MEETING SUMMARY (OPEN SESSION)

Subject: Virtual Pre-Application Observation Public Meeting to Discuss Niowave Inc.'s Planned Medical Isotope Facility to be Licensed Under 10 CFR Part 70

Date: August 3, 2022

Following introductions by the U.S. Nuclear Regulatory Commission (NRC), the Department of Energy's (DOE's) National Nuclear Security Administration, and Niowave, Inc. (Niowave) staff listed in Enclosure 1, Yawar Faraz of the NRC provided opening remarks. Yawar Faraz stressed the importance of pre-application meetings and addressed the unique nature of Niowave's planned application for a medical isotope facility under Title 10 of the *Code of Federal Regulations* (10 CFR), Part 70. Dr. Bill Peters of Niowave, in his introductory remarks, indicated that Niowave plans to build a commercial facility in Lansing, Michigan that would produce 5 kilocuries (kCi) of molybdenum-99 (Mo-99) on an annual basis, meeting 5 percent of the domestic demand. This would be in addition to producing kCi quantities of other medical isotopes.

As presented in their slides (Agencywide Documents Access and Management System Accession No. ML22214A142), Niowave described its partnership with the DOE's National labs and universities. Niowave indicated that it had selected Christman Constructors, Inc. (CCI) to build its Mo-99 facility. Niowave noted that CCI had built the Facility for Rare Isotope Beams at Michigan State University in Lansing, Michigan for DOE at a cost of $1 billion. Niowave described its regulatory experience in dealing with the NRC and other regulatory bodies.

Niowave described its proposed commercial facility, to be licensed under 10 CFR Part 70, that will be used to primarily generate Mo-99 with an ultimate goal to produce up to 25 percent of the domestic Mo-99 demand in the United States. The facility will include target irradiation in a subcritical uranium assembly fission unit, two superconducting electron linear accelerators per subcritical assembly fission unit, natural uranium target fabrication, irradiated target dissolution and extraction and capture of fission gasses including xenon and iodine, a modified UREX process to separate the uranium from the fission products, uranium recovery and conversion to U_3O_8 powder, and extraction of Mo-99 product from the fission product stream.

Niowave described the location of the Mo-99 commercial facility as being located adjacent to the international airport in Lansing, Michigan. According to Niowave, the facility could house up to five separate Mo-99 generating units. However, the application Niowave would submit would be for one unit only.

Niowave indicated that it intends to move forward in leasing the land for its Mo-99 commercial facility as this land cannot be owned by a private entity. Niowave indicated that if it is determined that a Categorical Exclusion under the National Environmental Protection Act is appropriate for the Mo-99 facility, then it will start building the facility while the NRC reviews the application. During and following the slide presentation, Niowave responded to NRC staff questions.

PRINCIPAL CONTRIBUTOR
Yawar Faraz, NMSS/DFM/FFLB