



Informal Interpretation Report Number 8460



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Section 310.15(B)(7)(2)

Question:

Is it the intent of article 310-15(B)(7)(2) to allow the feeders to a detached building such as a storage shed, garage or barn, on the same property, with feeders originating from a 400A residential single phase 120/240 volt service, mounted on the residence, to be sized to 83% of the feeder rating?

Answer

No. NEC 310.15(B)(7)(2) specifically states that the reduction in load to a feeder is applied to the ENTIRE load of the one-family dwelling.

Commentary:

This reduction is based on diversity of loading. In a dwelling unit, the actual loads on the electrical system are not as constant as in a commercial application. Loads cycle, they turn on and off, more often than in most commercial applications. This allows the NEC to take this factor into account, however, it is only when looking at the entire load. When only supplying a smaller portion of the load, such as a shed or workroom, the loads do not get this same diversification, therefore, the reduction in the loads cannot be used. An easy way to see this is to think about the conductors supplying a panel used for a pool panel. When the pool equipment is running, it is on. There is no diversification such as for the entire residential structure. Once the conductors leave the service that is supplying the entire load, the general rules of the code, including overcurrent protection apply. The one major exception to this is in the case of an electrical service where the main panel may have distribution, typically referred to as a feed through with distribution. The conductors leaving the main panel (feeders) are not required to be bigger than the service conductors.

Notice:

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