Southern Nevada Amendments

To The

2006

Uniform Mechanical Code

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PREFACE

This document comprises the Southern Nevada Mechanical Code Amendments to the 2006 Uniform Mechanical Code as published by the International Association of Plumbing and Mechanical Officials. It was developed by the jurisdictions listed on the cover page as a document to be adopted by reference. These provisions are not code unless adopted and codified by governmental jurisdictions. These amendments are not intended to prevent the use of any material or method of construction not specifically prescribed herein, provided any alternate has been approved and its use authorized by the building official. This document is available to be adopted as code by any jurisdiction without permission or approval from the jurisdictions listed on the cover page.

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Chapter 1 - Administration

Delete Chapter 1 except for section 102.0 Purpose.

205- Definitions - C

Add a new definition to be placed in alphabetical order to read as follows:

Combustible Construction - Combustible construction shall mean work within any building or structure classified as Type III, Type IV, Type V as defined in the Building Code. Plastic piping is not permitted in Type I and Type II buildings.

217- Definitions - O

Section 217.0 Occupancy Classification

Section 217-O- Occupancy Classification is amended in its entirety to read as follows:

OCCUPANCY CLASSIFICATION. When specific occupancies are referenced in this code, refer to the locally adopted building code for equivalent occupancy classifications.

304.6 LPG Appliances

Delete Section 304.6 in its entirety.

304.7- Plastic Pipe Use

Add a new section 304.7 to read as follows:

304.7 Plastic Pipe Use. Plastic materials listed for use in mechanical equipment are acceptable as an alternate to other approved materials for use in installations in combustible construction only.

Exceptions:

(1) Approved plastic control tubing of mechanical equipment may be used in buildings or structures of all construction classifications when installed in accordance with their listings.

(2) When restricted by other sections of this code.

504.3.1- Moisture Exhaust Ducts.

Section 504.3.1 is amended by the addition of an exception to read as follows:

504.3.1 Moisture Exhaust Ducts. Moisture exhaust ducts shall terminate on the outside of the building and shall be equipped with a back-draft damper. Screens shall not be installed at the duct termination. Ducts for exhausting clothes dryers shall not be connected or installed with sheet metal screws or other fasteners which will obstruct the flow. Clothes dryer moisture exhaust ducts shall not be connected to a gas vent connector, gas vent or chimney and shall only serve clothes dryers. Clothes dryer moisture exhaust ducts shall not extend into or through ducts or plenums.

Exception: When exhaust ducts terminate on a roof, backdraft dampers are not required.

504.3.2.2-Length Limitation

Section 504.3.2.2 is amended by the addition of an exception to read as follows:

504.3.2.2 Length Limitation. Unless otherwise permitted or required by the dryer manufacturer's installation instructions and approved by the Authority Having Jurisdiction, domestic dryer moisture exhaust ducts shall not exceed a total combined horizontal and vertical length of fourteen (14) feet (4,263 mm), including two (2) 90 degree (1.57 rad) elbows. Two (2) feet (610 mm) shall be deducted for each 90 degree (1.57 rad) elbow in excess of two.

Exception: Lengths may be increased when justified by calculations prepared by a Nevada Licensed Mechanical Engineer.

510.7 Interior Installations

Add a subsection to 510.7 that reads as follows:

510.7.2.4 Unless specifically listed, the structural supports for a duct enclosure shall be outside the enclosure.

513.9 Review and Certification

Add a new section 513.9.3 to read as follows:

513.9.3 Performance Test. Upon completion and before final approval of the installation of a ventilation system serving commercial food heat-processing equipment, a performance test shall be performed to verify the rate of airflow and proper operation as specified in this chapter or manufacturer's listing. The permittee shall furnish the necessary test equipment and devices required to perform the tests and shall provide the jurisdiction with an accurate, completed, and signed test report. The report shall be on a form supplied by the jurisdiction or on a form containing

equivalent information. At the discretion of the building official, the performance test may be required to be witnessed by a Building Department representative, performed by an approved third party testing agency.

609.0- Automatic Shutoffs

Section 609.0 is amended by the addition of a new paragraph following the exceptions to read as follows:

Upon completion and before final approval of the air-moving system provided with the required smoke detectors, a performance test shall be performed to verify compliance of detector installation to manufacturer's instructions and system compatibility as specified in this chapter. The permittee shall furnish the necessary test equipment and devices required to perform the tests and shall provide the jurisdiction with an accurate, completed, and signed test report. The report shall be on a form supplied by the jurisdiction or on a form containing equivalent information. At the discretion of the building official, the performance test may be required to be witnessed by a Building Department representative, performed by an approved third party testing agency.

