Missed connections?

A proposed new interconnection procedure in California has many solar developers worried

With little fanfare, the California Independent System Operator (CAISO) – a quasi-governmental corporation charged with managing the transmission grid – is pushing to change how small generators (defined as 20 MW and under) interconnect. In the past, small and large projects were evaluated separately, but now CAISO wants to have one interconnection procedure for all – a move that is supported by the state's two largest utilities. While it may sound extreme, some solar developers fear the change might be the death knell for distributed generation.

In late July, Southern California Edison, one of the large investor-owned utilities in California, announced that it had made awards of 36 contracts totaling 60 MW to independent power producers under its so-called »rooftop solar project.« The announcement was the first under a program approved last year by the California Public Utilities Commission (CPUC), which will allow SCE to install 500 MW of solar – most of it on rooftops – with 250 MW

coming from independent power producers and the rest to be owned and operated by the utility itself.

Not surprisingly advocates of solar greeted this news warmly – and 60 MW is certainly nothing to sniff at – particularly those who view wholesale distributed generation as vital to meeting the state's Renewable Portfolio Standard (RPS) and, more generally, to reducing the state's greenhouse gas emissions and creating green jobs.

At least on the rhetorical level, just about everyone – from politicians to utilities to regulators – pays lip service to the role that distributed generation solar can play, given the fact that it can be built quickly, closer to demand, and that it does not typically require expensive new transmission infrastructure. So why is it, then, that a broad coalition – including solar project developers, policy advocates, environmentalists and many others – are so concerned about the future of distributed generation solar projects 20 MW and under in California?

Because with very little fanfare and attention, the rules and procedures for how so-called »small generators« connect to the grid are currently under review, with some worried about potentially »catastrophic« results, should the proposal recently put forward regarding interconnection be adopted. »It doesn't matter how great your policy is if you can't connect to the grid,« says Ted Ko, assistant executive director of the FIT Coalition – a group pushing for the adoption of feed-in tariffs to help spur renewables development in the US. »You can have the best feed-in tariff rate in the world and it can be perfectly designed and investment bankers can want to throw money into your project, but if you can't connect to the grid you're dead.«

Ground zero for the debate over the interconnection of 20 MW and under projects is the California Independent System Operator (CAISO), a non-profit, quasi-governmental corporation charged with managing the transmission grid. To understand where CAISO fits in to the delivery of power in California, think of it this way: CAISO is responsible for the connection of any power generator to the high-voltage transmission grid. By contrast, utilities like Southern California Edison (SCE), Pacific Gas & Electric (PG&E) and San Diego Gas & Electric (SDG&E) all manage the lower-voltage distribution grid, where the bulk of distributed generation projects seek to interconnect.

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Sunset for distributed generation? Solar developers worry that a new proposal to change how projects connect to the grid will stymie small power plants.

The proposal

Earlier this year, CAISO initiated a process designed to change how small generator power plants connect to the grid. The result of that process was a draft final proposal released in July – one which CAISO plans to present to its board of governors this fall and, if approved, send to the Federal Energy Regulatory Commission (FERC) for its approval by the end of the year.

At first glance it may seem curious that a governmental body in charge of the high-voltage transmission grid would have much of anything to do with interconnection procedures involving 20 MW and under photovoltaic (PV) systems, which for the most part should be connected to the distribution grid. And in fact, the CAISO proposal to change how small generators interconnect would not likely have a direct impact on many distributed generation projects. But in reality, the changes that CAISO makes will likely be adopted by utilities when it comes to their own interconnection procedures, which are known as wholesale distribution access tariffs (WDAT). Indeed, SCE recently sent an email to independent power developers making it clear that it would adopt the CAISO revised tariff if it is given the go-ahead by FERC.

Prior to its reform efforts, CAISO and the utilities operated under guidelines established by FERC in 2005. With what is known as rule number 2006, FERC established a standard interconnection procedure for generators 20 MW and under – known as the small generator interconnection process (SGIP) – that was meant to limit the chances transmitting utilities had to prejudice their own generation over those of independent power producers, reduce interconnection times and costs for small generators and encourage investment in transmission infrastructure and generation. The establishment of SGIP happened in the wake of FERC's development of a large generator interconnection process (LGIP) for facilities larger than 20 MW.

