



Committee on NFPA 79

MEMORANDUM

TO: NFPA Technical Committee on Electrical Equipment of
Industrial Machinery

FROM: Richard Roux
Mark Cloutier

DATE: September 21, 2009

SUBJECT: NFPA 79 ROP (F2010) Letter Ballot Circulation

The September 17, 2009 date for receipt of the NFPA 79 ROP letter ballot has passed.

The preliminary ROP ballot results are as follows:

19 Members Eligible to Vote

- 1 Ballots Not Returned (D. Carpenter)
- 6 Affirmative on All
- 11 Negatives (W. Anderson, L. Bas, W. Beachy, M. Callanan, F. DeFelice,
D. Fisher, M. Hilbert, J. Kovacik, M. Sanders, E. Watson,
E. Wolfgang)
- 1 Abstention (D. Mariuz)

In accordance with the NFPA Regulations Governing Committee Projects, reasons for negative votes are provided for your review so you may change your ballot if you wish. Reasons for abstentions and affirmative comments, if any, are also provided. Ballots received from alternate members are not included unless the ballot from the principal member was not received.

If you wish to change your vote, the change must be received at NFPA on or before **October 8, 2009**. Members who have not returned a ballot may do so now. Such changes should be sent to Mary Warren via either e-mail to mwarren@nfpa.org or via fax to (617) 984-7070. You may also mail your ballot to the attention of Mary Warren at NFPA, 1 Batterymarch Park, Quincy, MA 02169.

The return of ballots is required by the Regulations Governing Committee Projects.

ATTACHMENT

79-1 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

Entire Document (Log # 206)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. The specific references as to where each of the changes should be made were presented at the committee meeting for action near the end of the ROP meeting, so that any committee proposals affecting the text containing direct contact or indirect contact could also be addressed at that time, unfortunately it appears that the specific proposed revisions in connection with this proposal appear that they could be delt with more effectively during the comment stage. In order for these specific revision materias not to be viewed as new materal during the comment stage, the details of the proposed changes, based upon NFPA 79 2007 edition, are presented with this ballot's results in word formatted table as follows:

6.2.2.1 Basic Protection from Outside an Enclosure. Equipment enclosures and enclosure openings shall meet the requirements of UL 508, UL 508A, UL 50, or NEMA 250.

6.3 Fault Protection Against Electric Shock (Fault Conditions).

6.3.1 General. Fault Protection (see 3.3.18.2) is intended to prevent hazardous conditions to continue in the event of a fault condition. (E.g. insulation failure between live and exposed conductive parts)

6.3.1.1* Fault Protection Against Contact. Fault Protection against direct contact shall be achieved by:

6.4.1 General Requirements. The protective measure PELV (Protective Extra-Low Voltage) as described in Section 6.4 ,is to protect persons against electric shock from fault condition (e.g., insulation failure between live and exposed conductive parts) and limited area direct contact.

9.2.5.4.2.1 Emergency switching off shall be permitted as follows:

(1) Where basic protection (e.g., with collector wires, collector bars, slip-ring assemblies, control gear in electrical operating areas) is achieved only by placing out of reach or by obstacles

9.2.5.4.2.2 Emergency switching off shall be accomplished by disconnecting the incoming supply circuit of the machine effecting a Category 0 stop. Where the machine cannot tolerate the Category 0 stop, it shall be necessary to provide other protection

(e.g., basic protection), so that emergency switching off is not necessary.

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Replace "direct contact" with "basic protection"

Replace "indirect contact" with "fault protection"

***See additional comments in "Anderson affirmative comments on 79-1 ***

79-1a Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

Entire Document (Log # CP1)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

Hilbert, M. The action taken in Proposal 79-5a (Log # CP5) was an effort to recognize that a complete review of the document is necessary to comply with the recommendation. However, there was insufficient time to review the entire document as requested before the ROP meeting. The Chair recognizes that a task group will be necessary to develop a comment with regard to the remaining referenced standards included in 79 -5a and that a task group should be appointed to review any other referenced documents and extracted material for the next revision cycle.

79-2 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

1.1.2 and FPN (New) (Log # 12)

79-1 Log #206 EEI-AAA materials

Date 2009-04-22	Document NFPA 79 2010	Project Nr. TG 1
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NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
New 3.x	New 3.x		Definition for electrical enclosure is needed and should be used in the text	Add a new definition and use it in the text: electrical enclosure enclosure providing protection against the foreseen dangers created by electricity [195-06-13]	none	Enclosure. The case or housing of apparatus, or the fence or walls surrounding an installation to prevent personnel from accidentally contacting energized parts or to protect the equipment from physical damage. [NFPA 70]

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
3.3.19	3.29		Adapt the text with IEC 60364-4-41 indirect contact contact of persons or livestock with exposed conductive parts which have become live under fault conditions	Replace 3.29 by: fault protection protection against electric shock under single-fault conditions [195-06-02]	3.3.19 Contact. 3.3.19.1 Direct Contact. Contact of persons with live parts. 3.3.19.2 Indirect Contact. Contact of persons with exposed conductive parts that have become live under fault conditions.	3.3.19 Protection. 3.3.19.1 Basic. Protection against contact of persons with live parts. 3.3.19.2 Fault. Protection against electric shock through contact of persons with exposed conductive parts that have become live under single fault conditions.

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
6.1	6.1	1. para	Adapt the text with IEC 60364-4-41 The electrical equipment shall provide protection of persons against electric shock from: – direct contact (see 6.2 and 6.4); – indirect contact (see 6.3 and 6.4).	Replace the text as follow: The electrical equipment shall provide protection of persons against electric shock by measures for: - basic protection (see 6.2 and 6.4) - fault protection (see 6.2 and 6.4)	6.1 General. Electrical equipment shall provide protection of persons from electric shock from direct and indirect contact.	6.1 General. The electrical equipment shall provide protection of persons against electric shock by measures for: - basic protection (see 6.2 and 6.3) - fault protection (see 6.2 and 6.3)
6.2*	6.2	Headline	Adapt the text with IEC 60364-4-41 Protection against direct contact	Replace the headline “protection against direct contact” by “basic protection”	6.2* Protection Against Direct Contact. Live parts operating at 50 volts rms ac or 60 volts dc or more shall be guarded against contact.	6.2* Basic Protection. Live parts operating at 50 volts rms ac or 60 volts dc or more shall be guarded against contact

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
	6.2.1	Exception	Adapt the text with IEC 60364-4-41 Exception: where those measures are not appropriate, other measures for protection against direct contact (for example by using barriers, by placing out of reach, using obstacles, using construction or installation techniques that prevent access) as defined in IEC 60364-4-41 may be applied (see 6.2.5 and 6.2.6).	Replace “for protection against direct contact” into “ as basic protection” Exception: where those measures are not appropriate, other measures for basic protection (for example by using barriers, by placing out of reach, using obstacles, using construction or installation techniques that prevent access) as defined in IEC 60364-4-41 may be applied (see 6.2.5 and 6.2.6).	none	none
6.2.2.1					6.2.2.1 Direct Contact from Outside an Enclosure. Equipment enclosures and enclosure openings shall meet the requirements of UL 508, UL 508A, UL 50, or NEMA 250.	6.2.2.1 Basic Protection from Outside an Enclosure. Equipment enclosures and enclosure openings shall meet the requirements of UL 508, UL 508A, UL 50, or NEMA 250.
	6.2.1	3. para	Adapt the text with IEC 60364-4-41 When the equipment is located in places open to all persons, which can include children, measures of either 6.2.2 with a minimum degree of protection against direct contact corresponding to IP4X or IPXXD (see IEC 60529), or 6.2.3 shall be applied.	Replace “protection against direct contact” by “basic protection” When the equipment is located in places open to all persons, which can include children, measures of either 6.2.2 with a minimum degree of basic protection corresponding to IP4X or IPXXD (see IEC 60529), or 6.2.3 shall be applied.	Existing does not use term direct contact	none

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
	6.2.2	1. para	Adapt the text with IEC 60364-4-41 Live parts shall be located inside enclosures that conform to the relevant requirements of Clauses 4, 11, and 14 and that provide protection against direct contact of at least IP2X or IPXXB (see IEC 60529).	Replace "protection against direct contact" by "basic protection" Live parts shall be located inside enclosures that conform to the relevant requirements of Clauses 4, 11, and 14 and that provide basic protection of at least IP2X or IPXXB (see IEC 60529).	Existing does not use term direct contact	none
	6.2.2	2. para	Adapt the text with IEC 60364-4-41 Where the top surfaces of the enclosure are readily accessible, the minimum degree of protection against direct contact provided by the top surfaces shall be IP4X or IPXXD.	Replace "protection against direct contact" by "basic protection" Where the top surfaces of the enclosure are readily accessible, the minimum degree of basic protection provided by the top surfaces shall be IP4X or IPXXD.	Existing does not use term direct contact	none
	6.2.2	a) 2 para	Adapt the text with IEC 60364-4-41 All live parts, that are likely to be touched when resetting or adjusting devices intended for such operations while the equipment is still connected, shall be protected against direct contact to at least IP2X or IPXXB. Other live parts on the inside of doors shall be protected against direct contact to at least IP1X or IPXXA.	Replace "protected against direct contact" by "basic protected" and "protected against direct contact" by "basic protected" All live parts, that are likely to be touched when resetting or adjusting devices intended for such operations while the equipment is still connected, shall have basic protection to at least IP2X or IPXXB. Other live parts on the inside of doors shall have basic protection to at least IP1X or IPXXA.	Existing does not use term direct contact	none
	6.2.2	Exeption 3. dash	Adapt the text with IEC 60364-4-41 all live parts, that are likely to be touched when resetting or adjusting devices intended for such operations while the equipment is still connected, are protected against direct contact to at least IP2X or IPXXB and other live parts on the inside of doors are protected against direct contact to at least IP1X or IPXXA;	Replace "against direct contact" by "by basic protection" an "protection against direct contact" by "have basic protection" all live parts, that are likely to be touched when resetting or adjusting devices intended for such operations while the equipment is still connected, are protected by basic protection to at least IP2X or IPXXB and other live parts on the inside of doors have basic protection of at least IP1X or IPXXA;	Existing does not use term direct contact	none

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
	6.2.2	b) 3. para	Adapt the text with IEC 60364-4-41 All parts that are still live after switching off the disconnecting device(s) (see 5.3.5) shall be protected against direct contact to at least IP2X or IPXXB (see IEC 60529). Such parts shall be marked with a warning sign in accordance with 16.2.1 (see also 13.2.4 for identification of conductors by colour).	Replace "protected against direct contact" by "basic protected" All parts that are still live after switching off the disconnecting device(s) (see 5.3.5) shall have basic protection to at least IP2X or IPXXB (see IEC 60529). Such parts shall be marked with a warning sign in accordance with 16.2.1 (see also 13.2.4 for identification of conductors by colour).	Existing does not use term direct contact	none
	6.2.2	Note 3	Adapt the text with IEC 60364-4-41 Where protection against direct contact is achieved in accordance with 6.2.2 c), and a hazard can be caused by manual actuation of devices (for example manual closing of contactors or relays), such actuation should be prevented by barriers or obstacles that require a tool for their removal.	Replace "protected against direct contact" by "basic protected" Where basic protection is achieved in accordance with 6.2.2 c), and a hazard can be caused by manual actuation of devices (for example manual closing of contactors or relays), such actuation should be prevented by barriers or obstacles that require a tool for their removal.	Existing does not use term direct contact	none
	2. para		Adapt the text with IEC 60364-4-41 In the case of plugs or similar devices, the withdrawal of which results in the exposure of conductors (for example pins), the discharge time shall not exceed 1 s, otherwise such conductors shall be protected against direct contact to at least IP2X or IPXXB.	Replace "protected against direct contact" by "basic protected" In the case of plugs or similar devices, the withdrawal of which results in the exposure of conductors (for example pins), the discharge time shall not exceed 1 s, otherwise such conductors shall have basic protection to at least IP2X or IPXXB.	Existing does not use term direct contact	none

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
6.3	6.3	Headline	Adapt the text with IEC 60364-4-41 Protection against indirect contact	Replace the headline "protected against direct contact" by "basic protection" Fault protection	6.3 Protection Against Electric Shock from Indirect Contact (Fault Conditions).	6.3 Fault Protection Against Electric Shock (Fault Conditions).
6.3.1	6.3.1	1. para	Adapt the text with IEC 60364-4-41 Protection against indirect contact (3.29) is intended to prevent hazardous situations due to an insulation fault between live parts and exposed conductive parts.	Replace "protected against indirect contact" by "fault protection" Fault protection (3.29) is intended to prevent hazardous situations due to an insulation fault between live parts and exposed conductive parts.	6.3.1 General. Protection against indirect contact (<i>see</i> 3.3.18.2) is intended to prevent hazardous conditions to continue in the event of a fault condition. (e.g., insulation failure between live and exposed conductive parts).	6.3.1 General. Fault Protection (<i>see</i> 3.3.18.2) is intended to prevent hazardous conditions to continue in the event of a fault condition. (e.g., insulation failure between live and exposed conductive parts).

