



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

January 12, 2005

Docket No. 03012341  
Control No. 136099

License No. 45-17195-01

K. Scott Keim  
President  
Marshall Miller and Associates  
Bluefield Industrial Park  
P.O. Box 848  
Bluefield, VA 24605-0848

**SUBJECT: MARSHALL MILLER AND ASSOCIATES, REQUEST FOR ADDITIONAL INFORMATION CONCERNING APPLICATION FOR AMENDMENT TO LICENSE, CONTROL NO. 136099**

Dear Mr. Keim:

This is in reference to your letter dated November 30, 2004 requesting to amend Nuclear Regulatory Commission License No. 45-17195-01. You requested to amend your license to allow removal and replacement of sources from their source holders. This operation involves the direct handling of up to 200 millicuries of Cesium 137 and presents additional risks to personnel, source integrity, and an increased risk to altering the integrity of the well logging assemblies. In order to continue our review, we need the following additional information:

1. Please provide the make and model number of the survey meter to be used for the radiation surveys. The survey instrument should be capable of determining the radiation fields anticipated.
2. Per NUREG-1556, Volume 14, Section 8.5.1, applicants should consult with the manufacturer of the sealed sources before using associated equipment to ensure associated equipment is compatible with sealed sources. Please provide documentation of the dimensions of each new source holder and the configuration and dimensions of the source(s) that will be installed into the specific holder that ensures compatibility.
3. The new source holder should be tested for correct clearances, source integrity and that it functions as designed in the well logging tool prior to initial source loading. Please include testing steps in the "Source Consolidation" procedure.
4. A trial run or "mock up" of the "Source Consolidation" procedure should be performed prior to using actual sealed sources. Please include this step in the procedure.
5. Please add a statement in the procedure that the sources are only to be handled with remote handling tools and are not to come into direct contact with any part of the body.

6. Please provide an assurance statement that any non-manufacturer/non-distributor supplied replacement component or parts, or the use of materials (e.g. lubricants) other than those specified or recommended by the manufacturer or distributor will be evaluated prior to being returned to routine use to ensure that they do not degrade the performance of the device.
7. Please add a statement in the procedure that records of all surveys will be maintained in accordance with 10 CFR 20.2103 and these surveys will include who performed the survey, date of the survey, survey instrument used and it's calibration date, and the measured radiation levels correlated to the location of the measurements.
8. Please include diagram(s) and/or photographs that show the location of the various items, including the large lead pig, that will be used, dimensions of the work area, and approximate distances to the transferor (both to extremities and whole body).
9. Please provide the calculations performed to determine total dose to the lens of the eye and whole body.
10. Please provide an estimate of total extremity dose for the individual performing the source transfers. Please include assumptions, distances provided by the various tools, and calculations for each step of the source handling.
11. Please define "in direct contact" as stated in footnote #4 of section 5 "Risk Estimates to Personnel Involved with Source Procedures."
12. All handling tools should be specifically designed or approved by Century Geophysical, including the pliers and screwdriver, or an evaluation performed that assures the safety of personnel when using tools not specifically designed or approved by Century Geophysical. Please provide evaluations for any tools that were not specifically designed or approved by Century Geophysical that assures their use will not degrade the safety of personnel performing the source handling.
13. Please provide a contingency section, that will be added to this procedure or the current emergency procedure, that will cover anticipated challenges and provide actions to be taken in the event they occur. For example: source container will not open, source container breaks, or source falls on floor.
14. In section 2.c.f., the procedure requires that the plug be surveyed and set aside if no contamination is present. Please provide the method that will be used to survey the plug, determine the contamination level, and the criteria used to determine if the plug has contamination present.
15. In your application, it appears that Dr. Anthony's experience does not include handling any cesium-137 material. Please provide Dr. Anthony's experience handling cesium-137, the maximum quantities of the material handled, where the experience was gained, the duration of the experience, and the type of use.

K. Keim  
Marshall Miller and Associates

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Please note that on October 25, 2004, the NRC suspended public access to ADAMS, and initiated an additional security review of publicly available documents to ensure that potentially sensitive information is removed from the ADAMS database accessible through the NRC's web site. Interested members of the public may obtain copies of the referenced documents for review and/or copying by contacting the NRC Public Document Room pending resumption of public access to ADAMS. The NRC Public Document Room is located at NRC Headquarters in Rockville, MD, and can be contacted at 800-397-4209 or 301-415-4737 or [pdrc@nrc.gov](mailto:pdrc@nrc.gov).

We will continue our review upon receipt of this information. Please reply to my attention at the Region I Office and refer to Mail Control No. 136099. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-5251.

If we do not receive a reply from you within 30 calendar days from the date of this letter, we shall assume that you do not wish to pursue your application.

Sincerely,

***Original signed by Kathy Dolce Modes***

Kathy Dolce Modes  
Health Physicist  
Security and Industrial Branch  
Division of Nuclear Materials Safety

Enclosures:

1. 10 CFR Parts 19, 20, 21, 30, and 39
2. NUREG 1556 Volume 14

cc:

Justin S. Douthat, P.E., Radiation Safety Officer

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