

PRA Application Supporting Statement

OMB Control #0693-0078

Expiration Date: 07/31/2022

NIST Generic Clearance for Community Resilience Data Collections

**HURRICANE MARIA EMERGENCY COMMUNICATIONS INVESTIGATION:
HOUSEHOLD INTERVIEW**

FOUR STANDARD SURVEY QUESTIONS

1. Explain who will be surveyed and why the group is appropriate to survey.

The National Institute of Standards and Technology (NIST) has the responsibility to investigate cases of serious failures of the built environment (buildings and infrastructure) under the National Construction Safety Team Act, signed into law in 2002¹. Members of the National Construction Safety Team (NCST) based at NIST were tasked in early 2018 with the investigation of impacts from Hurricane Maria, which hit Puerto Rico on September 20, 2017. NCST duties include:

1. *“...establish the likely technical cause or causes of the building failure;*
2. *evaluate the technical aspects of evacuation and emergency response procedures;*
3. *recommend, as necessary, improvements to building standards, codes, and practices based on the findings;*
4. *recommend any research and other appropriate actions needed to improve the structural safety of buildings, and improve evacuation and emergency response procedures, based on the findings of the investigation.”*

The interview for which this application is written pertains to the second and fourth duties of the NCST listed above. The goal of the interview is to better understand decision making around emergency communication with the public, as well as procedures, policies, and guidelines for evacuation. This investigation is not considered research but is instead a fact-finding mission to establish the role that emergency communication played in effective or ineffective evacuation behavior as well as other protective actions. The purpose of NCST investigative activities is to make recommendations, based directly on findings, that can help prevent future deaths and injuries across the United States.

1 https://www.nist.gov/system/files/documents/public_affairs/releases/hr46871.pdf

Previously, NIST partnered with contractors who utilized trained personnel local to Puerto Rico to complete data collection activities. The contractors, in consultation with NIST scientists and engineers, used U.S. Census data to develop a sampling strategy for a PRA approved survey with Puerto Rico households. The survey collects data in four specific regions of Puerto Rico that facilitate representation of key hurricane-impacted areas but are still representative of the island's overall population.

In tandem with the household surveys, and the subject of this information collection, we seek to complete 100 optional follow-up interviews with households to gather additional qualitative information that will complement the survey data. At the end of the survey, individuals are prompted as to whether they may be interested in participating in a follow-up interview. Then, contractors will follow up with those interested to schedule a time to participate in a 60-minute phone interview and reach out to interviewees on their scheduled day and time to conduct the interview. The household interviews will address key areas of interest to the investigation, including the impacts of Hurricane Irma on hurricane preparation, evacuation decisions for Hurricane Maria, and the role of social media in emergency communication.

The household interviews will provide important qualitative insights into participants' survey responses and allow for a more nuanced understanding of participants' experiences during Hurricane Maria. In tandem with the PRA approved household survey and interviews with providers of emergency communications messages, the household interview instrument will provide us with the critical information necessary to understand the emergency communication and information environment prior to, during, and immediately after Hurricane Maria that is required to successfully complete our previously described duties under the NCST.

2. Explain how the survey was developed including consultation with interested parties, pre-testing, and responses to suggestions for improvement.

The interview instrument was developed by NIST scientists with backgrounds in sociology, anthropology, communication, and psychology through a series of development and quality control activities.

First, we reviewed the survey questions and assessed which topics may need further elaboration. At the same time, we also reflected on the current state of knowledge in risk communication to help inform the topics with information gaps and in need of further exploration. Next, after a draft interview guide was developed, NIST investigators elicited feedback from an interdisciplinary group of disaster specialists at NIST. Then, NIST personnel disseminated the revised interview questions to professional interviewers among the contractor's staff for further

refinement. A final round of revisions was made focusing mainly on wording adjustments and some reorganization of content. We are confident that our contractors are equipped with well-developed tools with which to gather necessary information from household members.

3. Explain how the survey will be conducted, how customers will be sampled if fewer than all customers will be surveyed, expected response rate, and actions your agency plans to take to improve the response rate.

Team members in Puerto Rico will recontact survey respondents who expressed interest in an optional follow-up interview and conduct a 60-minute interview on similar topics via phone. Originally, surveying and associated interviews of households were supposed to be done in person. However, due to COVID-19 restrictions, an alternate strategy was developed to invite respondents to participate in follow-up interviews via telephone.

At the start of the interview, the PRA statement will be read, and permission will be sought for audio-recording of the interview. Interview questions will be read aloud by contractor interviewers over the phone. Participants' responses will be recorded using the CATI phone recording system. After completing the interview over the phone (see attached interview instrument), interviewers will thank participants for their time. Interviews are open-ended and semi-structured to enable respondents to provide detailed information on their particular needs and experiences with emergency communication and evacuation decision-making.

Contractors will monitor respondent interest to ensure the interview population is representative across the study regions and with regard to demographics, resulting in a representative dataset of 100 interviews. As participants will be recruited from those completing the survey, their responses will be linked across the two instruments. This will streamline interviews and allow focus on more substantive questions while skipping repetitive topics (such as demographic questions). As a result, no sensitive PII will be collected with this instrument, rather the contractor will link appropriate data before the information is translated to NIST, and NIST will retain no sensitive PII. Therefore, this is not a Privacy Act System and SORN and Privacy Act Notice are not applicable.

Time burden is calculated to be 100 respondents * 60 (minutes) = 100 burden hours.

4. Describe how the results of the survey will be analyzed and used to generalize the results to the entire customer population.

The household interviews will be transcribed into English by the contractor and sent to NIST personnel for analysis. Utilizing a standard qualitative data software package, such as Atlas.ti, transcripts will be coded for key content areas. Then, the data can be queried for analysis to reveal key trends across the respondents, as well as to identify unique considerations that may be specific to one type of respondent. In addition, this software enables users to flag any surprising or novel findings that will enable refinement of our understanding to-date of the emergency information environment in Puerto Rico at the time of Hurricane Maria. While the lessons learned from each respondent will be unique, and richly qualitative, we are expecting through this work to be able to highlight those areas where members of the public agree on needs for strengthening risk and/or protective action communications.

The purpose of an NCST investigation is to help prevent future deaths and injuries across the U.S. by recommending actions that can influence codes, standards, and practices. Lessons learned from Puerto Rico regarding the use and effectiveness of emergency communications, and in particular their influence on evacuation behaviors, can be useful not only to better understand the impacts from this particular storm, but also can also be relevant for other hurricane prone regions and in other hazard conditions. For example, lessons learned by NIST's NCST investigation of the Joplin, Missouri Tornado in 2006 have been applied to help standardize siren emergency communications across the U.S.

Associated Attachments:

- Cover sheet
- Interview Instrument