Smoke Control Session III: CONTAM Analysis of Pressurization Systems

Course Description

This course focuses on CONTAM, CONTAM is a computer program uniquely suited for the analysis of zoned smoke control systems, stairwell pressurization systems, and elevator pressurization systems. Data input is addressed including floor plan representation, zone properties, phantom zones, building leakage, airflow paths, and air handling systems, supply points, return points, and weather data. Methods to speed up data input are addressed. Running simulations and data output are addressed. The use of CONTAM for tenability analysis is addressed. Participants will gain experience using CONTAM for a case study.

Course objectives

Upon completion of this course the participant will be able to

- Determine airflows—infiltration, exfiltration, and room-to-room airflows in building systems driven by mechanical means, wind pressures acting on the exterior of the building, and buoyancy effects induced by the indoor and outdoor air temperature difference
- Understand contaminant concentrations—the dispersal of airborne contaminants transported by these airflows; transformed by a variety of processes including chemical and radio-chemical transformation, adsorption, and desorption to building materials, filtration, and deposition to building surfaces, and generated by a variety of source mechanisms and/or
- Know the effects of personal exposure—the predictions of exposure to occupants to airborne contaminants for eventual risk assessment

Pre-requisite

Participants should have taken Smoke Control Session I or be familiar with the material in Smoke Control Session I.

Materials Needed

Participants should bring a laptop computer with the most recent version of CONTAM installed (visit http://www.bfrl.nist.gov/IAQanalysis/CONTAM to download).

Who will benefit: Experience Level Advanced

FPEs, mechanical engineers, project manager, manufacturers of equipment for air moving systems and code officials who need an understanding of this technology.

Course assessment

Participants will be assessed via a written test. A passing score of 70% is required to obtain a Certificate of Completion.

Professional Development Hours

Upon completion each participant qualifies for 7 PDHs or .7 CEUs. A Certificate of Attendance will be awarded.