

LISTING OF ORNL ACCELERATORS

DOE O 420.2C, *Safety of Accelerator Facilities*, requires the contractor to maintain a listing of accelerators regulated by the order and any exemptions/equivalencies granted per paragraphs 3.c.(2) and (3) of the Order. Accelerators and accelerator facilities at the Oak Ridge National Laboratory (ORNL) that are currently subject to the requirements of DOE O 420.2C are the Spallation Neutron Source (SNS), the Holifield Radioactive Ion Beam Facility (HRIBF), and the Oak Ridge Electron Linear Accelerator (ORELA).¹

Spallation Neutron Source

Proton Facilities (From front end to target building) and associated structures
Neutron Facilities (Building 8700) and associated structures

Sponsor: DOE Office of Science

Operational Status: Operational

SAD: *Spallation Neutron Source Final Safety Assessment Document for Proton Facilities*, 102030103-ES0018.

Spallation Neutron Source Final Safety Assessment Document for Neutron Facilities, 102030102-ES0016.

ASE: *SNS Accelerator Safety Envelope (ASE): for Full Power Operations of the Front End, Linac, Ring, Transport Lines, Beam Dumps and Target*, SNS 102030103-ES0016.

Exemptions: None

Holifield Radioactive Ion Beam Facility

Building 6000 and associated structures

Sponsor: DOE Office of Science

Operational Status: Non-operational / D&D.

SAD: *Safety Assessment for Routine Operation, Holifield Radioactive Ion Beam Facility*, SA/6000/RO-PHYS/R2, March 2010.

ASE: *Accelerator Safety Envelope for Routine Operation, Holifield Radioactive Ion Beam Facility*, ASE/6000/RO-PHYS/R2, March 2010.

Exemptions: None

Notes: The currently implemented SAD and ASE (Rev. 2) may have some minor deficiencies with regard to content required by DOE O 420.2C since they were issued prior to 420.2C. The SAD and ASE were revised to address potential deficiencies, approved by ORNL in June 2012, and the ASE submitted to DOE for approval. During the approval process, operational funding for HRIBF was discontinued. The submitted ASE was not approved and the revised documents were not implemented. The Oak Ridge Isochronous Cyclotron (ORIC) has been disassembled and the Tandem Accelerator is in cold standby prior to decommissioning. The SF₆ inventory required for Tandem operation is expected to be dispositioned by the end of FY17. Many components of the accelerator and experimental systems have been removed and distributed to other entities (DOE laboratories, universities, etc.). The ORIC accelerator is no longer operational. The Tandem accelerator is not expected to be operated again and is scheduled to be dismantled in FY17.

¹ An additional facility, the Beam Test Facility (BTF), is presently under construction and has not received authorization to operate. The BTF will be added to this list, as appropriate, upon authorization to operate.

LISTING OF ORNL ACCELERATORS

Oak Ridge Electron Linear Accelerator

Building 6010 and associated structures

Sponsor: DOE Office of Science

Operational Status: Non-operational / D&D.

SAD: See Notes

ASE: See Notes

Exemptions: None

Notes: ORELA is noted to be non-compliant with some requirements of the Order. Specifically, ORELA does not have an 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 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." The ORELA accelerator and peripheral components have been substantially dismantled such that ORELA is no longer operational. The remainder of the facility is being transferred to the Facility Disposition Program and will be transitioned from an accelerator facility to a <HC-3 facility.