

SERVICES ADMINISTRATION
PROC REG (41 CFR) 1-16.101

AMENDMENT/MODIFICATION NO.
One (1)

2. EFFECTIVE DATE
JUL 23 1979

3. REQUISITION/PURCHASE REQUEST NO.
NRR-79-123 5/10/79

4. PROJECT NO. (If applicable)

5. ISSUED BY
US Nuclear Regulatory Commission
Division of Contracts
Washington, D.C. 20555

6. ADMINISTERED BY (If other than block 5)

7. CONTRACTOR NAME AND ADDRESS
Purdue Research Foundation
Division of Sponsored Programs
Hovde Hall
West Lafayette, IN 47907

8. AMENDMENT OF SOLICITATION NO.
MODIFICATION OF CONTRACT/ORDER NO NRC-03-79-123
DATED 12/15/78

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS
The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers is extended, is not extended.
Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:
(a) By signing and returning copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)
20-19-02-02 A4042 31X0200.209 OBLIGATE \$15,000

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS
(a) This Change Order is issued pursuant to
(b) The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.
(c) This Supplemental Agreement is entered into pursuant to authority of The mutual agreement of the parties.

12. DESCRIPTION OF AMENDMENT/MODIFICATION
ARTICLE I-DESCRIPTION OF WORK is hereby modified by adding a new Task I.3 FNP Core Debris Distribution Analysis as follows:
Following a core melt-through accident in a Floating Nuclear Plant (FNP), estimate the extent of core debris transport within the breakwater enclosure and the fraction of the debris that may enter the open water body through the breakwater openings. In conjunction with this, provide a best estimate and the uncertainties of the "corium" particle size distribution with and without a steam explosion. Consider such effects as convection currents generated by thermal gradients as the debris falls in the basin, potential energy imparted to the debris particles from a steam explosion, and postulated wave motion inside the breakwater. Include consideration of the time dependence of the debris particles suspension.
This task includes the implementation of any computer code and necessary computer time to perform the calculation.

755 289 790 170 056

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

13. CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT [X] CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE
14. NAME OF CONTRACTOR/OFFEROR PURDUE RESEARCH FOUNDATION
15. NAME AND TITLE OF SIGNER (Type or print) F.N. Andrews Vice President
16. DATE SIGNED 7-13-79
17. UNITED STATES OF AMERICA BY Dennis J. Dougherty (Signature of Contracting Officer)
18. NAME OF CONTRACTING OFFICER (Type or print) Dennis J. Dougherty
19. DATE SIGNED 7/23/79

B. SCHEDULECOMPLETION DATE

TASK I.3 FNP Core Debris Distribution Analysis 12/15/79

Initial results related to the above will be provided for staff use at the FNP hearing which will start in July, 1979.

ARTICLE III-CONSIDERATION is hereby modified to read as follows:

A. Estimated Cost, Obligation of funds

1. The total estimated cost to the Government for full performance of this contract is increased by \$15,000 from \$130,000 to \$145,000.
2. Total funds currently available for payment and allotted to this contract is increased by \$15,000 from \$130,000 to \$145,000. For further provisions of funding, see Appendix A, General Provisions Clause No. 4 entitled, "Limitation of Cost."

B. Indirect Costs

1. The contractor shall be reimbursed for labor overhead at the following rates applied to a base composed of salaries and wages:

From 12/15/78 through 6/30/79	69.6% ¹
From 6/30/79 through 12/15/79	69.6% ²

1. predetermined rate
2. provisional rate