

2007 Edition

ASME A17.1/CSA B44 Handbook

ASME A17.1-2007, Safety Code for
Elevators and Escalators

CSA B44-07, Safety Code for Elevators

Edward A. Donoghue, CPCA



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Mechanical Engineers

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Elevators

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AN AMERICAN NATIONAL STANDARD



The American Society of
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FOREWORD

The ASME A17.1/CSA B44 Safety Code for Elevators and Escalators is written by a committee of technically qualified persons with a concern and competence in the subject within the Committees' scope and a willingness to participate in the work of the committee. The ASME A17 Standards Committee is restricted to a maximum of 35 members of which no more than one-third can be from any single interest category. This requirement serves to assure balance in the consensus process. In addition, there are over 300 members serving on the Regulatory Advisory Council, National Interest Review Group, Technical Committees, Administrative Committees, and Ad Hoc Committees. Technical revisions to ASME A17.1/CSA B44 are also submitted to the CSA B44 Technical Committee for their concurrence.

This Handbook incorporates harmonization of the ASME A17.1, *Safety Code for Elevators and Escalators* and CSA B44, *Safety Code for Elevators*. Since 2000, editions of both CSA B44-00 ASME and A17.1-2000 Codes are identical, except for application deviations noted in CSA B44. Starting with the ASME A17.1/CSA B44-2007, a single Code book is being published for use in the U.S. and Canada. A joint effort of the CSA B44 Technical Committee and the ASME A17 Standards Committee to harmonize requirements between CSA B44 and ASME A17.1 was started in the mid-1990s. The harmonization process compared and studied differences between the two codes over a number of years through discussions by joint ASME/CSA working groups. A harmonized requirement was formulated and proposed for review and approval through formal balloting by both the ASME A17 Standards Committee and CSA B44 Technical Committee. If any member did not approve a proposed requirement, the member's rationale for disapproval was returned to the working committee for resolution. The working committee either revised the proposal or provided a reason for rejecting the comment. The revised proposal or rejection was once again balloted until negatives were resolved or the Chairman of the ASME A17 Standards Committee ruled consensus had been achieved. Many requirements went through multiple ballots before a consensus was achieved. As a result, requirements in the ASME A17.1/CSA B44-00 edition of the Code are different from corresponding Rules and Clauses in the previous editions of ASME A17.1 and CSA B44. The harmonization process identified technical and editorial problems with requirements in both codes and in such cases formulated new requirements. The Committee recognized that not all requirements could be fully harmonized, in particular

requirements based on, or which depended on, other national codes or regulations, such as building, electrical, and fire codes. In such cases two separate requirements were formulated, one for "jurisdictions enforcing NBCC" (meaning National Building Code of Canada or "NBCC" for short) and another for "jurisdictions not enforcing NBCC" (meaning the United States).

In cases where no agreement on a requirement could be achieved or the publication scheduled precluded continuation of discussions, the B44 Technical Committee created Canadian exceptions from the ASME A17.1 requirements, known as Canadian deviations. These Canadian deviations appeared in the CSA B44-00 and 04 Elevator Safety Code. Both committees continue the harmonization process and endeavor to reduce the number of Canadian deviations in future editions. In January 2006, the list of deviation had shrunk to the point where the ASME A17 Standards Committee felt they could all be incorporated in the next edition of the ASME A17.1 Code with an objective of publishing a single Safety Code for Elevators and Escalators for use in both the U.S. and Canada. That objective was met with the publication of ASME A17.1/CSA B44-2007.

ASME and CSA recognizes that the Code must be written in a form suitable for enforcement by state, municipal, and other jurisdictional or regulatory authorities often referred to in the United States as "Authorities Having Jurisdiction (AHJ)" and in Canada as "Regulatory Authorities (RA)"; and as such, the text is concise, without examples or explanations. It is also recognized that this Code cannot cover every situation nor can it cover new technology before it is developed and field experience is gained. For these reasons, ASME determined that a handbook would be useful to augment the Code by providing a commentary on the Code requirements.

This Handbook contains rationale for the ASME A17.1/CSA B44 Code requirements along with explanations, examples, and illustrations of the implementation of requirements. In addition, it contains excerpts from other nationally recognized standards referenced by the Code. This information is intended to provide users of the ASME A17.1/CSA B44 Code with a better understanding of, and appreciation for, the requirements. The net result should be increased safety for owners, manufacturers, installers, maintainers, consultants, inspection community and users of equipment covered by the ASME A17.1/CSA B44 Code.

Commentary in this Handbook was compiled from ASME A17 Committee minutes, correspondence, and



interpretations, as well as conversations with past and present ASME A17 and CSA B44 committee members.

The original intent for requirements in ASME A17.1 and CSA B44 Codes is obscure in Committee's records. Therefore, this Handbook will convey, through text, examples of calculations, tables and illustrations, the end result of Code requirements as applied to equipment installed today. It should not be construed that examples and illustrations in this Handbook are the only means of complying with ASME A17.1/CSA B44 Code requirements, or that all illustrations necessarily represent all requirements contained in the Code. Some illustrations simply reflect general industry or specific company practices. With information of this type, it is hoped the reader will develop a better understanding of, and appreciation for, requirements in ASME A17.1/CSA B44.

Commentary contained in this Handbook is the opinion of the author. It does not necessarily reflect the official position of ASME, the ASME A17 Standards Committee for Elevators and Escalators, CSA, or the CSA B44 Technical Committee. When an official interpretation of an ASME A17.1/CSA B44 requirement is required, the user should write to the Secretary of the ASME A17 Standards Committee in accordance with instructions in the Preface to the ASME A17.1/CSA B44 Code. Comments and suggestions for this and future editions of the ASME A17.1/CSA B44 Handbook should be addressed to:

Secretary
A17 Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, New York 10016-5990, or
E-mail: infocentral@asme.org.

ASME Elevator and Escalator Courses. ASME Professional Development is a leader in top quality elevator and escalator education. Courses range from an introduction to elevators and escalators, inspection techniques, equipment modification code requirements, maintenance evaluation, to an in depth review of ASME A17.1/CSA B44 using this Handbook as the course text. The course titled *Introduction to Elevators and Escalators (PD 100)* is recommended as a prerequisite for persons with little or no experience in the industry. Other courses meet the needs for those with elevator and escalator experience as well as those who have an extensive background in the industry. To obtain a catalog of course material, contact:

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212-591-7604.

ABBREVIATIONS

Throughout this Handbook, references are made to the ASME A17 Standards Committee and CSA B44 Technical Committee. The term "ASME A17/CSA B44 Committee" is used for that purpose. References are also made to the *Safety Code for Elevators and Escalators*, ASME A17.1/CSA B44. The term "ASME A17.1/CSA B44 Code" is used for that purpose. The reader should keep in mind the reference to the "ASME A17/CSA B44 Committee" is not intended to imply there is only one committee.

METRIC

This edition of the ASME A17.1/CSA B44 Handbook emphasizes metric units. Where the ASME A17.1/CSA B44 Code recognizes either metric or imperial units, both are included in the commentary.

ASME A17.1/CSA B44 CODE REVISIONS

A summary of code changes from ASME A17.1-2004 through ASME A17.1/CSA B44-2007 and CSA B44-04 through ASME A17.1/CSA B44-04 along with approved ballot rationale are in the front of this Handbook. Revisions are made periodically to the Code to incorporate necessary or desirable changes determined from experience gained from the application of the procedures, and address developments in the elevator art. Approved revisions are published periodically. The Committee welcomes proposals from Code users. Such proposals should be as specific as possible: citing Section number(s), proposed wording, pertinent documentation, and a detailed description of the reasons for the proposal. Proposed revisions should be sent to:

Secretary
A17 Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016
E-mail: infocentral@asme.org

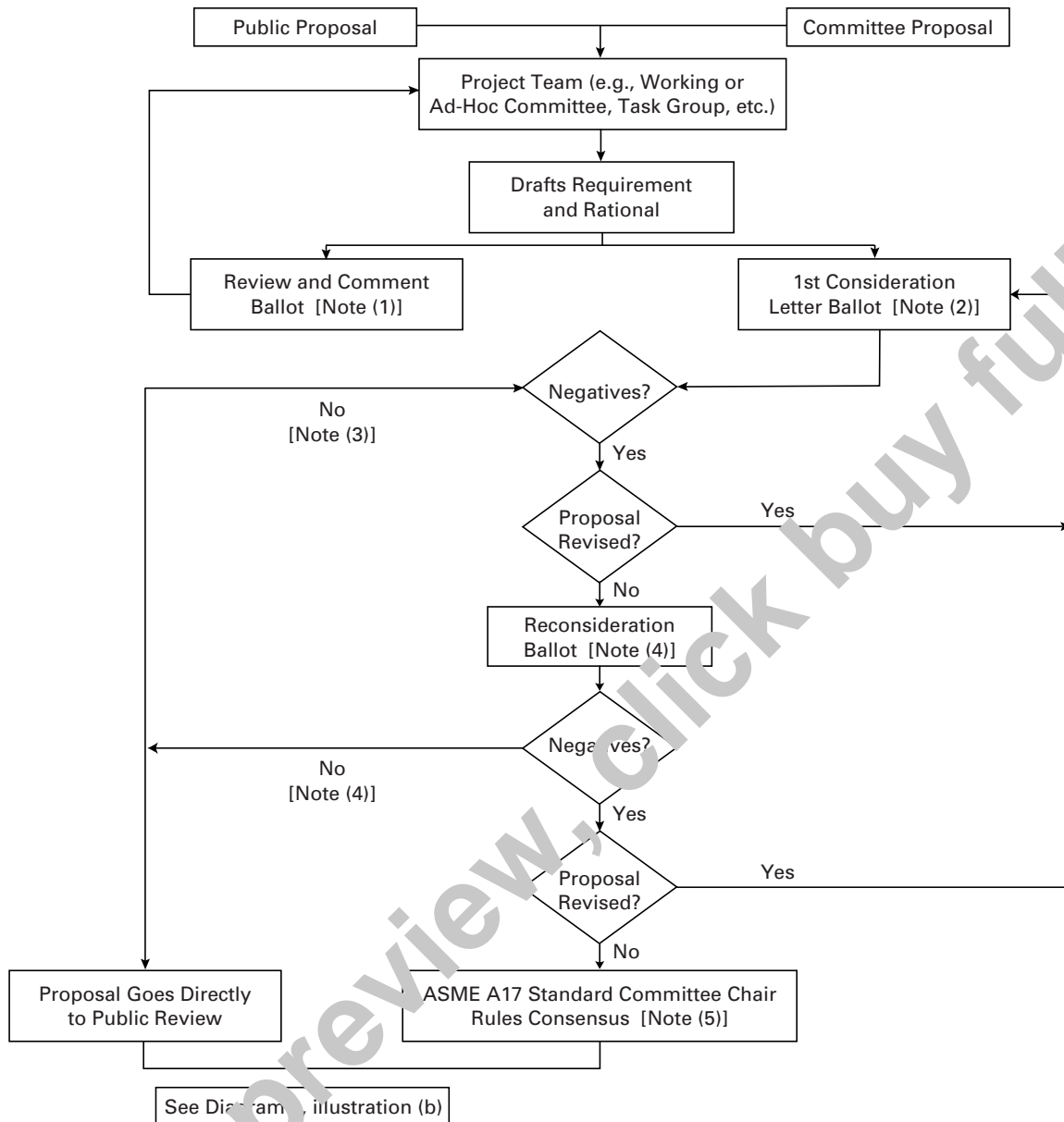
Revisions to the ASME A17.1/CSA B44 Code occurs after an intense formal process assuring due process for all affected parties. The ASME A17 process is illustrated in Diagram 1, illustrations (a) and (b). The CSA process is the same as illustrated in Diagram 1.

ERRATA

Errata to the current ASME A17.1/CSA B44 is published on the ASME A17 Committee Web site. Errata to prior editions of the Code are not readily available. The errata to ASME A17.1-2004 and ASME A17.1S-2005 can be found in this Handbook immediately following summary of code changes.



Diagram 1 ASME A17 Technical Revision Flowchart



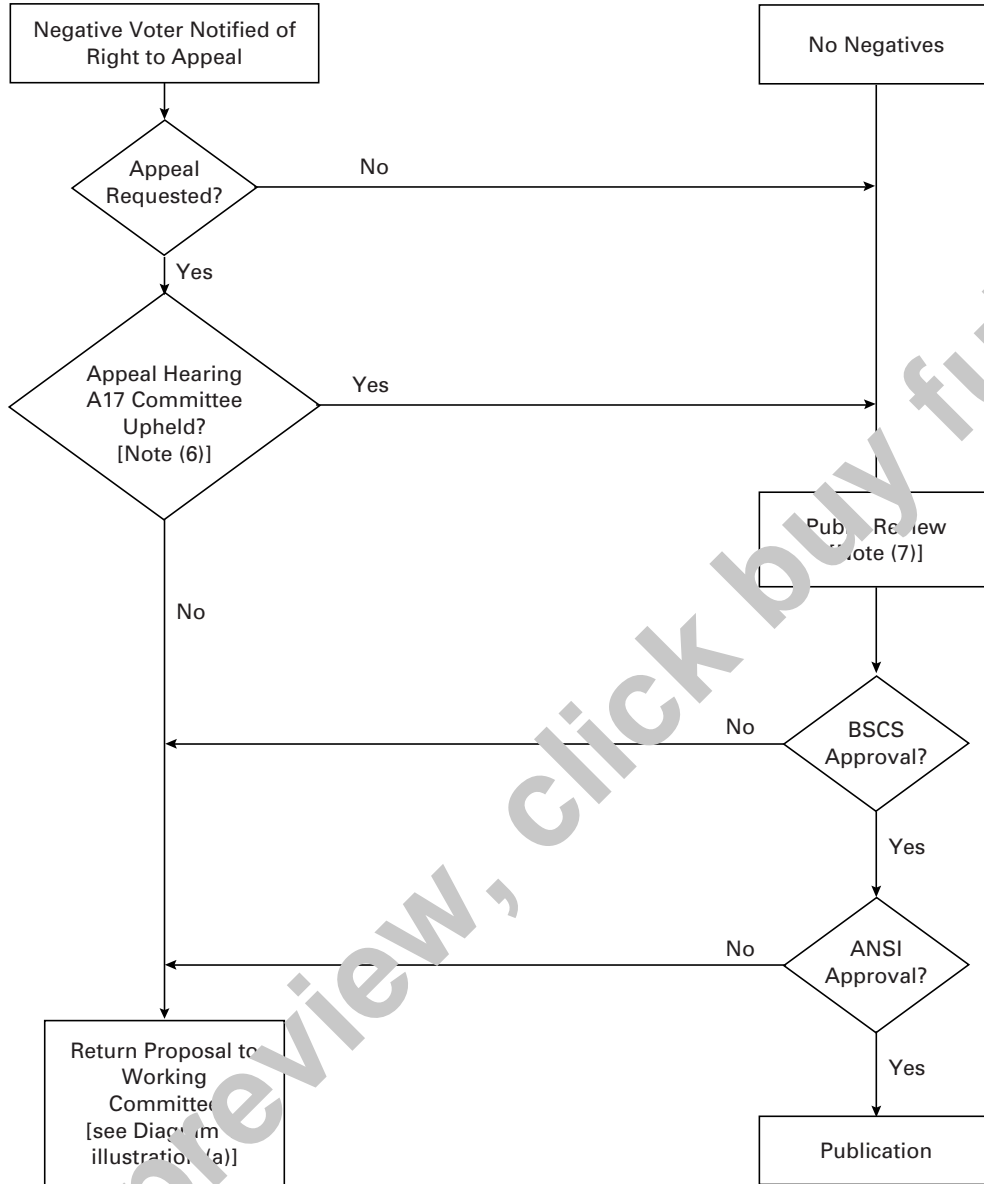
(a)

NOTES:

- (1) Project team determine who receives Review and Comment Ballot, e.g., Working Committee only, other Working Committees, A17 Standards Committee, NIRG, RAC, and/or CSA B44.
- (2) Letter Ballot of A17 Standards Committee, NIRG, RAC, and CSA for distribution to B44 Committee.
- (3) All comments must be addressed. Editorial revision allowed with A17 Standards Committee approval.
- (4) Secretary contacts all negative voters (this includes A17, B44, RAC, NIRG) and asks them if they want to withdraw their negatives and notifies them of their rights to appeal. If all negatives are withdrawn, proposal proceeds to public review. See illustration (b).
- (5) Reconsideration Ballot of A17 Standards Committee if any remaining negatives.
- (6) Assuming at least two-thirds affirmative vote by A17 Standards Committee on proposed revision.



Diagram 1 ASME A17 Technical Revision Flowchart (Cont'd)



(b)

NOTES:

- (6) Three levels of appeal. First appeal to A17 Standards Committee. Second appeal to ASME BSCS. Third appeal to ASME Board on Hearings and Appeals.
- (7) Public review comments sent to working committee. Working Committee may draft response, revise proposal, or withdraw proposal. If proposal revised technically, it is subject to 1st consideration ballot [see Diagram 1, illustration (a)]. Working Committee action subject to approval of A17 Standards Committee.



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The author gratefully acknowledges the time, effort, and dedication of the many people and organizations that assisted and contributed in the preparation of this 2007 Edition of the ASME A17.1/CSA B44 Handbook.

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H. E. (Hank) Peelle III, President, The Peelle Company, Hauppauge, NY
Marcus Tevyaw, C.E.T., Technical Specialist, Technical Standards and Safety Authority, Toronto, ON

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John O'Donoghue, Massachusetts Firefighting Academy, Stow, MA — Section 2.27

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Jean Smith, Schindler Elevator Corp., Morristown, NJ — Sections 8.4 and 8.5

Marcus Tevyaw, Technical Standards and Safety Authority, Toronto, ON — Sections 8.10 and 8.11 and commentary on the deviations in jurisdictions enforcing NBCC.

Others who I would like to thank for contributing material include Jim Runyan for the flow chart and accompanying commentary on requirement 2.3.3.2 and John Weber for Diagram 2.26.9.4(b).

I extend special thanks and appreciation to my partner, friend, and wife, Janet, for her patience and understanding during the countless hours that it took to prepare this Handbook. I am very fortunate for having her support. She deserves as much credit as I do, for her invaluable assistance in the preparation of the manuscript. My appreciation for her contributions cannot be expressed in words.



SUMMARY OF CODE CHANGES

ASME A17.1-2004 AND CSA B44-04 THROUGH ASME A17.1/CSA B44-2007

In this summary of Code changes, the reasons for the revisions published in ASME A17.1a-2005/CSA B44-04 Update 1 are identified by [1a-05]. The revisions published in ASME A17.1S-2005 and CSA B44-04 Supplement 1 are identified by [1S-05]. The revisions published in ASME A17.1/CSA B44-2007 are identified by [07].

The “Reason” reflects the balloted position of the ASME A17 Standards Committee and CSA B44 Technical Committee for revising the requirements. The TN (technical number) number in parentheses immediately following each is an administrative number used by the ASME A17 Committee.

[07] Preface — Application of Requirements to New Technology Revised

REASON: To recognize within ASME A17.1 that compliance with ASME A17.7/CSA B44.7 is equivalent to compliance with ASME A17.1. [TN 05-18]

[07] Preface — Abbreviations Used in This Code Added

REASON: Added units for SIL to abbreviations to cover new dimension in the new Code. [TN 04-811]

[07] Requirement 1.1.1 Revised

REASON: To recognize within ASME A17.1 that compliance with ASME A17.7/CSA B44.7 is equivalent to compliance with ASME A17.1. [TN 05-18]

[07] Requirement 1.1.2 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 1.2.1 Revised

REASON: To recognize within ASME A17.1 that compliance with ASME A17.7/CSA B44.7 is equivalent to compliance with ASME A17.1. [TN 05-18]

[07] Requirement 1.2.2 Revised

REASON: To recognize within ASME A17.1 that compliance with ASME A17.7/CSA B44.7 is equivalent to compliance with ASME A17.1. [TN 05-18]

[07] Section 1.3, Definitions, “alteration, as part of an” Added

REASON: To clarify the term used in alteration section (8.7). [TN 02-3899]

[1a-05] Section 1.3, Definitions, “building code” Revised

REASON: To delete model building codes that are no longer being maintained and include the successor building code. [TN 02-02289]

[1S-05] Section 1.3, Definitions, “control room, elevator, dumbwaiter, material lift” Added

REASON: The definition has been added for a term widely used in the Code, but previously not defined. The definition encompasses old and new technology. [TN 02-3974]

[1S-05] Section 1.3, Definitions, “control space, elevator, dumbwaiter, material lift” Added

REASON: The definition has been added for a term widely used in the Code, but previously not defined. The definition encompasses old and new technology. [TN 02-3974]

[1a-05] Section 1.3, Definitions, “door vertically sliding sequence operation” and “sequence operation” Added

REASON: To define a term used in the Code. [TN 02-00069]

[07] Section 1.3, Definitions, “electrical/electronic/programmable electronic (E/E/PE)” Added

REASON: Added definition derived from IEC 61508 that is relevant to an understanding of the text used in the new Code. [TN 04-811]

[07] Section 1.3, Definitions, “electrical/electronic/programmable electronic system (E/E/PES)” Added

REASON: Added definition derived from IEC 61508 that is relevant to an understanding of the text used in the new Code. [TN 04-811]

[07] Section 1.3, Definitions, “elevator, observation” Revised



REASON: Clarification [TN 03-1934]

[07] Section 1.3, Definitions, “entrance assembly, elevator, dumbwaiter, or material lift” Revised

REASON: Add new rules for clarification of labeling requirements. [TN 02-2937]

[07] Section 1.3, Definitions, “entrance hardware Assembly” Revised

REASON: Add new rules for clarification of labeling requirements. [TN 02-2937]

[07] Section 1.3, Definitions, “escalator skirt, dynamic: see skirt panel, dynamic” Added

REASON: The definition of dynamic skirt panels should be listed with skirt panels and the other escalator definitions for ease of reference. [TN 05-1269]

[07] Section 1.3, Definitions, “fire barrier” Added

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Section 1.3, Definitions, “fire endurance” Deleted

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Section 1.3, Definitions, “fire-protection rating” Added

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Section 1.3, Definitions, “fire-resistance rating” Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Section 1.3, Definitions, “fire-resistive construction” Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[1a-05] Section 1.3, Definitions, “landing, lower, escalator,” “landing, upper, escalator,” “lower landing escalator,” “upper landing escalator,” “landing, lower, moving walk,” “landing, upper, moving walk,” “lower landing moving walk,” and “upper landing moving walk.” “left, right, convention.” Added

REASON: As part of the action on Inquiry 99-50, the Escalator Committee decided to open a TR to develop the definitions for upper landing of moving walks, and for the left and right convention of escalators. This is to make a performance-based rule.