In unveiling its rule for connecting small generators to the grid, FERC both acknowledged and extolled the promise of distributed generation. »Where the electric industry was once primarily the domain of vertically integrated utilities generating power at large centralized plants, advances in technology have created a burgeoning market for small power plants that may offer economic, reliability or environmental benefits,« reads the FERC docket that explains the commission ruling. The docket also cites FERC's responsibility under the Federal Power Act to remedy undue discrimination in accessing transmission systems – something FERC said public utilities have been guilty of in the past.

FERC's decision established more-or-less-standard rules and procedures around how both small and large generators can connect to the grid. In the case of CAISO, it boils down to this: for large generators, the interconnection procedure entails a so-called »cluster« study approach, in which all applications for projects larger than 20 MW received during a set timeframe are evaluated at once. By contrast, projects 20 MW and smaller are assessed via the »serial« study method, which means that they are evaluated one at a time, in the order applications are received. Additionally, the current SGIP process includes a »fast-track« procedure for projects 2 MW or less, although many developers claim that the requirements for qualifying for this designation – which include ten different »screens,« including one that says the owner of the transmission system does not have to

build anything to accommodate a new generator being interconnected – are impossible to meet.

Whether large or small, serial or cluster, the study process is a way to determine what kind of impact and costs a new generation plant will have on the transmission system, should it be connected to the grid. For solar developers – particularly those seeking to build smaller distributed generation plants – this is vital information because it determines, among other things, whether costs for transmission system upgrades related to interconnection are reasonable, or whether they are so high that they lead to a project being scuttled. Obviously, obtaining this sort of information as quickly as possible makes financing much easier and, by extension, allows for a lot more projects to be built.

A problem, but is the solution worse?

According to CAISO, this dual interconnection process simply is not working – especially for smaller distributed generation projects. As evidence, CAISO points to the large backlog of SGIP projects awaiting study and the amount of time it currently takes for applicants to make it through the procedure. In fact, since 2003, CAISO has received a total of 154 SGIP interconnection requests totaling almost 2.8 GW. Of that number, just six have been completed, for a total of 49 MW. These statistics do not include interconnection requests to the utility distribution system, which have skyrocketed in the past few years from less than 50 in 2008 to almost 350 in the first 7 months of 2010.

CAISO insists that it was in part because of these long delays, as well as an increasing volume of SGIP applications, that they opted to initiate a process to change how they handled interconnection requests. »The bottom line is to streamline the process with the intention of speeding construction of renewable energy projects,« says Stephanie McCorkle, a spokesperson for CAISO. Starting with an initial study plan, CAISO then came up with a draft proposal, a draft final proposal and, in August, amendments to the final proposal related to fixing what it considered to be a broken interconnection procedure.

In essence, CAISO's solution to the interconnection snafus is this: get rid of the serial study process for small projects altogether and instead evaluate large and small applications in a single cluster. In other words, the basic thrust of the idea is to maintain the cluster approach used for large projects and simply add smaller applicants into the same mix. The new interconnection procedure would be called GIP, for »generator interconnection procedures.«

In its draft final proposal, CAISO makes the case that the best way to speed up the process for both large and small projects to get interconnected is to study them simultaneously – the reasoning being that they are all connecting to the same transmission grid and hence their impacts are related. »As long as the SGIP remains a serial process, the ability of planners to accurately study and account for the collective impacts of both LGIP and SGIP requests will be compromised, and customers will have difficulty moving through the interconnection process because timing, costs and accuracy of their studies will be constantly in flux,« writes the agency.

CAISO concedes that its revamped GIP interconnection proposal will, in fact, mean a longer wait for small projects to be studied – the entire process should take 420 days, compared to the expected 390 days under the current SGIP timeline. Although the agency also notes that the current system for small generators is so backlogged and overwhelmed that waits are often much longer than the official timeline suggests.

