DECISIONS (1991-2005)
EN60950, 3rd Edition and EN 60950-1, 1st Edition
CENELEC Operational Staff Meeting for Electronic Equipment (OSM/EE)

DECISIONS (1991-2004) **OSM/EE (Sec) 3 / 2004**
Standards EN 60 950 3rd Edition and EN 60950-1

This List of Decisions is the outcome of the CENELEC Operational Staff Meeting for Electronic Equipment (OSM/EE). The decisions are designed to assist with common application of the standard and not to change the meaning of the standard, which remains the definitive document. This list contains also items related to EN 60950-1 where specified under "comments". Whether or not other decisions can also be used for EN 60950-1 has to be verified.
It was not until the 1995 meeting that numbers were assigned to decisions (in the form of a two-digit year identifier/one- or two-digit sequence number). Following the 2004 meeting, and consultation between the secretary for that year and some members of the OSM, it was decided retrospectively to assign numbers to the earlier decisions. The numbers for the decisions made at the meetings from 1991 to 1994 inclusive are shown in **bold** type in this 05/2004 decisions list. **(In the 2005 list, these are to be demoted from bold.)**

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
-	Testing of an LCD TV with external power supply unit. The set needs to be certified according to IEC 60065 ed 6. The external power supply is already certified according to IEC 60950 by another certification body. The LCD TV may be used as a monitor as well. The intention of the manufacturer is to put the LCD screen/monitor and the power supply together on the market.	Description of situation	99/15	EE(Chm)3/02	7.1
	Case 1: LCD multimedia screen with a built in PSU (pre-certified). The whole apparatus has to be tested to one standard either EN 60950 or EN 60065 together with IEC Guide 112 as the product is a multimedia equipment (having an antenna and a telecommunication connection). If a part of the apparatus is already certified (for example, PSU) this part has to be reassessed to the standard used for the whole apparatus either EN 60065 or EN 60950. If there is sufficient detail available of the test results for the existing certification, it might not be necessary to carry out full testing to the second standard. Case 2: LCD multimedia screen with separate PSU (pre-certified): a) If the manufacturer intends to sell the combination (screen plus PSU) together, the PSU has to be listed in the test report and both items of apparatus have to be assessed according the same standard. b) If the manufacturer does not intend to sell the screen together with a specific PSU, it has to be mentioned in the test report what kind of PSU was used during the tests and the limits for voltage and current have to be specified.	The Decision	02/5		

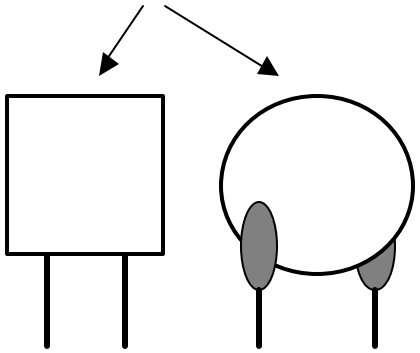
Clause	Decision	Comments	Dec No	Document Ref	Document Item
-	CCA certificate can be issued for separate power supply units fo r office machines and information technology equipment that are tested according to Publication EN 60950. Sweden: The kind of information supplied with the unit shall include a statement that the unit is intended for office machines/equipment only. Germany: The above information has to be in the Users Manual.	The Decision	**91/24** 95/6	EA(FI)3/91 EE(Chm)5/95	4.14 ?
-	Products similar to previously certified products shall be covered by an Addendum to the base report. The CCA format shall be used where possible. The CCA cover page should always be used. Addendum reports should be derived from a base report, not an already derived report.	The Decision Comment	**93/1**	EA(GB)3/93	5.1
-	~~The primary testing laboratory may check National deviations in the cas e of the CCA. In the case of the CB scheme, the CB Bulletin provides the individual requirements of each Certification Body.~~ Delete the paragraph, "The primary testing laboratory . . . each Certification Body." These statements are not appropriate for inclusion in the decisions list. It was agreed to delete the paragraph.	The Decision The proposal The reason The decision	**93/15** 04/7	EA(GB)3/93 EE (Sec) 1/04	6.27 14.1
-	Plug with integrated Power Supply The equipment has to have a complete marking as for a power supply. If the marking is on a part of the enclosure that is gripped while pulling/inserting the device from/into a wall socket outlet, additional requirements for the durability of the marking are necessary. For the time being the meeting decided to use the marking requirements of EN 50144-1 "Safety of hand-held electric motor operated appliances". Safety instructions shall state clearly that a replacement with a normal plug will be hazardous.	Description of situation The Decision Layout of decision amended (for clarity) by the addition of line spaces	 97/2 04/8	EE(Chm)5/97 EE (Sec) 1/04	7.5 14.2
-	Where equipment tested to the current version of the standard incorporates a subassembly (e.g. a power supply unit) certified to an earlier version of the standard (which is still valid for production), the equipment test report shall clearly identify the version against which the subassembly was initially assessed. In determining any additional tests, consideration shall be given to the application, such as location and orientation. Also applicable changes in the standard shall be taken into consideration.	The Decision	97/9	EE(Chm)5/97	7.1

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
1.2.4.3	If the safety strategy of an equipment containing SELV and TNV circuits relies on protective earthing, this equipment is considered to be Class I and not Class III.	The Decision	97/4	EE(Chm)5/97	9.1
1.5	RFI filters having components meeting IEC 60384-14 are accepted.	The Decision	**93/5**	EA(GB)3/93	6.7
1.5.1	~~A resistors which is connected across the mains or between the mains and the safety earth do not need to comply with EN 60 065.~~ ~~If the resistor is accepted according to EN 60065, it need not be short-circuited during fault condition tests in § 5.4.~~ ~~This decision (96/14) does not apply to resistors bridging double or reinforced insulation. See 1.5.7.2~~ Rewrite the decision so that it shows as; Resistors connected between poles of the mains supply before a fuse must comply with the requirements of either Sub-clause 14.1 a), or Sub-clause 14.1 b) of EN 60065. Resistors connected between poles of the mains supply after a fuse need not comply with EN 60065 Sub-clause 14.1. However, if a resistor connected between poles of the mains supply after a fuse is not in compliance with EN 60065 Sub-clause 14.1, it must be short-circuited or interrupted during fault condition tests in 5.4 (2nd Ed) or 5.3 (3rd Ed and EN 60950-1:2001). Resistors connected between the mains and protective earth must comply with the requirements of EN 60065 Sub-clause 14.1 a).	The decision Additional decision Proposal Decisions 91/10 & 96/14, with addition 00/7, rewritten and renumbered:-	**91/10** 96/14 00/7 04/9	EA(FI)1/91 EE(Chm)5/96 EE (Sec) 1/04	4.4 10.1 14.3
1.5.1	Capacitors which are connected after a rectifier in a primary circuit of a switch mode power supply unit need not be separately approved. "In a primary circuit before a rectifier there is installation category III for Permanently Connected equipment, therefore class X1 capacitors must be used. In a primary circuit before a rectifier there is installation category II for Pluggable equipment Type A and Pluggable equipment Type B, therefore minimum class X2 capacitors must be used. The use of a mains fuse, a mains filter or a varistor cannot be a method to reduce installation category." Secondary circuits are normally in installation category I when the primary is in installation category II. However, a floating secondary shall be subject to the requirements for primary circuit in table III unless separated from primary circuits by an earthed metal screen.	The decision Changed acc. discussion by mail See also 2.10.3.4 in the standard	**91/5** **91/8**	EA(FI)1/91 EA(FI)1/91	4.1.2 4.3

