



## City of Glendale, AZ

### Technical Guideline

Building Inspection Department

X Technical Guideline

Interpretation

Modification

<b>Issue Date:</b> 4/12/2010
<b>Code/Section:</b> Policy; ARS R4-30-302
<b>Approved:</b> Electrical Department
<b>Developed by:</b> Electrical Inspections/Plan Review Department
<b>References:</b> ARS R4-30-302

### Issue:

1 & 2 family dwelling units that upgrade to a 400 Ampere or less Electrical Service. *(This does not include any commercial projects since most are 3 phase systems and will fall into ARS R4-30-302 rules requiring Engineering).* It has been argued that a Registrant is not required for systems up to 400 amperes single phase. In reviewing State law, it has been decided that a Registrant is not required. Plans, though, must still be reviewed by the City. Note, however, that the next Electrical Service size is 600 amperes. Fault currents typically exceed 22000 amperes and must be designed by a Registrant due to the complexity and requirement for fault current calculations being on the plan. The following is an *excerpt* to Arizona Revised Statute R4-30-302 regarding when engineering is required:

#### **R4-30-302. Electrical Plans**

- A. A registrant shall prepare and submit drawings and specifications for a new electrical system or an addition or modification to an existing electrical system provided the service and associated electrical feeders exceeds 600 amperes 120/240 volts, single phase or 225 amperes 120/208 volts, three phase and the fault current exceeds 10,000 amperes.

### Guideline:

**Electrical, (1 & 2 family residential units only), 400 Amp or less Service upgrade submittals:**

- 1. All plans for installations, additions, or modifications on a residence where the Building Electrical Service Equipment is 400 amps or less, and the available fault current is 22,000 amps or less shall be prepared by an Engineer or Architect registered in the State of Arizona who is qualified to perform such work; or by the Electrical contractor who is to perform the work and has the appropriate commercial/residential Electrical license by the State of Arizona and competence is shown.**
- 2. All installations, additions, or a modification where the Residential Building Electrical Service Equipment exceeds 400 amperes or the available fault current exceeds 22,000 amps shall be prepared and sealed by an Electrical Engineer registered in the State of Arizona.**