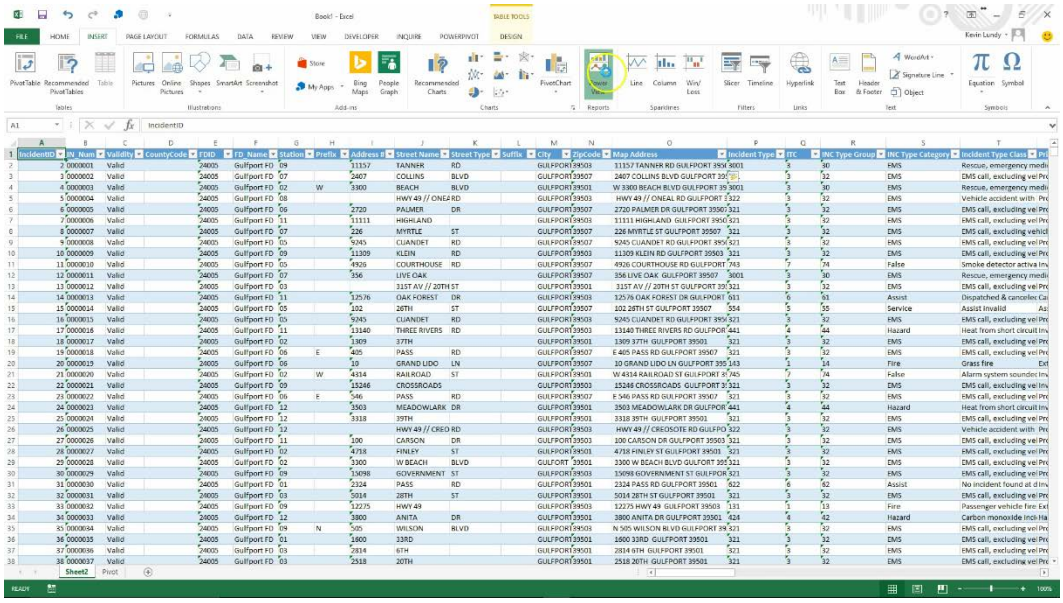
4. Click in cell “O2.” Next, click on the Formulas tab, and insert a “text” formula. Choose the Concatenate formula.



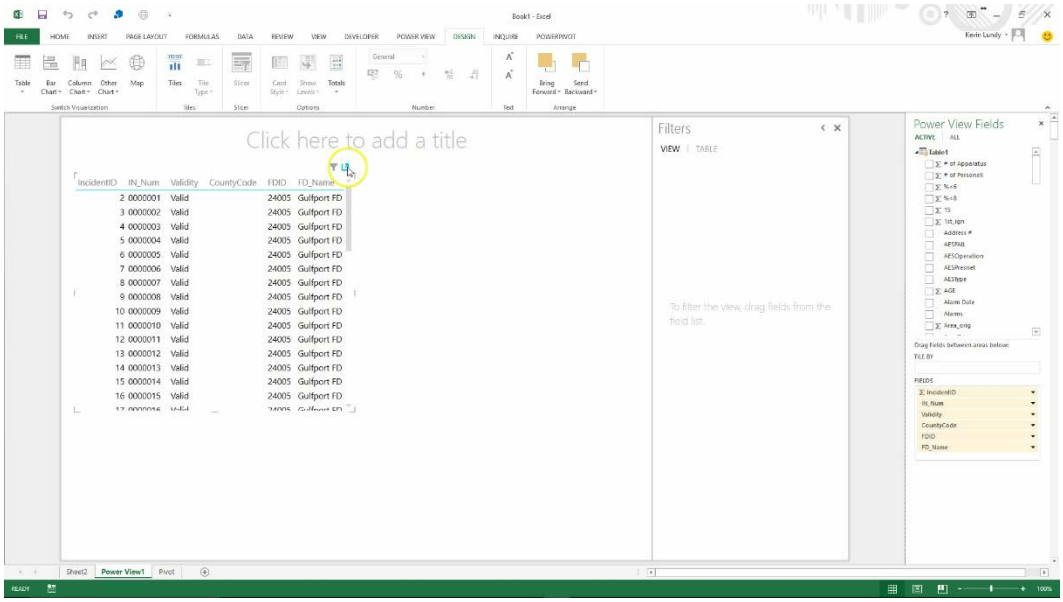
5. Concatenate all the address columns: H, I, J, K, L, M and N. Be sure to enter " " between each column. Your formula should show “=CONCATENATE([@Prefix]," ",[@[Address '#]]," ",[@[Street Name]]," ",[@[Street Type]]," ",[@Suffix]," ",[@City]," ",[@ZipCode])”



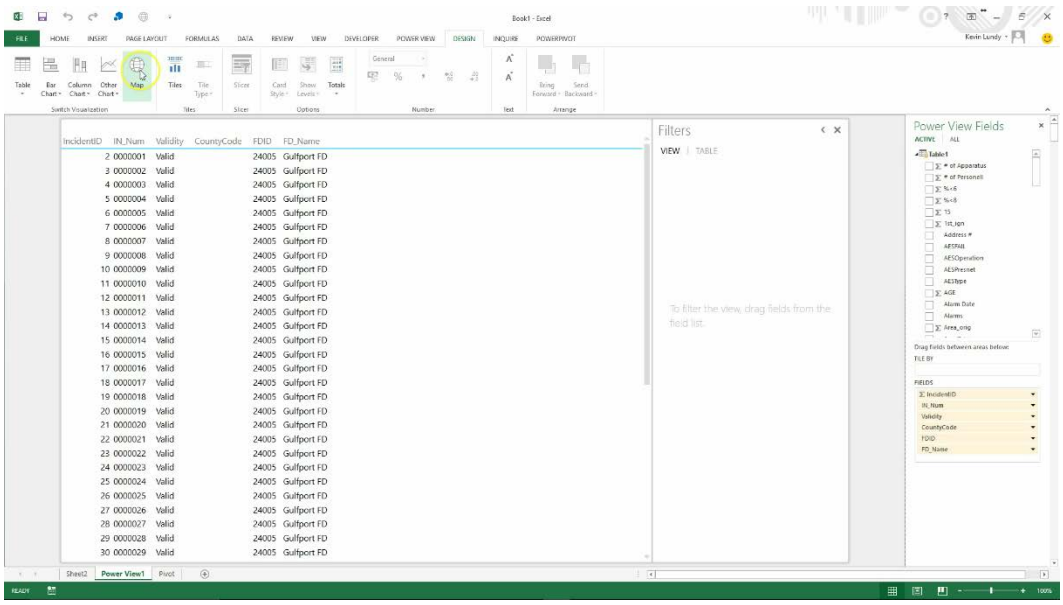
6. Click on the Insert tab, and then choose to insert a Power View.



