

The siting of solar generating facilities requires approval from numerous governmental agencies. The Arizona Corporation Commission must approve large solar thermal facilities (above 100 megawatts) pursuant to the Arizona siting law process. Recently, this process has focused on the siting of solar generation and the transmission lines necessary for such projects. Several projects, including the Solana solar generating facility, the Starwood solar facility and the Agua Caliente solar facility have successfully completed that process. It is anticipated that many more solar projects and transmission projects connecting renewable projects to the transmission grid will go through this process in the near future. In addition to this formal state siting process, a solar facility must seek local zoning approvals and, depending on the site, approvals from the Arizona State Land Department, the Bureau of Land Management, Arizona Department of Water Resources, the Arizona Department of Environmental Quality and other agencies.

Arizona's Siting Law

Power plants that are 100 megawatts or greater, with a few exceptions that will be discussed below, and transmission lines of 115kV or greater, are subject to Arizona's Power Plant and Transmission Line Siting law, codified in Arizona Revised Statutes (A.R.S. §40-360 et seq.). Proponents of such projects must file an application with the Arizona Power Plant and Transmission Line Siting Committee (the "Committee") for a Certificate of Environmental Compatibility ("CEC"). The Committee consists of eleven members representing various state agencies and members of the public. The decision of the Committee is reviewed by the Arizona Corporation Commission ("ACC").

Numerous environmental factors that must be considered by the Committee are set forth in A.R.S. §40-360.06. As a result of these multiple environmental factors, CEC applications are heavily weighted towards environmental information.

Ultimately, the CEC must be approved by the ACC under the balancing standard set forth in A.R.S. §40-360.07.

In arriving at its decision, the Commission shall comply with the provisions of Section 40-360.06 and shall balance, in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of the state.

Solar generating facilities

A. Technology impacts siting requirements

Under A.R.S. §40-360, a "plant" is defined to be a thermal electric, nuclear or hydroelectric generating unit. As a result, certain solar technology such as concentrating solar power ("CSP") that make use of the sun's heat are considered thermal projects and are subject to the CEC process. Other solar projects, such as photovoltaic, use the light from the sun rather than the heat and are not subject to the CEC process.

A typical CSP plant uses 900,000 mirrors to focus the sun's heat on thermal fluid running through a tube. The heated thermal fluid is used to heat water, generating steam and turning a standard steam turbine. This super heated thermal fluid can also be used to heat salt that can be stored and then released during the evening so the plant

can produce power even after the sun goes down. This is important in Arizona where peak usage often occurs in the evening when people arrive home from work.

B. Major environmental issues with solar facilities.

On the surface it would appear that the environmental analysis of a solar plant should be easy. After all, such plants result in a reduction in air emissions from the traditional power plants and a reduced dependence on fossil fuel. But solar generating facilities may use substantial amounts of land and water. A utility scale power plant of approximately 250 megawatts may use 3,000 acre feet of water a year and 2,000 acres of land. The water use is particularly sensitive when the facility is being built in Arizona, using Arizona water to produce power for other states. In addition to water, another contested issue is whether a public land site, such as BLM or state land, is better than a private land site. Environmental groups support the use of private land, particularly agricultural land, rather than public land. On the other hand, at least one ACC member was troubled that these sites often take agricultural land out of production.

Transmission

The development of renewable power in Arizona will require substantial investment in new transmission lines. These transmission lines will include "gen-tie" lines connecting the generating facility to the transmission grid. In addition, major transmission lines carrying power from rural sites into the metropolitan areas will be needed.

These transmission lines, because they are above 115kV, must go through the siting process outlined above and are subject to an analysis of the same environmental factors. The ACC is acutely aware of the need for new transmission for renewables and created a renewable transmission task force as part of the ACC's Biennial Transmission Assessment review. That task force recently reported to the ACC on potential renewable transmission projects.

Conclusion

As noted above, the Arizona siting process is just one step, albeit a major step, in the entitlement process. Any site also must be reviewed for compliance with local zoning. Most of the large renewable plants to date have required comprehensive plan amendments and special use permits. Projects on public lands need additional approvals usually from the BLM (federal) or the ASLD (state trust lands). A renewable developer cannot assume a project that has been approved by the ACC will automatically receive these other approvals. More than one project has been delayed by a disagreement among government agencies.

Tom Campbell is a partner with Lewis & Roca in their Phoenix office. His practice is concentrated in the areas of regulatory and administrative law, particularly energy, telecommunications, water and utility regulation. He can be reached at (602) 262-5723 or via email at tcampbel@lrllaw.com.

