

1. GRANT/AGREEMENT NO. NRC-04-96-056		2. MODIFICATION NO. 23		3. PERIOD OF PERFORMANCE FROM: 8/24/98 TO: 08/31/2004		4. AUTHORITY Pursuant to Section 31a and 141b of the Atomic Energy Act of 1954, as amended	
5. TYPE OF AWARD <input type="checkbox"/> GRANT <input checked="" type="checkbox"/> COOPERATIVE AGREEMENT		6. ORGANIZATION TYPE		7. RECIPIENT NAME AND ADDRESS University of Maryland Department of Materials & Nuclear Engineering, Building 090 College Park, MD 20742			
8. PROJECT TITLE: Probabilistic Assessment and Applications							
9. PROJECT WILL BE CONDUCTED PER GOVERNMENT'S/RECIPIENT'S PROPOSAL(S) DATED		10. TECHNICAL REPORTS ARE REQUIRED <input checked="" type="checkbox"/> PROGRESS AND FINAL <input type="checkbox"/> FINAL ONLY <input type="checkbox"/> OTHER (Conference Proceedings)		11. PRINCIPAL INVESTIGATOR(S) NAME AND ADDRESS University of Maryland Materials & Nuclear Engineering Dept. ATTN: Prof. Mohammad Mdarres 2100 Marie Mount Hall College Park, MD 20742 College Pa			
AND APPENDIX A-PROJECT GRANT PROVISIONS		12. NRC PROGRAM OFFICE (NAME ADDRESS) U.S. Nuclear Regulatory Commission Office of Nuclear Regulatory Research ATTN: Roy Woods Washington, DC 20555 301-415-6622		13. ACCOUNTING APPROPRIATION DATA APPN. NO: 31X0200.360 BR. NO: 36015110203 JOB CODE: K6007 BOC NO: 4110 OFFICE ID NO: RES-C03-087/091		14. METHOD OF PAYMENT <input type="checkbox"/> ADVANCE BY TREASURY CHECK <input type="checkbox"/> REIMBURSEMENT BY TREASURY CHECK <input type="checkbox"/> LETTER OF CREDIT <input checked="" type="checkbox"/> OTHER (SPECIFY) ACH (See Attach. 30 in Appendix A - "Electronic Payment")	
15. NRC OBLIGATION FUNDS		16. TOTAL FUNDING AGREEMENT					
THIS ACTION		\$101,976.00		NRC		\$1,939,732.00	
PREVIOUS OBLIGATION		\$1,887,754.00		RECIPIENT		0	
TOTAL		\$1,939,732.00		TOTAL		\$1,939,732.00	
17. NRC ISSUING OFFICE (NAME AND ADDRESS) U.S. Nuclear Regulatory Commission Division of Contracts Attn: T-7-I-2 Contract Management Center 2 Washington DC 20555							
18. RECIPIENT <u>Monique Anderson</u> 9/20/03 (Signature) (Date) NAME (TYPED) AUTHORIZING UNIVERSITY OFFICIAL Monique Anderson, Contract Manager Research Administration & Advancement University of Maryland, College Park, MD 20742 TITLE Phone 301-405-6269/Fax 301-314-9569 TELEPHONE NO. email prga@umd.edu				19. NRC CONTRACTING OFFICER <u>Robert B. Webber</u> 9/12/03 (Signature) (Date) NAME (TYPED) Robert B. Webber TITLE Contracting Officer TELEPHONE NO. 301-415-7314			
20. PAYMENT INFORMATION Payment will be made within thirty (30) days after receipt of the billing unless the bill is improper or the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in OMB Circular A-110. Payment will be made by: Vouchers should be submitted in an original and three (3) copies on form 270 to: U.S. Nuclear Regulatory Commission Office of the Chief Financial Officer Attn: GOV/COM Acctg. Section T-9R4 Washington, DC 20555							
21. Attached is a copy of the "NRC General Provisions for Grants and Cooperative Agreements Awarded to Institutions of Higher Education and Other Nonprofit Organizations". Acceptance of these terms and conditions is acknowledged when Federal funds are used on this project.							
22. ORDER OF PRECEDENCE In the event of a conflict between the recipient's proposal and this award, the terms of the Award shall prevail.							
23. By this award, the Recipient certifies that payment of any audit-related debt will not reduce the level of performance of any Federal Program							

U.S. NUCLEAR REGULATORY COMMISSION
COOPERATIVE AGREEMENT NO. NRC-04-98-056
MODIFICATION NO. 23

The purpose of this modification is to: (1) incorporate Tasks 11 and 12 in accordance with the contractor's proposals dated July 1, 2003, which is hereby incorporated by reference; (2) increase the ceiling and obligated amounts by \$101,978.00; and (3) correct administrative error in the ceiling and obligated amounts in Modification No. 22. Accordingly, the cooperative agreement is modified as follows:

1. Incorporate Task 11, "Research on Technology Neutral Nuclear Power Plant Regulation," and Task 12, "International Workshop on Software and Systems Engineering," which is in accordance with the contractor's proposals dated July 1, 2003. As a result, the ceiling and obligated amounts are hereby increased by \$101,978.00 from \$1,887,754.00 to \$1,989,732.00.
2. Administrative error in Modification No.22, page:1

Block No. 15 is modified as follows:

"THIS ACTION	<u>\$85,014.00</u>
PREVIOUS OBLIGATION	<u>\$1,802,740.00</u>
TOTAL	<u>\$1,887,754.00"</u>

Block No. 16 is modified as follows:

TOTAL FUNDING AGREEMENT	
"NRC	<u>\$1,887,754.00</u>
RECIPIENT	<u>-0-</u>
TOTAL	<u>\$1,887,754.00"</u>

All other terms and conditions of this cooperative agreement remain unchanged.