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Security and Continued Use of Cesium-137 Chloride Sources and Notice of Public Meeting

Comment On: NRC-2008-0419-0001

Request for Comments on the Security and Continued Use of Cesium- 137 Chloride Sources and Notice of Public Meeting

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General Comment

I would like to mention the uses we have for CsCl (irradiators) here at Wyeth Pharmaceuticals Research.

One of our sources is used to deliver a radiation dose to nude mice in order to deplete their immune systems. This allows them to grow tumors more readily so that our oncological research staff can study the means to defeat certain cancers. Another source has been used to stop cell division for vaccines research.

We have only begun to investigate possible alternative sources. Therefore, we don't currently have a quantitative assessment of the ability of machine sources such as X-ray irradiators to replace our CsCl. However, the anecdotal evidence that we have collected indicates potential trouble with X-ray tube based devices including non-uniform radiation fields, mechanical breakdowns and high costs of maintenance. My recent discussions with a Best Theratronics (formerly Nordion of Canada) field technician revealed that his company does not currently make Co-60 based research irradiators.

For the sake of argument, if Co-60 does become an alternative for our line of work, the cost of replacement will most likely be high. Best Theratronics will not replace CsCl now unless the entire new apparatus (shield, electronics, cabinet) is purchased and this is at an estimated cost of \$0.5 M. Consider also the cost of the more frequent replacement of the short-lived Co-60 sources. More frequent replacement has security liabilities associated with it also. One other issue: It is not clear if the photon energy difference between Co and Cs will introduce problems in our particular line of research.

This is just a snap shot of one company's issues but it should be known that oncological and pharmaceutical research has already and will most likely continue to be affected by these concerns over CsCl.