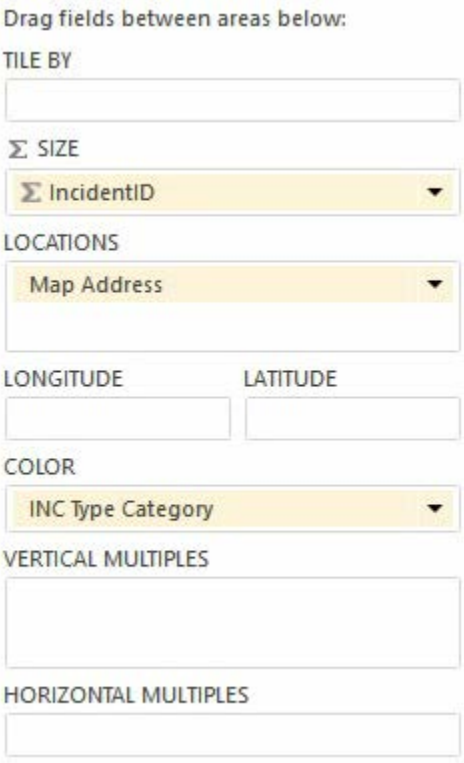
7. Click on the icon at the top right of your view area to expand it to fill the full page.



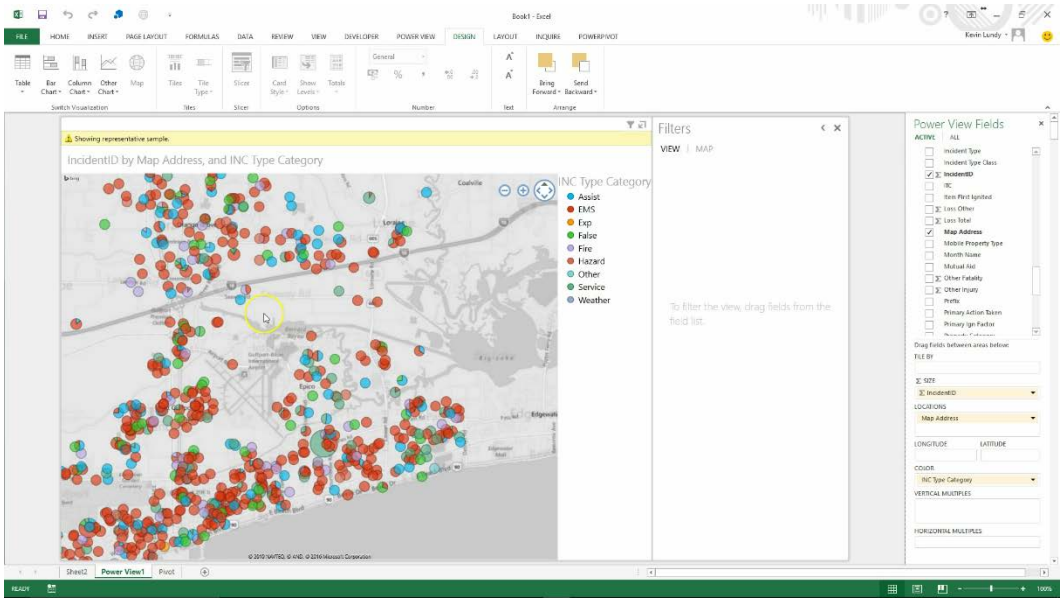
8. Click on the Design tab, and click on the Map icon to change your view to a map.



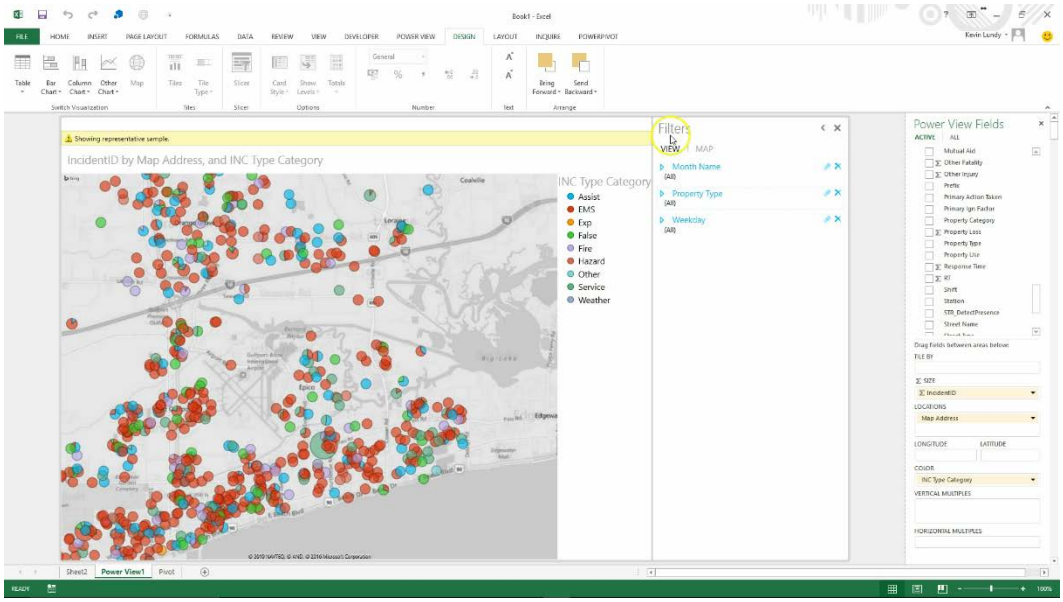
9. You can now move your fields around like you do in a PivotTable. Put Map Address in the LOCATIONS box and INC Type Category in the COLOR box.



