

**Brigade Command Course 2002
International Conference
Rome, 8th. – 9th. April, 2003**

International Conference Paper

**THE TRAINING AND EFFECTIVE USE
OF VOLUNTEER FIREFIGHTERS**

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Abstract

The purpose of the research was to test the hypothesis that the volunteer firefighters of the UK require radical change to their current training provision and training input if they are to survive in a culture of increasing legislative demands and litigation.

There are approximately 1300 Volunteer firefighters in the UK fire services. In April 1997 the CACFOA Volunteer Sub Committee published their report and recommendations (Volunteers, A Case for Change). This report recommended that volunteer firefighter training should take place at a minimum rate of 48 hours per annum. The two brigades with the largest number of volunteers, Highlands and Islands and Strathclyde, currently train volunteers at a rate of half of this recommended figure.

The research was designed to gather data from fire services in the UK and to analyse it with further data collected from fire departments in North America. Stakeholders' views were collected from semi-structured interviews with key players in training departments, from the managers of the service, from volunteers and their leaders.

In North American fire departments different levels of competence are applied to volunteer firefighters and career firefighters within the same department. Additional training time for volunteer personnel is prevalent within American fire departments. Reliance is placed on encouraging volunteers to attain higher levels of competence.

Evidence emerged to support the hypothesis that the volunteer firefighters of the UK require radical change to their current training provision and training input.

Recommendations arising from the report include extended training periods, the application of different levels of competency for volunteer firefighters and a restructuring of training input at both local and centralised training establishments.

INTRODUCTION AND RESEARCH BACKGROUND

The Fire Services Act, 1947 is a key element of the statutory framework for the fire service in the UK. Section 1.1(b) of the Act places a duty on fire authorities to secure the efficient training of the members of fire brigades.

The Act makes quite clear that the whole ethos of fire cover provision is to fight fire. Volunteers are inherently part of that fire cover provision. Volunteer firefighters fulfil their duties in the less operationally active areas. The rate of volunteer response to incidents is significantly less than retained or wholtime crews, but the period of time that a volunteer unit must control and hold an incident, possibly of significant proportions, is considerably longer.

Present Volunteer Establishments

England and Wales	6 in total (Audit Commission Report, 1995)
Highlands and Islands	98
Strathclyde	31
Central Region	3
Dumfries and Galloway	2
Grampian	2
Tayside	4
Total	146 (Fire Directory, 2001)

This represents a total of 1300 personnel.

