

Agenda

- MOX Project Overview--MOX Services
 - Status of MOX Project
 - Relationship of AFS and MOX Services for Packaging
- Purpose of the Meeting--AFS
 - Containment boundary for BWR and PWR MOX fuel
 - Methods of demonstrating containment integrity
- Design Approach--AFS
 - Based on current licensed Type B fissile fresh fuel packages
 - Design by test
 - Demonstration of fuel integrity
- Testing--AFS
- Licensing--AFS
- Anticipated schedule--AFS

MOX Project Overview



August 11, 2010

MOX SAFETY FUELS THE FUTURE

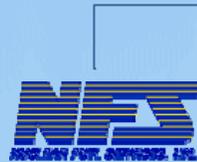
USA/Russian Federation Agreement

- 2000 -- US and Russia signed an Agreement to dispose of 34 MT of weapons grade plutonium and to convert it into a form no longer usable for nuclear weapons
- April 13, 2010 -- US and Russia signed the 2010 Protocol amending the 2000 Agreement.
 - calls for the US to dispose of at least 34 MT of plutonium as MOX fuel

What is the MOX Project?

- **Mission**
 - Convert 34 metric tons of weapons-grade plutonium to mixed oxide (MOX) fuel
 - Irradiate the MOX fuel in U.S. commercial power reactors
- **Impact**
 - Removes many thousands of warheads from the nuclear arsenal
 - Eliminates \$500 million/year in security costs
 - Provides clean, carbon free energy that offsets over \$33 billion in imported oil costs at \$75/barrel

The MFFF Contractor Team



UTILITY WITH
REACTORS

MFFF Schedule

- Start Construction 8/2007
- Receive Operating License 6/2015
- Begin Hot Startup 6/2015-10/2016
- Complete First (~8) FAs 8/2017-2/2020
- Complete Next FAs (~20) 12 months later

August 2007 Start of MFFF Construction



May 2010



MFFF Project Status

- MFFF Project is 47% complete
- MFFF Construction is 29% complete

MFFF Design Capacity

- 3.5 MT of Pu/year
- 70 metric tons of heavy metal/year as fuel assemblies
- Both PWR fuel and BWR fuel can be manufactured
- If all PWR 17 x17 fuel—150 fuel assemblies/year
- 5-6 reactors can be supplied with 40% MOX core loading

BWR and PWR Fuel

- The MFFF design is being modified to allow a larger range of fuel to be produced
 - TVA is evaluating use of MOX fuel in Browns Ferry and Sequoyah
 - Increases the number of potential fuel customers
 - Need a MOX fuel shipping package for BWR fuel
 - The currently licensed MOX Fresh Fuel Package was designed for only Advanced MK-BW/MOX1 PWR fuel and MOX fuel rods
- Here today to talk about design and licensing of new PWR and BWR MOX fresh fuel packages