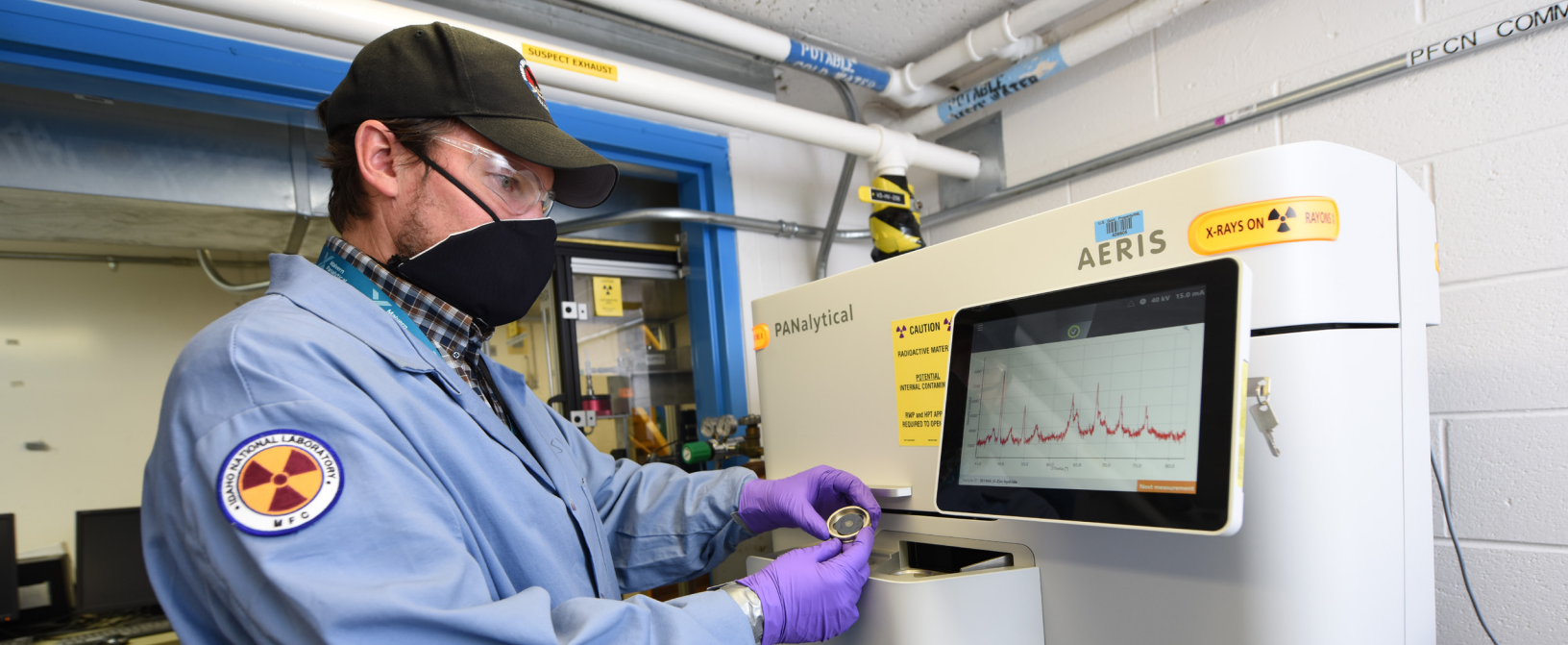




NUCLEAR FUELS & MATERIALS LIBRARY

Owned by the U.S. Department of Energy Office of Nuclear Energy and managed by the Nuclear Science User Facilities (NSUF), the Nuclear Fuels and Materials Library (NFML) is a collection of specialized material specimens from past and ongoing irradiation test campaigns, real-world components retrieved from decommissioned power reactors, and donations from other sources.

Everything in the NFML is available to the nuclear research community, either through a peer-reviewed proposal process or through direct programmatic request. The NFML initiative maximizes the value of previous and ongoing nuclear materials and fuels irradiation test campaigns.



What is included in the NFML?

Samples include conventional and advanced steels, experimental alloys, ceramics, and fuels.

