

DOE-OWNED SNF AT INEL

**Presentation to
The Panel on the Engineered Barrier Systems
Nuclear Waste Technical Review Board**

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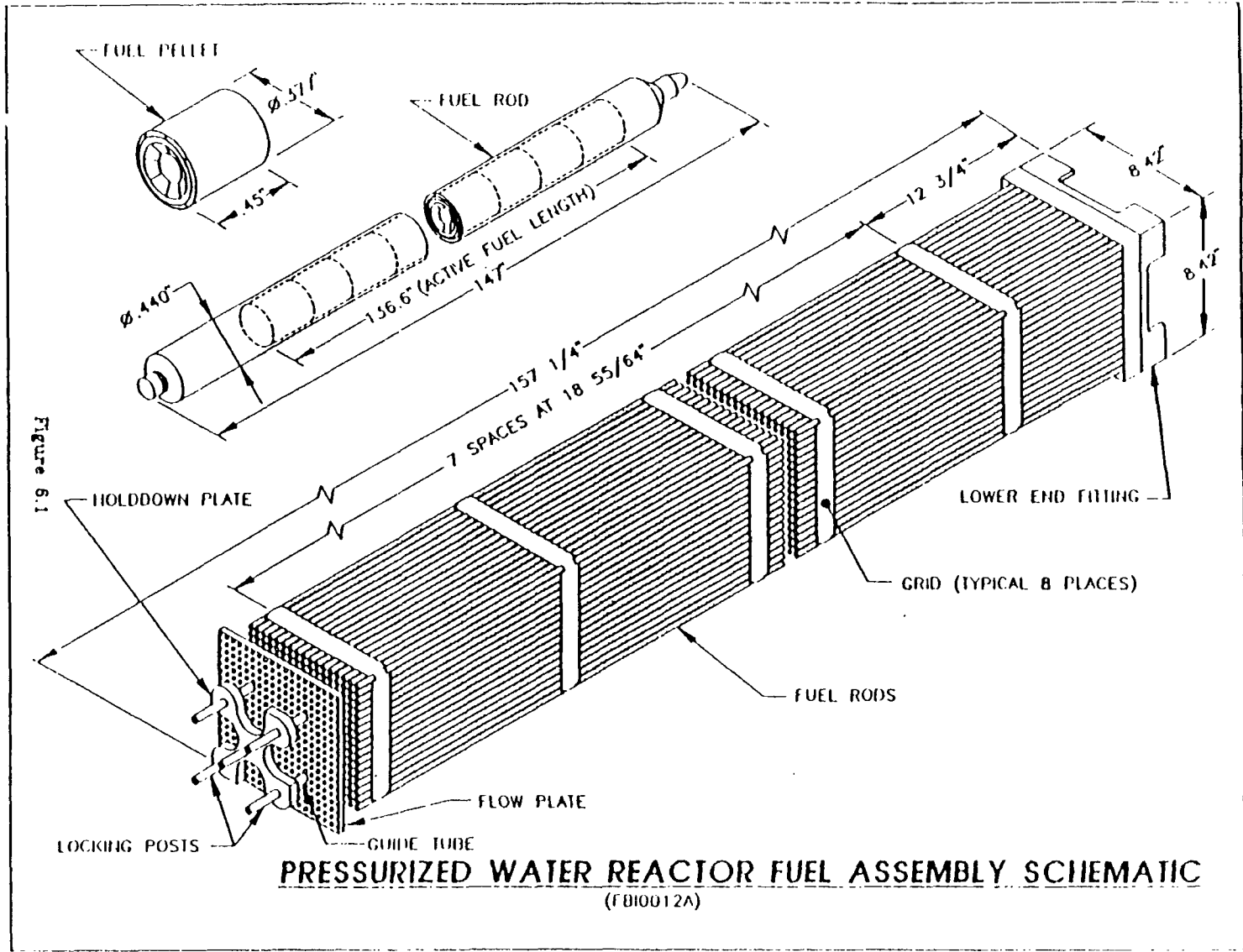
Fuel Type Path Forward