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204- 1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
6.3.1.1					6.3.1.1* Protection Against Indirect Contact. Protection against indirect contact shall be achieved by:	6.3.1.1* Fault Protection Against Contact. Fault Protection against direct contact shall be achieved by:

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
6.4.1	6.4.1	1. para	<p>Adapt the text with IEC 60364-4-41</p> <p>The use of PELV (Protective Extra-Low Voltage) is to protect persons against electric shock from indirect contact and limited area direct contact (see 8.2.5).</p>	<p>Replace “use of” by “protective measure”</p> <p>The protective measure PELV (Protective Extra-Low Voltage) is to protect persons against electric shock from indirect contact and limited area direct contact (see 8.2.5).</p>	<p>6.4.1 General Requirements. The use of PELV, as described in Section 6.4, is to protect persons against electric shock from indirect contact and limited area direct contact.</p>	<p>6.4.1 General Requirements. The protective measure PELV (Protective Extra-Low Voltage) as described in Section 6.4 ,is to protect persons against electric shock from fault condition (e.g., insulation failure between live and exposed conductive parts) and limited area direct contact.</p>

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
9.2.5.4.2 .1.(1)	9.2.5.4.3	2. para 1. dash	Adapt the text with IEC 60364-4-41 protection against direct contact (for example with conductor wires, conductor bars, slipring assemblies, controlgear in electrical operating areas) is achieved only by placing out of reach or by obstacles (see 6.2.6); or	Replace "protected against direct contact" by "basic protection" basic protection (for example with conductor wires, conductor bars, slipring assemblies, controlgear in electrical operating areas) is achieved only by placing out of reach or by obstacles (see 6.2.6); or	9.2.5.4.2.1 Emergency switching off shall be permitted as follows: (1) Where protection against direct contact (e.g., with collector wires, collector bars, slip-ring assemblies, control gear in electrical operating areas) is achieved only by placing out of reach or by obstacles	9.2.5.4.2.1 Emergency switching off shall be permitted as follows: (1) Where basic protection (e.g., with collector wires, collector bars, slip-ring assemblies, control gear in electrical operating areas) is achieved only by placing out of reach or by obstacles

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
9.2.5.4.2 .2	9.2.5.4.3	3. para	<p>Adapt the text with IEC 60364-4-41</p> <p>Emergency switching off is accomplished by switching off the relevant incoming supply by electromechanical switching devices, effecting a stop category 0 of machine actuators connected to this incoming supply. When a machine cannot tolerate this stop category 0 stop, it may be necessary to provide other measures, for example protection against direct contact, so that emergency switching off is not necessary.</p>	<p>Replace "protected against direct contact" by "basic protection"</p> <p>Emergency switching off is accomplished by switching off the relevant incoming supply by electromechanical switching devices, effecting a stop category 0 of machine actuators connected to this incoming supply. When a machine cannot tolerate this stop category 0 stop, it may be necessary to provide other measures, for example basic protection, so that emergency switching off is not necessary.</p>	<p>9.2.5.4.2.2 Emergency switching off shall be accomplished by disconnecting the incoming supply circuit of the machine effecting a Category 0 stop. Where the machine cannot tolerate the Category 0 stop, it shall be necessary to provide other protection (e.g., against direct contact), so that emergency switching off is not necessary.</p>	<p>9.2.5.4.2.2 Emergency switching off shall be accomplished by disconnecting the incoming supply circuit of the machine effecting a Category 0 stop. Where the machine cannot tolerate the Category 0 stop, it shall be necessary to provide other protection (e.g., basic protection), so that emergency switching off is not necessary.</p>

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
	10.1.3	2. para	Adapt the text with IEC 60364-4-41 In addition, the operator interface control devices shall have a minimum degree of protection against direct contact of IPXXD (see IEC 60529).	Replace "protected against direct contact" by "basic protection" In addition, the operator interface control devices shall have a minimum degree of basic protection of IPXXD (see IEC 60529).	Existing does not use term direct contact	none
	12.7.1	Headline	Adapt the text with IEC 60364-4-41 Protection against direct contact	Replace the headline "protected against direct contact" by "basic protection" Basic protection	Existing does not use term direct contact	none
	12.7.1	1. para	Adapt the text with IEC 60364-4-41 Conductor wires, conductor bars and slip-ring assemblies shall be installed or enclosed in such a way that, during normal access to the machine, protection against direct contact is achieved by the application of one of the following protective measures:	Replace "protected against direct contact" by "basic protection" Conductor wires, conductor bars and slip-ring assemblies shall be installed or enclosed in such a way that, during normal access to the machine, basic protection is achieved by the application of one of the following protective measures:	Existing does not use term direct contact	none
	18.1	b)	Adapt the text with IEC 60364-4-41 in case of protection against indirect contact by automatic disconnection, conditions for protection by automatic disconnection shall be verified according to 18.2;	Replace "protected against in direct contact" by "fault protection of supply" in case of fault protection of supply by automatic disconnection shall be verified according to 18.2;	Existing does not use term indirect contact	none
	Annex A	Headline	Adapt the text with IEC 60364-4-41 Protection against indirect contact in TN-systems	Replace the headline "protected against in direct contact" by "fault protection" Fault protection in TN-systems	Existing does not use term indirect contact	none

NFPA code ref	IEC 60204-1 Clause/ Subclause	IEC 60204-1 Paragraph Figure/ Table	IEC 60204-1 existing	IEC 60204-1 Proposed change	NFPA 79 existing	NFPA 79 Proposed change [Ariel Unicode MS 12pt]
	A.1	1. para	Adapt the text with IEC 60364-4-41 Protection against indirect contact shall be provided by an overcurrent protective device that automatically disconnects the supply to the circuit or equipment in the event of a fault between a live part and an exposed conductive part or a protective conductor in the circuit or equipment, within a sufficiently short disconnecting time. A disconnecting time not exceeding 5 s is considered sufficiently short for machines.	Replace "protected against in direct contact" by "fault protection" Fault protection shall be provided by an overcurrent protective device that automatically disconnects the supply to the circuit or equipment in the event of a fault between a live part and an exposed conductive part or a protective conductor in the circuit or equipment, within a sufficiently short disconnecting time. A disconnecting time not exceeding 5 s is considered sufficiently short for machines.	Existing does not use term indirect contact	none
	A.3	Note 1	Adapt the text with IEC 60364-4-41 Supplementary protective bonding is considered as an addition to protection against indirect contact.	Replace "protected against in direct contact" by "fault protection" Supplementary protective bonding is considered as an addition to fault protection.	Existing does not use term indirect contact	none
	A.4.1	1. para	Adapt the text with IEC 60364-4-41 The effectiveness of the measures for protection against indirect contact by automatic disconnection of supply in accordance with Clause A.2 is verified as follows:	Replace "protected against in direct contact" by "fault protection" The effectiveness of the measures for fault protection by automatic disconnection of supply in accordance with Clause A.2 is verified as follows:	Existing does not use term indirect contact	none
Index	Index		Adapt the text with IEC 60364-4-41 direct contact	Replace "direct contact" by "basic protection" Basic protection	direct contact	basic protection
Index	Index		Adapt the text with IEC 60364-4-41 indirect contact	Replace "indirect contact" by "fault protection" Fault protection	indirect contact	fault protection
					Note revise Contents	

Not Returned

Carpenter, D.

Affirmative with Comment

Callanan, M. The Technical Correlating Committee should review the change deleting “shall” and replacing it with “does” in what appears to be the scope of NPFA 79.

79-3 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

1.1.3 (New) (Log # 2)

Not Returned

Carpenter, D.

Negative

Anderson, W. The committee did error in its reasoning for rejecting the proposal in that the proposal does address issues within the electrical risk assessment process; as example, issues contained within the current edition of NFPA 79 operating and control function requirements.

The suggested committee action would be to accept in principle and refer to and change to an acceptance of proposal 79-212 (Log #161) which contains the necessary text for inclusion in the document in accordance with 4.3.3 (c) of the Regulations governing Committee Projects.

Chapter 4 General Operating Conditions

4.1* General Considerations This chapter describes the general requirements and conditions for the operation of the electrical equipment of the machine. The risks associated with the hazards relevant to the electrical equipment shall be assessed as part of the overall requirements for risk assessment of the machine. The risks associated with the hazards identified by the risk assessment shall be reduced such that the safety performance determined by the risk assessment is met.

Chapter 9 Control Circuits and Control Functions

9.2* Control Functions.

9.2.5.3 Stop.

9.2.5.3.1 Each machine shall be equipped with a Category 0 stop.

9.2.5.3.2 Category 0, Category 1, and/or Category 2 stops shall be provided where indicated by an analysis of the risk assessment and the functional requirements of the machine. Category 0 and Category 1 stops shall be operational regardless of operating modes, and Category 0 shall take priority. Stop function shall operate by de-energizing that relevant circuit and shall override related start functions.

9.2.5.4* Emergency Operations (Emergency Stop, Emergency Switching Off).

9.2.5.4.1.3 The emergency stop shall function as either a Category

0 or a Category 1 stop (see 9.2.2). The choice of the category of the emergency stop shall be determined by the risk assessment of the machine.

9.4 Control Functions in the Event of Failure.

9.4.1* General Requirements. Where failures or disturbances in the electrical equipment cause a hazardous condition or damage to the machine or the work in progress, measures shall be taken to minimize the probability of the occurrence of such failures or disturbances. The electrical control circuits shall have an appropriate level of performance that has been determined from the risk assessment of the machine.

79-4 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

1.3.1.1 (Log # 175)

Not Returned

Carpenter, D.

79-5 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

1.3.2 FPN (New) (Log # 13)

Not Returned

Carpenter, D.

79-5a Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

Chapter 2 Referenced Publications (Log # CP4)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

Hilbert, M. See my affirmative comment on 79-1a (Log #CP1).

79-6 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

2.3.6 (Log # 75)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

Callanan, M. The Technical Correlating Committee should review the panel statement relative to removing dates allowing for the latest revision date to be used by default.

Hilbert, M. There were considerable discussions at the meeting relative to the proper way to reference a document (i.e. meeting the Manual of Style and industry practices) the Committee determined it was best to remove the dates in order to allow use of the most current document. However, it was subsequently realized that the date of publication must be included where applicable (see 2.3.1.2.4 of the Manual of Style).

Section 2.3.1.2.4 of the Manual of Style indicates the reference should include the "date of publication where applicable." Using UL 508 as an example, if the document the Committee intends to reference is the latest one and that was published with revisions in 2008 then it appears the published date that should be referenced is 2008. This is consistent with previous editions of NFPA 79 as well as most other NFPA documents.

With the above considerations in mind, the recommendation should be to accept in principle in part and revise as follows:

2.3.6 UL Publications,

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 50, Standard for Enclosures for Electrical Equipment 2003 2007 .

ANSI/UL 508, Standard for Industrial Control Equipment 2005 2008.

UL 508A, Standard for Industrial Control Panels 2001 .

ANSI/UL 870, Standard for Wireways, Auxiliary Gutters and Associated Fittings 1995 2008.

ANSI/UL 1063, Standard for Machine-Tool Wires and Cables 1998 2006.

This revision accepts the recommendation to add the "ANSI" reference and accepts in principle the recommendation to reference the latest revised editions.

79-7 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.XX Bonding Jumper(s), Machine Elements (New) (Log # 155)

Not Returned

Carpenter, D.

Affirmative with Comment

Fisher, D. This proposed definition should have been rejected but its rejection should not have been the basis of rejecting all sections in which the term was used.

The NEC definition of "Bonding Jumper" is: A reliable conductor to ensure the required electrical conductivity between metal parts required to be electrically connected.

There is clearly a case for the definition since the sizing and characteristics of the jumpers need specification. But, we can have one definition rather than two definitions since the proposed text did not specify different attributes or sizing based upon function which was the basis for the definitional differences.

The NFPA 79 definition of "Bonding Jumper could be: Electrical conductor to ensure continuity of the equipment grounding (bonding) circuit where conductive metal parts are not contiguous or where adjacent conductive parts are not sufficiently electrically bonded by their mechanical connections.

Hilbert, M. Although I completely agree that bonding is required, there was no technical substantiation submitted to require bonding beyond what has been standard machine assembly practices. The bonding jumper that is the subject of this definition would be a new concept and from an enforcement standpoint it is not entirely clear when it would be required (see 79-53). I agree with the Committee statement that the companion proposals do not recognize other methods of bonding. If there is technical substantiation available to require additional bonding then it should be submitted in the comment stage for review by the Committee.

There were 36 proposals from the Grounding and Bonding Task Group that will significantly change Chapter 8 and the associated definitions. I truly appreciate all the hard work that went into creating these proposals. However, I do not agree that Chapter 8 was in need of this many changes nor do I agree that this revision of Chapter 8 and its associated definitions was all within the scope of the original task. In my opinion, although there is merit is within the recommendations, not all of the recommendations will change the document in a positive manner.

The proposed changes in definitions and grounding and bonding concepts will alter the current relationship with the NFPA 70, the National Electrical Code considerably. Especially Articles 100 and 250. Because the National Electrical Code is a referenced document in Chapter 2 and it is the "fall back" position for provisions not covered in NFPA 79 (see 1.5), the grounding and bonding definitions and requirements should remain consistent between the two documents wherever possible.