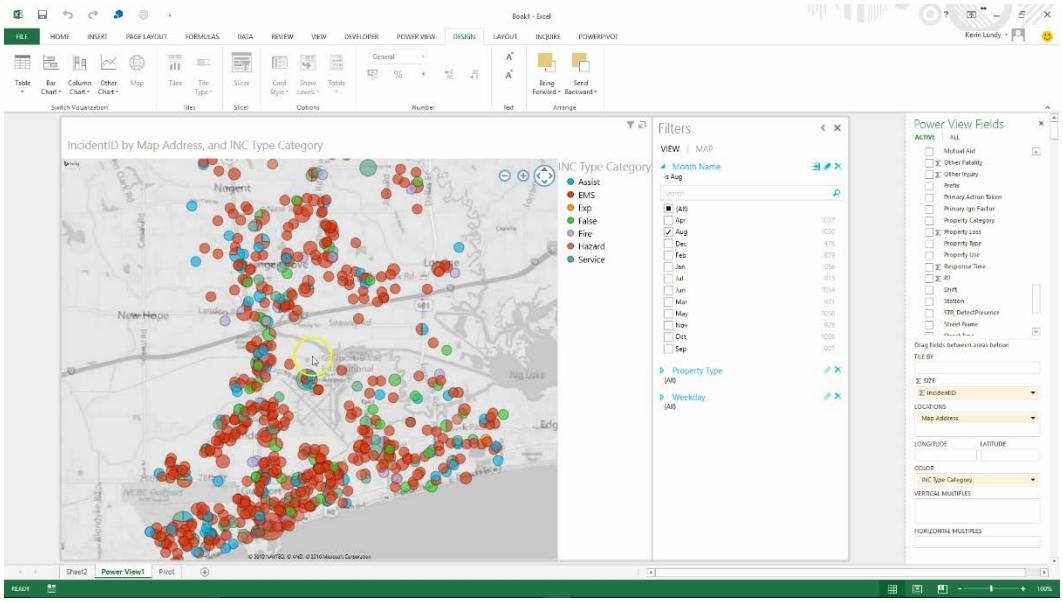
10. Your map legend is represented by whatever field you place in the “COLOR” box.



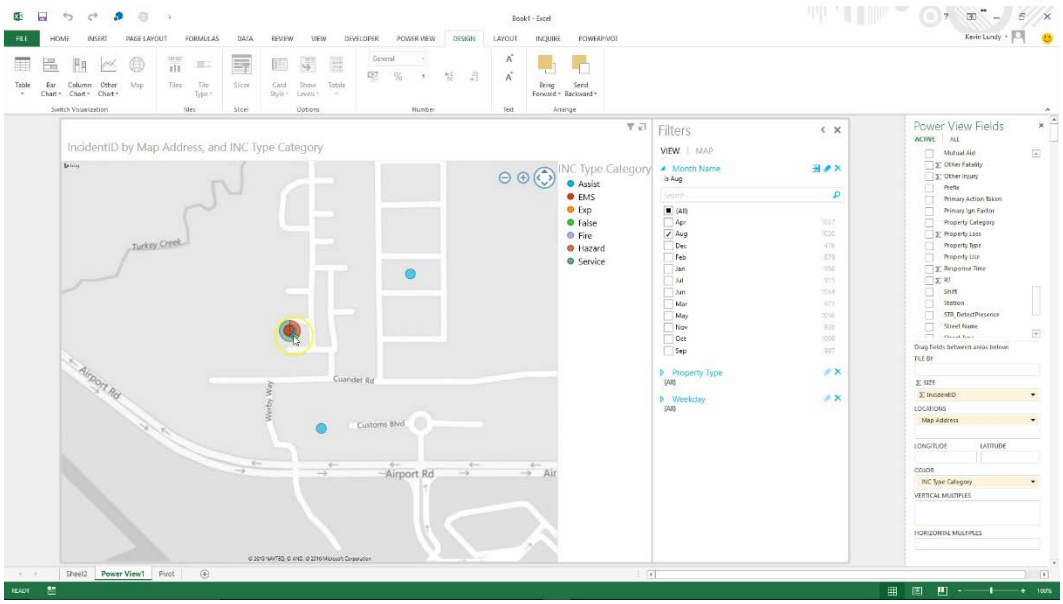
11. Power Map will only show you 2,000 results at a time. You can tell that your data is limited by the warning located right above the map. You will see the warning “Showing representative sample.” Now you need to start filtering your data. Pull the Month Name, Property Type and Weekday fields into the filter area.



