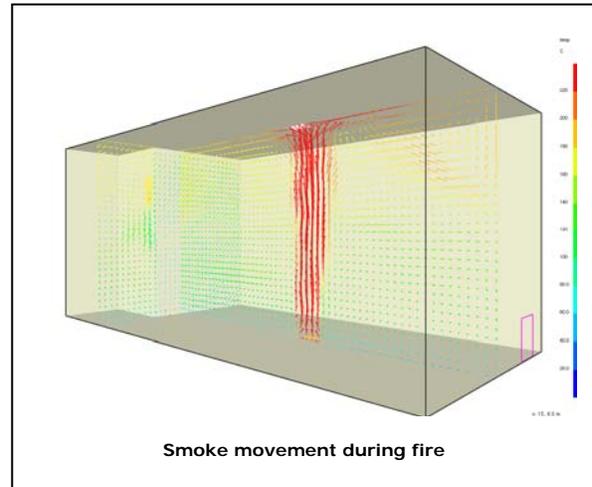


PERFORMANCE-BASED ANALYSIS AND THE NEW OBJECTIVE-BASED NATIONAL BUILDING CODE

The new National Building Code (NBC) of Canada 2005, distinct from previous editions, now offers both prescriptive and objective based approaches to compliance with the Code. The Code, to be adopted in the Province of British Columbia on December 15, 2006 and in Vancouver in April, 2007, will permit unique designs and conditions in which compliance can be achieved by demonstrating that the minimum level of performance required by the Code is met.

The impact of this new change is that design no longer need to follow the prescriptive requirements. Alternate design can be considered and demonstrated to the Authority that the objectives of the Code are maintained.



GHL CONSULTANTS LTD has been in the forefront of providing cost-effective, alternate solutions to meeting Client's designs, while maintaining the level of fire safety required by the Code. We have been successful in providing innovative solutions as equivalencies in the current BC and Vancouver Codes. Release of the intent statements in the new BC Building Code and Vancouver Building Bylaw will further expand GHL's capacity in providing creative solutions to Code objectives by performance-based analysis. The following are two examples of tools used in performance-based analysis:

Fire Modeling by Zone Model

Zone model has become a standard tool used in assessing compartment temperature and smoke layer height. The model is often used in large high ceiling compartments to demonstrate structural adequacy, tenability conditions and performance of certain material, such as glass, as fire separations.

Fire Modeling by CFD Model

The CFD model is an advanced fire model which can predict the movement of smoke and effects of fire based on determining the hydrodynamics within a fire compartment. The CFD model offers prediction of fire and transport phenomena under various conditions (exterior and interior), as well as projects with complex geometries. The CFD model also provides visual output for users to observe movement of smoke and understand factors that impact fire safety performance in design.

