

Water Damaged WL LVS Refurbishment and Re-Certification Guidelines

- If any indication exists that water has entered the breaker trip unit area, the trip unit must be replaced. It can not be refurbished or recertified.
- If any indication exists that a breaker accessory (shunt trip, closing coil, UVR, auxiliary contacts, spring charge motor, MOC or TOC) has been exposed to water or excessive humidity, the accessory must be replaced.
- If any indication exists that water exposure has compromised (corroded) finger clusters, arc chutes or main contacts, they must be replaced.
- If any indication exists that water exposure has compromised the breaker drive mechanism, the breaker must be replaced.
- At some point, if enough breaker components have to be replaced, it is more cost effective to replace the entire breaker. This should always be evaluated on an ongoing basis.
- If any indication exists that water exposure has compromised any insulation material, it must be replaced.
- Bus bar must be cleaned with isopropyl alcohol to remove any contaminants. Bus bar electrical connection points (lug pads, bolted bus connections, etc.) should be inspected to ensure that bus bar plating is still intact. If bus bar plating at bolted connections has been compromised, the bus bar must be replaced.
- The following tests must be successfully run on the refurbished switchgear lineup. The tests must be run per ANSI C37.51 Section 7 (Production Tests). A copy of ANSI C37.51 Section 7 is attached. A copy of the successful certified test reports must be submitted as part of the re-certification justification documentation.
 - Dielectric withstand voltage test
 - Mechanical operation test
 - Electrical operation and wiring test

- If any breakers are refurbished (instead of replaced), the worst case breaker (breaker with most evident water contamination) must be returned to the Siemens Fort Worth WL breaker plant where the breaker will be retested using original factory test procedures. The Fort Worth facility will use production tests detailed in ANSI C37.50. A copy of the ANSI C37.50 test procedures and a typical WL breaker certified test report are attached. The returned breaker must pass all of the factory production tests. If the breaker doesn't pass the production tests, it must be replaced and the next worst case breaker must be returned to Fort Worth for testing.
- All refurbishment and testing must be done by Siemens Service personnel and all the required documentation must be supplied by Siemens personnel.
- Once the required documentation verifying that the switchgear has been successfully refurbished is received by the Siemens Low Voltage Switchgear Product Manager, a letter will be issued re-instating the original factory warranty on the low voltage switchgear.