

DEFICIENCY IN THE ITE MOLDED CASE CIRCUIT BREAKERS, TYPE HE-3

We recently received information from the Portland General Electric Company describing a deficiency of the magnetic trip elements in ITE Type HE-3 molded case circuit breakers, current rating of 20-90 amperes, that was discovered during preoperational testing at the Trojan nuclear power plant. This model circuit breaker could be used in any nuclear power plant.

A. Description of Circumstances

The pickup points for the magnetic (instantaneous) trip elements are substantially higher than the published ITE time-current curves for these breakers.

Portland General Electric Company stated that (1) the excessively high pickup points of the instantaneous trip elements could lead to undetected cable damage due to overheating under certain fault conditions and (2) trip coordination of these breakers with the upstream load center breakers may also be adversely affected. Therefore, ITE is replacing all of the Type HE-3 breakers delivered to Trojan with new, modified HE-3 breakers. The modified breakers utilize a different magnetic structure which ITE released for production on similar breakers (150A Frame) two years ago. ITE stated that all HE-3 breakers dated May 1974 and later will have the new magnetic structure.

Further, ITE will perform 100% inspection on all replacement breakers to ensure that required time-current trip range limits are met when tested one pole at a time. The 20A through 40A and the 50A through 90A breakers will be tested to meet the fixed instantaneous trip setting shown on the manufacturers appropriate time-current characteristic curve. Breakers which successfully pass these trip range limits will satisfy the cable protection and breaker coordination requirements.

It should be noted that normal production testing would not be expected to reveal this problem. Portland General Electric has been advised that this particular breaker model has been manufactured by ITE since 1968/1969.

B. Action Requested

It is requested that you notify the RO Regional Office in writing, within 20 days: (1) whether or not similar circumstances or the potential for similar circumstances described above exist at your facility for Class IE equipment, or (2) the date(s) when action to determine whether a similar circumstance exists will be completed. If the findings as a result of the action above indicate that similar circumstances exist, the specific findings together with the description of the corrective action taken or planned, including the scheduled completion date of the planned corrective action should be submitted to this office within 20 days of the findings. If there are no such units at your facility, a negative report is requested.