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
1.5.1	Varistors across the mains Accepted by all countries (when the varistor is separately certified) Varistors across the mains with a protective device to guard against short-circuit. Accepted by all countries (whether the varistor is separately certified or not) Varistors between the mains and the protective earth: 1. For Pluggable equipment, type A: Accepted by all countries (when the varistor is separately certified) except Austria, Belgium, Denmark, Finland, Germany, Norway, Sweden, United Kingdom 2. For pluggable equipment Type B and permanently connected equipment, connected to protective earth: Accepted by all countries(when the varistor is separately certified)	The decision 'Germany' added to decision in 2003	**94/1**	EE(Chm)1/94 EE(Chm)3/03	6.10 6.18 6.2.1
1.5.1	~~A combination of a varistor (when the varistor is separately certified) in series with a spark gap/Gas-Tube (the varistor need not be separately certified) between the mains and the protective earth and with a protective device to guard against short-circuit:~~ A combination of a varistor (the varistor need not be separately certified) in series with a spark gap/gas tube complying with basic insulation (i.e. electric strength test and external creepage distances apply to the spark gap/gas tube) between the mains and protective earth and with a protective device to guard against short-circuit: 1. Pluggable equipment Type A: Accepted by all countries 2. Pluggable equipment Type B and permanently connected equipment: accepted by all countries NB: Where the term "separately certified" is applied to a varistor in the above, this means that the varistor is separately certified according to Publications IEC 61051-1 and IEC 61051-2 or according to CECC 42200. Varistors (VDRs) may burn or burst during lifetime due to an increasing temperature stress caused by increase of leakage current with a number of switching cycles in the VDR. This is suitable protected where a gas-filled surge arrestor (gas tube) is in line with the VDR. In circuits where no gas tube is required a thermal interrupting device on the VDR connected in series with the VDR is to be provided. Compliance criteria s/clause 5.3.8.1	The decision '(the varistor . . . certified)' added to decision. Amended The first paragraph of decision deleted and replaced.	98/2	EE(Chm)5/98 EE(Chm)3/03 EE(Sec)2/04	9.5 6.2.1 6.1.2

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
1.5.1	The following table should be used as guidance when assessing the use of CSA and/or UL type fuses in equipment: Fuse rating (A) Max S/C Current (A) 1 or less 35 1 to 3.5 100 3.5 to 10 200 10 to 15 750 15 to 30 1500	The decision Table derived from CSA248.14/UL248.14 Clause 5.5 Table A	**93/4**	EA(GB)3/93	6.6
1.5.1	We may accept resistors on the primary side to be used as "protective device", provided that they comply with all the following conditions; - It shall operate satisfactory when the appliance is tested according to EN 60950. Compliance is checked by repeating at least 10 times, each case with a new resistor during worst case fault condition test, when the appliance is directly connected to the mains. The resistor may not interrupt with explosion or spark/flame which are not in compliance with the standard. - Not accepted in operator access area. - The resistor is to be listed as critical component in the test report. - Identification using part number or the like is to be located adjacent to the resistor, or use of cross-reference in the service documentation as described in 1.7.6, last paragraph. - The component shall be available as spare part in the country where the appliance is sold. And in addition a data sheet is provided showing all the relevant data for the resistor.	The decision	99/1	EE(Chm)7/99	9.1

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
1.5.2	Standard: EN 60950:2000 / IEC 60950:1999 / and IEC 60950-1:2000	Description of situation		EE(Chm)3/02	10.3
	Subject: acceptance of UL/CSA certified units in end-use racks/equipment.				
	When evaluating end-use equipment like large telecom racks composed by several units ("drawers") for building-in like computer machines, modems, routers etc., for national mark certification or ENEC or IECEE/CB, the separately approved units (computers, modems etc.) bearing a CCA mark are accepted with limited investigation (e.g. consisting in the check of compatibility of the certification; ambient temperature with the end-use equipment specified ambient; input voltage rating with the one of the end-use equipment etc.); they will then subjected to the end-use equipment tests (e.g. electric strength, total leakage current, capacitor discharge etc).				
	Which is the delegate position in regard to the acceptance of UL Listed or CSA Certified drawers (no CCA mark, no CB report) in such racks when the certification Standard was UL 1950 3rd edition (based on IEC 950 2nd Ed) or UL 60950 (based on IEC 60950 3rd Ed) as long as all the differences between the UL requirements and the IEC based Standard and between the IEC based Standard and the current IEC Standard used for the end-use equipment have been checked and satisfied?	The question			
	In consideration of the use of the IEC based Standard, the UL/CSA certified components (computers, modems etc) may be accepted in end-use equipment provided that in addition to the check of the suitability with the end-use equipment the differences between the UL requirements and the IEC based Standard and between the IEC based Standard and the current IEC Standard (and EN if applicable) used for the end-use equipment have been checked and satisfied. In the report for end-use equipment these drawers may be referenced in the critical component list with Model No., Mfr., electrical rating etc. with no need to list all their parts (transformer, capacitors etc.).	KEMA's proposal			
	All critical components have to be certified to the relevant EN or IEC component standard. Acceptance of components has to follow CCA/228-1 "Recognition of components". In the special case mentioned, we need a test-report and a certificate showing compliance to EN 60950.	The decision	02/11		

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
1.5.6	There is no need for a CCA approval for every single component. There should be sufficient documentation of the certification of the component and the IEC or CENELEC standards used. Nevertheless the appropriate use of the component has to be checked. For Capacitors the edition of the standard should be given	The decision	95/1	EE(Chm)5/95	5.1.2
1.5.7.1	Capacitors certified to IEC 60384-14 1.ed will be accepted for 5 years after DOW of EN 132400. Capacitors certified to IEC 60384-14 2.ed and/or EN132400 are acceptable. Y1 and Y2 capacitors are accepted across basic insulation. Y1 and Y2 capacitors are accepted across supplementary insulation. The enclosures of Y1 capacitors are considered to comply with the requirements for reinforced insulation with the exception of the area near to the leads where the insulation becomes thinner	The decision	95/9	EE(Chm)5/95	9.3
	Only the white area is to be considered as reinforced insulation 	This decision supplements Decision No 95/9	97/1	EE(Chm)5/97	3

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
1.5.7.2	Subclause 1.5.7.2 establishes the principle that two resistors can be conn ected in series across a double /reinforced insulation provided the are the same value, they each comply with the creepage and clearance requirements and the accessible circuits comply with the Limited current circuits requirements. Subclause 6.1.2.1 indicates that components across the barrier can be removed during the electric strength test provided the circuit complies with the 10 mA limit during the test described in figure 6A.	The situation		EE(Chm)3/02	10.4
	Is it possible to bridge a TNV barrier with one resistor/two resistors?	The question			
	One resistor across the TNV barrier is allowed provided that the tests of Scl. 6.1.2.1 and 6.2 are passed and the requirements for cre epage distances and clearances and the requirements of Scl. 5.1.8 are fulfilled.	The decision	02/12		
1.7.1	If the rated voltage marked on the equipment exceeds 250 V then the components should also be suitable for this voltage.		96/2	EE(Chm)5/96	6.6
1.7.1	Laptop computers, which are supplied by SELV and in which hazardous voltages are generated, cannot be Class III and therefore must be Class I or Class II. If they are designated Class II, the double square symbol shall be required.	The decision	**91/17**	EA(FI)3/91	4.11
	It was agreed that a lap-top or notebook computer supplied from SELV circuits and in which circuits at voltages which exceed 42.4 V peak or 60 V d.c. complying as limited current circuits is considered to comply with the definition of Class III equipment	A comment		EE(Chm)1/94	6.12
1.7.1	Only the one set voltage of an internal voltage regulating device should be indicated on the outside	The decision	**94/13**	EE(Chm)1/94	10.3
1.7.1	Safety related components shall be marked with a trade mark (logo) and an identification number or code. For a component without independent certification that is dedicated for use in one or more specific models the identification may be in a form of a code	The decision	00/8	EE(Chm)5/00	10.5
1.7.2	Safety relevant documentation has to be as a hardcopy. The Users Manual may also be on a diskette	The decision	95/11	EE(Chm)5/95	9.7

