

Powerful Partner

IRBY CONSTRUCTION TAKES ON THE GREATEST FEAT IN ITS COMPANY HISTORY. BY JANICE HOPPE-SPIERS



» Irby Construction rebuilt 34 miles of transmission in under three months.

Hurricane Michael was the fourth-strongest landfalling hurricane in the United States and was the first Category 5 hurricane on record to impact the Florida Panhandle. It made landfall near Mexico Beach, Fla., on Oct. 10, 2018 with top sustained winds of 155 miles per hour, causing an estimated \$25 billion in damages.

In the wake of Hurricane Michael's path of destruction, a Florida-based utility's 230-kilovolt (kV) 34-mile transmission line on the west coast of Florida was damaged beyond repair. More than 100 transmission towers had fallen to the ground over 34 miles of hard-to-reach swamp and ranch land. Causing a reported 75,000 outages, the urgency to repair the transmission towers and restore power was great.

The large investor-owned utility company called upon a familiar contractor, Irby Construction, to manage the monumental task of completing 34 miles of transmission in three months. "Typically, we would feel comfortable building 50 miles in one year," Vice President of Business Development and Major Projects Andre Foster says. "That's an efficient pace for entities like Irby to be able to construct. We had three months for 30 miles. The magnitude of the project to remove all the damage and then go back and build it; the sequencing of events was critical."

With its history rooted in power transmission construction, Irby Construction had completed numerous projects for the utility company and currently has about 120 personnel working on its property. "They wanted to make sure the contract was held

Irby Construction

www.irbyconstruction.com

- *Headquarters: Richland, Miss.*
 - *Revenue: \$400+ million*
 - *Employees: 1,000*
 - *Specialty: Power infrastructure*
- "We were able to pull together the best of the best at Irby to support this monumental project."*

— Bonnie Burnham, director of operations

by an entity that was already performing work for the utility and had the project experience to be able to pull this type of major project together in such a short period of time," Foster says.

'At any given time, we had seven contractors and 200 people out there to manage.'

Achieving Greatness

Stuart C. Irby Jr., incorporated Irby Construction Company in 1946. Since its founding, Irby Construction has installed more than 185,000 miles of power lines in 43 states and eight countries.

Irby Construction's history dates back to 1917, when Stuart C. Irby Jr.'s father, Stuart C. Irby, led the construction of an 11-mile, 22-kV power transmission line through Hattiesburg, Miss. The elder Irby's company, Stuart C. Irby Company, a wholesale electrical supplier and electrical contractor, erected power lines for rural and municipal electric systems throughout the Southeast.

The company's long history includes being the first contractor to construct 765-kV lines in the United States. In addition, Irby Construction was the first company to use helicopters to construct transmission lines, which it used to complete the utility project.

Today, Irby Construction is a leader in all types of power line construction including extra high voltage lines, transmission and distribution systems, electrical substations, maintenance and emergency restoration. Its clients include the nation's largest utilities, power providers as well as municipalities and cooperatives. "We are a full turnkey infrastructure construction services company and the relationships that we have built with those utilities have expanded as we have expanded our service offering to our customers," Foster says.

The Richland, Miss.-based company employs about 1,000 people at its headquarters and in offices throughout the United States. This year, the company is expected to earn over \$400 million in revenue.

Irby Construction is an operating unit of Quanta Services, the industry-leading engineering, procurement and construction (EPC) contractor serving the electric power, oil and gas, and communications industries. "The benefit of being owned by Quanta Services allows Irby to leverage the capital and strength of Quanta's subsidiaries to provide customers additional services at any point in time," Foster adds.

Experienced Staff

The diversity of Irby Construction's industry experience and the tenure of many of its employees distinguish the company from its peers. "We are experienced in building all types of power systems in all geographies – from swamp to deserts and mountains," Foster says. "The average tenure among our executive team is 25 to 30 years, and we have several superintendents celebrating more than 45 years here."

Director of Operations Bonnie Burnham will celebrate 20 years with Irby Construction in November and has overseen many successful projects during her tenure, including this project. "It's been a great 20 years," she says. "I came here as manager and was promoted to director shortly after."

Burnham grew up in the construction industry. Her father owned his own construction company and she always had a knack for taking things apart and putting them back together. "I'm very much a visual person so being able to translate what is on paper to the final product has always been my strength," she says. "My parents were great role models. I was never told I couldn't do something."

Burnham received a degree in building construction from Auburn



» Richland, Miss.-based Irby Construction is a leader in all types of power line construction.

University in 1986, and was one of the few women in the school of building science and construction management. "I never saw it as anything out of the ordinary," she remembers. "I'm sure I've had raised eyebrows around me, but I get up every day, come to work and try to learn something new every day."

Women in leadership roles is rare in the construction industry, and even more so in the electric infrastructure segment, but Burnham says she is beginning to see more women in engineering and project management roles at utility and construction companies.

Burnham brought with her two decades' worth of experiences in project management to the utility company's project, and credits a great team to its successful completion. "We were able to pull together the best of the best at Irby to support this monumental project," she says. "We used subcontractors on the project and we expected them to bring their A game, and they did. The accomplishments they made in the short timeframe were significant."