If it is the intent of the Committee to change Chapter 8 and the associated definitions as proposed, a task group should be appointed that includes the Chair of NEC Panels 1 and 5 and the 79 Committee to review and comment on the affects of the 36 proposals which consist of 79-7, 79-12, 79-13, 79-14, 79-22, 79-24, 79-26, 79-53, 79-69, 79-70, 79-72, 79-73, 79-74, 79-75, 79-76, 79-77, 79-78, 79-79, 79-80, 79-81, 79-82, 79-83, 79-85, 79-86, 79-88, 79-89, 79-90, 79-91, 79-92, 79-94, 79-96, 79-97, 79-98, 79-99, 79-104, 79-153.

79-8 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

3.3.XX Operator Control Station (New) (Log # 204)

Not Returned

Carpenter, D.

Negative

DeFelice, Jr., F. Although the definition which was originally proposed is perhaps too prescriptive, the proposer's suggestion has merit. Consider: 3.3xx Operator Control Station: One or more control devices which require human input to initiate, manipulate or stop machine operation

Affirmative with Comment

Hilbert, M. Although I agree with the Committee, the proposed definition would likely create enforcement difficulties as it is to general. For example: a manually operated remote pump controlled by a standard stop/start configuration located adjacent to the pump would be considered operator control station.

79-9 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.XX Direct Opening Operation (Log # 171)

Not Returned

Carpenter, D.

79-10 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

3.3.XX Qualified Person (New) (Log # 23)

Not Returned

Carpenter, D.

Negative

Callanan, M. It is unclear what happened to the recommendation to add the definition of Qualified Person as proposed in the recommendation. In addition, the proposed definition is not that in the 2008 NEC and 2009 Edition of NFPA 70E.

79-11 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.XX Safety Integrity Level and A.3.3.XX (New) (Log # 21)

Not Returned

Carpenter, D.

79-12 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.XX Supplementary Grounding Electrode (New) (Log # 154)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-13 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.XX Supplementary Grounding Electrode Conductor (New) (Log # 153)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-14 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.9 Bonding (Bonded) and A.3.3.9 (Log # 156)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-15 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.11 Cable and A.3.3.11.3 (Log # 194)

Not Returned

Carpenter, D.

79-16 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.12 Cableless Control and 3.3.XX Wireless Operator Control (New) (Log # 107)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action.

Cableless control is only defined in NFPA 79; however cableless is not defined elsewhere and thus cableless techniques used in the cableless control definition is not defined (a defect of the NFPA 79 definition of cableless control) See 79-32

79-17 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.16 Color Graphic Interface Device (Log # 100)

Not Returned

Carpenter, D.

Affirmative with Comment

DeFelice, Jr., F. The definition of Color Graphic Interface Device is appropriately located in Section 3.3.16 in accordance the Manual of Style for NFPA Technical Committee Documents, as the term is used in the following sections of mandatory text in NFPA 79:

- The title of Section 10.2 - The text of Section 10.2.2 - The title of Section 10.3 - The text of Section 10.3.1 - The text of Section 10.3.2

79-18 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.17 Concurrent (Log # 101)

Not Returned

Carpenter, D.

79-19 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

3.3.26 Cord (Log # 64)

Not Returned

Carpenter, D.

Negative

Callanan, M. There is inadequate substantiation for this change and I do not believe that IEC 60204 defines cord.

79-20 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.29 Direct Opening Operation (New) (Log # 116)

Not Returned

Carpenter, D.

79-21 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

3.3.33 (Electrically) Instructed Person (Log # 102)

Not Returned

Carpenter, D.

Negative

Callanan, M. We do not agree with the last sentence of the substantiation. Unqualified persons are exposed to electrical hazards as injury and fatality data will bear out.

79-22 Eligible To Vote:19 Affirmative: 16 Negative: 2 Abstain: 0 Not Returned: 1

3.3.41 Equipment (Log # 158)

Not Returned

Carpenter, D.

Negative

Callanan, M. The Technical Correlating Committee should review the change made to the definition of "electrical equipment" that now differs from that of the NEC.

Kovacik, J. This proposal appears to be an attempt to create a definition for equipment that is separate from the definition for equipment in the NEC since the NEC definition now includes the term "machinery." I don't see that being accomplished by adding the word "Electrical" to quantify the definition. The "equipment" referred to in the two definitions is essentially the same. If this revised definition is accepted it would beg the question, wouldn't a definition for non-electrical equipment be needed? As an aside, no explanation is given why the term "machinery" adds confusion in using the extracted definition.

Affirmative with Comment

Hilbert, M. Although I agree that NFPA 79 is an equipment standard, this proposal should have been accepted in principle for a different reason or accepted in part. The part that would be accepted would be the removal of the term “(fixtures). Because the current definition is extracted from the National Electrical Code it will be updated automatically and the term “fixtures” has been removed from the definition in the 2008 National Electrical Code. Adding the word “electrical” to the definition title and removing it from the text should have been rejected.

I disagree the proposed changes will add clarity as to the use of the definition in NFPA 79. Whether the word "electrical" is used in the title or text the equipment defined is electrical. Further, the term “equipment” is used many times in NFPA 79 and the proposed changes may exclude that equipment from a definition that formally applied. In my opinion, this would create inconsistency within the document which will also add confusion.

I also disagree with the Committee statement that adding the term “machinery” to the 2008 NEC definition adds confusion to the use of NFPA 79. No substantiation was provided to indicate how the extracted definition with the term “machinery” added would create confusion to users of NFPA 79 nor were there any proposals submitted to remove the word “machinery” from the definition of “equipment in” the 2011 National Electrical Code.

See my affirmative comment on Proposal 79-7 (Log #155).

79-23 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.44 Fault and A.3.3.44 (Log # 20)

Not Returned

Carpenter, D.

79-24 Eligible To Vote:19 Affirmative: 16 Negative: 2 Abstain: 0 Not Returned: 1

3.3.51 Grounding Conductor, Equipment (Log # 119)

Not Returned

Carpenter, D.

Negative

Callanan, M. The Technical Correlating Committee should review the change made to the definition of “equipment grounding conductor” that now differs from that of the NEC.

Kovacik, J. Acceptance of this proposal creates a definition for the equipment grounding conductor which differs from the definition of same in the NEC. No substantiation has been given to support different definitions for the equipment grounding conductor in NFPA 70 and 79.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155) .

79-25 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.57 Industrial Manufacturing Systems (Log # 177)

Not Returned

Carpenter, D.

79-26 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.77 Protective Bonding Circuit and A.3.3.77 (Log # 157)

Not Returned

Carpenter, D.

Affirmative with Comment

Fisher, D. Since we use the concept repeatedly in our document, the IEC term (3.3.77) could have been retained but with the definition revised as follows to reflect NFPA terminology: “The whole of the equipment grounding conductors and conductive parts used for protection against electrical shock in the event of an insulation failure.” Alternatively, the term could also change to: Equipment Grounding Circuit

The motivation to have a second Bonding Jumper definition was to help clarify the different functions performed by the bonding jumpers; that of direct sharing of fault current and that of minimizing touch voltages between adjacent machine elements (arms lengths apart) during the clearing of fault currents. But since there were no differences in the physical requirements, those functional distinctions alone do not seem to warrant the two definitions which were largely for pedagogical reasons.

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

Document # 79

79-27 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.89 Safety Distance (Log # 103)

Not Returned

Carpenter, D.

79-28 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.90 Safety Function (Safety Measure) (Log # 51)

Not Returned

Carpenter, D.

79-29 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.90 Safety Function (Safety Measure), 9.2.7.3.2, 9.2.7.4, and 9.3.6 (Log # 22)

Not Returned

Carpenter, D.

79-30 Eligible To Vote:19 Affirmative: 17 Negative: 0 Abstain: 1 Not Returned: 1

3.3.90 Safety Function (Safety Measure) and 9.2.7.3.2, 9.2.7.4, 9.3.6, and 10.1.4.2 (Log # 208)

Not Returned

Carpenter, D.

Abstain

Mariuz, D. I agree with most of all the the text except for section 9.2.7.4 Serial Data Communication the word three bits need to be removed. It restricts the types of communication technology.

Affirmative with Comment

Fisher, D. There is a lot to be happy for in the deletion of the term “safety critical” which is a product liability nightmare, but the term “safety-related function” is not the most helpful. It does not align with IEC and ISO documents as is a claim for its use. Indeed, it is inherently redundant. The term “safety function” is used in IEC 62061. It is crystal clear. It can be implemented by any suitable technology. Now when we insert the word “related” into the term to make it “safety-related function”, does its meaning change at all? The answer is no; it is simply a wasted word and it separates us from IEC rather than bringing us into closer alignment.

79-31 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.95 Short-Circuit Current Rating (SCCR) (New) (Log # 195)

Not Returned

Carpenter, D.

79-32 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

3.3.XX Cableless Operator Control Station and A.3.3.XX (New) (Log # 207)

Not Returned

Carpenter, D.

79-33 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

4.3.2.2 (Log # 24)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. Chapter 4 provides the assumed operating conditions for electrical equipment on the machine when the actual operating conditions have not been determined between the user and the supplier. Section 4.3.2.2 permits a deviation from the normal operating frequency for short periods of time. The period of time will vary depending on the machine and process tolerances. I agree with the Committee that no technical substantiation was provided that indicated there is a problem with the current text.

79-34 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

4.4.1 (Log # 25)

Not Returned

Carpenter, D.

79-35 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

4.4.3 (Log # 26)

Not Returned

Carpenter, D.

Negative

DeFelice, Jr., F. Many industrial machines are designed and constructed to operate in environments which are outside the present temperature limitations. Several factors (e.g., ventilation, thermal transfer, duty cycle) impact what are considered to be acceptable ranges for Ambient Air Temperature. Agreement between the user and the manufacturer, along with appropriate engineering which consideration the physical and electrical limits of the electrical components and sub-assemblies within the machine, are the determining factor.

Affirmative with Comment

Hilbert, M. Please see my affirmative comment on Proposal 79-33 (Log #24).

Wolfgang, E. I accept the committee's rejection of the proposal, however I agree with the submitter that many industrial machines are designed and can operate above and below the temperature limits currently stated in the standard.

79-36 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

4.7 (Log # 27)

Not Returned

Carpenter, D.

79-37 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

5.1.1 (Log # 28)

Not Returned

Carpenter, D.

79-38 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

5.3.1.1(3) (Log # 29)

Not Returned

Carpenter, D.

79-39 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

5.3.1.1.1, 5.3.1.1.2, and A.5.3.1.1.1 (Log # 180)

Not Returned

Carpenter, D.

Negative

Watson, E. The negative vote to the committee action supports the recommendation made by the submitter of this proposal. Chapter 16 is named "Marking and Safety Signs" and this proposal requests that the marking requirements for disconnects in 5.3.1.1.1 and 5.3.1.1.2 be moved to chapter 16. While I believe that this is the correct action, I also believe that 5.3.1.1.1 and 5.3.1.1.2 should be moved to be after 16.2.4 instead of after 16.4.5. Section 16.4 deals with Machine Nameplate Data which is not appropriate for the moved items while 16.2.4 discusses safety signs for disconnects. Placing the marking requirements for disconnects after 16.2.4 would group marking and safety signs for disconnects in one place.

79-40 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

5.3.1.3 Exception (Log # 202)

Not Returned

Carpenter, D.

Negative

Watson, E. The negative vote to the committee action supports the recommendation made by the submitter of this proposal. The substantiation in the original proposal is appropriate and well thought out. If the externally mounted supply disconnect means fed a large box oven with only resistive heating elements, the size of the load could be of any size since the rating would not be HP, but in amperes or kilowatts. The exception only limits the loads in terms of HP which would suggest motor loads.

Affirmative with Comment

Callanan, M. We agree that adding an additional remote disconnect could increase worker safety.

79-41 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

5.3.1.4 (Log # 181)

Not Returned

Carpenter, D.

Negative

Anderson, W. The committee should reconsider this and the other similar changes proposed to revise the terminology from "warning signs" to "safety sign; and to revise the existing terminology of "safety sign" to "warning sign throughout NFPA 79..

Safety: 1 : the condition of being safe from undergoing or causing hurt, injury, or loss

2 : a device (as on a weapon or a machine) designed to prevent inadvertent or hazardous operation.

Warn: 1 a : to give notice to beforehand especially of danger or evil b : to give admonishing advice to : COUNSEL c : to call to one's attention :

The use of the term "safety sign" implies from Webster that it is designed to prevent inadvertent hazardous operation but also the condition of being safe from harm, which implies more than can always be realized in its application. While the term "warning sign" implies giving notice of danger, which is what can actually be realized in the application of a sign.

Although used in the title of the standard "ANSI Z535.4, Product Safety Signs and Labels", the use of "safety sign" terminology is in minority usage in the NEC while "warning sign" is prevalent throughout the document.

The use of "warning sign" verses "safety sign" would be more appropriate throughout the standard and should be done.

79-42 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

5.3.3.2(3) (Log # 152)

Not Returned

Carpenter, D.

Negative

Callanan, M. The Technical Correlating Committee should review the changes made to this section. There appears to be too many parenthetical usages here.

