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Standard Attributes on CT Equipment Related to Dose Optimization and Management

National Electrical Manufacturers Association

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FOREWORD

The first edition of this standard is intended to identify four key features of CT scanners which contribute to or help perform optimization and or management of doses of ionizing radiation while still enabling the system to deliver the diagnostic image quality needed by the physician.

This standard was developed by the CT Group of the X-Ray Imaging Section of the Medical Imaging & Technology Alliance (MITA), a division of NEMA. Inquiries, comments, and proposed or recommended revisions should be submitted to the X-Ray Imaging section by contacting:

Vice President
Medical Imaging & Technology Alliance (MITA)
1300 North 17th Street
Rosslyn, Virginia 22209

At the time of the approval of the standard, the CT group was composed of the following members:

GE Healthcare
Hitachi Medical Systems America, Inc.
Neusoft Medical Systems USA, Inc.
Neurologica
Philips Healthcare
Siemens Medical Solutions USA, Inc.
Toshiba America Medical Systems

At the time of the approval of the standard, the X-Ray Imaging section was composed of the following members:

Advanced Instrument Development Inc.
Agfa HealthCare
Aribex, Inc.
Bioptics, Inc.
Capintec, Inc.
CIRS
Eizo Nanao Corporation
EOS imaging
FUJIFILM Medical Systems U.S.A., Inc.
GE
GE Healthcare
Hitachi Medical Systems America, Inc.
Hologic Inc.
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Medtronic Navigation
Neurologica Corporation
Neusoft Medical Systems, USA, Inc.
Philips Healthcare
Shimadzu Medical Systems
Siemens Healthcare
The Phantom Laboratory
Toshiba America Medical Systems Inc.
Ziehm Imaging, Inc.

TABLE OF CONTENTS

Section 1
OVERVIEW

1.1 SCOPE

This standard identifies common computed tomography (CT) system (i.e. scanner) attributes that contribute to or help perform optimization/management of doses of ionizing radiation while still enabling the system to deliver the diagnostic image quality needed by the physician. The CT group, MITA and NEMA as a whole conveys its determination and commitment to help ensure that clinicians have the tools needed to manage the amount of radiation that is used.

1.2 RATIONALE

This standard is established to assist health care providers to ensure that patients undergoing CT exams undergo procedures that produce images that are of diagnostic quality while optimizing use of ionizing radiation. The features identified will assist healthcare provides to incorporate up-to-date dose-related features on the devices they utilize in order to maintain the established standard of care established by professional societies and regulatory agencies.

1.3 REFERENCES
1.3.1 Normative References

By reference herein the following normative documents are adopted, in whole, or in part as indicated in this standards publication.

National Electrical Manufacturers Association
Medical Imaging Technology Alliance
1300 North 17th Street
Arlington, Virginia 22209

DICOM PS 3.16-2011	*Content Mapping Resource*
DICOM PS 3.3-2011	*Information Object Definitions*
NEMA XR-25-2010	*Computed Tomography Dose Check*
NEMA XR 28-2013	*Supplemental Requirements for User Information and System Function Related to Dose in CT* (to be published)

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Case postale 131
CH-1211 Geneva 20
Switzerland

IEC 60601-2-44 Ed. 3 and Ed. 3.1	*Particular requirements for the basic safety and essential performance of X-ray equipment for computed tomography*