

VA Section of the ANS September 21, 2006

Predictions

1970's

- Projections of over 300 nuclear plants by 2000
- Annual, equilibrium fuel cycles
 - 30,000 MWd/mtU discharge burnup
 - 3.0 w/o U-235 feed
- Recycle of Pu and U planned
- Development of standards/specs./regulations for fuel
- Publicly regulated electricity prices
- Nuclear Arms Race

Today

- 103 operating nuclear plants
- 18-24 month fuel cycle
 - 50,000 MWd/mtU discharge burnup
 - 4-5 w/o U-235 feed
- Once-through fuel cycle
- Firm standards/specs./regulations for fuel
- Competition for electrical consumers
- Nuclear Arms Dismantlement

Vision – late 1990's

- License Renewal of Nuclear Power Plants
- Resolution of Spent Nuclear Fuel Debate
- Cures for Cancer and other Diseases
- Realization of Fusion Energy
- Nuclear Propulsion in Space Travel to Mars and Beyond
- New Nuclear Power Plants