

**Success Story:**  
Investor-owned utility;  
customized reclosers

**Market Served**  
Utility



## Providing a custom solution to meet challenging specifications and a difficult physical environment

**Location:**

Western United States

**Segment:**

Utility, investor-owned

**Problem:**

The utility needed to bring additional distributed generation on board; located in a harsh coastal environment.

**Solution:**

Turnkey solution providing a customized pad-mounted NOVA recloser.

**Results:**

An advanced, turnkey solution meeting all regulatory and customer requirements, designed to withstand the harsh environment, be environmentally friendly and be delivered in an accelerated timeframe.

*“Eaton’s ability to partner with the distribution engineering team to rapidly design a pad-mount solution that met a myriad of engineering and operational requirements, including factory inspections, was a primary reason for the award of this business to Eaton.”*

*Utility customer*

**Background**

Investor Owned Utilities (IoUs) across the U.S are in a unique situation, facing a myriad of transformative forces and disruptions. One of the largest IoUs in the country was impacted by evolving customer behavior and government policies regarding efficient power supply and enhanced renewable mandates that call for bringing additional distributed generation on board. The utility was also faced with the aftereffects of frequent natural calamities in its service territories.

The utility was actively articulating its requirement to control the power outages and meet the reliability requirement of its customers by protecting critical and distributed generation loads. This was accomplished by installing pad-mounted NOVA reclosers that offer protection to customers and equipment. The utility also wanted to work collaboratively with a vendor in terms of product specifications, design and materials to meet the end goal; Eaton was chosen to provide a customized recloser solution that met its precise requirements.

**Challenge**

There were several customer-specific requirements, including speed of execution, collaborative work to define the solution, approval and qualification across the supply chain, and scaling up production to meet the growing demand. The utility was also extremely specific with regards to not only the specifications for the recloser, but also materials sourcing—including factory visits to ensure qualified sub-suppliers and subcontractors were used. Eaton’s vast experience and resources allowed it to fulfill these requirements.



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## Solution

Eaton provided a 27kV stainless steel pad-mounted NOVA recloser, addressing customer requirements. The pad-mounted NOVA recloser is fully customizable wherein the controls can be placed outside of the enclosure with a junction box. Eaton also provided a custom ground bar in the bushing compartment.

The pad-mounted NOVA recloser combines solid cycloaliphatic-epoxy polymer-encapsulated vacuum interrupters with a reliable, lightweight operating mechanism that uses a magnetic actuator to ensure the customer will not face any maintenance issues for an extended period.

There are no foam fillers or insulation seals, eliminating potential moisture ingress areas. Arc interruption occurs in a vacuum, resulting in extended contact and interrupter life, several times greater than with interruption in oil, providing the added benefit of virtually eliminating interrupter maintenance.

One of the major differentiating factors of the Eaton solution is the incorporation of a fully integrated, stainless steel enclosure. The utility had a significant portion of its service territory near the coastline, requiring stainless steel to protect internal components from the harsh environment. Another key differentiator is the fact that there's no oil involved; it is solid dielectric with three internal vacuum bottles.

## Results

Eaton's end-to-end involvement in the project, from designing the product to ensuring the right standards were set in place and the myriad customizations requested we incorporated, provided many benefits:

### Enhanced speed of deployment

Eaton developed a proven solution that was approved and deployed quickly on an accelerated level to ensure the customer's reliability and safety requirements were met on schedule. The ability to deliver the product in an 8- to 12-week timeframe, which compares favorably to the industry average, was a key value-add for the customer.

### Environment friendly

The utility had a strategic vision to be environmentally friendly and wanted to ensure the vendors and products they selected were in-line with this vision. With that in mind, the customer had requirements such as avoiding the usage of oil in the product; Eaton met this requirement with the pad-mounted NOVA recloser, which is a solid dielectric solution.

### Flexible, turnkey and collaborative approach

Eaton's ability to be flexible and creative with customization, along with its collaborative approach, ensured the right standards were applied. In addition, Eaton managed the project from start to finish; providing one point of contact for the customer, eliminating the need for communication and coordination with numerous vendors. Eaton works with customers to build to their specifications and can use its own in-house or third-party controls, specific configurations and materials to ensure optimized operations in coastal regions and harsh environments.

In summary, the utility benefited not just from Eaton's engineering excellence and a best-in-class solution that met the reliability and safety challenges, but also established a solid platform to address potential future challenges as additional renewables and distributed generation come.

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