NRC FORM 699
(10-2014)

U.S. NUCLEAR REGULATORY COMMISSION

CONVERSATION RECORD

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	DATE OF CONTACT	TYPE OF CONVERSATION
Erik Maddock	01/30/2015	☐ E-MAIL ☐ INCOMING ☑ TELEPHONE ☐ OUTGOING
E-MAIL ADDRESS: maddock@niowaveinc.com	TELEPHONE NUMBER: (517) 999-3475	
ORGANIZATION: Niowave, Inc.	DOCKET NUMBER(S): 030-38770	
LICENSE NUMBER(S): 21-35144-02	CONTROL NUMBER(S): 584728	

SUBJECT

Additional information required for application for new cyclotron-production license

SUMMARY AND ACTION REQUIRED (IF ANY)

Radioactive Material, Possession Limits, and Financial Assurance (ok)

Submit an updated list and possession limit for each radionuclide that you want on your license. We understand that you plan to include a request for authorization of low enriched uranium (LEU). Ms. Valeria Starovoitova of your staff sent us an e-mail on December 5, 2014, and indicated that Niowave plans to request authorization for LEU, with 40.91 grams of uranium-235. Note that in addition to uranium-235, LEU also includes uranium-234 and uranium-238. Therefore, please include the quantity of uranium-234 and uranium-238 to be listed on your license.

Based on our review of the quantities of each radionuclide that would be present, assuming 20 percent enriched uranium contains 40.91 grams of uranium-235 (about 200 grams total uranium), we estimate that there would be about 0.007 grams of uranium-234, or 1.732 millicuries. This quantity would require development and submission of a decommissioning funding plan in accordance with 10 CFR Part 70, Section 70.25.

Also, please describe inventory control procedures that will be in place to assure that do not exceed licensed possession limits for LEU.

Material Control and Accountability (ok)

Submit procedures and inventory control measures that will be implemented and equipment that will be used to identify and quantify radionuclides that are produced before they are transferred to a customer to assure that: 1) you produce only radionuclides that Niowave is authorized to possess; 2) you stay within the possession limits listed on the NRC license: and 3) you transfer the correct radionuclide and quantity to your customers.

CONVERSATION RECORD (continued)

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SUMMARY AND ACTION REQUIRED (IF ANY) (Continued)

Storage and Security of Licensed Material

A. Identify all areas by room number and location where radionuclides, targets, and incidentally activated materials will be stored. Also describe the security of these storage areas. Please confirm in writing statements made during the site visit that material will not be stored in the Applied Health Physics Laboratory.

B. Describe the overall security of Niowave's office building to prevent unauthorized access.

C. Describe measures that will be in place to assure that radionuclides which are produced, stored, and used in Niowave's Electron Research and Development (NERD) building will be adequately secured when they are not under constant surveillance.

Contracting

Please submit copies of contracts that Niowave has entered into for the production of radionuclides. Also, please identify the entity from which Niowave will be purchasing LEU, and submit copies of any contracts that are in place for the work pertaining to LEU.

Proposed Use of Licensed Material

Confirm our understanding that Niowave will not be conducting any chemical processing of radionuclides that will be produced, and that the physical form of the radionculides produced will be in solid form only.

Safe Handling Procedures

Please submit procedures that will be implemented for transferring and carrying and transporting radionuclides and incidentally activated materials from the accelerators to other locations on Niowave's property.

Preparation for Shipment

Describe procedures that will be in place to assure that radionuclides are safely and properly packaged and shipped to customers, as well as procedures that will be implemented to assure that customers are authorized to receive the radionuclides that they have requested.

Emergency Procedures

Submit a copy of emergency procedures that will be followed in the event of an incident or accident involving radioactive materials.

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CONVERSATION RECORD (continued)

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SUMMARY AND ACTION REQUIRED (IF ANY) (Continued)

Safety-Related Equipment OK

Describe safety measures and safety related equipment that will be in place to assure the safe operation of the accelerators, e.g., door interlocks, emergency shutdowns switches, audible/visible alarms, etc.

Operational Survey Equipment OK

Describe provisions for monitoring area radiation levels when accelerators are operating and targets are being activated. Also, establish and submit area radiation monitoring action levels and describe actions that will be taken to prevent or eliminate personnel exposure if action levels are exceeded.

Airborne Radioactive Effluent OK

Submit evidence which demonstrates that your processes will not create any airborne radioactive effluent.

Waste Management OK

Describe procedures for storing radioactive waste for decay prior to disposing of the material in normal trash. Acceptable procedures can be found in Appendix P to NUREG-1556, Volume 21, "Program Specific Guidance About Possession Licenses for Production of Radioactive Material Using an Accelerator."

Future Licensed Activities OK

Discussions with your staff during the site visit indicated that Niowave has plans for expansion of its business and licensed activities which will have a significant impact on the scope of the initial NRC license that will be issued. For example, we understand that Niowave would like to commercially distribute radionuclides/radiochemicals, add a location of use at the Detroit airport for efficiency in distribution of product, and conduct chemical synthesis to produce radiopharmaceuticals, etc. In order for us to fully understand Niowave's future plans for licensed activities, please describe in as much detail as possible, future programmatic changes that will impact your NRC license. Include specific milestones and projected timelines.

NAME OF PERSON DOCUMENTING CONVERSATION	
Kevin Null	
SIGNATURE Kevin D Null	DATE OF SIGNATURE 2/6/15