

Niowave Inc.
1012 N. Walnut Street
Lansing, Michigan 48906-5061
Control No. 583565

Mr. Maddock, as discussed in our telephone conversation of May 28, 2014, I have reviewed the Niowave, Inc. new license application and require additional information before the review can be completed and the license issued. Please respond to the following in writing:

1. Please clarify whether the thorium requested is thorium-232 or some other combination of thorium isotopes.
2. 10 CFR 30.35(g) requires that each person licensed under this part or parts 32 through 36 and 39 of this chapter to keep records of information important to the decommissioning of a facility in an identified location until the site is released for unrestricted use. These include records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete.

According to your application, Niowave, Inc. plans to machine and/or cut radioactive material which could result in fine debris or chips capable of being disseminated throughout the work area, please confirm that the records discussed above will be maintained without limitations.

3. When machining and/or cutting of uranium and thorium, there is a potential for external as well as internal exposures to individuals within the operation environment.

Item 10.4 of your application states that you have done a prospective evaluation and determined that unmonitored workers are not likely to receive in one year a radiation dose in excess of 10% of 10 CFR Part 20 limits. Since Niowave, Inc. has not machined and/cut source material before, please describe how Niowave, Inc. can be certain that external and/or internal monitoring of radiation exposures will not be required.

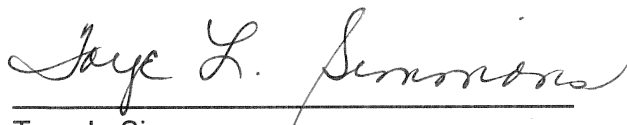
4. Please provide a brief description of the machining and cutting processes and include information about the following:
 - a. Do these processes occur in a closed or open environment? Are these processes in a dry or wet environment?
 - b. Will the machining/cutting processes result in debris that is in a dust form or chip form? Explain how you will manage the debris. NOTE: Depending on the form of the debris/residue from the machining/cutting process, Financial Assurance may be needed – see 10 CFR 40.36(b).

E. Maddock

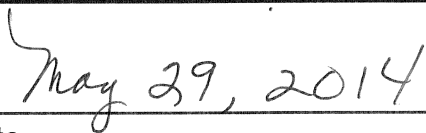
- c. Please address the pyrophoric properties of the source material resulting from the machining/cutting process and describe how you will control them.
 - d. Will you conduct air sampling and/or bioassays to confirm that exposure to workers will not exceed Part 20 occupational dose limits in the machine shops and fabricating areas? If so, please explain your methods for air sampling and/or bioassays. If not, please explain how you plan to monitor internal occupational exposures.
5. Please confirm that you possess or have access to sufficient equipment to assay wipe tests of radiation areas. Confirm that your survey meter is adequate to detect with specific accuracy gamma radiation.
 6. Item 5.1 of your application indicates that Niowave, Inc. intends to distribute accelerator parts in the commercial market. Who will your customers be? Will they possess a specific NRC or Agreement State license, be generally licensed or exempt from licensing?
 7. Item 6.1 states in part, that "we would like to expand our expertise and be able to include uranium and thorium parts and components in our accelerator systems." Please specify the type of uranium and thorium parts and components you intend to fabricate. Also provide information regarding design, prototype testing and quality control procedures of these components. See 10 CFR 40.34(a)(2)
 8. Your application also mentions "fast neutron sources" and "thermal neutron sources" on more than one occasion. Please provide more information on these sources and how they relate to the source material license request.
 9. Please provide an example of the labeling and/or markings of the source material components you expect to fabricate.

NOTE: Please know that additional information may be requested as a result of your responses to the above items.

Please respond to each of the items above in writing on company letterhead signed by the RSO or a member of management. Include the **control number 583861**. You may email your response to me or fax your response to 630-515-1078. Please provide your response as soon as possible but no later than June 13, 2014. If you have any questions, please call me at 630-829-9842.



Toye L. Simmons
USNRC Region III



Date

Simmons, Toye

From: Simmons, Toye
Sent: Thursday, May 29, 2014 1:41 PM
To: 'maddock@niowaveinc.com'
Subject: Niowave, Inc. deficiency questions
Attachments: Scan001.PDF

Mr. Maddock, we discussed yesterday, attached are my questions regarding Niowave's application for a new NRC license. I will be out of the office tomorrow, however, if you have a question feel free to leave a message or email me.

Toye L. Simmons
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U.S. Nuclear Regulatory Commission
Region III
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