Total Commitment

Irby Construction was awarded the project Nov. 15, 2018 and began mobilizing crews to begin construction on Dec. 3, 2018. The project brought 200 people to the west coast of Florida where the residents had just lost everything and accommodations were scarce. "A lot of our crew members stayed in Panama City Beach and drove an hour-and-a-half to get to the site every day," Burnham remembers.

Despite the many hurdles the local residents had still to face, they were supportive of Irby Construction and its subcontractors coming into town to assist. "The residents were so kind and we got to know the locals," Burnham says. "We were located in small communities of Florida and after the hurricane, all those people had their stories to tell. FireHawk Helicopters we used were an eye-catcher. I would go to dinner at night and that was always a big topic with the locals. I remember saying, 'I'm here with the helicopter.'"

The warm welcome from the locals was gratifying, but Irby Construction also need-



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ed total buy-in from everyone involved on the project to make it a success. "We were there to manage the entire project, but if any of our subcontractors faltered, we would not be a success," Burnham says. "At any given time, we had seven contractors and 200 people out there to manage. That's a lot in a short amount of time."

To complete the project on schedule, Irby Construction and its contractors worked six days a week, 12 hours per day and were able to beat the scheduled completion time with no injuries and no environmental incidents. "Everyone who went into the right-of-way had to adhere to our safety culture and the utility company's safety culture," Burnham says. "You have to live and breathe the safety culture and having the backing of the utility company being at the forefront to push that down to everyone in the crew is crucial."

As the project started, Irby Construction and the utility company's representatives met with the contractors to go over safety issues and the day's work. The project moved so quickly that by the afternoon, the schedule would change and a meeting would be held again at 6 p.m. to discuss the progress and the next day's work.

General Superintendent Rufus Killen

oversaw the day to day details in the field, coordinating the subcontractor work. He was aided by Irby supervision placed with each subcontractor to organize efforts between groups. "I learned so much working with Rufus," Burnham says. "His field experience and knowledge of the industry was vital to make this project move at the pace needed to get the job done."

Rising to the Occasion

The project was on private property and most of it was a working cattle ranch. Irby Construction hired ROW Masters, a local contractor that had experience working with the ranch, to clear all the existing steel lattice towers and steel H-Frame poles, cleared the conductor from the right-of-way and removed the existing tower foundations.

"We wanted to use as many local subs as possible, but trying to find local contractors with that level of experience is difficult," Burnham says. "The person we hired to clear the old towers had worked for the cattle ranch. He was a valuable resource in helping us maneuver around the property and making connections with the land owner."

One of Irby Construction's first milestones came on day 39 of the project when all 328 holes had been drilled and the bases set by



» Irby completed the project more than one week early in February 2019.

Aldridge Electric, a Libertyville, Ill.-based infrastructure contractor with a reputation for completing challenging projects in the power and utility markets.

The second major milestone on the project was day 43 when all the pole tops were framed and set. During construction, four staging yards over 36 miles were overseen by A&J Steel, a Caddo Mills, Texas-based company that specializes in reinforcing steel placement, post-tensioning install and stressing, assembly, erection and monopoles, and maintenance of lattice towers.

A&J Steel framed all structure top sections in the yard, including insulators, static arms and blocks. The company rigged both pole bases and pole tops for flight and coordinated all flight activities with FireHawk Helicopters.

Pole bases were flown to staked locations for Aldridge crews to install and the pole tops were flown and set by FireHawk once the base sections were set and backfilled. FireHawk Helicopter was the subcontractor to HeliService Powerline Solutions that provided two MD500 ships to pull lead line for wire operations. HeliService provided lineman support, which included three ladder crews to clip in the conductor from the helicopter.

One of the challenges Irby Construction had to overcome quickly was getting the right capacity helicopter on site to lift the bases. "The bases weighed significantly more than the preliminary weights, so the helicopter we had was undersized," Burnham remembers. "Within 24 hours, we had regrouped and got FireHawk Helicopter's

BlackHawk helicopter, which has an 8,000-pound lift capacity. HeliService was able to call them and have the helicopter to the site in 24 hours. The next day we were flying in bases."

That is just one example of how the team pulled together quickly to keep the project moving. "We skipped a beat one day, but I'm one of those people who throws out ideas to get them out there and find solutions," Burnham says. "The day we started flying bases was a big relief."

Probst Electric, a Quanta Company, completed all wire staging operations and grounded all structures. The company averaged one line mile per day production of all conductor operations with the help of two helicopters. On day 64 of the project, the grounds were removed and the line was turned over to the utility company. Irby Construction completed the job a week and a half early and the line was energized Feb. 28, 2019.

Thomasson Company was asked to help supply and place mats for part of the project. Crews were moving fast enough that additional matting was required to stay ahead of the drilling crews and help them move through the ROW.

"I think the takeaway on this project is never doubt what can be done with the right people in the right place and doing the right job," Burnham says. "It wasn't that we didn't think it could be done, but when you get bogged down in the day to day with everything, you don't realize how much you are accomplishing on a daily basis. Halfway through the project, I was able to look up and say, 'We are going to do this.'" ♦