



# C&C Irradiator Service LLC

Licensing Assistance Team  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission, Region I  
2100 Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713

## **Request for Additional Information**

1. a. The five radionuclides we would like to be authorized to work with are:

Cobalt 60

Cesium 137

Americium 241

Americium 241: Beryllium

Californium 252

b. Sealed sources registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State. The irradiator makes and models corresponding to their SSDR numbers we would like approval for are listed below:

### **Category I**

1. J.L. Shepherd Mark 1 Series (Registration Number CA 598-D-104-S)
2. J.L. Shepherd Model 484 (Registration Number CA 598-D-113-S)
3. J.L. Shepherd Model 89 (Registration Number CA 598-D-108-S)
4. J.L. Shepherd Model 143 (Registration Number CA-598-D-103-S)
5. J.L. Shepherd Model 109 (Registration Number CA 598-D-116-S)
6. CIS-US Model IBL 437 (Registration Number MA 0219-D-813-S)
7. Gammacell 40 (Registration Number NR-1307-D-101-S or NR-0169-D-132-U)

8. Gammacell 1000 & 3000 (Registration Number NR-1307-D-102-S, NR-0880-D-808-S, NR-0220-D-840-S)
9. Eberline 1000B (Registration Number NR-8105-D-805-S)
10. Gammacell 220 (Registration Number NR 0220-D-831-S or NR-8135-D-804-S)
11. Gammacell 200 (Registration Number NR-8003-D-802-S)
12. Gammator Model M, M34, M38, G50, G100, G150 and G 200 (Registration Number NR-0880-D-806-S)
13. J.L. Shepherd Model Gammacell 220R (Registration Number CA 598-D-118-S)
14. J.L. Shepherd Model 142-MA (Registration Number CA 598-D-131-S)
15. J.L. Shepherd Model 149 Series (Registration Number CA 598-D-109-S)
16. J.L. Shepherd Model Mark IV Dosimeter Irradiator (Registration Number CA 598-D-105-S)
17. Custom Device Mk 1-25 SN 1032 with Ao of 780 curies of Cs-137 located at University of Michigan

#### **Category II**

1. J.L. Shepherd Model 28 (Registration Number CA 598-D-106-S)
2. J.L. Shepherd Model 81-8, 81-8EXT, 81-10, 81-12, 81-12EXT, 81-14, 81-16, 81-18, 81-20, 81-22, 81-24, 81-26 (Registration Number CA 598-D-115-S)
3. J.L. Shepherd Model 142 (Registration Number CA 598-D-114-S)
4. J.L. Shepherd Model 78-2M (Registration Number CA 598-D-107-S)

c. Section 10.3 of the Radiation Safety Manual was changed to reflect that all leak tests will be taken and analyzed at the customers' facilities and will not be brought back to our company location. Section 4.D. of the QA Procedure was changed to reflect that no radiation source standards will be maintained or possessed in-house. Section 10.4 regarding performing surveys at our facility and inventory of sources was removed from the Radiation Safety Manual because no sources or radioactive material will be possessed. Should this change in the future, an amendment will be submitted to the NRC to request approval.

2. Leak testing and analysis will be done by the applicant and the applicant will follow the model procedures in Appendix G of NUREG–1556, Volume 18, Revision 1 “Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Service Provider Licenses”.

3. Section 3.0 in the Radiation Safety Manual was changed to reflect that, “areas will be posted if required pursuant to 10 CFR 20.1902 unless they meet one of the exceptions in 10 CFR 20.1903”.



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11/8/17



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