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Docket: NRC-2008-0419
Security and Continued Use of Cesium-137 Chloride Sources and Notice of Public Meeting

Comment On: NRC-2008-0419-0014
Security and Continued Use of Cesium-137 Chloride Sources: Granting Extension of Comment Period

Document: NRC-2008-0419-DRAFT-0072
Comment on FR Doc # E8-22688

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Comment

The following is not intended to agree nor disagree, with any decisions regarding the continued or discontinued use, of Cesium-137 as an irradiation source for specified applications. These comments and statements are intended to differentiate the use of a direct, large cross section beam, X-ray source specifically designed as a radiation source for irradiation, from the reflective, point source, X-ray tube designed for imaging, currently being used for blood irradiation in hospital blood banks, transfusion services and community blood centers in the U.S.

It is unfortunate but understandable, that based upon it?????????'s experience, AABB concludes that X-ray source irradiation equipment is not as reliable, nor cost effective as compared to radioactive source, blood irradiation equipment. An X-ray radiation source, specifically designed for blood irradiation, can provide a good alternative to a radioactive source for blood irradiation.

The basic reason for the high, initial purchase price, reliability issues and high maintenance costs for the X-ray source, blood irradiation equipment currently available

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and installed in the U.S., is straightforward. The X-ray generator's X-ray tube was originally designed for industrial, high power, high penetration, X-ray imaging; not as a radiation source for blood irradiation. The inherent shortcomings of the type of X-ray tube currently used as a radiation source for blood irradiation, requires the use of two tubes. Two X-ray tubes, each with its own high voltage power supply, are required in order to achieve the required radiation dose for blood, with reasonable uniformity of radiation dose and within a reasonable period of time. The type of X-ray tube being used and the requirement for two X-ray tubes, each with its high voltage power supply, contribute to the high initial purchase cost of this system and increase the possibility of equipment failure. Costs of these failures are seen in the high maintenance quoted, over the life of the irradiation equipment.

An appropriate X-ray generator, specifically designed for blood irradiation, is in the process of development.

NOTE: If the last sentence above is not deemed appropriate for this situation, please remove it.