802.6 - Gas Vents

Delete section 802.6.2(1) and replace with a new section 802.6.2(1) to read as follows:

(1) Type B. Type B gas vents with listed vent caps twelve (12) inches (305 mm) in size or smaller shall be permitted to be terminated in accordance with Figure 8-2, provided they are located at least four (4) feet (1219 mm) from a vertical wall or similar obstruction. All other Type B gas Vents shall terminate not less than two (2) feet (610 mm) above the highest point where they pass through the roof and at least two (2) feet (610 mm) higher than any portion of a building within ten (10) feet (3048 mm)

904.10 Equipment on Roofs

Add a new sub**s**ection 904.10.1.4 to read as follows:

904.10.1.4 The requirements of this section shall apply to air moving systems as defined by this code.

904.10.3 Access to Equipment on Roofs.

Add a new subsection 904.10.3.5 to read as follows:

904.10.3.5 Air moving systems located on a roof shall be accessible.

Exceptions:
1. Permanent exterior ladders providing roof access need not extend closer than eight (8) feet (2438 mm) to the finish grade.
2. A portable ladder may be used for access for a Group R Division 3 and 4 and U occupancies.
3. Permanent ladders for equipment access need not be provided at parapets or walls less than thirty (30) inches (762mm) in height. Permanent ladders providing roof access shall:

3.1 Have side railings which extend at least thirty (30) inches (762mm) above the roof or parapet wall.
3.2 Have landings less than eighteen (18) feet (5486mm) apart measured from the finished grade.
3.3 Be at least fourteen (14) inches (356mm) in width.
3.4 Have rungs not more than fourteen (14) inches (356mm) on center
3.5 Have a minimum of six (6) inch (152mm) toe space.

Chapter 10- Steam and Hot Water Boilers

Chapter 10 is deleted in its entirety and replaced with a new Chapter 10 to read as follows:

Chapter 10- Boiler/Water Heaters

1001.0 - Scope/Applicability

For boilers and water heaters less than 120 gallon capacity, or a BTU input rating less than 200,000, or less than 160 pounds per square inch of pressure, see Chapter 5 of the Uniform Plumbing Code. For all other units, contact the Mechanical Section of the Nevada Division of Occupational Safety and Health, part of the Office of Business and Industrial Relations.

Table 11-1 Refrigerant Groups, Properties and Allowable Quantities

Table 11-1 is amended by adding footnote 13 applicable to the entire Table.

13 For occupancy Group I Division 1 and Division 2, the quantity of refrigerant in each system is limited to 50 percent of the respective amount listed in this table. Exceptions: Kitchens, laboratories and mortuaries.

Table 11-2- Permissible Refrigeration Systems

Table 11-2, Occupancy Group and Division I-1.1 is amended and Footnote 3 is added to read as follows:

Occupancy Group And Division	High Probability System	Low Probability System	Machine

Room

I-1.1	Group A1 only 3	Any	Any

Footnote 3- For occupancy Group I Division 1 and Division 2, the quantity of refrigerant in each system is limited to 50 percent of the respective amount listed in Table 11-1. Exceptions: Kitchens, laboratories and mortuaries.

1303.0 Definitions

Add a new subsection 1303.2.1 to Section 1303.2 Fuel Gas to read as follows:

1303.2.1 Dry Gas – A gas having a moisture and hydrocarbon dew point below any normal temperature to which the gas piping is exposed. Southern Nevada shall be considered a dry gas condition area unless specified by the local gas purveyor.

1309.6 Gas Meters.

Add a new item (E) to section 309.6.2 to read as follows:

1309.6.2 Location

(E) All lots in mobile home parks and lots in recreational vehicle parks shall be served individually by the duly franchised gas serving utility supplying gas from the street main.

1311.1.6 Piping Underground Beneath Buildings

Delete section 1311.1.6 in its entirety and replace with a new section 1311.1.6 to read as follows:

1311.1.6 No gas piping shall be installed in or on the ground under any building or structure unless installed in gastight conduit, and all exposed gas piping shall be kept at least six (6) inches (152 mm) above grade or structure. The term “building or structure” shall include structures such as porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances. All gas piping under a slab shall be capable of being removed and replaced.

The conduit shall be of material approved for installation underground beneath buildings and not less than Schedule 40 pipe. The interior diameter of the conduit shall be not less than one-half (1/2) inch (15 mm) larger than the outside diameter of the gas piping.

The conduit shall extend to a point at least (12) inches (305 mm) beyond any area where it is required to be installed or to the outside wall of a building, and the outer ends shall not be sealed. Where the conduit terminates within a building, it shall be readily accessible and the space between the conduit and the gas piping shall be sealed to prevent leakage of gas into the building.

