

X-ray Advisory Committee Meeting

MEETING MINUTES, 12/18/19

Date: December 18, 2019

Location: Orville Freeman Building
645 Robert St. N.
Saint Paul, MN 55155

Attendees: Brian Hall (Service Provider), Dan Lind (Service Provider), David Eastman (Medical Physicist), Frank Zink (Medical Physicist), Karyn Warnert (Minnesota Veterinary Associates), Michael Lewandowski (Health Physicist/CHP), Ronnell Hanson (MN Radiological Society), Scott Haglund (St. Catherine University), Tony Murphy (Medical Physicist).

Conference Call: Beth Schueler (Medical Physicist), Richard Geise (Medical Physicist/PhD).

Absent: Bridgett Anderson (MN Dental Board), Jon Wohlhuter (MN Association of Nurse Anesthetists), Julie Sabo (MN Nursing Board), Louis Saeger (MN Medical Association), Vinton Albers (MN Chiropractic Association).

MDH: Bevin Beaver, Craig Verke, Jacquie Cavanagh, Kelly Medellin, Teresa Purrington.

Guest: Commander Dave Pacholl (Anoka County Sheriff).

Acronyms and Terms

ACM – Advisory committee member

ANSI – American National Standards Institute

CRCPD – Council of Radiation Control Program Directors

CBCT – Cone beam computed tomography

CT – Computed tomography

FDA – Federal Drug Administration

IAC - Intersocietal Accreditation Commission

MDH – Minnesota Department of Health

NCRP – National Council on Radiation Protection and Measurements

QMP – Qualified medical physicist

Revisor – Office of the Revisor of Statutes

SSRCR – State Suggested Regulations for Control of Radiation, published by CRCPD

Welcome and Introductions

Jacquie Cavanagh, Section Policy and Rules Analyst
Teresa Purrington, X-ray Unit Supervisor

Purrington welcomed everyone to the meeting. She introduced MDH staff and stated that there are two more rule parts left to discuss: Records and non-living human, which includes veterinary. The February meeting is canceled. Meetings should end in April 2020.

She introduced Commander Dave Pacholl as a guest to the Advisory Committee for purposes of discussing the draft rules on security screening x-ray systems. Commander Pacholl played a key role in getting legislation passed that allows for the use of security screening x-ray systems on humans (subjects) who are in the custody of a detention or correctional facility. Security screening x-rays systems are used to detect contraband that are concealed within a subject's body that would otherwise go undetected in a routine physical search. Use of these x-ray systems are intended to reduce the number of dangerous items that end up in jail or prison causing harm to staff and other inmates.

Review of Security Screening Definitions

Jacquie Cavanagh, Section Policy and Rules Analyst
Teresa Purrington, X-ray Unit Supervisor

Subp. 1. Ambient dose equivalent, $H^*(d)$.

Michael Lewandowski (ACM) stated the definitions seem applicable to other systems. Purrington stated the definitions were taken from the Definitions part in the draft rules. He questioned subpart 1 and the ICRU sphere in 1998, as this is outdated. Purrington stated MDH would review this.

Subp. 3. Inspection zone.

Tony Murphy stated this wording seems like a rule, not a definition. Purrington stated it is also stated in the rule.

Subp. 4. Security screening radiation area.

Lewandowski questioned why security screening is part of the radiation area wording. Purrington stated this definition appears to be different from radiation area. Lewandowski stated it looks the same. Purrington stated MDH would review this.

Subp. 8. Screening.

Zink stated that the word screening is used throughout the rules and this is specific to security screening. Purrington stated this language is from statute.

Review of Security Screening X-ray Systems

Jacquie Cavanagh, Section Policy and Rules Analyst

Teresa Purrington, X-ray Unit Supervisor

Subp. 1. Applicability.

Zink asked if this excludes visitors and employees. Purrington stated that it does.

Subp. 2. Leakage radiation.

Lewandowski stated that the definition of leakage radiation is described as the ambient dose equivalent, but it should also include at which tissue depth. He also stated that registrants need to know which quantity to measure to meet the requirement.

Purrington asked the committee to respond to the comment in the margin regarding portal systems not regulated under this part. There were no suggestions from the committee at this time.

David Eastman (ACM) asked if the leakage dose is measured at installation, or during manufacturing. Purrington stated this would be during installation. She stated this is explained further in subpart 7.

Subp. 3. Safety devices or interlocks.

Lewandowski stated item F should include the depth for ambient dose equivalent.

