Problems cast shadows of doubt on solar project

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One of California's showcase solar energy projects, under construction in the desert east of Los Angeles, is being threatened by a deadly outbreak of distemper among kit foxes and the discovery of a prehistoric human settlement on the work site.

The $1 billion Genesis Solar Energy Project has been expedited by state and federal regulatory agencies that are eager to demonstrate that the nation can build solar plants quickly to ease dependence on fossil fuels and curb global warming.

Instead, the project is providing a cautionary example of how the rush to harness solar power in the desert can go wrong - possibly costing taxpayers hundreds of millions of dollars and dealing an embarrassing blow to the Obama administration's solar initiative.

Genesis had hoped to be among the first of 12 approved solar farms to start operating in Southern California deserts. To do so, it had to meet certain deadlines to receive federal assistance. The 250-megwatt plant, being built on federal Bureau of Land Management land 25 miles west of Blythe, is backed by an $825 million Department of Energy loan guarantee.

Native Americans, including the leaders of a nearby reservation, are trying to have Genesis delayed or even scuttled because they say the distemper outbreak and discovery of a possible Native American cremation site show that accelerated procedures approved by state and

federal regulators failed to protect wildlife and irreplaceable cultural resources.

The problems threaten the entire project, said Michael O'Sullivan, senior vice president of development for Florida-based NextEra Energy Resources, one of the largest renewable energy suppliers in North America and the builder of Genesis. The project is to start producing power by 2014. If too many acres are deemed off-limits to construction, "the project could become uneconomical," O'Sullivan said.

Plans for Genesis call for parabolic-trough solar thermal technology to create enough energy to power 187,500 homes. But last fall, as crews began installing pylons and support arms for parabolic mirrors across 1,950 acres of land leveled by earthmovers, the company ran into unexpected environmental and cultural obstacles - the kind that critics say could probably have been avoided by more rigorous research and planning.

"The issues facing Genesis underline the notion that if you do something quick and dirty, you are going to wind up with big mistakes and unintended consequences," said Lisa Belenky, senior attorney for the Center for Biological Diversity.

Kit foxes became an issue at the site in late August, when two animals died. At the time, biologists assumed the foxes succumbed to dehydration in an area where summer temperatures soar to 118 degrees. On Oct. 5, Genesis crews discovered another fox carcass and sent it to state Fish and Game veterinarians for a necropsy.

At the time, the company was using "passive hazing" strategies approved by state and federal biologists to force kit foxes off the land before grading operations began in November. To scatter the kit foxes, workers removed sources of food and cover, sprinkled urine from coyotes - a

primary fox predator - around den entrances, and used shovels and axes to excavate about 20 dens that had been unoccupied for at least three consecutive days.

By early November, only three active dens remained, but the foxes using them wouldn't budge, raising the risk of construction delays. The California Energy Commission, which has jurisdiction over the project, scrapped the three-day timetable and said the company could destroy dens that had been vacant for 24 hours.

Five days after making that change, the results of the necropsy came back. The fox found Oct. 5 had died of the first case of distemper ever recorded among desert kit foxes. Ultimately, at least seven kit foxes died.

Deana Clifford, state wildlife veterinarian for the California Department of Fish and Game, said she isn't certain the outbreak is connected to Genesis, "but we know that habitat disturbance causes stress, and when animals succumb to stress they become more susceptible to disease."

State and federal biologists are now trying to prevent the disease from spreading beyond the site. To discourage displaced kit foxes from re-entering the area, electric wires have been installed along the top of waist-high fences originally intended to keep desert tortoises relocated by NextEra from trying to return to their former burrows.

Evidence of a human settlement is of even greater concern to the company. Earthmovers on Nov. 17 churned up grinding stones lying on a bed of charcoal - possible evidence of an ancient cremation site. In a subsequent meeting with Colorado River Indian Tribes, a federally recognized reservation just east of the work site, Bureau of Land Management officials described the discovery as "unprecedented," tribal leaders said.

The remains are protected by the federal Native American Graves Protection and Repatriation Act. Work has been halted on 400 acres, or one-fifth of the project's total area, while state and federal archaeologists conduct a detailed assessment.

The discovery did not come as a complete surprise. In 2010 testimony before the state energy commission, archaeologist David S. Whitley warned that Ford Dry Lake, at the southern end of the Genesis site, had been a gathering place for prehistoric people who cremated their dead. Based on surface evidence, at least three locations within the Genesis project area appeared "to represent lake shore village sites that have the potential to contain burials/cemeteries," Whitley said.

To avoid the old lake shore area, NextEra reconfigured the project, moving it about two miles north.

However, the company did not follow customary methods for searching the new site for human remains. Instead of using established but costly and time-consuming procedures, NextEra opted for a new, less exacting search method developed by the state energy commission and the BLM to expedite Genesis and three other desert solar projects.

The energy commission outlined the new method in a Dec. 3, 2009, letter that included a warning: If the search found nothing, but artifacts were discovered later, during construction, the project could be suspended while an exhaustive investigation was performed.

That's what happened. NextEra's search involved digging more than 500 shovel test pits each up to 3 feet deep. It found nothing.

Now the Colorado River Indian Tribes reservation is demanding that NextEra halt construction until its own experts can investigate. Eldred Enas, chairman of the Colorado River Indian Tribes, said in a letter to

the federal government last month that the discovery of a nestled pair of metates - stones used to grind acorns, pinion nuts and other staples - atop a bed of charcoal indicates that it was a cremation site that is "too sacred to disturb."

Separately, a nearby group of Native Americans called La Cuna de Aztlan Sacred Sites Protection Circle is preparing a legal challenge based on the kit foxes and the possible cremation site. Cory Briggs, an attorney representing La Cuna Aztlan, said NextEra received an early warning: "This is the wrong place to build. Instead, they put their foot on the gas pedal in order to get this thing approved and deal with problems later."

The company and regulatory agencies are studying options, which could range from avoiding locations known to contain significant Native American remains to a formal archaeological excavation.

In an interview, NextEra officials acknowledged that in a worst-case scenario, they could decide that they cannot meet the conditions of the company's power purchase agreement with Pacific Gas & Electric Co. and close down a project that is expected to create 800 construction jobs.

If that were to happen, 80 percent of the project's outstanding loans would be covered by the federal government, and the U.S. Bureau of Land Management would begin shopping for another renewable energy company that was interested in leasing the property. If there were no takers, the scarred land would be restored with reclamation bond funds, BLM officials said.

Looking ahead, Roger Johnson, deputy director of siting with the state energy commission, said lessons learned from the Genesis project will be included in other high-priority solar facilities.

Jeffrey Lovich, a research ecologist with the U.S. Geological Survey, said the challenges facing NextEra are messy reminders of the fact that "peer-reviewed scientific studies to help us tease out the impacts of solar energy development" on the California desert do not exist.

"So there will be very likely be additional surprises as we move forward," Lovich said.