Initially, NSUF staff identified legacy materials from previous R&D programs that were being stored in laboratories and hot-cell facilities at Idaho National Laboratory, NSUF's lead laboratory. Owners of other materials of interest, identified outside of INL, volunteered to enter them into NFML. Finally, thousands of specimens have been added to the NFML as part of NSUF competitively awarded irradiation projects.

7,000+
SAMPLES

currently in the Nuclear
Fuels & Materials Library

How can I see what samples are available?

To view the available samples, go to nsuf.inl.gov. In the Resources menu item, click Infrastructure, then click on the Nuclear Fuels and Materials Library button on the right-hand side. From there, you will be able to search through the NFML's specimens.

Are there fuel samples in NFML?

There are some irradiated and unirradiated fuel materials, however, not all are in the NFML database. If you would like to know more about available fuels, please send an email to nsuf@inl.gov.

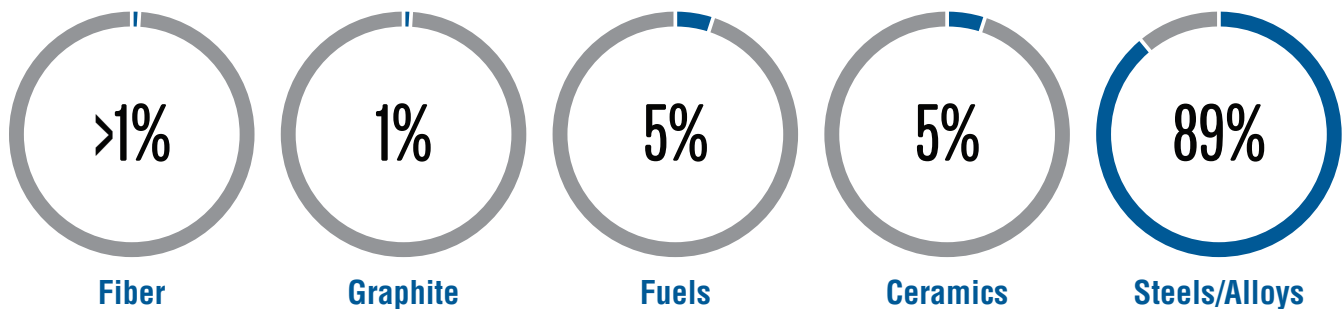
How can I get access to an NFML sample?

Access to NFML materials is granted through NSUF's two proposal processes, the DOE-NE Consolidated Innovative Nuclear Research (CINR) or NSUF's Rapid Turnaround Experiment (RTE) program.

CINR calls typically open in August, while RTE proposals typically open three times a year. If you are awarded access to a sample, NSUF will coordinate with the facility where the sample is located and the facility will ship the sample to wherever post-irradiation examination is taking place. The cost of this process will come out of the award budget.

Outside of the two formal proposal processes, researchers can reach out directly to the NSUF director, Rory Kennedy (rory.kennedy@inl.gov), to request access to samples.

Material Type by Sample Count



What if another researcher requests the same sample?