Another selling point CAISO trots out in favor of its revamped interconnection procedure is that it avoids situations where a small project has to bear the entire cost of an expensive upgrade simply because its addition marked a »tipping point.« »Under a serial interconnection process, and according to FERC policies, the small generator in this case is 100 percent responsible for the large upgrade, even though the amount of generation addition to the transmission line may be small compared to the capability provided by the upgrade,« says the proposal. In other words, CAISO believes that its revamped interconnection procedure will be more efficient, quicker and often times less costly than the current system.

Prejudicial treatment for larger projects?

To say that there is skepticism and opposition to CAISO's proposal amongst advocates and developers of distributed generation solar projects is an understatement. Kevin Fox, an attorney with Fox & Keyes in Oakland, California, who represents the Interstate Renewable Energy Council (IREC) on interconnection matters, says that the CAISO proposal eviscerates the FERC mandate for small projects to be processed more quickly than large projects – an undeniable fact if one compares the theoretical SGIP study timeline with the GIP proposal. »In our opinion, the FERC small generator procedures were developed with this purpose: to ensure that small generators with reduced grid impacts could move forward more quickly than larger projects with more significant grid impacts,« he says, adding, »I think that the current proposal removes that bargain.«

Other big concerns amongst developers and policy advocates revolve around cost and risk. In the new GIP proposal, there is a flat $50,000 application fee plus an additional $1,000 per MW for each proposed project, with a cap of $250,000. Other expenses for developers relate to the requirement that they prove what is called »site exclusivity« or, alternatively, that they make a deposit of $100,000 for projects 20 MW or less. These up-front costs plus the increased study time for interconnection of smaller generators greatly irk some developers, who complain that the price tag attached to their projects right off the bat gives large developments a big advantage – the opposite of FERC's original intention. »Those costs are much higher as a share of overall costs for smaller projects. That is what is insidious about this,« says one solar developer who asked

not to be named for fear of angering the utilities his company is working with. »It becomes hugely risky to do smaller projects,« he argues, adding, »When you are talking about big projects with bigger economics it is much more favorable.«

It is not just the content of the CAISO proposal that some find upsetting. Many also believe that there has been very little stakeholder input allowed and that, frankly, the whole reform process has been pushed ahead too fast. Indeed, in its response to the CAISO final draft proposal, the California Solar Energy Industries Association (CalSEIA) said that it only became involved in the stakeholder meetings through »happenchance.«

The California Public Utilities Commission (CPUC) criticized CAISO's goal of getting a final proposal to its board of governors this fall as being too hasty to be able to adequately address all the relevant issues. The CPUC also expressed concerns that small generators – which it explicitly identifies as being key to meeting the state's RPS goals – would be at a disadvantage if large and small projects seeking to interconnect at the distribution and transmission grids were studied in one cluster. »While the utilities have raised the issue that all generator interconnections are interrelated, it is unclear how a generator 5 MW or smaller connected to the distribution system will affect the transmission system,« writes the CPUC in its comments.

Nonetheless, with the support of Southern California Edison (SCE) and Pacific Gas & Electric (PG&E) – San Diego Gas & Electric (SDG&E) is opposed – CAISO seems intent on pushing its proposal through to FERC. As PHOTON went to press, CAISO released some revisions to its draft final proposal, lifting the size of eligible fast-track projects to 5 MW. Still, it is an open question as to whether or not FERC will sign off on the proposal. For his part, Kevin Fox is highly doubtful that the final draft proposal has any chance of getting the FERC seal of approval. It is especially unlikely to happen, he says, because of the clear intention of SCE and PG&E to submit their interconnection changes at the same time as CAISO. »If this is a coordinated effort where CAISO and all the transmission owners are going to have one big coordinated cluster study,« says Fox, »I don't see how that moves forward because there will be significant pushback on what the IOUs [investor-owned utilities] are proposing.« Fox adds that this is especially the case »considering that they have not had one independent stakeholder meeting about mirroring the CAISO changes.«

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