



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF COMMUNITY HEALTH
LANSING

JANET OLSZEWSKI
DIRECTOR

May 8, 2008

Dear Medical Physicist:

Rule 652(3), mammography automatic exposure control (AEC) performance, states that the AEC shall maintain image optical density to within ± 0.20 of the average as the kVp is varied within the clinically employed range and as attenuator thickness is varied from 2 to 6 centimeters for each clinically employed kVp. To test for compliance with this rule, we have asked you to set the mammography machine in the auto-time mode in order to set the kVp. In this mode, the mAs varies with attenuator thickness. Three different kVps were chosen in the clinical range and 2, 4, and 6 centimeters were used with each kVp. This method of testing required 9 films to be made.

This test has drawn criticism because the facility may not normally use the auto-time mode. Also, there are kVp/thickness combinations that are not used clinically.

Effective immediately, we will allow an alternative method of testing the AEC if the facility normally uses a fully-automatic mode (AOP, auto-kVp, auto-filter, etc.). The machine can be tested in the fully-automatic mode using 2, 4 and 6 centimeters of attenuator material. This would use only 3 films. If the maximum variation from the average optical density of the 3 films meets the more stringent MQSA standard of ± 0.15 OD, then we will consider the AEC performance to have met rule 652(3). However, if the maximum variation exceeds ± 0.15 OD, then the machine must be tested in the auto-time mode (9 films) to determine if the machine meets rule 652(3). If the test in auto-time mode exceeds the state standard of ± 0.20 OD, then the facility will be considered noncompliant with rule 652(3) and be required to make corrections.

We will continue to allow 10% testing error on the results of the auto-time testing. This testing method will also be used by Radiation Safety Section physicists in their annual inspections.

A flowchart of this alternative AEC testing method is enclosed.

Should there be any questions regarding this letter or if we can be of further assistance in radiation protection matters, please contact us at (517) 241-1989.

Sincerely,

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Acceptable Testing Method to Determine Compliance With Mammography AEC Rule

Test the AEC in the clinical mode used most frequently.
If a fully-automatic mode is the most commonly used, begin at #1 below.
If auto-time time is most commonly used, begin at #2.

