

Fire Fighter Fatality Investigation and Prevention Program Survey

Supporting Statement A

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- Goal of the study: The purpose of the proposed collection is to conduct an evaluation of fire department implementation of the NIOSH Fire Fighter Fatality Investigation and Prevention Program recommendations to (1) assess whether NIOSH FFFIPP recommendations are utilized by fire departments (2) identify barriers to implementation of recommendations and (3) identify areas for potential intervention projects.
- Intended use of data: Findings from the evaluation will help inform strategies for communication of future NIOSH recommendations.
- Methods to be used to collect: An online survey will be utilized to collect data from respondents.
- Subpopulation studied: volunteer and career fire fighters in fire departments located within the Midwest, northeast, south, and west.
- How data will be analyzed: Data analysis will include Chi-squares, T-tests, regression: logistic or probit, Poisson or negative binomial, and linear.

A. Justification

A.1. Circumstances Making the Collection of Information Necessary

The Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH) seeks approval from the Office of Management and Budget (OMB) to conduct an evaluation of fire department implementation of the NIOSH Fire Fighter Fatality Investigation and Prevention Program (FFFIPP). This is an extension Information Collection Request (ICR), with approval requested for a one-year post-approval date. This study is authorized by the Occupational Safety and Health Act of 1970 (Attachment 1).

The United States depends on approximately 1.1 million fire fighters (FFs) to protect its citizens and property from losses caused by fire. Of these FFs, approximately 345,600 are career and 814,805 are volunteers. Of the estimated 29,727 fire departments (FDs) in the U.S., 9% of these FDs are all career, 6% are mostly career, 18% are mostly volunteer and 67% are all volunteer. Over the past 30 plus years, the number of FF deaths has decreased, from an average of 150/year in the late 1970's to less than 100/year the past several years. The leading causes of death among on duty FF's has remained relatively the same, with sudden cardiac deaths accounting for the largest proportion of deaths among on duty FF's (except in 2013), followed by motor vehicle (MV) events (crashes and struck by) as the second leading cause. Generally, FF fatalities from MV events have accounted for about 25% of the total line-of-duty deaths (LODD). In three out of the last five years (2013-2015), fatalities from MV events declined to 20% for career and 13% for volunteer (VFDs). However, in 2016 and 2017, vehicle-related FF deaths accounted for 27.5%-30% of LODD. Further, there were an estimated 16,600 collisions involving FD emergency vehicles responding to or returning from incidents in 2015, the highest number of collisions since NFPA began collecting this information in 1990. MV incidents continue to be a significant risk of fatalities for FFs and were identified as an important issue by the US Fire Administration (USFA) in 2002

(along with other partners) with their Emergency Vehicle Safety Initiative. This initiative continues to receive support and funding from the USFA.

The Fire Fighter Fatality Investigation and Prevention Program (FFFIPP) conducts independent investigations of FF LODD and recommends ways to prevent deaths and injuries. In 2003, an evaluation was conducted to determine the extent to which recommendations from NIOSH investigations of FF fatalities are being implemented by FDs (see <https://www.cdc.gov/niosh/fire/ffsurvey.html>).

Since then, there have been changes to the Program recommendations and methods of disseminating FFFIPP reports. For example, there have been changes to (1) the details and types of recommendations for preventing FF fatalities and (2) the method to disseminate the FFFIPP reports to FDs (driven in large part by cost). Dissemination methods have evolved from hardcopy mailings to FDs, to internet-based, with notifications of new FFFIPP reports by the fire service media and if FDs sign-up at the NIOSH website for notifications of new reports. Understanding how, or if NIOSH recommendations are used by various types of FDs will allow a better understanding of barriers (e.g., safety culture) to the use of proven prevention recommendations and help identify approaches to improve the delivery of services to FDs. Additionally, we will gain insight into whether changes to the communication and dissemination has impacted the reach of these recommendations. Knowing if different types of fire departments are aware of and willing to access FFFIPP reports and recommendations in non-print formats is critical, as these recommendations cannot have the intended impact of saving fire fighter lives if large numbers of FDs do not know where to find NIOSH reports or have the resources to access them. The purpose of this data collection is to assess FD implementation of the NIOSH FFFIPP recommendations and identify barriers to implementation of recommendations. Results will provide an understanding of current FD operational procedures, insight into MV-related activities and related policies, and identify whether FFFIPP recommendations are being utilized by FDs. Findings will inform strategies for communication of future recommendations and identify areas for potential intervention projects in order to improve the delivery of services and help ensure an effective and efficient stakeholder experience with the Program.

