General Approach

• Start with Available Technology and Adapt it to Specific Clean-up Needs
  – Minimize Research and Development Activities
  – Helped Reduce Problems with Machine Reliability
Path to Defueling Concept

- Three Mile Island Core Status Summary – A Basis for Tool Development for Reactor Disassembly and Defueling, GEND-007, May 1981
- Several Task Forces Formed to Develop Options Ranging from Robotic to Remote Manual, Remote Manual Selected as Base Case
- Contractor Hired Who Developed an Innovative Approach with Three Main Elements
  - Remotely Operated Service Arm
  - Shredder
  - Debris Vacuum/Transfer System
- This approach was selected by a Task Force Meeting in 1983
- Innovative Approach Rejected March 1984
  - Shredder Never Before Used
  - Three Year Research and Development Project Before Implementation
  - Need to Start Defueling as Soon as Possible
  - Deal with Real Defueling Problems as They Emerge Rather Than Engineering Design Problems
Early Defueling System
End State Core Condition
Remote Defueling Techniques

- Long Handled Tools with Various End Effectors
- Core Drilling
- X-Y Bridge and Plasma Arc Torch
- Air Lift Pump
- Unbolting of Upper Core Support Assembly, Core Baffle Plates