<u>Cladding</u>	<u>Fuel Meat</u>	<u>Enrichment</u>
Zirconium	Uranium Metal	>80% U-235
Stainless Steel	Uranium Alloy	>20% U-235
Aluminum	Uranium Oxide	<20% U-235
Graphite	Uranium Carbide	<5% U-235

From these three characteristics 23 combinations exist at the INEL

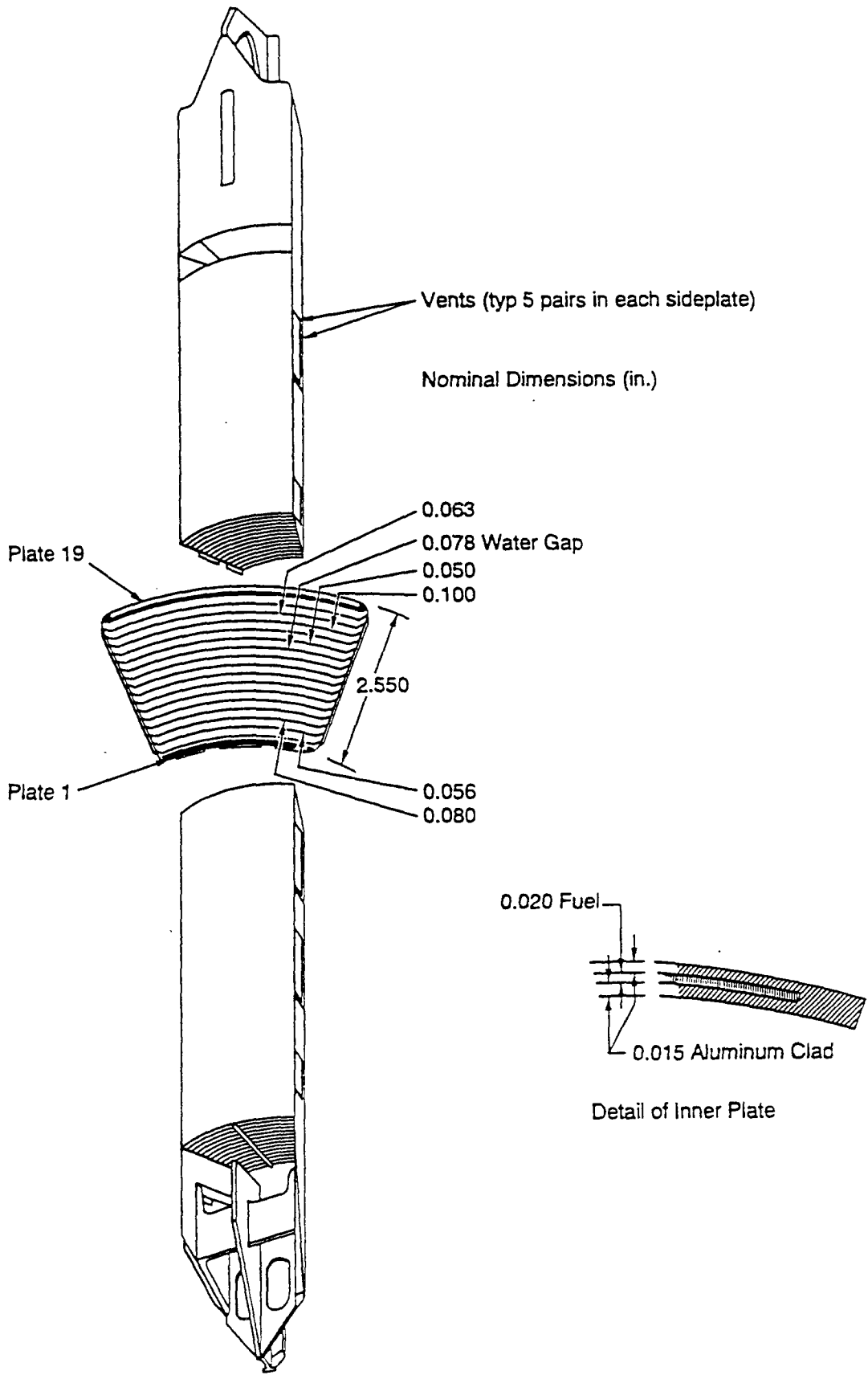
Nuclear Fuel Example Type

- **Commercial Nuclear Fuel (rod type fuel)**
- **Uranium Oxide Ceramic Pellets**
