

## **Reconditioned Low-Voltage Circuit Breakers –Considering Electrical Safety For Application In Industry**

~ David B Durocher (Consultant)

~ Thomas Domitrovich (Eaton)

For many years, manufacturing plants in the process industries, along with hospitals, schools and commercial building owners have installed used circuit breakers in panelboards, switchboards, switchgear and motor control centers with reconditioned replacements. Often times, due to the vintage of existing electrical equipment, reconditioned circuit breaker replacements are the only available option. Is this practice safe? Some recognized industry standards such as the Professional Electrical Apparatus Reconditioning League (PEARL) ANSI Accredited Electrical Equipment Reconditioning Standard (EERS) say yes. For Molded Case Circuit Breakers (MCCBs), the recently published U.S. National Electric Code NFPA70-2020® says no.

This paper will review applicable global and regional industry standards for circuit breakers and offer clarity around many words including "rebuilt", "refurbished", "remanufactured", "reconditioned" and "renovated" and terms such as "field-modified". The paper will briefly review design and test standards for new 600-volt class molded-case, insulated case and low-voltage power circuit breakers followed by standards covering accepted practices for reconditioned products, with focused guidance on proper application to assure safe and reliable system circuit protection.