Brian Hall (ACM) stated that item G does not follow ANSI and is not clear. Purrington stated this comes from another state and MDH will review the ANSI standard.

Subp. 4. Radiation exposure control.

Hall stated that all the security screening x-ray systems need a key, so the word "password" should be removed. Purrington stated this was added in to allow for future technology that might require a password. Eastman stated there are some other types of x-ray systems that currently require a key and a password.

Zink questioned item B "modes of operation" wording. Purrington stated that this is a definition from the ANSI standard for these security screening x-ray systems.

Subp. 5. Beam-on indicators.

Lewandowski questioned items B and C, and stated C seems to be in conflict with B. He suggested replacing the wording with "Power On", rather than "X-ray On". Purrington stated MDH would look at that.

Subp. 6. Technique factors.

Richard Geise (ACM) questioned item A and the word "may". Should be replaced with "must not". Purrington asked if the ANSI standards definition should be in the item instead.

Geise stated that item B is a definition. Purrington stated these technique factors are different from the technique factors for medical. Cavanagh stated that MDH could revise the wording so it specifies this is for security screening.

Subp. 7. Equipment preventative maintenance.

Zink asked if this terminology is used in the industrial rule parts. Lewandowski stated there is a lot of preventative maintenance with industrial equipment that does not require a service provider. Purrington stated MDH looked at that wording and would like feedback from the committee. Zink stated there needs to be some preventative maintenance, but it looks different from EPEs in the manufacturer specifications. Lewandowski stated the wording should be EPE. Zink stated the rule should state the actual requirements. Commander Pacholl stated they would rely on the manufacturers to perform preventative maintenance and annual EPEs. Lewandowski stated that preventative maintenance and EPEs should be separated, regardless of how a registrant chooses to handle preventative maintenance.

Subp. 8. Quality management system.

Lewandowski stated that item A(1) should list the actual interval requirements, and that preventative maintenance and EPEs should be separated here as well. Tony Murphy (ACM) stated that this subpart is not clear, and the grammar should be reviewed.

Lewandowski questioned item A(11)C and stated this should be in A(12).

Lewandowski questioned the need for item B(1). Purrington stated that a primary operator and a secondary operator should be identified. Lewandowski stated this does not seem to be feasible. Purrington stated the operators are verifying that the system is maintained and there may be multiple operators. Commander Pacholl stated it is common to have a primary and secondary person responsible within jails. Lewandowski stated this is to help the registrant self-audit annually, and they can be cited if they do not do that.

Commander Pacholl asked for the definition of ancillary personnel. Purrington stated the definition is in the comments.

Zink asked if they could use this system to detect protective garment integrity. Purrington stated she does not believe so.

Lewandowski suggested moving item B(1) to records. He also suggested adding in the SI dose limited, and not just the REM. Purrington stated MDH would look through the whole rule to maintain consistency.

Zink questioned item E(5) and thinks the wording is incorrect. He stated it should be on each individual employer.

Zink stated that if the annual dose is under 10 percent then it should be addressed in guidance. Eastman stated each site might want to approach this from a worst-case scenario.

Zink asked about prohibited uses, such as pregnant inmates. Purrington stated this would be prohibited, as well as minors.

Subp. 10. Radiation protection survey.

Lewandowski questioned the frequency and if this should include the 30-day grace period. Purrington stated this would be consistent when the draft is complete.

Eastman questioned radiation surveys. Purrington recited the ANSI standards. Verke stated there is a maximum annual dose and this needs to be tested annually. Lewandowski stated this language is consistent with cabinet x-ray use.

Purrington asked Commander Pacholl how many inmates scanned would be scanned per year. Commander Pacholl stated there would be approximately 10,000-12,000 scans per year at his site. Lewandowski responded to the comment in the rule draft margin about whether these radiation protection surveys could be performed by a service technician, and he believes they should not be.

Subp. 12. Security screening operator training; initial and before first use.

Purrington stated the Minnesota Statutes exempts operators and this training is outlined in the ANSI standards. Lewandowski asked about item C and if this is a definition of administrative controls. Purrington stated MDH had to change this in definition because there is already a definition for registration pertaining administrative controls.

Lewandowski questioned item F wording "practical examination", as this does not apply to all the items in this subpart. Purrington stated MDH will review what is required in the practical examination.

Zink asked Commander Pacholl if the operator would be interpreting the images. Commander Pacholl stated that is the case and showed an image example from their vendor.