79-43 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

5.3.4.2 (Log # 182)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action; however there should be a definition of a closed and latched enclosure as it is usually required for the enclosure to contain defined fault conditions.

79-44 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

5.3.4.2 (Log # 183)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action; however there should be a definition of a closed and latched enclosure as it is usually required for the enclosure to contain defined fault condition.,

79-45 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

5.3.5.4 (Log # 30)

Not Returned

Carpenter, D.

79-46 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

5.4.1 (Log # 31)

Not Returned

Carpenter, D.

79-47 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

5.5.4 (Log # 76)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

- (1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.
- (2) 2.2 NFPA Publications.
- (3) 2.3 Other Publications.

79-48 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

5.5.4(4) (New) (Log # 4)

Not Returned

Carpenter, D.

79-49 Eligible To Vote:19 Affirmative: 16 Negative: 2 Abstain: 0 Not Returned: 1

Chapter 6, Title (Log # 32)

Not Returned

Carpenter, D.

Negative

DeFelice, Jr., F. Protection of Personnel against all types of hazards related to working with electricity is of paramount importance to the safety of maintenance personnel and operators. Electric Shock is but one of the potential hazard of working with electricity. Changing the title of this section convey that the committee recognizes that there are other hazards, such as the potential for thermal burns from electric heaters, optical damage from laser devices, arc-flash and electrocution.

Hilbert, M. This proposal should have been accepted based on Proposal 79-165a (Log #CP5). See my negative comment and recommendation on 79-50 (Log #33).

79-50 Eligible To Vote:19 Affirmative: 16 Negative: 2 Abstain: 0 Not Returned: 1

6.1 (Log # 33)

Not Returned**Carpenter, D.****Negative**

DeFelice, Jr., F. Guarding personnel against all hazards associated with electrical energy is of paramount importance. Protection of Electrical Maintenance Personnel from arc-flash, thermal, electrical and other injuries can be accomplished by several methods; including a simple requirement to apply warning labels on enclosures containing electrical equipment, heaters, laser devices, etc; which alert service personnel to the potential for these hazards.

Hilbert, M. This proposal should have been accepted in principle. The accept in principle would be to accept the submitters recommend text for 6.1 and add a new 6.6 as follows:

6.6 Protection Against Arc Flash.

A safety sign shall be provided in accordance with 16.2.3.

Accepting the proposal in principle as described is appropriate now that a new 16.2.3 will require a safety sign warning of an arc flash hazard to be placed on equipment such as control panels (See 79-165a, (Log #CP5)). Adding a reference to arc flash in 6.1 as proposed by the submitter with the new 6.6 is consistent with current format of Chapter 6 to identify the hazard and provide a prescriptive requirement(s) and the Committee's substantiation in Proposal 79-165a (Log #CP5)

Affirmative with Comment

Anderson, W. I agree with the committee's action; however arc flash can be connected to the machine electrical design and should be addressed in this standard as far as design can affect the hazard risk encountered.

79-51 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

6.2.2.1 (Log # 77)

Not Returned**Carpenter, D.****Affirmative with Comment**

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications

79-52 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

6.2.5 (Log # 94)

Not Returned**Carpenter, D.****Negative**

Beachy, W. I recommend that this proposal be rejected.

Section 6.2.5 relates to the safety from a door closing on a person who is working inside a cabinet and having the protection that they will not be shocked accidentally by live parts mounted on the door. Section 6.2.5 relates to prevention of shock of an enclosure with a defeat mechanism, section 6.2.4 relates to one without a defeat mechanism both need to remain since shock from live parts on a door is not covered in 6.2.3.

79-53 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

6.3.1.3 (Log # 151)

Not Returned**Carpenter, D.****Affirmative with Comment**

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

Document # 79

79-54 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

6.5.1 Exception No. 2 (Log # 34)

Not Returned

Carpenter, D.

79-55 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

6.6 (New) (Log # 35)

Not Returned

Carpenter, D.

79-56 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

7.2.1.1 (Log # 174)

Not Returned

Carpenter, D.

79-57 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

7.2.8 (Log # 186)

Not Returned

Carpenter, D.

79-58 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

7.2.8 (Log # 196)

Not Returned

Carpenter, D.

Negative

Callanan, M. This action allows the tapping of a tap.

79-59 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

7.2.8 (Log # 197)

Not Returned

Carpenter, D.

79-60 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

7.2.9 (Log # 198)

Not Returned

Carpenter, D.

79-61 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

7.2.10.1.1 (Log # 199)

Not Returned

Carpenter, D.

79-62 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

7.2.10.4 (Log # 200)

Document # 79

Not Returned
Carpenter, D.

79-62a Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
7.2.10.4 (Log # CP3)

Not Returned
Carpenter, D.

79-63 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
(7.2.10.4, Table 7.2.10.4, and A.7.2.10.4(1)) (Log # 179)

Not Returned
Carpenter, D.

79-64 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
7.3.1.2 (Log # 36)

Not Returned
Carpenter, D.

79-65 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1
7.3.2 (Log # 37)

Not Returned
Carpenter, D.

Negative

DeFelice, Jr., F. The committee statement reaffirms its position on 79-70 of the last cycle; which essentially states that the resetting of external overloads introduces a risk of damage to the machine. We respectfully maintain that the risk to electrical personnel introduced by opening electrical enclosures to reset tripped overload devices introduces a far greater risk; and that these risks impact human life. We submit that Motor Control Centers and Combination Motor Starters have historically been, and continue to be offered with externally-operated overload reset devices, such as those incorporating "thru-the-enclosure door" reset pushbuttons; these are used on machines, and the submitter is not aware of any damage associated with the operation of these external resets. If it is true that damage to a machine could result from resetting externally mounted-overload devices, then the same damage would occur from the resetting of overload devices located behind enclosure doors or covers. Moreover, overload relays should be arranged such that machine motion will not be initiated through the action of resetting the overload; and if the machine were to restart following an overload reset with the electrical enclosure covers removed, there would exist an increased potential of injury due to arc-flash, and from thermal burns due to equipment destruction from fault currents.

Affirmative with Comment

Callanan, M. We do not believe that reset devices mounted so that they are accessible from outside an enclosure are necessarily a design that should be avoided.

79-66 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1
7.6.1 (Log # 173)

Not Returned
Carpenter, D.

Negative

Bas, L. Overspeed acts as an auto e-stop which does not allow automatic startups. If the overspeed protection causes a shutdown means that control could not be obtained and as the purpose of having this protection is to avoid hazardous situations restarting may pose a hazard.

Affirmative with Comment

Anderson, W. I agree with the committee's action. However hazardous overspeed protection, being a safety function should initiate appropriate control responses and shall prevent automatic restarting. Rewording should be considered in the comment phase.

Document # 79

79-67 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
7.9.2, 7.9.2.1, and 7.9.2.2 (Log # 38)

Not Returned
Carpenter, D.

79-68 Eligible To Vote:19 Affirmative: 16 Negative: 2 Abstain: 0 Not Returned: 1
8.1.1 (Log # 150)

Not Returned
Carpenter, D.

Negative
Fisher, D. During our meeting it was discovered that we could remove a scoping “shall” if we did it uniformly for the whole document. I believe that we discovered that there may be a half dozen cases where the “shall” existed. We approved the removal of the “shall” in an earlier case and we should have removed all of the “shall” from all of the remaining scoping cases.

Watson, E. The negative vote to the committee action supports the recommendation made by the submitter of this proposal. The substantiation in the original proposal is appropriate and the committee action should have been to Accept in Principle. The committee should have accepted the proposal as written and also corrected 10.1.1 so that a violation of MOS requirements was not present, instead of rejecting the proposal. Item 10.1.1 should be corrected to read:

10.1.1 Applicability. This chapter provides requirements for devices mounted outside or partially outside control enclosures. (see also proposal 79-129 (Log # 16) in case the chapter title changes and 10.1.1 must be updated accordingly)

79-69 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1
8.1.2 (Log # 148)

Not Returned
Carpenter, D.

Negative
Fisher, D. The committee understood and delineated the deficiencies of the text which were essentially editorial and should have given an AIP and done the minor fixes that were identified. I disagree that regrouping the text in a common location was without merit and did not warrant the effort to renumber.

Affirmative with Comment
Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-70 Eligible To Vote:19 Affirmative: 16 Negative: 2 Abstain: 0 Not Returned: 1
8.1.2 (Log # 149)

Not Returned
Carpenter, D.

Negative
Fisher, D. Only in 8.1.2, the first of 6 subsections was the application of a bonding jumper called for. It required that any derived source that was to be grounded was to be done so by the application of a bonding jumper. How else do we allow this to be done? Should we allow a derived source to be grounded by one of its mounting bolts into the back panel? That doesn’t even ground the circuit that is to be grounded. My observation is that the use of a bonding jumper is the common practice for this situation, but the Committee statement indicates that the proposed text does not allow alternative means. This proposal should have been accepted.

Sanders, M. The Technical Committee action should have been to “Accept in Principle” because the proposed text is not dependent upon the acceptance or rejection of any other proposals, and should have been judged upon its own merits. A revised new 8.1.2 should have been added to read as follows, with existing 8.1.2 incremented to become 8.1.3.

“8.1.2 Bonding of Separately Derived and On-Board Power Sources. Machine mounted separately derived lighting and power transformers and on-board power sources shall be bonded to the equipment grounding (protective) conductor terminal bar by a bonding jumper.

8.1.2.1 The minimum size bonding jumper to the supply circuit grounding terminal bar shall comply with Table 8.2.3.3.

8.1.2.2 Dedicated transformers having a voltage rating from 150V to not more than 1000V supplying adjustable speed drives that do not supply neutral loads shall be permitted to be ungrounded.

8.1.2.3 Control transformers shall be permitted to be ungrounded.

8.1.2.4 Where ungrounded separately derived sources are permitted for any purpose, they shall be provided with a device that either indicates a ground (earth) fault or interrupts the circuit automatically after a ground (earth) fault.”

The reasons for doing so are as follows.

Proposed 8.1.1 states: This covers machine mounted equipment, and the default application is they are to be bonded to the supply equipment grounding (protective) circuit path.

Proposed new 8.1.2 incorporates the first sentence of existing 8.4.1. The present second sentence of existing 8.4.1 would then become the new 8.4.1.

Proposed 8.1.2.1 recognizes Table 8.2.2.3 provides the required minimum sizing for these bonding jumpers.

Proposed 8.1.2.2 is based upon NFPA 70-2008: 250.21(A)(2) which recognizes dedicated power supplies for electronic drives.

Proposed 8.1.2.3 incorporates existing 8.3 text first sentence. The remaining text of existing 8.3, and both Exceptions, would remain as a new 8.3.

Proposed 8.1.2.4 is based upon NFPA 70-2008: 250.21(B) that requires all ungrounded power supplies within a certain voltage range to have means to automatically detect a faulted circuit allowing corrective measures to be taken.

The revision places requirements in a more general and logical location of Chapter 8.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-71 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.1 (Log # 95)

Not Returned

Carpenter, D.

Negative

Fisher, D. The deletion of item (2) eliminates the structural parts of the electrical equipment and the machine from the equipment grounding circuit. This action is in stark contradiction to the Committee statement in response to proposal 79-7 wherein it agreed that such bonding is required. This bonding is a fundamental necessity to protection against electric shock during the clearing of a fault by the most common means, automatic disconnection. Unfortunately the submitter appeared to confuse the equipment grounding conductor with the equipment grounding circuit. Of course, the structural parts of the electrical equipment and the machine are not appropriate substitutes for equipment grounding conductors but they are absolutely necessary parts of the equipment grounding circuit. This proposal should have been rejected.

79-72 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.1 (Log # 141)

Not Returned

Carpenter, D.

Affirmative with Comment

Fisher, D. It is agreed that this is the most overly prescriptive text wherein bonding jumpers are called for where other means certainly could be used in some cases. We will bring a revised proposal during the comment period.

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-73 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.1.1 (Log # 147)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-74 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.1.2 (Log # 146)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-75 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.1.3.2 (Log # 145)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-76 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.1.3.3 (Log # 144)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-77 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

Figure 8.2.1.3.4 (Log # 130)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-78 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.1.3.4 and A.8.2.1.3.4 (Log # 143)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. Although I agree with the Committee to reject this proposal, it could have been accepted in part. The part that would be accepted would to add of the word “marking” to A.8.2.1.3.4 and remove the word “also” from 8.2.1.3.4 as recommended. The addition of the word “marking” to A.8.2.1.3.4 adds clarity to the Standard and removing “also” from 8.2.1.3.4 is editorial.

The remainder of the recommendation should be rejected. As proposed, the recommendation would only require identification when the terminal is part a “bar” as opposed to a single terminal. Further, the current language 8.2.1.3.4 is adequate is it would permit the placement of the recognized words, letters or symbols on or adjacent to the terminal for the equipment grounding conductor even if it is part of a bar.

79-79 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.1.3.5 (Log # 142)

Not Returned

Carpenter, D.

Negative

Document # 79

Sanders, M. The Technical Committee action should have been to "Accept in Principle" because the proposed text is not dependent upon the acceptance or rejection of any other proposals, and should have been judged upon its own merits. The correct action would have been to change the existing text as follows:

"8.2.1.3.5 Where an auxiliary grounding a supplementary electrode is specified, the terminal shall accommodate this additional grounding conductor."

