To : Elliott M. Rector
ICF International
Energy & Resources
1725 Eye St. NW Suite 1000
Washington, DC 20006

From : Albert Xthona, Product Manager Digital Mammography
Date : 23 Sept 2008

Subject : Proposed addition to version 5.0 ENERGY STAR Displays Specification

Dear Sir,

At Barco, we have been reviewing the proposed version 5.0 ENERGY STAR Displays Specification. We would like to design our medical displays to conform to the most stringent low-power standards promulgated by industry and government organizations. At the same time, we must keep in mind that the very features that differentiate medically-approved displays from consumer displays require additional power. These features are part of the specifications that are accepted by the Food and Drug Administration when these displays are granted 510(k) clearance. By way of explanation, below is a list of some of the features and how these typically affect the power consumed in the on-mode.

- Luminance uniformity over the entire screen surface. This consumes more power in three ways. Some light is absorbed in the process of making the screen uniform. The luminance measured in the center is present over the entire screen, thus more total light is emitted at a given measured value. Finally the associated circuitry consumes power.
- Brightness is defined over viewing angle. More total light can be emitted by the medical display than by a display optimized for on-axis viewing.
- Color temperature matches X-ray film. To match the color characteristics of blue base or clear base X-ray film, medical displays require additional power to reach the same luminance.
- Initial luminance must be maintained over the lifetime of the displays. Medical displays are calibrated to a luminance level that will be maintained for five years. The displays perform automatic adjustment of the luminance level over time and in response to changing temperatures in the room. Feedback circuitry and internal sensors require additional power to accurately perform this automatic adjustment.

For both Tier 1 and Tier 2, we propose that medically-approved displays

1. be subject to the same sleep-mode and off-mode requirements as all other displays

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2. be exempted from on-mode requirements

This exemption could be added to the specification by the following additions:

- Section 1a: After "…sold as televisions are not included in the specification.", add "Medical displays are displays that have received a 510(k) clearance from the Food and Drug Administration (FDA). Medical displays are included in this specification, however they are not subject to the on-mode requirements as medical display specifications are subject to criteria established by the FDA."
- Following Section 3c: add "Note: While medical displays as defined in section 1 are not subject to on-mode criteria, they must comply with Sleep and Off mode criteria to be ENERGY STAR qualified.

Inclusion of medical displays in the ENERGY STAR program through compliance with sleep-mode and off-mode criteria will promote good design practices and enable healthcare facilities to make good, safe choices when buying new display systems. While we could work towards a separate specification of on-mode criteria for medically-approved displays, we believe that the regulations of the FDA that ensure safety and efficacy are most applicable.

Sincerely,
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