U.S. NUCLEAR REGULATORY COMMISSION MODIFIC 1. GRANT/AGREEMENT NO. 3. PERIOD OF PERFORMANCE 4. AUTHORITY FROM: 07/30/2009 08/31/2011 Pursuant to Section 31b and 141b of the Atomic Energy Act of 1954, as amended NRC-04-09-156 M004 TO: 5. TYPE OF AWARD 6. ORGANIZATION TYPE 7. RECIPIENT NAME, ADDRESS, and EMAIL ADDRESS SOUTH CAROLINA RESEARCH FOUNDATION X GRANT 111310249 901 SUMTER ST STE 511 COOPERATIVE AGREEMENT COLUMBIA SC 292080001 8. PROJECT TITLE: Joint Time-Frequency Domain Reflectometry (JTFDR) for Diagnostics of Aging Electric Cables in Nuclear Power Plants 10. TECHNICAL REPORTS ARE REQUIRED 9. PROJECT WILL BE CONDUCTED 11. PRINCIPAL INVESTIGATOR(S) NAME, ADDRESS and EMAIL ADDRESS PER GOVERNMENT'S/RECIPIENT'S Dr. Yong-June Shin X PROGRESS AND FINAL Department of Electrical Engineering PROPOSAL(S) DATED University of South Carolina FINAL ONLY December 8, 2008 301 S. Main Street AND APPENDIX A-PROJECT OTHER (Conference Proceedings) Columbia SC 29208 GRANT PROVISIONS email: shinjune@engr.sc.edu 13. ACCOUNTING and APPROPRIATION DATA 12. NRC PROGRAM OFFICE (NAME and ADDRESS) 14. METHOD OF PAYMENT APPN. NO: US Nuclear Regulatory Commission 31X0200.160 ADVANCE BY TREASURY CHECK Darrell Murdock, RES/DE/MEEB 201160116119 B&R NO REIMBURSEMENT BY TREASURY CHECK 21 Church Street JOB CODE: G6674 MS CSB-5A24M LETTER OF CREDIT Rockville MD 20850 BOC NO: 4110 301-251-7629 X OTHER (SPECIFY) Electronic ASAP.gov OFFICE ID NO: FFS-GR0009 ee Remarks in Item #20 "Payment Information") 15. NRC OBLIGATION FUNDS 16. TOTAL FUNDING AGREEMENT This action provides funds for Fiscal Year 11 THIS ACTION \$54,700.00 NRC \$170,000.00 in the amount of \$54,700.00 RECIPIENT \$0.00 \$105,600.00 PREVIOUS OBLIGATION \$160,300.00 \$170,000.00 TOTAL TOTAL 17. NRC ISSUING OFFICE (NAME, ADDRESS and EMAIL ADDRESS) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Erika Eam Mail Stop: TWB-01-B10M Washington, DC 20555 18 19. NRC CONTRACTING OFFICER Acceptance of or objections to the Terms and Conditions of Award must be Emailed to the NRC Issuing Office (Block #17) within three (3) business days following the Award issue date. NRC considers lack of response as acceptance (Signature) Erika Eam by the grantee of the terms and conditions of award. NAME (TYPED) Contracting Officer TITLE 301-492-3492 TELEPHONE NO. 20. PAYMENT INFORMATION Payment will be made through the Automated Standard Application for Payment (ASAP.gov) unless the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in 2 CFR 215 (OMB Circular A110).

21. Attached is a copy of the "NRC General Provisions for Grants and Cooperative Agreements Awarded to Non-Government Recipients.

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.

The purpose of this modification is to provide incremental funding in the amount of \$54,700.00, thereby increasing the total obligated amount from \$105,600.00 to \$160,300.00. The specific changes are as follows:

1. Under A. GENERAL, delete in its entirety and replace with the following,

"1. Total Estimated NRC Amount:

\$170,000.00

2. Total Obligated Amount:

\$160,300.00

3. Cost-Sharing Amount:

\$0.00

4. Activity Title:

Joint Time-Frequency Domain

Reflectometry (JTFDR) for Diagnostics of Aging Electric Cables in Nuclear Power

Plants

5. NRC Project Officer:

Darrell Murdock

6. DUNS No.:

11-131-0249"

2. Under B. SPECIFIC, add the following Accounting and Appropriation Data:

"RFPA No.:

RES-11-079

FFS:

GR0009

Job Code:

G6674

BOC:

4110

B&R Number:

2011-60-11-6-119

Appropriation #:

31X0200.160

Amount Obligated:

\$54,700.00"

Total Funding Agreement:

\$170,000.00

Total Obligated Amount:

\$160,300.00

Amount Available for Obligation:

9,700.00

All other Terms and Conditions Remain the Same