CITY OF AURORA, ILLINOIS
DIVISION OF BUILDING & PERMITS

ELECTRICAL COMMISSION MEETING MINUTES

Meeting held
Thursday, March 2nd 2017-- 3:30 PM at the
Building and Permits Division, 65 Water Street, Aurora, Illinois.

The purpose of this Electrical Commission Meeting is to consider the following:

1. Call to Order 3:29 PM
2. Roll Call Martin, Marshall, Kluber, Chief Krienitz, Thomas
   Ex-Officio: Beneke, Curley
   Staff: Jason Eelsenbroek, Ron Bergstrom
   Others: 
3. Public Speaking opportunity – 7 minutes
4. Meeting minutes approval
   A. 21 May 2014 Minutes Motion Chief Krienitz Second Marshall__Ayes_5__Nays_0
   B. 23 Feb 2017 Minutes Motion Chief Krienitz Second Marshall__Ayes_5__Nays_0
5. Inspectors Report NONE
6. Licensing Issues NONE
7. Code Adoption and Amendments:
   Deliberation of Proposed 2014 National Electrical Code (NEC) Adoption
   A. Amendments to affected portions of the 2009 International Residential Code (IRC)
      As amended to retain table 3603.4 and strike and replace all aluminum conductor
      sizes smaller than 1/0 with 1/0.
      Motion Chief Krienitz Second Martin__Ayes_5__Nays_0
   B. Amendments to affected portions of the 2009 International Residential Code (IRC) Appendix J
      (existing buildings and structures)
      Motion Chief Krienitz Second Martin__Ayes_5__Nays_0
   C. Amendments to affected portions of the 2009 International Existing Building Code (IEBC)
      Items A, B, & C recommendation to the Permanent Building Code Committee
      Motion Thomas Second Chief Krienitz Ayes_5__Nays_0
8. Old Business
   A. USE for Service Entrance Cable, Low-Voltage Suspended Ceiling Power Systems, Manufactured
      Wiring Systems, Modular Data Centers.
9. New Business
   A. Commission Rules clarification
      -Discussion of roles and titles and Held over till next commission meeting
      -Need to elect a chair next meeting Attempt to schedule next commission meeting July.
10. Action Items NONE
11. Open Discussion NONE
12. Adjournment 4:19 PM

Motion Chief Krienitz Second Thomas__Ayes_5__Nays_0

Director Division of Building & Permits
John P. Curley AIA, CBCO, CFM

02/03/2017
E3602.3 Rating of service disconnect. The combined rating of all individual service disconnects serving a single dwelling unit shall be not less than the load determined from Table E3602.2 and shall be not less than as specified in Section E3602.1. (230.79 & 230.80)

E3602.4 Voltage rating. Systems shall be three-wire, 120/240-volt, single-phase with a grounded neutral. [220.82(A)]

SECTION E3603
SERVICE, FEEDER AND GROUNDING ELECTRODE CONDUCTOR SIZING

E3603.1 Grounded and ungrounded service conductor size. Service and feeder conductors supplied by a single-phase, 120/240-volt system shall be sized in accordance with Sections E3603.1.1 through E3603.1.4 and Table 3705.1.

E3603.1.1 For a service rated at 100 through 400 amperes, the service conductors supplying the entire load associated with a one-family dwelling, or the service conductors supplying the entire load associated with an individual dwelling unit in a two-family dwelling, shall have an ampacity of not less than 83 percent of the service rating.

E3603.1.2 For a feeder rated at 100 through 400 amperes, the feeder conductors supplying the entire load associated with a one-family dwelling, or the feeder conductors supplying the entire load associated with an individual dwelling unit in a two-family dwelling, shall have an ampacity of not less than 83 percent of the feeder rating.

E3603.1.3 A feeder for an individual dwelling unit shall not be required to have an ampacity greater than that specified in Sections E3603.1.1 and E3603.1.2.