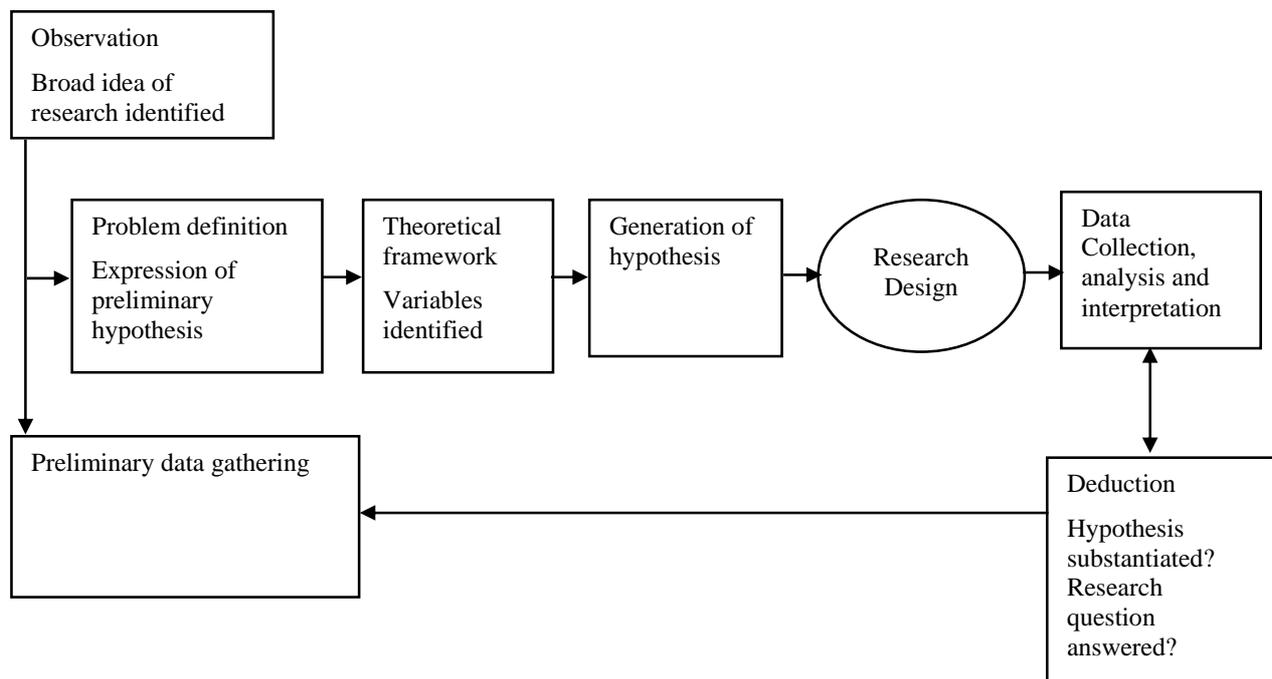
The Research Objectives

The objectives of this research project are:

- To review the current training provision for volunteer firefighters in terms of time availability, efficiency and effectiveness.
- To consider whether the present arrangements for the use of volunteers represent best value.
- To study and analyse the attitude of volunteers to the above issues.
- To review the same arrangements and attitudes in these areas with fire departments in the USA.
- To make recommendations in relation to the future requirements of volunteer training needs and effectiveness.

RESEARCH METHODOLOGY

Figure 1. The Research Process for Basic and Applied Research



In choosing the most appropriate methodology, account was taken of several factors including the researchers limited experience of undertaking research, and the time and resources available to conduct the research.

The author selected a multiple method approach as the most appropriate means of securing adequate rigour to the research. The research process was designed to be iterative and the research drew on data from four distinct research activities:

- Questionnaires to various groups of volunteers relating to their experience.
- Survey
- Semi - structured interviews
- Discussion Groups/ Case studies

The initial plan of the investigation was to carry out a thorough literature search into the subject of volunteers including technical literature in the form of fire service reports over the last 3 decades. From this initial plan of literature search, the methodology of research was to be designed, piloted and refined before the visits abroad were made.

The investigations were to take place with the gathering of information followed by an analysis of the investigation results from visits, interviews and research and comparisons made where this could be carried out.

FINDINGS

The USA Fire Service - Statistics and Background

Unlike the United Kingdom, the USA has a very different fire service organisation. In America there are, at 2002 estimates, 33,000 Fire Departments and 1,073,600 firefighters, many provided at county, municipality or organised fire district levels. The following table gives a summary of this statistical data.

NUMBER OF FIRE DEPARTMENTS AND TYPE		
Number	Type	% of total
1,778	Fire Departments, all career	5.8%
1,448	Fire Departments, mostly career	4.8%
4,905	Fire Departments, mostly Volunteer	14.4%
24,869	Fire Departments, all Volunteer	75.0%
33,000	TOTAL	100%

Volunteer Fire Stations provide fire cover and emergency assistance to a designated area. In

practice this area is geographically delineated, but the volunteers also provide cover and assistance outwith these boundaries as and when required. Volunteer fire stations protect risk areas not dissimilar to those in the UK covered by wholetime fire stations.

The American fire service is far from being a homogenous entity. The demographic profile of the country as a whole and individual states in particular, mean that fire departments have to provide cover to remote rural communities as well as to the urban conurbations. They therefore place a heavy reliance on volunteer firefighters.

Training - North America

All of the fire departments visited employed firefighters who were trained to a common standard that is set at State or Provincial level. Level 1 – initial emergency response training, produced by the National Fire Protection Agency (NFPA 1001), is the initial training module for volunteers.

