GE VERNOVA

MOTOR PROTECTION RELAY RETROFIT AND UPGRADE

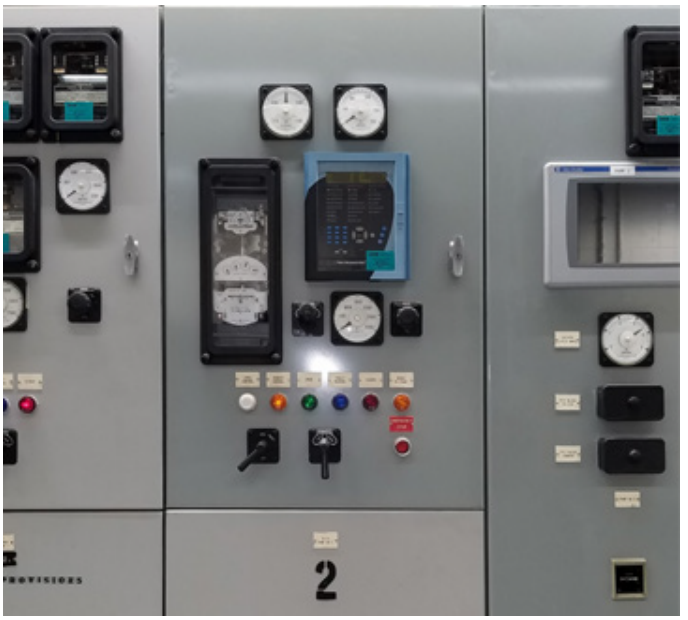
Faced with an aging fleet of motor protection relays, the client, a city's water management department, began upgrading to the modern Multilin 869 motor protection relay

Whitepaper

Grid Solutions

PROJECT OVERVIEW

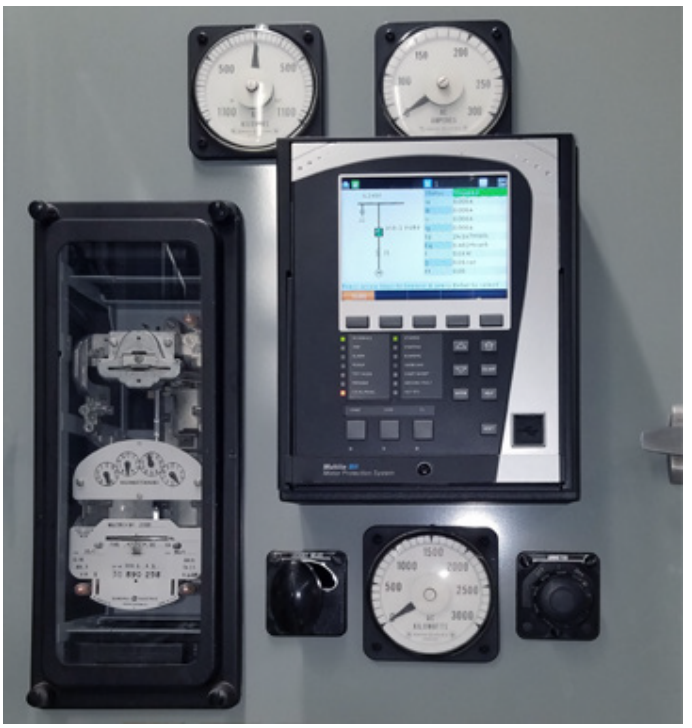
Country	United States
Project	Upgrading motor protection to ensure operational reliability
Customer	A city's water management department
Technology	Multilin 869 motor protection relay
Scope	The customer's fleet of Multilin 469 motor protection relays were showing signs of age. Using a 469-to-869 retrofit kit, the client worked with the GE Vernova Multilin applications team to convert and validate a single relay configuration. They successfully replaced that relay and followed it up with several subsequent retrofits on the road to upgrading their entire fleet.



Original 469 installation

THE CUSTOMER CHALLENGE

The customer delivers nearly 1 billion gallons of drinking water to the city and its suburbs every day. The department has multiple pumping stations located throughout their jurisdiction and is responsible for two purification plants. The protection and control systems at many of these facilities had not undergone any major updates since the early-to-mid 2000s. In April 2019, a city engineer alerted GE Vernova that they were starting to face issues with their Multilin 469 motor protection relays, likely a result of aging. Together, GE Vernova and the department decided that the best course of action would be to update these older protection relays.



