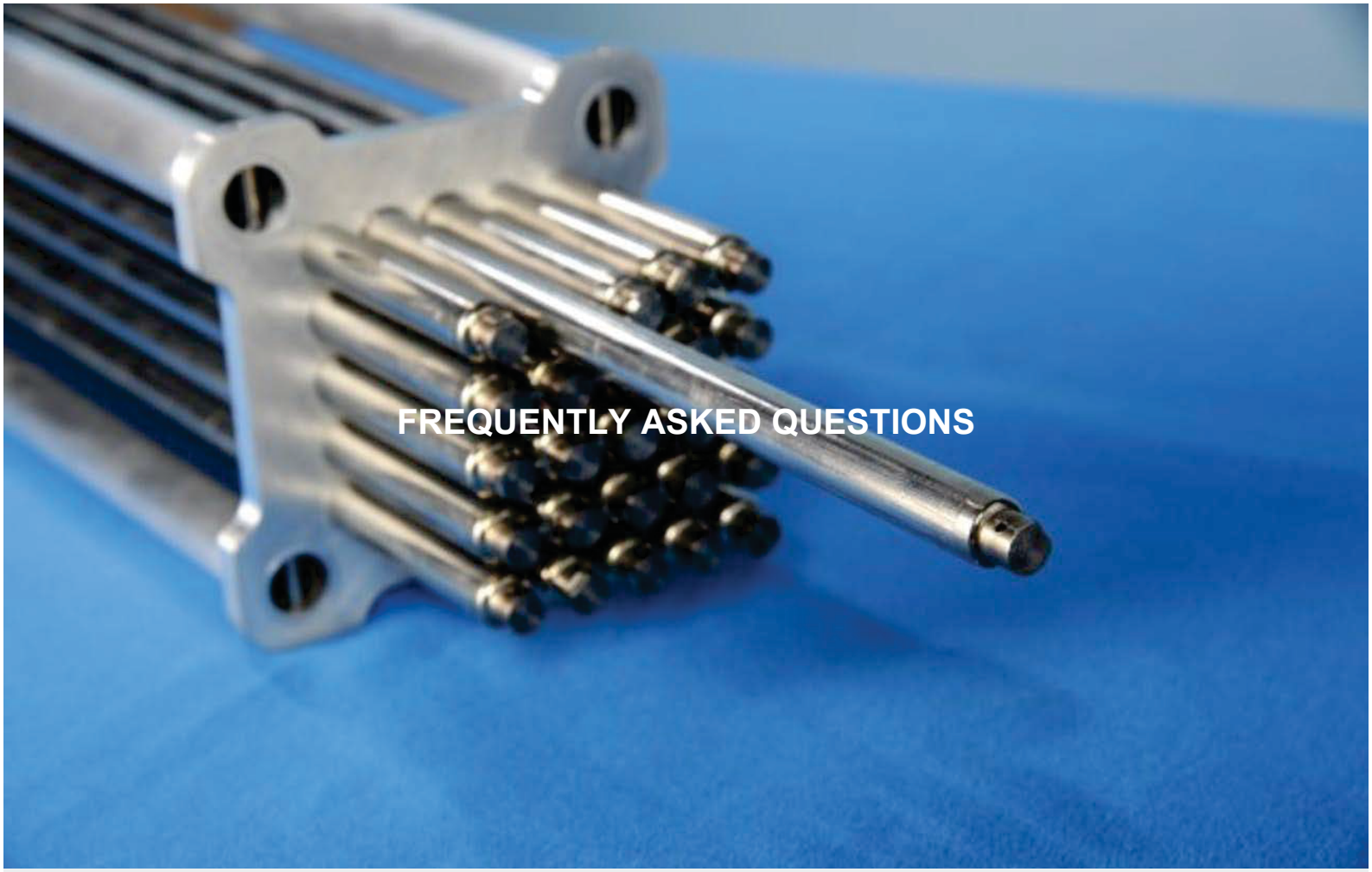
From: Giacinto, Joseph
Sent: Tuesday, May 25, 2021 2:05 PM
To: AdvancedReactors-GEISDocsPEm Resource
Subject: INL - Research Quantities of Commercial Nuclear Fuels FAQs
Attachments: INL 2020 FAQ.pdf

Idaho National Laboratory



RESEARCH QUANTITIES OF COMMERCIAL NUCLEAR FUEL

- FREQUENTLY ASKED QUESTIONS | RESEARCH QUANTITIES OF COMMERCIAL NUCLEAR FUEL

WHAT IS SPENT NUCLEAR FUEL?

