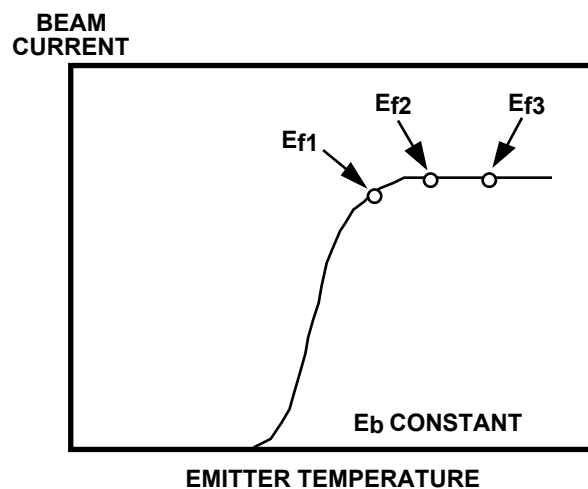


This technical bulletin provides the necessary guidelines for transmitter operators who wish to reduce the heater voltage from the tube specification (data sheet) level to prolong emission life and reduce the buildup of interelectrode leakage.

Filament voltage should be reduced in 0.25-volt steps with a 5-minute pause at each step to allow for cathode cooling, noting the collector current after each pause. The filament voltage can be reduced until a change in collector current is noted. The voltage should then be raised again by 0.25 volt.

The following graph shows the relationship between emitter temperature and beam current. The filament should be adjusted to a point between E_{f1} and E_{f2} , which will vary with each klystron. This procedure can be used with any UHF-TV klystron.



When operating at the reduced level, it may be necessary to allow a longer warm-up period when bringing the tube up from a cold start. If loss of emission is noted at turn-on, it may be necessary to either extend the warm-up time or raise the filament voltage to overcome the loss.

CAUTION

CONTINUED OPERATION BELOW THE E_{f1} LEVEL OR AT A POINT THAT CAUSES EMISSION INSTABILITY CAN CAUSE BEAM DEFOCUSING, LEADING TO INCREASED MOD-ANODE CURRENT AND BODY CURRENT.