- **Pellets inserted into zirconium or stainless steel tubes and sealed**
- **Made into assemblies**



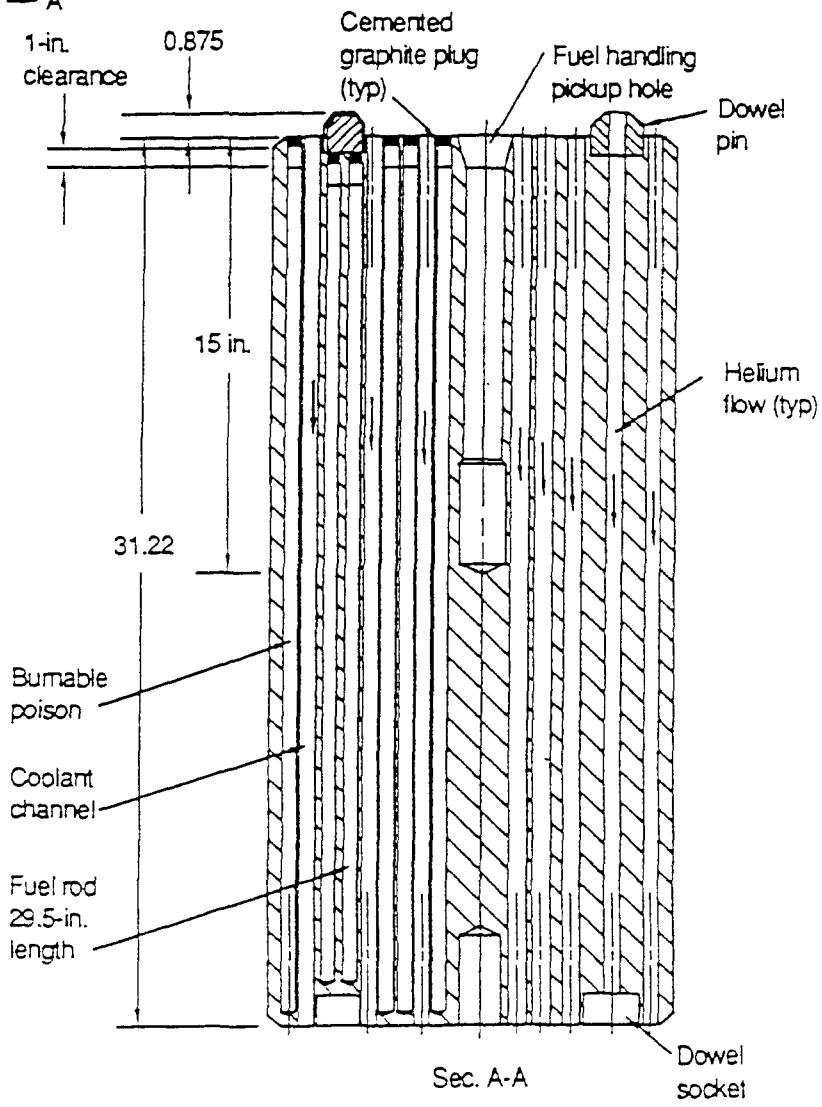
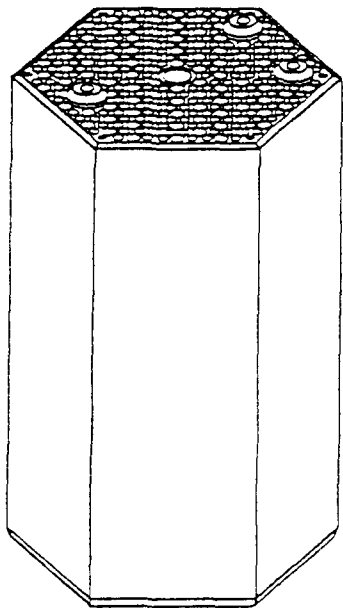
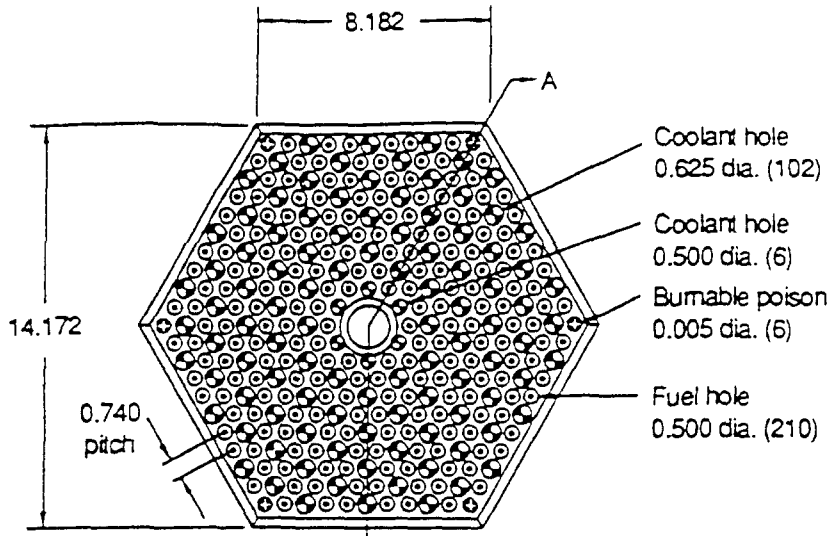
Nuclear Fuel Example Type

