shall not be used for this purpose.

(4) Large-capacity premix systems provided with explosion heads (rupture disc) to relieve excessive pressure in pipelines shall be located at and vented to a safe outdoor location. Provisions shall be provided for automatically shutting off the supply of gas-air mixture in the event of rupture.

7.13 Electrical Bonding and Grounding.

7.13.1 Pipe and Tubing other than CSST. Each above-ground portion of a gas piping system other than CSST that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path. Gas piping other than CSST shall be considered to be bonded when it is connected to appliances that are connected to the appliance grounding conductor of the circuit supplying that appliance.

7.13.2 CSST. CSST gas piping systems shall be bonded to the electrical service grounding electrode system at the point where the gas service enters the building. The bonding jumper shall not be smaller than 6 AWG copper wire or equivalent.

7.13.3 Prohibited Use. Gas piping shall not be used as a grounding conductor or electrode. This does not preclude the bonding of metallic piping to a grounding system.

7.13.4* Lightning Protection System. Where a lightning protection system is installed, the bonding of the gas piping shall be in accordance with NFPA 780, Standard for the Installation of Lightning Protection Systems.

7.14 Electrical Circuits.

Electrical circuits shall not utilize gas piping or components as conductors.

Exception: Low-voltage (50 V or less) control circuits, ignition circuits, and electronic flame detection device circuits shall be permitted to make use of piping or components as a part of an electric circuit.

7.15 Electrical Connections.

7.15.1 All electrical connections between wiring and electrically operated control devices in a piping system shall conform to the requirements of NFPA 70®, National Electrical Code®. [See Section 7.13.1.]

7.15.2 Any essential safety control depending upon electric current as the operating medium shall be of a type that will shut off (fail safe) the flow of gas in the event of current failure.

Chapter 8 Inspection, Testing, and Purging

8.1 Pressure Testing and Inspection.

8.1.1* General.

8.1.1.1 Prior to acceptance and initial operation, all piping installations shall be inspected and pressure tested to determine that the materials, design, fabrication, and installation practices comply with the requirements of this code.

8.1.1.2 Inspection shall consist of visual examination, during or after manufacture, fabrication, assembly, or pressure tests as appropriate. Supplementary types of nondestructive inspection techniques, such as magnetic-particle, radiographic, and ultrasonic, shall not be required unless specifically listed herein or in the engineering design.

8.1.1.3 Where repairs or additions are made following the pressure test, the affected piping shall be tested. Minor repairs and additions are not required to be pressure tested, provided that the work is inspected and connections are tested with a noncorrosive leak-detecting fluid or other leak-detecting methods approved by the authority having jurisdiction.

8.1.1.4 Where new branches are installed to new appliance(s), only the newly installed branch(es) shall be required to be pressure tested. Connections between the new piping and the existing piping shall be tested with a noncorrosive leak-detecting fluid or approved leak-detecting methods.

8.1.1.5 A piping system shall be tested as a complete unit or in sections. Under no circumstances shall a valve in a line be used as a bulkhead between gas in one section of the piping system and test medium in an adjacent section, unless two valves are installed in series with a valve "tell-tale" located between these valves. A valve shall not be subjected to the test pressure unless it can be determined that the valve, including the valve closing mechanism, is designed to safely withstand the test pressure.

8.1.1.6 Regulator and valve assemblies fabricated independently of the piping system in which they are to be installed shall be permitted to be tested with inert gas or air at the time of fabrication.

8.1.2 Test Medium. The test medium shall be air, nitrogen,