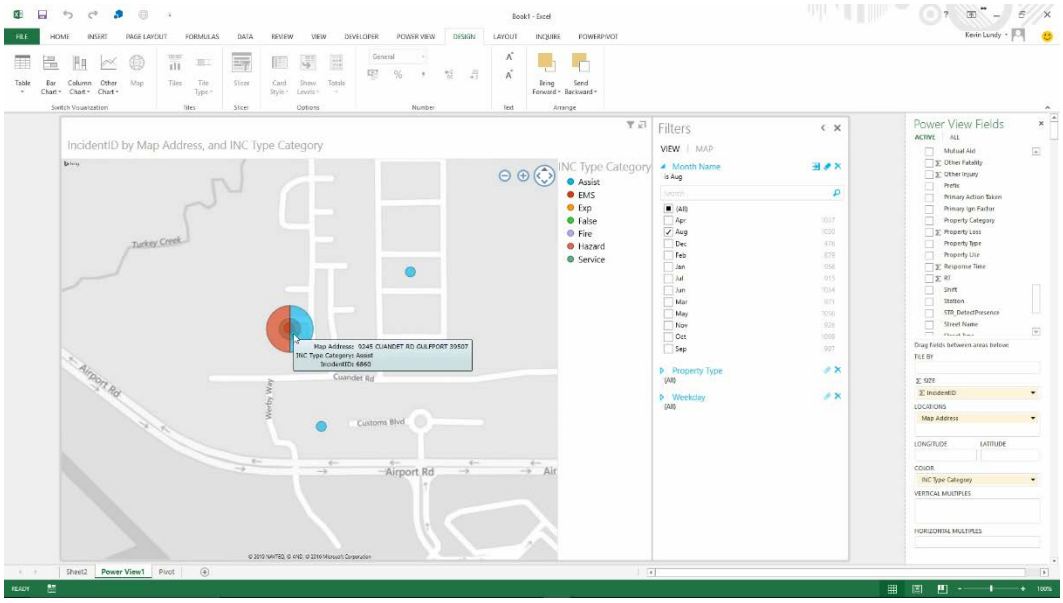
12. Filter on the month of August. You can do this by clicking on the box next to Aug.



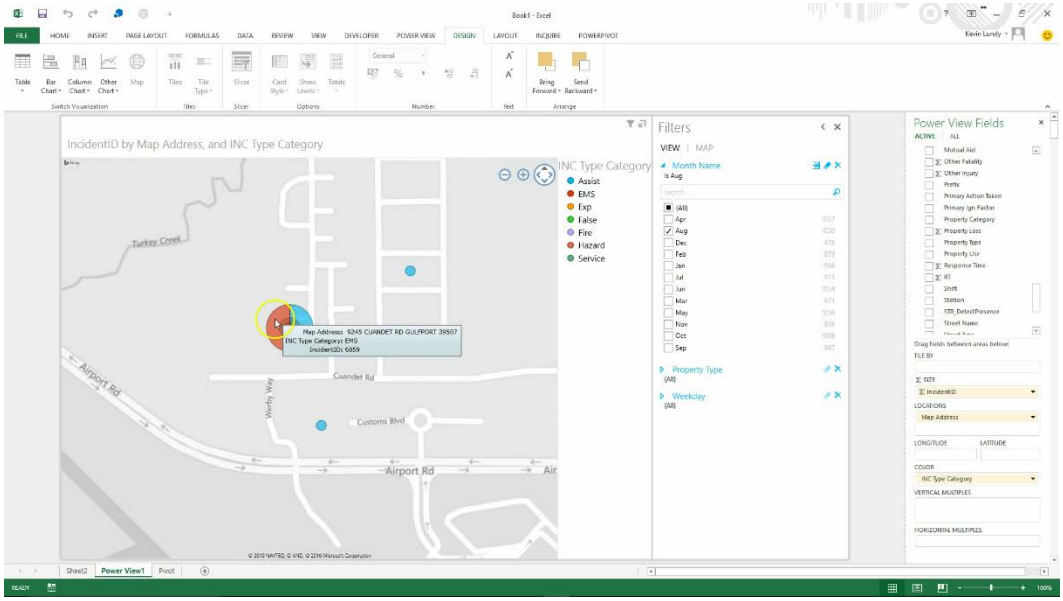
13. Zoom into a circle that has multiple colors. If your map doesn't have one, choose a larger circle. The bigger circles represent addresses with multiple incidents. If you have multiple incident types at the address, it will show multiple colors in the circle.



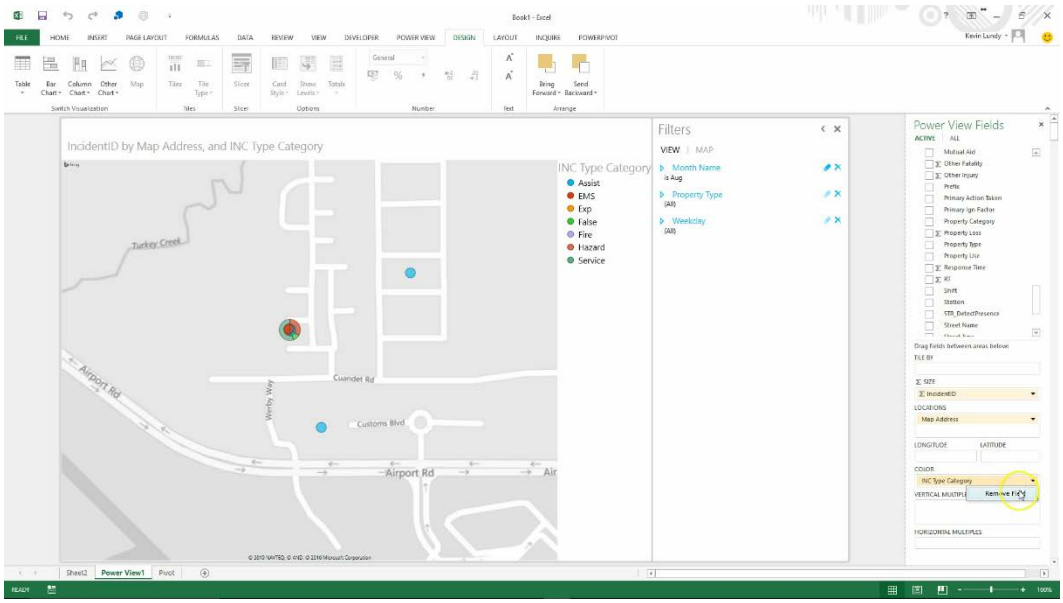
14. Place your cursor over a circle. It will now show you the incident data.