Nuclear fuel undergoes nuclear fission to sustain

Research Quantities of Commercial Nuclear Fuel

- Videos
- Images
- FAQs

Media & Public Resources

the chain reaction inside a nuclear reactor. The fuel is generally in the form of ceramic pellets encased in protective metal tubes to form fuel rods.

Read More

IS SPENT NUCLEAR FUEL DANGEROUS TO PEOPLE OR THE ENVIRONMENT?

Spent nuclear fuel can be managed in a way that protects both people and the environment. After undergoing fission inside a reactor core, nuclear fuel contains radioactive byproducts from the fission reactions.

Read More

DOES THE SETTLEMENT AGREEMENT BAN SPENT NUCLEAR FUEL SHIPMENTS TO IDAHO?

No, the 1995 Settlement Agreement allows the Department of Energy to send 55 metric tons (about 121,000 pounds) of its spent fuel to Idaho between 1995 and 2035. In 2011, Idaho and DOE agreed that research quantities of commercial fuel coming to INL for study would be counted against that total. In 2019, the two parties agreed to enhanced conditions under which small quantities material could be shipped to Idaho strictly for research purposes.

Read More

DOES THE SETTLEMENT AGREEMENT

- Trending Topics
- Fact Sheets
- Publications
- Lab Leadership
- Logos
- Images
- Videos

Contact

Kortny Rolston-Duce
Phone: 208-526-1151

SEND KORTNY ROLSTON-DUCE A MESSAGE

Share This Page

PREVENT COMMERCIAL SPENT FUEL COMING TO IDAHO FOR STORAGE?

Commercial fuel cannot be sent to INL for the purpose of storage. Spent fuel from the Byron plant — 25 rods containing about 100 pounds of heavy metal — would be shipped to INL for critical research that INL is well-equipped to conduct.

IS IDAHO AT RISK OF BECOMING THE NATION'S DE FACTO SPENT FUEL REPOSITORY?

No. These 100-pound research samples are not "waste" that the Department of Energy or the industry are trying to get rid of. This material could help answer important scientific questions, and the volume is tiny compared to the existing inventory stored in Idaho (~600,000 pounds) and stored nationwide at commercial sites (150 million pounds).

WHAT IS THE PURPOSE OF THE RESEARCH?

Safe long-term storage of fuels from today's commercial nuclear reactors will require a better understanding of spent nuclear fuel properties after removal from the reactor. The 100-pound samples proposed for Idaho research are carefully selected, modern, commercial reactor fuel pellets that have the right characteristics to help answer important scientific questions.

WHY CAN'T THE RESEARCH BE DONE

ON FUEL THAT IS ALREADY HERE?

Today's commercial nuclear fuels are more efficient than those of the past, which has reduced costs for utilities and their customers. To maintain safe storage at utility locations around the U.S., the industry and the U.S. Nuclear Regulatory Commission need to better understand the physical and chemical characteristics of this high-efficiency fuel. The fuel currently stored at INL does not have the same features as today's high-efficiency commercial fuel.

CAN THIS RESEARCH BE DONE ELSEWHERE?

Yes, other national labs are eager to attract this important work. However, the nation has made considerable investments to build the unmatched research capabilities at INL, an internationally recognized nuclear energy research, development and demonstration laboratory. This research could be done elsewhere, but not as thoroughly because only INL has the full suite of capabilities.

WILL THIS WORK THREATEN THE AQUIFER?

No. Contaminants being monitored to protect the aquifer were not created by spent nuclear fuel stored at the site. These contaminants originated from disposal of legacy materials decades ago. Disposal practices today are vastly improved, providing multiple barriers between this material and the aquifer, such that there is no credible pathway for these materials to reach the aquifer.

Idaho National Laboratory
1955 N. Fremont Ave.
Idaho Falls, ID 83415

866-495-7440

RESEARCH AREAS
Nuclear Energy
Energy & Environment
National & Homeland Security

ABOUT US
General Information
Capabilities of Idaho National Laboratory
Center for Advanced Energy Studies (CAES)
Environment, Safety, Health
Visitors
Contact Info
Bus Operations

PARTNER WITH INL
University Partnerships
User Facilities
Community & Education Outreach
Industry & Tech Deployment
Economic & Workforce Development
Initiating Business with INL

CAREERS
Retirees

NEWSROOM
News
Fact Sheets
INL Publications