The landing designation is required on horizontal moving walks in order to determine left and right. [TN 02-007]

[07] Section 1.3, Definitions, “leveling device, elevator, dumbwaiter or material lift car” Revised

REASON: The car-leveling device has been updated to use state of the art terminology. [TN 02-2269]

[07] Section 1.3, Definitions, “machine driving” sub-definition “chain-hydraulic driving machine” Added

REASON: Requirement 5.3.1.16.2 allows for chain drive but does not explicitly allow a chain in combination with a hydraulic drive. [TN 03-1609]

[1S-05] Section 1.3, Definitions, “machine room and control room, remote, elevator, dumbwaiter, material lift” Revised

REASON: The definition has been modified to eliminate some current confusion over the meaning of “do not share a common wall.” [TN 02-3974]

[1S-05] Section 1.3, Definitions, “machine room, elevator, dumbwaiter, material lift” Added

REASON: The definition has been added for a term widely used in the Code, but previously not defined. The definition encompasses old and new technology. [TN 02-3974]



[1S-05] Section 1.3, Definitions, “machinery space and control space, remote, elevator, dumbwaiter, material lift” Added

REASON: The definition has been added for a term widely used in the Code, but previously not defined. The definition encompasses old and new technology. [TN 02-3974]

[1S-05] Section 1.3, Definitions, “machinery space, elevator, dumbwaiter, material lift” Added

REASON: The definition has been added for a term widely used in the Code, but previously not defined. The definition encompasses old and new technology. [TN 02-3974]

[07] Section 1.3, Definitions, “manually (manual) reset, elevator” Added

REASON: As a result of Inquiry 01-16 this technical revision was opened to clarify the requirements with regard to “manual reset, elevators”, by developing a definition. [TN 03-1805]

[07] Section 1.3, Definitions, “mode of operation” Added

REASON: Added definitions derived from IEC 61508 that are relevant to an understanding of the text used in the new Code. [TN 04-811]

[07] Section 1.3, Definitions, “mode of operation — high demand or continuous mode” Added

REASON: Added definitions derived from IEC 61508 that are relevant to an understanding of the text used in the new Code. [TN 04-811]

[07] Section 1.3, Definitions, “mode of operation — low demand mode” Added

REASON: Added definitions derived from IEC 61508 that are relevant to an understanding of the text used in the new Code. [TN 04-811]

[07] Section 1.3, Definitions, “mode of operation — proof test” Added

REASON: Added definitions derived from IEC 61508 that are relevant to an understanding of the text used in the new Code. [TN 04-811]

[07] Section 1.3, Definitions, “safety integrity level (SIL)” Added

REASON: Added definitions derived from IEC 61508 that are relevant to an understanding of the text used in the new Code. In reference to safety integrity level (SIL), included are all causes of failures (both random hardware failures and systematic failures), which lead to

an unsafe state (e.g., hardware failures, software induced failures, and failures due to electrical interference). [TN 04881]

[07] Section 1.3, Definitions, “travel” Deleted

REASON: Editorial clarification. The definition is redundant. It is used more than 200 times in the Code having its dictionary meaning but never in the context of its definition. Deleting the definition and replacing the term “travel” with “rise,” where appropriate, would clarify the intent.

Replace the word “travel” with “rise” in the following rules:

Editorial clarification. The term “rise” is defined to mean the vertical distance between the top and bottom landings (a characteristic of the building) served by the elevator. The term “travel” is replaced with “rise,” as it is more appropriate and clarifies the intent.

- (a) 1.1.2(v) and 1.1.2(w)
- (b) 2.12.3.1(a)
- (c) 2.12.3.1(b)
- (d) 2.24.1(c)
- (e) 2.27.1.1.4
- (f) 2.27.1.2(4)
- (g) 2.27.3
- (h) 2.27.4(a)
- (i) 4.3.4
- (j) 4.3.15 (two places)
- (k) 5.3.1.1.2
- (l) 5.3.1.1.3 (only in the first paragraph)
- (m) 5.5.1.26
- (n) 5.6.1.4(d)
- (o) 5.6.1.25.3
- (p) 7.1.12.1.1(b)
- (q) 7.1.12.1.1(c)
- (r) 7.1.12.4
- (s) 7.4.2(d)
- (t) 8.7.2.17
- (u) 8.7.2.17.1 (two places)
- (v) 8.7.2.17.1(b) (only the first two places)
- (w) 8.7.2.17.1(c) (six places)
- (x) 8.7.2.25.2 (four places)
- (y) 8.7.3.22
- (z) 8.7.3.22.1 (five places)
- (aa) 8.7.4.3.7 (two places)
- (bb) 8.10.2.3.2(n)
- (cc) Appendix L
 - (1) Decrease in rise
 - (2) Increase in rise
 - (3) Rise, increase or decrease in
- (dd) INDEX
 - (1) Rise, definition of, Section 1.3
 - (2) Rise, escalator and moving walk, definition of, Section 1.3. [TN02-3403]



[1S-05] Requirement 2.1.1.1.2 Revised

REASON: Added machinery spaces, control spaces, or control rooms to fit with new definitions being proposed and the possibility that the partition would be between them and the hoistway. Added a requirement to clarify that openings are permitted in solid partitions for the elevator equipment. [TN 02-3974]

[07] Requirement 2.1.1.1.2 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[1S-05] Requirement 2.1.1.2.2 Revised

REASON: Added new subpara. (b), so the requirements were renumbered as appropriate.

Added the possibility that the partition not be solid similar to how the enclosure would be between a basement and side mounted machine in the A17.1-2000 Code, and to cover the newly defined rooms and spaces. It is clearer if all the requirements are included in one section. Added a requirement to clarify that openings are permitted in solid partitions for the elevator equipment. [TN 02-3974]

[07] Requirement 2.1.2.3(c) Revised

REASON: Editorially updating cross-references that were overlooked when revisions were made to the original requirement. [TN 04-1570]

[1S-05] Requirement 2.1.2.3(d) and (e) Revised

REASON: Added the possibility that additional loads may be transmitted to the pit floor, such as a machine mounted on the rail, or dead end hitches mounted to the rail. [TN 02-3974]

[1S-05] Requirement 2.1.3.1.1 Revised

REASON: Reworded to recognize that a floor over the hoistway is required only under the stated conditions. [TN 02-3974]

[1S-05] Requirement 2.1.3.1.2 Revised

REASON: The requirements for sheaves, equipment, and governors located in the hoistway have been moved to 2.1.3.1.1, 2.7.6.3.3, and 2.7.6.3.4 for clarification. [TN 02-3974]

[1S-05] Requirement 2.1.3.2 Revised

REASON: Moved to 2.7.1.3.2 to put common requirements for floors for all rooms and spaces in one place. [TN 02-3974]

[1S-05] Requirement 2.1.3.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.1.3.3 renumbered 2.1.3.2. Removed the words "The strength of the" as they are redundant, because the rule is called "Strength of Floor." Added the word "driving" to coincide with the definitions. [TN 02-3974]

[1S-05] Requirement 2.1.3.3 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.1.3.4 renumbered 2.1.3.3. [TN 02-3974]

[1S-05] Requirement 2.1.3.4 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.1.3.5 renumbered 2.1.3.4. Section 2.1.3.5.1 subnumbering no longer required due to removal of 2.1.3.5.2. [TN 02-3974]

[1S-05] Requirement 2.1.3.5.2 Deleted

REASON: Alternative means of accessing overhead sheaves, governors, and other equipment in the hoistway are provided as follows, as such a requirement to always have a catwalk or platform is not necessary:

(a) Access from the top of the car — 2.7.6.3.3 and 2.7.6.3.4.

(b) Access from outside the hoistway — 2.7.3.3.

(c) Access from platforms — 2.7.5.3.

(d) Access from floors above the hoistway — 2.1.3. [TN 02-3974]

[1S-05] Requirement 2.1.3.6 Revised

REASON: Moved to 2.7.1.3.1 to put common requirements for floors for all rooms and spaces in one place. [TN 02-3974]

[1S-05] Requirement 2.1.5 Revised

REASON: Added control room to the requirements, as they can also be applicable. [TN 02-3974]

[07] Requirement 2.1.6 Revised

REASON: It is unclear what was intended by the terms "recess" versus "setback" when the requirement was originally developed in the 1950s. Some dictionaries define a recess as a setback. There is no safety reason to prohibit a recess when a setback is permitted, provided the recess complies with the same requirements



as a setback. This TN is limited to the issue or recesses and does not address the current beveling requirements. [TN 05-333]

[07] Requirement 2.2.2.5 Revised

REASON: To specify the minimum capacity of a sump pump/drain capable of removing water from a typical sprinkler head. This may not guarantee to keep the water out of the pit; however, it will give firefighters additional time to use the elevator before the water in the pit may interfere with its operation. [TN 02-2283]

[07] Requirement 2.2.4 Revised

REASON: Clarification of pit access requirements, including requirements for egress from a pit.

Add requirements for retractable ladders and remove permission to provide reduced clearance behind the ladder rungs.

Add structural requirements based on OSHA. [TN 03-0629]

[07] Requirement 2.2.4.2 Revised

REASON: The 4.5-in. dimension behind the ladder has withstood the test of time and is acceptable. This is also in agreement with OSHA 1925.1053(a)(13). [TN 05-830]

[07] Requirement 2.2.4.5 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 2.2.4.4 renumbered 2.2.4.5. Clarification of pit access requirements, including requirements for egress from a pit.

Add requirements for retractable ladders and remove permission to provide reduced clearance behind the ladder rungs.

Add structural requirements based on OSHA. [TN 03-0629]

[07] Requirement 2.2.4.5(e) Revised

REASON:

(a) Section 8.1 only permits keys for access or operation of equipment. Combination locks do not provide equivalent security, as the combination can easily be disseminated.

(b) There is no safety hazard if a key used for an elevator device also can open other locks in the building. In fact, it could be very helpful to maintenance or inspection personnel. The hazard is when a key used for other locks in the building can access or operate elevator devices.

(c) To indicate that more than one type of personnel can use the devices in Groups 2 and 3. Also, there is no

definition of firefighters' personnel but only emergency personnel is defined, which includes firefighters.

(d) To permit the use of subkey and similar security systems. These systems are widely used by building owners and managers, offer excellent security by restricting access to certain security clearances, are flexible by allowing those with higher security clearance access to lower security areas but not the reverse, and restrict the copying of keys.

(e) To add security requirements for side emergency exits on existing elevators.

(f) To clarify that higher security personnel can have access to lower security keys.

(g) To specifically include locked covers for operating devices.

(h) To standardize the lock requirements.

(i) General clarification. [TN 03-1933]

[07] Requirement 2.2.4.6 Added

REASON: Clarification of pit access requirements, including requirements for egress from a pit.

Add requirements for retractable ladders and remove permission to provide reduced clearance behind the ladder rungs.

Add structural requirements based on OSHA. [TN 03-0629]

[07] Requirement 2.2.8 Revised

REASON: To coordinate with new requirements in A17.1S-2005. [TN 05-330]

[1S-05] Requirement 2.3.2.1 Revised

REASON: Control room has been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1a-05] Requirement 2.3.2.3 Revised

REASON: To protect elevator personnel from coming into contact with the counterweight of an adjacent elevator. [TN 02-3974]

[07] Requirement 2.3.3.1 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[1S-05] Requirement 2.3.3.3 Revised

REASON: Modified to agree with other sections of the Code and NFPA 70 terminology. [TN 02-3974]



[07] Requirement 2.4.6.2(d)(1) Revised

REASON: Editorially updating cross-references that were overlooked when revisions were made to the original requirement. [TN 04-1570]

[07] Requirement 2.4.6.2(e) Revised

REASON: Editorially updating cross-references that were overlooked when revisions were made to the original requirement. [TN 04-1570]

[1a-05] Requirement 2.5.1.4 Revised

REASON: Freight elevators require more clearance due to their size and duty, which results in greater car wobble. [TN 02-3974]

[1a-05] Requirement 2.5.1.5.2 Revised

REASON: Editorial clarification. [TN 02-3974]

[1a-05] Requirement 2.5.1.6 Revised

REASON: Editorial clarification. [TN 02-3974]

[1S-05] Requirement 2.7 Revised

REASON: The other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. To clarify the requirements between a machine room and a machinery space outside the hoistway. [TN 02-3974]

[1S-05] Requirement 2.7.1 Revised

REASON: Requirement revised to reflect the appropriate elevator spaces. Weather requirement moved to section 2.7.6.6, which addresses the location of the equipment. [TN 02-3974]

[1S-05] Requirement 2.7.1.1 Revised

REASON: Revised grammatically. [TN 02-3974]

[1S-05] Note 2.7.1.1 Revised

REASON: Subparagraphs (a) and (b) have been modified to reflect the changes that have been made in the referenced Rules. [TN 02-3974]

[1S-05] Requirement 2.7.1.1.1 Revised

REASON: Control equipment is not a defined term in the Code. Other types of electrical equipment are not fire separated from the rest of the building (e.g., call stations, fire recall panels), as they do not represent the same hazard as a motor controller, which delivers power to the motor. The use of the term “motor controller” is also supported by the definition for control space. [TN 02-3974]

[1S-05] Requirement 2.7.1.1.2 Revised

REASON: All rooms and spaces as required in 2.7.1 have been added to the requirements so that they are covered by the provisions. [TN 02-3974]

[07] Requirement 2.7.1.1.2 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[1S-05] Requirement 2.7.1.2 Revised

REASON: Revised grammatically. [TN 02-3974]

[1S-05] Requirement 2.7.1.2.1 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.7.1.2.2 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.7.1.3 Revised

REASON: Differences in levels of all machine room and control room floors need to be addressed — not just those over the hoistway. [TN 02-3974]

[1S-05] Requirement 2.7.1.3.1 Revised

REASON: Moved from 2.1.3.6 to put common requirements for floors for all rooms and spaces in one place. The requirement was also rewritten, as the wording was redundant. It makes no difference what room or space a person is in. The requirements are to be the same. [TN 02-3974]

[07] Requirement 2.7.1.3.1 Revised

REASON: It is not enforceable language. [TN 05-172]

[1S-05] Requirement 2.7.1.3.2 Revised

REASON: Moved from 2.1.3.2(a) to put common requirements for floors for all rooms and spaces in one place. The requirement was also rewritten to make it clear that machine beams are not always provided, such as in structural floor applications, and that there may not be a floor directly over the hoistway. [TN 02-3974]

[1S-05] Requirement 2.7.2 Revised



REASON: These requirements have been moved to 2.8.1. It is more appropriate to locate them in 2.8.1, the section dealing with equipment in the various elevator spaces, than in 2.7.2, the section dealing with the construction requirements of the various types of spaces. [TN 02-3974]

[1S-05] Requirement 2.7.2.1 Revised

REASON: These requirements have been moved to 2.8.1. It is more appropriate to locate them in 2.8.1, the section dealing with equipment in the various elevator spaces, than in 2.7.1, the section dealing with the construction requirements of the various types of spaces. [TN 02-3974]

[1S-05] Requirement 2.7.3 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.7.3.1.1 Revised

REASON: Redundant wording has been removed from the provisions already contained in 2.7.3. [TN 02-3974]

[1S-05] Requirement 2.7.3.1.2 Revised

REASON: Redundant wording has been removed from the provisions already contained in 2.7.3. [TN 02-3974]

[1S-05] Requirement 2.7.3.2 Revised

REASON: “Access” has been changed to “Passage” to better define the subject matter of the requirements. The wording “to machine rooms or machinery spaces” was removed to broaden the requirements to encompass passage across roofs to the means of access to any type of elevator spaces. Also, editorially rewritten for better language. [TN 02-3974]

[1S-05] Requirement 2.7.3.2.2 Revised

REASON: The wording “to the machine room or machinery space” was removed to broaden the requirements to encompass passage across roofs to the means of access to any type of elevator spaces. [TN 02-3974]

[1S-05] Requirement 2.7.3.3 Revised

REASON: The rule was modified for clarity. Access to the indicated spaces and between any floor levels in such spaces as well as from such spaces to the indicated spaces in the hoistway requires the included provisions. [TN 02-3974]

[1S-05] Requirement 2.7.3.3.1 Revised

REASON: The rule was modified for clarity. Access to the indicated spaces and between any floor levels in such spaces as well as from such spaces to the indicated spaces in the hoistway requires the included provisions. [TN 02-3974]

[1S-05] Requirement 2.7.3.3.2 Revised

REASON: The rule was modified for clarity. Access to the indicated spaces and between any floor levels in such spaces as well as from such spaces to the indicated spaces in the hoistway requires the included provisions. [TN 02-3974]

[1S-05] Requirement 2.7.3.4.1(a), 2.7.3.4.1(b), and 2.7.3.4.1(c) Revised

REASON: The provisions were rewritten for clarity. The requirements for self-closing, self-locking, and keys are applicable to all access doors and openings. [TN 02-3974]

[1S-05] Requirement 2.7.3.4.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.7.3.4.1 renumbered 2.7.3.4.2. Control rooms have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

2.7.3.4.2(a) The provisions for other spaces have been separated from those for machine rooms and control room and moved to 2.7.3.4.3 and 2.7.3.4.X for clarity. [TN 02-3974]

2.7.3.4.2(b) through (d): The provisions have been moved to 2.7.3.4.1 as they generally apply. [TN 02-3974]

[1S-05] Requirement 2.7.3.4.3 Revised

REASON: See rationale for 2.7.3.4.2. [TN 02-3974]

[1S-05] Requirement 2.7.3.4.4 Revised

REASON: See rationale for 2.7.3.4.2. The minimum dimensions have been made the same as for machinery spaces, as they have been safe and adequate. [TN 02-3974]

[1S-05] Requirement 2.7.3.4.5 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.7.3.4.2 renumbered 2.7.3.4.5. Control rooms have been added to the requirements so that they are adequately covered by the provisions. “Machines” was added, as it is possible that access to machines could also be through the machine room or control room floor. [TN 02-3974]

[1S-05] Requirement 2.7.3.4.6 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.7.3.4.3 renumbered 2.7.3.4.6. “Complete” was changed to “full” to be consistent with the definitions.

2.7.3.4.6(b) To allow for increased access to equipment in the hoistway from outside the hoistway without creating a falling hazard. [TN 02-3974]



[1S-05] Requirement 2.7.3.5 Revised

REASON: The requirements have been expanded in concert with the new definitions. The location of the switch has been modified to more generally apply to all types of spaces.

In those cases where a disconnecting means is provided, a separate stop switch is not required.

Where specified stop switches are already required by other provisions of the Code, it is clarified that those suffice and additional switches are not required. [TN 02-3974]

[1S-05] Requirement 2.7.4 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Wording has also been modified for further clarification in accordance with the new definitions. [TN 02-3974]

[1S-05] Requirement 2.7.4.1 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Wording has also been modified for further clarification in accordance with the new definitions. [TN 02-3974]

[1S-05] Requirement 2.7.4.2 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Wording has also been modified for further clarification in accordance with the new definitions. [TN 02-3974]

[1S-05] Requirement 2.7.4.4 Added

REASON: Provisions have been added to cover these types of spaces located outside the hoistway. The headroom dimension of 2 000 mm (78 in.) is equivalent to the minimum headroom required by the Electrical Code, NFPA 70, or CSA C22.1 as applicable. [TN 02-3974]

[1S-05] Requirement 2.7.4.5 Added

REASON: Provisions have been added to cover these types of spaces located inside the car, from the car top or in the pit, and the car is in the blocked position. The electrical codes in 110.26(A)(3) of NFPA 70, and 2-308 and 38-005(1) of CSA C22.1 require working height minimum dimensions that are allowed to be waived by 620.5 and 38-005(2), respectively. This allows minimizing the risk of falling by keeping equipment within reach without using ladders, etc. The proposed language requires that any reduced height be not less than 1 350 mm (53 in.), which is similar to the requirements in 2.7.4.2(c). [TN 02-3974]

[1S-05] Requirement 2.7.4.6 Added

REASON: The headroom dimension of 2 000 mm (78 in.) is equivalent to a minimum headroom specified in the Electrical Code, NFPA 70, or CSA C22.1 as applicable. [TN 02-3974]

[1S-05] Requirement 2.7.5 Added

REASON: This whole new section has been added to address the safety concerns related to working areas in the car, on the car top, and in the pit not necessarily previously addressed in the Code, but more common with today’s technology. [TN 02-3974]

[1S-05] Requirement 2.7.5.1 Added

REASON: These new requirements have been added to address the safety concerns when particular types of equipment are maintained or inspected from within the car or from the car top, which could result in unexpected movement of the car. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.1 Added

REASON: See rationale for 2.7.5.1. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.2(a) Added

REASON: It is important that the means be independent of the equipment that could cause the unexpected movement. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.2(b) Added

REASON: Prescribe the appropriate factors of safety and load requirements for this means. The values of 3.5 for the factor of safety and the 15% for the elongation are consistent with values used for safeties for electric elevators (see 2.17.12.1). When working on brakes, there may be as much as 125% load in the car. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.2(c) Added

REASON: When the car is mechanically blocked, it is important that the car is not electrically driven so as to not put undue stress and load on this means. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.2(d) Added

REASON: The stresses and deflections required are the same as those for the car frame, since in this case the load is transmitted to the car frame. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.2(e) Added

REASON: It is important to warn the user as to the proper usage of the device, and the proper signage requirements are also prescribed. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.2(f) Added



REASON: It is important to prevent accidental disengagement of the device. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.2(g) Added

REASON: It is important that the loss of electrical power or the loss of an electrical circuit not prevent the continued application of the device. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.3 Added

REASON: It is important that egress from the working area be provided. [TN 02-3974]

[1S-05] Requirement 2.7.5.1.4 Added

REASON: Equipment access panels in the car must be restricted to only authorized access, in particular, elevator personnel — Group 1 security. When such panels are open, operation of the machine (i.e., movement of the car must be prevented). [TN 02-3974]

[1S-05] Requirement 2.7.5.2 Added

REASON: These new requirements have been added to address the safety concerns when particular types of equipment are maintained or inspected from within the pit, which could result in uncontrolled or unexpected movement of the car. [TN 02-3974]

[1S-05] Requirement 2.7.5.2.1 Added

REASON: Movement of the car may be prevented by acting on such things as the car, counterweight, or suspension means. [TN 02-3974]

[1S-05] Requirement 2.7.5.2.2 Added

No rationale given. [TN 02-3974]

[1S-05] Requirement 2.7.5.2.3 Added

REASON: It is important that egress from the working area be provided when the means in 2.7.5.2.1 is in use. The 1 220 mm (48 in.) dimension is based on the requirement in 2.2.4.2 that the pit ladder shall extend not less than 1 220 mm (48 in.) above the sill of the access door, or handgrips shall be provided to the same height. [TN 02-3974]

[1S-05] Requirement 2.7.5.2.4 Added

REASON: Where the distance to the equipment is too large, means are required to gain access to it. The requirement is similar to that for access to the underside of the car (see 2.2.8). [TN 02-3974]

[1S-05] Requirement 2.7.5.3 Added

REASON: The allowance for the use of working platforms and their construction requirements have been

removed from 2.1.3.5.2 and have been updated and located in this section of the Code. It is more appropriate to address this in “Working Areas” than in “Floor over hoistways,” where it was located. [TN 02-3974]

[1S-05] Requirement 2.7.5.3.1 Added

REASON: When the working platform is retractable, and in its operating position it is in the line of movement of the car or counterweight, it is important that the car is not electrically driven into the platform from which the person is working. The retractable platform in that case then must be equipped with an electrical protective device to prevent operation of the elevator. [TN 02-3974]

[1S-05] Requirement 2.7.5.3.2 Added

REASON: The appropriate strength requirements are specified for the platform.