Clause	Decision	Comments	Dec No	Document Ref	Document Item
1.7.2	~~A Class III equipment with an enclosure made of HB material and using a non-special connector for the a.c./d.c. input has to have a marking stating the following:~~ ~~"For use only with power supply MANUFACTURER, MODEL"~~ This statement shall also be in the user-instructions.	The decision See below for amended decision	99/2	EE(Chm)7/99	9.3
	It may be considered that the Decision 99/2, requiring marking of manufacturer and model of the power supply on the product, is too stringent in light of sub clause 1.7.2. A possible solution has been discussed with some OSM delegates about accepting a text on the product having the following information: "For applicable power supplies see user manual" or "Use only power supplies listed in the user manual" The user manual must then have a listing of manufacturer and model of the relevant power supplies. Decision 99/2 is amended to read as follows; A Class III equipment with an enclosure made of HB material and using a non-special connector for the a.c./d.c. input has to have a marking stating the following: "Use only power supplies listed in the user instructions" or "For applicable power supplies see user instructions" This statement shall also be in the user-instructions. The user instructions must then have a listing of manufacturers and models of the relevant power supplies. In respect of reducing the risk of ignition and spread of flame, Method 2 of 4.7.1 of EN 60950:2000 is recommended.	The situation A proposal The amended decision	01/8	EE/Chm)1/01	6.2
1.7.6	The wording "special fusing characteristics" includes breaking capacity. To be able to accept one fuse marking in Europe, in the USA and in Canada, markings "mA" and "A" can still be accepted. Therefore the following kind of markings are accepted: T315 mA LF4 AH 250 V 250 V	The situation The decision	**91/11**	EA(FI)1/91	4.5

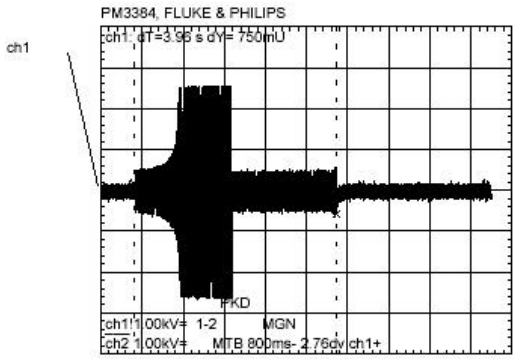
Clause	Decision	Comments	Dec No	Document Ref	Document Item
1.7.8.3	It is not acceptable to mark "I" and "0" on a functional switch of a lap-top or notebook computer where, for example, the charging circuit is energised at all times. If marked, it should be "I" and stand-by: ⏻ No marking at all is acceptable. The marking “POWER” is not acceptable.	The decision Addition to 1993 Decision	**93/3** 99/3	EA(GB)3/93 EE(Chm)99	6.3 9.4
1.7.12	Testing houses shall put a note in the test report mentioning in which language the markings regarding safety have been checked. Safety markings in all official languages of CENELEC countries need not be checked when the CCA certificate is issued.	The decision	**91/25**	EA(FI)3/91	4.15
1.7.15	Lithium batteries included in integrated circuits are not considered as replaceable. There must be advice in the service manual concerning the disposal of these parts.	The decision	95/13	EE(Chm)5/95	9.8
2.1.1	A modem-card, if it is separately sold and intended for use in operator access areas, has to be tested for the relevant protection of TNV-circuits.	The decision	99/4	EE(Chm)7/99	9.5
2.1.1.4	Double or reinforced insulation shall also be required between wires in SELV circuits and metal parts with hazardous voltages inside the equipment. The text "because of the wording of the standard" was deleted from the Decision No 91/6 at the 1994 meeting. Sub-clause 2.1.1.4 also leads to 3.1.4 which, in turn, leads to 2.10.5.	The decision Notes	**91/6** -	EA(FI)3/91 EE(Chm)1/94	4.1.5 6.13
2.1.2	Products which are considered completely hazardous when covers are removed do not need additional protection e.g. monitors. Opening of an enclosure of a monitor is considered to be intentional because inside the equipment there are not parts which need servicing, but repairing.	The decision	**91/12**	EA(FI)3/91	4.5
2.2.4	SELV circuits can be connected to non-SELV circuit if the equipment still complies with the requirement of Scl. 2.2 in case of single fault condition.	The decision	**91/16**	EA(FI)1/91	4.10
2.2.4	DC centralized battery systems Voltage in Telecommunication Central offices: Following the IEC TR 62102, Annex B, a 75 V d.c. stationary battery system is considered TNV2 and double or reinforced insulation from the mains is required. The installation instructions should provide guidance on how to ensure that the system will not become hazardous after a single fault according to 1.7.2.	The situation The decision Confirmed by WG7 of TC108	03/5	EE(Chm)3/03	5.1.9

Clause	Decision	Comments	Dec No	Document Ref	Document Item
2.2.5	~~Until the standard is changed condition 2 to table 9 should be read as follows:~~ ~~Overcurrent protective devices within the equipment shall be bypassed in turn.~~	The decision	95/19	EE(Chm)5/95	9.17
See 2.5 below – Ref EE(Sec)1/04	This decision is shown against an incorrect sub-clause number. The sub-clause number needs correcting to 2.5 and the decision moved to the appropriate position in the decisions list. Furthermore, the reference to table 9 needs correcting to table 2C.	Proposal for correction and improvement		EE (Sec) 1/04	14.4
2.4.2	When checking the frequency, and for the calculation of the maximum peak current, the frequency measured when the circuit is loaded with a 2000 O resistor is considered to be the value to be used.	The decision WG8 of IEC-TC74 agrees	**94/15**	EE(Chm)1/94	10.7
2.4.2	As already covered in the above decision on 2.4.2 from 1994, the maximum peak current and the frequency measured when the circuit is loaded with the 2000 O resistor has to be considered. If there is still a second frequency (envelope waveform) the most unfavourable value has to be taken into account. In the case mentioned, 330 Hz is the decisive frequency. The chairman of WG5 of TC74 advised to use the measuring network of Annex D Figure D.1 which takes all frequency problems into account. He is preparing a paper on the problems of different frequencies in touch currents. I will circulate that paper as soon as it is available.	The decision A comment by OSM-EE chairman of.year 2000	00/9	EE(Chm)5/00	10.9
2.5	Higher voltages are not allowed (Tables 2B and 2C to be followed). Behind a limited power source higher voltages can be created within secondary circuits out of the low voltage output of the limited power source. HB material is possible, even if there is, for example, a 1000 V back-light source. However, an assessment has to be made to ensure that there is no fire or ignition hazard.	The decision	98/5	EE(Chm)5/98	9.14