This will reflect present verbiage in NFPA 70-2008: 250.54 and is not dependent upon the rejected ROP 79-12 proposed edition.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-80 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.2 (New) (Log # 138)

Not Returned

Carpenter, D.

Negative

Fisher, D. This proposal required bonding jumpers to conform to certain specifications. It contained no requirements for bonding. The Committee rejected the proposal based upon its claim that the proposal does not recognize other means of bonding. How is it possible to conclude that other means of bonding are not recognized when the proposal only addresses requirements for bonding jumpers? This proposal should have been accepted.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-81 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.2, 8.2.2.1, 8.2.2.2, and 8.2.2.3 (Log # 139)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-82 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

Table 8.2.2.3 (Log # 128)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-83 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.3 (Log # 122)

Not Returned

Carpenter, D.

Negative

Sanders, M. The Technical Committee action should have been to "Accept in Part" and should have been judged upon its own merits. This action would be to accept only the part moving Exception of 13.4.5.3 to become new Exception to present 8.2.4* instead of becoming a new subsection of 8.2.3 as originally proposed.

Present text of 8.2.4* contains language concerning separable connections such as attachment plugs and mating connectors and receptacles and would bring this topic into a more logical location.

In addition, the Technical Committee action should have been to also "Accept" ROP 79-153 Log #159 which then deletes the entire Section 13.4.5.3, because the subject matter is already addressed in the present 8.2.4*.

Deleting 13.4.5.3 would then require deletion of A.8.3.4 because it points to 13.4.5.3 and an Annex A item would therefore become unnecessary.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-84 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.3.1 (Log # 96)

Not Returned

Carpenter, D.

Negative

Fisher, D. This proposal, like 79-71 (Log #95) suffers from confusion between the needs of the equipment grounding conductor and the equipment grounding circuit. Removal of “structural members” from the equipment grounding circuit is completely unacceptable. For all the same reasons as cited in my response to 79-71 (Log #95), this proposal should have been rejected.

79-85 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.3.2 (Log # 140)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-86 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.3.3 (Log # 137)

Not Returned

Carpenter, D.

Negative

Fisher, D. This proposal addresses bonding, specifically bonding by means other than by bonding jumpers, so how is it possible to for the Committee to claim that is being rejected because it does not recognize bonding means other than bonding jumpers? This proposal should have been accepted.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-87 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.3.4 (Log # 134)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action. However there seem to be confusion surrounding grounding and bonding terminology which should be addressed during the comment phase.

79-88 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.3.5 (Log # 136)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-89 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.3.6 (Log # 135)

Not Returned

Carpenter, D.

Negative

Fisher, D. The Committee statement to reject gives the oft repeated claim that “renumbering would result in relocating text from previous grounding task group proposals that were rejected and is not necessary.” This response completely avoids any critique of the merits of the proposed revision to the text except to declare that it “is not necessary.” The added text is relevant as to the type of jumper that should be used in the particular context. We in our subgroup have no idea as to how to respond to this Committee comment when it seems imply that the relocation of common ideas does not warrant the energy to renumber it.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-90 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.3.7 (Log # 120)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-91 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.3.8 (Log # 121)

Not Returned

Carpenter, D.

Negative

Sanders, M. The Technical Committee action should have been to “Accept” the deletion of this section because it is redundant to existing 79 Section 8.2.2.2. Deletion of this section is not dependent upon the acceptance or rejection of any other proposals, and should have been judged upon its own merits. This action does not cause any text to be relocated, and this action does recognize an existing redundancy.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-92 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.2.4 and A.8.2.4 (Log # 124)

Not Returned

Carpenter, D.

Negative

Sanders, M. The Technical Committee action should have been to “Accept in Part” the deletion of A.8.2.4. Combined with the action that should have been taken on ROP 79-83 to add an exception concerning PELV, along with acceptance of ROP 79-153 Log #159 which would then delete entire Section 13.4.5.3, the Annex A text would, therefore, become unnecessary. Renumbering the text to place topics in a more logical location provides a greater clarity and is not an insurmountable task.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-93 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.4.6 (New) (Log # 126)

Not Returned

Carpenter, D.

79-94 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.5 (Log # 125)

Not Returned

Carpenter, D.

Document # 79

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-95 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.2.6 (New) (Log # 123)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action. Looking for more technical information to be presented during the comment phase.

79-96 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

8.3 (Log # 131)

Not Returned

Carpenter, D.

Negative

Sanders, M. The Technical Committee action should have been to "Accept". Combined with the action that should have been taken on ROP 79-70 Log #149, ungrounded circuits would be subject to insulation monitoring, and maintain correlation with NFPA 70-2008: 250.31(B), which requires all ungrounded power supplies within a certain voltage range to have means to automatically detect a faulted circuit allowing corrective measures to be taken.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-97 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.4 (Log # 132)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-98 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.60 (New) (Log # 127)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-99 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

8.80 (New) (Log # 129)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-100 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

9.1.1.4 (Log # 39)

Not Returned

Carpenter, D.

Negative

DeFelice, Jr., F. This proposal would result in increased safety for maintenance personnel. The current state of technology makes the exception obsolete. Modern memory elements have retention times which far exceed 72 hours, making the need to connect power ahead of supply disconnecting means unnecessary.

79-101 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
9.2.5.3.2 through 9.2.5.3.3 (Log # 40)

Not Returned

Carpenter, D.

Affirmative with Comment

Fisher, D. The requirement that a reset of a stop function not "initiate any hazardous conditions" needs some modification. The reset of a stop function, if anything, could initiate motion, operation or a process that could possibly result in a hazardous condition. I think that it should be stated that way rather than imply that a control system could directly initiate a hazardous condition.

79-102 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
9.2.5.4(1) (Log # 10)

Not Returned

Carpenter, D.

79-103 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
9.2.5.4 and Annex E (Log # 210)

Not Returned

Carpenter, D.

79-104 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
9.2.5.4(1) (Log # 133)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155)

79-105 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1
9.2.5.4.1.4 (Log # 11)

Not Returned

Carpenter, D.

Negative

Anderson, W. The committee apparently did error in the action for 79-105 Log #11 EEI-AAA, because of obvious printing reproduction errors in the proposal presented; suggest the action should be to accept in principal the proposal and substantiation while retaining the last sentence.

Affirmative with Comment

Watson, E. I strongly agree with the Committee Action on this proposal and offer an additional supportive statement. In parts of industry the emergency stop function is an auxiliary stop function and is NOT included on a risk assessment.

79-106 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
9.2.5.6 (Log # 111)

Not Returned

Carpenter, D.

Affirmative with Comment

Sanders, M. The Technical Committee Action should have been to add an asterisk to 9.2.5.6 and add a new item in Annex A to read as follows:

“A.9.2.5.6 Annex B provides an inquiry form to ensure all parties have reviewed this requirement where certain conditions may be a point of concern.”

For consistency, action should also have been taken to provide an asterisk to 4.4.1 and delete “(See Annex B)” from 4.2.1(3) and add a new item to Annex A to read as follows:

“A.4.3.1 Annex B provides an inquiry form to ensure all parties have reviewed any supplier specific requirements concerning equipment operation.”

For consistency, action should also have been taken to provide an asterisk to 4.4.1 and delete “(See Annex B)” from the main text and add a new item to Annex A to read as follows:

“A.4.4.1 Annex B provides an inquiry form to ensure all parties have reviewed any supplier specific requirements concerning any physical environment or operating conditions that are outside those specified in this document.”

For consistency, action should also have been taken to provide an asterisk to 4.4.5 and delete “(See Annex B)” from the main text and add a new item to Annex A to read as follows:

“A.4.4.5 Annex B provides an inquiry form to ensure all parties have reviewed requirements for electrical equipment operating at altitudes 1000 m (3300 ft) or more above sea level.”

For consistency, action should also have been taken to provide an asterisk to 4.4.6 and delete “(See Annex B)” from the main text and add a new item to Annex A to read as follows:

“A.4.4.6 Annex B provides an inquiry form to ensure all parties have reviewed requirements for electrical equipment operating where contaminants are of a special concern.”

79-107 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

9.2.5.6 (Log # 172)

Not Returned

Carpenter, D.

Negative

Sanders, M. The Technical Committee Action should have been to “Accept in Principle” and add an asterisk to 9.2.5.6 and a new item in Annex A to read as follows:

“A.9.2.5.6 Annex B provides an inquiry form to ensure all parties have reviewed this requirement where certain conditions may be a point of concern.”

For consistency, action should also have been taken to provide an asterisk to 4.4.1 and delete “(See Annex B)” from 4.2.1(3) and add a new item to Annex A to read as follows:

“A.4.3.1 Annex B provides an inquiry form to ensure all parties have reviewed any supplier specific requirements concerning equipment operation.”

For consistency, action should also have been taken to provide an asterisk to 4.4.1 and delete “(See Annex B)” from the main text and add a new item to Annex A to read as follows:

“A.4.4.1 Annex B provides an inquiry form to ensure all parties have reviewed any supplier specific requirements concerning any physical environment or operating conditions that are outside those specified in this document.”

For consistency, action should also have been taken to provide an asterisk to 4.4.5 and delete “(See Annex B)” from the main text and add a new item to Annex A to read as follows:

“A.4.4.5 Annex B provides an inquiry form to ensure all parties have reviewed requirements for electrical equipment operating at altitudes 1000 m (3300 ft) or more above sea level.”

For consistency, action should have also been taken to provide an asterisk to 4.4.6 and delete “(See Annex B)” from the main text and add a new item to Annex A to read as follows:

“A.4.4.6 Annex B provides an inquiry form to ensure all parties have reviewed requirements for electrical equipment operating where contaminants are of a special concern.”

79-108 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

9.2.7 (Log # 108)

Not Returned

Carpenter, D.

79-109 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

9.2.7 and Annex A (Log # 212)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action.

Note: Editorial change needed to the committee action in order to meet the MOS:

9.2.7.3 ~~Stop function~~ Cableless Operator Control Stations with Emergency Stop Initiating Devices. In addition to the requirements of 9.2.7.2,
Cableless Operator Control Stations equipped with Emergency Stop Initiating Devices shall comply with 9.2.7.3.1 through 9.2.7.3.6 ~~all of the~~
following:

79-110 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

9.2.8 (Log # 41)

Not Returned

Carpenter, D.

79-111 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

9.4.1.1 (New) (Log # 42)

Not Returned

Carpenter, D.

Negative

Anderson, W. Add to 9.4.1.1 (6) Arranging machine actuators to fail to a safe position.

The committee did not include common solution possibilities which are one or more of the electrical aspect of machine design strategies.

The proposed additional item (6) is concerned with a mechanical failure that can be addressed with an interface electrical control function solution.

79-112 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

9.4.3.2.2 (Log # 43)

Not Returned

Carpenter, D.

79-113 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

9.4.3.2.3 (Log # 44)

Not Returned

Carpenter, D.

Negative

DeFelice, Jr., F. This proposal would result in increased safety for maintenance personnel. The current state of technology makes the exception obsolete. Modern memory elements have retention times which far exceed 72 hours, making the need to connect power ahead of supply disconnecting means unnecessary.

79-114 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

9.4.3.4.1 (Log # 45)

Not Returned

Carpenter, D.

79-115 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

9.4.3.4.2 (Log # 52)

Not Returned

Carpenter, D.

79-116 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1**9.4.3.4.2 and A.4.1** (Log # 46)

Not Returned**Carpenter, D.**

79-117 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1**9.4.3.4.2 and A.4.1** (Log # 209)

Not Returned**Carpenter, D.**

Negative

Fisher, D. The proposed revision of perpetuates an inherent conflict between what we call out as the design documents and the requirements stated for the performance of the control system. The documents we reference in the Annex A are IEC 62061 and ISO 13849-1. Both of these documents are now based upon probabilistic performance. In other words systems designed in accordance with the referenced standards are designed to execute the planned process/program/control functions in accordance with the designer's selected level of performance as expressed in terms of SIL or Plevel , depending upon whether the system is designed to IEC 62061 or ISO 13849-1.

The problem is that all of the performance requirements listed in the proposed revision are absolute. There are no probability claims for performance. When 9.4.3.4 was originally written there were still Categories available in the previous edition of ISO 13849-1 which did not require probabilistic considerations. So, it might then have been perceived that the absolute performance that we stated was in conformance with at least one of the standards we cited. That is not the case now. This matter needs to be addressed.

Further the use of the term "safety-related function" is unnecessarily bulky as detailed in my response to 79-30 (Log #208)

79-118 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1**10.1.4.2** (Log # 14)

Not Returned**Carpenter, D.**

79-119 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1**10.2.3.1** (Log # 9)

Not Returned**Carpenter, D.**

Negative

Anderson, W. The purpose of the exception was to allow extensions of the E-Stop actuators such as pull ropes to be used without trying to follow, sometimes impossible requirements, of having a yellow background throughout the length of the pull rope and to have identification labels along the rope length. With the color blindness issue (at one time colorblindness was a disqualifier for electrical work and machine operator jobs, this generally is not the case today) ;the rope actuator application could have the identification labels at the actuator of which the rope is extended from as well as all other E-Stop actuators. The proposed elimination of the exception should be as proposed but with an explanatory note that the identification labels requirement would apply to the actuator and the actuator extension (i.e. the pull rope), where practicable.