This is undertaken by all new members irrespective of previous experience, who join as operational members and who are expected to achieve operational status.

In addition to the initial training course all volunteer firefighters must re-certify on an annual basis by completing ‘health and safety’ based training modules. This training for re-certification represents a total of 24 hours refresher training annually.

Most departments run along similar lines to the UK system of retained firefighter training. They train at each station for one evening a week, the average time being three hours. However, volunteer firefighters must serve a minimum of 60 operational hours refresher training annually if they are to remain as operational firefighters.

The commitment to training by the volunteer firefighters in the departments visited was in excess of 200 hours per year. A total of 84 hours of this is compulsory, if a firefighter is to re-certify for operational duties.

Semi structured interviews with a number of department chiefs revealed some examples of redefined roles for volunteers. These included roles limited to the types of incident requiring only the use of basic core skills with specialist support obtained from neighbouring wholetime units.

The Development of Competence within the American Fire Service

There are notable differences between the training time available to volunteer personnel compared to that which is available to their whole-time counterparts.

The NFPA has been working with fire agencies across America to develop competence standards and a competence based national fire curriculum. From 1994, this has provided for a competence-based training and assessment framework for application by fire departments throughout the country. The NFPA Fire Competencies are available in six levels supported by training module specifications and assessment templates. The competencies range from Level 1 which is the first level of operations through to level 6, which incorporates significant management responsibilities.

The UK Fire Service – Training Volunteer Firefighters

Volunteer firefighters training should be to the same standard as that of their wholetime counterparts. The Chief and Assistant Chief Officers Association have recognised this in their Training Policy Statement;

The work of the Fire Service will continue to be provided by a mixed wholetime, retained and volunteer work force. For the foreseeable future the UK Fire Service will perform the same function in a constantly changing environment and the skills and knowledge required will have to evolve along with that environment. The Fire Service roles require improved realistic training on the actual training needs set within an appropriate Health and Safety criteria and risk assessment framework.

Every fire brigade in the UK runs an initial recruit's course for their new volunteer recruits although there is some variation in the duration and content of these courses.

This course covers all aspects from the equipment carried by the unit and the safe working practices associated with its use, to general firefighting techniques.

An initial breathing apparatus (BA) training course is standard within brigades. The initial training courses are followed by one full day refresher training per month for three months and BA refresher training once every six weeks thereafter.

Other disciplines include the theory of confined space training reinforced by practical exercises involving safe working practices.

The structured training programme for the volunteer service consists of an operational training plan. This contains details of the training needs of the volunteer service, the standard of skill and knowledge required, how the objectives are determined and met, the degree of simulation required, the procedure for debriefing and the method of evaluation and review.

General training consists of a range of diverse subjects including the theory of fire fighting, combustion and the triangle of fire, door entry procedures, working in smoke and the theory of flash over and back drafts.

Semi Structured Interviews

The author conducted semi structured interviews with the Firemasters and training officers of both Highlands and Islands and Strathclyde Fire Brigades. When questioned in regard to volunteer firefighter training, all four gave similar responses.

Due to the regulations with which brigades now have to comply, and the upgrading of the volunteer unit's equipment, the training time required to enable personnel to become proficient in the use of that equipment needs to be greatly increased.

This, should it prove to be too much of a burden on the full time workload of the volunteer personnel, could result in some of them resigning from the units.

A radical change is required in the way brigades view volunteer training commitments. Brigades must clearly define the roles that they expect their volunteer crews to perform, determine the skill levels that would be considered acceptable and create a level of operational competence within each unit aimed at the risks that any particular unit could reasonably be expected to attend. Training needs to be more defined with the quality of input better controlled.

RESULTS OF QUESTIONNAIRE AND DISCUSSION GROUPS

The vast majority of firefighters responded to the positive aspects of the service rather than to the negative, reflecting the fact that they are very content with their experience of the service. It is also clear from the group discussions and interviews that the positive items far outweigh the negative ones in terms of their overall impact on volunteers.

