Massachusetts Institute of Technology
22.251 Systems Analysis of the Nuclear Fuel Cycle
Fall 2005
SAMPLE TERM PAPER TOPICS

1. The effect of significant future SWU cost reductions on LWR fuel management
2. Engineering measures to increase HLW repository integrity
3. Options for Uprating of Existing LWRs
4. Molten cermet fuel for advanced reactors
5. Issues of High Burnup Fuel in LWRs
6. Airox recycling of high burnup fuel into low burnup LWRs
7. Airox recycling of Pb Bi fast reactor fuel into LWRs
8. Advanced burnable poison concepts for LWRs
9. Comparison of thermal transmutation options (LWR vs. CANDU vs. HTGR)
10. Models for prediction of uranium and thorium resources and costs
11. Measures for proliferation resistance of advanced reactor systems
12. Economics of Uranium Recycling
13. Incorporation of a lumped burnable poison into MOCUP
14. A pebble bed HTGR library model for ORIGEN
15. Feasibility of very long cycle LWR cores