

# Technical Bulletin: 01-18

## PC Electrometer Does Not Support Non-Standard (Long) Pulse Duration

### Description

The Model 1014 PC Electrometer has two operating modes: continuous (designed to measure continuous radiation sources) and pulsed (designed to measure pulsed radiation sources). Pulsed mode is designed to support standard linear accelerator pulse duration, which is typically 4  $\mu$ s.

If PC Electrometer is used to measure pulse durations that are markedly longer than 4  $\mu$ s, measurement accuracy could decrease by as much as 5%.

An example of non-supported long pulse duration is spot (i.e., pulse) measurement using a proton beam therapy system.

### Recommendations

When using PC Electrometer in pulsed measurement mode, ensure that expected pulse durations will be similar to those of a standard linear accelerator.

Additionally, physicists and clinicians are recommended to follow 'best practice' of ensuring agreement with one or more secondary checks to validate accuracy of their QA device. Following this practice, an error of approximately 5% on a Sun Nuclear PC Electrometer which does not agree with another QA device, such as a Sun Nuclear Daily QA 3, would prompt an investigation.



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