

Filling the void

Power project looks to bank on changing energy mix

THE SECOND IN A TWO-PART SERIES

By **Cody Hooks**, chooks@taosnews.com

The Taos News, 10/26/2017

Lucky Corridor, a company based in Colorado that wants to build a high-voltage power line from Colfax County to a substation in Taos, has an application sitting before local managers at the Carson National Forest.

While the federal agency decides if it will accept the proposal, which would trigger extensive environmental reviews, the company is rallying support for the idea from local governments, residents and financial backers.

The 62-mile line is called "Lucky Corridor." It would add 345-kilovolt capacity to the grid where it is currently lacking and open wind and solar energy hot spots in Northern New Mexico to potential energy production, meant to fill a void in the Four Corners created by the planned shuttering of major coal plants.

The Lucky Corridor project is banking on the notion that the area's energy infrastructure desperately needs private investors and that climate policies, emerging technologies and financial markets are rapidly changing the mix of energy in the Western grid.

The energy need

Understanding the need for more transmission line capacity in Northern New Mexico's energy grid demands a look at the grid itself, a sprawling network of poles and power lines.

The Western grid connects 14 states, Canada and the northern part of Mexico, and it is maintained by many producers, sellers, buyers and distributors of energy. The grid needs all those players to keep the region's energy system finely tuned, that is, to ensure the same amount of energy is being produced as is being used throughout the West.

Energy production from coal and natural gas makes up the biggest sources of the country's electricity needs. But the energy mix is changing.

In 2015, natural gas briefly topped coal as the United States' leading electricity source for the first time. In the first half of 2017, coal accounted for 30 percent of the country's generation, while natural gas stood at 31 percent, according to the U.S. Energy Information Administration.

At the same time, renewables are on the rise.

On an annual basis, solar and wind generation combined account for roughly 7 percent of energy production in the United States, though that share of the energy mix is occasionally more. By last December, utility-scale solar generated more than 21.5 gigawatts of electricity –

35 percent of that came from projects brought online just last year, the information administration reports.

The Four Corners region is the center of a major energy trading hub that sends and receives electricity from across the West and sends it back out in other directions. And the coal plants in that part of the country are facing closure in the coming years. Even with the administration of President Donald Trump rolling back clean power goals, two units at the San Juan Generating Station near Farmington are set to close at the end of this year and other proposed coal plant shutdowns are scheduled for the next 15 years.

“When those [coal plants] go offline, it’s not like the demand went away,” explained Leslie Watson, an Arizona-based consultant for Lucky Corridor.

And that’s the thrust of the Lucky Corridor – to fill the energy gap in this time of transition, not by controlling the production of renewable energy, but by ensuring it physically has a way to get to the biggest trading center in the region.

Tri-State Generation and Transmission Association, a wholesale energy provider that owns the 115-kV power lines that currently run through the federal easement in Taos Canyon where Lucky Corridor is proposing to put its facilities, questions the need for new transmission capacity while acknowledging the limits on the local grid.

“We have found that the regional system is generally limited in its ability to integrate large amounts of new generation resources. There is some capacity, but the actual amount would be location and technology dependent and subject to engineering analysis,” said Lee Boughey, Tri-State spokesperson, via email Oct. 17.

Indeed, the American Society of Civil Engineers released a report in 2017 that said more than 640,000 miles of high-voltage transmission lines in the continental United States are at full capacity.

But Boughey added that the existing system, including the line through Taos Canyon, “is adequate to reliably serve load in the area.”

Plugging in

The Lucky Corridor would need about 165 acres through the Carson National Forest, as well as about 50 miles of private easements, “which [the company] will need to acquire,” according to the Forest Service proposal.

Towers would range from 100 to 170 feet tall, depending on their frequency and specific location. In terms of “visual impact,” most of the towers would be “less massive” than double-pole structures of the same height, Lynn Greene, CEO of Lucky Corridor, told *The Taos News*.

However, paired monopole structures would be used for spans greater than 1,500 feet, according to the application.

Tri-State’s lower-voltage transmission lines run between a substation at Black Lake on the eastern side of the Sangre de Cristo Mountains to the substation at the base of Blueberry Hill in Taos, which is also owned by Tri-State.

The proposed Lucky Corridor facilities would carry energy from a yet-to-be built substation in Springer to the Taos facility, where it would make its way to Ojo Caliente and then to the Four Corners area.

The solar and wind generation from projects both big and small, including solar energy produced from small arrays in Taos, could all eventually feed into the line, while power could be pulled out and used locally.

“The infrastructure will directly enable the Taos region to be supplied by wind and solar energy,” Greene said, noting Northern New Mexico has great potential to develop solar energy.

But as Watson, one of the project consultants, explained, “[the lines] have to accept energy in all forms,” regardless of the source, meaning that as an essential link in the grid, energy from coal and natural gas could also course through the facilities.

And the application before the Forest Service states there are natural gas reserves in the region that would be serviced by this line, though “all potential customers so far are interested in building solar and wind energy projects.”

Independent of the Lucky Corridor project, Kit Carson Electric Cooperative is working toward a goal of having local energy needs met by 100 percent solar energy during daylight hours by the next five years. That would depend on a complex of arrays throughout Taos and Colfax counties.

According to the application, Lucky Corridor’s new transmission capacity would arguably “benefit electricity producers and purchasers over [a broad] geographic area, crossing state lines and even national boundaries.”

But at least one energy watchdog organization thinks a smarter grid – rather than more lines – would have the biggest impact on efficiency and integrity on the system.

Western Resource Advocates has proposed a regional market that’s “operated by a grid operator using highly sophisticated software, monitors, and computers that allow it to see the way electricity actually flows,” according to the organization’s website (westernresourceadvocates.org).

“This allows the transmission system to be more fully utilized and reduces the need to build expensive new transmission,” it reads. “Making more efficient use of the existing grid not only saves money, but also avoids potential harm to recreation areas, habitat, endangered species, and iconic landscapes.”

