POTENTIAL STRATEGY FOR NUCLEAR ENERGY EXPANSION

NUCLEAR CAPACITY, GWe

IFR's WITH BREEDING

IFR's STARTED UP WITH LWR ACTINIDES ONLY

LIFE EXTENSION + ADVANCED LWR's

CURRENT REACTORS

Year

URANIUM RESOURCES
REQUIREMENTS AND AVAILABILITY

CUMULATIVE URANIUM REQUIREMENTS, million ST U₃O₈

SPECOULATIVE RESOURCES

URANIUM REQUIREMENTS WITH LWR ONLY

ESTIMATED ADDITIONAL RESOURCES

LWR + IFR

500 MT HEU

REASONABLY ASSURED RESOURCES

YEAR

PYROPROCESSING FLOWSHEET
SPENT FUEL RADIOLOGICAL TOXICITY

RELATIVE RADIOLOGICAL TOXICITY

ACTINIDES

NATURAL URANIUM ORE

FISSION PRODUCTS

Years

$10^{-3}$ $10^{-2}$ $10^{-1}$ $10^{0}$ $10^{1}$ $10^{2}$ $10^{3}$ $10^{4}$ $10^{5}$ $10^{6}$ $10^{7}$