The picture that emerges is therefore a very positive one. Volunteers gain a considerable degree of satisfaction from their work in the service, and while there are negative aspects as well, these are outweighed by the positive.

Training

Training featured heavily in the responses of the firefighters in the survey, mostly for the views they had of its quality and depth, but also due to concerns about the lack of adequate time.

Respondents reported receiving an average of 2 hours per calendar month (24 hours per year).

Most firefighters (80%) reported that they would be willing to commit more time to training at evenings (56%) and weekends (42%).

Virtually all the firefighters in the survey considered it important to train together as a group, to strengthen the co-ordination of activity at the fireground and to build up and maintain the team spirit.

Apart from the issue of training time, the interviews and group discussions revealed the importance to volunteers of the availability and quality of the training staff.

The Effective Use of Volunteer Firefighters

The present perspective is primarily based on the traditional view that volunteer units will only respond to the immediate local community and concentrate on generic core training which is primarily based on minimum requirements.

Under normal operational conditions it can generally be assured that if an incident develops beyond the capability of the local crews, additional resources can be rapidly mobilised in support. It can also be assured that the level of training received by the local crews will secure theirs and the public's safety under all normal conditions. Not only do volunteers receive the lowest level of training input but they also operate in the most isolated locations where support is often not a viable option. Statistically, the likelihood of an incident of some magnitude is significantly less than in other parts of brigades, but the risk still exists.

First strike response

The present situation with regard to volunteers is that their operational responsibilities are dependent on their location or operational response conditions (ORC's), not on a comprehensive examination of risk balanced against realistic response options.

In many respects the demands placed on a volunteer exceed those placed on retained and wholtime firefighters. The rate of volunteer response to incidents is significantly less than retained crews, but the period of time that a volunteer unit must control and hold an incident is

considerably longer. It can be argued that a paradox exists between the need to dynamically control the incident and the inability to support a unit which is far less effectively trained.

The key prerequisite to any examination of such issues is the need to clearly define the relevant risk profile and then to subsequently identify all relevant training needs based on such a profile.

An extended response area (ERA) can be established for all mobile units based on a realistic turn out time and ERA travel distance.

Therefore the concept of ERA can be expressed in notation as:

$$ERA = Volunteer Turn Out Time + Volunteer Travel Distance Time$$

Where ERA is less than nearest retained unit response time to incident.

The application of this simple concept results in a fundamental change in the nature of volunteer response to incidents. It also provides a practical means of fully integrating volunteer units into a set of predetermined attendance criteria. The effect of applying the concept can be illustrated graphically in figures 1 and 2.

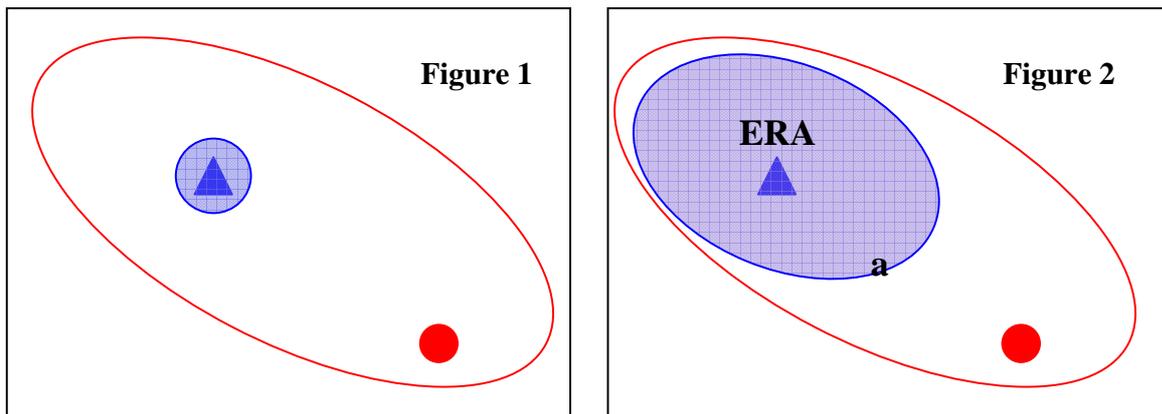


Figure 1 indicates the present situation, where the triangle represents a volunteer unit with response restricted to the immediate local community. The circle represents the nearest retained station that covers the volunteer area and has primary responsibility for fire cover within its total area (red oval). Figure 2 provides a representation of how, by applying the concept of 'first strike' volunteer response, the area within which the local volunteer unit responds can be considerably expanded.