1314.4 Test Pressure

Delete section 1314.4 in its entirety and replace with a new section 1314.4 to read as follows:

1314.4 This inspection shall be made after all piping authorized by the permit has been installed and after all portions thereof which are to be covered or concealed are so concealed and before any fixtures, appliance, or shutoff valve has been attached thereto. This inspection shall include an air, CO2 or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than ten (10) pounds per square inch (68.9 kPa) gauge pressure, or at the discretion of the Administrative Authority, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope gauge. Test pressures shall be held for a length of time satisfactory to the Administrative Authority, but in no case for less than fifteen (15) minutes, with no perceptible drop in pressure. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches (356 mm) water column pressure, the test pressure shall not be less than sixty (60) pounds per square inch (413.4 kPa) and shall be continued for a length of time satisfactory to the Administrative Authority, but in no case for less than thirty (30) minutes. These tests shall be made using air, CO2, or nitrogen pressure only and shall be made in the presence of the Administrative Authority. All necessary apparatus for conducting tests shall be furnished by the permit holder. Test gauges used in conducting tests shall comply with Section 319.0, Test Gauges of the 2006 Uniform Plumbing Code.

1317.0 Required Gas Piping Size.

Amend section 1317.0 to read as follows:

1317.1 Where the maximum demand does not exceed two hundred fifty (250) cubic feet per hour (2 L/sec.) and the maximum length of piping between the meter and the most distant outlet is not over two hundred fifty (250) feet (76,200 mm), the size of each section and each outlet of any system of gas piping shall be determined by means of Table 13-8 for steel pipe, or Table 13-15 for copper tubing systems, or section 1309.4.3 (3) for CSST systems. Other Systems within the range of Table 13-8 or 13-13 may be sized from that table or by means of the methods set forth in Section 1317.3.

1317.2 To determine the size of each section of pipe in any system within the range of Table 13-8, proceed as follows:

(1) Measure the length of the pipe from the gas meter location to the most remote outlet on the system.

(2) In Table 13-8 select the length in feet column and row showing that distance, or the next longer distance if the table does not give the exact length.

(3) Starting at the most remote outlet, find in the row just selected the gas demand for that outlet. If the exact figure of demand is not shown, choose the next larger figure in the row.

(4) At the top of this column will be found the correct size of pipe.

(5) Using this same row, proceed in a similar manner for each section of pipe serving this outlet. For each section of pipe, determine the total gas demand supplied by that section. Where gas piping sections serve both heating and cooling equipment and the installation prevents both units from operating simultaneously, only the larger of the two demand loads needs be used in sizing these sections.

(6) Size each section of branch piping not previously sized by measuring the distance from the gas meter location to the most remote outlet in that branch and follow the procedures of steps 2, 3, 4, and 5 above.

Note:

Size branch piping in the order of their distance from the meter location, beginning with the most distant outlet not previously sized.

1317.3 For conditions other than those covered by Section 1317.1, such as longer runs or greater gas demands, the size of each gas piping system shall be determined by standard engineering methods acceptable to the Authority Having Jurisdiction. Each such system shall be so designed that the total pressure drop between the meter or other point of supply and any outlet when full demand is being supplied to all outlets, will at no time exceed five tenths (0.5) inches (12.7 mm) water column pressure.

1317.4 Where the gas pressure may be higher than fourteen (14) inches (356 mm) or lower than six (6) inches (152 mm) of water column, or when diversity demand factors are used, the design, pipe, sizing, materials, location, and use of such systems first shall be approved by the Authority Having Jurisdiction. Piping systems designed for pressures higher than the serving gas supplier's standard delivery pressure shall have prior verification from the gas supplier of the availability of the design pressure. Systems using undiluted liquefied petroleum gas may be sized using Table 13-32 for steel pipe for eleven (11) inches (279 mm) of water column and in accordance with the provisions of Sections 1317.1 and 1317.2.

Appendix A – Uniform Mechanical Code Standard 6-2
Standard for Metal Ducts

Table A6-2-E-1- Duct Gage Selection For Galvanized Steel

Add a new appendix table A6-2-E-1 to read as follows:

TABLE A6-2-E-1 DUCT GAGE SELECTION FOR GALVANIZED STEEL [1]

Maximum 1" W.G. Static Positive and Negative		
Duct Diameter (inches)	Minimum Thickness Galvanized Iron (U.S. gauge/inches)	Minimum Thickness Aluminum (inches)
Less than 12 12-16 17-20 [2]	30/ .016 28/ .019 26/ .022	.016 .020 .025

Footnotes:

1 Heating and Air Conditioning Units not exceeding 2000 cfm or one inch Water Gauge (WG) positive or negative pressure. Duct fittings shall be constructed of material not less than the gauge of the duct.

2 Duct work and fittings larger than twenty inches shall be constructed to the gauging requirements of Table A6-1-E in Appendix A of the Uniform Mechanical Code.