CJW Medical Center

Chippenham & Johnston-Willis

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Division of Nuclear Materials Safety
US NRC, Region 1

License No. 45-15249-01

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Subject: Recent NRC Inspection at Johnston-Willis location

With regards to your recent NRC inspection to review our Radiation Safety Program at the Johnston-Willis campus, the following additional information is provided at your request.

Regarding the Sealed Source Inventories.

In early 2005, the regional HCA hospitals purposed that all of the old calibration and check sources be collected and disposed of through one contractor. A list of all sources was compiled at each facility and a contractor selected. In May of 2005, our consultant Medical Physicist, Dr. Broga, pointed out State Regulations allow older Co-57 sources to be decayed in storage. If held for 10 half-lives and at measured background levels, such sources could be disposed of as regular waste. All of the Co-57 sources were disposed of through decay-in-storage in late May of 2005. Remaining sources were set aside for combined contracted waste pick-up that (a Johnston Willis) technologist believed would happen in June. Administrative problems delayed the contracted pick-up until February of 2006 and, for reasons that are not clear, the Johnston Willis sources were not collected. In May of 2005, all button and stick sources, designated for contract pick-up, were placed in a cardboard box located in the hot lab storage area. The two larger sources were left in lead-pigs. In June of 2006, a nuclear medicine technologist mistakenly thought the box of sources were properly decayed. After monitoring the outside of the box, and with no notable difference from background, the technologist disposed of the sources in the solid waste.

We recognize the technologist erred by indicating sources held for the contractor pick-up were disposed of in the second quarter of 2005. This error may have lead to the accidental disposal. Our lead technologist, at the time, left Johnston Willis in July of 2006. A new lead technologist began working in August of 2006, assumed the sources were gone, and did not examine the lead-pigs in the back of the storage area during the first inventory. The two sources not disposed of are included in a corrected inventory.

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NMSS/RGNI MATERIALS-004

Gamma Knife & HDR Linearity

During the Nuclear Regulatory Commission Site Review of our facility, a deficiency was noted in monthly quality assurance testing for the Gamma Knife treatment unit. Specifically, the linearity of the electronic timer was not verified at times greater than the longest treatment shot time. Beginning with December 2006 monthly quality assurance testing, the timer linearity has been verified to 64 minutes. Currently, our longest treatment shot times are approximately 40 minutes. The linearity testing protocol will be reevaluated as maximum treatment shot times reach 60 minutes. This same linearity testing rational is being applied to the HDR monthly quality assurance testing.

Sincerely,

David Cashwell

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