Point 'a' indicates where the *ERA* of the volunteer unit is equal to the nearest retained unit response time. In effect, if the *ERA* is based on average historical response data, a point where the local volunteer unit will always beat the nearest retained unit to any incident contained within the *ERA* can be calculated.

Fundamentally the application of the *ERA* concept immediately improves the localised speed of response providing a 'first strike' which is backed up by a retained unit. By adopting the concept

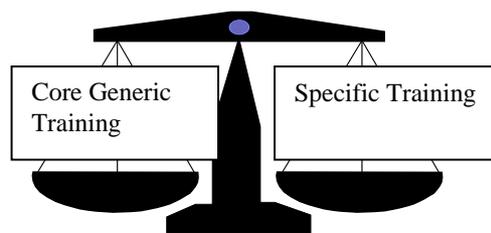
the level of service, based on reduced attendance times can, potentially, be substantial. Operational activity will increase for the majority of volunteer units.

Equipment and procedures – training paradox

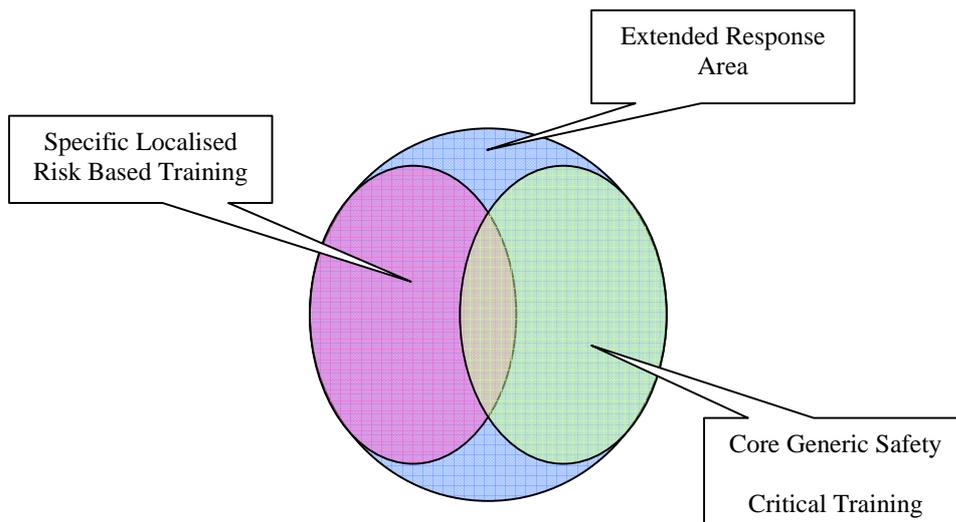
At present the balance between enhancing the equipment and operational knowledge levels of volunteer crews and the consequential training which must be provided is precarious. The considered view is that training must be tailored to the risk profile of the volunteer response area. The training should be tailored to account of the general and specific risks contained within the Extended Response Area, as detailed above. For training to be effective it must incorporate two key inputs, namely:

1. Core generic safety critical training and
2. Specific localised risk based training, precisely tailored to the ERA risk profile.

The concept of integrating core and localised risk based training input is not new, but it is potentially radical when the distinctive diversity of volunteer areas and their potential extension is taken into account. In effect the risk profile of the volunteer units ERA will dictate training



need.