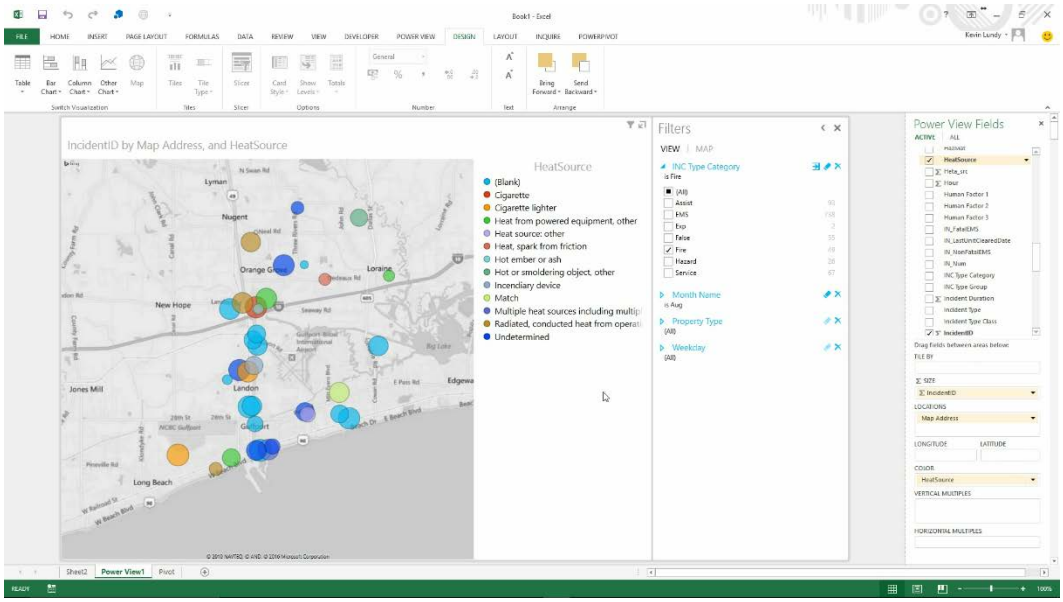
15. Move your cursor over another circle or a different color of the same circle. Once again, you are seeing the data that the map is plotting.



16. You can easily change what data fields you map. Remove INC Type Category in the "COLOR" box.

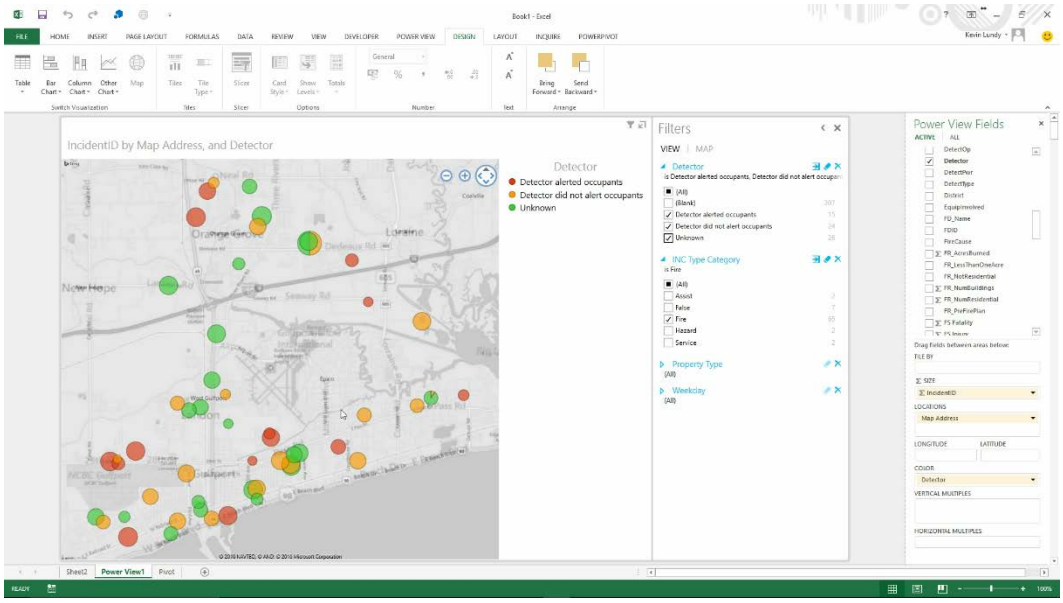


17. Pull down HeatSource into the COLOR box. Pull the INC Type Category field into the filter area, and set your filter to show only fires. You are now showing all the heat sources that caused fires that happened in August.



18. Remove INC Type Category in the COLOR box, and pull down the "Detector" field into the COLOR box. Now pull the "Detector" field into the filter area. Set your filters to only show "Detector alerted occupants, Detector did not alert occupants, and Unknown." Also, set your INC Type Category filter to only show fires.

    Now you are looking at your detector effectiveness in your jurisdiction.



19. Start moving fields around and experimenting with the filters. Change out the fields in the COLOR box. Share your maps with the class, and explain how you can use the information you are finding to make decisions about your fire prevention efforts.

