

DECISION SHEET

Standard(s)-(year and edition): IEC 60065 (1998) 6th Ed	Sub clause(s): 4.3, 11	Dec. No. DSH-541
Subject: Transformer overload	Key words: FAULT CONDITIONS	Decision of: 40th CTL meeting /2003
<p>Question:</p> <p>The standard does not specify a transformer overload test, as there is, , for example, in IEC 60950.,</p> <p>If it is obvious, based on engineering judgment of the technical design of the product, that due to a single fault condition (e.g. component failures, short circuit of functional insulation) an overload situation on a transformer is likely to occur, which approach should be followed?</p> <ol style="list-style-type: none"> 1) The actual overload on the transformer shall be performed, taking into account the 'characteristics' of eventual protective devices. 2) All possible single fault conditions shall be performed. For those situations where the protective device reacts, the current through the protector shall be measured and the characteristic of the protector shall be taken into account. 3) No overload condition shall be created, since the standard does not specify this in wording. 4) Other possibilities. <p><u>Decision:</u></p> <p>Following the standard option 2 from above has to be used.</p> <p><u>Explanatory notes:</u></p> <p>Option 1 can be used as an alternative to conducting specific single component faults in the secondary circuit, if it has been deemed as the worst-case condition. However, if during the transformer overload test the transformer exceeds the permissible temperature rise of Table 2, Fault Conditions, the result cannot be considered unacceptable. Single component faults will then have to be conducted (Option 2). During the single component faults the temperature of the transformer will need to be monitored to determine that the transformer does not exceed the permissible temperature rise of Table 2, Fault Conditions.</p> <p>Please note that Option 1 shall not be used to waive all single components faults in the secondary circuit. There may be additional single component faults further into the secondary circuit that may need to be conducted if they could result in overheating of other insulation or result in a fire hazard.</p> <p>Overloading a transformer is a worst-case fault condition. But if there is a possibility this happens, the construction of the transformer and eventual applied protective devices shall be such that an overload situation does not result in a fire or electric shock hazard.</p>		