

Empower Retirement Primary Replacement

4 - Best Building Project – Specialty Contractor (Under \$2 Million)

Intermountain Electric, Inc

Disconnecting a huge retirement services firm from its power source is a tricky operation, but when the firm, utilities company, supplier and contractor work together, everything falls into place – Even when things go wrong.

When Empower Retirement needed a primary power source replacement, Intermountain Electric (IME) was ready to assist. The current feeders were aging and located underground where a high water table was promising future issues. Losing power is never an option for a retirement firm that protects peoples' livelihoods and IME knew how important this job would be. Working with the firm, they created a design that would elevate the feeders, getting them away from any potential water issues, and replace the old cabling.

The project scope gave IME the opportunity to replace feeders from the utility company to 4 different substations on 2 of Empower Retirement's 3 towers (Phase 1). It also included the installation of 24 different Transient Voltage Surge Suppressors (Phase 2), which would provide additional security to the firm's power sources.

Phase 1 – Trust and Teamwork

Knowing that a power disruption would be detrimental to a retirement firm's operations, IME devised a Phase 1 plan to get everything as ready as possible with the new feeders while the old ones continued to provide power.

IME decided to prepare for the switchover by working backward from each substation. By following other overhead raceways, already in place, the team was able to bend conduit into a vessel for the large cable, creating what might be considered a work of art. Each substation had its own overhead path, with its own unique design. They were careful to make sure each raceway was named with the proper substation.

Next, they installed a new S&C Vista SD Underground Distribution Switchgear, which had only been used in Colorado a few times. This switch, suggested by an engineering firm working closely with IME and Empower Retirement, brought a new technology to the campus. By installing it, instead of the previously recommended metal enclosed switchgear, they were able to save in upfront costs and move the switch to a smaller location, indoors and out of the elements. Additionally, this piece of equipment requires very little maintenance, which is different from other switchgear equipment that calls for regular cleanings. Overall, the combined savings was close to \$70k.

Installing the vista switch would require a special certification needed to terminate Medium Voltage (MV) cable. IME's MV team, already certified, stepped in to help. Once installed and online, this new piece of equipment would help distribute power to each substation. In order to do that, it needed to be connected to the utilities metering cabinet.

Getting to the cabinet required a pathway from the building, across the street and through landscaping. This pathway, created underground, would carry 13,200V to the Empower Retirement campus. With safety in mind, the team prepared to cover the new feeders in this pathway with red concrete, which would alert any future crews to stop digging and turn off the power before continuing work.

With the prework complete, the day came to transfer power. Working closely with the utilities and Empower Retirement, IME scheduled the switchover on a Saturday. Jason Gammel, General Foreman, remembers butterflies in his stomach that morning and although he was nervous, he was excited to see his team's hard work put into place.

After turning off power to two thirds of the campus, getting help from the utilities and successfully using generators to provide temporary power, IME was able to tap into the utilities main power supply. They ran the new feeders from the utilities to the vista switch. Knowing they were working with a small window of time and the cost of running generators, IME's MV team began terminating the new cables in the substations and the vista switch.

While this was happening, IME's testing department took advantage of the electrical systems being de-energized and performed testing on all the equipment. According to Terry Koch, Empower Retirement's Site Engineering Manager, "This was a true double up benefit for

Empower to have this happen while our electrical systems were shut down. The testing provided additional security to the longevity of our electrical systems.”

After completing all terminations and cable/ equipment testing, it was time to bring power back online to the campus. Unfortunately, IME's team discovered a faulty termination. With quick thinking and teamwork, the crew designed a plan to provide temporary power and keep Empower Retirement’s critical business operations moving through the night while a permanent solution was found.

Koch recalls the moment. According to him, no one panicked. Empower Retirement’s operation team, the IME crew and utilities worked together to find a solution. The fix required a part for the new vista switch - a piece of equipment seldom used in Colorado. The utilities had cut off power to the campus. The new feeders were in place and there was no going back. The team had to come up with a plan to get the part.

Quickly, Michael Zecchino, Operations Manager of Service, called the vista switch supplier’s representative. He didn’t have the part, but he knew of a customer in Vail who had installed the switch months back. Luckily, this customer had the spare parts and offered them to IME. The crucial part was located and IME needed to retrieve it quickly. Johnny Griffin, IME’s Director of Infrastructure and Renewables, volunteered to make the drive to Vail and return with the part. The rest of the team kept their client group closely informed of the progress and the timeline to bring their towers back online. Once the part was installed, the team re-tested every termination to verify the facility was ready to be energized. Soon, the new primary replacement was successfully installed.

Phase 2 – Patience and Dedication

While working through Phase 1, IME began the installation of 24 Transient Voltage Surge Suppressors (TVSS) around campus. These devices would add an additional layer of protection to Empower Retirement’s power supply, protecting it from the potential of lightning strikes.

Due to supply chain disruptions and COVID 19, some of these devices were not delivered on time, which leaves the job currently at substantial completion. With patience and dedication, the

IME team at Empower Retirement has installed the TVSSs as they are received. Phase 2 is scheduled to be complete the end of September.

Note from Empower Retirement:

IME is our onsite vender of choice for electrical projects since 2003. IME is professional, responsive & reliable for the last two decades. They have been a tremendous help to General Services here and I could not do my job without them.

Jon T Booth, Chief Engineer at Empower Retirement







