ASME A17.8-2021/CSA B44.8:21
National Standard of Canada
American National Standard

Standard for wind turbine tower elevators

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M. Pedram	Modern Elevator Innovations Inc., Hamilton, Ontario, Canada *Category: Producer Interest*	
H. Peelle	The Peelle Company Limited, Brampton, Ontario, Canada *Category: Producer Interest*	
B. Potvin	National Research Council - Codes Canada, Ottawa, Ontario, Canada *Category: User/General Interest*	
A. Rehman	Schindler Elevator Corporation, Morristown, New Jersey, USA	*Non-voting*
A. Reistetter	National Elevator & Escalator Association, Mississauga, Ontario, Canada	*Non-voting*
S. Reynolds	The Peelle Company Limited, Brampton, Ontario, Canada	*Non-voting*
E. Ryba	Public Services and Procurement Canada, Ottawa, Ontario, Canada *Category: User/General Interest*	
R. Santos	Technical Safety Authority of Saskatchewan (TSASK), Regina, Saskatchewan, Canada *Category: Regulatory Authority*	
R. Scharfe	Pembroke, Ontario, Canada	*Non-voting*
P. Sorensen	Technical Safety BC, Vancouver, British Columbia, Canada	*Non-voting*
K. Steeves	Province of New Brunswick Department of Public Safety, Moncton, New Brunswick, Canada *Category: Regulatory Authority*	
M. Tevyaw	MHT Codes & Consulting Specialists, Burlington, Ontario, Canada	*Non-voting*

T. Thomas	Government of the Northwest Territories, Yellowknife, NWT, Canada *Category: Regulatory Authority*	
E. Towson	Technical Safety BC, West Kelowna, British Columbia, Canada *Category: Regulatory Authority*	
K. Virk	UT Elevator Inc., Toronto, Ontario, Canada	*Non-voting*
J. Virk	Unitech Elevator Company, Pickering, Ontario, Canada	*Non-voting*
B. Virk	UT Elevator, Toronto, Ontario, Canada *Category: Producer Interest*	
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J. Menard	CSA Group, Toronto, Ontario, Canada	*Project Manager*

(ED)

ASME A17.8/CSA B44.8 Joint Committee on Wind Turbine Tower Elevators

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J. Koshak	Elevator Safety Solutions, LLC, Germantown, Tennessee, USA	*Vice-Chair*
R. Mohamed	American Society of Mechanical Engineers (ASME), New York, New York, USA	*Secretary*
C. Barrett	Elevator Industry Work Preservation Fund, Kent, Washington, USA	
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K. Govaert	Sky Man International NV, Boom, Belgium	*Contributing Member*
P.S. Grewal	Hailo LLC, Elberton, Georgia, USA	*Contributing Member*
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(ED) # *Foreword*

Equipment covered by this standard was originally codified and incorporated into ASME A17.1-2013/ CSA B44-13, Section 5.11, in October 2013. The first edition of this Standard was published in November 2016 and prepared by The American Society of Mechanical Engineers (ASME), Wind Turbine Tower Elevator Committee with the assistance of representatives of a number of interests including manufacturers, certifying organizations, regulatory bodies, and technical consultants from North America and Europe.

The work to develop this Standard originated when the A17 Standards Committee was presented information on the numbers of these elevators already installed and the estimate of projected number of elevators to be constructed in North America.

The A17 Standards Committee voted that these elevators were under the Scope of ASME A17.1/CSA B44, Safety Code for Elevators and Escalators and in January 2009, assigned the project of developing language to the Special Purpose Personnel Elevator (SPPE) Committee. The SPPE Committee created a Project Team consisting of A17/B44 representatives, technical advisors from the American Wind Energy Association (AWEA), specialists in the design of these types of elevators, manufacturers from Denmark, Belgium, Spain, and Canada, and two members from Accredited Elevator/Escalator Certifying Organizations (AECOs) from the Netherlands and the United States.

