

**ABB Type O Plus C™ Bushing
Service Advisory
May 31, 2000**

ABB Alamo has received reports indicating that some O Plus C™ bushings in service have shown staining on the lower porcelain area. Reported incidences to date of the stained bushings in oil are confined to O Plus C™ 115 kV and below, manufactured in the 1990 to 1994 timeframe. Our investigation confirms the staining process originates at the gasket joint.

ABB Alamo has done extensive testing of the stained samples provided by utilities. We have retained outside consultants and independent laboratories to perform detailed testing and analysis of these stains.

Test results indicate that the origins of the stain are chemical additives found in the rubber to make it more pliable. These chemical components in themselves are non-conductive and not detrimental to the operation of the bushing.

ABB is concerned that oil borne contaminants found in oil insulated equipment will adhere to the stain, increasing its conductivity.

Per our instruction leaflet, ABB Alamo recommends that all O Plus C™ bushings be power factor tested yearly. The upper porcelain must be cleaned before power factor testing. Any test value that significantly deviates (particularly if lower) from the power factor value, stamped on the bushing nameplate, should be visually inspected for staining on the lower porcelain.

ABB Alamo recommends that any units found in service that exhibit this staining must be thoroughly cleaned prior to returning to service. The recommended method of removal of the stain is to wipe with isopropyl alcohol and a soft cloth.



M. Brent Hayman
Total Quality Manager, Power Products