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
2.5	Limited Power Source (Battery supplied equipment): Battery supplied equipment with an enclosure of HB material shall only be used with batteries that are in compliance with LPS. Alternative batteries on the market may not comply with LPS limits, and shall therefore not be used with such equipment. With reference to the decision 99/2 to 1.7.2 for use of alternative Power Supplies (ref. below), it is proposed to consider a similar decision for alternative batteries for battery supplied equipment with an enclosure of HB material.	The situation		EE(Chm)3/02	10.7
	Battery supplied equipment with an enclosure of HB-material has to have a marking stating the following, as the battery is to comply with the requirements for LPS: "For use only with battery MANUFACTURER, MODEL". This statement shall also be in the user-instructions**.**	The proposal			
	Alternative marking: "Use only batteries listed in the user-instructions" or, "For batteries see user-instructions". This statement shall also be in the user-instructions. The user instructions must then have a listing of manufacturer and model of the relevant batteries.	The decision	02/13		
2.5 See also 2.2.5 above – Ref EE(Chm)5/	The decision now shows as; Until the standard is changed, condition 2 to table 2C should be read as follows: Overcurrent protective devices within the equipment shall be bypassed in turn.	Decision 95/19, corrected and renumbered:-	04/10	EE (Sec) 1/04	14.4
2.6	It is acceptable to use a track on a PCB as the safety earth path, provided it meets the requirements of the relevant tests.	The decision	**93/6**	EA(GB)3/93	6.10

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
2.6.3.3	Subject: protective bonding conductor test current and duration for d.c. powered equipment rated in excess of 16 A - Sub clauses: 2.6.3.3 / 2.6.3.3 / 2.6.3.4	The situation		EE(Chm)3/02	10.8
	The referenced standards indicate that the protective bonding conductor test current and its duration for d.c. powered equipment are specified by the manufacturer when the current rating exceeds 16 A.	Referring to 60950:1999 and 60950-1: 2000			
	Which are the minimum current and time values we should accept for such test?	The question			
	The current rating of the circuit means the current rating of the protective device (see meeting of WG8 of IEC TC74 in Helsinki). When the manufacturer specifies a test current and duration, that current and duration shall first be used to check that the protective device will operate in this condition. If the protective device does operate, the test current and duration specified by the manufacturer shall be used to test the protective bonding conductor. If the protective device does not operate, the testing laboratory shall ask the manufacturer to specify a more suitable combination of test current and duration.	The decision	02/14		
2.6.5.7	Internal connections for earth-continuity achieved by one rivet in combination with a lock washer are acceptable.	The decision	**94/16**	EE(Chm)1/94	10.8
2.7.1	The maximum rated current in different CENELEC countries for fuse-links inside Pluggable Equipment Type A are as follows: Denmark 16 A Finland 16 A Norway 16 A Sweden 16 A Switzerland 16 A United Kingdom 16 A	The decision	**91/1**	EA(FI)3/91	3.4
2.7.4	Two protective devices may be required in equipment intended to be connected to an IT power system.	The decision	**91/13**	EA(FI)1/91	4.7.1
	In Norway IT power system is used. However, only one protective device can be accepted there.	Additional information			
2.7.4	One fuse is acceptable based on the judgement that the installation fuse could protect the appliance in every earth fault case.	The decision	**94/16**	EE(Chm)1/94	10.8
2.10	Partial discharge test, VDE 0884 (for example, for optocouplers), is not accepted for the time being.	The decision	**91/4**	EA(FI)3/91	4.1.1
	Parenthetical note added.	Addition to decision		EE(Sec)1/04	14.6

Clause	Decision	Comments	Dec No	Document Ref	Document Item
2.10	The insulation of an accessible LED which is connected to hazardous voltage shall fulfil the requirements of Clause 2.10, but is not tested with the steel sphere. - Line space added here - The foil of a membrane switch is allowed to be used as insulation against hazardous voltages if the mechanical construction provides sufficient strength and lifetime.	The decision	**94/18a** **94/18b**	EE(Chm)1/94 EE(Sec)1/04	10.10 14.5
2.10	The insulation between the heat sink and the current carrying parts of an electronic component (oxide layer) can only be considered as functional insulation.	The decision	**94/19**	EE(Chm)1/94	10.11
2.10	The insulation of the outside of a capacitor according to IEC 60384-14 2.ed. fulfils the requirements for basic insulation. For reinforced insulation the distance requirements of EN 60065 and EN 60950 must be fulfilled.	The decision	95/8	EE(Chm)5/95	8.2
2.10	Insulation between parts directly connected to the mains in front of a fuse has to fulfil the requirements for operational insulation or pass the test of 5.3.4 b).	The decision	95/14	EE(Chm)5/95	9.12
2.10	For judging distances (combination of creepage and clearance) from the high voltage connection of a CRT, table 2K or according to subclause 2.1.1.1 (paragraph after Note 4), the dielectric strength test is to be used. Reinforced insulation is required to the outer surface of an enclosure (when of insulating material) and operational insulation is required to an internal, earthed part.	The decision	95/15	EE(Chm)5/95	9.12
2.10	According to 3.1.4, the insulation of primary and secondary lead outs need only to fulfil the dielectric strength test.	The decision	95/16	EE(Chm)5/95	9.13
2.10.1	Force of 10 N shall be applied to all internal parts whether they are accessible or not. (See 4.2.2)	The decision	**91/7**	EA(FI)3/91	4.1.6
2.10.2	In a transformer, the highest occurring working voltage is the basis for insulation requirements. Outside the transformer the voltage actually measured is used. If two or more secondary windings are connected together, even outside the transformer, the voltage actually measured on each winding is the basis for insulation requirements provided that the relevant windings are insulated from each other inside the transformer. If the secondary voltage is not accessible, only functional insulation is necessary.	The decision	**94/14**	EE(Chm)1/94	10.5 10.6

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
2.10.2	There is an LC igniter for a high pressure lamp. The open-circuit output voltage of the igniter is as indicated in the figure.  One ignition cycle takes approximately 4 s. During the 4 s period, Upp is approximately 5 kV for a maximum of 1 s. After 1 s, the voltage decreases to approximately 500 Vpp, and after the 4 s the cycle stops (no output). If a lamp is connected and ignites, the cycle will stop immediately. The normal lamp output voltage is approximately 160 V square wave.	The situation		EE(Chm)3/02	12.4
	Do delegates agree with the proposal for Amd 1 of IEC 60950-1 and therefore see the described signal as a starting pulse and its r.m.s. value not taken into account when determining the minimum creepage distance? If so, what about the pulse duration? Is, for example, a pulse duration of 5 s acceptable, or 10 s?	The question			
	At the moment it is advised to use the table of IEC/EN 60926. We have to take into account repeatable high voltage if the lamp does not conduct (during start or in fault conditions).	The decision	02/18		
	The ongoing work in TC74 WG6 (now TC108 - 74TT-WG6) will be monitored. The latest paper will be distributed for information. "The latest paper" is proposals for EN 60950-1, 2nd edition relating to Sub-clauses 2.10.1.7, 2.10.2.1, 2.10.3.5 and 2.2.3.	Comment			
	Latest papers are now 108_100e_CDV and 108_123e_RVC. Subject to amendments, 108_100e_CDV has now been approved as FDIS. In the RVC there were no technical comments on 2.10.1.7, 2.10.2.1, 2.10.3.5, or 2.2.3. See 108_100e_CDV (or the subsequent FDIS) in respect of this question, and refer to Sub-clauses 2.10.1.7, 2.10.2.1 and 2.10.3.5.	Additional comment by OSM Secretary, December 2004			

