2.1 Title: Standard for Impedance Heating of Pipelines and Equipment - Application Guide for Design, Installation, Testing, Commissioning and Maintenance


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

Contact Information for Working Group Chair
Name: Roy E Barth
Email Address: roy.barth@thermon.com
Phone: 1(800)820-4328

Contact Information for Working Group Vice-Chair
Name: Franco Chakkalakal
Email Address: franco@chakkalakal.com
Phone: 713 865 9844

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

Contact Information for Sponsor Chair
Name: Robert Durham
Email Address: rdurham@thewaycorp.com
Phone: 918.645.6109

Contact Information for Standards Representative
Name: Robert Durham
Email Address: rdurham@thewaycorp.com
Phone: 918.645.6109

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

Changes in scope: This standard provides for the application of impedance heating systems for steel or steel alloy pipe and equipment. It provides recommendations for design, installation, maintenance, operation, and repair of impedance heating systems for steel or steel alloy pipe and equipment. This standard applies to general industry, industrial applications intended to be installed in ordinary and hazardous locations with potentially explosive atmospheres. The hazardous locations 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 hazardous CSA areas C22.1; having explosive atmospheres. In atmospheres the U.S. Class I, Zone 2; and Zone 22; or Class I, Division 2; Class II, Division 2; Class III, Division 2 as described in the NEC. This standard, when used with other recognized
Class III, Division 2 as described in CSA C22.1; and
In the U.S. Class I, Zone 2; and Zone 22; or Class I, Division 2;
Class II, Division 2; Class III, Division 2 as described in the NEC.

This standard, when used with other recognized codes and standards,
is intended to cover impedance heating systems in its entirety,
including system design, specification, installation, operation, testing,
and maintenance. This standard also addresses the following associated systems which are important to the performance of impedance heating systems:
a) Thermal insulation system; b) Electric power supply system; c) Electric grounding system; and d) Control and monitoring system.

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

5.4 Purpose: This standard is intended to aid the user in specifying, installing, operating, testing during commissioning, and maintaining impedance heating systems that will:
a) Maintain design temperature; b) Provide electrical, thermal, and mechanical durability and reliability; and c) Minimize hazards to the user and the surroundings.

Design information, selection parameters, and data in this standard are not intended to provide a complete design primer for impedance heating systems. The information presented will provide guidelines for:
a) Selecting the optimum impedance heating system design; b) Establishing design criteria and constraints for the heated pipeline or equipment to assure system compatibility; c) Preparing specifications to obtain quotations for impedance heating systems; and d) Developing information on installation, operation, testing, commissioning and maintenance of the impedance heating system.

5.5 Need for the Project: The need for this project is to extend the IEEE 844-2000 recommended practice/standard document to become a standard that serves as an application guide for design, installation, testing, commissioning and maintenance of 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.

---

Changes in purpose: This document standard aids is intended to aid the user in specifying, installing, operating, testing during commissioning, and maintaining impedance heating systems that will: a) Maintain design temperature; b) Provide electrical, thermal, and mechanical durability and reliability; and c) Minimize hazards to the user and the surroundings. Design information, selection parameters, and data in this document are not intended to provide a complete design primer for impedance heating systems. The information presented will provide guidelines for: a) Selecting the optimum impedance heating system design; b) Establishing design criteria and constraints for the heated pipeline or equipment to assure system compatibility; c) Preparing specifications to obtain quotations for impedance heating systems; and d) Developing information on installation, operation, testing, commissioning and maintenance of the impedance heating system.

---

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 (ICTH)
Technical Committee Number: C231
Contact Name: Mark Humphries
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 (C) 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.