

New DB Circuit Breaker Replacement

Background

As nuclear power plants approach aging milestones, replacement of circuit breakers for safety and non-safety-related functions becomes unavoidable. While a DB circuit breaker might be approaching 40 years in service life, Westinghouse continues to address obsolescence challenges in order to offer replacements, upgraded with the latest technology.

Moreover, Westinghouse, as the Original Equipment Manufacturer (OEM), is the only supplier with the ability to build each new DB circuit breaker identical to the original design specifications qualified to the plant. A like-for-like replacement, a new Westinghouse DB circuit breaker does not require costly design change packages or additional engineering time to install.

Built on nearly 50 years of operating experience, Westinghouse DB circuit breakers are upgraded with the latest industry-leading enhancements required to keep nuclear plants running reliably. The only supplier to still provide the components within a DB circuit breaker to the original qualification, Westinghouse offers improvement in reliability and performance with each new DB circuit breaker.

Description

Westinghouse DB circuit breakers are designed specifically for use in metal enclosed low-voltage switchgear assemblies used at system voltages up to 600 VAC. Westinghouse provides new DB circuit breakers built to the customer's original shop order specifications for both Class 1E safety-related and non-safety-related applications.



Westinghouse DB circuit breaker in assembly

At their New Stanton, Pennsylvania facility where first-hand witnessing is offered, Westinghouse manufactures and provides:

- DB-15
- DB-25
- DB-50
- DB-75
- DB-100
- **Westector**® Over-Current Trip System
- Replacement components
- Customized training programs



New Westinghouse DB circuit breaker

Benefits

Each new Westinghouse DB circuit breaker is a drop-in replacement that does not require costly

design change packages or engineering time in order to install.

Westinghouse DB circuit breakers are upgraded with improved components that meet or exceed the quality of the original design and operating requirements. These enhanced components include: direct trip actuators (DTAs), under-voltage trip attachments (UVTAs), several operating mechanism components and replacement springs.

Relevant components undergo life-cycle and seismic testing conducted at the Westinghouse manufacturing facility so that parts will perform the intended function.

New Westinghouse DB circuit breakers are supplied with the Westinghouse redesigned **Westector** over-current trip system, which is the only like-for-like qualified overcurrent trip system supplied with new DB circuit breakers in the industry. Westinghouse redesigned the now-obsolete Amptector over-current trip system with the **Westector** trip system to be an adjustable protection device configurable to specific applications.

In addition to the upgraded over-current trip system, the **Westector** test kit features advanced power electronics and the latest interface technology.

Deliverables

Westinghouse customers will receive a like-for-like new DB circuit breaker with performance and test data upon final delivery. Test and performance data include a certified factory acceptance test report.

New DB circuit breakers built with the Westinghouse name are delivered with no additional engineering and design costs.

Experience

Westinghouse maintains the original design and qualification baseline documentation for circuit breakers, parts and assemblies. All new circuit breakers are tested through Westinghouse's rigorous 10CFR21 Appendix B commercial dedication process.

Utilizing the original design basis documentation, Westinghouse certifies to the original qualification reports so that costly reengineering is not necessary.

- New Westinghouse circuit breakers include enhancements and upgrades developed over more than 40 years of manufacturing experience.
- Westinghouse engineers and technicians have more than 50 years of experience in providing electrical equipment for safety-related applications in the nuclear industry.
- As the OEM, Westinghouse is the owner of qualified drawings and associated intellectual property.



Westinghouse DB circuit breaker pole base



Westinghouse DB circuit breaker being assembled

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