The strength requirements are based on mechanical loading involved and are also consistent with those used for working platforms in the EN81-1 Code, 6.4.5.3. [TN 02-3974]

[1S-05] Requirement 2.7.5.3.3 Added

REASON: The open or exposed sides of the platform are required to have a standard railing to prevent falling from the platform. [TN 02-3974]

[1S-05] Requirement 2.7.5.3.4 Added

REASON: Appropriate protection against shearing hazards is required when working from platforms in the hoistway. [TN 02-3974]

[1S-05] Requirement 2.7.5.3.5 Added

REASON: It is necessary to prevent the operation of the elevator when an elevator person is entering the hoistway to access the platform through an access panel or door. Where access is through the landing doors, the protection already exists with the landing door interlock. [TN 02-3974]

[1S-05] Requirement 2.7.5.3.6 Added

REASON: It may be necessary for elevator personnel to operate the machine from the platform to do the necessary maintenance or inspections. [TN 02-3974]

[1S-05] Requirement 2.7.5.4 Added

REASON: When working from a platform that could be struck by the car or counterweight, it is important that the travel of the car is limited so as to not strike the platform. This can be accomplished by a retractable stop to physically stop the car or counterweight before it gets to the platform or by blocking the car with a car-blocking device. [TN 02-3974]



[1S-05] Requirement 2.7.5.5 Added

No rationale given. [TN 02-3974]

[1S-05] Requirement 2.7.5.5(a) Added

REASON: The stop is required to have an electrical protective device to prevent the possibility that the car or counterweight is electrically driven into the stop. [TN 02-3974]

[1S-05] Requirement 2.7.5.5(b) Added

REASON: In some cases it may be necessary to move the car when the working platform is in the operating position, and the stops are in the fully extended position. In those cases the car may be moved only on inspection operation, and additional stopping devices are required to prevent the car from being electrically driven into the stop. [TN 02-3974]

[1S-05] Requirement 2.7.5.5(c) Added

No rationale given. [TN 02-3974]

[1S-05] Requirement 2.7.5.5(d) Added

REASON: To safely stop and support the car or counterweight when a brake is released or as needed by other conditions. [TN 02-3974]

[1S-05] Requirement 2.7.5.5(e) Added

REASON: It is important to prevent accidental disengagement of the device. [TN 02-3974]

[1S-05] Requirement 2.7.6 Revised

REASON: This section has been expanded to cover the location of rooms, spaces, and the specified equipment that has not been addressed in the past. [TN 02-3974]

[1S-05] Requirement 2.7.6.1 Revised

REASON: Wording added to clarify that machine and control room is not always required. Sheave and machine parts wording is unnecessary as it is now covered in 2.7.6.3. [TN 02-3974]

[1S-05] Requirement 2.7.6.2 Added

REASON: Added to address the location of machinery spaces and control spaces and to clarify the meaning of "inside the hoistway." [TN 02-3974]

[1S-05] Requirement 2.7.6.3 Added

REASON: These requirements were added to specify where the elevator driving machine and motor controller are to be located. All necessary requirements for other equipment are covered. [TN 02-3974]

[1S-05] Requirement 2.7.6.3.1 Added

REASON: These requirements were added to specify where the elevator driving machine and motor controller are to be located. All necessary requirements for other equipment are covered. [TN 02-3974]

[1S-05] Requirement 2.7.6.3.2 Added

REASON: They also provide for the necessary security requirements.

NOTE: Adequate working clearances are required by the Electrical Code, NFPA 70, or CSA C22.1 as applicable. [TN 02-3974]

[1S-05] Requirement 2.7.6.3.3 Added

REASON: Requirements have been moved from 2.1.3.1.2 and modified for clarity. [TN 02-3974]

[1S-05] Requirement 2.7.6.3.4 Added

REASON: Requirements have been moved from 2.1.3.1.2 and modified for clarity. [TN 02-3974]

[1S-05] Requirement 2.7.6.4 Added

REASON: The devices necessary for tests must be operable from outside the hoistway. In some cases they are required to be provided in a separate enclosure outside the hoistway, when particular control equipment is located in the hoistway (see 2.7.6.5.1). Dynamic tests of the elevator should not be performed from within the hoistway due to the hazards of moving cars, counterweights, the risks of short or long safety stops, etc., which could put personnel in a hazardous situation. These requirements specify that the means to perform these tests must be provided outside the hoistway to preclude these hazards. [TN 02-3974]

[1S-05] Requirement 2.7.6.4.1 Added

REASON: When direct observation of the machine sheave is not possible, the key elements of movement such as direction, door opening position, and approximate speed must be visible to the personnel performing the tests. [TN 02-3974]

[1S-05] Requirement 2.7.6.4.2 Added

No rationale given. [TN 02-3974]

[1S-05] Requirement 2.7.6.4.3 Added

REASON: To provide a safe means for moving the car when there is no normal power. [TN 02-3974]

[1S-05] Requirement 2.7.6.5.1 Added

REASON: When the devices are not already provided for from outside the hoistway, then they must be provided in a separate, secure enclosure that has adequate lighting in



the work area, and must not open towards the hoistway where it could be struck by the car or counterweight, etc. Some of the electrical protective devices or circuits may not be available to service personnel to be temporarily jumpered to allow movement of the car. It may be necessary to move cars off of terminal limits, move cars up to release the car safety, etc. These provisions require a special inspection operation that accomplishes this. The operation is subject to the single failure requirements etc. in 2.26.9.3(a) and 2.26.9.4. The “BYPASS” switches [see (a)] are also required to be located in this enclosure so as to be accessible to the service personnel at all times. [TN 02-3974]

[1S-05] Requirement 2.7.6.5.2 Added

REASON: The display devices need to be provided outside the hoistway at the location of the means.

NOTE: Adequate working clearances are required by the Electrical Code, NFPA 70, or CSA C22.1 as applicable. [TN 02-3974]

[1S-05] Requirement 2.7.6.6 Added

REASON: Requirement moved here from 2.7.1. The requirement has also been clarified to require that the equipment, etc. must be suitable for the application if it is to be exposed to the weather. [TN 02-3974]

[1S-05] Requirement 2.7.7 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.7.7.1 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.7.8 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[07] Requirement 2.7.8.1 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[1S-05] Requirement 2.7.8.3 Revised

REASON: Modified to agree with other sections of the Code and NFPA 70 Terminology. [TN 02-3974]

[1S-05] Requirement 2.7.9 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.7.5 renumbered 2.7.9. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.7.9.1 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.7.5.1 renumbered 2.7.9.1. The requirements were modified to better clarify what is meant by “permanent” and to clarify the illumination requirements for the various working areas including when the car is in the blocked position. [TN 02-3974]

[1S-05] Requirement 2.7.9.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.7.5.2 renumbered 2.7.9.2. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provision. [TN 02-3974]

[1S-05] Section 2.8 Revised

REASON: This section has been expanded to explicitly cover equipment in all “elevator” spaces, not just hoistways and machine rooms. [TN 02-3974]

[1S-05] Requirement 2.8.1 Added

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.7.2 renumbered 2.8.1. These requirements have been moved here from 2.7.2 because they are more appropriate here than in the section dealing with the construction requirements of the various types of spaces. They have also been expanded to cover all types of “elevator” spaces, not just hoistways and machine rooms. This addition requires renumbering of the rest of the section as shown. [TN 02-3974]

[1S-05] Requirement 2.8.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.1 renumbered 2.8.2. Renumbered because of the addition of a requirement. [TN 02-3974]

[1S-05] Requirement 2.8.2.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.1.2 renumbered 2.8.2.2. Renumbered because of the addition of a requirement. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[07] Requirement 2.8.2.2 Revised

REASON: To recognize that coaxial wiring and antennas used only for communication in elevators are permitted



to be located in the hoistway. [TN 04-957]

[1S-05] Requirement 2.8.2.3 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.1.3 renumbered 2.8.2.3. Renumbered because of the addition of a requirement. [TN 02-3974]

[1a-05] Requirement 2.8.2.3.2 Revised

REASON: If the power supply to the elevator main line power disconnecting means is lost, the system will not function as intended in an emergency. The proposed requirement would require monitoring of the circuit wiring (supervision) in compliance with the provisions in NFPA 72. Under current conditions, it is conceivable that a circuit could be off or a broken connection, rendering the automatic disconnecting means inoperable, without anyone knowing that the condition exists. This requirement would help to ensure the automatic disconnecting means operational circuit remain energized at all times. Should a problem occur, NFPA 72 would require a trouble signal be initiated on the fire alarm panel (see ASME A17.1, 2.27.3.2.1, and NFPA 72, 3-9.3.1), identifying the trouble and signaling that immediate attention to remedy that fault is needed. [TN 02-02284]

[1S-05] Requirement 2.8.3 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2 renumbered 2.8.3. [TN 02-3974]

[1S-05] Requirement 2.8.3.1 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.1 renumbered 2.8.3.1. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Also, editorial changes due to renumbering. [TN 02-3974]

[1S-05] Requirement 2.8.3.1.1 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.1.1 renumbered 2.8.3.1.1. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Also, editorial changes due to renumbering. [TN 02-3974]

[1S-05] Requirement 2.8.3.1.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.1.2 renumbered 2.8.3.1.2. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Also, editorial changes due to renumbering. [TN 02-3974]

[1S-05] Requirement 2.8.3.1.3 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.1.3 renumbered 2.8.3.1.3. [TN 02-3974]

[1S-05] Requirement 2.8.3.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.2 renumbered 2.8.3.2. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Also, editorial changes due to renumbering. [TN 02-3974]

[1S-05] Requirement 2.8.3.3 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.3 renumbered 2.8.3.3. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Also, editorial changes due to renumbering. [TN 02-3974]

[1S-05] Requirement 2.8.3.3.1 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.3.1 renumbered 2.8.3.3.1. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.8.3.3.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.3.2 renumbered 2.8.3.3.2. The requirement has been rewritten in a more performance-based language to cover other locations not previously covered in the Code and also permit alternatives to disconnection of power. If electrical or mechanical equipment is exposed to water from sprinklers and affects safe operation of the elevator, then either disconnection of power or an enclosure protecting the equipment from the exposure to water are examples of permitted alternatives. Section 2.27.3.3.6 contains additional requirements for electrical equipment located on the landing side of the hoistway.

If the power supply to the elevator main line power disconnecting means is lost, the system will not function as intended in an emergency. The proposed requirement would require monitoring of the circuit wiring (supervision) in compliance with the provisions in NFPA 72. Under current conditions, it is conceivable that a circuit could be off or a broken connection, rendering the automatic disconnecting means inoperable, without anyone knowing that the condition exists. This requirement would help to ensure the automatic disconnecting means operational circuit remain energized at all times. Should a problem occur, NFPA 72 would require a trouble signal be initiated on the fire alarm panel (see ASME



A17.1, 2.27.3.2.1, and NFPA 72, 3-9.3.1), identifying the trouble and signaling that immediate attention to remedy that fault is needed. [TN 02-3974]

[07] Requirement 2.8.3.3.2 Revised

REASON: To clarify that power shall be removed and the elevator shall not move. [TN 05-1265]

[1S-05] Requirement 2.8.3.3.3 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.3.3 renumbered 2.8.3.3.3. [TN 02-3974]

[07] Requirement 2.8.3.3.4 Revised

REASON: To clarify the requirements for electrical equipment on the car when sprinklers are provided in the pit. [TN 03-0636]

[1S-05] Requirement 2.8.3.3.4 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.3.4 renumbered 2.8.3.3.4. [TN 02-3974]

[1S-05] Requirement 2.8.3.4 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.4 renumbered 2.8.3.4. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.8.3.5 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.2.5 renumbered 2.8.3.5. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.8.4 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.3 renumbered 2.8.4. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.8.5 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.4 renumbered 2.8.5. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. Also editorial changes due to renumbering. [TN 02-3974]

[1a-05] Requirement 2.8.5 Revised

REASON: To ensure attachments to the elevator car and counterweight are considered in the structural design and required clearances. [TN 02-02254]

[1S-05] Requirement 2.8.5.1 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.4.1 renumbered 2.8.5.1. [TN 02-3974]

[1S-05] Requirement 2.8.5.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.4.2 renumbered 2.8.5.2. [TN 02-3974]

[1S-05] Requirement 2.8.5.3 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.4.3 renumbered 2.8.5.3. [TN 02-3974]

[1S-05] Requirement 2.8.5.4 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.4.4 renumbered 2.8.5.4. Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.8.5.5 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.4.5 renumbered 2.8.5.5. [TN 02-3974]

[1S-05] Requirement 2.8.6 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.8.5 renumbered 2.8.6. To ensure attachments to the elevator car and counterweight are considered in the structural design and required clearances. [TN 02-3974]

[1S-05] Requirement 2.9.1 Revised

REASON: Modified to recognize all known types of machinery and equipment support. [TN 02-3974]

[1S-05] Requirement 2.9.1.3 Revised

REASON: Modified to recognize all known types of machinery and equipment support. [TN 02-3974]

[1S-05] Requirement 2.9.2.1(a) Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.9.2.1(b) Revised

REASON: Revised to take into consideration that the floor may be supporting the load of the tensions. [TN 02-3974]



[1S-05] Requirement 2.9.3 Revised

REASON: Modified to recognize the securing of equipment to all known types of machinery and equipment supports. [TN 02-3974]

[1S-05] Requirement 2.9.3.1.1 Revised

REASON: Modified to recognize the securing of equipment to all known types of machinery and equipment supports. [TN 02-3974]

[1S-05] Requirement 2.9.3.1.2 Revised

REASON: Clarification: sound isolation in shear or tension without securing bolts or fastenings would be unsafe. [TN 02-3974]

[1S-05] Requirement 2.9.3.2.1 Revised

REASON: [TN 02-3974]

[1S-05] Requirement 2.9.3.2.2 Revised

REASON: Requirement 2.9.3.2.2 moved to Requirement 2.9.3.5 for editorial reasons; see rationale for 2.9.3.5. [TN 02-3974]

[1S-05] Requirement 2.9.3.2.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.9.3.2.3 renumbered 2.9.3.2.2. [TN 02-3974]

[1S-05] Requirement 2.9.3.3 Added

REASON: New requirements to cover the securing of equipment and machinery to guide rails and structural walls. [TN 02-3974]

[1S-05] Requirement 2.9.3.3.1 Added

REASON: To recognize the exceptions when mounting to guide rails or structural walls. [TN 02-3974]

[1S-05] Requirement 2.9.3.3.2 Added

REASON: Clarification: sound isolation in shear or tension without securing bolts or fastenings would be unsafe. [TN 02-3974]

[1S-05] Requirement 2.9.3.3.3 Added

REASON: No rationale given. [TN 02-3974]

[1S-05] Requirements 2.9.3.3.3 and 2.9.3.3.4 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirements 2.9.3.3.3 and 2.9.3.3.4 moved to 2.9.3.5 for editorial reasons-see rationale for 2.9.3.5. [TN 02-3974]

[1S-05] Requirement 2.9.3.4 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.9.3.3 renumbered 2.9.3.4. [TN 02-3974]

[1S-05] Requirement 2.9.3.4.1 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.9.3.3.1 renumbered 2.9.3.4.1. [TN 02-3974]

[1S-05] Requirement 2.9.3.4.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.9.3.3.2 renumbered 2.9.3.4.2. [TN 02-3974]

[1S-05] Requirements 2.9.3.4.3 and 2.9.3.4.4 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirements 2.9.3.3.5 and 2.9.3.3.6 renumbered due to relocation of 2.9.3.3.3 and 2.9.3.3.4 requirements. Not all hitch plates are supported by beams, but the supporting structure should nonetheless comply with the requirements. [TN 02-3974]

[1S-05] Requirement 2.9.3.4.4 Revised

REASON: Requirements 2.9.3.4.3 and 2.9.3.4.4 moved to 2.9.3.5 for editorial reasons — see rationale for 2.9.3.5. [TN 02-3974]

[1S-05] Requirement 2.9.3.5 Added

REASON: This requirement is applicable to all bolts made of steel as used in 2.9.3.2.1, 2.9.3.3.3, and 2.9.3.4.2 and editorially should be shown as a more general requirement so as to avoid repeating it in every section. The requirement is stated in positive language and rewritten to eliminate a term that is not to be used in ASME A17.1. [TN 02-3974]

[1S-05] Requirement 2.9.3.6 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 2.9.3.4 renumbered 2.9.3.6. [TN 02-3974]

[1S-05] Requirement 2.9.4 Revised

REASON: Modified to cover stress requirements for the added possible types of supports. [TN 02-3974]

[1S-05] Requirement 2.9.4.3 Added

REASON: Added requirements to restrict the use of cast metals where used with guide rails or structural walls. [TN 02-3974]

[1S-05] Requirement 2.9.5 Revised

REASON: Modified to cover deflection requirements for the added possible types of supports. [TN 02-3974]

[1S-05] Requirement 2.9.6 Revised



REASON: Modified to cover stress requirements during emergency braking for the added possible types of supports. [TN 02-3974]

[1S-05] Requirement 2.10.1 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements so that they are adequately covered by the provisions. [TN 02-3974]

[1S-05] Requirement 2.10.1(a) Revised

REASON: Where location is such to minimize contact, additional guarding is not required.

[1a-05] Requirement 2.10.2 Revised

REASON: Prior requirements are design-restrictive. The addition of strength requirements provides adequate support for the railing and its support posts without specifying the location of posts or requiring toe-boards to be fastened to the posts. The forces specified meet OSHA requirements. [TN 02-02883]

[1a-05] Requirement 2.11.1.3 Revised

REASON: To provide the correct reference for two-way conversation. [TN 04-000638]

[07] Requirement 2.11.1.3 Revised

REASON: Editorial correction to reference that was updated in A17.1a-2002. [TN 05-331]

[07] Requirement 2.11.1.4 Revised

REASON:

(a) Section 8.1 only permits keys for access or operation of equipment. Combination locks do not provide equivalent security, as the combination can easily be disseminated.

(b) There is no safety hazard if a key used for an elevator device also can open other locks in the building. In fact, it could be very helpful to maintenance or inspection personnel. The hazard is when a key used for other locks in the building can access or operate elevator devices.

(c) To indicate that more than one type of personnel can use the devices in Groups 2 and 3. Also, there is no definition of firefighters’ personnel but only emergency personnel is defined, which includes firefighters.

(d) To permit the use of sub-key and similar security systems. These systems are widely used by building owners and managers, offer excellent security by restricting access to certain security clearances, are flexible by allowing those with higher security clearance access to lower security areas but not the reverse, and restrict the copying of keys.

(e) To add security requirements for side emergency exits on existing elevators.

(f) To clarify that higher security personnel can have access to lower security keys.

(g) To specifically include locked covers for operating devices.

(h) To standardize the lock requirements.

(i) General clarification. [TN 03-1933]

[1a-05] Requirement 2.11.6.3 Revised

REASON: To ensure that elevator doors are the only allowable restriction to elevator car egress. Egress from the landing is outside the Scope of ASME A17.1. See building code. [TN 02-02253]

[1a-05] Requirement 2.11.12.2 Revised

REASON: Editorial coordination with 2.11.11.3. Section 2.11.12.2.3 includes provision that is critical to provide structural integrity during a fire. [TN 02-00069]

[1a-05] Requirement 2.11.13.3.3 Revised

REASON: Recognition of the need for unlatching devices on some entrances (e.g., swinging). Labeled fire resistive swinging entrances require a center latch. [TN 02-02271]

[07] Requirement 2.11.14.1(a) Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Requirement 2.11.15.1 Revised

REASON: Add new rules for clarification of labeling requirements. [TN 02-2937]

[07] Requirements 2.11.15.1.1 Through 2.11.15.1.4 Revised

REASON: Add new rules for clarification of labeling requirements. [TN 02-2937]

[07] Requirement 2.11.15.2 Revised

REASON: Add new rules for clarification of labeling requirements. [TN 02-2937]

[07] Requirement 2.11.19 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.



(c) Revise terminology to correlate with definitions. [TN 03-0527]

[1a-05] Requirement 2.12.2.4.1 Revised

REASON: Editorially revised for clarity. [TN 02-00069]

[07] Requirement 2.12.2.4.6 Deleted

REASON: This requirement was added to CSA B44 more than 15 years ago in reaction to one interlock that is no longer in production. It became part of A17 during harmonization. The requirement is not field verifiable, and no attempt to do so has ever been part of inspection procedures in Canada or the U.S., with no resultant reported incidents.

Any interlock that would violate this requirement or the current CSA B44 requirement, which requires a force in any direction, would also not be in compliance with one or more of the following requirements:

(a) Section 1.3: the definition of “Hoistway Door Interlock”

(b) 2.11.11.5.8: means to prevent opening of locked doors

(c) 2.12.2.4.1: electrical contact bridging means shall withstand a separating force of 200 N (45 lb) in any direction

(d) 2.12.2.4.3: interlock shall lock the door in the closed position with a minimum engagement of 7 mm

(e) 8.3.3.4.5: misalignment type test

(f) 8.3.3.8: static force type test

In addition, since this requirement was added into CSA B44, the interlock type tests have been strengthened. They now require a minimum 7 mm engagement between locking elements (8.3.3.4.10). The endurance tests for interlocks have also been strengthened and now include the requirement 960,000 cycles (8.3.3.4.1).

Requirements 2.12.2.4.6 and 2.12.3.4.5 are being deleted as they are neither verifiable nor enforceable, and do nothing to improve elevator safety. [TN 03-1099]

[1a-05] Requirement 2.12.3.1(a) Revised

REASON: Editorial clarification. [TN 02-00069]

[07] Requirement 2.12.3.4.5 Deleted

REASON: This requirement was added to CSA B44 more than 15 years ago in reaction to one interlock that is no longer in production. It became part of A17 during harmonization. The requirement is not field verifiable, and no attempt to do so has ever been part of inspection procedures in Canada or the U.S., with no resultant reported incidents.

Any interlock that would violate this requirement or the current CSA B44 requirement, which requires a force in

any direction, would also not be in compliance with one or more of the following requirements:

(a) Section 1.3: the definition of “Hoistway Door Interlock”

(b) 2.11.11.5.8: means to prevent opening of locked doors

(c) 2.12.2.4.1: electrical contact bridging means shall withstand a separating force of 200 N (45 lb) in any direction

(d) 2.12.2.4.3: interlock shall lock the door in the closed position with a minimum engagement of 7 mm

(e) 8.3.3.4.5: misalignment type test

(f) 8.3.3.8: static force type test

In addition, since this requirement was added into CSA B44, the interlock type tests have been strengthened. They now require a minimum 7 mm engagement between locking elements (8.3.3.4.10). The endurance tests for interlocks have also been strengthened and now include the requirement 960,000 cycles (8.3.3.4.1).

Requirements 2.12.2.4.6 and 2.12.3.4.5 are being deleted as they are neither verifiable nor enforceable, and do nothing to improve elevator safety. [TN 03-1099]

[1a-05] Requirement 2.12.4.1(b) Revised

REASON: To insert the correct effective date now that the CSA B44 deviation has been eliminated. [TN 03-01803]

[07] Requirement 2.12.6.2.4 Revised

REASON:

(a) Section 8.1 only permits keys for access or operation of equipment. Combination locks do not provide equivalent security as the combination can easily be disseminated.

