



Nuclear Science User Facilities

Nuclear Fuels & Materials Library

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



nsuf-research.inl.gov/Browse/Library

What is included in the NFML?

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

How can I access a sample?

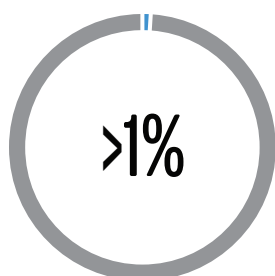
Access to NFML materials is granted through NSUF's two proposal processes. If you are awarded access to a sample, NSUF will coordinate with the facility where the sample is located and the facility will ship the sample to wherever post-irradiation examination is taking place. The cost of this process will come out of the award budget.

Outside of the formal proposal process, researchers can reach out directly to the NSUF director, Brenden Heidrich (Brenden.Heidrich@inl.gov), to request access to samples.

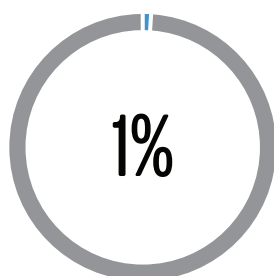
What if another researcher requests the same sample?

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.

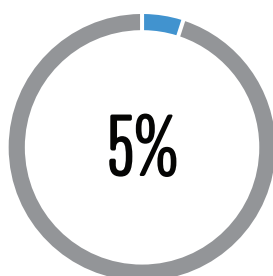




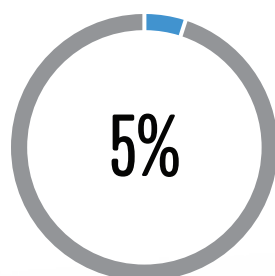
Fiber



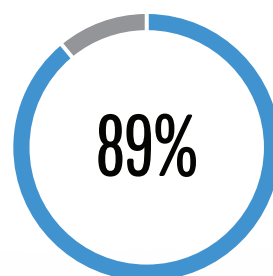
Graphite



Fuels



Ceramics



Steels/Alloys

Are new samples being added?

Yes, all samples generated through NSUF projects are added to the library. Additionally, samples are added through third-party donations or after dedicated irradiation experiments.

What if a material is not currently in the NFML?

Suggestions for new materials to include in the library are always welcome. There is funding available for NFML irradiations to be conducted for new material samples. To suggest a sample, email nsuf@inl.gov.

Are there fuel samples in the NFML?

There are some irradiated and unirradiated fuel materials in the library. If you are looking for a fuel that's not listed, email nsuf@inl.gov.

Donating Samples:

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. The need to physically move the samples will be determined at the time of donation.

Donations must meet the following criteria:

- Demonstrated relevance to the nuclear energy research community
- Relatively distinctive or in high demand
- Strong supporting pedigree information in the form of available data, reports, or peer-reviewed journal information

If a sample meets the above criteria, email nsuf@inl.gov.



Battelle Energy Alliance manages INL for the U.S. Department of Energy's Office of Nuclear Energy.

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