Errata

NFPA 79

Electrical Standard for Industrial Machinery

2007 Edition

Reference: Various
Errata No.: 79-07-1

The Technical Committee on Electrical Equipment of Industrial Machinery notes the following errors in the 2007 edition of NFPA 79, *Electrical Standard for Industrial Machinery.*

1. Page 79-6, opening paragraph four, beginning with "A reference in brackets [ ] following a section": *Change* "Annex H" *to* "Annex I." *Also on page 79-6, in opening paragraph five, beginning with* "Information on referenced publications": *Change* "Annex H" *to* "Annex I."

2. Page 79-15, subsection 5.5.4, item (2): Insert missing ending quotation mark after the word "disconnect," *to read as follows:*

(2) A manual motor controller marked "suitable as motor disconnect" and compliant with UL 508 where located on the load side of the last short-circuit protective device (in the branch)

3. Page 79-15: paragraph 6.2.2.1, Exception, second sentence: *Change* "can be" *to* "are capable of being," *to read as follows*:

Exception: In the absence of a rated enclosure, the determination of the suitability of an enclosure as protection from electrical shock shall be determined by using a test finger as described in Figure 6.2.2.1. The test finger shall be applied, with only minimal force, in every opening in the enclosure after removal of all parts of the enclosure that are capable of being removed without the use of a tool. The test finger shall not encounter live parts in any direction.

4. Page 79-15: Insert missing paragraph 6.2.3.3 (with editorial change of "When" *to* "Where"), *to read as follows:*

6.2.3.3 Where provided with a defeat mechanism as permitted in 6.2.3.1, live parts mounted on the inside of doors that are operating at over 50 volts shall be protected from unintentional direct contact by the inherent design of components or the application of barriers or obstacles such that a 50 mm (2 in.) sphere cannot contact any of the live parts in question.

5. Page 79-17, paragraph 6.3.1.3, item (2): Change "overcorrect" *to* "overcurrent."

6. Page 79-81: Annex I, Minimizing the Probability of Control Function Failure, from the 2002 edition was mistakenly omitted from the 2007 edition. For the 2007 edition, Annex H should be Minimizing the Probability of Control Function Failure, and the current 2007 Annex H, Informational References, should be Annex I.

Annex H is herewith included in its entirety.

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7. Pages 79-81 and 79-82: Change all paragraph numbers in Annex I, Informational References, from H.1, H.2, H.3, etc., to I.1, I.2, I.3, etc.

Annex H Minimizing the Probability of Control Function Failure

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

H.1 The following discussion is explanatory material on 9.4.1 General Requirements and 9.4.1.1.

H.1.1 The measures, and the extent to which they are implemented, either individually or in combination, depend on the safety requirements associated with the respective application.

H.1.2 General.

H.1.2.1 Measures to reduce these risks include, but are not limited to, the following:

(1) Protective devices on the machine (e.g., interlock guards, trip devices)

(2) Protective interlocking of the electrical circuit

(3) Use of proven circuit techniques and components *(see H.2)*

(4) Provisions of partial or complete redundancy *(see H.3)* or diversity *(see H.4)*

(5) Provision for functional tests *(see H.5)*

H.1.2.2 In general, only single failures are to be regarded. In the event of higher levels of risk, it can be necessary to ensure that more than one failure cannot result in a hazardous condition.

H.2 Measures to Minimize Risk in the Event of Failure.

Use of proven circuit techniques and components measures to minimize risk in the event of failure include the use of proven circuit techniques and components. These measures include, but are not limited to, the following:

(1) Bonding of control circuits for operational purposes *(see 9.4.2.1)*

(2) One terminal of the control device (i.e., the operating coil) connected to the bonded conductor and all switching elements (e.g., contacts) connected to the non-earthed (grounded) side of the control supply *(see 9.1.4)*

(3) Stopping by de-energizing *(see 9.2.2)*

(4) Switching of all live conductors to the device being controlled

(5) Use of switching devices having positive opening operation *(see IEC 60947-5-1)*

(6) Circuit design to reduce the possibility of failures causing undesirable operations

H.3 Provisions for Redundancy.

H.3.1 By providing partial or complete redundancy it is possible to minimize the probability that one single failure in the electrical circuit can result in a hazardous condition. Redundancy can be effective in normal operation (i.e., on-line redundancy) or designed as special circuits that take over the protective function (i.e., off-line redundancy) only where the operating function fails.

H.3.2 Where off-line redundancy that is not active during normal operation is used, suitable measures should be taken to ensure that these control circuits are available when required.

H.4 Use of Diversity.

The use of control circuits having different principles of operation or differing types of devices can reduce the probability of faults and failures giving rise to hazards. Examples include the following:

(1) The combination of normally open and normally closed contacts operated by interlocking guards.

(2) The use of different types of control circuit components in the circuit.

(3) The combination of electromechanical and electronic circuits in redundant configurations.

(4) The combination of electrical and nonelectrical systems (e.g., mechanical, hydraulic, pneumatic) can perform the redundant function and provide the diversity.

H.5 Functional Tests.

Functional tests can be carried out automatically by the control system, or manually by inspection or tests at start-up and at predetermined intervals, or a combination as appropriate *(see also Sections 17.2 and 18.6)*.

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