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## **Solar installations and DC and AC disconnect requirements.**

After extensive research on solar farms and solar installations, and a in-depth discussion with the NFPA the following code shall apply to these sites regarding the disconnecting means at the solar inverters. This is based on the 2020 code and should carry over to the 2023 code as well. The intent of this code article was poorly written in 2020 and we were enforcing the code based on this.

- NEC 690.15 in the first paragraph sends you to 690.15(D) this refers to DC equipment disconnects.
- NEC 690.15(A) Location. This tells you the Disconnecting means needs to be located within sight and within 10 feet of the equipment (Inverters). AC and DC disconnects.
- NEC 690.15(B) refers to Isolation devices, that is not what we are discussing here.
- NEC 690.15(C) Equipment disconnecting means. This directs you to the type, rating, voltages needed for the disconnecting means. (Both DC and AC). This article goes on to tell you if not within sight or not within 10 feet of the equipment (inverters), then the disconnecting means shall be lockable according to NEC 110.25.

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- NEC 110.25 Lockable disconnecting means. Says, if a disconnecting means is required to be lockable open elsewhere in this *Code*, it shall be capable of being locked in the open position. The provisions for locking shall remain in place with or without the lock installed.

### The Final Decision on this

- All disconnects shall be within 10 feet or within sight of the equipment (inverters) **IF NOT** then...
- If disconnects are remote from the equipment, then they shall be lockable according to NEC110.25. The locking mechanism shall remain in place at all times. If disconnects are breakers, or multiple disconnecting devices in a cabinet, then each device must have a means to lock that device individually. This device shall be permanently affixed to the breaker or device.
- Each device must be labeled as to what piece of equipment it controls.
- The cabinet that houses the individual disconnecting devices must also be lockable.
- If the solar site is 5000K or over then 691.9 shall apply.  
**Disconnecting Means for Isolating Photovoltaic Equipment.**  
Isolating devices shall not be required within sight of equipment and shall be permitted to be located remotely from equipment. The engineered design required by 691.6 shall document disconnection procedures and means of isolating equipment.

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