RESEARCH FOUNDATION

RESEARCH FOR THE NFPA MISSION

PROJECT SUMMARY

Carbon Monoxide Detection and Alarm Requirements

11 August 2020

Background: New requirements for installation of Carbon Monoxide (CO) detection into several types of occupancies, both new and existing occupancies, are being addressed in the latest editions of NFPA 101, Life Safety Code® and NFPA 5000, Building Construction and Safety Code®. During the most recent revision cycle process (2021 edition of the new codes), an underling concern has arisen if the requirements (of when and how CO detection is required) are adequate, and if the requirements need to be extended to other types of occupancies. Although this project originated with the Technical Committee on Residential Occupancies, the need to look at other occupancies (schools, offices, assembly) has been suggested.

Research Goal: The overall goal of this project is to summarize the existing requirements of installation of Carbon Monoxide (CO) detectors in various occupancies through a literature review of applicable Codes and Standards, and State regulations. The study will also focus to collect and summarize non-fire CO incident injury and death data from available sources.

Project Tasks: This project involves the following tasks:

1. Task 1. Literature review of Codes & Standards: Conduct a literature review to summarize current requirements (when and how required) of installation of CO detectors for various occupancies in the 2021 editions of NFPA 101 and NFPA 5000; and 2018 editions of IBC, IFC and IEBC. Prepare a comparison chart of the requirements based on occupancy type or any other appropriate format. Identify occupancies that do not have CO requirements.
2. Task 2. Literature review of State regulations: Identify and summarize State mandates, laws and regulations for CO detection requirements in various occupancies. This should also include the amendment being proposed for the Federal Hotel and Motel Fire Safety Act.
3. Task 3. Data collection: Compile and consolidate non-fire CO incident injury and death data from publicly available sources such as NFPA, CDC, OSHA, CPSC and news articles into one place.
4. Task 4. Final report: Prepare a final report and finalize the report after reviewing with the project panel.

How this information will be used: Project deliverables will assist the NFPA 101 and NFPA 5000 Technical Committees with next 2024 revision cycle. This information will also help the 2024 editions of the ICC code.

Implementation: This research project is led by the Fire Protection Research Foundation and will be conducted in accordance with the "Research Foundation Policies for the Conduct of Research Projects".

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The project will be guided by a Project Technical Panel who will provide input to the project, review periodic reports of progress and research results, and review the final project report.

Intellectual Property: The Research Foundation will retain rights to the project deliverables including the final report which will be published on the Foundation website.

Schedule and Costs: The total project duration is 5 months from the time of initiation Aug 2020, with final report is anticipated by Jan 2021.