U.S. NUCLEAR REGULATORY COMMISSION NOTICE OF GRANT/ASSISTANCE AWARD 1. GRANT/AGREEMENT NO. 3. PERIOD OFPERFORMANCE 4. AUTHORITY 02/28/2009 Pursuant to Section 31a and 141b of the Atomic Energy Act of 1954, as amended NRC-04-07-064 M001 FROM: 04/20/2007 TO: 6. ORGANIZATION TYPE 7. RECIPIENT NAME AND ADDRESS 5 TYPE OF AWARD PENNSYLVANIA STATE UNIVERSITY, THE PENN STATE X GRANT DUNS No. 003403953 408 OLD MAIN **COOPERATIVE AGREEMENT** UNIVERSITY PARK PA 168021505 PROJECT TITLE: "Fracture of Hydrided Zircaloy Under Thorough-Thickness Crack Growth" 10. TECHNICAL REPORTS ARE REQUIRED 9. PROJECT WILL BE CONDUCTED 11. PRINCIPAL INVESTIGATOR(S) NAME AND ADDRESS PER GOVERNMENT'S/RECIPIENT'S Pennsylvania State University X PROGRESS AND FINAL PROPOSAL(S) DATED Attn: Arthur Motta 07/20/2006 Department of Mechanical & Nuclear Eng. FINAL ONLY 227 Reber Bldg. AND APPENDIX A-PROJECT OTHER (Conference Proceedings) University Park, PA 16802 **GRANT PROVISIONS** 12. NRC PROGRAM OFFICE (NAME & ADDRESS) 13. ACCOUNTING & APPROPRIATION DATA 14. METHOD OF PAYMENT 31X0200.860 APPN. NO: U.S. Nuclear Regulatory Commission ADVANCE BY TREASURY CHECK Office of Nuclear Regulatory Research 86015111205 B&R NO: Attn. Mr. Harold Scott, MS-T-10-K-8 REIMBURSEMENT BY TREASURY CHECK JOB CODE: G6055 Washington DC 20555 LETTER OF CREDIT BOC NO: 4110 301-415-8715 X OTHER (SPECIFY) RFPA No. RES-07-064 OFFICE ID NO: RES-C08-126 See Attach. 30 in Appendix A - "Electronic Payment") 15. NRC OBLIGATION FUNDS 16. TOTAL FUNDING AGREEMENT \$100,000.00 173,820.00 THIS ACTION NRC This action provides funds for Fiscal Year 2008 in the amount of 100,000 RECIPIENT \$0.00 \$65,000.00 PREVIOUS OBLIGATION \$165,000.00 173,820.00 TOTAL TOTAL 17. NRC ISSUING OFFICE (NAME AND ADDRESS) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Danielle Emche, 301-415-0676 Mail Stop T-7-I-2 Washington, DC 20555 19. NRC CONTRACTING OFFICE 18. RECIPIENT Not Required (Signature) (Date) (Signature) Stephen Pool NAME (TYPED) NAME (TYPED) Contracting Officer TITLE TITI F 301-415-8168 TELEPHONE NO. TELEPHONE NO. 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. Vouchers should be submitted in an original and three (3) copies on form 270 to: Payment will be made by: U.S. Nuclear Regulatory Commission Payment Team, Mail Stop T-9-H-4

Attn: (NRC-04-07-064)

(See address in block no. 17)

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