A.2. Purposes and Use of Information Collection

The proposed data collection will involve conducting an online survey of fire fighters (**Attachment 1a**), officers (**Attachment 1b**) and Fire Chiefs (**Attachment 1c**) using a stratified random sample of 4,500 fire departments across the US to assess whether departments follow recommendations in NIOSH FFFIPP investigation reports, including those for preventing MV incidents such as crashes/rollovers and struck by incidents. The survey is designed to identify the type of training received, standard operating procedures in place and if they are being followed, and behaviors of fire fighters (e.g. do they use seat belts, have they received training, etc.). Data collected will increase understanding of the NIOSH FFFIPP prevention recommendations utilized by FDs and what effect those may have on safety policies and operating procedures.

Results from the survey will provide insight into whether NIOSH FFFIPP recommendations are being utilized by fire departments and identify any challenges or barriers to their implementation and potential strategies to address them. Additionally, the results may be used to identify areas for potential intervention projects for later studies, such as MV interventions (projects to increase seat belt use, projects to increase use of retroreflective vests at MV incidents, etc.), SOP updates/revision, and better health communication approaches to reach FD's.

A.3. Use of Improved Information Technology and Burden Reduction

This project will utilize an online survey (**Attachment 1a, 1b, 1c**) allowing respondents to complete and submit their responses electronically. Compared to paper surveys, online surveys reduce burden,

require less time, and are less costly to employ. Screen shots of the online survey instrument can be found in **Attachment 2a**.

A.4. Efforts to Identify Duplication and Use of Similar Information

A review was conducted in February 2021 to identify similar information. The review indicated one annual survey of firefighter injuries by the National Fire Protection Association (NFPA)

<https://www.nfpa.org/News-and-Research/Data-research-and-tools/Emergency-Responders/Firefighter-injuries-in-the-United-States>.

However, this survey does not assess utilization of FFFIPP recommendations or attempt to determine if there are any barriers to the implementation of FFFIPP recommendations. Therefore, this data are not able to meet the current needs to understand whether NIOSH FFFIPP recommendations are utilized by FDs, identify if there are any barriers to the implementation of recommendations, and subsequently inform any necessary changes to communication strategies of FFFIPP reports and recommendations.

A.5. Impact on Small Businesses or Other Small Entities

Questions have been held to the absolute minimum required for the intended use of the data/information.

A.6. Consequences of Collecting the Information Less Frequently

This request is for a one time data collection. Without this data, NIOSH is not able to determine if fire fighters are utilizing the FFFIPP recommendations or if there are any challenges or barriers to the utilization of recommendations. Additionally, it is not known if changes, to how reports are disseminated, has impacted awareness and willingness to access the reports. Without this information, the FFFIPP recommendations cannot have the intended impact of saving fire fighter lives if large numbers of FDs do not know where to find NIOSH reports or have the resources to access them.

A.7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

This request fully complies with the regulation 5 CFR 1320.5.

A.8. Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency

A.8.a.

A. A 60-day Federal Register Notice was published in the *Federal Register* on August 21, 2023 vol. 88, No. 160, pp 56832-56834. (Attachment 2). CDC did not receive any comments.

A.8.b

The following individuals/organizations outside of the agency were consulted.

Lori Moore-Merrell, PhD

Consulted on questionnaire design and recruitment

Date Consulted: August 2020-December 2020

International Public Safety Data Institute (IPSDI)

President

Office 703-273-0911 Ext 521

Lori@i-psdi.org

A.9. Explanation of Any Payment or Gift to Respondents

No payments or gifts will be provided to respondents.

A.10. Protection of the Privacy and Confidentiality of Information Provided by Respondents

The Information Systems Security Officer (ISSO) determined in conjunction with the CDC Privacy Office that Privacy Act is not applicable. The collection does not contain PII in the survey. NIOSH plans to utilize the authorization for the Novi Survey Platform which will include the in-place technical, physical, or administrative controls (safeguards). Novi Survey Platform System Security Plan (SSP) will define the process for handling security incidents. The system's team and the Cybersecurity Program Office (CSPO) share the responsibilities for event monitoring and incident response. Direct reports of suspicious security or adverse privacy related events to the component's ISSO, CDC helpdesk, or to the CDC Security Incident Response Team (CSIRT). The CDC CSPO reports to the HHS Computer Security Incident Response Center (CSIRC), which reports incidents to US-CERT as appropriate.

