

Disposition of Surplus HEU through Downblending and Purification for Placement in the Nuclear Fuel Cycle

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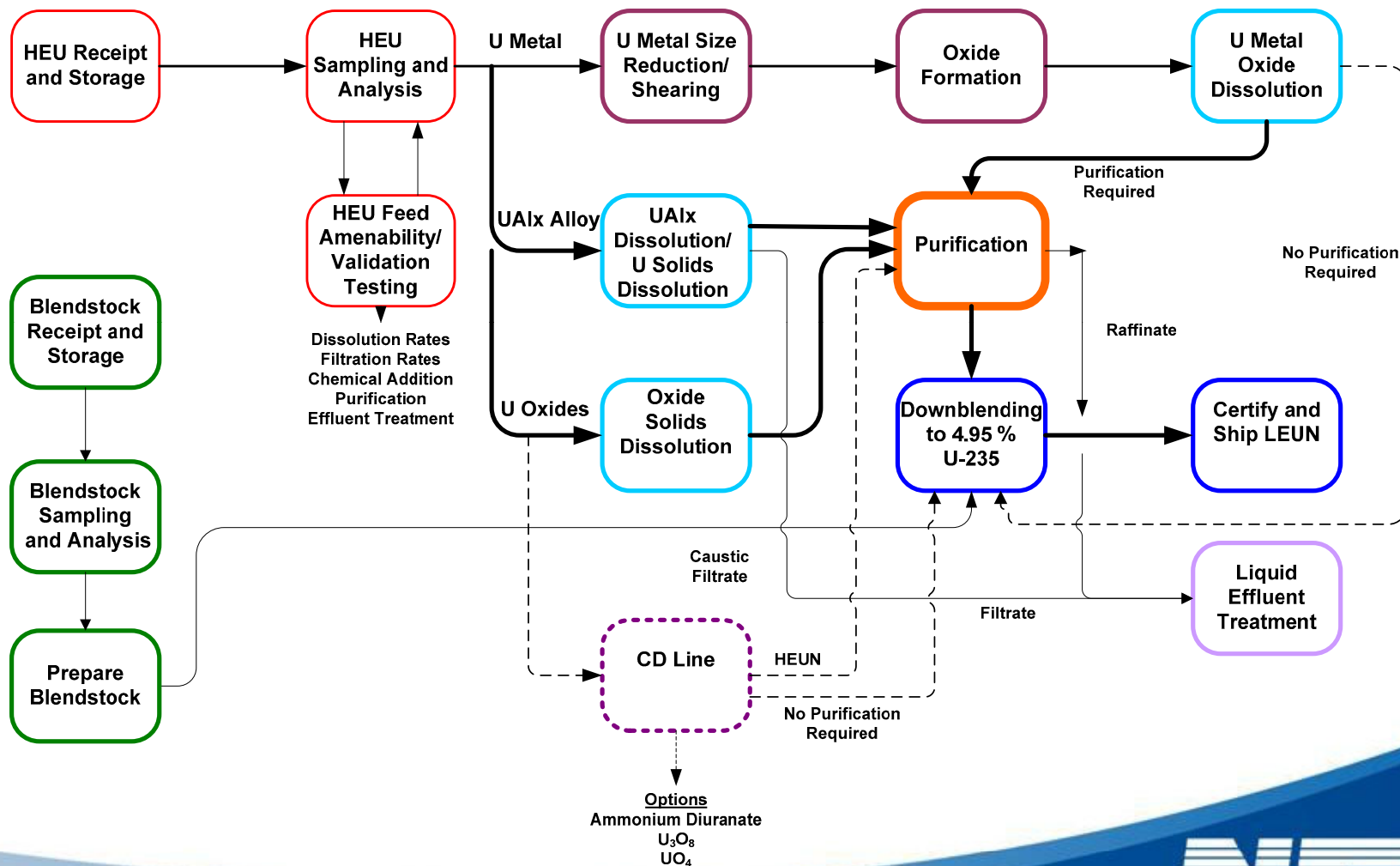