Clause	Decision	Comments	Dec No	Document Ref	Document Item
2.10.3.2	Table 2J stops at 1300 V repetitive voltage. For higher voltages, extrapolation of the table is possible.	The decision	98/3	EE/Chm)5/98	9.8
2.10.4	Table 2L stops at 1 kV working voltage for Pollution Degrees 2 and 3. For higher voltages Table 4 of HD 625.1 S1 (IEC 60664-1) has to be used.	The situation The decision	98/4	EE(Chm)5/98	9.9
2.10.4	In a 5 V circuit on the primary side of a switch mode power supply, having a direct connection to the mains (230 V a.c.), the working voltage to be used for table 6 is 250 V a.c. If the working voltage is lower than 250 V, it is seen as 250 V. If it is higher, distances have to be calculated according to 2.10 and where a higher working voltage than the mains voltage (250 V) is present, higher requirements for creepage distances, clearances and insulation (high-pot) tests have to be taken into account.	The decision Additional decision	**93/7** 97/10	EA(GB)3/93 EE(Chm)5/97	6.11 9.8
2.10.5	The plastic enclosure of a semiconductor can be considered as basic insulation. These components including alternatives must be listed in the list of critical components and there must be a remark in the service documentation.	The decision	95/17	EE(Chm)5/95	9.14
2.10.5	Requirements for a tape for insulation: Based on cl 1.3.4, when an adhesive is required to maintain a level of safety (e.g. adhesive tape), then it is recommended to apply the cl 4.6.5. In light of the response from Mr Ferguson (IEC TC 108/MT 2 Interpretation Panel) referred to at the end of Annex J to the minutes of the OSM-EE April 2004, the OSM-EE might wish to review Decision No 03/7 again.	The decision NOTE	03/7	EE(Chm)3/03	12.4
2.10.5.1	Insulation between semiconductors (mains) and heat sinks. Either a second sheet is required, or it must be checked whether the distance through insulation has to be increased to comply with the requirements of clauses 4 and 5.	The decision	95/7	EE(Chm)5/95	8.1
2.10.5.2	2.10.5.2 is not to be used for winding wires. Only 2.10.5.4. applies.	The decision	96/15	EE(Chm)5/96	10.2
2.10.5.2	The tests on non-separable 3-layer foils are done on a separate sample using a test voltage of 4.5 kV (3 x 1.5 kV) for reinforced insulation Decision made in the 37th meeting of TC74 WG6 in Stuttgart	The decision Comment	**00/1**	EE(Chm)5/00 TC74/WG6 (Sec) 25	12.3 37.9.1
2.10.5.4	~~2.10.5.4 could also be used for insulation materials that are similar to polyimide as long as they comply with the tests of Annex U.~~ Decision 96/16 deleted.	The decision	96/16	EE(Chm)5/96 EE (Sec)1/04	10.2 14.7
2.10.8	The requirements for distances through insulation are to be applied to lateral separation between layers provided that the thermal cycling test is passed.	The decision	95/2	EE(Chm)5/95	5.1.7

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
3.4.2	In pluggable equipment, the mains plug can be considered as a disconnect device. Disconnect devices shall be either a double-pole mains switch (IT power system: all-pole mains switch), or a mains plug. Therefore, in pluggable equipment, a single-pole mains switch, or a micro-switch, can be accepted. In pluggable equipment, a semiconductor or a combination of semiconductors can perform functional switching for standby operation.	The decision	**91/15**	EA(FI)1/91	4.8 and 4.9
4.3.4	Force of 10 N shall not be used for testing the compliance of § 4.3.4. Securing of wires is important. The natural movement of the components shall be taken into account.	The decision	**91/14**	EA(FI)3/91	4.8
4.3.4	A heat shrinkable tubing is an acceptable means of additional security to single clamping or soldering of internal wiring, but not for the termination of the mains cord.	The decision	95/4	EE(Chm)5/95	5.1.11
4.3.5	If there is a possibility of mis-mating of modular connectors (e.g. RJ-11, RJ-12 etc.) accessible for the user, tests have to be made to verify that the SELV limits remain. If the voltage of the TNV-circuit is known this value is used, otherwise the test generator of 2.3.5 (Figure 2E) is used for testing.	The decision	98/6	EE(Chm)5/98	9.14
4.3.6	Every NTR concerning an equipment with plugs as part of the enclosure shall have additional information about the tests made on the plug. The circulated 2 pages give an example, for Class II plugs. Class I plugs shall be handled accordingly.	The decision	96/10	EE(Chm)5/96	8.1
4.3.8	The requirements for lithium cells apply to separate devices such as memory cards, remote control units etc.	The decision	**93/10**	EA(GB)3/93	6.18
4.3.8	When calculating the reverse current the voltage of the battery is considered to be zero.	The decision	95/13	EE(Chm)5/95	9.8
4.3.13	If one type of display tube has been tested for ionising radiation, similar types can be accepted without test. The ionisation test shall be carried out under normal operating conditions.	The decision	**93.8**	EA(GB)3/93	6.16
4.3.13	(A decision was made in 1995 and applied to both EN 60950 and EN 60650) but see below; For apparatus comprising a laser product the class, the laser-data and the relevant warning marking shall be stated in the test report.	 Modified decision	95/38 96/4	EE(Chm)5/95 EE(Chm)5/96	10.12 6.22