Retrofit 869 installation

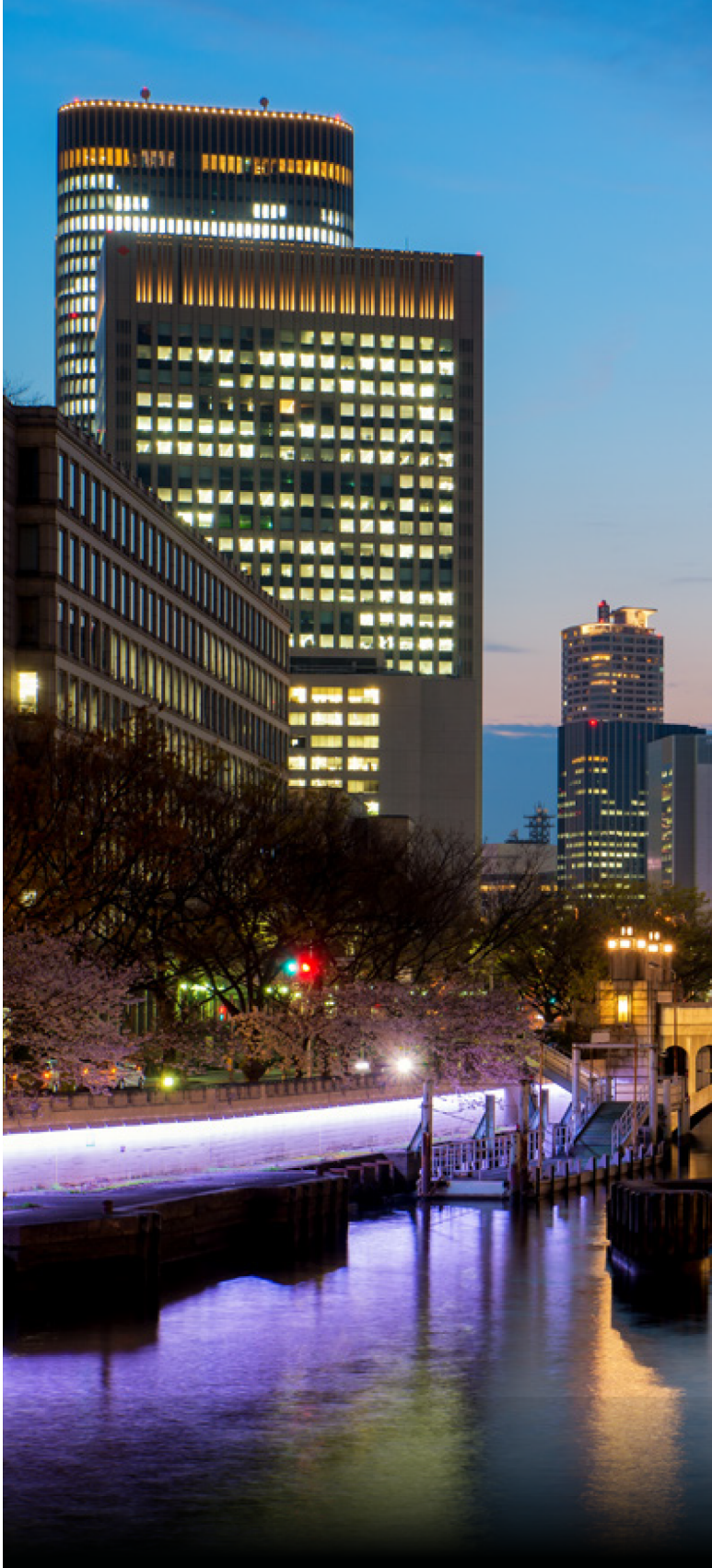
THE SOLUTION

Consulting with the GE Vernova Multilin applications team, the department engineer researched the 469 relay's direct replacement — the Multilin 869 motor protection relay — as well as the retrofit process and the benefits an upgrade could bring. In order to minimize the required panel and wiring rework, the customer acquired a single new 869 relay with a 469-to-869 retrofit kit to test its viability and ease-of-use.

The GE Vernova Multilin applications team worked closely with the department engineer to successfully convert and validate the older 469 relay's configuration to the new 869. With minimal effort and GE Vernova's partnered support, the city's technicians successfully removed the 469 and installed the new 869. The new protection relay was commissioned, and the motor was brought online with positive results. After evaluating the retrofit process and the ease-of-use provided by the new 869 relay, the customer began scheduling 869 retrofits for the remainder of their 469 protection relays. To date, the customer has successfully updated two of several relays for planned retrofit.

THE BENEFITS

The majority of motors protected by these new relays are variable frequency drive (VFD) fed, which the 869 is able to meter and control with no issue. In addition, the city is now evaluating the use of the 869's Electrical Signature Analysis option for its advanced preventative maintenance functions available as an integrated option in their existing and future 869 motor protection relays.



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