VIII. SUMMARY

SUMMARY

- The fire service shares characteristics with the business community.
- Economic, demographic, geographic, social and political issues, as well as local government and community expectations, influence service delivery.
- Fire data analysis techniques are part of the decision-making process.

Slide 4-66

SUMMARY (cont'd)

- Data collection and analysis are essential parts of the planning process because they provide objective measures for past, present and future community needs.
- The National Fire Incident Reporting System (NFIRS) is a fundamental source for this data.

Slide 4-67

IX. QUIZ ON UNIT 4

This page intentionally left blank.

UNIT 5: MANAGING THE NATIONAL FIRE INCIDENT REPORTING SYSTEM

OBJECTIVE

The students will be able to:

5.1 Review the course content in preparation for the final cumulative exam.

This page intentionally left blank.

UNIT 5: MANAGING THE NATIONAL FIRE INCIDENT REPORTING SYSTEM

Slide 5-1

OBJECTIVE

Review the course content in preparation for the final cumulative exam.

Slide 5-2

This page intentionally left blank.

ACTIVITY 5.1

TurningPoint Exercise

Purpose

Review the course content in preparation for the final cumulative exam.

Directions

1. You will be issued a TurningPoint ResponseCard to participate in this exercise.

2. The instructor will show a PowerPoint containing questions on the National Fire Incident Reporting System (NFIRS). Use your ResponseCard to answer each question.

3. The instructor will lead a short discussion after each answer. Be prepared to discuss your answers with the class.

This page intentionally left blank.

UNIT 6: ACTION/ANALYSIS PLAN

TERMINAL OBJECTIVE

The students will be able to:

6.1 Analyze National Fire Incident Reporting System (NFIRS) data in order to develop an action plan that addresses a need to improve their processes associated with NFIRS or to use their NFIRS data to improve a process within their department.

ENABLING OBJECTIVES

The students will be able to:

6.1 Develop an analysis plan to address a problem or question in your organization.

6.2 Develop a PivotTable using extracted NFIRS data to support the analysis plan.

6.3 Propose an action plan to be implemented within 90 days.

This page intentionally left blank.

UNIT 6:
ACTION/ANALYSIS PLAN

Slide 6-1

ENABLING OBJECTIVES

- Develop an analysis plan to address a problem or question in your organization.
- Develop a PivotTable using extracted National Fire Incident Reporting System (NFIRS) data to support the analysis plan.
- Propose an action plan to be implemented within 90 days.

Slide 6-2

This page intentionally left blank.

ACTIVITY 6.1

Action/Analysis Plan

Purpose

Develop an analysis plan to address a problem or question in your organization.

Develop a PivotTable using extracted National Fire Incident Reporting System (NFIRS) data to support the analysis plan.

Directions

Part 1: Action Plan

1. At the beginning of the course, you were introduced to the action plan. You have had an opportunity to select an NFIRS-related problem or an area in which you would like to improve. To succeed, it is crucial to pick an area or problem over which you have the control to exercise change.

    a. 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.

    b. 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 in class, and implement it when you return to work.

3. Your instructor will approve your Individual Action Plan on the Individual Action Plan Agreement Sheet, and the U.S. Fire Administration (USFA) will keep a copy. The in-class proposal for your action plan will include:

    a. Background and description of your problem or area of improvement. (Draft is done in class.)

    b. Identification of the people and/or organizations that might help or hinder your efforts. (Draft is done in class.)

    c. Three objectives (things you would change) that you believe would help you to improve or address your problem.

Part 2: Analysis Plan

1. To examine the problem that you have decided to address in your action plan, you will now develop an analysis plan.

2. The plan has three parts: (1) a description of the problem or issue to be analyzed; (2) identify the data necessary to include in the PivotTable; and (3) state your initial assumptions concerning the outcome of the analysis process. You have described your problem in your action plan and gotten it approved.

3. Identify the appropriate measures and statistics for inclusion in the "data" section of the analysis plan.

4. Determine the categories of incident data to include in your PivotTable. You may have to work with the data some to fit it into the correct section of the PivotTable.

5. Construct a one-sentence description (hypothesis) of your initial assumptions regarding the analysis results.

6. This will provide a quality assurance (QA) check to ensure that all of the required data have been included in the analysis plan.

7. You should be prepared to present your analysis plan to the class.

Part 3: Status Report on Implementation

1. Ninety days after the end of the course, you will submit a brief status report to the USFA that contains the following information:

    a. What tasks did you accomplish?

    b. What factors helped you to complete those tasks?

    c. What tasks were you not able to accomplish?

    d. Why did that occur?

    e. What would you do next time to relieve those obstacles to your progress?

    f. What is the next step, or have you completed the action?

2. This is **not** a research report; it is merely a brief documentation of an improvement that you want to make regarding NFIRS, as well as your progress toward that end.

3. The solution that 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.

4. 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.

5. Style standards.

    a. The Action Plan Status Report should be three to five, double-spaced, typed pages. Number the pages at the bottom.

    b. Use the Individual Action Plan Agreement Cover Sheet that follows as the cover page, or design your own as long as it contains all of the necessary information.

    c. Make sure the status report contains clear and grammatically correct writing.

This page intentionally left blank.

ACTIVITY 6.1 (cont'd)

Individual Action Plan Agreement Sheet

Name: _____ Phone: _____

Date of Class: _____ Due Date: _____

1. Write a one-sentence operational description of the problem/issue that contains information on who, what, where, when and how elements.

_____

_____

_____

2. List the people and/or organizations that might help or hinder your efforts.

_____

_____

_____

3. List three objectives that will help you to address the problem.

_____

_____

_____

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

This page intentionally left blank.

ACTIVITY 6.1 (cont'd)

Individual Action Plan Agreement Cover Sheet

Date of Class: _____

Due Date: _____

Name: _____

Organization: _____

Address: _____

Phone: _____ Email: _____

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 the status report.