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- Sole supplier of HEU fuel material to U.S. Navy
- A world leader in HEU-to-LEU conversion
- Source for dispositioning U materials
- Helping to spark the nuclear renaissance

HEU Recovery Flowsheet

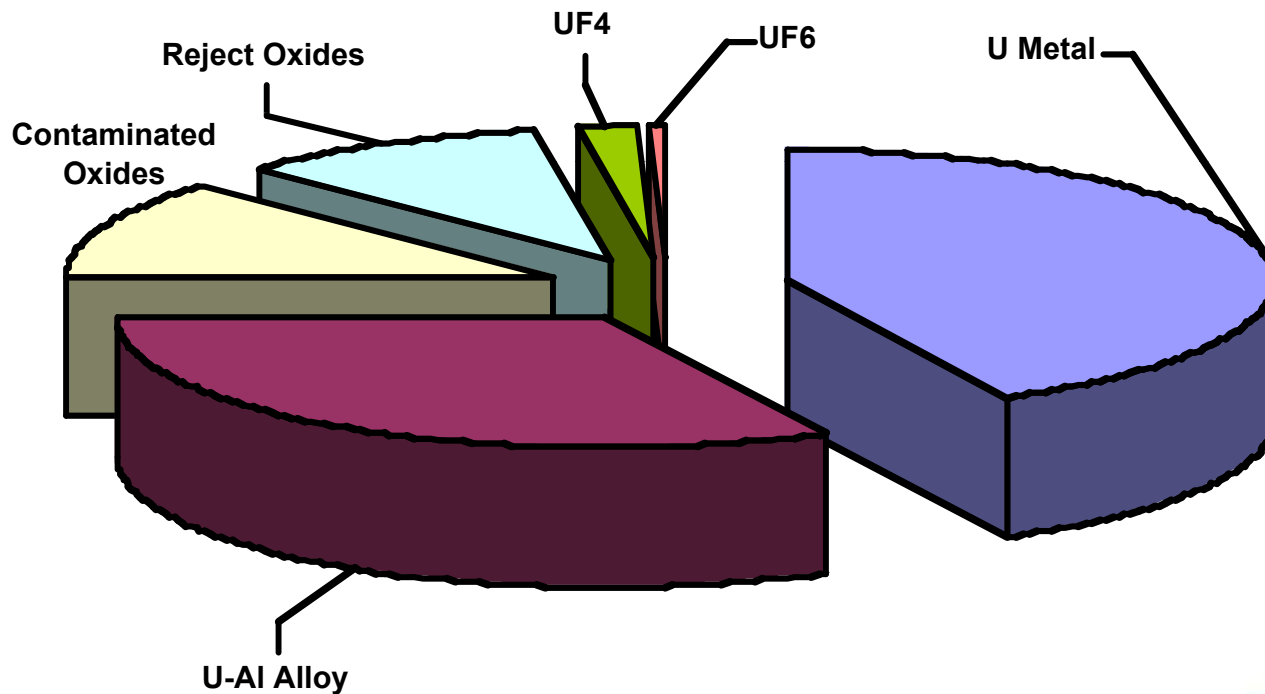


Downblending Economics

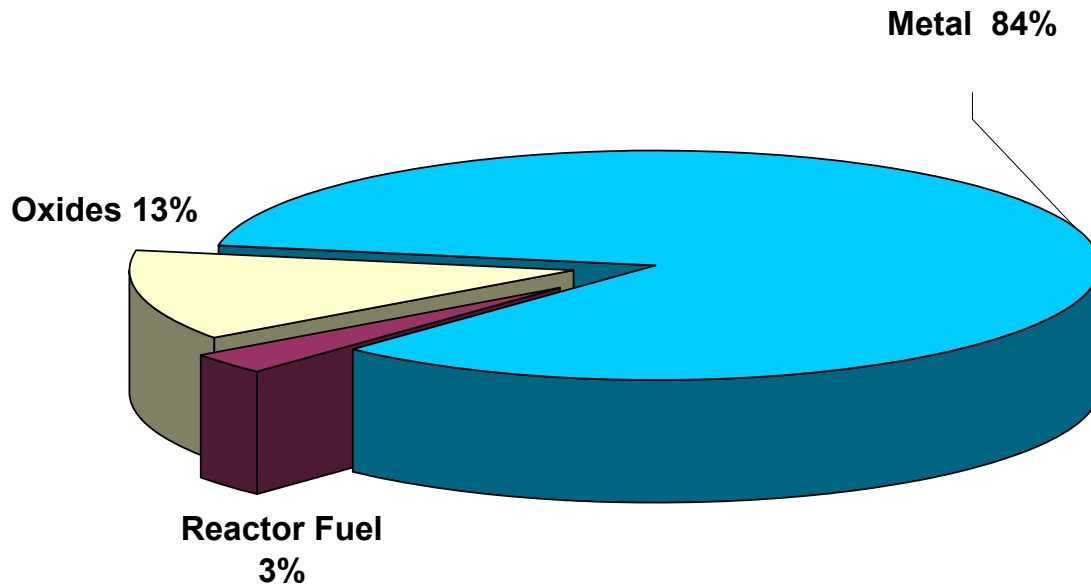
- Downblended U as a commercial reactor fuel saves hundreds of millions of \$ when compared to conventional means.
 - SRNS made 252 MTU of LEU from BLEU Project HEU
 - NFS has made > 225 MTU of LEU from BLEU Project HEU
 - NFS has made > 30 MTU of LEU from RFS Program HEU

“Megatons to Megawatts”

Blended Low Enriched Uranium (BLEU) Project – 23 MT HEU



Reliable Fuel Supply (RFS) Program – 17 MT HEU



Typical RFS HEU Metal Feed



HEU Slug Castings



HEU Broken Metal

CD-Line

The NFS CD-Line will come of line in early 2009. The skid-mounted process line equipment has been fabricated and tested and most of the equipment is on site awaiting installation, testing and operational readiness reviews.

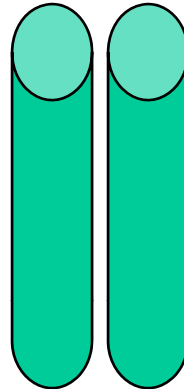


The CD-Line is a logical extension of NFS' focus of providing turn key storage, processing and dispositioning of "Stranded" Materials, including downblending of proper materials for reuse.

