

Low and Medium Voltage Service

Medium voltage breaker retrofill

Frequently asked questions

Why retrofill a medium voltage circuit breaker cell?

Material safety

Early model medium voltage circuit breakers from various manufacturers contained asbestos arc chutes. Some manufacturers also incorporated as many as three mercury-filled switches in their breaker cell design. Asbestos and mercury are known hazardous materials to humans.

Operational safety

The process of racking a circuit breaker into and out of the connected position is one of the most frequent exercises that expose an operator to risk. Increased focus on operator safety has caused owners to question the adequacy of prior switchgear designs that require the cell door to be open in order to connect or disconnect the primary circuit and the secondary control circuit. A malfunction during this operation has the potential for catastrophic consequences to equipment and personnel. Supervised, closed door circuit breaker racking is a fundamental recognized safety practice. Furthermore, older breakers are more complex and vulnerable to mechanical failures that create safety problems.



Remote racking limitations

Some manufacturers have engineered remote racking devices to provide unsupervised, remote connecting and disconnecting of the circuit breaker at some distance from the breaker cell. The safety issues of asbestos and mercury exposure during maintenance associated with early vintage medium voltage circuit breakers and circuit breaker cells are not addressed. A retrofill solution removes personnel from exposure to these hazardous substances and provides closed door racking.

Roll-in replacement breakers

Some owners have identified vertically connected breakers as a potential hazard and are searching for solutions, short of switchgear replacement. A breaker retrofill converts the cell to a horizontal connected breaker, adds newer breaker technology and provides closed door racking. Additionally, most owners have a wide variety of switchgear in their plants from various manufacturers. Recognizing that this variety requires a similar variety of replacement parts, it further complicates maintenance training and can cause confusion. Inadequate training and confusion can lead to serious safety issues. A retrofill solution provides a single current production circuit breaker across a variety of ABB Inc. of manufacturer's switchgear.

For more information about ABB services, please contact your sales representative or call one of the numbers listed below:

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