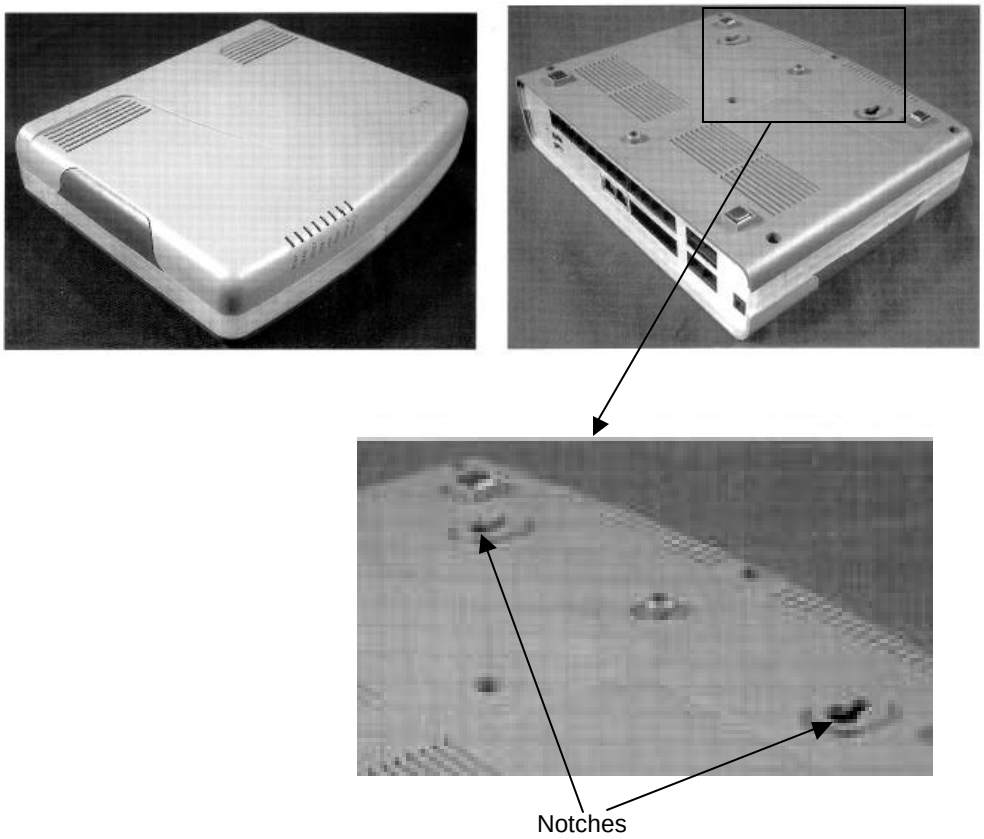
Clause	Decision	Comments	Dec No	Document Ref	Document Item
4.3.13.5	Which version of Laser standard – EN 60825-1 – to use, as referenced by EN 60065, 6th Ed Cl 6.2 and EN 60950-1 Cl 4.3.13.5. Adopt the CTL Decisions DSH 538 and DSH 539. As an alternative to the Normative references in the standards mentioned above, IEC 60825-1/A2: 2001 can be used in combination with this standard, when agreed to by the manufacturer. In connection with this agenda item, it was noted that the date of withdrawal (dow) applicable to A2 of EN 60825-1 has been revised and is now 1 July 2005. The CENELEC secretariat will issue a corrigendum for the dow change.	The question The Decisions 538 – 60065 and 539 – 60950 (Identical) Comment	04/1	EE (Sec)1/04	5.1.2
4.4	If it is clearly evident that there are no hazardous moving parts, then marking detailed in this clause is not required.	The decision	**93/16**	EA(GB)3/93	6.32
4.4.2	Protection in Operator Access area Small spinning fans (typically 5 -8 cm size) in user accessible area may be evaluated differently due to 4.4.2, consideration of hazardous moving parts. The access to the fan may be directly from the outside, or when opening a door or cover. What should be the criteria for when access to such a small spinning fan is considered involve a hazardous moving part that requires a guard? (Speed, sharpness of blades etc. causing possible injury to e.g. fingers.) 20.101 of EN 60335-2-80 specifies the following: Fan blades, other than those of fans for mounting at high level, shall be guarded unless their leading edges and tips are rounded and - they have a hardness less than D 60 Shore, or - they have a peripheral speed less than 15 m/s when the fan is supplied at rated voltage, or - the fan has a power output not exceeding 2 W when supplied at rated voltage. NOTE: An edge with a radius of not less than 0.5 mm is considered rounded. Compliance is checked by inspection and by measurement.	The situation The question The decision	02/20	EE(Chm)3/02	10.10
4.5	The original, not a copy, of CCITT test form No 3 shall be used at the heating test in normal use of telefaxes. An alternative means is the Test Form Nr.4 named "Black-White facsimile test chart BW01 (ITU-T test chart No,: 4)	The decision Addition to decision	**91/32** 98/1	EA(FI)3/91 EE(Chm)5/98	5.2
4.5	A thin plastic coating (spraying) on the external surface of the metal enclosure is not taken into account when determining the temperature rise on touchable metal parts.	The decision	**91/9**	EA(FI)3/91	4.3.2

Clause	Decision	Comments	Dec No	Document Ref	Document Item
4.5	For the heating test requirements of optocouplers, reference should be made to manufacturer's data for maximum operating temperature as well as manufacturer's data for input and output currents. It should be ensured that the optocoupler is operating within its design parameters.	The decision	**93/14**	EA(GB)3/93	6.24
4.5	a) A declaration with adequate information from the equipment manufacturer is accepted to classify insulating materials. b) Information from the UL Yellow Book may be taken into account. c) In the case of different insulating systems the material with the lowest operating temperature is governing the total operating temperature of the system.	The decision	95/22	EE(Chm)5/95	9.21
4.5	For the acceptance of coils of RFI filters, Table 16 condition 5 should be taken into account. With reference to Condition 5 of Table 4A, temperature limits on individual coils, being part of RFI filters, can be accepted according to component rating.	The decision	98/7	EE(Chm)5/98	9.15
4.6.1	~~The requirements of this sub-clause are applicable to the fire enclosure~~ and ~~the electrical enclosure~~. This decision, for the 2nd Ed, deleted because of the updating of the standard	The decision Decision deleted	**93/9** 04/14	EA(GB)3/93 EE (Sec) 1/04	6.17 14.8
4.6.2	Following construction is accepted: There are openings in the bottom of a fire enclosure that are larger than 40 mm². Above these openings there is a printed board which is horizontally mounted. The components are on the upper side of the printed board. The printed board fulfils the requirement of V-1 material. This decision is applicable to equipment with a mass exceeding 18 kg. Compliance clause in 4.6.2 covers this problem.	The decision Addition to decision	**91/21**	EA(FI)1/91 EE(Chm)5/96	4.12.3 6.25
4.6.2	It is acceptable to have a printed circuit board (above a fire enclosure having holes greater than 40 mm²) with holes of less than 40 mm², if the components close to the holes comply with flammability class V-1.	The decision	**93/11**	EA(GB)3/93	6.21

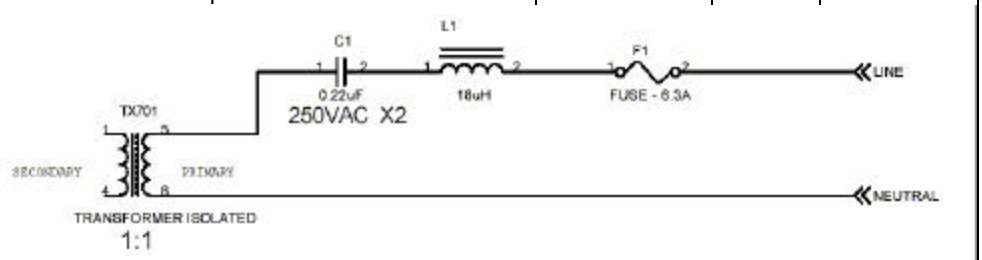
Clause	Decision	Comments	Dec No	Document Ref	Document Item
4.6.5	Compliance is checked by examination of the construction and of the available data. If such data are not available, compliance is checked by the following tests. 1. What documentation is required? For example, description of the materials from which the adhesive is composed + test results of a cyclic test over 600 h at -30 °C to +70 °C. Is this sufficient for parts not subject to heat? 2. Is a UL 746C (Polymeric Materials - use in electrical evaluation) approved adhesive acceptable? 3. Is proof of resistance to heat at 90 °C (UL RTI 90, QMFZ2) sufficient? Other	The situation with questions		EE(Chm)3/02	12.1
	We do not have sufficient experience to be sure that any of the suggested conditions or tests in item 1,2 or 3 above are equal to or better than the requirements in 4.6.5 or 4.3.22.	Comment			
	Available data have to prove compliance with the requirements of 4.3.22 or 4.6.5. If not, the relevant tests have to be applied.	The decision	02/17		
4.7	Declaration of used materials with adequate information from the equipment manufacturer is acceptable.	The decision	**91/19**	EA(FI)1/91	4.12.1
	~~Furthermore, the flame resistance of plastic materials listed in the UL Yellow Book can be taken into account when checking the compliance with § 4.7.3~~	Addition to decision	**93/18**	EA(GB)3/93	6.39
	The flame resistance of plastics materials listed by national certification bodies such as in the Yellow Book by UL can be taken into account when checking the compliance with Sub-clause 4.7.3.	Addition 93/18 amended	04/15	EE (Sec) 1/04	14.9
	In the flammability assessment of PCBs, a declaration that the manufacturer uses V-0 or V-1 rated PCBs as required is acceptable. The test report should detail material manufacturer, type reference and flammability rating as a minimum for other materials.	Addition to decision	**94/3**	EE(Chm)1/94	6.16
	In cases where the equipment manufacturer is unable to obtain the appropriate information, due to the unwillingness of the component manufacturer to divulge proprietary data, acceptance may be based on either 1. a Certificate of Conformity (C of C), or 2. a written declaration from the component manufacturer. The C of C, or declaration, shall confirm the flammability rating of the plastic materials. However, this exception is not allowed for enclosure materials. These must also meet the requirements of clause 4.2 (Mechanical strength and stress relief)	Addition to decision	95/3	EE(Chm)5/95	5.1.9