E3603.1.4 The grounded conductor ampacity shall not be less than the maximum unbalance of the load and the size of the grounded conductor shall not be smaller than the required minimum grounding electrode conductor size specified in Table E3603.4. [310.15(B)(7)]

E3603.2 Ungrounded service conductors for accessory buildings and structures. Ungrounded conductors for other than dwelling units shall have an ampacity of not less than 60 amperes and shall be sized as required for feeders in Chapter 37. [230.79(D)]

Exceptions:
1. For limited loads of a single branch circuit, the service conductors shall have an ampacity of not less than 15 amperes. [230.79(A)]
2. For loads consisting of not more than two two-wire branch circuits, the service conductors shall have an ampacity of not less than 30 amperes. [230.79(C)]

E3603.3 Overload protection. Each ungrounded service conductor shall have overload protection. (230.90)

E3603.3.1 Ungrounded conductor. Overload protection shall be provided by an overcurrent device installed in series with each ungrounded service conductor. The overcurrent device shall have a rating or setting not higher than the allowable service or feeder rating specified in Section E3603.1. A set of fuses shall be considered to be all of the fuses required to protect all of the ungrounded conductors of a circuit. Single pole circuit breakers, grouped in accordance with Section E3601.7, shall be considered as one protective device. [230.90(A)]

Exception: Two to six circuit breakers or sets of fuses shall be permitted as the overcurrent device to provide the overload protection. The sum of the ratings of the circuit breakers or fuses shall be permitted to exceed the ampacity of the service conductors, provided that the calculated load does not exceed the ampacity of the service conductors. [230.90(A) Exception No. 3]

E3603.3.2 Not in grounded conductor. Overcurrent devices shall not be connected in series with a grounded service conductor except where a circuit breaker is used that simultaneously opens all conductors of the circuit. [230.90(B)]

E3603.3.3 Location. The service overcurrent device shall be an integral part of the service disconnecting means or shall be located immediately adjacent thereto. (230.91)

E3603.4 Grounding electrode conductor size. The grounding electrode conductors shall be sized based on the size of the service entrance conductors as required in Table E3603.4. (250.66)

<table>
<thead>
<tr>
<th>Size of Largest Ungrounded Service-Entrance Conductor or Equivalent Area for Parallel Conductors (AWG/CM)</th>
<th>Size of Grounding Electrode Conductor (AWG/CM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>Copper</td>
</tr>
<tr>
<td>Aluminum or copper-clad aluminum</td>
<td>Aluminum or copper-clad aluminum</td>
</tr>
<tr>
<td>2 or smaller</td>
<td>8</td>
</tr>
<tr>
<td>1 or 1/0</td>
<td>2 or 3/0</td>
</tr>
<tr>
<td>2/0 or 3/0</td>
<td>4</td>
</tr>
<tr>
<td>Over 3/0 through 350</td>
<td>Over 250 through 500</td>
</tr>
<tr>
<td>Over 350 through 600</td>
<td>Over 500 through 900</td>
</tr>
<tr>
<td>1/0</td>
<td>1/0</td>
</tr>
<tr>
<td>3/0</td>
<td>3/0</td>
</tr>
</tbody>
</table>

a. If multiple sets of service-entrance conductors connect directly to a service drop, set of overhead service conductors, set of underground service conductor, or service lateral, the equivalent size of the largest service-entrance conductor shall be determined by the largest sum of the areas of the corresponding conductors of each set.

b. Where there are no service-entrance conductors, the grounding electrode conductor size shall be determined by the equivalent size of the largest service-entrance conductor required for the load to be served.

c. Where protected by a ferrous metal raceway, grounding electrode conductors shall be electrically bonded to the ferrous metal raceway at both ends. [250.64(E)(1)]

d. An 8 AWG grounding electrode conductor shall be protected with rigid metal conduit, intermediate metal conduit, rigid polyvinyl chloride (Type PVC) nonmetallic conduit, rigid thermosetting resin (Type RTRC) nonmetallic conduit, electrical metallic tubing or cable armor. [250.64(B)]

e. Where not protected, 6 AWG grounding electrode conductor shall closely follow a structural surface for physical protection. The supports shall be spaced not more than 24 inches on center and shall be within 12 inches of any enclosure or termination. [250.64(B)]

f. Where the sole grounding electrode system is a ground rod or pipe as covered in Section E3603.3, the grounding electrode conductor shall not be required to be larger than 6 AWG copper or 4 AWG aluminum. Where the sole grounding electrode system is the footing steel as covered in Section E3601.7, the grounding electrode conductor shall not be required to be larger than 4 AWG copper conductor. [250.66(A) and (B)]