(b) There is no safety hazard if a key used for an elevator device also can open other locks in the building. In fact, it could be very helpful to maintenance or inspection personnel. The hazard is when a key used for other locks in the building can access or operate elevator devices.

(c) To indicate that more than one type of personnel can use the devices in Groups 2 and 3. Also, there is no definition of firefighters’ personnel but only emergency personnel is defined, which includes firefighters.

(d) To permit the use of sub-key and similar security systems. These systems are widely used by building owners and managers, offer excellent security by restricting access to certain security clearances, are flexible by allowing those with higher security clearance access to lower security areas but not the reverse, and restrict the copying of keys.

(e) To add security requirements for side emergency exits on existing elevators.



(f) To clarify that higher security personnel can have access to lower security keys.

(g) To specifically include locked covers for operating devices.

(h) To standardize the lock requirements.

(i) General clarification. [TN 03-1933]

[07] Requirement 2.12.7.3.2 Added

REASON: Added requirement for redundant speed monitoring consistent with the requirement for leveling and releveling and the requirement of 2.26.9.3(c). [TN 04-811]

[1a-05] Requirement 2.14.1.7.1 Revised

REASON: Current requirements are design restrictive. The addition of strength requirements provides adequate support for the railing and its support posts without specifying the location of posts or requiring toeboards to be fastened to the posts. The forces specified meet OSHA requirements. [TN 02-02883]

[07] Requirement 2.14.2.1.2 Revised

REASON: The more restrictive flame spread and smoke development ratings are required by the NBCC on all elevators in a high building, not just elevators used as Firefighters' Elevators. [TN 06-778]

[1S-05] Requirement 2.14.2.2(f) and (g) Revised

REASON: The requirements for access panels for the cleaning of glass are covered in 2.14.2.6 and those for equipment access panels are covered in 2.7.5.1.4 as well as 2.14.2.2(g). Requirements in (f) and (g) are revised for editorial clarification. The requirements stricken in (f) are actually requirements for equipment access panels and as such have been moved to (g). Those requirements referenced were removed from the Code; as such, they have been rewritten in total. [TN 02-3974]

[1S-05] Requirement 2.14.3.2 Revised

REASON: Equipment access panels in the car are permitted. [TN 02-3974]

[1a-05] Requirement 2.14.5.8.2 Revised

REASON: Glass doors are classified as a hazardous location by the CPSC and building codes. Glass in hazardous locations must conform to 16 CFR Part 1201. [TN 02-02794]

[1a-05] Requirement 2.14.7.1.3 Revised

REASON: To clarify that auxiliary illumination is required 300 mm in front of any device required to operate the elevator or emergency devices. Renumbered for editorial clarification. Applies to freight and passenger

elevators. Auxiliary power source is required on each car so that a breakage in the traveling cable may not interrupt the power to the auxiliary lighting. [TN 02-00043]

[07] Requirement 2.14.7.1.3 Revised

REASON: According to ICC/ANSI A117.1 and CSA/B44 Appendix E, emergency control buttons are required to be located a minimum of 890 mm (35 in.) above the car floor. In most cases floor buttons are permitted to be 1 220 mm (48 in.) above the car floor. The auxiliary lighting should illuminate the car operating panel with the minimum illumination over this entire area. [TN 05-332]

[07] Requirement 2.14.7.1.4 Revised

REASON: Existing requirement is vague, and, consequently, many car tops are not adequately lighted. The committee has chosen to use performance language to require adequate lighting either be fixed or portable. [TN 02-3621]

[07] Requirement 2.16.3.2.1 and 2.16.3.2.2 Revised

REASON: To add new information and clarify the required content for crosshead data plates. Edits shown are also updated according to ASME A17.1-2004 Code. [TN 02-3391]

[1S-05] Requirement 2.16.7.10 Revised

REASON: Other types of appropriate "elevator" spaces have been added to the requirements, as the operating device could be located in any of these types and dependent upon which type is provided for the installation. This requirement to visually observe the machine during this mode of operation was added because it was deemed important for safety. [TN 02-3974]

[1S-05] Requirement 2.16.8(j) Added

REASON: Added (j) because of additions to 2.7.5.1.2(b) for 125% load. [TN 02-3974]

[1S-05] Requirement 2.18.4.4 Revised

REASON: There is no safety reason to not permit manual reset of the switches in the same manner as is permitted for the governor itself (see 2.18.6.5). Also, in the case in which the governor is located in the hoistway, means should definitely be permitted to reset the switch from outside the hoistway. See also the official response to Inquiry 01-16. [TN 02-3974]

[1S-05] Requirement 2.18.6.5 Revised

REASON: Note added for clarification based on the response to Inquiry 97-05. [TN 02-3974]



[07] Requirement 2.19.1.2(a)(1)(b) Revised

REASON: Revised to recognize the application of SIL rated devices. The added new wording in the proposals exempts electrical/electronic/programmable electronic systems (E/E/PES) used for elevator safety that are SIL rated, certified/listed, and labeled/marked in compliance with ASME A17.1/B44 from the requirements of “not render(ing) the detection means inoperative.” The reason for the exemption is that the SIL rating of the safety device/function already covers this requirement by assuring the reliability of the device. If the device/circuitry is certified/labeled and if it is applied in accordance with the safety integrity level (SIL) as indicated for the devices in ASME A17.1, Table 2.26.4.3.2, then such a device is designed to “not render the detection means inoperative” during the service life of the elevator by meeting the required SIL value as required by ASME A17.1. The SIL value is more stringent than the current ASME A17.1 prescriptive language. SILs not only address the requirements for redundancy but also component reliability, common mode failure, and diagnostic coverage not addressed by the current Code. See the appended SIL Evaluation Example A and the example in IEC 61508-6 Annex B for further insight. [TN 04-811]

[07] Requirement 2.19.2.2(a)(1)(b) Revised

REASON: Revised to recognize the application of SIL rated devices. The added new wording in the proposals exempts electrical/electronic/programmable electronic systems (E/E/PES) used for elevator safety that are SIL rated, certified/listed, and labeled/marked in compliance with A17.1/B44 from the requirements of “not render(ing) the detection means inoperative.” The reason for the exemption is that the SIL rating of the safety device/function already covers this requirement by assuring the reliability of the device. If the device/circuitry is certified/labeled and if it is applied in accordance with the safety integrity level (SIL) as indicated for the devices in ASME A17.1, Table 2.26.4.3.2, then such a device is designed to “not render the detection means inoperative” during the service life of the elevator by meeting the required SIL value as required by ASME A17.1. The SIL value is more stringent than the current ASME A17.1 prescriptive language. SILs not only address the requirements for redundancy but also component reliability, common mode failure, and diagnostic coverage not addressed by the current Code. See the appended SIL Evaluation Example A and the example in IEC 61508-6 Annex B for further insight. [TN 04-811]

[1S-05] Requirement 2.19.3.2(h) Revised

REASON: In this case, confusion could exist as to which is the driving-machine brake and the emergency brake and could create a hazardous situation for elevator personnel working on the brakes. The signage will eliminate this. [TN 02-3974]

[07] Requirement 2.21.4 Revised

REASON: The wording “proof load” is related to steel chain used on compensation chains. Basing the factor of safety on chain proof load will result in a factor of safety of 10 instead of 5 as requirement for compensation means.

The wording “breaking load” has a definition on ASTM E6-1994 (Standard Terminology Relating to Methods of Mechanical Testing), which “covers the principal terms relating to methods of mechanical testing of solids.”

The wording “minimum breaking force” had a definition in ASTM A 413/A 413M-93 (Standard Specification for Carbon Steel Chain) and in ISO 4344-1983 (Steel wire rope for lifts).

Also, the wording “minimum breaking force” is used on in the new Proposed Standard (A17XX) for Suspension Means (new standards for Wire Ropes, Aramid Fiber Ropes for Elevators and Elastomeric Coated Steel Belts for Elevators), which is in development.

Using the wording “minimum braking load” or “braking force” would satisfy the requirement to use a load or force value that must be met or exceeded when a representative part sample of the compensation means is submitted to a standard tensile test. Also, it would conform to other standards, which already have definitions consistent with the above wording.

Using the required factor of safety of 5 for compensation means with the minimum breaking force, for chain, agrees with an early recommendation of “using 80% of the working load limit as criteria.” Working load limit of chain has a ratio of 4:1 factor of safety in relation to its minimum breaking force, and applying 80% on it will result exactly on 5 for the accumulated factor of safety, which agrees with the Code required factor of safety of 5 for compensation means. [TN 02-4149]

[07] Requirement 2.21.4.1 Revised

REASON: Editorial [TN 03-1239]

[07] Requirement 2.21.4.2 Revised

REASON: Editorial [TN 03-1239]

[07] Requirement 2.22.4.10.3 Revised

REASON: Editorially updating cross-references that were overlooked when revisions were made to the original requirement (2.17.27). [TN 05-1609]

[1S-05] Requirement 2.23.4 Added

REASON: Where these types of equipment are mounted to a guide rail, the resultant static or dynamic loads



imposed on the rail or rails must be taken into account by the designer in the manner in which they affect the rail. [TN 02-3974]

[1S-05] Requirement 2.23.5.1.1 Revised

REASON: To consider the additional forces imposed on the rail due to equipment supported by the rail. [TN 02-3974]

[1a-05] Requirement 2.24.8.4 Revised

REASON: Rule 2.24.8.4 now allows a manual release of the normal service brake presumably to permit a mechanic to “move” the car to a landing in the event of power failure. This may include mechanical, electrical, hydraulic or any combination of these means to perform the functions of manual release or movement of the car. If the ascending car protection or unintended motion protection device depends on power it must activate when the power fails. This means that the mechanic needs a way to manually disable this device as well, before he or she can “move” the car. [TN 02-03399]

[1a-05] Rule 2.24.9.3 [208.9c] Revised

REASON: The Rule was completely rewritten in the 1983 supplement to the 1981 as shown above. Prior to then, the Rule addressed only screw machines, only referred to “belts” and “two or more separate chains,” and there was no requirement for monitoring. Considering the fact that a factor of safety of 10 is required for belt sets, and chains are required to have a service factor of 2, the likelihood of a simultaneous catastrophic failure of the three belts or chains is essentially nonexistent. Even the failure or slackening of a single belt or chain poses no safety problem, again because of the required factors of safety, and because each individual belt or rope must be monitored, which will immediately determine the presence of a problem and shut the elevator down. The basic intent of the monitoring is to take the car out of service to avoid placing undue stresses on the remaining belts or chains, and to alert the owner that the car will not run and that a service professional must be called to determine and rectify the problem. Electrical protective devices are by their very nature “immediate” safety devices. That is, they operate when an imminent safety risk exists and, therefore, the design constraints of the devices are very important. The broken/slack belt or chain monitoring does not have the same imminency or importance. [TN 02-02364]

[1S-05] Requirement 2.25.2.2.1 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements, as the stopping devices could be located in any of these types of spaces. [TN 02-3974]

[1S-05] Requirement 2.25.4.1.6 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements, as the stopping devices could be located in any of these types of spaces. [TN 02-3974]

[1S-05] Requirement 2.26.1.3 Revised

REASON: The requirement was modified to agree with the changes made to 2.16.7.10. [TN 02-3974]

[1S-05] Requirement 2.26.1.4.1 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements, as the operating devices could be located in any of these types of spaces. Reference added to new Appendix and table, which illustrates the hierarchy of operation during inspection operation and hoistway access switch operation. [TN 02-3974]

[07] Requirement 2.26.1.4.1(d)(1) Revised

REASON: Added requirement for redundant speed monitoring consistent with the requirement for leveling and releveling and the requirement of 2.26.9.3(c). [TN 04-811]

[1S-05] Requirement 2.26.1.4.2(g) Added

REASON: This permitted operation of the top-of-car inspection operation allows the car to move higher within the stated limitations to permit safer servicing and repair of equipment in the overhead. [TN 02-3974]

[1S-05] Requirement 2.26.1.4.4 Revised

REASON: Other types of appropriate “elevator” spaces have been added to the requirements necessitating a name change, as the operating device could be located in any of these types of spaces. [TN 02-3974]

[1S-05] Requirement 2.26.1.4.4(a) Revised

REASON: No reason provided. [TN 02-3974]

[1S-05] Requirement 2.26.1.4.4(b), (c), and (d) Added

REASON: It is imperative that when inspection is provided from more than one location, that the requirements establish a safe hierarchy of operation. [TN 02-3974]

[1S-05] Requirement 2.26.1.5 Revised

REASON: Revised to clarify that a single set of switches are to be provided. “Machine room” was deleted, as the switches are required to be located at the controller enclosure where the relevant circuits are located. The reference to 2.7.6.5 was added, since in that special case the switches are required to be located as specified. [TN 02-3974]



[1S-05] Requirement 2.26.1.5.4 Revised

REASON: Need to alert to the fact that if on BYPASS operation, and if a pit inspection operation transfer switch, or a platform inspection operation transfer switch is placed into the inspection position, that the control system should then prohibit operation. [TN 02-3974]

[1S-05] Requirement 2.26.2 Revised

REASON: Additional rules were added to the section. [TN 02-3974]

[1a-05] Requirement 2.26.2.5(d) Revised

REASON: To correct reference in revised section on emergency communications. [TN 03-01843]

[1S-05] Requirement 2.26.2.24 Revised

REASON: This change was made to coordinate with the changes to 2.7.3.5. Other types of appropriate "elevator" spaces have been added to the requirements, as the operating device could be located in any of these types of spaces. Editorial to point to the specific requirement. [TN 02-3974]

[1S-05] Requirement 2.26.2.34 Added

REASON: This new device was added by 2.7.5.1.2 and must be shown in this list. [TN 02-3974]

[1S-05] Requirement 2.26.2.35 Added

REASON: This new device was added by 2.7.5.1.4 and is also referenced by 2.14.2.2(g) and needs to be shown in this list. [TN 02-3974]

[1S-05] Requirement 2.26.2.36 Added

REASON: This new device, which was added by 2.7.5.3.1, must be shown in this list. [TN 02-3974]

[1S-05] Requirement 2.26.2.37 Added

REASON: This new device, which was added by 2.7.5.5(a), must be shown in this list. [TN 02-3974]

[07] Requirement 2.26.2.38 Added

REASON: Clarification of pit access requirements, including requirements for egress from a pit.

Add requirements for retractable ladders and remove permission to provide reduced clearance behind the ladder rungs.

Add structural requirements based on OSHA. [TN 03-0629]

[07] Requirement 2.26.4.2 Revised

REASON: Changes are considered to be editorial to make the applicable ASME A17.1 requirements agree with Scope of CSA B44.1/ASME A17.5 and to make the language in ASME A17.1 consistent. [TN 06.53]

[07] Requirement 2.26.4.3.1 Revised

REASON: New subparagraph to 2.26.4.3. Same as present requirements in 2.26.4.3. [TN 04-811]

[07] Requirement 2.26.4.3.2 Added

REASON: IEC 61508 has been conceived with a rapidly developing technology in mind; the framework is sufficiently robust and comprehensive for future developments.

Computer-based systems (generically referred to as programmable electronic systems (electrical/electronic/programmable electronic systems) are being used for elevator design to perform non-safety functions and, increasingly, are being used to perform safety functions.

IEC 61508 sets out a generic approach for all safety lifecycle activities (e.g., from initial concept, through design, implementation, operation and maintenance to end of life) for systems composed of electrical and/or electronic and/or programmable electronic components (E/E/PESs) that are used to perform safety functions. Measures for demonstration of SIL rating are prescribed in Parts 2 and 3 of IEC 61508.

Typically elevator safety is achieved by a number of protective systems, which rely on many technologies (e.g., mechanical, hydraulic, pneumatic, electrical, electronic, programmable electronic). Therefore, safety strategies for such devices as EPDs must consider not only the elements within it (e.g., sensors, controlling devices, and actuators), but also all the safety-related systems making up the total combination of safety related systems.

IEC 61508 uses safety integrity levels (SILs) for specifying the target level of safety integrity for safety functions to be implemented (e.g., EPDs) by the E/E/PES safety-related systems.

Default to fail-safe state where an internal fault is diagnosed is specified. [TN 04-811]

[07] Table 2.26.4.3.2 and Notes 1 Through 6 Added

REASON: SIL values in the table were developed according to the process for SIL development outlined in IEC 61508-5. The resulting SIL values were then also harmonized where possible to the highest value between A17.1/B44 risk assessment results and independent work completed by CEN for CEN-EN 81, Amendment 1 and ISO/TC178/WG8. See Committee Record dated May 23, 2005.



In Table 2.26.4.3.2, requirement 2.26.2.20, no risk assessment performed due to obsolete technology. [TN 04-811]

Notes 1 through 6 under Table 2.26.4.3.2 clarify relevant information with respect to SIL values provided in the table. [TN 04-811]

[07] Table 2.26.4.3.2 Added to

REASON: SIL values in the table were developed according to the process for SIL development outlined in IEC 61508-5. The resulting SIL values were then also harmonized where possible to the highest value between A17.1/B44 risk assessment results and independent work completed by CEN for CEN-EN 81 Amendment 1 and ISO/TC178/WG8. See Committee Record dated May 23, 2005.

Changes were made to these SIL values based upon comments received on LB 05-1114 for TN 04-811. [TN 06-33]

[07] Requirement 2.26.5 Revised

REASON: The door position monitoring requirements were only intended to prevent automatic operation, and not constant pressure operation (as indicated in the heading for this section). This should be made clear in the body of the requirement (and not just the heading). Since 2.12.7 and 2.26.1.5 do not permit automatic operation of the car, these references should be deleted. Also, there are some minor editorial items that need to be addressed (i.e., a missing article and two extraneous commas). [TN 05-1420]

[1S-05] Requirement 2.26.7 Revised

REASON: The change is necessary to accommodate the addition of Rule 2.7.6.5.2(h). [TN 02-3974]

[1S-05] Requirement 2.26.8.1 Revised

REASON: Electrical release of the brake is now permitted when the machine is located in the hoistway and not accessible from outside the hoistway. [TN 02-3974]

[07] Requirement 2.26.8.2 Revised

REASON: To properly locate the requirements for the brake circuit in rules 2.26.9.5 and 2.26.9.6 and permit the application of E/E/PES [also see rationale for 2.26.9.3(a)]. [TN 04-811]

[07] Requirement 2.26.9.3 Revised

REASON: To address the application of E/E/PES in control and operating circuits including related wiring (see also rationale for 2.26.9.4). The safety integrity level of these circuits must be at least as high as the highest SIL rating of any of the requirements in Table 2.26.4.3

applied to those circuits irrespective of whether an E/E/PES electrical protective device is actually used in that circuit. Also see Diagram 1 of the Committee Record.

Application of the measures of IEC 61508 already takes into account failure modes and design process/requirements, including redundancy, necessary to ensure within a confidence level the required reliability and safety integrity of E/E/PES components. The SIL rating addresses the failure requirements for the software system. A software system in conformance with the proposed requirements will be certified to meet performance requirements for reliability not presentably called for by the present Code. This new requirement ensures the intent of 2.26.9.3 is met by a software system for both failure mode and intended reliability. The purpose of the risk analysis used was to establish the required reliability and replace the prescriptive requirements in the current Code with performance based requirements.

See also 7.6.2.10 of IEC 61508-1 "7.6.2.10 For an E/E/PE safety-related system that implements safety functions of different safety integrity levels, unless it can be shown there is sufficient independence of implementation between these particular safety functions, those parts of the safety-related hardware and software where there is insufficient independence of implementation shall be treated as belonging to the safety function with the highest safety integrity level. Therefore, the requirements applicable to the highest relevant safety integrity level shall apply to all those parts." [TN 04-811]

[1S-05] Requirement 2.26.9.3(d) Revised

REASON: Added single failure requirement when this new device is used. [TN 02-3974]

[07] Requirement 2.26.9.4 Revised

REASON: To clarify the term "redundant devices," which is intended to refer to any method that is used to satisfy the requirements of 2.26.9.3. A safety integrity level is ensured by addressing both the failure modes and reliability of the design. The term "redundancy" only addressed failure mode.

2.26.9.4(b): Application of the measures of IEC 61508 takes into account failure modes and design process/requirements, including redundancy, necessary to ensure within a confidence level the required reliability and safety integrity of E/E/PES components. The SIL rating addresses the failure requirements for the software system. A software system in conformance with the proposed requirements will be certified to meet performance requirements for reliability not presentably called for by the present Code. This new requirement ensures the intent of 2.26.9.4 is met by a software system



for both failure mode and intended reliability. The purpose of the risk analysis used was to establish the required reliability and replace the prescriptive requirements in the current Code with performance-based requirements.

The risk assessment used in the TG work to establish equivalent safety for the E/E/PES used in elevators determined the appropriate SIL requirement for each safety function up to and including the control and operating circuits and related wiring, connectors, etc., where the function's final action is the removal of power from the motor and brake. Also see Diagram 1 of the Committee Record. [TN 04-811]

[07] Requirement 2.26.9.5 Revised

REASON: Subclauses referenced renumbered. [TN 04-811]

[07] Requirement 2.26.9.5.1 Revised

REASON: Permit E/E/PES safety-related circuits to be applied [see 2.26.9.5.2(b)]. [TN 04-811]

[07] Requirement 2.26.9.5.1(a)(1) and (2) Added

REASON: To harmonize with the EN-81 Code. [TN 04-811]

[07] Requirement 2.26.9.5.1(b) Added

REASON: The risk assessment used in the TG work to establish equivalent safety for the E/E/PES used in elevators determined the appropriate SIL requirement for each EPD function up to and including the control and operating circuits where the function's final action is the removal of power from the motor and brake. Also see Diagram 1 of the Committee Record dated May 23, 2005. [TN 04-811]

[07] Requirement 2.26.9.5.2 Deleted

REASON: Now covered by 2.26.9.5.1. [TN 04-811]

[07] Requirement 2.26.9.5.2 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 2.26.9.5.3 renumbered 2.26.9.5.2. Also see reason for 2.26.9.5.1. [TN 04-811]

[07] Requirement 2.26.9.5.3 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 2.26.9.5.5 renumbered 2.26.9.5.3. The term "means" used to permit the application of E/E/PES [also see reason for 2.26.9.5.1(b)]. [TN 04-811]

[07] Requirement 2.26.9.5.4 Deleted

REASON: Deleted and requirement moved to 2.26.8.2; also, see reason for 2.26.8.2. [TN 04-811]

[07] Requirement 2.26.9.5.4 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 2.26.9.5.6 renumbered 2.26.9.5.4. Also see reason for 2.26.9.5.1(a)(2). Also, to make clear that this requirement is still applicable where contactors are used. [TN 04-811]

[07] Requirement 2.26.9.6.1 Revised

REASON: Subclauses referenced were renumbered. [TN 04-811]

[07] Requirement 2.26.9.6.2 Deleted

REASON: Subclauses referenced were renumbered. [TN 04-811]

[07] Requirement 2.26.9.6.2 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 2.26.9.6.3 renumbered 2.26.9.6.2. Subclauses referenced renumbered. [TN 04-811]

[07] Requirement 2.26.9.6.3 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 2.26.9.6.5 renumbered 2.26.9.6.3. Subclauses referenced were renumbered. [TN 04-811]

[07] Requirement 2.26.9.6.4 Deleted

REASON: Subclauses referenced were renumbered. [TN 04-811]

[07] Requirement 2.26.9.6.4 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 2.26.9.6.6 renumbered 2.26.9.6.4. Subclauses referenced were renumbered. [TN 04-811]

[07] Section 2.27 (Note) Revised

REASON: Remind users of this Code to look at additional requirements in other codes. [TN 05-347]

[07] Requirement 2.27.1.1.1 Revised

REASON: Clarification that emergency communications should be directed to a location on or off site where an appropriate response can be taken. Clarification that when communication from within the building to an elevator car is required, that the communication means in the building be available to emergency personnel. [TN 05-979]

[07] Requirement 2.27.1.1.2 Revised

REASON: Clarification that emergency communications should be directed to a location on or off site where an appropriate response can be taken. Clarification that



when communication from within the building to an elevator car is required, that the communication means in the building be available to emergency personnel. [TN 05-979]

[07] Requirement 2.27.1.1.4 Revised

REASON: Clarification that emergency communications should be directed to a location on or off site where an appropriate response can be taken. Clarification that when communication from within the building to an elevator car is required, that the communication means in the building be available to emergency personnel. [TN 05-979]

[1a-05] Requirement 2.27.1.1.5 Revised

REASON: To correct wording and convert to performance language. Standby or emergency power is not required in all buildings. There still should be a requirement for back-up power for emergency communications. To delete the inappropriate reference to NFPA 99 which is applicable only to health care facilities. [TN 02-00011]

[07] Requirement 2.27.3 Revised

REASON:

(a) Clarification of the requirements in 2.27.3.1.6(l) and 2.27.3.3.1(k) that service tools, etc. used by elevator personnel are now addressed by these requirements.