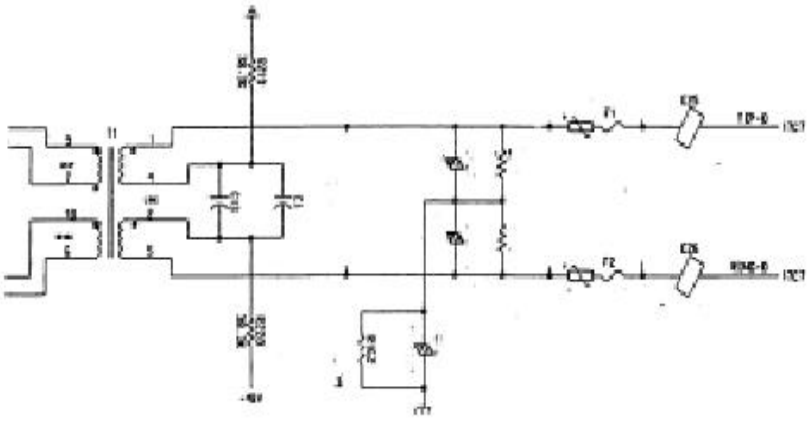
Clause	Decision	Comments	Dec No	Document Ref	Document Item
4.7	Components may be considered to have individual fire enclosures. Thin tape can be used to provide a fire enclosure for transformer windings etc, provided the tape meets V-1 minimum or the complete transformer including the tape meets Appendix A2 test. A2 will be deleted with Amendment 1	The decision **NOTE**	96/5	EE(Chm)5/96	6.23
4.7	Small openings in small electromagnets, motors etc should meet the requirements of 4.6.	The decision	**93/17**	EA(GB)3/93	6.35
4.7	Small parts of HB materials in a fire enclosure can be accepted based on the judgement that they have adequate spacings from ignition sources.	The decision	95/20	EE(Chm)5/95	9.19
4.7	If the product enclosure is made of HB material there have to be internal fire enclosures for parts where the limited power source output criteria are not met.	The decision	95/21	EE(Chm)5/95	9.20
4.7	If the battery is within a fire enclosure we could accept a material HB or better, based on the experience in 4.4.3.3 of EN 50091-1-1.	The decision	99/5	EE(Chm)7/99	9.13a
4.7.2.1	Parts requiring a fire enclosure: Some apparatus powered only by batteries are not required to have a fire enclosure because, beyond the batteries, the power is limited by PTCs or other devices according to 2.5. However, the batteries are not power limited: therefore fire enclosure is needed. Do you agree to consider the metal can of the battery acting as fire enclosure? The metal case of the battery can be considered as fire enclosure, but the battery has also to comply with 4.3.8.	The situation The question The decision	 02/15	EE(Chm)3/02	10.13
4.7.3	Materials of coil formers and partition walls shall fulfil the requirement of V-2 material. (The word, “partition” added as shown above.)	The decision Amendment to decision	**91/22**	EA(FI)1/91 EE(Chm)1/94	4.12.3 6.14
4.7.3.2	Liquid crystal display (LCD) is tested as a "sandwich" and it shall fulfil the requirement of a fire enclosure.	The decision	**91/23**	EA(FI)1/91	4.12.3
4.7.3.2	Enclosures of a keyboard or similar devices (e.g. mouse, trackball) can be accepted to be made of material class HB based on abnormal test.	The decision	95/24	EE(Chm)5/95	9.27
4.7.3.2	The 13 mm requirement of clause 4.7.3.2 is not relevant to the requirements of clause 4.6.	The decision	**93/12**	EA(GB)3/93	6.22

Clause	Decision	Comments	Dec No	Document Ref	Document Item
4.7.3.2	Thin metal foil may be used in the construction of a fire enclosure (on HB material) provided: 1. The complete enclosure shall be tested to Appendix A1 or A2, and 2. The foil covers all areas where there is a source of ignition. There is no mechanical strength requirement on the foil other than that for the enclosure.	The decision	**93/13**	EA(GB)3/93	6.23
	The use of metalised coating sprayed on the inside of an enclosure made of HB-material is also acceptable provided the tests according to Appendix A1 or A2 are met.	Addition to decision	**94/2**	EE(Chm)1/94	6.15
4.7.3.2	Materials of Fire Enclosure: A supplier of LCD projectors (typical weight from 1 to 5 kg, and intended for ceiling mounting and/or transportable use together with notebook computers) offers a ceiling mount accessory kit. The kit has two major parts: one piece mounts to the ceiling with permanent fasteners, the other piece attaches to the projector with screws. Both halves go together by aligning each half to a specified feature and twisting them into position. The halves are locked into place by turning knurled screws with finger pressure. Mounting and un-mounting the units do not require the use of tools.	The situation		EE(Chm)3/02	10.13
	Do the delegates agree that if the projector can be fixed to the ceiling by any manner, even without requiring the use of tools, the product must be considered as fixed and therefore the fire enclosure must be rated 94-5V?	The question			
	For projectors specified by the manufacturer for ceiling mounting, with or without a tool, the fire enclosure must be rated 5V or better.	The decision	02/16		
	However, see Decision 04/6 below	Comment			

Clause	Decision	Comments	Dec No	Document Ref	Document Item
4.7.3.2	EN 60950 3 rd edition and EN 60950 -1	Applicability			
	Decision 02/16 states, “For projectors specified by the manufacturer for ceiling mounting with or without a tool the fire enclosure must be rated 5V or better.”	The situation		EE (Sec)1/04	13.3
	Is this applicable to any other type of equipment mounted on a vertical surface and/or suspended under any other surface?	Question 1			
	How would the delegates determine the fire enclosure (V-1 or 5V) for the following small equipment intended for desktop use and/or to be mounted/suspended on a vertical surface by notches provided in the bottom of the enclosure: for example, routers, base stations for cordless telephones?	Question 2			
					
	Movable equipment is considered to include wall-mounted equipment whose mounting method permits removal without a tool by an operator. Consequently, the equipment referred to is considered to be movable: this allows the use of V-1 material.	The decision	04/6		

