FIRE FIGHTERS GUIDANCE NOTE # 4-11

ISSUE: FALL PROTECTION FROM ELEVATING DEVICES

Fire Departments using elevating devices (aerials or platforms) need to address fall protection.

There are three systems that could be used in different situations to protect a person from falling:

- A travel restraint system is for limiting the movement of its user from approaching the danger zone, i.e. where he or she may fall, or within a protected area, e.g. within the confine of the railings of the aerial device. It consists of a belt, an attachment hook, and an anchor point.

- A fall-restricting system that consists of the use of a full body harness, a short lanyard that limits a fall to two feet or less, and an anchor point.

- A fall-arrest system that consists of a full-body harness, a static or shock absorbing lanyard and an anchor point.

While it is important to use proper equipment, and train firefighters in the proper use of it, a critical component of the system for ensuring firefighters are protected, is the anchor or attachment point for the equipment.

The Regulations for Construction Projects specifies the anchor point design loads for different fall protection systems:

The anchor point for a Travel Restraint System must be capable of supporting a static force of at least 2 kilonewtons, which is equivalent to 450 lb. or 204 kg. The anchor point for a Fall Restricting System and a Fall-Arrest System must be capable of supporting when it is used with a shock-absorbing lanyard a static force of at least 6 kilonewtons, which is equivalent to 1350 lb. or 612kg. Without the shock-absorbing lanyard, the anchor point must be capable of supporting a static force of at least 1,800 lb.

When designing a fall prevention system for aerial device, load capacities must be considered. Aerial ladders are only designed to withstand a minimum load capacity of 550 lb. or 250 kg. In most cases given theses restrictions the most appropriate system to be used is the Travel Restraint System. All platforms and towers are normally designed to higher load requirements and are equipped with guardrails, which are considered to be the first level of fall prevention.

It must be emphasized that fall protection systems can only protect firefighters while they remain on the aerial device. There is practically no effective means at this time to protect a fire fighter entering the fire ground from the aerial device or returning to it. During these transitions the use of fall protection may cause restrictions to the fire fighter's movements, which may be more dangerous. Firefighters should use extreme care and their professional judgement for protection while mounting or dismounting from an aerial device to a structure.