

RPC WEBPAGE NEWSLETTER

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Can I substitute my TLD blocks for other energies not listed in the radiation forms?

The RPC makes an effort to stay up to date on the equipment installed at monitored institutions. We do this primarily through the update form that is emailed prior to each shipment of TLDs, but also request that institutions notify us when new equipment is installed. In addition, we sometimes learn about new equipment through our contacts with institutions for other reasons. On occasion, however, new equipment is installed at an institution and TLDs are sent from the RPC before the RPC is advised of the changes. When this happens, physicists sometimes wonder if the TLD they received for a machine that has been removed can be used for a new machine. The answer to this question is "maybe".

The RPC provides the TLD in Lucite blocks that are designed for different energy ranges. All together, we supply 5 different blocks for photon beams and 8 different blocks for electrons beams. The table below lists the blocks and the energy ranges for which they are intended.

Photons		Electrons	
<u>Block ID</u>	<u>Acceptable Energy Range</u>	<u>Block ID</u>	<u>Acceptable Energy Range</u>
1xxx (ie 1118)	^{60}Co	A/G	≤ 6 MeV
4xxx	4 MV	B	7 MeV
5xxx	5-6 MV	H	8 MeV
8xxx	8-10 MV	C	9-11 MeV
12xxx	≥ 12 MV	D	12-14 MeV
		E	15-17 MeV
		F	18-20 MeV
		M	≥ 21 MeV

When a new machine has the same beam energies as the machine it replaced it is tempting to irradiate the TLD with the new machine. This is acceptable for photons but may not be acceptable for electron beams for the following reason: In October 2004, the RPC implemented a new policy of including the second set of TLD capsules (for measuring depth dose) only for new machines or when a repeat TLD measurement is required. TLD that were intended for a machine that has been replaced might not include these depth dose capsules. Therefore, we would very likely want to send new TLD blocks for all of the electron beams from the new machine. Rather than have you go to the trouble of irradiating the blocks intended for the old machine, then shortly afterwards irradiate the new set of blocks, we would prefer to simply send you the new blocks.

If any of this is confusing, or to request replacement TLD blocks, you are always welcome to contact the RPC at (713) 745-8989 or email at rpc@mdanderson.org.

It is now our practice to contact institutions by email approximately one month before TLD are shipped to determine if new equipment has been installed since our last TLDs were mailed. Responding to this email will reduce the likelihood that we send inappropriate TLD blocks. As always, we thank you for your cooperation with requests such as this.

Previous issues of this Newsletter and answers to many questions can be found at our [FAQ](#) page, including instructions (with photographs) for irradiating RPC TLDs.