Some facts about color blindness:

Color Blindness is a condition in which certain colors cannot be distinguished.

Red/Green color blindness is the most common form, about 99%, and causes problems in distinguishing reds and greens.

Another color deficiency Blue/Yellow also exists, but is rare and there is no commonly available test for it.

Total color blindness (seeing in only shades of gray) is extremely rare.

WHO IS COLOR BLIND? ; 8% - 12% males of European origin ½ of 1% of females.

PROTANOMALY IS; Red weakness; 1 out of 100 males; Difficulty telling the difference in Red, orange, yellow, yellow-green, and green; Violet looks like a shade of blue.

DEUTERANOMALY IS; Green Weakness; 5 out of 100 males; Difficulty telling the difference in reds, oranges, yellows, and greens; Colors shift toward red.

DICROMASY IS; Red, orange, yellow, and green appear to be the same color; 2 out of 100 males.

PROTANOPIA IS; Brightness of red, orange, and yellow is much reduced; 1 out of 100 males

DEUTERANOPIA IS; Red, orange, yellow, and green really mean very little; 1 out of 100 males; All shades of similar colors mean nothing.

Affirmative with Comment

Document # 79

Watson, E. While I support the committee's action and committee statement on this proposal, there are still a good percentage of color blind people who are interfacing with industrial machinery and potentially not recognizing the location of emergency stop actuators. A better action would have been to Agree in Principle and modify the exception wording in 10.2.3.1 to read as follows:

Exception: Where is it not practical to provide a legend, emergency stop devices require no legend if they meet the requirements of 10.7.3.

79-120 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

10.3.1.1 (New) (Log # 117)

Not Returned

Carpenter, D.

Negative

Bas, L. Should be APR. Accepting this proposal does not meet MOS clause 1.8.1. Acceptance of 79-122 (Log #165) covers the intent of this proposal.

79-121 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

10.3.1.1 (New) (Log # 166)

Not Returned

Carpenter, D.

Affirmative with Comment

Bas, L. Reference should be to 79-122 (Log #205) as 79-120 (Log #117) does not meet MOS 1.8.1.

79-122 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

10.3.1(3) (New) (Log # 165)

Not Returned

Carpenter, D.

Affirmative with Comment

Bas, L. Accept the addition but strike out the word "Information" from main text of 10.3.1

79-123 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

10.7.1.2 (Log # 205)

Not Returned

Carpenter, D.

79-124 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

11.4.2 (Log # 78)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

Document # 79

79-125 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

11.4.7 (Log # 79)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-126 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

11.5.1.1 Exception No. 4 (Log # 104)

Not Returned

Carpenter, D.

Affirmative with Comment

DeFelice, Jr., F. With regard to proposals number 79-126, 79-127 and 79-128 submitted for possible inclusion into the 2011 Edition of NFPA 79 - Electrical Standard for Industrial Machinery, it has been brought to my attention that an important discrepancy exists between the English-to-Metric Conversion Values shown in Table 11.5.1.1 Working Space Depth shown and Table 110.26(A)(1) Working Spaces shown in NFPA 70 - National Electrical Code.

****Insert tables provided with DeFelice Affirmative Comment****

79-127 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

11.5.1.1 Exception No. 5 (Log # 105)

Not Returned

Carpenter, D.

Affirmative with Comment

DeFelice, Jr., F. See Affirmative Comment on Proposal 79-126 (Log #104).

79-128 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

11.5.1.1 Exception No. 2 and No. 6 (Log # 15)

Not Returned

Carpenter, D.

Affirmative with Comment

DeFelice, Jr., F. See Affirmative Comment on Proposal 79-126 (Log #104).

79-129 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

11.6 (Log # 16)

Not Returned

Carpenter, D.

Negative

Bas, L. Section 11.6 is dealing with sensors and such that are used in the automatic control of the process, while the proposed section is for operator interface and control.

Affirmative with Comment

Comments to the Technical Correlating Committee - Proposals 79-126 / 79-127 / 79-128

NFPA 79-2007

Table 11.5.1.1 Working Space Depth

Nominal Voltage to Ground	Minimum Clear Distance		
	Condition 1	Condition 2	Condition 3
0–150	900 mm (3 ft)	900 mm (3 ft)	900 mm (3 ft)
151–600	900 mm (3 ft)	1 m (3 1/2 ft)	1.2 m (4 ft)

Note: Where the conditions are as follows:
Condition 1 — Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by insulating materials. Insulated wire or insulated busbars operating at not over 300 volts to ground shall not be considered live parts.
Condition 2 — Exposed live parts on one side and a grounded surface on the other side. Concrete, brick, or tile walls shall be considered as grounded.
Condition 3 — Exposed live parts on both sides of the working space (not guarded as provided in Condition 1) with the operator between.

NEC-2008

Table 110.26(A)(1) Working Spaces

Nominal Voltage to Ground	Minimum Clear Distance		
	Condition 1	Condition 2	Condition 3
0–150	914 mm (3 ft)	914 mm (3 ft)	914 mm (3 ft)
151–600	914 mm (3 ft)	1.07 m (3 ft 6 in.)	1.22 m (4 ft)

Note: Where the conditions are as follows:
Condition 1 — Exposed live parts on one side of the working space and no live or grounded parts on the other side of the working space, or exposed live parts on both sides of the working space that are effectively guarded by insulating materials.
Condition 2 — Exposed live parts on one side of the working space and grounded parts on the other side of the working space. Concrete, brick, or tile walls shall be considered as grounded.
Condition 3 — Exposed live parts on both sides of the working space.

Respectfully submitted,

Frank C. DeFelice

Watson, E. I agree with the Committee Action on this proposal. This action has moved the requirements for machine-mounted control devices into Chapt.10 Operator Interface and Control Devices. Therefore the acceptance of this proposal should have included the renaming of Chapt.10 to Operator Interface and Machine-Mounted Control Devices, which is also consistent with harmonizing with IEC 60204-1, and a comment should be written to that extent.

79-130 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

12.1.4 (Log # 189)

Not Returned

Carpenter, D.

Negative

Hilbert, M. I disagree with deleting this Section in its entirety as it will remove the requirement for the conductors to be listed no matter what type they are. The action on this proposal should have been to accept in part revising 12.1.4 as follows:

12.1.4 Conductors and Static Control. Conductors smaller than 18 AWG used to connect electronic programmable control, input/output and static control shall be listed or meet the requirements of 12.9.2.2.

Removing the words "static control" from the text was rejected because they still remain in the title of the section. If the term "static control" is outdated then a comment should be submitted to replace them in the text and title with the appropriate terminology. Revising the existing text by adding a reference to the new 12.9.2.2 will keep the original requirement for listing these small conductors while addressing the submitter's concern with the acceptable uses of Appliance Wiring Material (AWM).

79-131 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

(12.2.1, Exception No. 2) (Log # 98)

Not Returned

Carpenter, D.

79-132 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.2.1 (Log # 118)

Not Returned

Carpenter, D.

79-133 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.2.1 (Log # 160)

Not Returned

Carpenter, D.

79-134 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

12.2.7 (Log # 193)

Not Returned

Carpenter, D.

Negative

Hilbert, M. Accept in Principle in Part and revise as follows:

- 12.9* Special Cables and Conductors.
- 12.9.1 Other listed cables and conductors shall be permitted where identified as suitable for intended use.
- 12.9.2 Appliance Wiring Material (AWM) shall be permitted under either 12.9.2.1 or 12.9.2.2.
- 12.9.2.1 Where part of a listed assembly that has been identified for intended use.
- 12.9.2.2 Where used with approved equipment and installed in accordance with the manufacturer’s instructions. The construction shall meet all the applicable requirements of sections 12.2 -12.6 with modifications as follows:
 - (1) Stranded conductors with wire sizes smaller than those listed in 12.2.2 shall have a minimum of 7 strands
 - (2) Conductor insulation and cable jacket materials not specified in 12.3.1 shall have flame resistant properties in compliance with applicable standards for intended use such as FT2 (horizontal wire) flame test or VW-1 (Vertical Wire) flame test in ANSI/UL 1581-2001, Reference Standard for Electrical Wires, Cables and Flexible Cords.
 - (3) Minimum insulation thickness for single conductor AWM shall be as specified in 12.3.2. Minimum insulation thicknesses for conductors that are part of a multiconductor jacketed AWM cable shall as specified by the AWM Style number and by the marked voltage rating of the cable.
 - (4) AWM shall be marked in accordance with 12.4.1, 12.4.3, and 12.4.4. The legend shall include manufacturer’s name or trademark, AWM Style number, voltage rating, (unless marking is prohibited by 12.4.2) wire gauge(s), temperature rating, and flame resistance. Additional markings for properties such as oil, water, UV, and chemical resistance shall be permitted when in compliance with applicable standards for the intended use. Where markings alone are insufficient to identify for the intended application, suitable information shall be included with the machine technical documentation

A.12.9 Special cables and conductors require additional consideration of their design properties to determine suitability for intended use (e.g. chemical, flexibility, flammability, resistance, shielding, conductor configuration). Those evaluated to the UL758 Appliance Wiring Material standard are often marked with multiple identifying characteristics (See 12.3.1 and 12.8.1) in addition to AWM.

I do not agree with expanding the use of Appliance Wiring Material to an assembly that was not listed so the term “listed” was added to the proposed 12.9.2.1.

12.9.2.2 and 12.9.2.3 were combined into 12.9.2.2 as the only time AWM should allowed as other than as part of a listed assembly is where it is used with approved equipment in accordance with the manufacturers installation instructions. In these cases the Appliance Wiring Material construction must meet the proposed list items (1) through (4) in addition to 12.2 – 12.6 so that language was retained. The words “specified for use” were removed from the proposed 12.9.2.2 for clarity as it was unclear as to who would be specifying the Appliance Wiring Material was intended for use with the approved equipment and it also limited the application to only those that were specified to be used together.

79-135 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

Table 12.3.2, Note (Log # 91)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

- 2.3.1.2.1 Chapter 2 shall consist of three sections as follows:
 - (1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.
 - (2) 2.2 NFPA Publications.
 - (3) 2.3 Other Publications.
- 2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].
- 2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-136 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.4.2 (Log # 192)

Not Returned

Carpenter, D.

79-137 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.4.8 (Log # 5)

Not Returned

Carpenter, D.

79-138 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.5.2 (Log # 7)

Not Returned

Carpenter, D.

Affirmative with Comment

Fisher, D. The committee correctly noted that the proposal did not meet the proposal format requirements, and that control equipment is not evaluated at 90C ampacities.

However, having a 90C column would provide additional margin for derating adjustments, even though the final adjusted ampacity would be required to be limited to the unadjusted maximum of the 75C column to ensure compatibility with control and distribution product terminal ratings.

Similarly, the ampacities for 14, 12, and 10 AWG wire at 75C and 60C need to be corrected to align with NEC Table 310.16 at they currently reflect the overcurrent protection limit of 240.4(D) rather than the wire ampacities shown in the table. As such, NFPA 79 is actually derating the conductors to the overcurrent device limit from 240.4(D), rather than the wire ampacity as is done in the NEC.

79-139 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

(12.5.2, Exception (New)) (Log # 97)

Not Returned

Carpenter, D.

79-140 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.5.5 (Log # 8)

Not Returned

Carpenter, D.

79-141 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.6.1, 12.6.1.3, and A.12.6.1.3 (New) (Log # 201)

Not Returned

Carpenter, D.

79-142 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.6.4 (Log # 191)

Not Returned

Carpenter, D.

79-143 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

12.7.1.1 Exception (New) (Log # 190)

Not Returned

Carpenter, D.

79-144 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.1.1.12 (New) (Log # 188)

Not Returned

Carpenter, D.

Document # 79

79-145 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.1.2.1 (Log # 65)

Not Returned

Carpenter, D.

79-146 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.1.2.1 and A.13.1.2.1 (new) (Log # 170)

Not Returned

Carpenter, D.

79-147 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

13.1.2.3 (New) (Log # 93)

Not Returned

Carpenter, D.

Negative

Watson, E. I voted Negative on the committee action although the action did address some short-comings in the original proposal. However I believe the original proposal and the committee missed an important issue such that the committee action should have acted to Accept in Principle and In Part as follows. The words "or conduit body" should also have been deleted. Within conduit is exactly where you do NOT want connectors, and this is not where the benefits (from the originating substantiation) will be seen. This proposal has now opened other technical correlation issues such as how does one calculate % fill of raceways (13.5.2) most pointedly within conduit? Others can comment on whether the use of potentially multiple connectors within a conduit should effect wire sizing (pull strength, derating, etc.). The proposal may have meant "raceway" or better yet "raceway (except conduit)" and not limited this overall exception to "enclosures, machine compartment or conduit body". Additionally, NFPA79 does not use the term "conduit body", so a comment will need to correct this as to whether the intent was conduit, or conduit fittings (?)