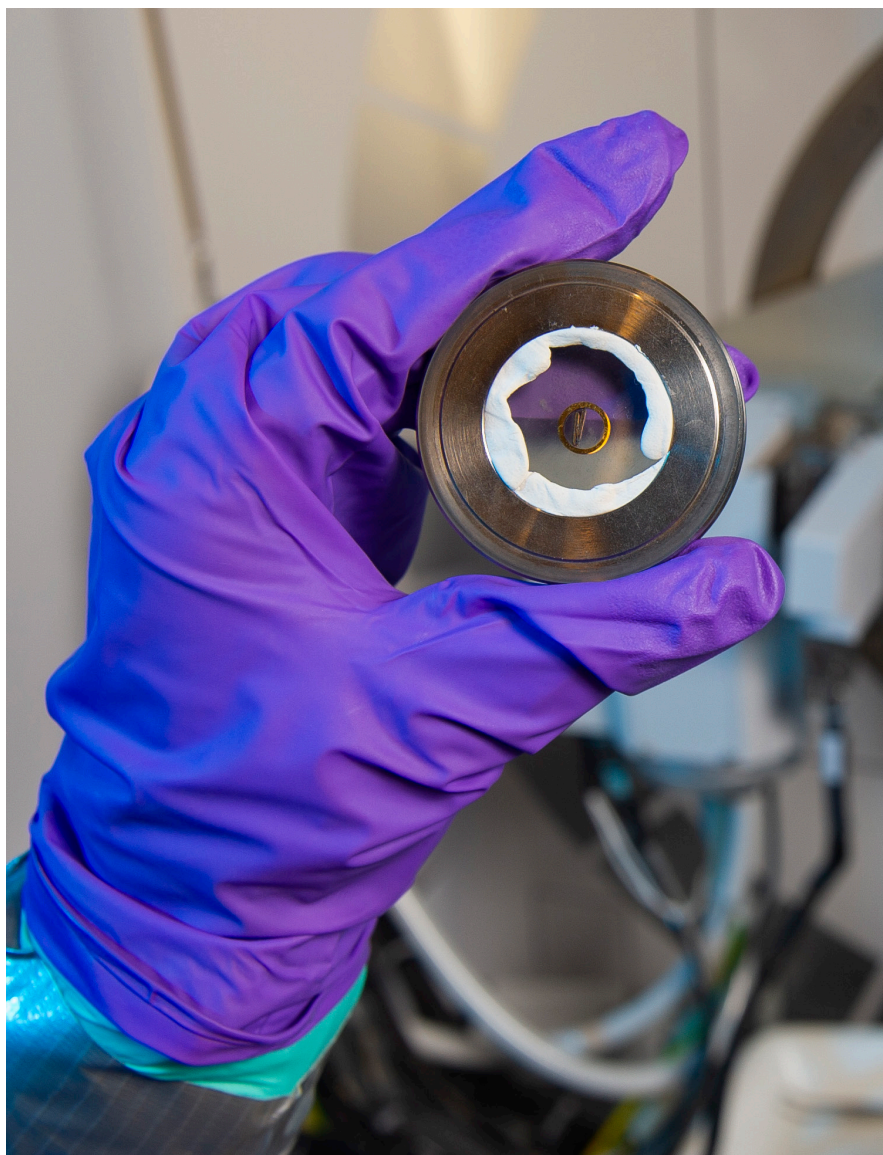
Certain materials may have more user demand than others. In general, if multiple users propose to use the same sample or group of samples, proposal review scores will be used to provide recommendations for priority. The final decision resides with the NSUF director and the DOE-NE selection officer.

Are new samples being added to NFML?

Yes, all samples generated through NSUF's CINR and RTE projects are added to the NFML. Additionally, samples are added through third-party donations or after a dedicated irradiation designed to populate the sample library.

What if a material I would like to study is not currently in the NFML?

Suggestions for new materials to include in the NFML are always welcome. There is funding available for NFML irradiations to be conducted so new material samples can be added to the NFML. If you would like to suggest a sample to be added, please send an email to nsuf@inl.gov.



What if my organization would like to donate samples to the NFML?

There is an open Request for Information (RFI) on nsuf.inl.gov under the Call/Solicitation Information.

To qualify as an NFML sample, it must be available for use as part of all NSUF proposal call initiatives without restriction and all data generated is nonproprietary. The individual or entity donating the samples must relinquish all legal ownership of the materials and transfer ownership to DOE, with the NSUF as custodian. Whether the samples have to be physically moved to INL or one of the NSUF's partner facilities can be determined at the time of donation. Additionally, donations must meet the following criteria:

- The materials being donated have demonstrated relevance to the nuclear energy research community.
- The materials are relatively distinctive or in high demand.
- There is strong supporting pedigree information in the form of available data, reports, or peer reviewed journal information.

Whenever possible, unirradiated archive material should be supplied with donated irradiated materials. Ultimately, it is the NSUF staff's responsibility to make recommendations to the NSUF director on what new samples should be entered in the sample library.

INL is a U.S. Department of Energy (DOE) national laboratory that performs work in each of DOE's strategic goal areas: energy, national security, science and environment. INL is the nation's center for nuclear energy research and development. Day-to-day management and operation of the laboratory is the responsibility of Battelle Energy Alliance.

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