The first Project Team meeting was held in March 2009. A number of meetings of the Team were held during the next three years, using the Special Purpose Personnel Elevator language, Section 5.7, as a basis for developing Wind Turbine Elevator Code language. The Team performed hazard assessment to establish equivalent levels of safety considering the very unique environment these elevators are installed where current ASME A17.1/CSA B44 codes do not address specific circumstances and structural requirements. In 2012, the Project Team was converted to a full Working Committee of A17, and the ASME A17.1/CSA B44, Section 5.11 was completed, approved by ANSI, and published as an American National Standard, ASME A17.1-2013/CSA B44-13. In 2013, the A17 Standards Committee approved the conversion of Section 5.11 into ASME A17.8/CSA B44.8 to provide a global code to international manufacturers in an effort to harmonize worldwide construction, installation, operation, testing, inspection, maintenance, alteration, and repair requirements.

ASME A17.8-2016/CSA B44.8-16 was approved as an American National Standard by the American National Standards Institute (ANSI) on January 8, 2016.

The second edition of ASME A17.8-2021/CSA B44.8:21 includes revisions listed in the summary of changes section. This edition adds requirements for engineering tests, type tests, and certifications; maintenance, repair, replacements, testing, and alterations; as well as suspension means and their connections. These additions were to create a document not dependent on ASME A17.1/CSA B44, but separate their unique requirements into a separate standard. This 2021 edition is also being changed from periodic maintenance to a five-year cycle continuous maintenance publication. This Standard was approved as an American National Standard by the American National Standards Institute (ANSI) on October 27, 2021.

Correspondence with the A17 Committee

General

This Standard is one of numerous codes and standards developed and published by The American Society of Mechanical Engineers (ASME) under the general auspices of the American National Standards Institute (ANSI).

ASME codes and standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this and other ASME A17 codes and standards may interact with the committee by requesting interpretations, proposing revisions, and attending committee meetings. Correspondence should be addressed to:

Secretary, A17 Standards Committee
The American Society of Mechanical Engineers
Two Park Avenue
New York, NY 10016

All correspondence to the Committee must include the individual's name and post office address in case the Committee needs to request further information.

Proposing Revisions

Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the procedures, and in order to conform to developments in the elevator art. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible: citing the Section number(s), the proposed wording, and a detailed description of the reasons for the proposal including any pertinent documentation.

Requesting Interpretations

Upon request, the A17 Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the A17 Standards Committee at: http://go.asme.org/Inquiry.

The request for interpretation should be clear and unambiguous. It is further recommended that the inquirer submit his request utilizing the following format:

Subject:	Cite the applicable Section number(s) and a concise description.
Edition:	Cite the applicable edition and supplement of the Standard for which the interpretation is being requested.
Question:	Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The question shall be phrased, where possible, to permit a specific "yes" or "no" answer. The inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in this format will be rewritten in this format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

Moreover, ASME does not act as a consultant for specific engineering problems or for the general application or understanding of the Code requirements. If, based on the inquiry information submitted, it is the opinion of the Committee that the Inquirer should seek assistance, the inquiry will be returned with the recommendation that such assistance be obtained.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME committee or subcommittee. ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

Attending Committee Meetings

The A17 Standards Committee and the various Working Committees regularly hold meetings and/or telephone conferences all of which are open to the public. Persons wishing to attend any meeting and/or telephone conference should contact the Secretary of the Standards Committee. Future committee meeting dates and locations can be found on the committee page at https://cstools.asme.org/.

Preface

This is the second edition of ASME A17.8/CSA B44.8, *Standard for wind turbine tower elevators*. It supersedes the previous edition published in 2016.

Originally, wind turbine tower elevators were covered in ASME A17.1-2013/CSA B44-13, Section 5.11, published in October 2013. This Standard supersedes those requirements. This is a fully harmonized binational Standard.

This Standard was prepared for use in Canada by the CSA Technical Committee on the Elevator Safety Code under the jurisdiction of the CSA Strategic Steering Committee on Mechanical Industrial Equipment Safety, and has been formally approved by the CSA Technical Committee.

This standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Notes:

1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
3) *This publication was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.*
4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:*
   a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
   b) *provide an explanation of circumstances surrounding the actual field condition; and*
   c) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

   Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization *and are available on the* Current Standards Activities *page at* ***standardsactivities.csa.ca****.*
5) *This Standard is subject to review five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include "Proposal for change" in the subject line:*
   a) *designation;*
   b) *relevant clause, table, and/or figure number;*
   c) *wording of the proposed change; and*
   d) *rationale for the change.*
6) *Attention is drawn to the possibility that some of the elements of this Standard may be the subject of patent rights. CSA Group is not to be held responsible for identifying any or all such patent rights. Users of this Standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.*

Summary of Changes

Following approval by the ASME A17 Elevator and Escalator Committee and ASME, and after public review, ASME A17.8-2021/CSA B44.8:21 was approved by the American National Standards Institute on October 27, 2021.

The 2021 edition of ASME A17.8/CSA B44.8 includes revisions that are identified by a margin note, **(21)**.

Changes made to correct errors, as well as other editorial changes, are identified by **(ED)**. The following is a summary of the latest revisions and changes:

Page	Location	Change
1–5	Contents	Revised
6–15	Committee Rosters	Updated
16	ASME Foreword	Updated
25–35	Part 1, Scope, Definitions, and References	Title Revised
25	1.1.1	Editorially revised, “code” revised to “standard” throughout document
25	1.2	Added
	1.2, 1.3	Redesignated to 1.3, 1.4
25–33	1.3 Definitions	“*Accredited certifying organization*” Added
		“*Accrediting body*” Added
		“*Alteration*” Added
		“*Approved*” Added
		“*Authority having jurisdiction*” Added
		“*Brake, driving machine, elevator dumbwaiter, or material lift*” Revised
		“*Car door or gate electric contact*” Added
		“*Clearance, top car, inclined elevators*” Revised
		“*Control, AC motor*” Added
		“*Control, two speed AC*” Added
		“*Operation, automatic*” Revised
		“*Control system*” Added
		“*Controller, motion*” Added
		“*Door or gate closer*” Added
		“*Elevator personnel*” Revised
		“*Emergency personnel*” Added

Page	Location	Change
		"*Emergency stop switch*" Revised
		"*Fail safe*" Added
		"*Guiding means, ladder*" Added
		"*Hard copy*" Added
		"*Hoistway (shaft), elevator, dumbwaiter, or material lift*" Revised
		"*Hoistway gate separate mechanical lock*" Revised
		"*Installation*" Revised
		"*Landing, elevator or material lift*" Revised
		"*Landing, bottom terminal*" Deleted
		"*Landing, top terminal*" Deleted
		"*Landing, terminal*" Deleted
		"*Maintenance control program (MCP)*" Revised
		"*Maintenance interval*" Added
		"*Maintenance task*" Added
		"*Mechanical lock*" Revised
		"*Periodic tests, category*" Added
		"*Rated load, elevator, dumbwaiter, material lift, or escalator*" Revised
		"*Rated speed*" Revised
		"*Elevator, dumbwaiter, or material lift*" Revised
		"*Regulatory authority*" Added
		"*Residual strength*" Added
		"*Rise*" Added
		"*Rope, suspension (hoisting)*" Revised
		"*Sound engineering practice*" Added
		"*Terminal stopping device, normal*" Revised
		"*Trailing Cable*" Added
		"*Travelling Cable*" Revised
33–35	1.4	Revised
35	2.1.3.2	Revised
37	2.5	Revised
37	2.7	Title Revised
38	2.7.1.1	Revised

Page	Location	Change
38	2.9	Revised
38	2.9.1.5	Added
39	2.9.2	Revised
39	2.9.3	Deleted
	2.9.4	Redesignated
	2.9.4.1	Redesignated
	2.9.4.2	Redesignated
39	2.10.1	Revised
40	2.11	Revised
41	2.12	Title Revised
41	2.12.1	Revised
41	2.12.2	Revised
41	2.12.3	Revised
41	2.12.3.1	Revised
42	2.12.3.2	Revised
42	2.12.3.3	Revised
	2.12.3.5.1	Redesignated and Revised
	2.12.3.5.2	Redesignated and Revised
	2.12.3.5.3	Redesignated and Revised
42	2.12.4	Added
44	2.14.8.3	Deleted
	2.14.8.4	Redesignated
45	2.14.9.2	Revised
45	2.14.9.3	Revised
46	2.14.12	Revised
46	2.14.13	Revised
46	2.15	Revised
46	2.15.1	Revised
47	2.15.8	Revised
47	2.15.10.1	Revised
47	2.15.10.2	Revised
39	2.15.11	Revised
48	2.16.4	Revised
49	2.17.1.1	Revised
50	2.20	Revised

