

TACTICAL TRAINING AT THE DANISH NATIONAL FIRE COLLEGE

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ABSTRACT

At the Danish National College the tactical training of fire officers takes place in a model town, scale 1:100, which is used both directly and in connection with an ITV-system. The model town has been built up like a typical Danish community of medium size with an old city center, industrial and residential areas and rural areas with small towns and villages.

The training programme involves 3 steps. The courses start with a series of tactical situations which the students discuss in groups of 4-6 persons. The next step is tactical exercises, and now the time factor is taken into consideration. The third step is "Combined Operations". These exercises are carried out exactly the same way as full-scale exercises.

The use of the model town presents some problems, since the whole area can be viewed at one time. To avoid this disadvantage a special technique has been developed. A very small camera "drives" through the streets of the model town. The lens is placed at a height corresponding to a man's eye-level. The camera is connected to a TV monitor and the screen shows the same picture as a man walking in the street would observe.

INTRODUCTION

In Denmark the *technical* training of firemen takes place in a training center, where firemen with heavy breathing apparatus fight fires in buildings of different types, in flammable liquids, in motor cars, etc. While this type of training must take place in full-scale fires, a similar training of fire officers and sub-officers in firefighting *tactics* is not possible. For this training some kind of *simulation* must be used. At the Danish National Fire College in Virum, 20 km to the north of Copenhagen, the tactical training takes place in a model town, scale 1:100, which is used both directly and in connection with an ITV-system.

THE MODEL TOWN

The model town is called *Skoleborg*. The community of Skoleborg has been built up like a typical Danish town of medium size. The population is 50.000 and the community consists of an old city center, industrial and residential areas and rural areas with small towns and villages. Of special interest for firemen are the densely built-up old town, the docks, the oil harbour, the chemical plants and the airport. The fire brigade of Skoleborg has been built up according to the Danish standards of fire safety. The fire station and all the appliances also exist in scale 1:100.

A map of Skoleborg shows all the important details, including the positions of hydrants and other water supplies.

A description of Skoleborg Fire Brigade gives all details about the appliances and the equipment. At the beginning of each course the students must familiarize themselves with Skoleborg and its fire brigade.

SYSTEM OF COMMAND

According to the Danish standards of fire safety, the first attendance in bigger towns is a water tender with a crew of one sub-officer and five firemen and a turntable ladder with a crew of two firemen under the command of a fire officer who uses his own car.

When the fire officer arrives at the scene he sizes up the situation, and as soon as the appliances arrive he gives orders to the sub-officer. The sub-officer's job is to give orders to the firemen and to check that the work at the fire scene is carried out in accordance with the fire officer's order. At larger fires further appliances will arrive, all of them manned according to the above mentioned rules. The fire officer is in command of all forces at the scene.

USE OF MODEL TOWN

The training programme involves tactical courses at two different levels, sub-officers' course and fire officers' course, and the tactical training takes place in the model town. After an introduction in the use of the town, the courses start with a series of tactical situations which the students discuss in groups of 4-6 persons. The next step is tactical exercises, and now the time factor is taken into consideration. A situation is set up on the model and after a short briefing the student, acting as fire officer, is given 60 seconds to plan his attack. Then another student, playing the role of a sub-officer, arrives and the fire officer will give his orders. After a few seconds the sub-officer must give his order to the firemen.

The third step is the so-called "Combined Operations". These exercises are carried out exactly the same way as full-scale exercises. The students occupy the fire station, the police station, the ambulance station etc., each of them playing a particular role such as commanding officer, sub-officer of the first attendance, police officer or ambulance leader. When the control room receives an alarm the units are dispatched with correct time intervals. At the scene of

accident fires are extinguished, victims are rescued etc. exactly like in a real accident.

The model town is also used for big exercises for experienced personnel with participation of fire officers, police officers, ambulance service, medical teams etc.

ITV-SYSTEM

Some situations spread over a large area and here the use of the model town presents some problems, since the whole area can be viewed at one time, which makes it much easier to plan an attack. In a real situation a fire officer, walking in the street, could see only a small part of the damage. To avoid this disadvantage a special technique has been developed. A very small TV camera "drives" through the streets of the model town. The lens is placed at a height corresponding to a man's eye level. The camera is connected to a TV monitor and the screen shows the same picture as a man walking in the streets would observe.

When this equipment is used, students occupy a room where they cannot see the model town. They base their plan of attack solely on the TV pictures. The TV system can be used in two ways, by direct transmission or by recording. With direct transmission the camera operator moves the camera following the directions of the fire officer, i.e. the officer decides what he wishes to see. With a recording, the complete situation is recorded on videotape in advance and the officer can play the tape forwards and backwards just as he likes. In both cases the student sees the situation in the same way as he would at a real fire.

The ITV system has been used at the National Fire College for several years with a very good result.