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
5.1	EN 60950 3rd edition	Applicability		EE (Sec)1/04	13.4
	A professional image server for control room application uses a redundant power supply with two mains inputs, each input connected to a different power mains. The redundant supply is provided to keep the server operational in very critical applications, when one mains supply would fail. The unit is provided with two detachable power supply cords with IEC 60320 appliance couplers, is rack mounted and considered pluggable Type A equipment. Problem: this unit cannot comply with the touch current requirements in IEC 60950 3rd edition or 60950-1 because the touch current exceeds the strict limit of 3.5 mA for pluggable Class A equipment (Table 5A) at 264 V/60 Hz.	The situation		Amendment to above document 9 August 2004	
	However, in the most recent CDV of IEC 60950-1 (2nd Ed), there are a lot of changes in the requirements for touch current for equipment using redundant power supplies and for equipment located in restricted-access locations. When applying these new requirements, the unit would pass the touch current requirements even when the touch current is higher than 3.5 mA.				
	Is it acceptable to apply already these new conditions beforehand, so that this type of professional equipment can be judged compliant with the intention of the safety standard? Could we use a kind of text to introduce in the remarks area of the test report?	The question			
	It was agreed that equipment with touch current exceeding 3,5 mA may be permitted, but only if the equipment complies with the requirements of 5.1.7 of the draft Edition 2 of IEC 60950-1 as shown in the IEC Document 108/100/CDV.	The decision	04/7		
	This decision is as written in the **amendment** to the minutes of the meeting.	Comment			
5.3	Fault condition tests shall be carried out with 16 A installation fuses.	The decision	**91/18**	EA(FI)1/91	4.11.1
5.3	Fault condition tests shall be considered and they have to be done, even in the secondary circuit, if there is a risk of damage to supplementary or reinforced insulation.	The decision	**91/2**	EA(FI)3/91	3.5
5.3	According to EN 60127, a fuse will not break within 30 minutes at less than 2.1 times the rated current. Therefore, if the current through the fuse does not exceed this value after the failure is introduced, the fuse will not blow and the test is run until steady state conditions are obtained.	The decision	95/5	EE(Chm)5/95	5.1.17

Clause	Decision	Comments	Dec No	Document Ref	Document Item
5.3	PTC resistors which are certified according to IEC 60738-1, or to at least the Clauses 15, 17, J15 and J17 of IEC 60730, need not be short-circuited under fault conditions.	The decision	97/7	EE(Chm)5/97	9.19
	Insert ", or to at least the Clauses 15, 17, J15 and J17 of IEC 60730," in the decision	Amendment to decision	-	EE (Sec)1/04	6.1.4
5.3	Components can be short-circuited whether they are separately approved or not. However, if a component complies with requirements for reinforced insulation, it shall not be short-circuited.	The decision	**91/19**	EA(FI)1/91	4.11.1
5.3	Refer to simplified diagram below: The secondary electronic circuitry is used to superimpose a data signal on the line voltage. TX701 is a reinforced insulated signal transformer. Its transformation ratio is 1:1. F1 is a fuse and L1 is a coil and C1 is a capacitor.	The situation		EE (Sec)1/04	10.9
					
	Should a short circuit of C1 be evaluated/ assumed if C1 is a certified X-capacitor?	The question			
	Yes, taking into account the definition of the use of a Class X capacitor given in Sub-clause 1.5.3 of EN 132 400, the X2 capacitor used as shown in the simplified diagram should be short-circuited as a fault condition. This is because a failure of the capacitor might cause a risk of electric shock from the secondary circuit.	The decision	04/4		
5.3.8	Temperature rises higher than 300 °C can be accepted if the manufacturer has proved that the material in question withstands the temperature.	The decision	**91/3**	EA(FI)3/91	3.5

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
6.1 6.2	The figure shows a circuit that is connected to a telecommunication network.  Based on the network, a TNV 1 situation applies. T1 is a separation transformer which withstands 1500 V a.c. electric strength (ES) test. This transformer is, due to a functional concept, bridged by a resistor of 38 kO to earth and by another resistor of 38 kO to a 48 V d.c. circuit which only has functional insulation to SELV (e.g. an RS-232 communication port). The equipment is pluggable type-A but will only be installed by a service person and the installation instructions require it to be connected to an earthed socket outlet. So, for the protection of telecom network users from hazards in the equipment, the exclusions of 6.1.2.2 apply. This means that the resistor of 38 kO to earth is allowed for this application and can be accepted without ES test For the resistor to the 48 V d.c. circuitry, cl 6.2 applies (protection of equipment users from overvoltages on telecom networks). In this case there is only functional insulation to SELV and the circuit does not withstand the ES test between the connection for telecom network and RS-232 connector (SELV). Cl. 6.2.1 says the following equipment shall provide adequate electrical separation between a TNV-1 CIRCUIT or a TNV-3 CIRCUIT and the following parts of the equipment;	The situation		EE(Chm)3/03	5.1.8
6.1 & 6.2 continued below					

Clause	Decision	Comments	Dec No	Document	
				Ref	Item
6.1 6.2 continued	a) Unearthed conductive parts and non-conductive parts of the equipment expected to be held or touched during normal use (for example, a telephone handset or a keyboard). b) Parts and circuitry that can be touched by the test finger, figure 2A (see 2.1.1.1), except contacts of connectors that cannot be touched by the test probe, figure 2C (see 2.1.1.1). c) An SELV CIRCUIT, a TNV-2 CIRCUIT or a LIMITED CURRENTCIRCUIT provided for connection of other equipment. The requirement for separation applies whether or not this circuit is accessible. These requirements do not apply where circuit analysis and equipment investigation indicate that safety is assured by other means, for example, between two circuits each of which has a permanent connection to protective earth.	The situation continued		EE(Chm)3/03	5.1.8
	Is it necessary for compliance to perform the test according to 6.2.2.1 (impulse test) or 6.2.2.2 (steady state ES test), or can we accept this situation without testing if the following applies: Separate approved surge suppressors are provided which limit an incoming transient voltage to a level of max 70 V before the resistor. Circuit analysis shows that this will never result in a hazardous voltage on the RS 232 port (SELV).	The question			
	If it is obvious that the product will fulfil the requirements, no test is necessary. Otherwise the tests have to be performed due to the requirements of 6.2.2.3.	The decision Confirmed by TC108-WG7.	03/4		

End

Dec No. 05/2	Comments: -	Document	
		Ref EE(Chm) 1/2005	Item 10.4

Standard(s): **EN 60950: 2000 and EN 60950-1:2001**	*Sub clause(s):* **1.5 (4.5 and 5.3)**	**From:** **NEMKO**
Subject: **Temperature controllers and fan speed controllers**	**Key words:** **-** **-** **-**	**To:** **OSM/EE**

Question: Shall temperature-sensing devices (NTC devices) used as fan speed controllers be listed as critical components when they are operating under normal conditions?

Decision: Short circuit or opening the NTC and other relevant fault tests in the temperature-sensing circuit should be applicable tests. Then it is a 5.3. issue (+ blocking the fan). The situation has to be evaluated from case to case. If the NTC protect against excessive temperatures it has to be evaluated as a safety critical component and must then be listed.

Explanatory Notes: A thermal controller for power supply fan would not be evaluated like a thermostat in a heating element (1.5.3). This circuit should be evaluated like other circuits for function and safety purpose, such as heat sink sensors and fixing sensors in printers, which will be evaluated in normal operation and also with blocked fan and other relevant fault tests in the temperature-sensing circuit.

Dec No. 05/3	**Comments:** Mr. Andersen of NEMKO will bring the matter of software controls to the attention of IEC TC 108/HBSDT	Document	
		Ref EE(Chm) 1/2005	**Item 10.7**

Standard(s): **EN 60950:2000 and EN 60950-1:2001**	*Sub clause(s):* **5.3**	**From:** **NEMKO**
Subject: Safety depending on software control for compliance with EN 60950	**Key words:** **-**	**To:** **OSM/EE**

Question: An integrated circuit is used as protection against overcharging of a lithium battery. The circuit has a register which can turn on a charge circuit, causing problems with accepting this part, because failures in software is not specified in 60950, and when doing testing in single fault condition, and at the same time having (in this particular case) the software controlled charge circuit turned on, compliance with IEC 60950 (in this case for a lithium battery) in single fault condition causes failure with clause 5.3.

How do delegates treat software control for compliance with EN 60950?

Decision: As software evaluation is not part of EN 60950-1, OSM-EE is of the opinion that software control can not be considered as part of a safety protection system.

Explanatory Notes: -