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C411.1-16

AC suspension insulators

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AC suspension insulators



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Technical Committee on Insulators

G. Watt	Mississauga, Ontario <i>Category: General Interest</i>	<i>Chair</i>
R.A. Bernstorf	Hubbell/The Ohio Brass Company, Wadsworth, Ohio, USA <i>Category: Producer Interest</i>	
I. Boev	Kinectrics Inc., Toronto, Ontario	<i>Associate</i>
B.D. Bonilla-Sanchez	British Columbia Hydro, Burnaby, British Columbia	<i>Associate</i>
A.J. Carreira	K-Line Insulators Limited, Scarborough, Ontario <i>Category: Producer Interest</i>	
E. Del Bello	SEVES SEDIVER, St-Laurent, Québec <i>Category: Producer Interest</i>	
K. Dostie	British Columbia Hydro, Burnaby, British Columbia <i>Category: Electricity Transmission Interest</i>	
J. Duxbury	Surrey, British Columbia <i>Category: General Interest</i>	
T. Fu	Hydro One Networks Inc., Toronto, Ontario	<i>Associate</i>
J.M. George	SEVES SEDIVER, St-Laurent, Québec	<i>Associate</i>
E.P. Grand	T&D High Voltage Consulting Ltd., White Rock, British Columbia <i>Category: General Interest</i>	
L. I. Klassen	Manitoba Hydro, Winnipeg, Manitoba <i>Category: Electricity Transmission Interest</i>	

C. Kleberg	Hydro One Networks Inc., Toronto, Ontario	<i>Associate</i>
J. Kuffel	Toronto, Ontario <i>Category: General Interest</i>	
R. Lehoux	Hydro-Québec, Montréal, Québec <i>Category: Electricity Transmission Interest</i>	
S.A. Marra	K-Line Insulators Ltd., Toronto, Ontario	<i>Associate</i>
H. Navis	FortisAlberta, Airdrie, Alberta <i>Category: Electricity Distribution Interest</i>	
C.K. Ng	Hydro One Networks Inc., Toronto, Ontario <i>Category: Electricity Transmission Interest</i>	
D.H. Nguyen	IREQ, Varenes, Québec <i>Category: Electricity Distribution Interest</i>	
D.R. Orr	Manitoba Hydro, Winnipeg, Manitoba <i>Category: Electricity Distribution Interest</i>	
A. Patroi	Hydro One Networks Inc., Toronto, Ontario	<i>Associate</i>
F. Rhéaume	Hydro-Québec, Montréal, Québec <i>Category: Electricity Distribution Interest</i>	
S. Toyama	NGK Insulators of Canada, Ltd., Mississauga, Ontario <i>Category: Producer Interest</i>	
F.H. Wiebe	Innovative Solutions Engineering Inc., Winnipeg, Manitoba	<i>Associate</i>
T. Donovska	CSA Group, Toronto, Ontario	<i>Project Manager</i>

Preface

This is the third edition of CSA C411.1, *AC suspension insulators*. It supersedes the previous editions, published in 2010 and 1989. The Standard has been updated to reflect current industry practice.

This Standard is one of the CSA C411 series of Standards covering insulators. Other Standards in the series are

- a) CSA C411.4, *Composite suspension insulators for overhead lines > 75 kV*;
- b) CSA C411.5, *Dead-end/suspension composite insulators for overhead lines ≤ 75 kV*;
- c) CSA C411.6, *Line post composite insulators for overhead distribution lines*; and
- d) CSA C411.7, *Composite insulators for guy wires*.

This Standard was prepared by the Technical Committee on Insulators, under the jurisdiction of the Strategic Steering Committee on Power Engineering, and has been formally approved by the Technical Committee.

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 Standard 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 Standard.*
- 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) *Standard designation (number);*
 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

C411.1-16

AC suspension insulators

1 Scope

1.1

This Standard applies to wet-process porcelain and toughened glass suspension-type insulators used on ac overhead power lines with a nominal voltage greater than 1000 V and a frequency not greater than 100 Hz.

This Standard applies to single insulator units only and does not apply to long rod insulators.

1.2

This Standard specifies provisions for

- a) the mechanical, electrical, and dimensional characteristics of insulators and the conditions under which the specified values of these characteristics are verified; and
- b) test methods and acceptance criteria.

1.3

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the Standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

CSA Group

C83 (new edition under development)
Communication and power line hardware

C411.4-16
Composite suspension insulators for overhead lines > 75 kV