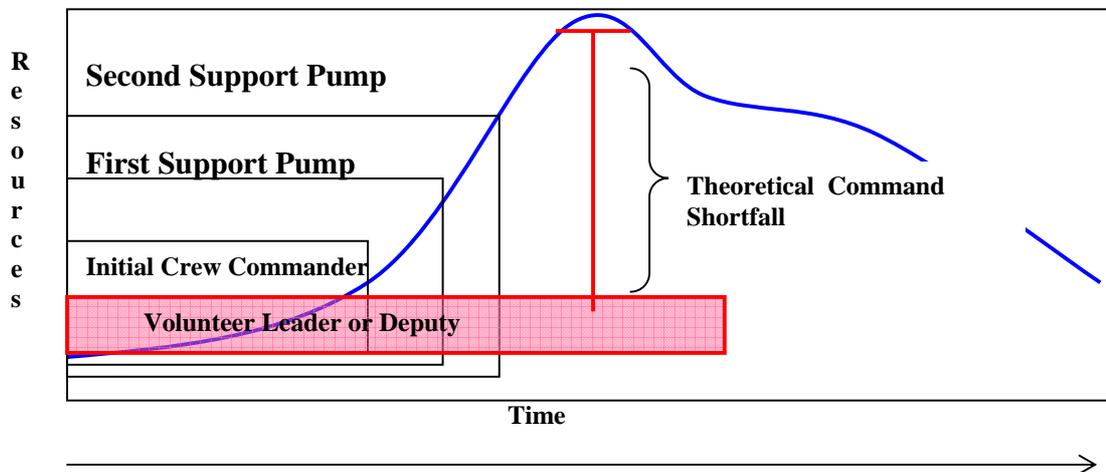
Training must be integrated, highly responsive to adjustments in local needs, and ultimately be focused on the volunteer.

Incident command systems

Supervision and systems of work are particularly significant within the volunteer environment. The need to ensure clear and relevant levels of supervision is primarily vested with the officer in charge of volunteer operations.

In essence, the nature of volunteer response to incidents in extremely remote mainland and island communities means that the volunteer leader will need to maintain or hold the incident under close supervisory control for prolonged periods, well in excess of those experienced by wholetime crew commanders. Therefore, supervision by volunteer leaders will logically extend beyond the normal parameters of the initial stage of the incident to the developmental stage and beyond, without any form of support from other officers or resources. This situation can be represented graphically.

Wholetime and Retained resources are normally aligned with incident development



Conclusions

In studying the operational role of the volunteer firefighter the author concluded there exists a need for greater training provision which should be competence based and determined by the core role requirements. Based upon a research and analysis of health and safety considerations, a redefined role for volunteer operational personnel, linked to essential core requirements, e.g.

basic fire fighting skills, and supported by further training appropriate to local risks is essential to the survival of the volunteer service.

The Issue of Competence and Volunteers

For volunteer operational personnel competence means being in a position to apply the skills, knowledge and ability to the occupational role based standards set out in the competence framework.

The universal application of a competence framework needs to take account of the inevitable difficulties of its application to volunteer personnel. At present, within the fire service, there is generally no distinction made between part-time and whole-time firefighter roles, i.e. "*A firefighter is a firefighter*".

Within the competence framework the respective roles that cover the majority of the part-time elements of the service have been set out in generic terms. As such, they take no account of any of the operating constraints that may affect a brigade's ability to adequately train its volunteer personnel and achieve the required levels of workforce competence.

Firefighter Safety

Looking at the demand for the achievement of firefighter safety, the initial impetus can be traced back to the legislative requirements that are placed upon every fire authority.

However, in all respects, this requirement has now been surpassed by the explicit responsibilities placed upon all employers as a consequence of both the common law and statutory implications of workplace health and safety legislation and regulations. Attempts to satisfactorily discharge these statutory requirements have manifested themselves in the evolution of a safety culture. Integral to this is the Safe Person Concept, which has been portrayed as probably the single, most effective means available in reducing and controlling risk operationally under hazardous working conditions.

Intrinsic to the Safe Person Concept therefore, is the issue of the role of the firefighter, both volunteer and wholetime, and the acquisition and maintenance of individual competence within that role.