- **ATR Nuclear Fuel (plate type fuel)**
 - **Uranium combined with aluminum**
 - **Made into plates**
 - **Made into assemblies**



Nuclear Fuel Example Type

- **Fort St. Vrain Nuclear Fuel (Graphite)**
 - **Uranium Carbide**
 - **Uranium is Made into a Small Sphere**
 - **Sphere is Coated with Silicon Carbide**
 - **Pressed into Rods**
 - **Placed into a Graphite Block**

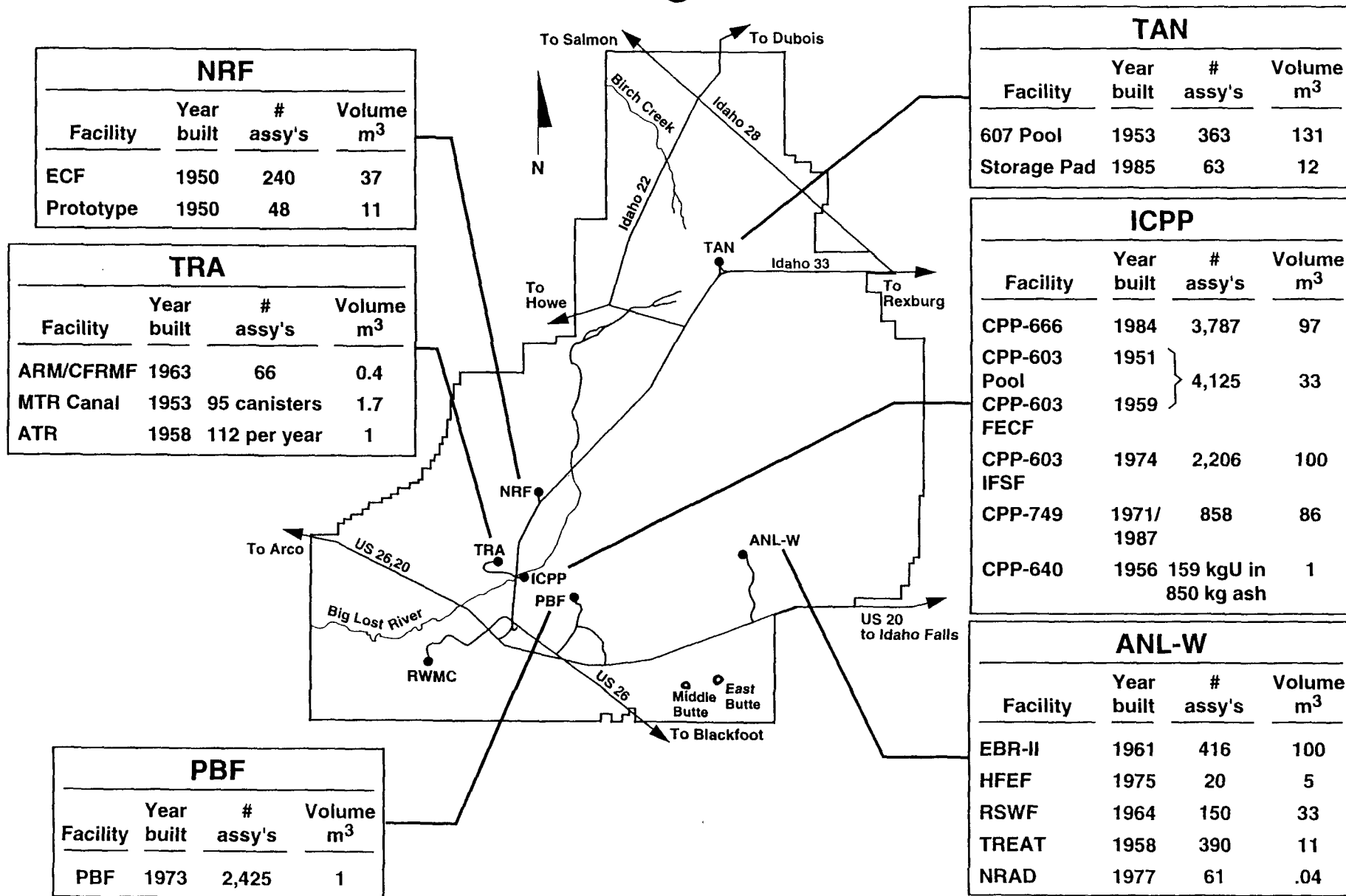


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Spent Nuclear Fuel Storage Condition

- **Some fuel is stored bare and intact**
- **Some fuel has been canned**
- **Much of the fuel has had the ends cut off**
- **Test reactor fuels may have been declad or undergone destructive examination**
- **The TMI-2 fuel debris has been examined and is in storage**