79-148 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.2.1.1 (Log # 62)

Not Returned

Carpenter, D.

79-149 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.2.1.1 (Log # 169)

Not Returned

Carpenter, D.

79-150 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.2.4.1 (Log # 178)

Not Returned

Carpenter, D.

79-151 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.2.4.3 (Log # 17)

Not Returned

Carpenter, D.

Document # 79

79-152 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.2.4.3 (Log # 176)

Not Returned

Carpenter, D.

79-153 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

13.4.5.3 and A.13.4.5.3 (Log # 159)

Not Returned

Carpenter, D.

Negative

Sanders, M. The Technical Committee action should have been to "Accept in Principle" to delete this from Chapter 13 because the subject is already redundant to existing 8.2.4. Correct action on ROP 83 Log #122 would cause the Exception to 13.4.5.3 to move into existing 8.2.4. This should have been acted upon on its own merits, and renumbering is not an insurmountable task.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-7 (Log #155).

79-154 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.4.3.1.5 (Log # 63)

Not Returned

Carpenter, D.

79-155 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.4.3.1.5 (Log # 168)

Not Returned

Carpenter, D.

79-156 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.5.6.6 (Log # 80)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

- (1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.
- (2) 2.2 NFPA Publications.
- (3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-157 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

13.5.10 (Log # 187)

Not Returned

Carpenter, D.

Document # 79

79-158 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

14.2 (Log # 164)

Not Returned

Carpenter, D.

79-159 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

14.2 (New) (Log # 112)

Not Returned

Carpenter, D.

Negative

Anderson, W. The proposal would solve the too restrictive observation by the committee and still be in harmonization with IEC 60204-1: 14.2 Motor enclosures

It is recommended that motor enclosures be chosen from those included in IEC 60034-5.

The degree of protection shall be at least IP23 (see IEC 60529) for all motors. More stringent requirements can be needed depending on the application and the physical environment (see 4.4). Motors incorporated as an integral part of the machine shall be so mounted that they are adequately protected from mechanical damage.

Change "IEC 60034-5" to "NEMA MG-1 or IEC 60034-5".

Change "see IEC 60529" to "see NEMA MG-1 or IEC 60529"

79-160 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

(15.1.1)(8) Exception (New) (Log # 99)

Not Returned

Carpenter, D.

Negative

Wolfgang, E. The Technical committee should not have added the wording as proposed as the manufacturer of the equipment cannot always determine when a receptacle will be exposed to dirt, dust, oil or other contaminates and therefore, the proposed wording adds uncertainty as to whether a cover is required or not. The previous wording was sufficient.

79-161 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

15.1.1(3) (Log # 106)

Not Returned

Carpenter, D.

79-162 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

15.1.1(7) (Log # 18)

Not Returned

Carpenter, D.

Negative

Anderson, W. The committee should reconsider this and the other similar changes proposed to revise the terminology from "warning signs" to "safety sign; and to revise the existing terminology of "safety sign" to "warning sign throughout NFPA 79..

Safety: 1 : the condition of being safe from undergoing or causing hurt, injury, or loss

2 : a device (as on a weapon or a machine) designed to prevent inadvertent or hazardous operation.

Warn: 1 a : to give notice to beforehand especially of danger or evil b : to give admonishing advice to : COUNSEL c : to call to one's attention :

The use of the term "safety sign" implies from Webster that it is designed to prevent inadvertent hazardous operation but also the condition of being safe from harm, which implies more than can always be realized in its application. While the term "warning sign" implies giving notice of danger, which is what can actually be realized in the application of a sign.

Although used in the title of the standard "ANSI Z535.4, Product Safety Signs and Labels", the use of "safety sign" terminology is in minority usage in the NEC while "warning sign" is prevalent throughout the document.

The use of "warning sign" verses "safety sign" would be more appropriate throughout the standard and should be done.

79-163 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

15.2.2.2(4) (Log # 203)

Not Returned

Carpenter, D.

79-164 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

16.1.1 (Log # 1)

Not Returned

Carpenter, D.

79-165 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

16.2.2.2 (Log # 3)

Not Returned

Carpenter, D.

Affirmative with Comment

Watson, E. I agree with the Committee Action on this proposal. I believe the intent of the committee action to include the requirement of "immediately adjacent" should also have been included in item 5.3.5.2(1) - add "immediately" ahead of the first "adjacent". The specifics of proposal 165 apply not only to the excepted circuits which are lighting (15.2.2.2(4)) but also to other excepted circuits (5.3.5.2(1)) where the identical devices are installed.

79-165a Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

16.2.3, 16.2.3.1, 16.2.3.2, A.16.2.3 (Log # CP5)

Not Returned

Carpenter, D.

79-166 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

16.2.3(1) (Log # 19)

Not Returned

Carpenter, D.

Negative

Wolfgang, E. Cannot support this action as it appears this is now in conflict with ROP 79-165a, LOG #CP5 and therefore is no longer necessary.

79-167 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

16.2.7 (Log # 184)

Not Returned

Carpenter, D.

Negative

Anderson, W. The committee should reconsider this and the other similar changes proposed to revise the terminology from “warning signs” to “safety sign; and to revise the existing terminology of “safety sign” to “warning sign throughout NFPA 79..

Safety: 1 : the condition of being safe from undergoing or causing hurt, injury, or loss
 2 : a device (as on a weapon or a machine) designed to prevent inadvertent or hazardous operation.

Warn: 1 a : to give notice to beforehand especially of danger or evil b : to give admonishing advice to : COUNSEL c : to call to one's attention :

The use of the term “safety sign” implies from Webster that it is designed to prevent inadvertent hazardous operation but also the condition of being safe from harm, which implies more than can always be realized in its application. While the term “warning sign” implies giving notice of danger, which is what can actually be realized in the application of a sign.

Although used in the title of the standard “ANSI Z535.4, Product Safety Signs and Labels”, the use of “safety sign” terminology is in minority usage in the NEC while “warning sign” is prevalent throughout the document.

The use of “warning sign” verses “safety sign” would be more appropriate throughout the standard and should be done.

79-168 Eligible To Vote:19 Affirmative: 16 Negative: 2 Abstain: 0 Not Returned: 1

16.2.8 (Log # 114)

Not Returned

Carpenter, D.

Negative

Sanders, M. The Technical Committee action should have been to “Accept in Principle” and combined with ROP 79-169 Log #163 as follows.

“16.2.8 A safety sign warning shall be provided when the risk assessment shows the need to warn against of the possibility of hazardous surface temperatures of the electrical equipment enclosure shall be indicated by the use of the graphical symbol IEC 60417. 5041 (DB: 2002-10) as shown in Figure 16.2.8.

*** Insert Figure 16.2.8 Thermal Symbol here***

This provides for harmonization with IEC 60204-1 and meets the submitter’s intent of ROP 79-169, Log #163. Placement of the symbol within Chapter 16, eliminates the need to provide Annex A material.

Wolfgang, E. The Technical Committee action should have been to “Accept in Principle” and combined with ROP 79-169 (Log #163) as follows.

“16.2.8 A safety sign warning shall be provided when the risk assessment shows the need to warn against of the possibility of hazardous surface temperatures of the electrical equipment enclosure shall be indicated by the use of the graphical symbol IEC 60417.5041 (DB:2002-10) as shown in Figure 16.2.8.

****Insert Figure 16.2.8 Here****

FIGURE 16.2.8 Thermal Symbol”

This provides for harmonization with IEC 60204-1 and meets the submitter’s intent of ROP 79-169 (Log #163). Placement of the symbol within Chapter 16 eliminates the need to provide Annex A material.


79-169 Eligible To Vote:19 Affirmative: 14 Negative: 4 Abstain: 0 Not Returned: 1

16.2.8 (New) (Log # 163)

Not Returned

Carpenter, D.

Negative

79-	168	Log	114	16.2.8 (New)
Recommendation				
Vote to Oppose		Reason	<p>The Technical Committee action should have been to "Accept in Principle" and combined with ROP 79-169 Log # 163 as follows.</p> <p>"16.2.8 A safety sign <u>warning shall be provided when the risk assessment shows the need to warn against of the possibility of hazardous surface temperatures of the electrical equipment enclosure shall be indicated by the use of the graphical symbol IEC 60417.5041 (DB:2002-10) as shown in Figure 16.2.8.</u></p>	
				
			<p><u>FIGURE 16.2.8 Thermal Symbol"</u></p> <p>This provides for harmonization with IEC 60204-1 and meets the submitter's intent of ROP 79-169 Log # 163. Placement of the symbol within Chapter 16 eliminates the need to provide Annex A material.</p>	

79-	169	Log	163	16.2.8 (New)
Recommendation				
Vote to Oppose		Reason	<p>The Technical Committee action should have been to "Accept in Principle" and combined with ROP 79-168 Log # 114.</p>	

79-168 - Wolfgang & Sanders - Neg - F2010

Anderson, W. The committee did error in its conclusion that thermal warning signs are beyond the scope of this standard when the root cause of the thermal hazard is in fact the electrical equipment in the area of concern. Warning signs including thermal hazard warning signs are necessary and are within the scope of this standard

Examples:

3.3.33 (Electrically) Instructed Person. A person adequately advised or supervised by an electrically skilled person to enable him or her to perceive risks and to avoid hazards that electricity can create.

3.3.34 (Electrically) Skilled Person. A person with relevant education and experience to enable him or her to perceive risks and to avoid hazards that electricity can create.

4.1* General Considerations. This chapter describes the general requirements and conditions for the operation of the electrical equipment of the machine. The risks associated with the hazards relevant to the electrical equipment shall be assessed as part of the overall requirements for risk assessment of the machine. The risks associated with the hazards identified by the risk assessment shall be reduced such that the safety performance determined by the risk assessment is met.

Callanan, M. The Technical Correlating Committee should review the committee action. We do not necessarily agree that the recommendation is outside the scope of NPFA 79

Sanders, M. The Technical Committee action should have been to “Accept in Principle” and combined this action with ROP 79-168, Log #114.

Wolfgang, E. The Technical Committee action should have been to “Accept in Principle” and combined with ROP 79-168 (Log #114).

79-170 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

17.4.2 (Log # 6)

Not Returned

Carpenter, D.

Affirmative with Comment

Wolfgang, E. The submitter makes a valid point about the full-load nameplate rating being artificially high. The Technical Committee should really look at trying to clarify and simplify the intent of the clause.

79-171 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

19.X.X (New) (Log # 54)

Not Returned

Carpenter, D.

79-172 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

19.X.X (New) (Log # 55)

Not Returned

Carpenter, D.

79-173 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

19.X.X (New) (Log # 56)

Not Returned

Carpenter, D.

79-174 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

19.X.X (New) (Log # 58)

Not Returned

Carpenter, D.

79-175 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

19.X.X (New) (Log # 59)

Document # 79

Not Returned
Carpenter, D.

79-176 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
19.X.X (New) (Log # 60)

Not Returned
Carpenter, D.

79-177 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
19.X.X (New) (Log # 61)

Not Returned
Carpenter, D.

79-178 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
19.X.X and Table 19.X.X (New) (Log # 57)

Not Returned
Carpenter, D.

79-179 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
19.3 (Log # 67)

Not Returned
Carpenter, D.

Affirmative with Comment

Watson, E. I agree with the committee action as the numbering correlates to many other proposals, however I will continue to comment that servos do not require, and/or no longer warrant, their own chapter. Servos may be new in some parts of industry, but in other parts of industry they have been (properly) implemented for over thirty years. Design and approval issues such as wire sizing (including duty-cycle and appropriate derating per 12.5.4), overcurrent-protection, and overload requirements are best found in their respective issue/chapter, not in two (application and also device). Refer also to my statement on proposal 185 as contactor sizing has now been added to this new technology.

79-180 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1
19.3.1 (Log # 68)

Not Returned
Carpenter, D.

79-181 Eligible To Vote:19 Affirmative: 16 Negative: 2 Abstain: 0 Not Returned: 1
19.3.3 (Log # 70)

Not Returned
Carpenter, D.

Negative

Beachy, W. I recommend that this proposal, proposal 79-182, and proposal 79-183 be rejected. These proposals are overly restrictive in that they do not allow consideration for the multitude of application requirements of all modern pieces of equipment. The following points outline my objections:

1. Machine tools often contain large moving assemblies, comprised of motors and other components, which have power supplied by non-ferrous power/cable tracks. The machine movement requires the connection points to be highly flexible and precludes the use of rigid conduit/raceways.
2. Large ampacity motors requiring individual power conductors terminating in a single connector may not always be shielded. The power is supplied via a non metallic power/cable track as the entire assembly must be able to move, in addition the distance requirements specified in 19.3.3 would require very wide power tracks which are often not possible as dictated by machine geometry.
3. Table 19.3.3 does not provide adequate technical justification to warrant the separation distances it requires. In fact many of the external connectors supplied on motors violate the separation distances dictated in Table 19.3.5.
4. It is noted and understood that EMI is a design consideration that should be taken into account and it is my opinion that section 4.4.2 and A 4.4.2 already adequately address these concerns. Since EMI is a subject matter outside the scope of NFPA 79 proper references to design for EMI should be provided in Annex A.

