

A project was carried out at The National Institute of Standards and Technology (NIST) to study the feasibility of developing a new generation, multi-room, compartment fire model computer code, called the Consolidated Compartment Fire Model (CCFM) computer code.

The idea was that such a code would consolidate past progress in zone-type compartment fire modelling, and allow readily for integration of future advances with the greatest possible flexibility. The project led to the development of a prototype multiroom CCFM product called CCFM.VENTS.

This is Part III of a four-part report which documents CCFM.VENTS. It is a catalog of all the modular algorithms and associated computer subroutines used to simulate the physical phenomena in CCFM.VENTS. Each physical algorithm entry includes a description of the phenomenon simulated, a concise presentation of the calculation procedure used, catalog entries have been developed and are presented as modular, stand-alone products.

The stand-alone design feature allows the catalog entries to be used both in CCFM and in any other modular, zone-type, compartment fire model computer code.

The other three parts of this report are:

Part I: Physical Basis;

Part II: Software Reference Guide; and

Part IV: User Reference Guide.