(b) Coordination with building code flood plane requirements. Elevator, even on Phase II, should not travel below base flood elevation when flooding is taking place.

(c) See TN 02-02296 for proposed reference to Section 8.12, Flood Resistance. [TN 03-1127]

[07] Requirement 2.27.3 Revised

REASON: The B44 Committee reviewed proposed revisions to 2.27.3 and 2.27.3.2.2 at its 2003 Annual Meeting and voted to submit the proposals to the A17 Emergency Operations Committee to try to harmonize the requirements for mandatory automatic recall and Phase II operation. [TN 03-1854]

[07] Requirement 2.27.3.1.1 Revised

REASON: To clarify that the Phase I and II Fire Service key switches cannot be spring loaded. [TN 04-969]

[07] Requirement 2.27.3.1.2 Revised

REASON: To clarify that the Phase I and II Fire Service key switches cannot be spring loaded. [TN 04-969]

[1S-05] Requirement 2.27.3.1.4 Revised

REASON: The other types of "elevator spaces" containing the motor controller may be provided on an

installation; the fire alarm initiation device needs to be located in such spaces. The wording was revised to reflect this. [TN 02-3974]

[07] Requirement 2.27.3.1.6(l) Revised

REASON:

(a) Clarification of the requirements in 2.27.3.1.6(l) and 2.27.3.3.1(k) that service tools, etc. used by elevator personnel are now addressed by these requirements.

(b) Coordination with building code flood plane requirements. Elevator, even on Phase II, should not travel below base flood elevation when flooding is taking place.

(c) See TN 02-02296 for proposed reference to Section 8.12, Flood Resistance. [TN 03-1127]

[07] Requirement 2.27.3.1.6(n) Added

REASON:

(a) Power supplies (auxiliary power supplies) are currently being installed that offer limited operating capability when electric elevators lose mainline power.

(b) This proposal addressed the requirements for firefighters' emergency operations on electric elevators equipped with an auxiliary power supply.

(c) It proposes allowing persons to find alternative means of leaving the building when the auxiliary power supply is insufficient to conform to the requirements of Phase I and Phase II Emergency Operation.

(d) Turning the in-car fire lamp off informs the firefighter that the car is not available for Phase II operation.

(e) Note that this does not apply where an emergency or standby power system is provided. [TN 02-0002]

[1S-05] Requirement 2.27.3.2.1(b) Revised

REASON: The other types of "elevator spaces" containing the motor controller may be provided on an installation; the fire alarm initiation device needs to be located in such spaces. The wording was revised to reflect this. [TN 02-3974]

[07] Requirement 2.27.3.2.2 Revised

REASON: The CSA B44 Committee reviewed proposed revisions to 2.27.3 and 2.27.3.2.2 at its 2003 Annual Meeting and voted to submit the proposals to the ASME A17 Emergency Operations Committee to try to harmonize the requirements for mandatory automatic recall and Phase II operation. [TN 03-1854]

[1S-05] Requirement 2.27.3.2.2(c) Revised

REASON: The other types of "elevator spaces" containing the motor controller may be provided on an installation; the fire alarm initiation device needs to be located in such spaces. The wording was revised to reflect this. [TN 02-3974]



[07] Requirement 2.27.3.2.3 Revised

REASON: The CSA B44 Committee reviewed proposed revisions to 2.27.3 and 2.27.3.2.2 at its 2003 Annual Meeting and voted to submit the proposals to the ASME A17 Emergency Operations Committee to try to harmonize the requirements for mandatory automatic recall and Phase II operation. [TN 03-1854]

[1S-05] Requirement 2.27.3.2.3(b) Revised

REASON: The other types of “elevator spaces” containing the motor controller may be provided on an installation; the fire alarm initiation device needs to be located in such spaces. The wording was revised to reflect this. [TN 02-3974]

[07] Requirement 2.27.3.2.3(d) Revised

REASON:

(a) Power supplies (auxiliary power supplies) are currently being installed that offer limited operating capability when electric elevators lose mainline power.

(b) This proposal addressed the requirements for firefighters’ emergency operations on electric elevators equipped with an auxiliary power supply.

(c) It proposes allowing persons to find alternative means of leaving the building when the auxiliary power supply is insufficient to conform to the requirements of Phase I and Phase II Emergency Operation.

(d) Turning the in-car fire lamp off informs the firefighter that the car is not available for Phase II operation.

(e) Note that this does not apply where an emergency or standby power system is provided. [TN 02-0002]

[1a-05] Requirement 2.27.3.2.4 Revised

REASON: To make it clear that the cars should never move to the alternate floor after being recalled to the designated level. The reason for connecting smoke detectors to the elevator system is to appropriately position the elevators while the fire department is still on the way. This prevents building occupants from being delivered to a fire floor, and permits the firefighters to get to work more quickly when they arrive. The detectors at the designated level prevent the passengers from being delivered to a fire at that floor. Once the passengers are out and the firefighters have arrived, the detectors serve no purpose (from an elevator point of view; they are still useful for tracking smoke spread at the fire alarm panel). Once the firefighters decide it is safe to return the cars to the designated level, there is no reason to return the cars to the alternate again. [TN 03-01110]

[1a-05] Requirement 2.27.3.2.4(a) Revised

REASON: Editorial correction. [TN 03-01841]

[07] Requirement 2.27.3.2.4(b) Revised

REASON:

(a) Power supplies (auxiliary power supplies) are currently being installed that offer limited operating capability when electric elevators lose mainline power.

(b) This proposal addressed the requirements for firefighters’ emergency operations on electric elevators equipped with an auxiliary power supply.

(c) It proposes allowing persons to find alternative means of leaving the building when the auxiliary power supply is insufficient to conform to the requirements of Phase I and Phase II Emergency Operation.

(d) Turning the in-car fire lamp off informs the firefighter that the car is not available for Phase II operation.

(e) Note that this does not apply where an emergency or standby power system is provided. [TN 02-0002]

[1a-05] Requirement 2.27.3.2.5 Revised

REASON: To make it clear that the cars should never move to the alternate floor after being recalled to the designated level. The reason for connecting smoke detectors to the elevator system is to appropriately position the elevators while the fire department is still on the way. This prevents building occupants from being delivered to a fire floor, and permits the firefighters to get to work more quickly when they arrive. The detectors at the designated level prevent the passengers from being delivered to a fire at that floor. Once the passengers are out and the firefighters have arrived, the detectors serve no purpose (from an elevator point of view; they are still useful for tracking smoke spread at the fire alarm panel). Once the firefighters decide it is safe to return the cars to the designated level, there is no reason to return the cars to the alternate again. [TN 03-01110]

[1S-05] Requirement 2.27.3.2.6 Revised

REASON: The other types of “elevator spaces” containing the motor controller may be provided on an installation; the fire alarm initiation device needs to be located in such spaces. The wording was revised to reflect this. [TN 02-3974]

[07] Requirement 2.27.3.3 Revised

REASON: Current rule permits any motion at any speed (below rated speed) to re-establish position. Many old relay systems re-established position at the top or bottom terminal. This means a firefighter who is half a floor away from the destination when the power returns might be taken on a long, slow ride back down to the bottom floor before starting to his destination again, delaying arrival at the fire. It also means a firefighter who was planning on exiting the car two floors below the fire floor might be taken on a slow ride past the fire floor and all the way to the top floor. This revision reduces these risks by restricting the motion of the car. Firefighters do not use the elevator if the fire is below



them; moving towards the recall floor is moving towards safety; moving away might put them in danger. Also, since the guiding principle of Phase II "ON" operation is that the firefighter in the car is in control, it is unfavorable to initiate any actions automatically, so the car is not permitted to find itself until a firefighter enters a call, indicating that he or she is ready for the car to move. Also, current rules do not address the behavior of a door that is partly open at power-up, allowing various results, some of which may surprise or strand a firefighter. The behavior is now specified. [TN 02-2777]

[07] Requirement 2.27.3.3 Revised

REASON: Phase II has three distinct modes of operation, OFF, HOLD, and ON. The phrase that is recommended for deletion is technically accurate, but can and does cause confusion with the other requirements of Phase II Emergency In Car Operation. As revised, this requirement accurately, and more succinctly, describes the operation of the elevator when the FIRE OPERATION switch is placed in the OFF (Phase II Recall) position under the described circumstances. [TN 02-3067]

[07] Requirement 2.27.3.3 Revised

REASON: To clarify that the Phase I and II Fire Service key switches cannot be spring loaded. [TN 04-969]

[07] Requirement 2.27.3.3 Revised

First paragraph to remain unchanged. Revise second paragraph.

REASON: The existing Code does not currently address the special case of manual doors on Fire Phase II operation. It might be awkward in some cases for the firefighters to hold open a self-closing car gate and a swing hoistway door, for example, and try to operate the Phase II switch at the same time, which is what the current Code requires in order for the Phase II switch to be effective (except for the "OFF" position, per 2.27.3.3.4). This proposal would permit the firefighters to allow the doors to close once they have entered the car at the recall landing, and the Phase II switch would still be effective. Also, this proposal allows the firefighters to put a car on "HOLD" and remove the key before opening the door at a floor away from the recall landing, which might be more convenient for them. [TN 04-1597]

[07] Requirement 2.27.3.3 New third paragraph added

REASON: The existing Code does not currently address the special case of manual doors on Fire Phase II operation. It might be awkward in some cases for the firefighters to hold open a self-closing car gate and a swing hoistway door, for example, and try to operate the Phase II switch at the same time, which is what the current Code requires in order for the Phase II switch to be

effective (except for the "OFF" position, per 2.27.3.3.4). This proposal would permit the firefighters to allow the doors to close once they have entered the car at the recall landing, and the Phase II switch would still be effective. Also, this proposal allows the firefighters to put a car on "HOLD" and remove the key before opening the door at a floor away from the recall landing, which might be more convenient for them. [TN 04-1597]

[07] Requirement 2.27.3.3.1(c), (h), and (i) Revised

REASON:

(a) The intent of this rule was to prevent the use of security systems or key-operated switches that would limit the use of the elevator by a firefighter. The new wording is performance oriented to permit designs other than individual pushbuttons (such as keypads).

(b) The new wording makes it clear that the floor selection means must be available to the Firefighter, but are not required to be available to the public.

(c) Relocate the DOB/DCB requirements to the rule that requires those buttons.

(d) To ensure the devices are operable by a firefighter wearing protective gloves. [TN 02-2334]

[07] Requirement 2.27.3.3.1(i) and (k) Revised

REASON:

(a) Clarification of the requirements in 2.27.3.1.6(l) and 2.27.3.3.1(k) that service tools, etc. used by elevator personnel are now addressed by these requirements.

(b) Coordination with building code flood plane requirements. Elevator, even on Phase II, should not travel below base flood elevation when flooding is taking place.

(c) See TN 02-02296 for proposed reference to Section 8.12, Flood Resistance. [TN 03-1127]

[07] Requirement 2.27.3.3.1(m) Added

REASON:

(a) Power supplies (auxiliary power supplies) are currently being installed that offer limited operating capability when electric elevators lose mainline power.

(b) This proposal addressed the requirements for firefighters' emergency operations on electric elevators equipped with an auxiliary power supply.

(c) It proposes allowing persons to find alternative means of leaving the building when the auxiliary power supply is insufficient to conform to the requirements of Phase I and Phase II Emergency Operation.

(d) Turning the in-car fire lamp off informs the firefighter that the car is not available for Phase II operation.

(e) Note that this does not apply where an emergency or standby power system is provided. [TN 02-0002]

[07] Requirement 2.27.3.3.1(m) Revised



REASON:

(a) The intent of this rule was to prevent the use of security systems or key-operated switches that would limit the use of the elevator by a firefighter. The new wording is performance oriented to permit designs other than individual pushbuttons (such as keypads).

(b) The new wording makes it clear that the floor selection means must be available to the firefighter, but are not required to be available to the public.

(c) Relocate the DOB/DCB requirements to the rule that requires those buttons.

(d) To ensure the devices are operable by a firefighter wearing protective gloves. [TN 02-2334]

[07] Requirement 2.27.3.3.2 Revised

REASON: The existing Code does not currently address the special case of manual doors on Fire Phase II operation. It might be awkward in some cases for the firefighters to hold open a self-closing car gate and a swing hoistway door, for example, and try to operate the Phase II switch at the same time, which is what the current Code requires in order for the Phase II switch to be effective (except for the "OFF" position, per 2.27.3.3.4). This proposal would permit the firefighters to allow the doors to close once they have entered the car at the recall landing, and the Phase II switch would still be effective. Also, this proposal allows the firefighters to put a car on "HOLD" and remove the key before opening the door at a floor away from the recall landing, which might be more convenient for them. [TN 04-1597]

[07] Requirement 2.27.3.3.2 New second paragraph added

REASON: The existing Code does not currently address the special case of manual doors on Fire Phase II operation. It might be awkward in some cases for the firefighters to hold open a self-closing car gate and a swing hoistway door, for example, and try to operate the Phase II switch at the same time, which is what the current Code requires in order for the Phase II switch to be effective (except for the "OFF" position, per 2.27.3.3.4). This proposal would permit the firefighters to allow the doors to close once they have entered the car at the recall landing, and the Phase II switch would still be effective. Also, this proposal allows the firefighters to put a car on "HOLD" and remove the key before opening the door at a floor away from the recall landing, which might be more convenient for them. [TN 04-1597]

[07] Requirement 2.27.3.3.4 Revised

REASON: Phase II has three distinct modes of operation, OFF, HOLD, and ON. The phrase that is recommended for deletion is technically accurate, but can and does cause confusion with the other requirements of Phase II

Emergency In Car Operation. As revised, this requirement accurately, and more succinctly, describes the operation of the elevator when the FIRE OPERATION switch is placed in the OFF (Phase II Recall) position under the described circumstances. [TN 02-3067]

[07] Requirement 2.27.3.3.4 Revised

REASON: If Phase I had been activated by the fire alarm initiating device at the designated level, the car should not return to that level unless it was overridden by the fire recall switch(es). [TN 04-403]

[1S-05] Requirement 2.27.3.3.6 Revised

REASON: To specify the primary cause or source of the accidental grounds or shorts. [TN 02-3974]

[07] Requirement 2.27.3.4 Revised

REASON: Current rule permits any motion at any speed (below rated speed) to re-establish position. Many old relay systems re-established position at the top or bottom terminal. This means a firefighter who is half a floor away from the destination when the power returns might be taken on a long, slow ride back down to the bottom floor before starting to his destination again, delaying arrival at the fire. It also means a firefighter who was planning on exiting the car two floors below the fire floor might be taken on a slow ride past the fire floor and all the way to the top floor. This revision reduces these risks by restricting the motion of the car. Firefighters do not use the elevator if the fire is below them; moving towards the recall floor is moving towards safety; moving away might put them in danger. Also, since the guiding principle of Phase II "ON" operation is that the firefighter in the car is in control, it is unfavorable to initiate any actions automatically, so the car is not permitted to find itself until a firefighter enters a call, indicating that he or she is ready for the car to move. Also, current rules do not address the behavior of a door that is partly open at power-up, allowing various results, some of which may surprise or strand a firefighter. The behavior is now specified. [TN 02-2777]

[07] Requirement 2.27.3.5 Revised

REASON: Firefighters need a dependable and quick method to ensure that the lower compartment of a double deck elevator is vacant, and to take it out of service, before they use the upper compartment on Phase II. A lower car lock out switch is provided to give the firefighter full control over both compartments. [TN 02-2340]

[1S-05] Requirement 2.27.4.1 Revised

REASON: The other types of "elevator spaces" containing the motor controller may be provided on an installation; the fire alarm initiation device needs to be



located in such spaces. The wording was revised to reflect this. [TN 02-3974]

[1S-05] Requirement 2.27.4.2 Revised

REASON: The other types of “elevator spaces” containing the motor controller may be provided on an installation; the fire alarm initiation device needs to be located in such spaces. The wording was revised to reflect this. [TN 02-3974]

[07] Requirement 2.27.5.2(a) Revised

REASON: If a car is parked with open doors at the recall level on independent service, and a firefighter puts the system on Phase I via the Phase I switch in the lobby, and then immediately gets in the car and turns the Phase II key switch to the ON position and enters a car call prior to the expiration of the 10–30 sec time delay, according to the way the Code is currently written, once the doors are closed the car will begin to move away from the recall level. Once the car begins to move away from the landing, the control system will immediately bypass independent service, and the car will then go into Phase I recall operation. The control system will not recognize the activation of the Phase II switch until the doors have fully opened at the recall floor. This operation is confusing and might serve to make the firefighter think twice about using the elevator. If a car that is on designated attendant operation is already at the recall floor when the Phase I switch is activated, there is no reason to allow a call to be entered, the doors to close, and the car to begin to move away from the floor before putting the car into Phase I operation. [TN 04-1403]

[1a-05] Requirement 2.27.5.3 Revised

REASON: Clarification. Revisions are modeled after requirements in 2.27.6. Continuous audible signal may be damaging to the health of the patient in the car. The hospital personnel should be permitted to have this option. [TN 02-02776]

[1a-05] Figure 2.27.7.2 Revised

REASON: Clarification of intent and coordination with other requirements — in particular, the actual labeling of buttons and the options for freight doors. “Firefighter service” is not performance language. It is intentionally in specification language to ensure uniformity throughout the industry to ease firefighter use and avoid confusion in emergency situations

Note that this proposed change is based on the ASME A17.1b-2003/CSA B44-00, Update No. 2 and TN 02-02312 (TR 99-48), which puts the in-car emergency controls behind a locked cover. [TN 02-02329]

[07] Requirement 2.27.8 Revised

REASON: To address the concern raised by the firefighters at the workshop on the use of elevators in fire and other emergencies.

The requirements of tubular, 7 pin, style 137 construction adequately describe the basic parameters of the key. Key manufacturers recognize these parameters, which also are the basic elements for the Connecticut BFD-1 key. The key code name will be linked to an actual bitting code for the key itself. The bitting code indicates the location, of which there are seven possible, and depth of the “slots” in the key.

Keys similar to the Massachusetts and New York City models are easily copied and are difficult to fit in a shallow car operating panel especially given the requirements for a locked cover in front of the Phase II controls. The proposed key is more compact and not easily duplicated.

The requirements for the implementation of a common key will assist members of local jurisdictions who have voiced a need for a common key. The experience of firefighters in jurisdictions with a common key finds that response times to emergency events are significantly reduced. [TN 05-621]

[1a-05] Requirement 2.27.9 Added

REASON: Standardization of safety message to avoid confusing the public. [TN 02-02797]

[07] Figure 2.27.9 Revised

REASON: Clarification of the committee’s original intent. [TN 05-980]

[1S-05] Requirement 2.28.2(e) Revised

REASON: Added for the possibility that additional loads may be transmitted to the supports and the pit floor, such as machine mounted on the rail or dead end hitches mounted to the rail. [TN 02-3974]

[1S-05] Section 3.1 Revised

REASON: Modifications necessary because 2.1.3.1.2 was eliminated, and the contents of 2.1.3.2 were moved to 2.1.3.1.2 due to renumbering of the requirements. [TN 02-3974]

[1S-05] Section 3.7 Revised

REASON: The wording has been modified to agree with the changes in 2.7.

NOTE: It is assumed that the requirements of 2.7.5 are included in referenced requirements. To clarify the requirements between a machine room and a machinery space outside the hoistway. [TN 02-3974]

[1S-05] Requirement 3.7.1 Revised



REASON: These requirements have been eliminated, as the requirements are covered in 2.7.6 as referenced in the revised 3.7.1. The changing of the indicated wording is required to use the appropriate wording for a hydraulic elevator. [TN 02-3974]

[1S-05] Requirement 3.7.1.1 Through 3.7.1.10 Added

REASON: The changing of the indicated wording is required to use the appropriate wording for a hydraulic elevator. [TN 02-3974]

[1S-05] Requirement 3.8 Revised

REASON: The wording has been modified to agree with the changes in 2.8. [TN 02-3974]

[07] Requirement 3.14 Revised

REASON: To exclude new requirements added to the hoistway section with regard to auxiliary power since auxiliary power issue is addressed for hydraulics under requirement 3.26.10. [TN 04-439]

[07] Section 3.17 Revised

REASON: No reason provided. [TN 02-2232]

[1a-05] Requirement 3.17.1.2 Revised

REASON: If the safety set is extremely hard, it may require more than 150% of the working pressure to move the car upward. This requirement is being introduced as an agreed upon point per ISO TR 11071-2, 1996. [TN 03-00755]

[07] Requirement 3.17.1.3 Revised

REASON: This requirement refers to car safeties and therefore should refer to the applicable safety switch, not governor switch. [TN 02-2232]

[07] Requirement 3.17.3.2.2(b) Revised

REASON: To clarify that failures of the electrical means of the gripper actuation circuitry are only checked. [TN 02-3396]

[07] Requirement 3.17.3.6.2 Revised

REASON: To update reference: ASME B29.100-2002, Precision Power Transmission, Double-Pitch Power Transmission, and Double-Pitch Conveyer Roller Chains, ASME B29.8-2002, Leaf Chains, Clevises, and Sheaves. [TN 05-59]

[07] Requirement 3.17.4 Added

REASON: To address governors on hydraulic elevators and update with MRL requirements.

(a) 3.17.4.1: wording is required to provide correct terminology for hydraulic elevators.

(b) 3.17.4.2: for clarification of means to prevent movement for uncounterweighted hydraulic elevators. It is noted that access, clearances, etc. are covered by the MRL requirements and are not excluded by hydraulic section. [TN 02-2232]

[07] Requirement 3.18.6 Added

REASON: This information is important to ensure proper component replacement when repairing the hydraulic jack. It also helps to ensure that replaced parts are of the equivalent material, strength, and design. [TN 04-1286]

[1S-05] Requirement 3.19.2.6 Added

REASON: Where manual lowering valve is required to be accessible from outside the hoistway, the pipes are required to be protected, or uncontrolled movement shall be prevented. [TN 02-3974]

[07] Requirement 3.19.3.1 Revised

REASON: To update reference, ASME B1.20.4 obsolete reference (metric translation of B1.20.3). [TN 05-59]

[1S-05] Requirement 3.19.4.1 Revised

REASON: In the case of a hydraulic elevator with the hydraulic machine in the hoistway, the shut off valve needs to be accessible from outside the hoistway. It does not need to be adjacent to the hydraulic machine. This does not prohibit additional shut-off valves. [TN 02-3974]

[1S-05] Requirement 3.19.4.4 Revised

REASON: In the case where a hydraulic machine is located in the hoistway, the manual lowering valve needs to be accessible from outside the hoistway. [TN 02-3974]

[1S-05] Requirement 3.19.4.5 Revised

REASON: In the case where a hydraulic machine is located in the hoistway, the pressure gauge fittings need to be accessible from outside the hoistway. [TN 02-3974]

[1a-05] Section 3.21.1 Revised

REASON: This is limiting the pressure and therefore the stresses on hydraulic components due to separation of the counterweight. In addition, this meets the agreed upon points specified in ISO TR 11701, Part 2. [TN 03-00751]

[1S-05] Requirement 3.21.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 3.24.5 renumbered 3.21.2. [TN 02-3974]

[1S-05] Requirement 3.24.3.1 Revised



REASON: In the case where a hydraulic machine is located in the hoistway, add requirements for protection against falling objects and to prevent accumulation of fumes in the hoistway. [TN 02-3974]

[1S-05] Requirement 3.24.5 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1, requirement 3.24.5 renumbered 3.21.2. [TN 02-3974]

[1S-05] Requirement 3.25.1.2 Revised

REASON: The wording has been modified to reflect the other types of “elevator spaces” and to make it consistent with the changes to 2.25.2.2.1. Switches was changed to devices to agree with terminology in Part 2 of the Code and the wording used in 3.25.1. [TN 02-3974]

[1S-05] Requirement 3.25.1.3 Revised

REASON: Switches was changed to devices to agree with terminology in Part 2 of the Code ,and the wording used in 3.25.1. [TN 02-3974]

[1S-05] Requirement 3.25.1.4 Revised

REASON: The wording has been modified to reflect the other types of “elevator spaces,” and harmonized with the terms used in 2.25. “Switches” was changed to “devices” to agree with terminology in Part 2 of the Code, and the wording used in 3.25.1. [TN 02-3974]

[07] Requirement 3.25.2.2 Revised

REASON: Similar wording as in 2.25.4.2 and additional clarification that TSRD protection is required only at the top terminal. Added the term “by mechanical, hydraulic or electrical means” to state that the device can be of any one of these technologies. [TN 02-0005]

[07] Requirement 3.25.2.2.1 Revised

REASON: Similar wording as in 2.25.4.2 and additional clarification that TSRD protection is required only at the top terminal. Added the term “by mechanical, hydraulic, or electrical means” to state that the device can be of any one of these technologies. [TN 02-0005]

[07] Requirement 3.25.2.2.2 Revised

REASON: A mechanical or hydraulic means used to implement terminal speed reducing may introduce the possibility of overheating the pump or motor or both, if the mechanical or hydraulic means is not designed to cause power to be removed from the motor. A method is required to prevent overheating of the system, and a pump run timer is one such method. The mechanical or hydraulic means may cause certain stresses, and, therefore, additional requirements have been added to address these stresses. [TN 02-0005]

[07] Requirement 3.25.2.2.4 Deleted

REASON: Requirements for mechanically operated switches were not previously addressed. These are similar to ETSL requirements for electric elevators. Other parts of the deleted rules are more general requirements that should not be within the TSRD requirements and are better specified in section 3.26.6 (see 3.26.6.3 and 3.26.6.4). [TN 02-0005]

[07] Requirement 3.25.2.3 Revised

REASON: A mechanical or hydraulic means used to implement terminal speed reducing may introduce the possibility of overheating the pump or motor or both, if the mechanical or hydraulic means is not designed to cause power to be removed from the motor. A method is required to prevent overheating of the system, and a pump run timer is one such method. The mechanical or hydraulic means may cause certain stresses, and, therefore, additional requirements have been added to address these stresses. [TN 02-0005]

[07] Requirements 3.25.2.4 Added

REASON: Added to group the requirements for terminal speed reducing devices implemented by electrical means. [TN 02-0005]

[07] Requirement 3.25.2.4.1 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1 and ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 3.25.2.2.3 renumbered 3.25.2.4.1. Requirements for mechanically operated switches were not previously addressed. These are similar to emergency terminal speed limiting requirements for electric elevators. Other parts of the deleted rules are more general requirements that should not be within the terminal speed reducing devices requirements and are better specified in section 3.26.6 (see 3.26.6.3 and 3.26.6.4). [TN 02-0005]

[07] Requirement 3.25.2.4.2 Revised

REASON: ASME A17.1a-2005/CSA B44-00 Update No. 1 and ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 3.25.2.2.5 renumbered 3.25.2.4.2. Requirements for mechanically operated switches were not previously addressed. These are similar to emergency terminal speed limiting requirements for electric elevators. Other parts of the deleted rules are more general requirements that should not be within the terminal speed reducing devices requirements and are better specified in section 3.26.6 (see 3.26.6.3 and 3.26.6.4). [TN 02-0005]

[07] Requirement 3.25.2.4.3 Added



REASON: Requirements for mechanically operated switches were not previously addressed. These are similar to emergency terminal speed limiting requirements for electric elevators. Other parts of the deleted rules are more general requirements that should not be within the terminal speed reducing devices requirements and are better specified in section 3.26.6 (see 3.26.6.3, and 3.26.6.4). [TN 02-0005]

[07] Requirement 3.25.2.4.4 Added

REASON: Clarification: These are requirements of the deleted rule 3.25.2.2(4) that should remain in the terminal speed reducing devices section. Terminal speed reducing devices are no longer required in the down direction because of the elimination of reduced stroke buffers on hydraulic elevators. Therefore, requirements for independence between terminal speed reducing devices and normal terminal stopping device in the down direction are no longer necessary.

3.25.2.4.4(a): The allowance for the use of solid state devices or software systems as intermediate devices, for this purpose, necessitates single failure requirements. [TN 02-0005]

[07] Requirement 3.25.2.4.5 Added

REASON: Rewritten to clarify the intent of the existing rule. Independence between terminal speed reducing devices and normal terminal stopping device is required even in the case where there is only one means to control upward movement of the elevator. This is ensured by independently controlling the devices required in 3.26.6.4.1. [TN 02-0005]

[1S-05] Requirement 3.26.2 Revised

REASON: The wording was modified to be consistent with the changes made to 2.26.1.4.4. [TN 02-3974]

[1S-05] Requirement 3.26.4.2(b) Revised

REASON: The wording has been modified to reflect the other types of "elevator spaces" where this equipment may be located. [TN 02-3974]

[07] Requirement 3.26.6.2 Revised

REASON: Operating magnets deleted for consistency of wording with other rules. An emergency stop switch is an electrical protective device and is not always permitted/required. [TN 02-0005]

[07] Requirement 3.26.6.3 Added

REASON: These are control and operating circuit requirements that were formerly described in 3.25.2.2.4 and are more appropriately located in this section of the Code. Since there are two control means to independently control the upward movement of the elevator at

any floor (e.g., pump motor and valve), no single failure of a solid state device should cause an unsafe condition. [TN 02-0005]

[07] Requirement 3.26.6.4 Added

REASON: These are control and operating circuit requirements that were formerly described in 3.25.2.2.4 and are more appropriately located in this section of the Code. [TN 02-0005]

[1a-05] Requirement 3.26.9 Revised

REASON: To include provisions for non-passenger elevators and elevators that are operated by an authorized person with either manual doors or power-operated doors that do not close automatically. Specifying the door open time ensures that the doors are open for a sufficient amount of time to move passengers out of the car before closing the door. As obstructions will cause the doors to stop and reopen, the actual amount of time to achieve full close will vary. However, the amount of time that the door will remain open before initiating automatic close can be defined absolutely, can be built into the system, and can be field measured. Automatic closing vertically acting doors can take longer to close, as they are subject to closing speed limitations. In addition, sequence operation requires that after a 5-sec warning buzzer, the car door close is first followed by the landing door. [TN 02-00071]

[07] Requirement 3.27.1 Revised

REASON:

(a) Power supplies (auxiliary power supplies) are currently being installed that offer limited operating capability when electric elevators lose mainline power.

(b) This proposal addressed the requirements for firefighters emergency operations on electric elevators equipped with an auxiliary power supply.

(c) It proposes allowing persons to find alternative means of leaving the building when the auxiliary power supply is insufficient to conform to the requirements of Phase I and Phase II Emergency Operation.

(d) Turning the in-car fire lamp off informs the firefighter that the car is not available for Phase II operation.

(e) Note that this does not apply where an emergency or standby power system is provided. [TN 02-0002]

[07] Requirement 3.27.2 Revised

REASON:

(a) Power supplies (auxiliary power supplies) are currently being installed that offer limited operating capability when electric elevators lose mainline power.

(b) This proposal addressed the requirements for firefighters' emergency operations on electric elevators equipped with an auxiliary power supply.



(c) It proposes allowing persons to find alternative means of leaving the building when the auxiliary power supply is insufficient to conform to the requirements of Phase I and Phase II Emergency Operation.

(d) Turning the in-car fire lamp off informs the firefighter that the car is not available for Phase II operation.

(e) Note that this does not apply where an emergency or standby power system is provided. [TN 02-0002]

[07] Requirement 4.1.2.2 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 4.1.9.1 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Part 5, Special Application Elevators — Scope Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 5.1.8.1 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[1a-05] Requirement 5.1.11.4 Added

REASON: Gates of this type represent a hazard when used on an inclined elevator due to the horizontal component of travel. [TN 02-02156]

[1a-05] Requirement 5.1.23 Added

REASON: To provide for appropriate information for inclined elevators. [TN 02-02159]

[07] Requirement 5.2.1.1 Revised

REASON: The current text does not include any criteria for the grillwork, and the term is not defined anywhere in the standards. [TN 03-1856]

[07] Requirement 5.2.1.1.2 Revised

REASON: Provisions for elevator machines and sheaves to be located in the hoistway are addressed in the supplement. Updated the references to coincide with ASME A17.1S-2005. [TN 05-1171]

[07] Requirement 5.2.1.4.2 Revised

REASON: To address where a machinery space or control space is located in the pit and alternative to bottom car clearance requirement is provided. [TN 05-1171]

[07] Requirement 5.2.1.4.2.1 (was part of 5.2.1.4.2) Revised

REASON: To address where a machinery space or control space is located in the pit and alternative to bottom car clearance requirement is provided. [TN 05-1171]

[07] Requirement 5.2.1.4.2.2 Added

REASON: To address where a machinery space or control space is located in the pit and alternative to bottom car clearance requirement is provided. [TN 05-1171]

[07] Requirement 5.2.1.7 Revised

REASON: Previous requirements are addressed in ASME A17.1S-2005. [TN 05-1171]

[07] Requirements 5.2.1.7.1 Through 5.2.1.7.7 Deleted

REASON: Previous requirements are addressed in ASME A17.1S-2005. [TN 05-1171]

[07] Requirement 5.2.1.7.1 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.1.7.8 was renumbered 5.2.1.7.1. Previous requirements are addressed in ASME A17.1S-2005. [TN 05-1171]

[07] Requirements 5.2.1.7.9 Through 5.2.1.7.12 Deleted

REASON: Previous requirements are addressed in ASME A17.1S-2005. [TN 05-1171]

[07] Requirement 5.2.1.8 Revised

REASON: Updated to coincide with A17.1S-2005. [TN 05-1171]

[07] Requirement 5.2.1.12 Revised

REASON: Car gates are not permitted by 5.2.1.14. [TN 04-704]

[07] Requirement 5.2.1.13 Revised

REASON: Clarification that power operated accordion or bi-fold type car doors are permitted and can be used



in combination with power operated swinging hoistway doors. Vertical sliding door prohibition was removed between the ASME A17.1b-1998 and ASME A17.1-2000/CSA B44-00 edition. To correct a reference to a requirement is also included in the proposal. The proposal has been editorially revised to match the wording of ASME A17.1-2004/CSA B44-04. There is no longer 2.13.1(a) or (b). [TN 02-2208]

[07] Requirement 5.2.1.13 Revised

REASON: Car gates are not permitted by 5.2.1.14. [TN 04-704]

[1a-05] Requirement 5.2.1.18 Revised

REASON: 5.2.1.18(a): Editorial deletion of "2."

5.2.1.18(d): Requirement 5.2.1.18(d) is already required by reference to requirement 2.18.5. [TN 03-00986]

[07] Requirement 5.2.1.27 Revised

REASON: Editorial. [TN 05-1171]

[07] Requirement 5.2.2 Revised

REASON: Editorial change due to error in re-numbering in 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.1 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.2 renumbered 5.2.2.1. Editorial change due to error in re-numbering in the 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.2 Added

REASON: Editorial change due to error in re-numbering in 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.3 Revised

REASON: Editorial change due to error in renumbering in 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.4 Revised

REASON: Car gates are not permitted by 5.2.1.14. [TN 04-704]

[07] Requirement 5.2.2.4 Deleted

REASON: Editorial change due to error in renumbering in 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.4 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.6 renumbered 5.2.2.4. Editorial change due to error in renumbering in the 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.5 Deleted

REASON: Editorial change due to error in renumbering in 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.5 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.7 renumbered 5.2.2.5. Editorial change due to error in renumbering in the 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.5.1 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.7.1 renumbered 5.2.2.5.1. Editorial change due to error in renumbering in 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.5.2 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.7.2 renumbered 5.2.2.5.2. Editorial change due to error in renumbering in 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.6 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.8 renumbered 5.2.2.6. Editorial change due to error in renumbering in the 2000 edition. [TN 05-1171]

[07] Requirement 5.2.2.7 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.9 renumbered 5.2.2.7. Editorial change due to error in renumbering in ASME A17.7-2000/CSA B44-00. [TN 05-1171]

[07] Requirement 5.2.2.8 Added

REASON: Editorial change due to error in re-numbering in ASME A17.7-2000/CSA B44-00. [TN 05-1171]

[07] Requirement 5.2.2.9 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.10 renumbered 5.2.2.9. Editorial change due to error in re-numbering in ASME A17.7-2000/CSA B44-00. [TN 05-1171]

[07] Requirement 5.2.2.10 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.11 renumbered 5.2.2.10. Editorial change due to error in re-numbering in ASME A17.7-2000/CSA B44-00. [TN 05-1171]

[1a-05] Requirement 5.2.2.11 Revised



REASON: The requirements of 3.24.5 regarding LULA elevators are addressed by requirements 5.2.1.24. Reference to 3.24.5 is in conflict with 5.2.1.14. This reference is corrected by requirement 5.2.2.7, which references 5.2.1.24. [TN 03-00834]

[07] Requirement 5.2.2.11 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.12 renumbered 5.2.2.11. Editorial change due to error in renumbering in ASME A17.7-2000/CSA B44-00. [TN 05-1171]

[07] Requirement 5.2.2.12 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.13 renumbered 5.2.2.12. To clarify, the requirements of 5.2.1 apply to electric and hydraulic limited-use/limited-application elevators, [TN 05-1171]

[1a-05] Requirement 5.2.2.13 Revised

REASON: To be consistent with the requirements in 5.2.1.27 and include the requirements specific to a hydraulic elevator when equipped with firefighters' service. [TN 03-00835]

[07] Requirement 5.2.2.13 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.14 renumbered 5.2.2.13. To clarify, the requirements of 5.2.1 apply to electric and hydraulic limited-use/limited-application elevators. [TN 05-1171]

[1a-05] Requirement 5.2.2.14 Revised

REASON: To be consistent with the requirements in 5.2.1.27 and include the requirements specific to a hydraulic elevator when equipped with firefighters' service. [TN 03-00835]

[07] Requirement 5.2.2.14 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.15 renumbered 5.2.2.14. To clarify, the requirements of 5.2.1 apply to electric and hydraulic limited-use/limited-application elevators. [TN 05-1171]

[07] Requirement 5.2.2.15 Revised

REASON: ASME A17.1S-2005/CSA B44-00 Supplement No. 1, requirement 5.2.2.16 renumbered 5.2.2.15. To clarify the requirements of 5.2.1 apply to electric and hydraulic limited-use/limited-application elevators [TN 05-1171]

[1a-05] Requirement 5.2.2.16 Revised

REASON: Editorial. [TN 03-00836]

[07] Requirement 5.2.2.17 Deleted

REASON: To clarify the requirements of 5.2.1 apply to electric and hydraulic limited-use/limited-application elevators [TN 05-1171]

[07] Requirement 5.3.1.1.1 Revised

REASON: All other unenclosed private residence elevators operate by continuous-pressure except those that are unenclosed at the lowest level. [TN 04-1333]

[07] Requirement 5.3.1.1.2 and 5.3.1.1.3 Revised

REASON: Editorial and simplification between requirement 5.3.1.1.2 and 5.3.1.1.3. [TN 03-0053]

[1a-05] Requirement 5.3.1.1.4 Deleted

REASON: The requirement has been deleted to recognize that a hoistway enclosure is required for safe operation in the described locations. [TN 02-03671]

[1a-05] Requirement 5.3.1.7.1 Revised

REASON: To differentiate between horizontally sliding doors and other types of sliding doors. [TN 02-03672]

[07] Requirement 5.3.1.7.1 Revised

REASON:
(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).
(b) Define term (fire-protection rating) currently used in the Code.
(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Requirement 5.3.1.7.8 Added

REASON: To clarify the requirements for power door operation. [TN 03-1599]

[07] Requirement 5.3.1.7.9 Added

REASON: When equipped with a two-way leveling device or anti-creep device, the elevator is allowed to re-level with the car door or gate open. This creates a possible shear hazard if the hoistway side door sill/wall are not smooth and continuous for the depth of the zone where the car can re-level below the landing sill.

NOTE: Requirement number is coordinated with TN 03-01599. [TN 03-1858]

[07] Requirement 5.3.1.7.9 Revised

REASON: To clarify the committee's intent that the car sill is the clear car opening.

NOTE: This revision is based on A17.1a-2005. [TN 04-1334]

[07] Requirement 5.3.1.8.1 Revised



REASON: To provide clarification and adequately address the panel requirements. Note that the reference to 2.7.5.1.4 is found in ASME A17.1S-2005. [TN 03-1598]

[07] Requirement 5.3.1.8.2(a) Revised

REASON: To clarify the requirements for power door operation. [TN 03-1599]

[1a-05] Requirement 5.3.1.9.2(b)(1) Revised

REASON: Editorial change for clarification. [TN 03-01597]

[1a-05] Requirement 5.3.1.11.5 Revised

REASON: Clarification [TN 02-03673]

[07] Requirement 5.3.1.16.2 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, and will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 5.3.1.16.2(a) Added

REASON: Requirement 5.3.1.16.2 allows for chain drive but does not explicitly allow a chain in combination with a hydraulic drive. [TN 03-1609]

[1a-05] Requirement 5.3.1.16.2(b)(1) Revised

REASON: To clarify that the diameters referred to are the pitch diameters. [TN 02-03669]

[1a-05] Requirement 5.3.1.16.2(d) and (e) Revised

REASON: To be consistent with requirement 2.24.4 and address when couplings are used. [TN 03-01857]

[07] Requirement 5.3.1.16.2(j) Added

REASON: To provide clarification and adequately address the panel requirements. Note that the reference to 2.7.5.1.4 is found in A17.1S-2005. [TN 03-1598]

[07] Requirement 5.3.1.16.5 Added

REASON: To prevent suspension means disengagement. [TN 03-1600]

[07] Requirement 5.3.1.18.2 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, that will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 5.3.1.18.4 Revised

REASON: Changes are considered to be editorial to make the applicable ASME A17.1/CSA B44 requirements agree with Scope of CSA B44.1/ASME A17.5 and to make the language in A17.1 consistent. [TN 06-53]

[07] Requirement 5.3.2.2 Revised

REASON: Requirement 5.3.1.16.2 allows for chain drive but does not explicitly allow a chain in combination with a hydraulic drive. [TN 03-1609]

[07] Requirement 5.3.2.2.1 Revised

REASON: Requirement 5.3.1.16.2 allows for chain drive but does not explicitly allow a chain in combination with a hydraulic drive. [TN 03-1609]

[07] Requirement 5.3.2.2.1 Revised

REASON: To clarify the references. [TN 05-1461]

[07] Requirement 5.3.2.3 Revised

REASON: Requirement 5.3.1.16.2 allows for chain drive but does not explicitly allow a chain in combination with a hydraulic drive. [TN 03-1609]

[07] Requirement 5.4.15.5.2 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Section 5.7 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 5.8.1.1 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Requirement 5.8.1.2 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]



[07] Section 5.9 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[1a-05] Requirement 5.9.2.2 Revised

REASON: Editorial. [TN 02-02904]

[1a-05] Requirement 5.9.8 Revised

REASON: Note cannot be a requirement. [TN 02-02908]

[07] Requirement 5.9.14.1(a), (b), and (c) Revised

REASON: Requirement 5.9.14.1(b): To establish a maximum closing and opening force to minimize strain to personnel who must manually open or close the car top access panel. Also, any panel once fully opened should resist accidental closing so that persons accessing the elevator through the openings are protected from potential injury.

Requirement 5.9.14.1(c): To ensure that the emergency stop switch is conveniently accessible from the car top access panel. [TN 02-3212]

[1a-05] Requirement 5.9.15.1 Revised

REASON: Correct the language as published. [TN 02-03205]

[07] Requirement 5.9.17.6 Revised

REASON: Editorial. [TN 05-41]

[1a-05] Requirement 5.9.26 Revised

REASON: Editorial. [TN 02-02916]

[07] Requirement 6.1.3.3.1(a)(1) Revised

REASON:

(a) The correct term is “dynamic skirt panels” — not “dynamic skirts.”

(b) Subparagraph 6.1.3.3.1(a)(1) is being interpreted as prohibiting skirt deflectors. [TN 05-1269]

[07] Requirement 6.1.3.3.1(a)(2) Revised

REASON:

(a) The correct term is “dynamic skirt panels” — not “dynamic skirts.”

(b) Subparagraph 6.1.3.3.1(a)(1) is being interpreted as prohibiting skirt deflectors. [TN 05-1269]

[1a-05] Requirement 6.1.3.3.8 Revised

REASON: To clarify the language in requirement 6.1.3.3.8 to resolve the issues raised in the questions of inquiry 03-42. [TN 04-00322]

[07] Requirement 6.1.3.3.9(c)(2) Revised

REASON: To update reference when 6.1.3.3.8 was renumbered 6.1.3.3.10, because of the addition of dynamic skirt requirements. [TN 05-244]

[07] Requirement 6.1.3.5.6 Revised

REASON: The rule states, “There shall be demarcation lines on the sides of the step.” In the broad literal sense, this could include both the side along the tread and side along the riser. While this is not prohibited and is done in some cases, it has not always been the practice, nor intention, to require demarcation along the step side riser. The rule is reworded to clarify that the requirement applies to the step tread rather than the riser. [TN 04-1586]

[1a-05] Requirement 6.1.5.3.1 Revised

REASON: The original brake data plate requirement specified the minimum distance that the skirt switch EPD could be located from the combplate to ensure meeting the stopping requirement in the skirt EPD rule [i.e., the maximum stopping distance of the escalator/walk (which inherently occurs under a loaded condition)]. In essence, the current data plate expresses maximum stopping distance in terms of skirt switch location. Over time, additional EPDs have been added with the same requirement that the escalator/walk is to stop before the activating step/pallet reaches the combplate and are not specifically covered on the data plate. The proposed rule change replaces the specific EPD rule data with maximum stopping distance data on the brake data plate. This clearly provides inspection and compliance information with respect to all EPDs with a stopping distance requirement. [TN 03-01096]

[07] Requirement 6.1.6.3.1(a) Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 6.1.6.7 Deleted

REASON: Step demarcation lights were required prior to requirement 6.1.3.5.6, which requires yellow demarcation strips at the back and sides of steps. As such, this requirement in conjunction with requirement 6.1.7.2 lighting of escalator steps offsets the need for the step demarcation lights altogether. [TN 04-635]

[07] Requirement 6.1.7.3.2 Revised

REASON: Gravity alone is not viewed as a secure means of fastening the access plate. [TN 05-27]



[07] Requirement 6.1.7.4.2 Revised

REASON: Changes are considered to be editorial to make the applicable ASME A17.1/CSA B44 requirements agree with Scope of CSA B44.1/ASME A17.5 and to make the language in A17.1 consistent. [TN 06-53]

[07] Requirement 6.1.8 Added

REASON: The cover specified in the present language will not protect the units from blowing rain and snow. Since rain and snow seldom fall straight down, the cover alone as presently described is not effective. The proposed language is performance based and requires design to protect the unit considering local conditions. [TN 02-0015]

[1a-05] Requirement 6.2.5.3.1 Revised

REASON: The original brake data plate requirement specified the minimum distance that the skirt switch EPD could be located from the combplate to ensure meeting the stopping requirement in the skirt EPD rule [i.e., the maximum stopping distance of the escalator/walk (which inherently occurs under a loaded condition)]. In essence, the current data plate expresses maximum stopping distance in terms of skirt switch location. Over time, additional EPDs have been added with the same requirement that the escalator/walk is to stop before the activating step/pallet reaches the combplate and are not specifically covered on the data plate. The proposed rule change replaces the specific EPD rule data with maximum stopping distance data on the brake data plate. This clearly provides inspection and compliance information with respect to all EPDs with a stopping distance requirement. [TN 03-01096]

[1a-05] Requirement 6.2.6.2.1(a)(3) Revised

REASON: As part of the action on Inquiry 99-50, the Escalator Committee decided to open a TR to develop the definitions for upper landing of moving walks, and for the left and right convention of escalators. This is to make a performance-based rule.

The landing designation is required on horizontal moving walks in order to determine left and right. [TN-07]

[07] Requirement 6.2.6.3.1(a) Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, that will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 6.2.7.3.2 Revised

REASON: Gravity alone is not viewed as a secure means of fastening the access plate. [TN 05-27]

[07] Requirement 6.2.7.4.2 Revised

REASON: Changes are considered to be editorial to make the applicable A17.1 requirements agree with Scope of A17.5 and to make the language in A17.1 consistent. [TN 06-53]

[07] Requirement 6.2.8 Added

REASON: The cover specified in the present language will not protect the units from blowing rain and snow. Since rain and snow seldom fall straight down, the cover alone as presently described is not effective. The proposed language is performance based and requires design to protect the unit considering local conditions. [TN 02-0015]

[07] Part 7 Revised

REASON: This sentence should apply to all of Part 7, not just sections 7.1, 7.2, or 7.3. [TN 05-1652]

[07] Section 7.1 Revised

REASON: This sentence should apply to all of Part 7, not just sections 7.1, 7.2, or 7.3. [TN 05-1652]

[07] Requirement 7.1.1.2 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Requirement 7.1.4.3 Added

REASON: To provide minimum clear space requirements when a top of car operating device is provided. [TN 02-3860]

[1a-05] Requirement 7.1.9 Revised

REASON: To clarify that the intent is that the connection and stresses meet the requirements within Requirement 2.9.3.2. [TN 02-03865]

[07] Requirement 7.1.12.4 Revised

REASON: For deletion of 25 ft. requirement: The wire rope inspection is better done from the machine location rather than from a landing. The purpose of the access switch for DW with a large travel was to permit inspection of the wire rope. However, further review has indicated that this is not necessary. In addition, door-unlocking devices are required and can serve an equivalent purpose. Reminders of the revisions are editorial reformatting. [TN 02-3859]



[07] Section 7.2 Revised

REASON: This sentence should apply to all of Part 7, not just sections 7.1, 7.2, or 7.3. [TN 05-1652]

[07] Requirement 7.2.2.8 Revised

REASON: To ensure that under leveling or inching operation, a gap does not appear at the top or bottom of the car when the hoistway doors are open. In addition, the proposed language provides equivalent safety but is more appropriate to dumbwaiter operations and is written in performance language instead of a defined static dimension. [TN 02-3857]

[07] Requirement 7.2.3.3.1 Revised

REASON: To allow the capacity information to be either stand-alone or on a single plate that contains additional pertinent data. It is noted that most dumbwaiters are inspected from outside the hoistway and therefore it is most convenient and safer to place the information in one location within the car. [TN 02-3858]

[07] Requirement 7.2.12.4 Revised

REASON: The hoistway access switch provides a means of access to the top of the car when a car top operating station is provided. [TN 02-3859]

[07] Requirement 7.2.12.10 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Section 7.3 Revised

REASON: This sentence should apply to all of Part 7, not just sections 7.1, 7.2, or 7.3. [TN 05-1652]

[1a-05] Requirement 7.3.5 Revised

REASON: To correct the title to reflect requirements covered in the definition of "driving machine, hydraulic." In addition, to editorially clarify the referenced requirements. [TN 03-000757]

[07] Requirement 7.3.11.5.2 Revised

REASON: Changes are considered to be editorial to make the applicable ASME A17.1/CSA B44 requirements agree with Scope of CSA B44.1/ASME A17.5 and to make the language in A17.1 consistent. [TN 06-53]

[07] Requirement 7.4.2 Revised

REASON: General reorganization for clarification. [TN 02-3864]

[07] Table 7.4.3 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 7.4.5 Revised

REASON: Where there are counterweights exposed in servicing areas, they need to be guarded, or warnings provided to a person in the path of the descending counterweight. [TN 02-3864]

[07] Requirement 7.4.9 Revised

REASON: Type A conformity to requirement 2.7 needs to be stated. [TN 02-3864]

[07] Requirement 7.4.11 Revised

REASON: Type A conformity to requirement 2.9 needs to be stated and Type B support requirements listed. Note reference to 2.9.3.3 is with regard to TR 97-81 (MRL) added requirement. [TN 02-3864]

[07] Requirement 7.4.12 Revised

REASON: Exposed moving equipment needs to be guarded. [TN 02-3864]

[1a-05] Requirement 7.4.13.2.2(e) Added

REASON: To coordinate with CSA B44 and there is no reason for this to be prohibited. It is noted that 2.11.13.3 already applies; therefore, no additional reference is needed as stated in B44. [TN 02-03861]

[1a-05] Requirement 7.5.3.3 Revised

REASON: Delete the word "warning," since it was never intended to be a warning sign. [TN 02-03863]

[07] Requirement 7.5.3.4 Revised

REASON: To make it clear that only one rider is allowed. [TN 02-3864]

[1a-05] Requirement 7.5.3.5 Added

REASON: For clarification to coordinate with 7.5.12. [TN 03-01710]

[1a-05] Requirement 7.6.4.1 Revised

REASON:
(a) There is no need to restrict the routing of the flexible hose if an overspeed valve is provided.
(b) A shutoff valve is necessary if an overspeed valve is provided. [TN 02-03862]



[07] Requirement 7.9.1.1 Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Section 8.1 Revised

REASON:

(a) Section 8.1 only permits keys for access or operation of equipment. Combination locks do not provide equivalent security, as the combination can easily be disseminated.

(b) There is no safety hazard if a key used for an elevator device also can open other locks in the building. In fact, it could be very helpful to maintenance or inspection personnel. The hazard is when a key used for other locks in the building can access or operate elevator devices.

(c) To indicate that more than one type of personnel can use the devices in Groups 2 and 3. Also, there is no definition of "firefighters' personnel" but only "emergency personnel" is defined, which includes firefighters.

(d) To permit the use of sub-key and similar security systems. These systems are widely used by building owners and managers, offer excellent security by restricting access to certain security clearances, are flexible by allowing those with higher security clearance access to lower security areas but not the reverse, and restrict the copying of keys.

(e) To add security requirements for side emergency exits on existing elevators.

(f) To clarify that higher security personnel can have access to lower security keys.

(g) To specifically include locked covers for operating devices.

(h) To standardize the lock requirements.

(i) General clarification. [TN 03-1933]

[1S-05] Requirement 8.1.2(b) Revised

REASON: Change required to accommodate renumbering of requirements. [TN 02-3974]

[1S-05] Requirement 8.1.2(c) Through 8.1.2(i) Added

REASON: Added to cover the stated requirements. Re-letter remaining requirements. [TN 02-3974]

[1S-05] Requirement 8.1.3(a) Revised

REASON: Change required due to changes in 2.7.3.4. [TN 02-3974]

[1S-05] Requirement 8.1.3(b) and 8.1.3(f) Added

REASON: Added to cover the stated requirements. Re-letter remaining requirements. [TN 02-3974]

[07] Requirement 8.3(a)(4) Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Figures 8.4.8.2.1 Through 8.4.8.2.7 Revised

REASON: None given. [TN 06-09]

[07] Requirement 8.4.11.2 Revised

REASON: Add requirements to allow plunger gripper under seismic conditions. For seismic conditions the intent is to require mechanical means as the primary method. [TN 02-3818]

[07] Requirement 8.4.13.2 Revised

REASON: Revised to harmonize with NBCC requirements. [TN 06-368]

[07] Section 8.6 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 8.6.1.2.1(a)(1) Added

REASON: Testing methods are needed to maintain the integrity of any safety system. This section addresses any special instructions for maintaining the integrity of this new technology. [TN 04-811]

[07] Requirement 8.6.1.2.1(e) Added

REASON: Testing methods are needed to maintain the integrity of any safety system. This section addresses any special instructions for maintaining the integrity of this new technology. [TN 04-811]

[07] Requirement 8.6.1.4.1(d) Revised

REASON: To correct the reference. [TN 06-457]

[1S-05] Requirement 8.6.1.6.3(a) Controllers, Wiring, and Wiring Diagrams Revised

REASON: Not all installations will have machine rooms. The modification takes into account all of the possibilities. [TN 02-3974]



[1a-05] Requirement 8.6.1.6.3(d) Revised

REASON: To include machinery spaces, control spaces, and wellways. [TN 03-01369]

[07] Requirement 8.6.1.6.3(d) Revised

REASON: To provide a reference for control of jumpers. [TN 04-537]

[1S-05] Requirement 8.6.1.6.5 Revised

REASON: Rewritten to reflect the original requirements and the use of the newly defined terms. [TN 02-3974]

[07] Requirement 8.6.3.7.2 Revised

REASON: Some components cannot be labeled for identification due to size and configuration limitation. [TN 02-3459]

[07] Requirement 8.6.4.1.3 Revised

REASON: The inclusion of anti-rotation devices is a very important requirement on suspension ropes. The need for this was not included in Code until the ASME A17.1-1993 Codes, but required a single, continuous loop of wire rope. This technique created issues of the rope being tightened and moving the shackle/rope alignment out of plumb. Requirement 8.6.3.3.1(f) allows the performance-based language of requirement 2.20.9.8 as part of a replacement. This modification follows the performance-based language and includes it for re-tensioning of suspension ropes. [TN 04-788]

[1S-05] Requirement 8.6.4.8 Revised

REASON: Revision necessary to cover these additional rooms and spaces. [TN 02-3974]

[1S-05] Requirement 8.6.4.8.1 Revised

REASON: Revision necessary to cover these additional rooms and spaces. [TN 02-3974]

[1S-05] Requirement 8.6.4.8.2 Revised

REASON: Revision necessary to cover these additional rooms and spaces. [TN 02-3974]

[1S-05] Requirement 8.6.4.8.5 Added

REASON: Revision necessary to cover these additional rooms and spaces. [TN 02-3974]

[07] Requirement 8.6.4.18 Added

REASON: To establish requirements to maintain proper vertical clearances between the compensating rope sheaves and their limits of travel. [TN 04-640]

[07] Requirement 8.6.4.18.1 Added

REASON: To establish requirements to maintain proper vertical clearances between the compensating rope sheaves and their limits of travel. [TN 04-640]

[1a-05] Requirement 8.6.5.8 Revised

REASON: Editorial [TN 02-00235]

[1a-05] Requirement 8.6.8 Revised

REASON: Editorial clarification of what maintenance requirements apply to escalators versus moving walks. NOTE: This proposal is based on the requirements in ASME A17.1a-2002/CSA B44.00 Update No. 1. No new requirements have been introduced in this proposal nor have any current requirements been deleted. This proposal also is not intended to supercede any revisions (e.g. NOTE to 8.6.8.2, etc.) that are currently approved awaiting publication or being balloted. [TN 02-03452]

[1a-05] Requirement 8.6.8.2 Revised

REASON: Editorial. [TN 02-00226]

[1a-05] Requirement 8.6.8.4.3 Added

REASON: Requirement numbers are coordinated with TN 02-03452. [TN 03-01405]

[1a-05] Requirement 8.6.9 Added

REASON: Editorial clarification of what maintenance requirements apply to escalators versus moving walks.

NOTE: This proposal is based on the requirements in ASME A17.1a-2002/CSA B44.00 Update No. 1. No new requirements have been introduced in this proposal nor have any current requirements been deleted. This proposal also is not intended to supercede any revisions (e.g. NOTE to 8.6.8.2, etc.) that are currently approved awaiting publication or being balloted. [TN 02-03452]

[1a-05] Requirement 8.6.9.2.3 Added

REASON: Requirement numbers are coordinated with TN 02-03452. [TN 03-01405]

[1a-05] Requirement 8.6.9.3 Added

REASON: To include requirements for maintenance of clearances for moving walks. Note that TN 02-3452 split the existing 8.6.8 (Maintenance of Escalators and Moving Walks) into 8.6.8 (Maintenance of Escalators) and 8.6.9 (Maintenance of Moving Walks). [TN 03-01370]

[1a-05] Requirement 8.6.10 Revised

REASON: Editorial clarification of what maintenance requirements apply to escalators versus moving walks.

NOTE: This proposal is based on the requirements in ASME A17.1a-2002/CSA B44-00 Update No. 2. No new requirements have been introduced in this proposal nor have any current requirements been deleted. This proposal also is not intended to supercede any



revisions (e.g., NOTE to 8.6.8.2, etc.) that are currently approved awaiting publication or being balloted. [TN 02-03452]

[1S-05] Requirement 8.6.11.6 Added

REASON: User instructions are needed for safe operation of the means, and they need to be on the premises. [TN 02-3974]

[1S-05] Requirement 8.6.11.7 Added

REASON: User instructions are needed for safe egress and re-entry into the work area, and they need to be on the premises. [TN 02-3974]

[1S-05] Requirement 8.6.11.8 Added

REASON: User instructions are needed for safe use of the platforms, and they need to be on the premises. [TN 02-3974]

[07] Requirement 8.6.12 Through 8.6.12.5.3.2 Added

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 8.7.1.7 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 8.7.1.8 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 8.7.2.1.3 Revised

REASON: Specified requirement is not related to construction at the top of the hoistway and should be deleted. [TN 05-1224]

[07] Requirement 8.7.2.1.4 Revised

REASON: Specified requirement is related to construction at the bottom of the hoistway and should be included. [TN 05-1224]

[07] Requirement 8.7.2.7.6 Revised

REASON: To update the reference to A17.1S-2005. [TN 06-503]

[07] Requirement 8.7.2.7.7 Revised

REASON: To update the reference to A17.1S-2005. [TN 06-503]

[1a-05] Requirement 8.7.2.10.2 Revised

REASON: Clarification of intent. [TN 03-00811]

[1a-05] Requirement 8.7.2.10.3 Revised

REASON: Clarification of intent. [TN 03-00811]

[1a-05] Requirement 8.7.2.10.4 Revised

REASON: Clarification of intent. [TN 03-00811]

[07] Requirement 8.7.2.15.2 Revised

REASON: Rationale for 2.22.4.5(b) is given above. Rule 2.22.4.10 must remain applicable, and the load ratings of the buffer must be known in order to verify that the buffer will be capable of withstanding the increased impact forces. In addition, 2.22.4.11 also must apply, because once compliance with 2.22.4.10 is established, there is no justification for not stating related data on the marking plate. [TN 02-3480]

[07] Requirement 8.7.2.17.2(b)(5) Revised

REASON: Editorially update cross-references that were overlooked when revisions were made to the original requirements. [TN 05-558]

[07] Requirement 8.7.2.23 Revised

REASON: Replacing "installation" with "buffers": To clarify that this rule applies only to buffers and not to the elevator installation. Conformance with 2.22.4.5(b) is not required provided that other equally effective safety solutions are implemented, such as adding buffer switch that the Code recognizes as effective measure for securing operational readiness in the case of "gas-return" and "type C safeties" buffers. For keeping exception to 2.22.4.7 and adding (a) and (b): This exception from the buffer type test and certification requirement should remain in exceptional cases, as noted. Providing a buffer having no positively established load ratings does not meet the intent of the Code. For deleting exception to 2.22.4.10: Alteration of a buffer should be aimed at the improvement of its safety function. If we do not apply this rule how do we know that its safety function is not downgraded by this alteration? If we do not know the rating of the buffer, we must establish it after the alteration. Lack of the original marking plate is not good rationale for doing any alteration on the buffer without knowing the safety results of the alteration. If anyone is performing the alteration of a buffer of unknown rating because there is reason to believe that the buffer does not meet 2.22.4.10 with respect to the car weight and rated load values that means that it is a wrong buffer and should be replaced with a new one of a

known minimum and maximum load rating. In any case the alteration to a buffer that changes its dampening properties should not be permitted. Only alterations to their electrical switches, bracing and similar features should be permitted. For deleting exception to 2.22.4.11: When altering a buffer, the company must know what is being done and what is to be achieved respecting its ability perform. The data should be recorded on the marking plate. [TN 02-3480]

[07] Requirement 8.7.2.25.1 Revised

REASON: To update the reference to A17.1S-2005. [TN 06-503]

[1a-05] Requirement 8.7.2.27.5 Revised

REASON: To add important safety requirements for hoistway entrances, car enclosures, and car doors, or gates. The order of the requirements has been changed to match that of 8.7.2.27.6.

For subparagraph (g): Only require emergency operation and signaling devices if required by the building code. In Canada, low travel elevators do not require Phase 1 and Phase 2 operation. [TN 02-00068]

[07] Requirement 8.7.2.27.6 Revised

REASON: Editorial [TN 05-574]

[07] Requirement 8.7.2.27.8 Added

REASON: To ensure that any electrical protective devices added or altered meet the requirements of A17.1 for the electrical protective device. [TN 05-580]

[07] Requirement 8.7.3.15.3 Revised

REASON: Editorially update cross-references that were overlooked when revisions were made to the original requirements. [TN 05-558]

[07] Requirement 8.7.3.19 Revised

REASON: To provide the correct reference for hydraulic elevators and eliminate confusion regarding complying with the 125% load requirement that only applies to electric elevators. [TN 04-1240]

[07] Requirement 8.7.3.23.1 Revised

REASON: Requirement 8.6.3.10 identifies replacement of jacks, plungers, and cylinders as an alteration and referred to 8.7.3.23. This proposed change clarifies the need to comply with existing requirements even though the replacement is not "part of an alteration." (See new proposed definition in TN 02-3899 for "Alteration as part of — -A repair and/or replacement that is included with other work that is classified as an alteration.") [TN 03-1712]

[07] Requirement 8.7.3.23.2 Revised

REASON: Requirement 8.6.3.10 identifies replacement of jacks, plungers, and cylinders as an alteration and referred to 8.7.3.23. This proposed change clarifies the need to comply with existing requirements even though the replacement is not "part of an alteration." (See new proposed definition in TN 02-3899 for "Alteration as part of — A repair and/or replacement that is included with other work that is classified as an alteration.") [TN 03-1712]

[07] Requirement 8.7.3.23.3 Revised

REASON: Requirement 8.6.3.10 identifies replacement of jacks, plungers, and cylinders as an alteration and referred to 8.7.3.23. This proposed change clarifies the need to comply with existing requirements even though the replacement is not "part of an alteration." (See new proposed definition in TN 02-3899 for "Alteration as part of-A repair and/or replacement that is included with other work that is classified as an alteration"). [TN 03-1712]

[07] Requirement 8.7.3.31.11 Added

REASON: To ensure that any electrical protective devices added or altered meet the requirements of ASME A17.1 for the electrical protective device. [TN 05-580]

[1a-05] Requirement 8.7.5.9 Added

REASON: To ensure that altered mine elevator will include the necessary safety requirements that are required for all altered elevators. [TN 02-03202]

[07] Requirement 8.7.6.1.1 Revised

REASON: The present requirements are unnecessarily restrictive. This proposal is to encourage the installation of devices that will enhance the safety of the escalator. The allowance of less than two flat steps is more appropriate in the general requirement than 8.7.6.1.9, Trusses and Girders. [TN 02-3868]

[1a-05] Requirement 8.7.6.1.5 Revised

REASON: To clarify the requirements for skirt deflections and remove unnecessary part of the note. [TN 03-01505]

[07] Requirement 8.7.6.1.5 Revised

REASON: Clarification of the committee's original intent. [TN 03-1533]

[07] Requirement 8.7.6.1.9 Revised

REASON: The present requirements are unnecessarily restrictive. This proposal is to encourage the installation of devices that will enhance the safety of the escalator.



The allowance of less than two flat steps is more appropriate in the general requirement than 8.7.6.1.9, Trusses and Girders. [TN 02-3868]

[1a-05] Requirement 8.7.6.1.16 Added

REASON: To provide requirements for installations of a controller. [TN 02-02160]

[07] Requirement 8.7.6.2.1 Revised

REASON: This proposal is to encourage the installation of devices that will enhance the safety of the moving walks. [TN 04-1448]

[1a-05] Requirement 8.7.6.2.15 Added

REASON: To provide requirements for installations of a controller. [TN 02-02160]

[1a-05] Requirement 8.7.7.1 Revised

REASON: Material lift appears to have been omitted. [TN 03-01506]

[1a-05] Requirement 8.7.7.1.1 Revised

REASON: Add material lift and specify only requirements applicable to device without transfer devices. [TN 03-01506]

[1a-05] Requirement 8.7.7.3.1 Revised

REASON: Alteration to lift with transfer device should comply with 7.7, Automatic Transfer Devices also. [TN 03-01506]

[07] Requirement 8.9.2 Revised

Requirement 8.9.2 requires that the code data plate be attached to the main line disconnect or controller. Therefore, access to the interior of an escalator or moving walk is needed in the vast majority of the cases to see the data plate. The information on the data plate is needed during routine/periodic inspections in order to conduct the inspection properly. However, during these inspections the inspector is alone, and it is inappropriate/hazardous for an inspector to enter the interior of an escalator or moving walk without a mechanic present. Therefore, the information must be available on the exterior of an escalator or moving walk. [TN 02-3400]

[07] Requirement 8.10.2.2.1 Revised

REASON: [TN 04-1704]

[07] Requirement 8.10.2.2.1(j)(1) Revised

REASON:

(a) Editorial. Requirements in 8.10.2.2.1(j)(1) are either duplicated in 8.10.2.2.1(j)(2) or belong in 8.10.2.2.1(j)(2).

(b) Added the testing requirements for power door opening that were inadvertently omitted. [TN 04-1442]

[07] Requirement 8.10.2.2.1(j)(2) Revised

REASON:

(a) Editorial. Requirements in 8.10.2.2.1(j)(1) are either duplicated in 8.10.2.2.1(j)(2) or belong in 8.10.2.2.1(j)(2).

(b) Added the testing requirements for power door opening that were inadvertently omitted. [TN 04-1442]

[07] Requirement 8.10.2.2.2 Revised

REASON: [TN 04-1704]

[07] Requirement 8.10.2.2.2(a)(2) Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Requirement 8.10.2.2.2(h)(2) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.2.2.2(k) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.2.2.2(l)(3) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.2.2.2(l)(6) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]



[07] Requirement 8.10.2.2.2(ff) Added

REASON: Add requirement for testing AC drives from DC source during acceptance. These tests were included in acceptance tests in the previous edition of the Code and inadvertently left out of ASME A17.1-2000/CSA B44-00. [TN 03-0117]

[07] Requirement 8.10.2.2.3 Revised

REASON: [TN 04-1704]

[07] Requirement 8.10.2.2.3(v) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.2.2.3(w)(3) Revised

REASON:

(a) Harmonize terminology with the building codes (IBC, NFPA-5000, and NBCC).

(b) Define term (fire-protection rating) currently used in the Code.

(c) Revise terminology to correlate with definitions. [TN 03-0527]

[07] Requirement 8.10.2.2.4 Revised

REASON: [TN 04-1704]

[07] Requirement 8.10.2.2.5 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.10.2.2.5(f) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.2.2.5(h)(3) Revised

REASON: Editorially updating cross-references that were overlooked when revisions were made to the original requirement. Requirement 2.17.17 was removed in A17.1a-2002, and its revised requirements were put into requirement 2.21.4.2. This editorial revision is an ASME A17.1-2004 reference to Code requirement 2.17.17, which no longer exists. [TN 05-238]

[07] Requirement 8.10.2.2.7 Added

REASON: The use of electrical/electronic/programmable electronic systems (E/E/PES) for elevator safety will require acceptance and periodic examination by the Inspecting Authorities to ensure that the required SIL rated device/system has been provided in accordance with ASME A17.1. [TN 04-811]

[07] Requirement 8.10.2.2.7 Added

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.10.3.2.1 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.10.3.2.2 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.10.3.2.2(d) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in A17.1, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.2(i) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in A17.1, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.2(k)(1) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.3.2.2(k)(3) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.3.2.2(l)(5) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.3.2.2(l)(8) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[1a-05] Requirement 8.10.3.2.3 Revised

REASON: Similar to requests for car safeties. Note that 3.17.3.8 was 3.16.8 on TR 96-73 in LB 00-06, which was approved for the ASME A17.1a-2002 addenda.) [TN 02-02224]



[07] Requirement 8.10.3.2.3 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.10.3.2.3(c) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.3(d) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.3(e) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.3(f) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44 Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.3(g) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.3(t) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.3(u) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.4 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 8.10.3.2.4 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.10.3.2.4(i) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.5(a) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.5(b) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.5(c) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.2.5(f) Revised

REASON: To delete references to specific code requirements that are under the jurisdiction of another consensus committee and subject to change at the committee's whim. This also coordinates with a similar approved revision to ASME A17.2. [TN 05-39]

[07] Requirement 8.10.3.2.5(i) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[1a-05] Requirement 8.10.3.2.5(n) Added

REASON: Similar to requests for car safeties. Note 3.17.3.8 was 3.16.8 on TR 96-73 in LB 00-06, which was approved for the ASME A17.1a-2002 addenda. [TN 02-02224]

[07] Requirement 8.10.3.2.5(o) Added

REASON: To verify that overspeed valves will operate. [TN 02-2266]

[07] Requirement 8.10.3.2.7 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.10.3.3.2(p) and (q) Revised

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.3.3.2(q) Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, that will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]



[07] Requirement 8.10.4.1.1(i) Revised

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.4.1.1(i)(1)(h) Added

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.4.1.1(j)(5) Deleted

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.4.1.1(s)(2) Revised

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.10.4.1.2(d)(3)(b) Added

REASON: Updated inspection and test requirements to reflect current ASME A17.1/CSA B44 escalator and moving walk requirements. [TN 02-2274]

[07] Requirement 8.10.4.1.2(d)(6) Added

REASON: Updated inspection and test requirements to reflect current ASME A17.1/CSA B44 escalator and moving walk requirements. [TN 02-2274]

[1a-05] Requirement 8.10.4.2.2(i) Added

REASON: To provide requirements for installations of a controller. [TN 02-02160]

[07] Requirement 8.10.5.2 Revised

REASON: Private residence lifts are now covered in ASME A18.1 — not ASME A17.1/CSA B44. [TN 03-1932]

[07] Requirement 8.11.1.6 Revised

REASON: Clarification and consolidation of the requirements for periodic inspections and tests tags. There are no Category 3 tests for electric elevators. The original intent was it to apply to Categories 1 and 5. [TN 02-3392]

[07] Requirement 8.11.2.1.1 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.2.1.2 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.2.1.3 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.2.1.4 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.2.1.5 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.2.1.7 Added

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.2.2.2 Revised

REASON: ASME A17.2 Technical Corrections for Electric Elevators, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.2.2.6 Revised

REASON: ASME A17.2 Technical Corrections for Electric Elevators in Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.2.2.10 Added

REASON: The person or firm installing the equipment is responsible to create the necessary documentation for the installation and maintenance of the safety system. [TN 04-811]

[07] Requirement 8.11.2.2.10 Added

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 8.11.2.3.1 Revised

REASON: Clarification and consolidation of the requirements for periodic inspections and tests tags. There are no Category 3 tests for electric elevators. The original intent was it to apply to categories 1 and 5. [TN 02-3392]

[07] Requirement 8.11.2.3.2 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 8.11.2.3.3 Revised

REASON: Clarification and consolidation of the requirements for periodic inspections and tests tags. There are no Category 3 tests for electric elevators. The original intent was it to apply to Categories 1 and 5. [TN 02-3392]

[07] Requirement 8.11.2.3.10 Revised



REASON: ASME A17.2 Technical Corrections for Electric Elevators in Requirement 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.1 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.3.1.1(d) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.1(e) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.1(q) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.2 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.3.1.3 Revised

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Requirement 8.11.3.1.3 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.3.1.3(f) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.3(g) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.3(s) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.3(u) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.3(v) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.3(w) Deleted

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.3(bb) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.3(cc) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.4 Revised

REASON: No rationale provided. [TN 04-1704]

[07] Requirement 8.11.3.1.5(b) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.5(h) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.5(j) Deleted

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44 Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.1.5(j) Revised

REASON: Requirement 8.11.3.1.5(k) renumbered 8.11.3.1.5(j). References for Hydraulic Elevators in A17.1, requirements 8.10 and 8.11. [TN 02-3469]

[1a-05] Requirement 8.11.3.2.2 Revised

REASON: The purpose of the 15-min test described in ASME A17.2-2001, Item 2.36.2 is only to check for any major leaks in the system that may have been caused by the relief valve test in Item 2.32 and the flexible hose test in Item 2.34. If evidence suggests that a minor leak may be present, "Alternate Oil Leak Test Procedures" are provided. A 2-hr test period is suggested as a sufficient



amount of time to detect even very small leaks. Leaks through holes as small as 0.003 in. in diameter should be apparent. Although it is preferable that the oil temperature be allowed to stabilize before performing a leak test, a "Test Procedure B" is provided to compensate for the temperature change effects on hydraulic oil. This allows minimizing the time required for an already lengthy test. [TN 02-02292]

[07] Requirement 8.11.3.2.2 Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.2.3(a) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.2.3(b) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.2.3(c) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.2.3(f) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.2.3(h) Revised

REASON: ASME A17.2 Technical Corrections References for Hydraulic Elevators in ASME A17.1/CSA B44, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.3.2.4 Revised

REASON: Clarification and consolidation of the requirements for periodic inspections and tests tags. There are no Category 3 tests for electric elevators. The original intent was it to apply to Categories 1 and 5. [TN 02-3392]

[07] Requirement 8.11.3.3.1 Revised

REASON: To add the word "water," which was mistakenly omitted during the publication of the ASME A17.1-2000/CSA B44-00.

NOTE: This item was approved in LB# 04-747 and this proposal only shows the editorial change for your consideration. [TN 04-637]

[1a-05] Requirement 8.11.3.4.4 Added

REASON: Similar to acceptance test. [TN 02-02224]

[07] Requirement 8.11.3.4.4 Added

REASON: To verify that overspeed valves will operate. [TN 02-2266]

[07] Requirement 8.11.4.1(j) Revised

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.4.1(m) Revised

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.4.1(s) Revised

REASON: Requirement 8.11.4.1(u) redesignated 8.11.4.1(s). ASME A17.2 Technical Corrections for Escalator and Moving Walk in A17.1, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.4.1(t) Revised

REASON: Requirement 8.11.4.1(v) renumbered 8.11.4.1(t). ASME A17.2 Technical Corrections for Escalator and Moving Walk in A17.1, requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.4.1(u) Deleted

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[07] Requirement 8.11.4.1(v) Deleted

REASON: ASME A17.2 Technical Corrections for Escalator and Moving Walk in ASME A17.1/CSA B44, Requirements 8.10 and 8.11. [TN 02-3469]

[1a-05] Requirement 8.11.4.2.21 Added

REASON: Revised ASME A17.1/CSA B44 to include the testing of step lateral displacement device for curved escalators. [TN 02-02979]

[07] Requirement 8.11.5.2 Revised

REASON: Private residence lifts are now covered in ASME A18.1 — not ASME A17.1/CSA B44. [TN 03-1932]

[1a-05] Section 8.12 Added

REASON: To inform users of ASME A17.1/CSA B44 that other codes may contain elevator requirement for flood resistant design and construction for elevator equipment. [TN 02-02296]



[07] Section 9.1 Added

REASON: To recognize within ASME A17.1 that compliance with ASME A17.7/CSA B44.7 is equivalent to compliance with ASME A17.1. [TN05-18]

[07] Section 9.1 Added

REASON: To add the appropriate reference standard for the application of (E/E/PES). [TN 04-811]

[07] Section 9.1 Revised

REASON: For B1.20.1 and B1.20.3 in the case of pipe threads, material purchased in any supply house would be developed per the latest edition; therefore, in these cases, the latest edition is the correct reference. [TN 05-59]

[07] Section 9.2 Added

REASON: To clarify the requirements for electrical equipment on the car when sprinklers are provided in the pit. [TN 03-0636]

[07] Nonmandatory Appendix E Added

REASON: The above proposal incorporates the remaining modifications in CSA B44, which will allow for the publication of a single ASME A17.1 and CSA B44 document, pending a formal agreement being reached by CSA and ASME. [TN 06-778]

[07] Nonmandatory Appendix L Deleted

REASON: Reference is not appropriate as the term "overlay" is neither defined nor used anywhere in ASME A17.1/CSA B44 except in this appendix. [TN 05-567]

[1S-05] Nonmandatory Appendix Q Added

REASON: See Attachment 2 for proposal. Explanatory Figures for the Definitions of Elevator Machinery Space, Machine Room, Control Space, Control Room, Remote Machine or Control Room, Remote Machinery, or Control Space Clarified note. [TN 02-3974]

[1S-05] Nonmandatory Appendix R Added

REASON: No rationale provided. [TN 02-3974]

ASME A17.1-2004 Errata

Requirement 2.27.3.1.6(i) Errata correction

(i) A car stopped at a landing shall have the in-car door open button rendered inoperative as soon as the car moves away from the landing. The in-car door close open button shall remain inoperative when a car stops to reverse direction. Once the in-car door open button has been rendered inoperative, it shall remain inoperative until the car has returned to the designated level.

Requirement 8.7.6.1.5(d) Errata correction

(d) *Skirt Deflector Devices*. The installation of a skirt deflection device shall not require any other alteration to the balustrades. Skirt deflector devices shall comply with 6.1.3.3.10.

ASME A17.1S-2005 Errata

Requirement 2.7.5.1.2(e) Errata correction

(e) have a sign in conformance with the requirements of ANSI Z535.2 or CAN/CSA-Z321, whichever is applicable, which shall be prominently posted in the work area stating: "WARNING! Engage " _____ " before maintaining or inspecting brake, emergency brake, or controller. Follow manufacturers instructions for use of " _____ " (see 8.6.11.6). Unless the means has been designed to support not less than the unsuspended car with rated load (see also 2.16.8), it shall also contain the following wording: "Elevator suspension means must be in place during use."

NOTE: Substitute name of actual means for " _____ " in the above signage.

Requirement 2.7.5.2.1 Errata correction

2.7.5.2.1 The following shall be provided:

(a) A means in compliance with 2.7.5.1.1, 2.7.5.1.2 and 2.7.4.5 shall be provided; or

(b) A mechanical device shall be provided to stop vertical car movement to create a vertical clearance as required by 2.7.4.5 between the floor of the working area and the lowest part of the car, and between the floor of the working area and the counterweight where a counterweight guard in conformance with 2.3.2 is not provided.

(1) The mechanical device shall be able to stop vertical car movement at up to and including 115% of rated speed with rated load. The retardation shall not exceed that required by 2.22.3 or 2.22.4 as applicable.

(2) The mechanical device shall be permitted to be moved into the active position manually or automatically.

(3) When the mechanical device is in the active position, it shall operate an electrical contact, which when in the open position, shall permit the car to move only on inspection operation [see 2.26.1.4.1 and 2.26.9.3(d)]. The electrical contact shall be positively opened mechanically and its opening shall not depend solely on springs.

(4) A sign in conformance with the requirements of ANSI Z535.2 or CAN/CSA-Z321, whichever is applicable, shall be prominently posted in the work area stating: "WARNING! Position '-----'" before maintaining or inspecting brake, emergency brake, or controller. Follow manufacturers instructions for use of '-----'" (see 8.6.11.6 8.6.10.6).



NOTE: Substitute name of actual device for “-----” in the above signage.

(5) The mechanical device shall be designed to prevent accidental movement from the active position; and

(6) The mechanical device shall not require electrical power or the completion or maintenance of an electrical circuit to be maintained in the active position.

Requirement 2.7.5.3 Errata correction

2.7.5.3 Working Platforms. A platform located in the car, on the car, or in the hoistway shall be permitted for access to and maintenance and inspection of equipment in machinery spaces or control spaces in the hoistway and shall comply with 2.7.5.3.1 through 2.7.5.3.6 (see also 8.6.11.8).

Requirement 2.7.6.3.4 Errata correction

2.7.6.3.4 Where a governor is located inside the hoistway, means of access conforming to the requirements of 2.7.3.3 and 2.7.3.4 for inspection and servicing the governor shall be provided from outside the hoistway. The access opening shall not be required where

(a) the governor can be inspected and serviced from the top of the car or adjacent car, and the governor can be tripped for testing from the adjacent car or outside the hoistway; and means are furnished to prevent movement of the car when servicing the governor. A sign with the words “SECURE CAR AGAINST MOVEMENT BEFORE SERVICING THE GOVERNOR” shall be prominently posted and be visible from the governor. The sign shall conform to ANSI Z535.2 or CAN/CSA-Z321, whichever is applicable. The sign shall be of such material and construction that the letters and figures stamped, etched, cast, or otherwise applied to the face shall remain permanently and readily legible; and

(b) for elevators in a single hoistway, the governor can be reset automatically when the car is moved in the up direction or the governor can be reset from outside the hoistway.

Requirement 2.27.3.1.6(i) Errata correction

(i) A car stopped at a landing shall have the in-car door open button rendered inoperative as soon as the car moves away from the landing. The in-car door close open button shall remain inoperative when a car stops to reverse direction. Once the in-car door open button has been rendered inoperative, it shall remain inoperative until the car has returned to the designated level.

Requirement 2.27.4.2, last paragraph Errata correction

When a fire alarm initiating device in the machine room, control space, control room, or hoistway initiates Phase I Emergency Recall Operation as required by 2.27.3.2.3 or 2.27.3.2.4, the visual signal [see 2.27.3.1.6(h) and Fig. 2.27.3.1.6(h)] shall illuminate intermittently only in

a car(s) with equipment in that machine room, control space, control room, or hoistway. When activated, a heat detector [2.27.3.2.1(d)] in the machine room, control space, or control room shall cause the visual signal [see 2.27.3.1.6(h) and Fig. 2.27.3.1.6(h)] to illuminate intermittently only in a car(s) with equipment in that machine room, control space, or control room.

Requirement 3.7.1.1 Through 3.7.1.9 Errata correction

3.7.1.1 In requirements 2.7.5.1.1, 2.7.5.2, and 2.7.5.2.4, replace the words “elevator driving machine brake or an emergency brake” with the words “hydraulic machine.”

3.7.1.2 In requirements 2.7.5.1.1 and 2.7.5.1.2(a), replace the words “elevator driving machine brake, emergency brake” with the words “hydraulic machine.”

3.7.1.3 In requirement 2.7.5.1.2(b), except 3.7.1.3 shall be worded as follows replace the wording with the following: “for a roped-hydraulic elevator support not less than twice the unbalanced weight of the system with no load and up to rated load in the car and all suspension ropes in place; and for a direct-acting hydraulic elevator support not less than twice the weight of the car with rated load.”

3.7.1.4 In requirements of 2.7.5.1.2(c), 2.7.5.3.1, and 2.7.5.5(a), replace the words “elevator driving machine motor and brake” with the words “hydraulic machine.”

3.7.1.5 In requirements of 2.7.5.1.2(e) and 2.7.5.2.1(b)(4), replace the words “before maintaining or inspecting brake, emergency brake” with the words “before maintaining or inspecting the hydraulic machine.”

3.7.1.6 In requirements 2.7.5.2.1(b)(1) and 2.7.5.5(d), replace the words “115% of rated speed” with the words “operating speed in the down direction.”

3.7.1.7 In requirement 2.7.6.3.1, replace the words “electric driving machine” with the words “hydraulic machine.”

3.7.1.8 In requirement 2.7.6.4, replace the wording with the following: “Where hydraulic machine, or an elevator motion controller or motor controller is located in the hoistway or pit, means necessary for tests that require movement of the car, shall be provided and arranged so that they can be operated from outside the hoistway and shall conform to 2.7.6.4.1 through 2.7.6.4.2. These means are also permitted to be used by elevator personnel for passenger rescue.”

3.7.1.9 In requirements of 2.7.6.4.1, replace the first paragraph with the following: “Where direct observation of the elevator or ropes in the case of a roped-hydraulic elevator is not possible from the location of the means necessary for tests that require movement of the car, display devices or the equivalent shall be



provided. They shall be visible from the location of the means and shall convey the following information about the elevator simultaneously.”

Requirement 8.6.8.4.5 Errata correction

8.6.4.8.5 Machinery spaces and control spaces located in the hoistway shall not be used for storage purposes (see also 8.6.4.7.1).



SAFETY CODE FOR ELEVATORS AND ESCALATORS

Part 1 General

SECTION 1.1 SCOPE

The ASME A17.1/CSA B44, *Safety Code for Elevators and Escalators*, and ASME A17.7/CSA B44.7, *Performance Based Safety Code for Elevators and Escalators*, are the accepted guides for design, construction, installation, operation, inspection, testing, maintenance, alteration, and repair of elevators, dumbwaiters, escalators, moving walks, and material lifts. They are the basis in total or in part for elevator codes used throughout the United States and Canada.

The ASME A17.1/CSA B44 Code and ASME A17.7/CSA B44.7 are only guides unless adopted as law or regulation by an authority having jurisdiction.

Local jurisdictions may, in their adopting legislation, occasionally revise and/or include requirements in addition to those found in the ASME A17.1/CSA B44 and ASME A17.7/CSA B44.7 Codes. It is therefore advisable to check with the local jurisdiction before applying code requirements in any area.

Requirement 1.1.2 outlines examples of equipment not covered by the ASME A17.1/CSA B44 and ASME A17.7/CSA B44.7 Codes. Requirement 1.1.3 specifies those Parts and requirements of the Code that apply only to new installations, as well as those that apply to both new and existing installations.

SECTION 1.2 PURPOSE AND EXCEPTIONS

The ASME A17.1/CSA B44 Code requirements provide a framework for standards of safety for current products whose technologies have become state-of-the-art and commonplace. The ASME A17 and CSA B44 Committees have demonstrated in the past their responsiveness to prepare new requirements throughout their long history, to address new designs and technologies.

However, elevator technology is advancing at a rapid pace. The advent and wide use of the Essential Safety Requirements (ESRs) of the Lift Directive in the European Union (EU) has accelerated the pace of change. As safe elevators based on new technology become available, worldwide demand for these products increases.

Elevator codes based on prescriptive language take time to change, given the nature of the consensus process upon which they are based. This hampers introduction of new technology into jurisdictions without a uniform, structured process acceptable to Authorities Having Jurisdiction (AHJ).

ASME A17.1-2004 and the CSA B44-04 recognize the need for a method to introduce new technology. The preface to those codes stated the following:

“Application of Requirements to New Technology”

“Where present requirements are not applicable or do not describe new technology, the authority having jurisdiction should recognize the need for exercising latitude and granting exceptions where the product or system is equivalent in quality, strength or stability, fire resistance, effectiveness, durability, and safety to that intended by the present Code requirements.”

This issue was further addressed in Section 1.2 of both Codes, which state the following:

“The specific requirements of this Code may be modified by the authority having jurisdiction based upon technical documentation or physical performance verification to allow alternative arrangements that will assure safety equivalent to that which would be provided by conformance to the corresponding requirements of this Code.”

While the purposes of the foregoing provisions in those Codes are clear, implementation was difficult in practice, as there was no uniform process of establishing equivalent safety that could be readily applied. A uniform process would be of assistance to AHJs in establishing safe application of new technology. At the same time, it would be valuable to an equipment provider to have a clear method to follow.

The inhibiting effects of prescriptive-based Codes on the adoption of new ideas are well known. Many countries have replaced prescriptive-based building codes of long standing with performance-based building codes. Australia pioneered this concept many years ago, and the model building codes in the U.S. initiated a similar approach shortly thereafter. The European Common Market followed suit in recent years.