CD-Line HEUF₆ Flowsheet



Vaporize
 $UF_6(s)$ to $UF_6(g)$



UO_2F_2 Receiving
Columns

HEU Oxide

Y-12



NH_4OH



ADU Precipitation

HEUN

BPF
SX



NFS

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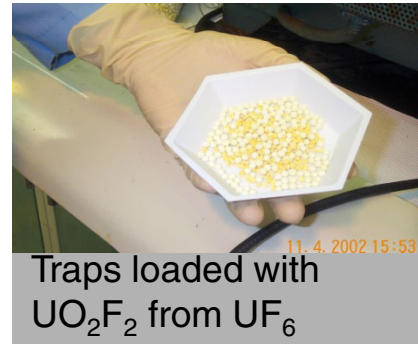
CD-Line

- The CD-Line is an extension of the NFS downblending process which addresses small quantities of HEU stranded materials with various physical, chemical and radiological attributes.



Non- UF₆ Stranded Materials

- In early 2009, operations will start with dispositioning of a variety of U-bearing scrap materials as well as HEUF₆.



Traps loaded with UO₂F₂ from UF₆



HEU UF₆ Cylinders

Summary

- Over 500 MT of 4.95% enriched LEU has been produced via downblending HEU from the BLEU Project and RFS Program
- This LEU product has produced savings of several hundred million \$ for commercial nuclear fuel users
- CD-Line adds new processing capabilities for the nuclear industry
- NFS can handle a variety of HEU feeds, including: metal, U/Al alloy, U oxides, U fluorides, plates, rods, etc.
- NFS stands ready to assist the industry with downblending and disposition of stranded materials.