P844.3

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Type of Project: Modify Existing Approved PAR
PAR Request Date: 16-Oct-2017
PAR Approval Date: 06-Dec-2017
PAR Expiration Date: 31-Dec-2019
Status: Modification to a Previously Approved PAR
Root PAR: P844.3  Approved on: 16-Jun-2011

1.1 Project Number: P844.3
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2. Title: Standard for Impedance Heating of Pipelines and Equipment - General, Testing, Marking, and Documentation Requirements

Changes in title: Standard for Impedance Heating of Pipelines, Vessels, Equipment, and Structures - General, Testing, Marking, and Documentation Requirements

3.1 Working Group: Electrical Impedance, Induction, and Skin Effect Heating of Pipelines and Vessels (IAS/PCI/844WG)

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3.2 Sponsoring Society and Committee: IEEE Industry Applications Society/Petroleum & Chemical Industry (IAS/PCI)

Contact Information for Sponsor Chair
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 02/2018
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 08/2018

5.1 Approximate number of people expected to be actively involved in the development of this project: 15

5.2 Scope: This standard applies to general, testing, marking, and documentation requirements for impedance heating systems for steel or steel alloy pipe or equipment, rated up to and including 132 Vac.

These heating system components are intended for installation in accordance with the CSA C22.1, Canadian Electrical Code, Part I (CE Code); NFPA 70, National Electrical Code(R) (NEC(R)) in the U.S.; or with any other national electrical installation code, as applicable. This standard applies to impedance heating systems intended to be

Changes in scope: This standard provides the general, testing, marking, and documentation requirements for impedance heating. Certification systems requirements for the steel component steel parts alloy pipe or equipment, rated up to and including 132 Vac. These heating system components are intended for installation in accordance with the CSA C22.1, National Electrical Code(R) (NEC(R)) in the U.S.; and/or documentation with requirements any other national covered electrical installation code, as applicable. This standard applies to all impedance heating systems intended to be installed in general, ordinary industrial and application hazard locations. The hazardous location installations are limited to 30 Vac and cover the following: ordinary In locations Canada:
installed in ordinary and hazardous locations. The hazardous location installations are limited to 30 Vac and include the following:

In Canada: Zone 2; Zone 22; or Class I, Division 2; Class II, Division 2; Class III, Division 2 as described in CSA C22.1; and
In the U.S.: Class I, Zone 2; Zone 22; or Class I, Division 2; Class II, Division 2; Class III, Division 2 as hazardous described areas in having the potentially explosive atmospheres. This standard also applies to power connection points and control methods used with impedance heating systems.

NOTE 1-- Requirements for certification of insulated impedance conductors with insulation temperature ratings above 105°C may be considered under a special investigation by an accredited certification body.

NOTE 2-- Information on transformer, power distribution and control components can be found in IEEE Std 844.4/CSA 293.4.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: This standard provides testing, marking, design, and documentation requirements for impedance heating system components. Impedance heating systems which follow the component requirements as outlined here are intended to:

a) Maintain design temperature; and
b) Provide electrical, thermal, and mechanical durability and reliability.

Changes in purpose: This standard provides the user with the general, testing, marking, design, and documentation requirements for the design and manufacture of impedance heating system components. Impedance heating systems which follow the component requirements as outlined here historically have intended proven to:

A) Maintain design temperature; and contained material or heated surfaces.
B) Provide electrical, thermal, and mechanical durability and reliability.
C) Minimize hazards to the user and/or the surroundings.

5.5 Need for the Project: The need for this project is to extend the IEEE844-2000 recommended practice/standard document to become a standard that covers general, testing, marking, and documentation requirements for impedance heating systems. This project will incorporate Errata from the 2005 document. It will incorporate requirements for both ordinary and potentially explosive atmospheres. It will include updates to the technology, reorganize the subject matter, and make minor technical revisions as determined through the working group sessions.

5.6 Stakeholders for the Standard: Manufacturers of impedance heating systems, designers and users of impedance heating systems, and approval agencies.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: No

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: Yes

Organization: Canadian Standards Association(CSA)

Technical Committee Name: Integrated Committee Trace Heating(ICKH)

Technical Committee Number: C231

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8.1 Additional Explanatory Notes: IEEE 844.1/CSA293.1 and IEEE844.2 and CSA293.2 have now been approved. The impedance heating standards listed below(A and B) are nearing
completion for sponsor ballot. The Induction Heating Document will restart development in January 2018.

A) IEEE 844.3 STD - Impedance Heating of Pipelines and Equipment - General, Testing, Marking, and Documentation Requirements

This modification of the existing PAR is to update the Scope (5.2) and Purpose (5.4) wording with more specific language agreed upon by the working group and to delete vessels and structures from the Scope and Title (2.1) as these are not applicable in impedance heating. They were applicable in skin effect heating.