Page	Location	Change
51	2.20.1	Revised
51	2.20.1.1	Revised
51	2.20.1.2	Revised
51	2.20.1.3	Revised
51	2.20.2	Revised
51	2.20.2.1	Revised
51	2.20.2.2	Revised
51	2.20.2.3	Revised
51	2.20.2.5	Revised
52	2.20.2.9	Revised
52	2.20.2.10	Revised
	2.20.2.11	Redesignated and Revised
53	2.20.2.12	Revised
	2.20.2.13	Redesignated
	2.20.3	New Para. Added, Revised, and Redesignated
53	2.21	Revised
54	2.23.1	Revised
54	2.23.1.1	Revised
54	2.23.1.3	Revised
55	2.23.1.6	Revised
55	2.23.1.9	Revised
55	2.23.1.12	Added
56	2.23.2	Revised
56	2.23.2.3	Revised
56	2.23.2.9	Added
57	2.24	Revised
	2.24.3	Deleted
	2.24.4	Redesignated
	2.24.4.1	Redesignated
	2.24.5	Redesignated
	2.24.6	Redesignated and Revised
	2.24.7	Redesignated
	2.24.8	Redesignated
	2.24.9	Redesignated and Revised
	2.24.9.1	Redesignated

Page	Location	Change
	2.24.9.2	Redesignated
	2.24.9.3	Redesignated
	2.24.9.4	Redesignated
	2.24.9.5	Redesignated
	2.24.9.6	Redesignated
	2.24.9.7	Redesignated
	2.24.10	Redesignated
60	2.25.1.1	Revised
61	2.25.2.4	Revised
61	2.25.2.5	Added
62	2.26.1.2	Revised
63	2.26.2.7	Added
63	2.26.2.8	Added
66	2.29	Revised
67	2.30	Revised in its entirety
71	2.31	Revised
	2.32	Deleted
	2.33	Deleted
72	3	Added
95	Annex B (informative)	Maintenance Control Program Records Added
96	Table B-1	Maintenance Control Program Records Added
97	Annex C (informative)	Acceptance Tests Added

ASME A17.8-2021/CSA B44.8:21
Standard for wind turbine tower elevators

(ED) ## 1 General

1.1 Scope

ASME A17.8/CSA B44.8 applies to elevators permanently installed in a wind turbine tower to provide vertical transportation of authorized personnel and their tools and equipment only.

Such elevators are typically subjected to extreme temperatures, humidity variations, and substantial horizontal motions where, by reason of their limited use and the types of construction of the structures served, full compliance with ASME A17.1/CSA B44 Part 2 is not practicable or necessary.

(ED) #### 1.1.1 Effective date

The requirements of this edition and subsequent addenda to the Standard are effective as of the date noted on the copyright page of this document. The authority having jurisdiction will establish the effective date for its local regulations.

(21) ### 1.2 Purpose and exceptions

1.2.1 Purpose

The purpose of this Standard is to provide for the safety of life and limb, and to promote the public welfare. Compliance with this Standard shall be achieved by

a) conformance with the requirements in ASME A17.8/CSA B44.8; or
b) conformance with some of the requirements of ASME A17.8/CSA B44.8 and for systems, subsystems, components, or functions that do not conform with certain requirements in ASME A17.8/CSA B44.8, conform with the applicable requirements in ASME A17.7/CSA B44.7; or
c) conformance with the requirements in ASME A17.7/CSA B44.7

1.2.2 Exceptions to ASME A17.8/CSA B44.8

The provisions of this Standard are not intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety to those prescribed by this Standard, provided that there is technical documentation to demonstrate the equivalency of the system, method, or device.

1.2.2.1

The specific requirements of this Standard shall be permitted to 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 Standard.

1.2.2.2

Exceptions shall be based on the requirements of 1.2.2.1.

(21) ### 1.3 Definitions

The following definitions shall apply in this Standard: