City of Grand Island

Tuesday, September 23, 2008
Council Session

Item F5

#9194 - Consideration of Amendments to Chapter 15 of the Grand Island City Code Relative to Electrical Code Updates

Staff Contact: Craig Lewis

Council Agenda Memo

From: Craig A. Lewis, Building Department Director

Meeting: September 23, 2008

Subject: City Code Amendments to Chapter 15, Electricity Adoptions of the 2008 National Electrical Code

Item #'s: F-5

Presenter(s): Craig Lewis, Building Department Director

Background

This request is for City Council approval to modify the City Code by adopting the 2008 Edition of the National Electric Code. The City has for several decades adopted and enforced electrical codes to safeguard persons and property from the hazards arising from the use of electricity. The 2008 National Electric Code (NEC) is the current edition of the national standard for the installation of electrical wiring systems. Typically the State of Nebraska adopts the current edition of the NEC and requires local inspection programs to adopt and enforce the current regulations as part of the State approval of local programs. Currently the State has not adopted the 2008 NEC, but it is believed by the Board and local inspectors that adoption and enforcement is inevitable.

Discussion

The proposed amendment to Chapter 15 of the Grand Island City code will adopt the current edition of the National Electric Code. The City's electrical board has reviewed the 2008 NEC and recommends approval with the local amendments as outlined in the proposed ordinance. The local amendments basically include some restrictions in the installation of armored cable, refer electrical meter heights to the electric utility department, and require wiring above suspended ceilings to be fastened to the building structure. There are two fairly significant requirements in the 2008 NEC, one is the adoption of tamper proof receptacles, and the other is the inclusion of Arc-Fault Circuit-Interrupter (AFCI) protection. These two additional requirements are alleged to increase the cost of the electrical wiring system in a single family dwelling $500 to $1,000. In researching the cost for ourselves it appears that cost may be more in the neighborhood of $300 dollars. The concept and staged requirements of ARCI protection was introduced in the 1999 NEC, and expanded in the 2002, 2005, and now the 2008 NEC.

Because of the potential increase in the cost to the installation of electrical systems the proposed implementation date is November 1, 2008, giving the construction industry time to include these provisions into their projects.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Approve the ordinance.
2. Disapprove or /Deny the adoption of the ordinance.
3. Modify the ordinance to meet the wishes of the Council
4. Table the issue

Recommendation

The City Electrical Board and City Staff recommends the City Council approve Ordinance No. 9194, adopting the 2008 NEC, with the local amendments identified and begin enforcement on November 1, 2008.

Sample Motion

Move to approve Ordinance No 9194.

ORDINANCE NO. 9194

An ordinance to amend Chapter 15 of the Grand Island City Code; to amend Sections 15-2; 15-3; 15-6; 15-7; and 15-11 pertaining to electricity; to repeal Sections 15-2; 15-3; 15-6; 15-7; and 15-11 as now existing, and any ordinance or parts of ordinances in conflict herewith; and to provide for publication and the effective date of this ordinance.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA:

SECTION 1. Sections 15-2; 15-3; 15-6; 15-7; and 15-11 of the Grand Island City Code are hereby amended to read as follows:

§15-2. National Electrical Code Adopted

(A) There is hereby adopted by the City of Grand Island for the purpose of safeguarding persons and buildings from hazards arising from the use of electricity for light, heat, power, radio, signaling, and other purposes, that certain code known as the National Electrical Code, ~~2005~~ 2008 Edition, recommended by the National Fire Protection Association, except as modified by this section.

(B) The National Electrical Code adopted by subsection (A) above is modified by deleting ~~Article 210.12~~ Article 362, ~~Article 320~~, Article 210-52C Subsection 2 and 3, which are not adopted and shall have no force or effect. Articles 320, 330, 334, 348, and 352 are amended by §15-3 of the Grand Island City Code.

(C) One copy of the National Electrical Code, ~~2005~~ 2008 Edition, shall be on file in the city clerk's office for public use and inspection as provided by law.

Amended by Ordinance No. 8990, effective 8-10-2005

§15-3. Amendments to National Electrical Code, ~~2005~~ 2008 Edition

The following sections are adopted as amendments to the same numbered sections of the National Electrical Code, ~~2005~~ 2008 Edition:

Article 320 – Armored cable (type AC)

320.10. Uses permitted. Armored cable may be used for indoor branch circuits when installed with a grounding conductor in the cable with the branch circuit conductors and sized to the overcurrent protective devise. Anti short bushings shall be used.

320.12. Uses not permitted. Armored cable shall not be used in hazardous locations, where buried or in direct contact with the earth, concrete, cinder fill or where exposed to chemicals or acids.

Article 330 - Metal-Clad Cable (Type MC)

330.10. Uses Permitted. Metal-clad cable may be used for indoor branch circuit use only when installed with a grounding conductor in the cable with the circuit conductors and sized to the overcurrent protective devise. Anti short bushing shall be used..

330.12. Uses Not Permitted. Metal-clad cable shall not be used in hazardous locations where subject to physical damage, buried in direct contact with the earth, concrete, cinder fill, or where exposed to chemicals or acids.

Article 334 – Nonmetallic-Sheathed Cable (Types NM, NMC, and NMS)

334.12. Uses Not Permitted. In any multifamily dwelling or structure exceeding three floors above grade. For the purpose of this article, the floor of a building shall be that floor that has fifty percent (50%) or more of the exterior wall surface area level with or above finished grade. One additional level that is the first level and not designed for human habitation and only for vehicle parking, storage or similar use shall be permitted.

Article 352 - Rigid Nonmetallic Conduit (PVC)

352.10. Uses Permitted

(A) Where encased in concrete
(B) Underground installations
(C) For service entrances on the outside of buildings where not subject to physical damage
(D) For raceways to feed subpanels
(E) In wet locations where used with proper connections and fittings
(F) For physical protection of ground wires

352.12. Uses Not Permitted

(A) In hazardous (classified) locations (except as provided in National Electrical Code Sections 503.3, 504.20, 514.8)
(B) For support of fixtures or other equipment
(C) Where subject to physical damage
(D) Where subject to ambient temperatures exceeding those for which the conduit is approved
(E) In alleys or utility easements, the first section of conduit out of the ground
(F) For branch circuits

Article 348 - Flexible Metal Conduit

348.10. Uses Permitted.

Flexible metal conduit may be used for fish work in old buildings or other places where rigid conduit is impractical to install. ~~A s~~Special ~~permit~~ permission shall be obtained from the electrical inspector before it is used in any installations.

Amended by Ordinance No. 8990, effective 8-10-2005

§15-6. Service Entrances

(A) Each service entrance with 2,000 amperes capacity or less shall be provided with a readily accessible main disconnecting device with appropriate overcurrent protection; provided, each service entrance larger than 2,000 amperes capacity shall comply with the provisions of the National Electric Code. The device shall disconnect all ungrounded conductors from the source of supply in one motion or operation of the hand. For overhead services, said overcurrent protection shall be installed within twenty-five (25) feet from the weatherhead, but within ten (10) feet from where the conductors enter the building. For underground services, said overcurrent protection shall be installed within ten (10) feet from where the conductors enter the building. No service entrance conductors shall be installed within the hollow spaces of a frame wall unless provided with overcurrent protection at their outer end. Attachment devices or insulators for the service drop shall be installed by the electrical contractor on the alley or easement side of the building in such a manner so that the clearances as required by this Code can be maintained by the utility company.

(B) *Manufactured Homes.* Pedestals shall be required for power to manufactured homes on private lots, unless (1) the manufactured home comes with the service equipment factory installed or (2) the manufactured home is secured to a permanent foundation that complies with applicable building codes. This pedestal shall have proper overcurrent protection and provisions for metering. ~~The meter height shall be between 3-1/2 to 6-1/2 feet from grade to the center of the meter~~.

(C) *Provisions for Metering.* Provisions for metering shall be in accordance with standards set out by the Grand Island Utilities Department.

(D) *Electrical Service Panels for Dwellings.* The minimum size of electrical panel that can be installed in a dwelling shall be 20 circuit for 100 amp, 30 circuit for a 150 amp, and 40 circuit for a 200 amp.

(E) *Number of Services.* One electrical service shall be provided for each tract or parcel of land, except upon written request and approval by the Utilities Director and Building Department Director, and/or their respective designee.

(F) *Multiple Occupancy Building*. Each tenant shall have access to their disconnecting means and overcurrent protection. This disconnecting means and overcurrent protection shall not be guarded by locked doors.

Exceptions: (1) The disconnecting means and overcurrent protection are located in the tenant space.
(2) All electrical equipment is located in a common area with access to all tenants.
(3) Electrical equipment is located outside.

Amended by Ordinance No. 8990, effective 8-10-2005

§15-7. Wiring In Commercial Buildings

(A) Metallic conduit wiring will be required for the installation of all wiring for lights, heat, air conditioning, or power in all commercial buildings. These include, but are not limited to, asylums, hospitals, hotels,

motels, theaters, schools, factories, churches, warehouses, mills, grain elevators, food stores, office buildings, retail sales, stables, garages, meeting halls, buildings of fireproof or mill construction.

(B) All dwelling units located within any commercial type building shall have electrical wiring installed in electrical metallic conduit.

(C) For uses of metal-clad cable (MC), refer to §15-3. For uses of rigid nonmetallic conduit (PVC), refer to §15-3.

(D) wiring above suspended ceilings - all permanent raceways, boxes, cabinets, and fittings shall be securely fastened to the building structure.

Amended by Ordinance No. 8990, effective 8-10-2005

§15-11. ~~Construction of Article~~ Requirements for Electrical Installations

~~In all matters arising under this article which involve the exercise of discretion rather than the mere administration of the provisions of this article, the right to the ultimate decision thereof shall remain in the city council.~~

(A) Aluminum Conductors – aluminum conductors may be used for service entrance and feeders only.

(B) Equipment grounding conductors – an equipment grounding conductor will be required in all conduit systems except for rigid metal conduit systems with threaded hubs, complying or fittings

SECTION 2. Sections 15-2; 15-3; 15-6; 15-7; and 15-11 as existing prior to this amendment, and any ordinances or parts of ordinances in conflict herewith be, and hereby are, repealed.

SECTION 3. The validity of any section, subsection, sentence, clause, or phrase of this ordinance shall not affect the validity or enforceability of any other section, subsection, sentence, clause, or phrase thereof.

SECTION 4. That this ordinance shall be in force and take effect from and after its passage and publication, on November 1, 2008.

Enacted: September 23, 2008.

_____

Margaret Hornady, Mayor

Attest:

_____

RaNae Edwards, City Clerk