

December 10, 2018

Dear Sir/Madam,

Regarding Chapter 33 of Title 24 of the Rules of the City of New York, pertaining to the use of body imaging scanning equipment by the New York City, Department of Corrections, Smiths Detection supports the legislation as approved by the State of New York and the City of New York, with the following comments:

**Proposed Section 33-04(d) page 7**

The proposed device for testing image quality is not a commercially available product. Smiths Detection proposes that image quality be measured using a standard test piece that is derived from the TSA measurement methods (see picture on page 2). This is a wire resolution and step wedge card mounted on a body scanner specific stand that provides the essential monitoring of imaging performance for the transmission X-Ray system.

**Proposed section 33-05(a)**

The exposure limits of the body scanners are currently set to match the American National Standards Institute (ANSI). The proposed modification in section 33-05(a) reduces this limit by 50%. This reduction seems unnecessary, as the standards are already set below the amount permitted by the general public.

In summary, the use of body scanners in the United States has proven to significantly reduce contraband and threat items in correctional institutions. This new legislation is a significant step forward by the City of New York to increase the security and safety at correctional facilities.

Thank you for the consideration.

Yours sincerely,



Jamie Edgar  
Director, Homeland Security Systems  
Smiths Detection, Inc.  
212-234-4090

## Body Scanner Test Piece

This is a wire resolution and step wedge card mounted on a body scanner specific stand that provides the essential monitoring of imaging performance for the transmission X-Ray system



**From:** [Thomas Petrone](#)  
**To:** [Resolution Comments](#)  
**Cc:** [Samantha Bunsee](#)  
**Subject:** Comments on Proposed Chapter 33  
**Date:** Monday, December 10, 2018 3:31:01 PM  
**Attachments:** [Comments on Proposed Chapter 33 to Title 24.docx](#)

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## Comments on Proposed Chapter 33 to Title 24

I appreciate the opportunity to comment on the NYCDOHMH proposal to add a new Chapter 33 to Title 24 of the Rules of the City of New York to establish rules for the use of body imaging scanning equipment to screen individuals in the custody of the NYC Department of Correction.

I am a professional medical physicist licensed by the State of New York to perform all branches of medical physics and I have more than 30 years of experience with imaging and all associated aspects of image quality and radiation exposure to imaged subjects, personnel as well as the general public. My comments for consideration are as follows:

### **Proposed sect 33-02(b) Qualified Physicist**

I believe the definition is too broad and allows individuals without the requisite expertise in diagnostic-like image quality testing and exposure in the diagnostic range. The current proposal would allow a radiation oncology physicist or a power plant/industrial health physicist to serve as the qualified physicist for Chapter 33 compliance. These individuals would not possess the expertise needed to ensure image quality consistency and do not function in their daily jobs at exposure levels associated with the body scanners. The expertise required is that of an ABR and/or NYS licensed diagnostic medical physicist. If the intent is to allow more than just licensed medical physicists to be qualified, then I still think the language should be tightened up so as not to allow those with no expertise to perform this important advisory and oversight function. Here is an inclusive yet not overly broad suggestion for the definition of Qualified Physicist:

“ a medical physicist certified by the American Board of Radiology in Diagnostic Radiological Physics and/or Licensed by NY State in Diagnostic Radiological Physics, or a health physicist certified by the American Board of Medical Physics in Medical Health Physics or by the American Board of Health Physics and/or licensed by NYS in Medical Health Physics and a demonstrated ongoing experience with human imaging equipment operating similar to the body scanner equipment.”

This type of statement would eliminate unqualified individuals from rendering oversight to this program.

### **Proposed Section 33-04(d)**

This section requires a Quality Assurance program and references Standard 42.47 of the American National Standards Institute (a noted recommending body, not a regulatory agency) in describing the testing that must be performed. While I agree totally with the need for a QA program, I believe restricting the procedures to the ANSI standard is highly problematic and impractical. The phantom mentioned in 33-04(d)(1) was designed for this ANSI recommendation and is not commercially available. Thus, compliance is impossible given that the phantom cannot be obtained. I request that the proposed regulations require Quality Assurance tests similar to what is included in ANSI 42.47 but that can be tested utilizing a suitable phantom such as those manufactured to test TSA equipment. There are wire and step-wedge type phantoms which are readily available and would serve the purpose of assuring consistent image quality. I suggest you allow the qualified physicist to design the program utilizing commercially available programs.

**Proposed section 33-05(a)**

This proposal sets the annual effective dose limit to  $\frac{1}{2}$  of the 25 mrem (or 12.5 mrem/year) as stated in ANSI 43.17. The ANSI standard already suggests the annual limit be set at  $\frac{1}{4}$  that which is typically allowed for the general public. This should be considered extremely conservative and need not be further reduced. Section 3502 of the public health law, as amended by the NY State Assembly to allow for use of body scanners, sets the individual limits as such “ (ii) Limitations on exposure which shall be no more than fifty percent  
8 of the annual exposure limits for non-radiation workers as specified  
by  
9 applicable regulations”

—  
The applicable local regulation is Section 175.03 NYC Health Code which states annual limits to the general public of 100mrem. Therefore, the public health law sets the limit for body scanners at 50mrem/year which is very conservative. I feel that to further restrict the use of these scanners to  $\frac{1}{8}$  of the general public limit has no real basis in safety, is not consistent with ALARA (i.e. not “reasonable”) and will render these body scanners less useful than should be and will disallow the required scanning of individuals who are of high risk to carry weapons and contraband. We believe the  $\frac{1}{2}$  limit was incorrectly applied to the ANSI standard which is already ultraconservative. I request that the restriction be consistent with the NYS public health law and limit the annual individual exposure to “fifty percent of the annual limits for non-radiation workers. This is  $\frac{1}{2}$  what a secretary sitting next to an diagnostic x-ray machine in a medical facility can receive and as such, is ultraconservative. Consistency with the public health law should prevail and the limit should be set to 50 mrem/year.

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