Wolfgang, E. The reworded exception does not make sense. I believe the following is a better wording of the intent of the submitter/Technical Committee. "Exception: When servo motor conductors or control/instrumentation conductors are installed in non ferrous raceway system(s), the raceway system(s) shall provide the equivalent level of EMI protection as ferrous raceway. When servo motor conductors and control/instrumentation conductors are installed together in a non ferrous raceway system(s) they shall be separated by distance as specified in Table 19.3.3."

Affirmative with Comment

Hilbert, M. I agree with the Committee to accept in principle but the accept in principle should be as follows:

19.3.3 Unshielded Servo Motor Power Conductors. Unshielded servo motor power conductors shall be run in separate ferrous raceways from control and instrumentation conductors from the servo drive enclosure to the servo motor.

Exception: When either the servo motor power or control/instrumentation conductors or both are installed in a raceway system(s) or separated in accordance with Table 19.3.3.

The submitter's proposed language has been revised for clarity and to meet the requirements of the manual of style with regards to the subsection titles. Section 1.8.3.2 of the Manual of Style requires consistent use of subtitles within a section so a title, chosen from the opening words of the paragraph, has been given to the new subsection as all the existing 19.3 has titles.

Some minor editorial changes were made for clarity and the language "that provides the same level of EMI protection as ferrous conduit" was removed as it was not necessary with the reference to Table 19.3.3. The submitter should review the proposed title and make the appropriate comment.

79-182 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

19.3.4 (Log # 71)

Not Returned

Carpenter, D.

Negative

Beachy, W. See comments provided in proposal 79-181 (Log #70).

Affirmative with Comment

Hilbert, M. I agree with the Committee to accept in principle but the accept in principle should be as follows:

19.3.3 Unshielded Servo Motor Power Conductors Not Contained in Ferrous Raceways.

Where unshielded servo motor power conductors and unshielded control/instrumentation conductors are not contained in ferrous raceways and cross each other they shall be installed perpendicular to each other.

The submitter's proposed language has been revised to meet the requirements of the manual of style with regards to subsection titles. Section 1.8.3.2 of the Manual of Style requires consistent use of subtitles within a section so a title, chosen from the opening words of the paragraph, has been given to the new subsection as all the existing 19.3 has titles.

The submitter is encouraged review the proposed title and make the appropriate comment. It is recognized that the Proposal noted in the last sentence of the Committee statement is 79-181 (Log #70).

79-183 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

19.3.5 and Table 19.3.5 (Log # 72)

Not Returned

Carpenter, D.

Negative

Beachy, W. See comments provided in proposal 79-181 (Log #70).

Affirmative with Comment

Hilbert, M. I agree with the Committee to accept in principle but the accept in principle should be as follows:

19.3.5 Unshielded Servo Motor Power Conductors Not Isolated by Ferrous Raceways. Where unshielded Servo Motor power conductors and unshielded control/instrumentation conductors are not isolated by a ferrous raceway(s) they shall be separated in accordance with Table 19.3.3 unless otherwise specified by the manufacturer.

The submitter's proposed language has been revised for clarity and to meet the requirements of the manual of style with regards to the subsection titles. Section 1.8.3.2 of the Manual of Style requires consistent use of subtitles within a section so a title, chosen from the opening words of the paragraph, has been given to the new subsection as all the existing 19.3 has titles.

Some minor editorial changes were made for clarity. The submitter is encouraged to review the proposed title and make the appropriate comment.

79-184 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

19.4 (Log # 69)

Not Returned

Carpenter, D.

79-185 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

19.4 (Log # 73)

Not Returned

Carpenter, D.

Negative

Watson, E. I voted Negative on the committee action although it did address two short-comings in the original proposal. However I believe enough issues have been missed such that the committee should have acted to Reject, as follows. The right-sizing of a contactor is not a servo particular, contactors are sized for many types of loads, whether users are familiar with utilization categories and/or life-load curves or other application issues. NFPA79 has not addressed right-sizing other applications; the "why" for servos has only been substantiated as being different from inductive motors; so are many non-motor loads, and inductive motors and non-motor loads are all NOT addressed by NFPA79. Second; for some servo systems a contactor(s) is more appropriately applied between the drive and the motor; should this type of application be addressed? Next, to out-right require 115% of maximum nameplate rating can lead to a user falsely believing they've appropriately sized a contactor.

Contactors might now be needlessly over-sized; or they might be undersized (not that this might cause a fire, but "life-sizing" of components is out-of-scope of NFPA79). This is all independent of drive manufacturer's recommendations. For clarification, within this proposal servo drive nameplate rating might be in amperage or kW, and manufacturer's specifications can be read to mean either drive manufacturer or contactor manufacturer, or both. What is actually required here will need to be cleaned-up by a comment depending on the committee's real intent. For these collective issues I believe the original proposal should have been Rejected.

Affirmative with Comment

Beachy, W. Where isolation contactors are provided they should be sized to the upstream protection and not the load. It is assumed that the protection is sized adequately for the load required. Servo system Power Supply Modules (PSM) units are designed in graduated ampacities. (e.g. 16kw/36kw/55kw) As an example the total electrical load required may be 17kw, which would require a 36kw PSM, a designer may choose to decrease the protection to suit the load, provided it does not violate the manufacturer's recommendations. The protection for the PSM is sized based on the required electrical load, not necessarily the PSM nameplate rating, and the contactor is sized to the protection.

Hilbert, M. I agree with the Committee to accept in principle but the accept in principle should be as follows:

19.5 Grounded Servo Motor Cable Shields. Use of a grounded servo motor conductor/cable shield shall not be permitted to satisfy the equipment grounding conductor requirements.

The submitter's proposed language has been revised to meet the requirements of the Manual of Style with regards to the subsection titles. Section 1.8.3.2 of the Manual of Style requires consistent use of subtitles within a section so a title, chosen from the opening words of the paragraph, has been given to the new subsection as all the existing 19.3 has titles. The submitter is encouraged to review the proposed title and make the appropriate comment.

79-186 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

19.5 (Log # 74)

Not Returned

Carpenter, D.

Document # 79

79-187 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.1.1 (Log # 211)

Not Returned

Carpenter, D.

79-188 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.3.3.100 (Log # 81)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-189 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.4.1 (Log # 50)

Not Returned

Carpenter, D.

79-190 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.4.2 (Log # 82)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-191 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.5.3.3.2 (Log # 83)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-192 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.9.2.5.4.2 (Log # 53)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on 79-193 (Log #66).

79-193 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.9.2.5.4.2 (Log # 66)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. The action on this proposal should continue to be accept in principle but the action should be to accept the submitter's recommended text and combine it with the recommendation from 79-194 (Log #109) to read as follows:

A.9.2.5.4.2 Emergency Switching-Off: The action of removing the electrical power source from a machine, system or process, creating an uncontrolled means of stopping to mitigate a hazard or a hazardous situation. The removal of power is by an uncomplicated means of switching (breaking) the electrical energy supply. The Emergency Switching-Off device acts promptly and rapidly, and should be readily accessible. Emergency Switching-Off devices require a deliberate act to reset, allowing re-energizing of the machine, system, or process. It is acknowledged that due to the indiscriminately stopping of all control system(s), additional hazards may be created, and collateral damage to the machine, system, or process may be incurred. The functional aspects of emergency switching off are given in 536.4 of IEC 60364-5- 53.

Adding this language to Annex A would be a benefit to the users of NFPA 79 as there is much confusion in the industry as to the difference to between "emergency stop" and "emergency switching off." Although more language should be added with regard to the emergency stop function to more completely describe the difference between the two, the proposed text is good start in explaining the difference. The submitter, along with others, are encouraged to submit additional text that will more completely describe the difference between "emergency stop" and "emergency switching off" in comments.

79-194 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.9.2.5.4.2 (New) (Log # 109)

Not Returned

Carpenter, D.

Affirmative with Comment

Hilbert, M. See my affirmative comment on Proposal 79-193 (Log #66).

79-195 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.9.2.5.5.1 (New) (Log # 110)

Not Returned

Carpenter, D.

Document # 79

79-196 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.9.2.5.5.1 (New) (Log # 167)

Not Returned

Carpenter, D.

79-197 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.10.1.3 (Log # 84)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

- (1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.
- (2) 2.2 NFPA Publications.
- (3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-198 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.13.1.6.1 (Log # 85)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

- (1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.
- (2) 2.2 NFPA Publications.
- (3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-199 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.13.2.4.3 (Log # 47)

Not Returned

Carpenter, D.

79-200 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.13.5.3.3.1 (Log # 86)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-201 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

A.13.5.7 (Log # 48)

Not Returned

Carpenter, D.

Negative

Anderson, W. The committee should reconsider this and the other similar changes proposed to revise the terminology from “warning signs” to “safety sign; and to revise the existing terminology of “safety sign” to “warning sign throughout NFPA 79..

Safety: 1 : the condition of being safe from undergoing or causing hurt, injury, or loss

2 : a device (as on a weapon or a machine) designed to prevent inadvertent or hazardous operation.

Warn: 1 a : to give notice to beforehand especially of danger or evil b : to give admonishing advice to : COUNSEL c : to call to one's attention :

The use of the term “safety sign” implies from Webster that it is designed to prevent inadvertent hazardous operation but also the condition of being safe from harm, which implies more than can always be realized in its application. While the term “warning sign” implies giving notice of danger, which is what can actually be realized in the application of a sign.

Although used in the title of the standard “ANSI Z535.4, Product Safety Signs and Labels”, the use of “safety sign” terminology is in minority usage in the NEC while “warning sign” is prevalent throughout the document.

79-202 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

(A.16.2.1 and Figure A.16.2.1 New) (Log # 113)

Not Returned

Carpenter, D.

79-203 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

(A.16.2.8 and Figure A.16.28) (Log # 115)

Not Returned

Carpenter, D.

Negative

Anderson, W. The committee did error in its conclusion that thermal warning signs are beyond the scope of this standard when the root cause of the thermal hazard is in fact the electrical equipment in the area of concern. Warning signs including thermal hazard warning signs are necessary and are within the scope of this standard

Examples:

3.3.33 (Electrically) Instructed Person. A person adequately advised or supervised by an electrically skilled person to enable him or her to perceive risks and to avoid hazards that electricity can create.

3.3.34 (Electrically) Skilled Person. A person with relevant education and experience to enable him or her to perceive risks and to avoid hazards that electricity can create.

4.1* General Considerations. This chapter describes the general requirements and conditions for the operation of the electrical equipment of the machine. The risks associated with the hazards relevant to the electrical equipment shall be assessed as part of the overall requirements for risk assessment of the machine. The risks associated with the hazards identified by the risk assessment shall be reduced such that the safety performance determined by the risk assessment is met.

Affirmative with Comment

Wolfgang, E. This proposal was actually Annex material proposed to be used in conjunction with ROP 79-168, (Log #114) and as such is now being incorporated with my comments regarding ROP 79-168 (Log #114) & 79-169, (Log #163).

79-204 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

A.18.2 (Log # 87)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-206 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

C.7 (Log # 49)

Not Returned

Carpenter, D.

79-207 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

F.1 (Log # 88)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

(1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.

(2) 2.2 NFPA Publications.

(3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-208 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

F.2 (Log # 89)

Not Returned

Carpenter, D.

Affirmative with Comment

Document # 79

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

- (1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.
- (2) 2.2 NFPA Publications.
- (3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-209 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

Table F.5.5, Notes (Log # 92)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

- (1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.
- (2) 2.2 NFPA Publications.
- (3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

79-210 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

I.1.2.8 (Log # 90)

Not Returned

Carpenter, D.

Affirmative with Comment

Anderson, W. I agree with the committee's action and to follow the current manual of style as follows:

2.3.1.2.1 Chapter 2 shall consist of three sections as follows:

- (1) 2.1 General. The documents or portions thereof listed in this chapter are referenced within this (standard, code) and shall be considered part of the requirements of this document.
- (2) 2.2 NFPA Publications.
- (3) 2.3 Other Publications.

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

2.3.1.2.5 References shall be permitted to be referred to throughout the document (other than Chapter 2) by only their numerical designation or document title, as used in the field.

Callanan, M. The Technical Correlating Committee should review the panel statement for this action relative to dates being removed allows for latest revision date by default.

79-211 Eligible To Vote:19 Affirmative: 18 Negative: 0 Abstain: 0 Not Returned: 1

Annex X (New) (Log # 162)

Not Returned

Carpenter, D.

79-212 Eligible To Vote:19 Affirmative: 17 Negative: 1 Abstain: 0 Not Returned: 1

Annex Y (New) (Log # 161)

Not Returned

Carpenter, D.

Negative

Anderson, W. While the committee is correct that appropriate standards and technical reports addressing the subject of risk assessment are referenced in this standard; most if not all address certain aspects of the process but do not present an easily understood application of the risk assessment and risk reduction process. The proposed annex is unique in that it presents the process and suggested documentation of the complete process as applied to industrial machines and industrial machines electrical risks. The new annex is needed to complete the addressing of the risk assessment and risk reduction methodology required within the NFPA 79 standard.

The use of electrical systems through control functions and operational control are often used to address reduction of risk for hazards which are not inherently electrical but are still a part of the NFPA 79 standard requirements