Zink asked about inmates who have implants and if security screening operators will be able to decipher between something that is permanent, like an implant rather than contraband. Commander Pacholl stated there would be a limited group of people doing this daily. They will ask vendors for suggested training and subjects will be asked if they have implants. Purrington shared an image of pacemaker.

Hall asked if MDH would oversee training. Purrington stated the vendor would provide the training.

Subp. 13. Additional training.

Eastman asked if the checklist could be completed onsite, or if someone outside needs to perform it. Purrington stated this is addressed in item D.

Subp. 16. Dose limitations; limited use security screening x-ray systems.

Lewandowski asked about the limitation for the number of screenings in item B. He also noted that a person (ie – subject) could exceed the limitation with the number of scans referenced.

Zink asked about the threshold in item B. Purrington stated MDH would review that. Eastman asked if this is the operator or the individual being screened. Purrington stated this is the individual. Commander Pacholl stated that an inmate could receive more than two scans per day in a prison but not in a jail. The security screening x-ray system software will track this for each subject.

Lewandowski stated subpart 19 talks about the annual reference effective dose limits and suggested removing the number of scans from subparts 15 and 16.

Subp. 17. Information to be provided to screened subjects.

Lewandowski asked about primary languages other than English, and if the information will be provided in different languages.

Lewandowski asked about item C(3) and if 30 days is a reasonable amount of time. Commander Pacholl stated that an inmate would need to gather that information from each facility if they were in multiple institutions and 30 days is an acceptable timeframe. Zink suggested adding the wording "*incarceration at that site*" to item C.

Subp. 18. Prohibited uses.

Commander Pacholl asked if staff could be used during training, as the vendor states that the operator needs to do multiple scans to be proficient. Purrington stated no, this is true for all registrants and this is in statute specifically for security screening. Commander Pacholl stated he would rather not use his staff for training purposes. Verke stated someone who is trained should observe those training to be sure they are proficient. Eastman stated the training could be on subjects, and does not need to be on personnel. Verke stated the ANSI standards say that you can use the equipment in training. The ANSI standards does not say anything about scanning individuals for training purposes. Purrington asked if the local jails and detention centers could watch the federal prisons for training. Zink stated since they are coming from a ground zero starting point there should be some avenue to help these facilities acquire proficient operators. Purrington stated this could be possibly addressed by variance, applicable for 24 months, giving operators time to become proficient.

Subp. 19. Utilization record.

Zink asked Commander Pacholl if all subjects provide their name. Commander Pacholl stated there is a means to identify the subject name, booking number, criminal history number. There are some subjects who are uncooperative and do not provide this information. Zink suggested with item B using the wording "*or employee identifier*".

Eastman asked if there would be situations when prison or jail personnel would have to hold the individual. Commander Pacholl stated that they would not scan a subject who is unable to

stand on their own. He explained that one reason for not holding is due to the type of x-ray system purchased.

Zink stated item F is unclear and would be difficult to track the cumulative scan for each subject. Verke stated that MDH talked to a couple vendors to confirm that the security screening x-ray systems track this information.

Subp. 20. Protection from radiation.

Eastman asked about item B and if they have to be onsite. Purrington confirmed.

Beth Schueler (ACM) asked if there would need to be a phantom to create a scatter. Zink stated this is a difficult situation to mimic. Eastman stated a shielding plan would be the best way to determine the inspection zone. Commander Pacholl stated that the smaller jails would probably purchase a self-shielded device.

Subp. 21. Safety control procedures.

Lewandowski questioned item B and the wording “*operating procedures*”, as this should be “*safety control procedures*”. Purrington stated MDH would review. Zink stated there should be guidance for what happens if they expose a pregnant subject. Lewandowski suggested a policy for addressing the inadvertent exposure of a subject.

Subp. 22. Procedure for maximum annual scans.

Lewandowski stated this subpart is not needed. It is not necessary to have a policy in place to limit the number of scans, only the dose needs to be limited. Zink stated the wording is confusing.

Public Comments

- Lieutenant Kent Vnuk: Questioned parameters for small, medium, and large individuals. He also questioned prohibitions on training on employees. He stated Hennepin County has talked with Dr. Steve Smith, who assisted with the ANSI standard, and he states the document suggests training on live people. He also stated that Ohio is the only state that prohibits scans on individuals for training.
- St. Catherine University student: Asked a question about shielding, and states that currently works at a site that no longer provides shielding to the patient.

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