An Analysis of Public Safety Call Answering and Event Processing Times

A public safety answering/access point (PSAP) refers to the call center where emergency calls for the police, fire department or EMS are received from mobile or landline callers/subscribers. Previously, NFPA 1221, Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (now combined into NFPA 1225 (2022 edition): Standards for Emergency Services Communications) contained performance standards for the time it takes to answer an emergency call and the time it takes to interrogate the caller and notify the appropriate responders. The 2022 edition of NFPA 1225 requires two time-standards for dispatch: (1) answer requests for emergency assistance within 10 seconds 90% of the time. (2) Process the request for emergency assistance within 60 seconds 90% of the time. These time requirements are based on the experience of the technical committee members and not on any analytical research. Authority having jurisdictions (AHJ) question the validity of these time requirements.

Project Goal & Approach
The overall goal of this project is to collect, analyze and summarize the call answer and processing time interval data in response to the fire and EMS events (excluding law enforcement event data) from a wide spectrum of Public Safety Answering Points (PSAP) dispatch centers (i.e., large, small, urban, rural etc.) in the United States. A statistically significant data collection shall be accomplished by developing and implementing a data collection questionnaire to all PSAPs.

Summary Observations
The purpose of this project is to collect, analyze and summarize the call answer and processing time interval data in response to the fire and EMS events (excluding law enforcement event data) from a wide spectrum of Public Safety Answering Points (PSAP) dispatch centers (i.e., large small, urban, rural etc.) in the United States.

This study identifies staffing limitations, insufficient funding, and technological issues/limitations as the common concerns for PSAPs. There are over 6,000 actively functioning PSAPs in the US. 52 organizations submitted data on public safety call answering and processing times and 47 of those datasets are in a format consistent with the needs of this study.

The limited dataset does not allow for a holistic evaluation of determining if PSAPs meet the time requirements specified in NFPA 1225 for public safety call answering and processing times. However, an analysis of the existing data of this study reveals that PSAPs are generally unable to process calls within the time prescribed by NFPA 1225. In this study, PSAPs were only able to achieve the minimum time standards set by NFPA 1225, 40-50 percent of the time. It was noted that PSAPs who stated that they follow a written standard were compliant significantly more often than those who did not. Specifically, agencies that stated they follow the times described in NFPA 1225 or NFPA 1221 had 65% of their calls found to be compliant, versus only 27% compliance in the calls processed by agencies not following an NFPA standard. Analyzing these records, the 90th percentile for call processing times is more than twice the recommended time specified in NFPA 1225. However, records from agencies that follow written standards are compliant more than twice as often as the records from agencies without a standard. Agencies following NFPA Standards are identified to be most successful in this study.

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