

Nuclear and Radiological Protection Division Record of Decision

**Subject: Determination of DOE ORDER 420.2C Applicability for
ORNL Accelerators**

Record of Decision: Accelerators and accelerator facilities at the Oak Ridge National Laboratory (ORNL) that are subject to the requirements of DOE O 420.2C, *Safety of Accelerator Facilities* are the Holifield Radioactive Ion Beam Facility (HRIBF), the Oak Ridge Electron Linear Accelerator (ORELA), and the Spallation Neutron Source (SNS).

Justification:

The purpose of this Record of Decision (ROD) is to document which facilities and devices at ORNL are considered accelerators per the DOE O 420.2C (referred to as “the Order”) definition and are subject to the requirements of the Order.

The accelerator facilities that are subject to the requirements of DOE O 420.2C are the HRIBF, ORELA, and SNS. The accelerators at these facilities meet the Order definition of an accelerator: “a device employing electrostatic or electromagnetic fields to impart kinetic energy to molecular, atomic or sub-atomic particles and capable of creating a radiological area.” Additionally, these facilities do not meet the criteria for exemptions or equivalencies provided in paragraph 3.c of the Order. Therefore, these facilities are subject to the requirements of the Order.

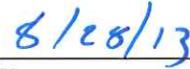
ORELA is noted to be non-compliant with some requirements of the Order. Specifically, ORELA does not have an Accelerator Safety Envelope (ASE) that meets the requirements of Sections 1.a and 1.b of the Order’s Contractor Requirements Document (CRD) and does not have a Safety Assessment Document (SAD) that meets the requirements of Section 2 of the Order’s CRD. The DOE-approved implementation plan (IP) for the Order included the implementation assumption that, while in the non-operating status, “ORELA is not required to have a current SAD or ASE that fulfills the requirements of Sections 1.a, 1.b, and 2 of the DOE O 420.2C CRD.” As discussed in the IP, ORELA is in a non-operating status and will not operate again without a DOE O 420.2C compliant SAD and ASE. A compliant SAD and ASE would encompass development, approval, and implementation.

Other facilities and devices at ORNL that have been assessed are the Multicharged Ion Research Facility (MIRF), the Deuterium-Tritium (D-T) neutron generators located in Building 3500, and the Electromagnetic Isotope Separator (EMIS). The MIRF is assessed in NRPD-ROD-2012-3 and has been determined to not fall within the coverage of the Order. The D-T generators are assessed in NRPD ROD-2012-2 and have been determined to be exempted from the requirements of the Order. The EMIS is assessed in NRPD-ROD-2013-1 and has been determined to not fall within the coverage of the Order.

Prepared:



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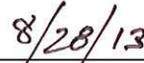


Date

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Date