



RESEARCH FOUNDATION

RESEARCH FOR THE NFPA MISSION

INFORMED CONSENT FORM FOR SURVEY

Title of Study: "Fire Service Gear Cleaning Survey"

Date: 18 September 2019

Introduction. The purpose of this form is to provide you (as a prospective research study participant) information that may affect your decision as to whether or not to participate in this research and to record the consent of those who agree to be involved in the study.

Overall, the primary goal of the survey is to help us set priorities in the subject project, particularly about which items to evaluate, what cleaning processes should be evaluated, and discover any other contamination issues for which we may not be aware.

Research Primary Details. The survey is part of three-year research project funded by an AFG Fire Grant through DHS/FEMA, through Award # EMW-2017-FP-00582. The primary recipient is the Fire Protection Research Foundation (FPRF), a 501(c)(3) research organization, and also the research affiliate for NFPA (National Fire Protection Association). Project partners include the National Personal Protective Technology Laboratory (NPPTL) at NIOSH (the National Institute for Occupational Safety and Health) and IPP (International Personnel Protection).

Study Background. This AFG funded Fire Grant project establishes a validated and scientifically-based cleaning methodology for potentially contaminated fire service personal protective equipment (PPE) and equipment, including PPE not addressed by previous work such as helmets, gloves, and footwear, and other key components subjected to contamination such as hand tools, fire hose, and apparatus seat covers. This study is important because it provides a critical contribution to effective contamination control, which is believed to be a significant contributor to firefighter long term health concerns (e.g., cancer). This effort is an extension of an earlier research project that established validated cleaning procedures focused on PPE textile garments traditionally cleaned in commercial washer extractors. The focus of the earlier baseline work was to evaluate turnout clothing cleaning procedures that in turn provided solutions for minimizing contaminant exposures. This earlier study established a methodology, which evaluates the effectiveness of cleaning and decontamination processes for removing both chemical and biological contaminants from garment outer shell materials. The cleaning process for other gear is significantly different, and this project will adapt the validated cleaning procedures to the primary spectrum of potentially contaminated fire service gear.

Study Purpose and Objectives. The overall goal of this project is to improve firefighter health and safety by reducing repeated exposure to harmful contaminants in unclean or inadequately cleaned PPE and related equipment. Specifically, this effort will answer new questions about turnout clothing contamination removal to further refine recommended fire service advanced cleaning and sanitization procedures to levels of greater efficiency as may be possible with conventional laundering/treatment approaches. Equally important, this project will adapt the established evaluation methods for the consistent measurement of cleaning effectiveness beyond their originally-designed use with fire service washer/extractors (used for garment outer shells) to address other critical contamination concerns involving other garment layers and components, helmets, boots, gloves, SCBA, and related response equipment that could include hand tools, fire hose, and fire apparatus.

Study Design and Methods. This research project is effectively a cleaning (e.g., laundering) and chemistry oriented effort. As such, the components of this effort that require IRB oversight are included in the field information collection activities with a project task for characterizing PPE/equipment contamination. This particular project task involves working with fire departments, PPE manufacturers, and independent service providers (ISPs) for cleaning PPE to determine fire service practices, review existing literature, conduct an information collection (i.e., background interviews and survey instrument), and perform preliminary sampling of contaminated selected PPE and equipment.

Firefighter gear is cleaned and maintained in two primary approaches: (1) directly by fire departments, or (2) outsourced to ISPs. Note: ISPs are defined according to NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* (2014 edition), as an organization that conducts advanced inspection, advanced cleaning, basic repair, or advanced repair service of firefighter gear.

Reasonably Foreseeable Risks. There are no known risks from taking part in this survey, but in any research, there is some possibility that you may be subject to risks that have not yet been identified.

Benefits. This study is important because it provides a critical contribution to effective contamination control, which is believed to be a significant contributor to firefighter long term health concerns (e.g., cancer). The direct benefit to the fire service of the research is the broader validation of PPE and equipment cleaning that increases the assurance that firefighters are not unnecessarily exposed to persistent harmful contaminants through their PPE or tools.

Confidentiality. All information obtained in this study is strictly confidential. The results of this survey may be used in reports, presentations, and publications, but the researchers will not identify you. In order to maintain confidentiality of your records, all the results will be generically presented in the report. Organizational identification will be organization type (and services) and for end users by type of department, and size of organization. Fire departments and firefighter names will not be revealed. If there are any results that are time dependent, then only month and year of data collected will be revealed. Results will be stored in a secured office only accessed by the cleared employees.

Taking part is voluntary. Taking part in this study is completely voluntary. There is no payment for your participation in the survey. You may skip any questions that you do not want to answer. If you decide to take part, you are free to withdraw at any time.

If you have questions. Any questions you have concerning the research study or your participation in the survey, before or after your consent will be answered by:

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