EPSRC FUNDED INVESTIGATION INTO THE EVACUATION AND OTHER RELATED ACTIONS OF THE SURVIVORS OF WORLD TRADE CENTRE DISASTER
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Over 2000 survivors of the 9/11 World Trade Centre disaster are to be interviewed in the largest project ever undertaken into the evacuation safety of high rise buildings. The team, from the Universities of Greenwich, Liverpool and Ulster, have been awarded a £1.6 million grant by the UK's Engineering and Physical Sciences Research Council (EPSRC) to study the experiences and behaviour of survivors of the Sept 11th tragedy. – factors such as; whether they started to evacuate immediately or continued to work; the urgency with which the evacuation took place; the realisation that they were in danger; whether survivors formed groups and OTHER evacuation shaping factors will be elicited. The project, known under the acronym HEED, which stands for High-rise Evacuation Evaluation Database, is due to start in September 2004.

"The survivors of the WTC September 11th 2001 disaster are key to our understanding of how to design a safer built environment. Their individual and collective experiences could significantly influence the next generation of performance based building codes and high rise building designs". This is the view expressed by the research team assembled to undertake this project.

The project will involve substantial knowledge and technology transfer, with the data obtained being archived and made available to all bona-fide researchers.

NOTES FOR EDITORS

PROJECT HEED: **High-rise Evacuation Evaluation Database**

The evacuation of the WTC complex represents the largest full-scale evacuation of people in modern times. The survivors hold a tremendous amount of invaluable information concerning their experiences of the conditions within the structures and the evolving evacuation scenario. The purpose of HEED is to collect and analyse this information. The information collected in project HEED will be instrumental in shaping our building codes and standards, building design practice and building management procedures for years to come. Furthermore, project HEED will prove invaluable in assisting the development of behaviour models that are key components of evacuation models used in performance based building design. Consequently HEED will collect the human experience data arising from the WTC disaster through face to face interviews and questionnaires and structure it in a manner that will be accessible for future research and to take the first steps in using this information to shape our building regulations and building evacuation models. This will involve, 1) the development of an appropriate data retrieval system to enable the capture of the available data, 2) the development of an interactive relational database structure that will allow rapid and easy access to the information, 3) preliminary analysis of the collected information to identify some of the key issues that influence building evacuation and finally, to use this information to identify current weaknesses in evacuation modelling technology and to define the new algorithms that addresses these requirements.

HEED will run over three years with the first year being used as a proof of concept of the methodologies to be used. Successful completion of the first year will allow the project to continue into the second and third years in which the main data collection will take place. The UK's Engineering and Physical Sciences Research Council (EPSRC) who are the funders for HEED have made £1.6 million available for this study over three years.

Professor Ed Galea

Professor Ed Galea is the founding director of the Fire Safety Engineering Group at the University of Greenwich and is the lead investigator in the HEED project. His work in fire safety engineering began after the tragic Manchester Boeing 737 fire, when he was commissioned by the UK Civil Aviation Authority to simulate the spread of fire and smoke in the disaster. His research interests include the modelling of evacuation, people movement, fire/smoke spread, combustion and fire suppression in the built environment, rail, marine and aviation environments. Professor Galea is the author of over 100 academic and professional publications related to fire. He serves on a number of national and international standards

and safety committees concerned with fire and evacuation including BSI, ISO, IMO and SFPE.

The Fire Safety Engineering Group of the University of Greenwich

FSEG consists of a 30-strong multi-disciplinary team of mathematicians, behavioural psychologists, fire safety engineers and computer scientists. The group was established in 1986 and has researched fire dynamics and human behaviour associated with fire for over 18 years. These efforts have lead to the development of the SMARTFIRE fire simulation software and the EXODUS suite of evacuation models which are in use in 26 countries around the world. The group has won a number of prestigious national and international awards for their research work including the Queen's Anniversary Prize 2003 and the European IST Award 2004.

Professor Jim Shields

Prof. Jim Shields is Emeritus Professor of Faculty of Engineering, University of Ulster. He was until January 2004, the founding Director of the Institute for Fire Safety Engineering Research and Technology (FireSERT) at the University of Ulster. Jim has over thirty years experience working in the field of fire safety engineering. He has over 120 journal and other publications and three books to his credit. He serves on many national and international committees concerned with fire safety engineering including NIBRAC, BSI, ISO, CENN and CIB. His research interests include human behaviour in fire, people movement, evacuation simulation and fire dynamics.

FireSERT University of Ulster

FireSERT brings together a large multi-disciplinary team of scientists, engineers and psychologists working in the field of fire science and fire safety engineering. FireSERT in 2001 was the recipient of a Joint Infrastructure Award of £5.7m to build new state of the art fire safety engineering research facilities. The new laboratory facilities which are now fully operational include a human behaviour in fire research suite. Current research includes studies into the wakefulness of sleepers to fire stimuli and behaviour of people exposed to fire in their homes. Works of the human behaviour in fire research group have been published as BRE documents.

Professor David Canter

Professor Canter started studying human actions in fires and similar emergencies in the late 1970's. This work, supported by government departments, and charitable trusts laid the foundations for current thinking on designing for and managing human behaviour. This work was the basis for Professor Canter's advice to a number of government enquiries into major

fires. It developed into studies of safety in industry which became the basis for a very successful behavioural approach to reducing accidents in the steel, petrochemical and electricity generating industries. It was on the basis of these successes that Professor Canter developed the investigative approach to applied psychology that is at the heart of his work with the police in 'offender profiling'.

Centre for Investigative Psychology The University of Liverpool

To develop his problem solving approach to real world problems Professor Canter set up the Centre for Investigative Psychology at the University of Liverpool in 1994. This runs an MSc and PhD programme as well as providing training and consultancy to law enforcement and related professionals throughout the world. The Centre has developed dedicated software to act as decision support tools for various areas of civil and criminal investigation.

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