



During installation, workers use personal watercrafts to maneuver parts of the array into position. *Photo courtesy of Speir Commercial & Industrial*

FLOATING SOLAR

Altman Plants boasts Texas' first array of its kind

By Lisa Ogle

IN MAY 2021, Altman Plants energized the first solar array in Texas that floats on water.

At 750 kilowatts of production capacity, it is one of the largest arrays on Bluebonnet Electric Cooperative's electric grid. Large commercial solar installations make up 37 percent of the total renewable production capacity of 21 megawatts on the cooperative's system.

Floating arrays are unusual. Elsewhere in the United States, a few dozen of them can be found, mostly in California and on the East Coast. They are more expensive than land-based installations but provide interesting additional benefits.

Altman's array, for example, helps preserve the valuable water reservoir it rests atop because it reduces water evaporation, keeps the water cooler in summer and greatly reduces the growth of algae. Its size is intended to offset the energy costs of the huge commercial nursery and reduce its carbon footprint.

Mark Rangel, an executive vice president of New Braunfels-based Speir Commercial & Industrial, helped shepherd the idea of a floating array as a solution to avoid taking up valuable real estate, but knew the additional costs would need support from other sources.

Federal tax incentives took care of 50 percent of the cost, and a USDA Rural Energy for America Program grant paid

ALTMAN'S SOLAR ARRAY

750 kilowatts of production capacity, enough to power 93 homes

2,592 solar panels

94,145 square feet, roughly the size of two football field

1,122 tons of carbon dioxide offset, equivalent to planting 26,089 trees

for another 25 percent. The nursery is expected to see a return on its investment in six to seven years, Rangel estimated.

Rangel and Altman's construction project manager Daryl Noack worked with French-based floating solar specialist Ciel & Terre to build the floating devices, anchoring system and aluminum rack that secure and house the solar panels.

Anchoring the rack was one of the biggest hurdles. They initially estimated a need for six to eight anchors and ended up with 34, Noack said.

"We didn't think it was going to be that many anchors," Rangel said. "Driving it into the side of a bank is challenging. Not a lot of contractors do that specific kind of work."

Another challenge was working safely on water.

The workers were using personal water-

crafts, and "we had to make sure our guys could swim," Rangel said. It involved a little trial and error — and getting wet. And muddy.

The solar panels were assembled on land in sections. Each section was floated across the water and then pinned in place on the rack.

"It was interesting to watch it being built," Noack said. For the last section, "it was a perfectly calm day." He remembers seeing the set of panels gracefully float across the water right in place. "It was really cool."

Bluebonnet worked closely with the team for about a year to get the array connected to the grid and help maximize consumption of the solar power. Excess power is returned to the grid, and Altman is paid back at a set rate.

"This was a unique project for us — seeing how a floating array comes together and working with a commercial member in a way we've never done before," said Wesley Brinkmeyer, Bluebonnet's manager of energy services. "As with all of our members, we work to try to find ways to help them achieve their goals. In the case of Altman's project, we worked to consolidate multiple meters by adjusting the infrastructure, coordinated on long-term plans and evaluated all of the options. We learned a lot along the way."

This wasn't the average solar project, Rangel said. "It definitely took a team — a community — to get this project done."