an elevation above the fixture outlets in the hot water system or bottom fed, a vacuum relief valve complying with CSA Z21.22 or equivalent International Standard(s) approved by the Authority Having Jurisdiction shall be installed on the storage tank or heater.

504.5 Discharge for Relief Valve. Relief valves serving a pressure-limiting, temperature-limiting, or combination temperature and pressure relief valves shall comply with the following:

(1) Relief valves located inside a building shall be provided with a drain, not less than the relief valve outlet.

(2) Discharge pipe shall be approved for water distribution systems and rated for temperatures not less than 121ºC (250ºF) at 7bar (100 psi).

(3) Discharge piping shall not be smaller than the diameter of the outlet of the valve served and shall extend from the valve to the outside of the building.

(4) The end of the discharge pipe shall be not more than 60cm (2 ft.) nor less than 15cm (6 in.) above the ground or the flood level of the area receiving the discharge and pointing downward.

(5) Discharge pipe shall be permitted to terminate at other approved locations and shall not cause structural damage.

(6) No part of such discharge pipe shall be trapped and installed to drain by gravity.

(7) The terminal end of the discharge pipe shall not be threaded.

(8) The discharge pipe shall discharge through an airgap and shall not be directly connected to the drainage system.

505.0 Appliances on Roofs.

505.1 General.

(1) Appliances on roofs shall be designed or enclosed so as to withstand climactic conditions in the area in which they are installed. Where enclosures are provided, each enclosure shall permit easy entry and movement, shall be of reasonable height, and shall have not less than a 80cm (30 in.) clearance between the entire service access panel(s) of the appliance and the wall of the enclosure. [NFPA 54:9.4.1.1]

(2) Roofs on which an appliance is to be installed shall be capable of supporting the additional load or shall be reinforced to support the additional load. [NFPA 54:9.4.1.2]

(3) All access locks, screws, and bolts shall be of corrosion-resistant material. [NFPA 54:9.4.1.3]

505.2 Installation of Appliances on Roofs.

(1) Appliances shall be installed in accordance with its listing and the manufacturer's installation instructions. [NFPA 54:9.4.2.1]

(2) Appliances shall be installed on a well-drained surface of the roof. Not less than 1.8m (6 ft.) of clearance shall be available between any part of the appliance and the edge of a roof or similar hazard, or rigidly fixed rails, guards, parapets, or other building structures not less than 1.1m (42 in.) in height shall be provided on the exposed side. [NFPA 54:9.4.2.2]

(3) Appliances requiring an external source of electrical power for its operation shall be provided with one a readily accessible electrical disconnecting means within sight of the appliance that will completely de-energize the appliance, and two a 120-V AC grounding-type receptacle outlet on the roof adjacent to the appliance. The receptacle outlet shall be on the supply side of the disconnect switch. [NFPA 54:9.4.2.3]

(4) Where water stands on the roof of the appliance or in the passageways to the appliance, or where the roof is of a design having a water seal, a suitable platform, walkway, or both shall be provided above the waterline. Such platforms or walkways shall be located adjacent to the appliance and control panels so that the appliance can be safely serviced where water stands on the roof. [NFPA 54:9.4.2.4]

505.3 Access to Appliances on Roofs.

505.3.1 General. Appliances located on roofs or other elevated locations shall be accessible. [NFPA 54:9.4.3.1]

505.3.2 Minimum Height. Buildings exceeding 4.5m (15 ft.) in height shall have an inside means of access to the roof, unless other means acceptable to the Authority Having Jurisdiction are used. [NFPA 54:9.4.3.2]

505.3.3 Dimension and Clearance. The inside means of access shall be a permanent, or fold-away inside stairway or ladder, terminating in an enclosure, scuttle, or trap door. Such scuttles or trap doors shall be not less than 56cm x 60cm (22 in. x 24 in.) in size, shall open easily and safely under all conditions; and shall be constructed so as to permit access from the roof side unless deliberately locked on the inside.

Not less than 1.8m (6 ft.) of clearance shall be available between the access opening and the edge of the roof or similar hazard, or rigidly fixed rails or guards not less than 1.1m (42 in.) in height shall be provided on the exposed side. Where parapets or other building structures are