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Our reference: FIR/69 800/34/25
Your reference:

To all Chief Fire Officers

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FIRE SERVICE COLLEGE
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TP 266

29 October 1976

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Dear Chief Officer

TRIALS OF FOAM ON PETROL FIRES AT THE FIRE SERVICE TECHNICAL COLLEGE

1. I attach for your information a report by the Home Office Scientific Advisory Branch of a series of tests of foam on petrol fires, which took place at the Fire Service Technical College in 1974. The tests were carried out by the Fire Service Inspectorate and the Home Office Scientific Advisory Branch jointly with the Fire Research Station as part of the Home Office Fire Research Programme. The report has been considered by the Joint Committee on Fire Research of the Central Fire Brigades Advisory Council, who recommended that it should be circulated to chief fire officers for information.

2. Full details of the genesis of the research, the trial conditions and the method of work are set out in the report. The main results of the tests, which are noted on page 13, are that under the test conditions specified:

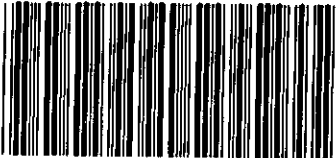
- i. Protein foam did not effect extinction before the fuel was exhausted.
- ii. Fluoroprotein, fluorochemical and synthetic foam all gave convincing control and extinction.
- iii. The burn-back fires developed much more slowly and more predictably with fluoroprotein than with fluorochemical and synthetic foams.
- iv. Synthetic foam used at high expansion-ratio (700) gave very good control and extinction times.

3. You will see that the report also recommends that there is a need for further research. Further research in this field is regarded as having a high operational priority and it might be helpful if I briefly describe the programme of research into foam and its application which is being carried out as part of the Home Office Fire Research Programme, for the most part at the Fire Research Station. Work on the improvement of low-expansion foam compounds is continuing and work is about to start on an important new project entitled "Criteria for the Use of Water, HXF and MXF" the objective of which is to develop practical criteria for use on the fireground to choose between water, HXF and MXF as fire-fighting agents for common types of fire, and to develop improved tactics for the use of these agents. In the equipment field, work is continuing at the Fire Research Station on the development of foam branch pipes, initially for foam test purposes, but with potential for operational use. The Home Office is also placing a contract with Newcastle University Design Unit for the development of a HXF generator of a foam-making capacity similar to those currently used by brigades, but sufficiently small to be carried in the locker of an appliance. The further research called for by the report will, where appropriate, be included as part of this overall programme. Results will be made known to the service as soon as possible.

Yours sincerely

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**The Fire Service
College**



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