Overview of the Data Collection System

The data collection system consists of a web-based survey (see **Attachments 1a, 1b, 1c**) designed to evaluate fire department implementation of the NIOSH FFFIPP recommendations. The survey was pilot tested by 8 firefighters. Feedback was used to refine questions, as needed, and establish the estimated time required to complete the survey.

No personal information (e.g., gender, age, and race) will be requested from potential respondents on the survey. Information will be requested from individuals on the basis of his or her role within an organization (fire department).

Personal identifiers will be collected or maintained in the creation of the respondent pool and during data collection. Additionally, the manner in which the data will be collected and maintained may indirectly identify a respondent through a combination of variables (e.g., position, state, employment status, years in service, experienced a line of duty death (LODD), LODD timeframe).

Applicable individually identifiable form categories include: (1) fire department mailing address (2) fire department phone numbers (3) device identifiers (4) Web Uniform Resource Locators(s) (URL) (5) Email address (6) Employment Status and (7) Other.

Respondents recruited via e-mail

Potential respondents recruited via e-mail will be provided notice informing them that responses to the survey will be kept confidential and that their participation is voluntary, and they may decline to answer any questions or end the survey at any time. Advisement information is contained in the email invitation to the survey located in **Attachments 4 and 5**.

Potential respondents recruited via e-mail will be advised of the nature of the information collection activity and the length of time it will require upon invitation to participate in the survey (**Attachments 4 and 5**).

All data provided by respondents will be treated in a secure manner and will not be disclosed, unless otherwise compelled by law. Respondents will be informed prior to participation that their responses will be treated in a secure manner (see **Attachments 2a, 4, 5**).

Respondents recruited via telephone

Potential respondents recruited via telephone will be advised of the nature of the information collection activity verbally (**Attachment 3**). Upon agreement to participate in the survey, respondents will be

provided notice, verbally, that responses to the survey will be kept confidential (see **Attachment 3**). Potential respondents will be informed of the voluntary nature of their participation, length of time the survey may require and that they may decline to respond to any specific questions within the information collection when the online survey is accessed (**Attachment 2a**).

Individually identifiable data collected to facilitate the collection of response data (names, telephone numbers, e-mail addresses, fire department name) will be kept by the contractor in a password protected file. The contractor will delete this file after the project is completed. The contractor collecting the data will assign respondents a random code to de-identify data. The random code linking information will be maintained by the contractor and kept until the end of the project. Survey data will be maintained in password protected files on CDC's contractors' servers. It will be accessible only to contractor staff directly involved in the project. Upon project completion, the dataset containing de-identified survey responses will be provided to NIOSH as a SAS data file. The contractor will delete all electronic and hard copy data created and collected as part of this information collection upon completion of this project (see **Attachment 6**). All data created and collected as part of the information collection will be the property of CDC.

A.11. Institutional Review Board (IRB) and Justification for Sensitive Questions

Informed Consent and Voluntary Nature

It has been determined that the proposed data collection is not human research (**Attachment 7**).

A. 12. Estimates of Annualized Burden hours and costs:

The estimate for burden hours is based on a pilot test of the survey instrument by 8 fire department personnel. In the pilot test, the average time to complete the survey including time for reviewing instructions, gathering needed information, and completing the survey was 10-25 minutes. Based on these results, the estimated time range for actual respondents to complete the survey is 10-25 minutes. For the purposes of estimating burden hours, the upper limit of this range is used. There are screening questions at the beginning of the survey so all respondents may not actually participate.

The respondent universe is based on: (1) 4500 fire departments (2) 8 strata (region, department type) and (3) position (firefighter, chief, company officer). An estimated 13,500 respondents are anticipated to participate in the survey; the annual respondent burden is estimated to be 4,050 hours.