Current Storage Status at INEL

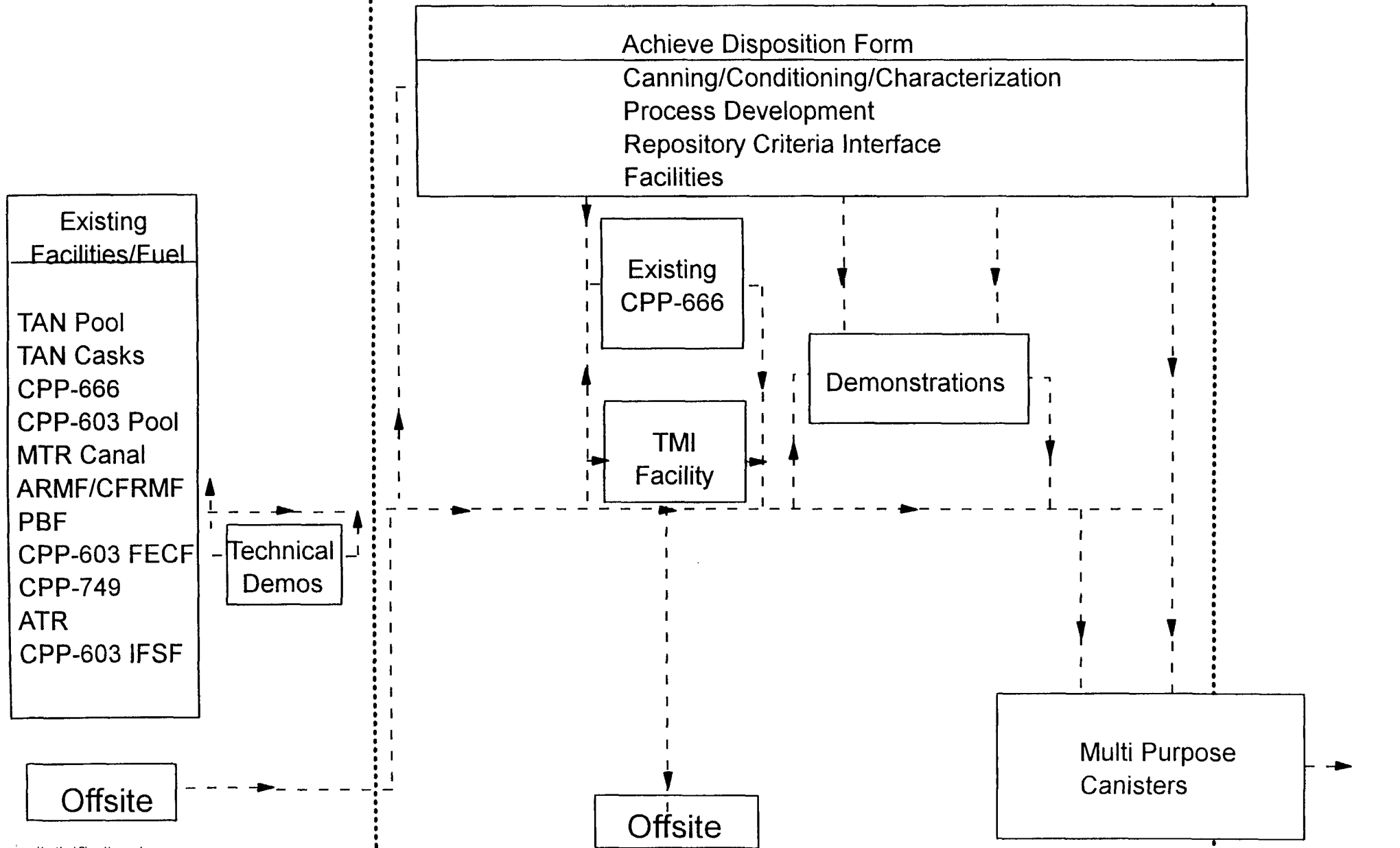


INEL SNF PATH FORWARD

Assure Safe Existing Conditions

Achieve Interim Storage

Prepare for Final Disposition



Spent Nuclear Fuel Management Activities

- **Retirement of CPP-603 Storage Pools**
 - **311 out of 378 fuel units have been moved from CPP-603 to CPP-666 as of 6/5/95**
 - **All fuel will be moved by 12/31/2000**
- **Evaluation of Fuels and Fuel Conditioning Activities for Storage in Multipurpose Canisters and Transport to a Federal Repository**

Spent Nuclear Fuel Management Activities

(continued)

- **Three Mile Island Fuel Storage**
 - **Request for proposals for new facility issued 2/95**
 - **Proposal received and being evaluated**
 - **Environmental assessment (EA) and finding of no significant impact (FONSI) in public review**
 - **Bid award expected by 9/95**