_____ I give permission for you to keep (and use) my name and address with this status report.

Send Individual Action Plan to:
Marion Long
U.S. Fire Administration
16825 South Seton Ave.
Emmitsburg, MD 21727
marion.long@fema.dhs.gov

This page intentionally left blank.

UNIT 7: COURSE PROJECT

TERMINAL OBJECTIVE

The students will be able to:

7.1 Analyze National Fire Incident Reporting System (NFIRS) data to generate analysis reports for decision-making.

ENABLING OBJECTIVES

The students will be able to:

7.1 Update a database with the special queries and tables.

7.2 Generate monthly incident counts.

7.3 Use Summary Template.xls.

7.4 Create charts and presentable data.

7.5 Create a PivotTable.

7.6 Generate maps and show specified data using Microsoft Excel Power Map.

This page intentionally left blank.

UNIT 7:
COURSE PROJECT

Slide 7-1

ENABLING OBJECTIVES

- Update a database with the special queries and tables.
- Generate monthly incident counts.
- Use Summary Template.xls.
- Create charts and presentable data.
- Create a PivotTable.
- Generate maps and show specified data using Microsoft Excel Power Map.

Slide 7-2

This page intentionally left blank.

ACTIVITY 7.1

Data Analysis Course Project

Purpose

Analyze the National Fire Incident Reporting System (NFIRS) data to generate analysis reports for decision-making.

Directions

1. The instructor will provide directions for completing the Data Analysis Skill Test.

2. This is not a graded activity.

3. You will answer the questions on your Student Activity Worksheet (SAW).

This page intentionally left blank.

ACTIVITY 7.1 (cont'd)

Data Analysis Course Project

Name: _____ Date: _____

(Files needed are in the Student Shared folder.)

1. Using your NFIRS account for the **State of TR**, import incidents from file PM018QT3_4.075 into your NFIRS **Off-Line database** (Hint: Off-Line database, user injection). How many incidents did you import?

2. List the date and incident number of each invalid incident for CY 2007. Identify the general reason for the invalid incidents.

3. Update your database by running the Pivot_NFIRS_PM query in your Access database. How many records are in the Pivot_NFIRS_PM table?

4. Log in to Web-Based Reporting with your TR account; create and print the CY 2007 Monthly Incident Counts for FDID PM018. Which month has the highest count, and what is the total number of incidents for that month?

5. Answer the following questions using Summary Template.xls (Hint: Make the connection to the PivotNFIRS_PM table).

   a. Record the total dollar loss for CY 2006.

   b. Record the total fire dollar loss for CY 2007.

6. Display the major Incident Type categories (fire, EMS, false, etc.) for CY 2007. Sort numbers in descending order.

7. Create a presentable pie chart using the Incident Type categories for CY 2007. Please be creative.

8. Show hours in four-hour groups for all years. Most false calls occurred during which time group?

9. Which station ran the most calls in CY 2007? Display calls in descending order.

10. **Starting from a new blank workbook (do not use the Summary Templet.xls),** create a table that displays year and Incident Type category (row) by month (column). Sort Incident Type category alphabetically, and show 0 for empty cells.

11. Display only fire, EMS and false calls (row) by year (column) for one- or two-family dwellings.

12. Add percent as a second measure in the data area. Show the number and percentage of CY 2006 incidents for each day of the week. You should be showing the total number of incidents and the percentage that each day represents of the total.

13. How many fires were reported in February CY 2007? Display them to your instructor.

14. Recreate the following PivotTable:

Property Type	(All)					
Month Name	(All)					
Year	2007					
Weekday	(All)					
#	Column Labels					
Row Labels	0-5		6-11	12-17	18-23	Grand Total
A		**272**	**881**	**1115**	**709**	**2977**
Assist		18	65	102	66	251
EMS		188	473	601	434	1696
Exp		2		5	1	8
False		30	101	81	56	268
Fire		4	19	50	32	105
Hazard		11	29	44	33	117
Other		1	87	91	8	187
Service		18	104	139	74	335
Weather			3	2	5	10
B		**279**	**871**	**1121**	**655**	**2926**
Assist		19	49	96	60	224
EMS		176	482	616	420	1694
Exp		1	2	4	2	9
False		32	78	79	43	232
Fire		10	12	52	25	99
Hazard		10	31	45	28	114
Other			103	111	4	218
Service		28	109	114	70	321
Weather		3	5	4	3	15
C		**272**	**834**	**1112**	**631**	**2849**
Assist		10	61	79	62	212
EMS		189	459	586	413	1647
Exp			2	2	1	5
False		35	84	83	56	258
Fire		7	24	54	22	107
Hazard		7	33	55	27	122
Other			81	105	3	189
Service		22	90	141	44	297
Weather		2		7	3	12
Grand Total		**823**	**####**	**3348**	**1995**	**8752**

15. Clear all filters. Make a Power Map in Excel showing all the different Incident Type categories for incidents that happened on A and B shifts at the beach and in banks.

16. Make a Power Map in Excel showing all heat sources that were not left blank.

17. Make a Power Map in Excel showing the area of fire origin when a smoke detector alerted the occupants.

18. Make a Power Map in Excel showing the area of fire origin when a smoke detector failed to alert the occupants.

19. At what address did the detector fail to alert the occupants?

20. Make a Power Map in Excel showing the property types when a fire started for which the human factor was asleep.

This page intentionally left blank.

BIBLIOGRAPHY

This page intentionally left blank.

BIBLIOGRAPHY

Behn, R. (2014). The PerformanceStat Potential — A Leadership Guide for Producing Results. Brookings Institution Press.

Bruegman, R. (2009). Fire Administration I. Pearson Education.

Evans, A. (2013). The Economic Impact of Successful Fire Interventions. Phoenix, Arizona State University.

FEMA (1997). Uses of NFIRS — The Many Uses of the National Fire Incident Reporting System.

FEMA. (2004). Fire Data Analysis Handbook.

FEMA. (2011). National Fire Incident Reporting System Version 5.0 Fire Data Analysis Guidelines and Issues.

FEMA. (2012). National Estimated Methodology for Building Fires and Losses.

FEMA. (2013). National Fire Incident Reporting System Complete Reference Guide.

FEMA. (2014a). Data Sources and Methodology Documentation.

FEMA. (2014b). Data Sources and National Estimates Methodology Overview for the U.S. Fire Administration's Topical Fire Report Series.

Godown, J. (2012). Request by the Mayor's Office to Implement a Compstat Type Process for the Los Angeles Fire Department. Los Angeles, April 2012.

Gruell, W. (2012). Analysis of the Los Angeles Fire Department Response Times. Los Angeles, May 18, 2012.

ICMA. (2012). Managing Fire and Emergency Services. ICMA.

Linthicum, K. (2012). Politics Lights a Fire Under LAFD. Los Angeles Times, March 10, 2012.

Lio, S. (2012). City Urges L.A. Fire Department to Fix Its Response Time Data. Neontommy.com, May 18, 2012.

Lopez, R. J., & Welsh, B. (2014). Report: LAFD Needs Major 911 Overhaul. Los Angeles Times, March 4, 2014.

McEwen, T. Fire Data Analysis Handbook, FEMA.

NASFM (2014). Conquering the "Unknowns" — Research and Recommendations on the Chronic Problem of Undetermined and Missing Data in the Causal Factors Sections of the National Fire Incident Reporting System.

The National Commission on Fire Prevention and Control. (1973). "America Burning: The Report of The National Commission on Fire Prevention and Control."

Niven, P. (2008). Balanced Scorecard for Government and Nonprofit Agencies. John Wiley & Sons, Inc.

Santana, M. (2014). Third Party Deployment of Fire Resources Study — Los Angeles Fire Department. Los Angeles, March 3, 2014.

Smith, D. (2013). Fired Chief: Garcetti Asks LAFD Head to Step Down. Los Angeles Daily News, October 10, 2013.

Villaraigosa, A. (2012a). Memorandum to Honorable Members of the City Council. Los Angeles, March 22, 2012.

Villaraigosa, A. (2012b). Press Release — Mayor Villaraigosa and Chief Cummings to Appoint Jeff Godown Interim Director of Statistical Analysis and Review at the LAFD. Los Angeles, March 22, 2012.

Voehl, F., Harrington, J. H., Mignosa, C., & Charron, R. (2014). The Lean Six Sigma Black Belt Handbook. CRC Press.

Walters, J. (2011). "Firefighters Feel the Squeeze of Shrinking Budgets."

Wilson, S. (2012). L.A. Fire Department to Search Within Own Beleaguered Ranks for New Data Expert (Uh-Oh). LA Weekly, June 19, 2012.

ACRONYMS

This page intentionally left blank.

ACRONYMS

ATF	Bureau of Alcohol, Tobacco, Firearms and Explosives
BEU	Bulk Export Utility
BI	Business Intelligence
BIU	Bulk Import Utility
BSC	Balanced Scorecard
BYOD	Bring Your Own Device
C.A.R.T.	Complete, Accurate, Reliable, Timely
CEO	Chief Executive Officer
CFAI	Commission on Fire Accreditation International
CO	Company Officer
COTS	commercial off-the-shelf software
CPI	Continuous Process Improvement
CPM	Center for Performance Measurement
CPSC	Consumer Product Safety Commission
CPSE	Center for Public Safety Excellence
CQI	Continuous Quality Improvement
CRG	Complete Reference Guide
CSB	U.S. Chemical Safety & Hazard Investigation Board
FAQs	frequently asked questions
DEBI	Data Entry Browser Interface
DET	Data Entry Tool
EMS	Emergency Medical Services

EMT	emergency medical technician
EPA	Environmental Protection Agency
FBI	Federal Bureau of Investigation
FBIR	Forms Based Incident Report
FCT	Federal Client Tool
FDID	Fire Department Identification
FEMA	Federal Emergency Management Agency
FTP	File Transfer Protocol
GAAP	generally accepted accounting principles
GASB	Governmental Accounting Standards Board
GB	gigabytes
GIS	Geographic Information System
HSO	Health and Safety Officer
IAFC	International Association of Fire Chiefs
IC	Incident Commander
ICMA	International City Management Association
ISO	Insurance Services Office
IT	information technology
MB	megabytes
NANS	National Association of NFIRS States
NASFM	National Association of State Fire Marshals
NFA	National Fire Academy
NFDC	National Fire Data Center

NFDS	National Fire Data System
NFIC	National Fire Information Council
NFIRS	National Fire Incident Reporting System
NFIRS: PM	"National Fire Incident Reporting System: Program Management"
NFP	National Fire Programs
NFPA	National Fire Protection Association
NHTSA	National Highway Traffic Safety Administration
NYPD	New York Police Department
ODBC	Open Database Connectivity
PDA	personal digital assistant
PIO	Public Information Officer
PSC	Planning Section Chief
QA	quality assurance
Q&A	question and answer
QC	quality control
QIP	quality improvement process
SAW	Student Activity Worksheet
SM	Student Manual
SMART	Specific, Measureable, Achievable, Realistic and Time framed
SOP	standard operating procedure
SORT	Summary Output Reports Tool
SQL	Structured Query Language
SRI	Seidman Research Institute

TEXFIRS	Texas Fire Incident Reporting System
TQM	Total Quality Management
USB	Universal Serial Bus
USFA	U.S. Fire Administration
USNG	United States National Grid
WUI	wildland urban interface