Choices for the Future

The author has identified aspects that have been put forward firstly as the demands requiring the achievement of a competent workforce and, secondly, the issues that present themselves as the main constraints that militate the achievement of a competent workforce, particularly within rural areas.

The choice, therefore, appears to be clear and overall it points towards justification for redefining the role of volunteer operational staff, embracing a limited operational role for volunteer firefighters supported by risk appropriate training to achieve competence. This would enable brigades to move towards the achievement of a competent workforce in response to the demands and within the current constraints that are facing them.

RECOMMENDATIONS

- That the UK fire brigades increase the standard drill period for volunteers to a minimum of 48 hours per annum.
- In light of the demands that they face, to proceed with implementation of a competence framework where they have yet to do so.
- Consider the application of different standards or levels of competence for volunteer personnel to those applied to wholetime staff. These should be ascertained at a local level and be matched wherever possible to the operational role that volunteers are actually required to fulfil.
- Provide additional 'risk targeted' training for volunteers.
- Reduce the amount of training required to achieve and maintain role-based competence by giving recognition, within the competence framework, to relevant knowledge and skills obtained by volunteers from outside of the fire service.
- Implement 'first strike' response option for all volunteer units, following a systematic assessment of extended response areas (ERA's
- Reconfigure volunteer training, tailored to the risk profile of the volunteer response area.
- Recognise the need to account for diversity of risk and focus on training which incorporates the two key areas of core generic safety critical and specific localised risk based input.
- Introduce formal recognition of the need for a volunteer orientated incident command system (ICS), and establish training for competence in its use.
- Thoroughly and systematically review volunteer command training needs.

BIBLIOGRAPHY

Audit Commission (1995) *In the Line of Fire*, London, HMSO.

Bennett, W. (1994) *A Study of Retained Firefighter Training and Volunteer Firefighter Training within the USA*, BCC project, Fire Service College.

Bull, R. (1999) *Training for Competence / Qualification Structure - Present and Future*, CACFOA HQ, Tamworth, England.

CACFOA (1997) *Volunteers a case for change*, CACFOA Volunteer sub Committee, CACFOA HQ, Tamworth, England.

CACFOA (1996) *Guidance on the Application of Risk Assessment within the Fire Service*, CACFOA HQ, Tamworth, England.

CIPFA (1999) Chartered Institute for Public Finance Accountants, *Fire Service Statistics 1998/9*, London, HMSO.

Fire Services Act (1947) London, HMSO.

Florida State Fire College (1998) *Firefighters Standards and Training*, Florida Press.

Hazen and Hazen (1992) *Keepers of the Flame – The Role of Fire in American Culture*, California, Sage Publications.

Home office (1994) *A Comparative Study of Firefighting Arrangements in Britain, Denmark, The Netherlands and Sweden*, Home Office Research Study 127, London, HMSO, p. 13, 23, 25, 26, 44-46.

Home Office (1997), *A Competence Framework for the Fire Service*
Fire Services Unit, Fire and Emergency Planning Directorate.

Karter, M. J. (2000) *US Fire Department Profile Through 2000*, NFPA.

Klein, R. (1999) *Training For Competence*, Fire Engineers' Journal Vol. 59, No 198, January, 1999.

McCall, J. (1998) *The Question of Rural Competence*, Fire Magazine Vol. 91, No. 1119, September 1998.

Perkins, K. B.(1998) *Volunteer Firefighters in the United States, A Sociological Profile of Americas Bravest*, Longwood College, Farmville, Virginia.

Robinson, B. (1996) *Competence Based Training - The Way Ahead For The Fire Service*, Competence Bulletin Vol. 2, No.1, Cambridge University Press.

Robinson, B. (1998) *Evolution of a Safety Culture in the British Fire Service*, Fire Magazine, Vol. 9, No. 1111, Cambridge, Cambridge University Press.

Shevels, T. (1998) *Competencies, Competence and Confusion*, British Psychological Society: Selection and Development Review, October 1998.