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Standard Practice for Best Practices for Safe Application of 3D Imaging Technology[1]

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1. Scope

1.1 This practice for the safe application of 3D imaging technology will focus primarily on the application of specific technology components common to 3D imaging systems. When appropriate, reference may be made to existing standards written for said technologies.

1.2 Safety standards relevant to specific industry practices where the technology may be applied will not be developed given the very broad potential for application over many industries. However, general mention and recommendations will be made to industry specific safety guidelines relevant to some common applications.

1.3 This practice covers the following topics:

1.3.1 End-user/operator responsibilities,

1.3.2 Safety plan,

1.3.3 Safety awareness,

1.3.4 Safe application of laser technology common to 3D imaging systems, and

1.3.5 References to some applicable government regulations.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ANSI Standard:*[2]

ANSI Z136.1 American National Standard for the Safe Use of Lasers

2.2 *IEC Standard:*[3]

IEC 60825 Safety of Laser Products

2.3 *Federal Standards:*[4]

21 CFR 1040.10 Laser Products

21 CFR 1040.11 Specific Purpose Laser Products

OSHA STD 01-05-001-PUB 8-1.7 Guidelines for Laser Safety and Hazard Assessment

3. Significance and Use

3.1 The overall purpose of standards is to document and communicate best practices in the successful and consistent application of 3D imaging technology. When executed effectively, this leads to an enhanced project performance. This practice offers a guideline for safe field operational procedures used in the application of 3D imaging technology.

3.2 *Applicability*—As 3D imaging technology is applied across an ever increasing area of application, a set of uniform standards for their safe application is necessary. This best practice shall serve as a guideline to both operator and end user ensuring that necessary and reasonable precautions have been taken to ensure the safe application of 3D imaging technology.

4. End-User/Operator Responsibilities

4.1 Safe operation of 3D imaging equipment is the responsibility of both the end user and operator. The end user is identified as that party using the 3D imaging system deliverable to meet certain project requirements. To the greatest extent possible, the end user shall ensure that safety practices are being followed.

4.2 3D imaging system operators, identified as the party operating the 3D imaging system, bear the primary responsibility for its safe application. They should be sufficiently trained in the safe and correct methods of the 3D imaging technology operation. In addition to those practices specific to the technology, the operators shall be aware of site-specific safety requirements and practices and ensure that these are being followed consistently.

4.3 *Safety Plan:*

4.3.1 Given the mutual responsibility for safety by the end user and the operator, a written safety plan designed for a

[1] This practice is under the jurisdiction of ASTM Committee E57 on 3D Imaging Systems and is the direct responsibility of Subcommittee E57.03 on Guidelines.

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[2] Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

[3] Available from International Electrotechnical Commission (IEC), 3 rue de Varembé, Case postale 131, CH-1211, Geneva 20, Switzerland, http://www.iec.ch.

[4] Available from the U.S. Government Printing Office, Superintendent of Documents, 732 N. Capital St., N.W., Washington, DC 20402-0001.