

## **B. Collections of Information Employing Statistical Methods.**

When Item 17 on the Form OMB 83-I is checked “Yes”, the following documentation should be included in the Supporting Statement to the extent it applies to the methods proposed:

**If the collection does not involve statistical methodology please enter “THERE IS NO STATISTICAL METHODOLOGY INVOLVED IN THIS COLLECTION” and delete Q1 through 5.**

**1. Describe (including numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection has been conducted previously, include the actual response rate achieved during the last collection.**

### Historical Response Rates for This Collection

In recent years, response rates for this collection have approached nearly 80% percent, and these rates are expected to remain at this level.

### Expected Response Rates for This Collection

All fire departments in the country can access the reporting system and are asked to report all fire incidents that occur. Fire departments that report to NFIRS have access to tools for reporting. USFA expects participation to remain high and near 80%, the generally accepted rate, for reporting of fire incidents.

Targeted statistical sampling will not be utilized as our goal is to record all fire incidents that occur in any given year. USFA understands that there are some departments that fail to report, but USFA has taken efforts to increase their participation. This is intended to be a 100% count not a sample. Per the OMB terms of clearance, USFA has produced a report on response and the representativeness of NFIRS.

USFA relies on four factors for valid representation of the NFIRS data:

- 1) historically high level of participation of fire departments in the database,
- 2) wide geographic distribution of participating fire departments,
- 3) diversity of community sizes as represented by participating fire departments, and
- 4) standardization of core information on fire and casualty reports.

Participation is voluntary and therefore USFA cannot guarantee that every fire incident is reported. However, the majority of them are. Some states do require fire departments to participate in their state reporting system.

NFPA estimates that there are approximately 30,400 fire departments in the USA. Currently, all 50 States and the District of Columbia participate, and on average across the country, 77 percent of fire departments are reporting fires to NFIRS. Because of the high reporting rates nationwide, USFA believes that NFIRS is representative of fire departments across the country.

In fire data analyses at the national level, USFA uses at least three years of data to account for fluctuations in fire department participation each year. It is important to stress that USFA, along with other Federal agencies, do not use NFIRS data to derive State level fire estimates. NFIRS data are used to show the fire problem at the national level.

Because the findings in *USFA's NFIRS Representativeness Study* show high reporting rates at the national and regional levels, fire departments across the country, whether they be career, volunteer, or protect communities of varying sizes, are well represented in NFIRS. Therefore, USFA concludes that NFIRS reporting departments are representative of the universe of all fire departments in the U.S. There is a low chance of bias in NFIRS due to department nonresponse at the national level because of the high reporting rates observed in the NFIRS Representativeness Study.

## **2. Describe the procedures for the collection of information including:**

- **Statistical methodology for stratification and sample selection,**

No targeted statistical methodology for stratification and sample selection are used for collecting NFIRS data because this collection is voluntary, not a sample. USFA completed the terms of clearance report to show that the response rate, while not 100%, is adequate for the purposes of taking a nationwide inventory of incidents that occur.

- **Estimation procedure,**

Data are presented as scaled up national estimates or percentages rather than raw or absolute numbers from NFIRS. Most estimates will be derived as a percentage from NFIRS categories and applied to national level data from the National Fire Protection Association (NFPA). Since the calculation of national estimates may use various data sources,<sup>1</sup> adjustments for completeness, consistency, and reliability of data sources and data elements will be made. Extrapolations of the NFIRS data to national estimates will be calculated using gross totals from NFPA. To address for different proportions contained in the NFIRS and NFPA (due to the much larger sample contained in the NFIRS), NFPA estimates of fires, deaths, injuries, and dollar loss for residential, non-residential, mobile and outside properties will be used as a starting point, with other estimates below this level based on proportions from NFIRS. Inevitably, some inconsistencies will remain until all estimates can be derived from NFIRS alone. To

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<sup>1</sup> National Fire Protection Association; National Center for Health Statistics; Bureau of the Census; Bureau of Alcohol, Tobacco, and Firearms; National Institute for Occupational Safety and Health; USFA-Firefighter Fatality Project; Consumer Product Safety Commission.

correct for non-response (missing data items) or for data reported as “unknown,” estimates will include adjusted percentages in which “unknown” values are distributed in the same proportion as “known” values. Although such assumptions may or may not be totally accurate, it provides a more conservative estimation than would otherwise result should “unknown” values be ignored.

- **Degree of accuracy needed for the purpose described in the justification,** No statistical tests are computed on this data with any specified percentage level of confidence. Also, NFIRS data are generally reported as scaled up national estimates rather than absolute numbers.

- **Unusual problems requiring specialized sampling procedures, and** No specialized sampling procedures are used for NFIRS data collection.

- **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.** NFIRS data are reported every day of the year by fire departments responding to incidents across the county.

**3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield “reliable” data that can be generalized to the universe studied.**

Every possible effort is taken to ensure that data estimates are accurate, valid, and reliable. To ensure the validity of the information and consistency in the data reporting, a set of standardized definitions for a common core of information on fire and casualty reports is used. States and fire departments across the nation are encouraged to participate. User-friendly data collection and reporting processes have been implemented and are frequently reviewed to meet users’ needs and to identify data gaps. USFA has taken special efforts to solicit responses from departments that do not report. Tools for reporting are equally available to all departments.

Given that this is not a new data collection, there is ample empirical evidence and statistical information on data patterns. With over 1,000,000 new fire incident records reported annually, comprising a solid majority of all fires, a wide geographic distribution of fire departments, and representation of communities of all sizes, NFIRS has almost an 80% response rate. USFA is confident that there is little bias affecting the results at the national level. Furthermore, fire data exhibit stability over time as evidenced by 10-year trend lines and the fact that results based on the full data set are generally similar to those based on part of the data. NFIRS data are further validated against other external data sources. It is expected that these measures will help to maintain sufficiently high response rates suitable to analysis.

**4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.**

Pilot Test

Numerous focus groups on NFIRS Version 5.0 were consulted for the development of the NFIRS 5.0 system and forms. Participants included but were not limited to:

- a. U.S. Census Bureau
- b. Bureau of Standards
- c. National Fire Protection Association
- d. Consumer Product Safety Commission
- e. State Fire Marshals
- f. Local fire department officials
- g. National Fire Information Council
- h. U.S. Chemical Safety and Hazard Investigation Board
- i. National Association of State Foresters
- j. USDA Forest Service
- k. Symposium on Medical Support for the Fire Service
- l. National Wildland Coordinating Group
- m. Bureau of Alcohol, Tobacco, and Firearms
- n. National Highway Traffic Safety Commission

**5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

**Person(s) 1:**

Organizations consulted on statistical aspects of NFIRS include, but are not limited to the National Fire Protection Association (1-800-334-3555) and TriData Corporation (703-351-8300). Data are collected and forwarded to USFA through State Program Managers who are members of the National Fire Information Council (<http://www.nfic.org/>).

FEMA-Information Resources Management Branch, IC-Records Management

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