

Jurisdiction Survey on Solar Farms

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Question: Would you consider a Solar Farm a “Power-Generating Station” to be designed to Risk Category III?

Responses:

1. They are power generating stations, but I don't think you can properly classify their risk category without knowing how the utility is utilizing the farm and if it will be serving as a potential emergency backup power generating facility.
2. Interesting question. Since the term 'power-generating station' is not defined in the IBC, I sought the help of Google. When I looked up 'power-generating station definition', the first answer was simply 'power-plant' so I searched 'power-plant' and received this definition: An installation where electrical power is generated for distribution. Given that definition, I think the key word here is distribution. If this solar farm feeds one customer or campus (regardless of whether it is a grid-tied system feeding back to the utility), then it should be designed similar to any stand-alone PV system (risk II) that one would find on a commercial or residential building. If this solar farm is producing power that is meant for distribution to a community or to feed the general grid (a system that would be controlled and maintained by the utility company), then it should be treated the same as any other power plant and be designed as a risk III. That said, my answer generates (pun intended, see what I did there?) a thought: If the utility company is creating a solar farm, the utility company should be aware that their power generation efforts are out of scope for the NEC (2023 NEC 90.2 (D) (5)) and therefore would not be regulated by the municipal Building Division.
3. One could consider a commercial solar farm as a “Power-Generating Station” and designed to Risk Category III because by definition (not IBC)
“A power station, also referred to as a power plant and sometimes generating station or generating plant, is an industrial facility for the generation of electric power. Power stations are generally connected to an electrical grid.”
4. I wouldn't even consider it to be a "Building". I would say that Table 1604.5 is non-applicable
5. That's a yes for me!
6. Yes
7. This is not an easy answer. The first thing is what is the definition of a solar farm? How many panels make a solar farm? Are they only located on the ground or are they mounted on the roof of a building? The next thing is whether it is privately owned or part of a public utility system. I don't think the code gives a clear answer to the question. The intent of the Category III classification was for public utility power-generating facilities so that the community's power could be maintained during a disaster. To be consistent with that, I would classify a public utility solar farm as Risk Category III. However, a privately owned solar farm could be classified as a Risk Category II in my opinion. The code and ASCE 7 are both antiquated and no one to my knowledge has tried to provide direction on how to handle these facilities.
8. I would agree to “Power Generating Station.”