Estimates for the average hourly wage for respondents are based on the 2018 Department of Labor (DOL) National Occupational Employment and Wage Estimates estimate for firefighters <https://www.bls.gov/oes/2018/may/oes330000.htm>. Based on DOL data, the average hourly wage for firefighters is estimated at \$25.60. The average hourly wage for company officers and fire chiefs is estimated at \$38.61.

Table A12A: Estimated Annualized Burden Hours

Types of Respondents	Form Name	Number of Respondents	Number of Responses per Respondent	Average hours per response (in hours)	Total Burden Hours (in hours)
Firefighters	Survey	4,500	1	18/60	1,350
Fire Chiefs	Survey	4,500	1	18/60	1,350
Company Officers	Survey	4,500	1	18/60	1,350
Total				54	4,050

Estimated Annualized Burden Costs to Respondents.

The average annual response burden cost for the survey is estimated to be \$138,807.00. The hourly wage estimates are based on the 2018 Department of Labor (DOL) National Occupational Employment and Wage Estimates <https://www.bls.gov/oes/2018/may/oes330000.htm>. There is no cost to respondents other than their time to participate.

Table A12B: Estimated Annualized Burden Costs

Type of Respondent	Form Name	Total Burden Hours	Hourly Wage Rate	Total Respondent Costs
Fire Fighters	Survey	1,350	\$25.60	\$34, 560
Fire Chiefs	Survey	1,350	\$38.61	\$52,123.50
Company Officers	Survey	1,350	\$38.61	\$52,123.50
Total				\$138,807.00

13. Estimates of Other Total Annual Cost Burden to Respondents and Record keepers

None.

14. Annualized Costs to the Federal Government

There are no equipment or overhead costs. Contractors are being used to support this data collection. The cost to the federal government will be the cost of the contract with ATL and the salary of the CDC/NIOSH staff supporting the data collection activities and associated tasks.

The estimated average annual cost to the federal government for the proposed information collection activities is \$178,937.95. This figure encompasses 40% FTE of one GS-13 employee, 25% FTE of one GS-13 employee, 10% FTE of one GS-12 employee and information collection contract costs. The average hourly rates were obtained from the Office of Personnel Management's website (https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2021/DCB_h.pdf). The average hourly rate for a GS-13 in Washington-Baltimore-Arlington, DC-MD-VA-WV-PA area is \$56.31 per hour, which is about \$117,124.80 per year. The average hourly rate for a GS-12 in Washington-Baltimore-Arlington, DC-MD-VA-WV-PA area is \$47.35 per hour, which is about \$98,488. The contractual cost for an information collection (e.g. instrument evaluation, pilot testing, OMB package preparation, data collection, quality control, data analysis, report preparation) is estimated at \$278,876.48 over three years. The annualized contractual cost is estimated at \$92, 958.83. Table A-14 describes how this cost estimate was calculated.

Table A14: Estimated Annualized Cost to the Federal Government

Staff	Average Hours per Collection	Average Hourly Rate	Average Cost
CDC Project Officer (Research Epidemiologist) GS-13 (step 5), 40% FTE Instrument development, oversight of pilot testing, web-design, OMB package preparation, data collection, quality control, data analysis, report preparation	832	\$56.31	\$46,849.92
Health Statistician GS-13 (step 5), 25% FTE Oversight of sample frame development, sample selection, weight calculations, report preparation	520	\$56.31	\$29,281.20
Fire Protection Engineer GS-12 (step 5), 10% FTE	208	\$47.35	\$9,848

Subject matter expert			
Annualized Contractual Cost Pilot testing, OMB package preparation, data collection, quality control, data analysis, report preparation	\$ 92,958.83/yr		
Estimated Total Cost of Information Collection			\$178,937.95

15. Explanation for Program Changes or Adjustments

This is an extension ICR. No changes have been made to the data collection instruments.

16. Plans for Tabulation and Publication and Project Time Schedule

Findings from the evaluation will be used internally to inform strategies for communication of future NIOSH recommendations.

Project Time Schedule

Task	Timeline
Pilot Test Survey	Complete
Drawing the sample	Complete
Survey Enrollment and Data collection	On-going
Data Management	2 months post data collection
Data Analysis	5 months post data collection
Final Report and Data file	10 months post data collection

17. Reason(s) Display of OMB Expiration Date is Inappropriate

CDC does not request exemption from display of the OMB expiration date.

18. Exceptions to Certification for Paperwork Reduction Act Submissions

Not applicable.